

Sequence No.: 24

Sample ID: BIK0224-BS1

Autosampler Location: 343

Date Collected: 11/10/2020 8:03:50 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0224-BS1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: BIK0224-BS1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1476250.2	108.3	%	0.35			0.32%
ScR 361.383	164507.8	106.1	%	0.58			0.54%
Ag 328.068†	68198.1	0.5297	mg/L	0.00204	0.5297	mg/L	0.39%
Al 308.215†	2135.5	2.081	mg/L	0.0168	2.081	mg/L	0.81%
As 188.979†	1863.8	2.039	mg/L	0.0065	2.039	mg/L	0.32%
B 249.677†	7.2	0.00011	mg/L	0.003093	0.00011	mg/L	>999.9%
Ba 233.527†	8186.8	2.026	mg/L	0.0158	2.026	mg/L	0.78%
Be 313.042†	219328.7	0.5020	mg/L	0.00278	0.5020	mg/L	0.55%
Ca 317.933†	64921.9	10.09	mg/L	0.069	10.09	mg/L	0.69%
Cd 228.802†	8691.1	0.4970	mg/L	0.00597	0.4970	mg/L	1.20%
Co 228.616†	12382.5	0.4981	mg/L	0.00240	0.4981	mg/L	0.48%
Cr 267.716†	1490.3	0.5095	mg/L	0.00790	0.5095	mg/L	1.55%
Cu 324.752†	76453.1	0.4980	mg/L	0.00300	0.4980	mg/L	0.60%
Fe 273.955†	2044.1	2.076	mg/L	0.0159	2.076	mg/L	0.76%
K 766.490†	10520.3	9.450	mg/L	0.0735	9.450	mg/L	0.78%
Mg 279.077†	8372.6	10.74	mg/L	0.095	10.74	mg/L	0.88%
Mn 257.610†	18339.0	0.4873	mg/L	0.00221	0.4873	mg/L	0.45%
Mo 202.031†	13.8	0.00098	mg/L	0.000438	0.00098	mg/L	44.53%
Na 589.592†	76783.9	9.493	mg/L	0.0419	9.493	mg/L	0.44%
Na 330.237†	183.7	9.420	mg/L	0.2272	9.420	mg/L	2.41%
Ni 231.604†	1380.4	0.5110	mg/L	0.00630	0.5110	mg/L	1.23%
Pb 220.353†	11295.3	2.048	mg/L	0.0098	2.048	mg/L	0.48%
Sb 206.836†	15.9	0.00242	mg/L	0.002239	0.00242	mg/L	92.39%
Se 196.026†	1638.8	2.030	mg/L	0.0098	2.030	mg/L	0.48%
Si 288.158†	-2.7	0.00036	mg/L	0.005899	0.00036	mg/L	>999.9%
Sn 189.927†	-17.8	-0.00450	mg/L	0.000696	-0.00450	mg/L	15.48%
Sr 421.552†	213041.2	0.4973	mg/L	0.00154	0.4973	mg/L	0.31%
Ti 334.903†	33.9	0.00182	mg/L	0.000706	0.00182	mg/L	38.76%
Tl 190.801†	2745.5	2.030	mg/L	0.0040	2.030	mg/L	0.20%
V 292.402†	28157.8	0.5068	mg/L	0.00231	0.5068	mg/L	0.46%
Zn 206.200†	1025.8	0.5078	mg/L	0.00321	0.5078	mg/L	0.63%

Sequence No.: 25

Sample ID: SEQ-CCV6

Autosampler Location: 7

Date Collected: 11/10/2020 8:08:06 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV6

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCV6

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1458671.1	107.0	%	0.33			0.30%
ScR 361.383	160443.3	103.5	%	0.10			0.09%
Ag 328.068†	131610.7	1.022	mg/L	0.0051	1.022	mg/L	0.50%
Al 308.215†	2158.8	2.076	mg/L	0.0049	2.076	mg/L	0.24%
As 188.979†	1789.7	1.982	mg/L	0.0212	1.982	mg/L	1.07%
B 249.677†	6507.4	1.009	mg/L	0.0047	1.009	mg/L	0.46%
Ba 233.527†	4064.5	1.005	mg/L	0.0059	1.005	mg/L	0.59%
Be 313.042†	438250.3	1.003	mg/L	0.0004	1.003	mg/L	0.04%
Ca 317.933†	13490.4	2.096	mg/L	0.0131	2.096	mg/L	0.63%
Cd 228.802†	17086.7	0.9921	mg/L	0.00117	0.9921	mg/L	0.12%
Co 228.616†	24336.9	0.9775	mg/L	0.00596	0.9775	mg/L	0.61%
Cr 267.716†	2914.5	0.9983	mg/L	0.00743	0.9983	mg/L	0.74%
Cu 324.752†	153460.7	0.9992	mg/L	0.00333	0.9992	mg/L	0.33%
Fe 273.955†	2017.3	2.049	mg/L	0.0066	2.049	mg/L	0.32%
K 766.490†	21729.3	19.52	mg/L	0.069	19.52	mg/L	0.36%
Mg 279.077†	1629.3	2.099	mg/L	0.0127	2.099	mg/L	0.60%
Mn 257.610†	36533.0	0.9705	mg/L	0.00249	0.9705	mg/L	0.26%
Mo 202.031†	12096.9	1.000	mg/L	0.0077	1.000	mg/L	0.77%
Na 589.592†	408275.6	50.48	mg/L	0.138	50.48	mg/L	0.27%
Na 330.237†	980.1	50.92	mg/L	0.424	50.92	mg/L	0.83%
Ni 231.604†	2757.6	1.023	mg/L	0.0040	1.023	mg/L	0.39%
Pb 220.353†	11177.6	2.027	mg/L	0.0195	2.027	mg/L	0.96%
Sb 206.836†	3883.2	2.065	mg/L	0.0156	2.065	mg/L	0.76%
Se 196.026†	1624.3	2.013	mg/L	0.0229	2.013	mg/L	1.14%
Si 288.158†	1838.2	2.164	mg/L	0.0072	2.164	mg/L	0.33%
Sn 189.927†	2676.5	1.020	mg/L	0.0102	1.020	mg/L	1.00%
Sr 421.552†	427601.7	0.9982	mg/L	0.00015	0.9982	mg/L	0.02%
Ti 334.903†	13527.1	0.9875	mg/L	0.00377	0.9875	mg/L	0.38%
Tl 190.801†	2690.9	1.987	mg/L	0.0187	1.987	mg/L	0.94%
V 292.402†	54723.5	0.9851	mg/L	0.00284	0.9851	mg/L	0.29%
Zn 206.200†	2066.9	1.023	mg/L	0.0072	1.023	mg/L	0.70%

Sequence No.: 26
 Sample ID: SEQ-CCB6

Autosampler Location: 1
 Date Collected: 11/10/2020 8:13:26 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB6

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: SEQ-CCB6

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1471151.4	107.9	%	1.06			0.98%
ScR 361.383	162061.8	104.5	%	1.02			0.97%
Ag 328.068†	-8.2	-0.00006	mg/L	0.000304	-0.00006	mg/L	0.000304 480.85%
Al 308.215†	-3.7	-0.00362	mg/L	0.027544	-0.00362	mg/L	0.027544 759.86%
As 188.979†	1.0	0.00115	mg/L	0.001397	0.00115	mg/L	0.001397 122.00%
B 249.677†	11.0	0.00171	mg/L	0.000551	0.00171	mg/L	0.000551 32.30%
Ba 233.527†	3.4	0.00083	mg/L	0.000532	0.00083	mg/L	0.000532 64.04%
Be 313.042†	-39.1	-0.00009	mg/L	0.000132	-0.00009	mg/L	0.000132 143.18%
Ca 317.933†	5.4	0.00084	mg/L	0.000817	0.00084	mg/L	0.000817 96.88%
Cd 228.802†	2.7	0.00015	mg/L	0.000077	0.00015	mg/L	0.000077 50.39%
Co 228.616†	4.2	0.00017	mg/L	0.000110	0.00017	mg/L	0.000110 66.19%
Cr 267.716†	-8.7	-0.00298	mg/L	0.001530	-0.00298	mg/L	0.001530 51.30%
Cu 324.752†	26.3	0.00017	mg/L	0.000108	0.00017	mg/L	0.000108 63.23%
Fe 273.955†	4.2	0.00423	mg/L	0.002518	0.00423	mg/L	0.002518 59.52%
K 766.490†	5.2	0.00468	mg/L	0.042873	0.00468	mg/L	0.042873 915.96%
Mg 279.077†	3.8	0.00483	mg/L	0.005528	0.00483	mg/L	0.005528 114.36%
Mn 257.610†	10.8	0.00029	mg/L	0.000192	0.00029	mg/L	0.000192 67.26%
Mo 202.031†	0.9	0.00007	mg/L	0.000424	0.00007	mg/L	0.000424 566.09%
Na 589.592†	11.7	0.00145	mg/L	0.004136	0.00145	mg/L	0.004136 285.87%
Na 330.237†	2.3	0.1219	mg/L	0.38999	0.1219	mg/L	0.38999 319.93%
Ni 231.604†	1.0	0.00036	mg/L	0.001397	0.00036	mg/L	0.001397 391.39%
Pb 220.353†	7.7	0.00139	mg/L	0.000612	0.00139	mg/L	0.000612 44.18%
Sb 206.836†	1.8	0.00102	mg/L	0.002130	0.00102	mg/L	0.002130 208.17%
Se 196.026†	4.4	0.00545	mg/L	0.005915	0.00545	mg/L	0.005915 108.50%
Si 288.158†	-2.2	-0.00261	mg/L	0.008772	-0.00261	mg/L	0.008772 336.66%
Sn 189.927†	3.9	0.00149	mg/L	0.002334	0.00149	mg/L	0.002334 156.23%
Sr 421.552†	14.5	0.00003	mg/L	0.000039	0.00003	mg/L	0.000039 113.80%
Ti 334.903†	22.2	0.00162	mg/L	0.000533	0.00162	mg/L	0.000533 32.78%
Tl 190.801†	0.0	0.00001	mg/L	0.000659	0.00001	mg/L	0.000659 >999.9%
V 292.402†	30.2	0.00052	mg/L	0.000435	0.00052	mg/L	0.000435 83.33%
Zn 206.200†	0.8	0.00040	mg/L	0.001823	0.00040	mg/L	0.001823 456.65%

Sequence No.: 27

Autosampler Location: 344

Sample ID: BIK0168-BLK2

Date Collected: 11/10/2020 8:17:42 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-BLK2

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: BIK0168-BLK2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1488585.4	109.2	%	0.57			0.52%
ScR 361.383	165573.8	106.8	%	0.94			0.88%
Ag 328.068†	7.8	0.00006	mg/L	0.000110	0.00006	mg/L	0.000110 181.04%
Al 308.215†	21.2	0.02073	mg/L	0.014912	0.02073	mg/L	0.014912 71.92%
As 188.979†	0.3	0.00035	mg/L	0.001571	0.00035	mg/L	0.001571 452.20%
B 249.677†	14.0	0.00217	mg/L	0.001615	0.00217	mg/L	0.001615 74.53%
Ba 233.527†	7.4	0.00182	mg/L	0.001491	0.00182	mg/L	0.001491 81.74%
Be 313.042†	-77.7	-0.00018	mg/L	0.000020	-0.00018	mg/L	0.000020 11.07%
Ca 317.933†	66.7	0.01037	mg/L	0.001616	0.01037	mg/L	0.001616 15.59%
Cd 228.802†	-0.6	-0.00004	mg/L	0.000049	-0.00004	mg/L	0.000049 128.17%
Co 228.616†	-0.4	-0.00001	mg/L	0.000169	-0.00001	mg/L	0.000169 >999.9%
Cr 267.716†	8.2	0.00281	mg/L	0.002033	0.00281	mg/L	0.002033 72.43%
Cu 324.752†	49.6	0.00032	mg/L	0.000116	0.00032	mg/L	0.000116 35.72%
Fe 273.955†	5.4	0.00551	mg/L	0.002566	0.00551	mg/L	0.002566 46.54%
K 766.490†	-35.8	-0.03219	mg/L	0.052064	-0.03219	mg/L	0.052064 161.76%
Mg 279.077†	-0.7	-0.00089	mg/L	0.003499	-0.00089	mg/L	0.003499 393.49%
Mn 257.610†	18.8	0.00050	mg/L	0.000304	0.00050	mg/L	0.000304 60.99%
Mo 202.031†	-0.6	-0.00005	mg/L	0.000206	-0.00005	mg/L	0.000206 430.32%
Na 589.592†	-29.0	-0.00358	mg/L	0.007361	-0.00358	mg/L	0.007361 205.60%
Na 330.237†	10.3	0.5358	mg/L	0.31883	0.5358	mg/L	0.31883 59.50%
Ni 231.604†	1.9	0.00072	mg/L	0.002974	0.00072	mg/L	0.002974 414.57%
Pb 220.353†	0.8	0.00016	mg/L	0.001191	0.00016	mg/L	0.001191 765.35%
Sb 206.836†	-2.8	-0.00153	mg/L	0.002581	-0.00153	mg/L	0.002581 168.32%
Se 196.026†	4.7	0.00577	mg/L	0.004947	0.00577	mg/L	0.004947 85.80%
Si 288.158†	8.1	0.00956	mg/L	0.012171	0.00956	mg/L	0.012171 127.37%
Sn 189.927†	0.1	0.00006	mg/L	0.000587	0.00006	mg/L	0.000587 >999.9%
Sr 421.552†	21.9	0.00005	mg/L	0.000066	0.00005	mg/L	0.000066 128.65%
Ti 334.903†	-1.9	-0.00014	mg/L	0.001606	-0.00014	mg/L	0.001606 >999.9%
Tl 190.801†	2.4	0.00178	mg/L	0.003337	0.00178	mg/L	0.003337 187.45%
V 292.402†	24.0	0.00045	mg/L	0.000414	0.00045	mg/L	0.000414 92.52%
Zn 206.200†	6.9	0.00340	mg/L	0.001386	0.00340	mg/L	0.001386 40.80%

Sequence No.: 28

Sample ID: BIK0224-BLK1

Autosampler Location: 345

Date Collected: 11/10/2020 8:21:58 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0224-BLK1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIK0224-BLK1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1462852.2	107.3	%	0.35				0.33%
ScR 361.383	163413.4	105.4	%	0.59				0.56%
Ag 328.068†	-27.2	-0.00021	mg/L	0.000253	-0.00021	mg/L	0.000253	119.77%
Al 308.215†	18.5	0.01805	mg/L	0.020519	0.01805	mg/L	0.020519	113.69%
As 188.979†	1.6	0.00176	mg/L	0.002752	0.00176	mg/L	0.002752	155.96%
B 249.677†	7.3	0.00113	mg/L	0.001062	0.00113	mg/L	0.001062	93.96%
Ba 233.527†	3.2	0.00080	mg/L	0.000558	0.00080	mg/L	0.000558	69.45%
Be 313.042†	-44.9	-0.00010	mg/L	0.000018	-0.00010	mg/L	0.000018	17.06%
Ca 317.933†	38.0	0.00591	mg/L	0.000728	0.00591	mg/L	0.000728	12.32%
Cd 228.802†	-2.2	-0.00014	mg/L	0.000069	-0.00014	mg/L	0.000069	49.26%
Co 228.616†	0.4	0.00001	mg/L	0.000086	0.00001	mg/L	0.000086	630.55%
Cr 267.716†	-0.0	-0.00000	mg/L	0.001266	-0.00000	mg/L	0.001266	>999.9%
Cu 324.752†	14.9	0.00010	mg/L	0.000073	0.00010	mg/L	0.000073	75.22%
Fe 273.955†	1.0	0.00107	mg/L	0.004808	0.00107	mg/L	0.004808	451.45%
K 766.490†	1.2	0.00106	mg/L	0.033213	0.00106	mg/L	0.033213	>999.9%
Mg 279.077†	-4.7	-0.00602	mg/L	0.005134	-0.00602	mg/L	0.005134	85.31%
Mn 257.610†	14.2	0.00038	mg/L	0.000141	0.00038	mg/L	0.000141	37.42%
Mo 202.031†	-3.3	-0.00027	mg/L	0.000067	-0.00027	mg/L	0.000067	24.66%
Na 589.592†	-40.2	-0.00497	mg/L	0.004124	-0.00497	mg/L	0.004124	83.05%
Na 330.237†	8.7	0.4525	mg/L	0.41981	0.4525	mg/L	0.41981	92.78%
Ni 231.604†	9.1	0.00338	mg/L	0.002229	0.00338	mg/L	0.002229	66.01%
Pb 220.353†	-1.7	-0.00031	mg/L	0.000860	-0.00031	mg/L	0.000860	276.72%
Sb 206.836†	0.5	0.00028	mg/L	0.001027	0.00028	mg/L	0.001027	360.72%
Se 196.026†	5.8	0.00719	mg/L	0.002828	0.00719	mg/L	0.002828	39.35%
Si 288.158†	8.2	0.00969	mg/L	0.008011	0.00969	mg/L	0.008011	82.64%
Sn 189.927†	-0.6	-0.00024	mg/L	0.000430	-0.00024	mg/L	0.000430	179.93%
Sr 421.552†	-9.9	-0.00002	mg/L	0.000031	-0.00002	mg/L	0.000031	133.06%
Ti 334.903†	0.9	0.00006	mg/L	0.000598	0.00006	mg/L	0.000598	945.52%
Tl 190.801†	-0.4	-0.00028	mg/L	0.001057	-0.00028	mg/L	0.001057	378.28%
V 292.402†	18.9	0.00034	mg/L	0.000216	0.00034	mg/L	0.000216	63.72%
Zn 206.200†	4.6	0.00229	mg/L	0.000247	0.00229	mg/L	0.000247	10.75%

Sequence No.: 29

Sample ID: 20K0127-01

Autosampler Location: 346

Date Collected: 11/10/2020 8:26:13 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-01

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: 20K0127-01

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1466278.5	107.6	%	0.35			0.33%
ScR 361.383	160944.0	103.8	%	0.03			0.03%
Ag 328.068†	-37.5	-0.00029	mg/L	0.000050	-0.00029	mg/L	0.000050 17.15%
Al 308.215†	13.1	0.01284	mg/L	0.015773	0.01284	mg/L	0.015773 122.84%
As 188.979†	-0.0	0.00001	mg/L	0.002481	0.00001	mg/L	0.002481 >999.9%
B 249.677†	5.2	0.00081	mg/L	0.000655	0.00081	mg/L	0.000655 80.85%
Ba 233.527†	2.5	0.00061	mg/L	0.000401	0.00061	mg/L	0.000401 65.71%
Be 313.042†	-85.3	-0.00020	mg/L	0.000068	-0.00020	mg/L	0.000068 34.75%
Ca 317.933†	150.6	0.02340	mg/L	0.000794	0.02340	mg/L	0.000794 3.40%
Cd 228.802†	-3.9	-0.00023	mg/L	0.000033	-0.00023	mg/L	0.000033 14.75%
Co 228.616†	-0.6	-0.00002	mg/L	0.000064	-0.00002	mg/L	0.000064 259.54%
Cr 267.716†	5.2	0.00177	mg/L	0.000782	0.00177	mg/L	0.000782 44.09%
Cu 324.752†	26.1	0.00017	mg/L	0.000076	0.00017	mg/L	0.000076 44.66%
Fe 273.955†	4.4	0.00446	mg/L	0.002802	0.00446	mg/L	0.002802 62.85%
K 766.490†	-2.6	-0.00235	mg/L	0.004473	-0.00235	mg/L	0.004473 190.39%
Mg 279.077†	-4.8	-0.00620	mg/L	0.005255	-0.00620	mg/L	0.005255 84.80%
Mn 257.610†	24.0	0.00064	mg/L	0.000087	0.00064	mg/L	0.000087 13.58%
Mo 202.031†	-3.7	-0.00031	mg/L	0.000024	-0.00031	mg/L	0.000024 7.82%
Na 589.592†	24.8	0.00307	mg/L	0.002139	0.00307	mg/L	0.002139 69.68%
Na 330.237†	-2.0	-0.1029	mg/L	0.58707	-0.1029	mg/L	0.58707 570.33%
Ni 231.604†	2.4	0.00090	mg/L	0.005764	0.00090	mg/L	0.005764 642.94%
Pb 220.353†	3.7	0.00068	mg/L	0.000356	0.00068	mg/L	0.000356 52.14%
Sb 206.836†	-0.9	-0.00053	mg/L	0.002267	-0.00053	mg/L	0.002267 427.85%
Se 196.026†	5.1	0.00637	mg/L	0.005348	0.00637	mg/L	0.005348 83.92%
Si 288.158†	2.5	0.00295	mg/L	0.003607	0.00295	mg/L	0.003607 122.46%
Sn 189.927†	-2.0	-0.00075	mg/L	0.000844	-0.00075	mg/L	0.000844 112.61%
Sr 421.552†	46.0	0.00011	mg/L	0.000110	0.00011	mg/L	0.000110 102.27%
Ti 334.903†	11.1	0.00081	mg/L	0.001554	0.00081	mg/L	0.001554 192.40%
Tl 190.801†	0.8	0.00058	mg/L	0.000584	0.00058	mg/L	0.000584 100.59%
V 292.402†	-1.3	-0.00001	mg/L	0.000194	-0.00001	mg/L	0.000194 >999.9%
Zn 206.200†	5.3	0.00261	mg/L	0.000221	0.00261	mg/L	0.000221 8.47%

Sequence No.: 30

Sample ID: 20K0127-03

Autosampler Location: 347

Date Collected: 11/10/2020 8:30:28 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-03

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0127-03

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1491330.0	109.4	%	0.64				0.58%
ScR 361.383	163216.7	105.3	%	0.76				0.72%
Ag 328.068†	-18.2	-0.00014	mg/L	0.000346	-0.00014	mg/L	0.000346	245.19%
Al 308.215†	16.4	0.01606	mg/L	0.009823	0.01606	mg/L	0.009823	61.15%
As 188.979†	-2.8	-0.00303	mg/L	0.000098	-0.00303	mg/L	0.000098	3.24%
B 249.677†	4.0	0.00062	mg/L	0.001782	0.00062	mg/L	0.001782	285.42%
Ba 233.527†	7.7	0.00190	mg/L	0.000823	0.00190	mg/L	0.000823	43.39%
Be 313.042†	-59.4	-0.00014	mg/L	0.000014	-0.00014	mg/L	0.000014	10.00%
Ca 317.933†	163.6	0.02543	mg/L	0.001517	0.02543	mg/L	0.001517	5.97%
Cd 228.802†	-0.7	-0.00002	mg/L	0.000142	-0.00002	mg/L	0.000142	632.99%
Co 228.616†	5.1	0.00021	mg/L	0.000085	0.00021	mg/L	0.000085	40.79%
Cr 267.716†	-4.9	-0.00169	mg/L	0.001375	-0.00169	mg/L	0.001375	81.42%
Cu 324.752†	40.7	0.00027	mg/L	0.000278	0.00027	mg/L	0.000278	104.84%
Fe 273.955†	5.6	0.00572	mg/L	0.002049	0.00572	mg/L	0.002049	35.85%
K 766.490†	-3.2	-0.00285	mg/L	0.035016	-0.00285	mg/L	0.035016	>999.9%
Mg 279.077†	5.8	0.00741	mg/L	0.004264	0.00741	mg/L	0.004264	57.56%
Mn 257.610†	28.0	0.00074	mg/L	0.000182	0.00074	mg/L	0.000182	24.41%
Mo 202.031†	-4.3	-0.00035	mg/L	0.000255	-0.00035	mg/L	0.000255	72.16%
Na 589.592†	24.5	0.00303	mg/L	0.004339	0.00303	mg/L	0.004339	143.07%
Na 330.237†	-9.5	-0.4958	mg/L	0.83605	-0.4958	mg/L	0.83605	168.63%
Ni 231.604†	-1.9	-0.00071	mg/L	0.002945	-0.00071	mg/L	0.002945	415.40%
Pb 220.353†	4.3	0.00078	mg/L	0.001027	0.00078	mg/L	0.001027	131.91%
Sb 206.836†	-2.6	-0.00138	mg/L	0.003171	-0.00138	mg/L	0.003171	230.19%
Se 196.026†	3.7	0.00452	mg/L	0.002837	0.00452	mg/L	0.002837	62.79%
Si 288.158†	12.1	0.01430	mg/L	0.005272	0.01430	mg/L	0.005272	36.87%
Sn 189.927†	-1.4	-0.00053	mg/L	0.001099	-0.00053	mg/L	0.001099	206.26%
Sr 421.552†	38.8	0.00009	mg/L	0.000006	0.00009	mg/L	0.000006	7.02%
Ti 334.903†	-11.3	-0.00083	mg/L	0.001864	-0.00083	mg/L	0.001864	225.23%
Tl 190.801†	3.8	0.00282	mg/L	0.000448	0.00282	mg/L	0.000448	15.89%
V 292.402†	21.0	0.00036	mg/L	0.000352	0.00036	mg/L	0.000352	96.53%
Zn 206.200†	3.0	0.00148	mg/L	0.001498	0.00148	mg/L	0.001498	101.20%

Sequence No.: 31

Sample ID: 20K0127-05

Autosampler Location: 348

Date Collected: 11/10/2020 8:34:43 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-05

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0127-05

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1468885.7	107.8	%	0.21				0.19%
ScR 361.383	164120.6	105.8	%	0.60				0.57%
Ag 328.068†	-27.8	-0.00022	mg/L	0.000172	-0.00022	mg/L	0.000172	79.41%
Al 308.215†	6.0	0.00583	mg/L	0.012527	0.00583	mg/L	0.012527	214.72%
As 188.979†	-2.1	-0.00232	mg/L	0.002573	-0.00232	mg/L	0.002573	111.07%
B 249.677†	2.6	0.00040	mg/L	0.000535	0.00040	mg/L	0.000535	132.48%
Ba 233.527†	4.1	0.00102	mg/L	0.001066	0.00102	mg/L	0.001066	104.34%
Be 313.042†	-78.3	-0.00018	mg/L	0.000025	-0.00018	mg/L	0.000025	13.69%
Ca 317.933†	140.4	0.02181	mg/L	0.002645	0.02181	mg/L	0.002645	12.13%
Cd 228.802†	-3.2	-0.00017	mg/L	0.000399	-0.00017	mg/L	0.000399	236.96%
Co 228.616†	-0.1	-0.00000	mg/L	0.000173	-0.00000	mg/L	0.000173	>999.9%
Cr 267.716†	0.4	0.00012	mg/L	0.001153	0.00012	mg/L	0.001153	956.54%
Cu 324.752†	49.6	0.00032	mg/L	0.000204	0.00032	mg/L	0.000204	63.09%
Fe 273.955†	1.1	0.00108	mg/L	0.005604	0.00108	mg/L	0.005604	518.09%
K 766.490†	0.5	0.00045	mg/L	0.003549	0.00045	mg/L	0.003549	781.50%
Mg 279.077†	-3.2	-0.00412	mg/L	0.015195	-0.00412	mg/L	0.015195	368.59%
Mn 257.610†	21.8	0.00058	mg/L	0.000101	0.00058	mg/L	0.000101	17.43%
Mo 202.031†	-2.7	-0.00022	mg/L	0.000141	-0.00022	mg/L	0.000141	64.14%
Na 589.592†	16.1	0.00200	mg/L	0.006743	0.00200	mg/L	0.006743	338.00%
Na 330.237†	1.5	0.07672	mg/L	0.203637	0.07672	mg/L	0.203637	265.43%
Ni 231.604†	1.7	0.00064	mg/L	0.001097	0.00064	mg/L	0.001097	172.60%
Pb 220.353†	-1.4	-0.00026	mg/L	0.000669	-0.00026	mg/L	0.000669	260.30%
Sb 206.836†	0.2	0.00011	mg/L	0.001249	0.00011	mg/L	0.001249	>999.9%
Se 196.026†	5.4	0.00673	mg/L	0.001053	0.00673	mg/L	0.001053	15.63%
Si 288.158†	10.2	0.01211	mg/L	0.015181	0.01211	mg/L	0.015181	125.36%
Sn 189.927†	2.7	0.00105	mg/L	0.000531	0.00105	mg/L	0.000531	50.63%
Sr 421.552†	43.2	0.00010	mg/L	0.000008	0.00010	mg/L	0.000008	7.87%
Ti 334.903†	-21.3	-0.00156	mg/L	0.001849	-0.00156	mg/L	0.001849	118.75%
Tl 190.801†	2.0	0.00152	mg/L	0.001060	0.00152	mg/L	0.001060	69.77%
V 292.402†	1.5	0.00003	mg/L	0.000332	0.00003	mg/L	0.000332	>999.9%
Zn 206.200†	4.7	0.00233	mg/L	0.001027	0.00233	mg/L	0.001027	44.14%

Sequence No.: 32

Sample ID: 20K0124-01

Autosampler Location: 349

Date Collected: 11/10/2020 8:38:59 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0124-01

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0124-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1341326.0	98.40	%	1.390			1.41%
ScR 361.383	161510.1	104.2	%	1.20			1.15%
Ag 328.068†	-60.2	-0.00047	mg/L	0.000389	-0.00233	mg/L	0.001943 83.24%
Al 308.215†	33.5	0.03144	mg/L	0.020780	0.1572	mg/L	0.10390 66.09%
As 188.979†	16.1	0.01301	mg/L	0.001553	0.06507	mg/L	0.007767 11.94%
B 249.677†	69209.6	10.74	mg/L	0.118	53.68	mg/L	0.590 1.10%
Ba 233.527†	6.5	0.00154	mg/L	0.000611	0.00771	mg/L	0.003057 39.62%
Be 313.042†	-50.9	-0.00012	mg/L	0.000029	-0.00060	mg/L	0.000145 24.20%
Ca 317.933†	199894.5	31.07	mg/L	0.287	155.3	mg/L	1.43 0.92%
Cd 228.802†	1.7	-0.00001	mg/L	0.000442	-0.00007	mg/L	0.002210 >999.9%
Co 228.616†	24.3	0.00097	mg/L	0.000068	0.00486	mg/L	0.000340 6.99%
Cr 267.716†	2.6	0.00176	mg/L	0.005379	0.00878	mg/L	0.026893 306.43%
Cu 324.752†	834.8	0.00542	mg/L	0.000212	0.02709	mg/L	0.001059 3.91%
Fe 273.955†	477.2	0.4868	mg/L	0.00308	2.434	mg/L	0.0154 0.63%
K 766.490†	2471.6	2.220	mg/L	0.0377	11.10	mg/L	0.188 1.70%
Mg 279.077†	403.2	0.5173	mg/L	0.01377	2.587	mg/L	0.0688 2.66%
Mn 257.610†	2609.1	0.06920	mg/L	0.001034	0.3460	mg/L	0.00517 1.49%
Mo 202.031†	776.3	0.06379	mg/L	0.000425	0.3189	mg/L	0.00213 0.67%
Na 589.592†	9966722.8	1232	mg/L	11.78	6161	mg/L	58.89 0.96%
Na 330.237†	23573.1	1226	mg/L	12.07	6130	mg/L	60.35 0.98%
Ni 231.604†	41.7	0.01545	mg/L	0.002366	0.07723	mg/L	0.011828 15.32%
Pb 220.353†	26.5	0.00478	mg/L	0.001214	0.02389	mg/L	0.006069 25.40%
Sb 206.836†	9.8	0.00510	mg/L	0.000967	0.02551	mg/L	0.004837 18.96%
Se 196.026†	-15.3	-0.01895	mg/L	0.006761	-0.09474	mg/L	0.033805 35.68%
Si 288.158†	32.7	0.03867	mg/L	0.008084	0.1934	mg/L	0.04042 20.90%
Sn 189.927†	-43.9	-0.00996	mg/L	0.001555	-0.04979	mg/L	0.007775 15.62%
Sr 421.552†	12236.4	0.02857	mg/L	0.000475	0.1428	mg/L	0.00237 1.66%
Ti 334.903†	28.3	0.00029	mg/L	0.001874	0.00147	mg/L	0.009372 637.74%
Tl 190.801†	29.5	0.02202	mg/L	0.004780	0.1101	mg/L	0.02390 21.71%
V 292.402†	31.2	0.00062	mg/L	0.000227	0.00309	mg/L	0.001136 36.77%
Zn 206.200†	8.2	0.00404	mg/L	0.000536	0.02018	mg/L	0.002678 13.27%

Sequence No.: 33

Sample ID: BIK0168-DUP2

Autosampler Location: 350

Date Collected: 11/10/2020 8:46:20 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-DUP2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0168-DUP2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1446792.5	106.1	%	0.36			0.34%
ScR 361.383	161390.0	104.1	%	0.70			0.67%
Ag 328.068†	-39.5	-0.00031	mg/L	0.000153	-0.00031	mg/L	0.000153 49.91%
Al 308.215†	43.5	0.04235	mg/L	0.004848	0.04235	mg/L	0.004848 11.45%
As 188.979†	36.8	0.03299	mg/L	0.004350	0.03299	mg/L	0.004350 13.19%
B 249.677†	3157.4	0.4901	mg/L	0.00367	0.4901	mg/L	0.00367 0.75%
Ba 233.527†	366.2	0.09014	mg/L	0.001739	0.09014	mg/L	0.001739 1.93%
Be 313.042†	-27.7	-0.00007	mg/L	0.000027	-0.00007	mg/L	0.000027 38.18%
Ca 317.933†	480990.5	74.75	mg/L	0.571	74.75	mg/L	0.571 0.76%
Cd 228.802†	5.6	0.00002	mg/L	0.000187	0.00002	mg/L	0.000187 >999.9%
Co 228.616†	207.5	0.00825	mg/L	0.000218	0.00825	mg/L	0.000218 2.64%
Cr 267.716†	36.5	0.00473	mg/L	0.004691	0.00473	mg/L	0.004691 99.19%
Cu 324.752†	322.9	0.00168	mg/L	0.000055	0.00168	mg/L	0.000055 3.24%
Fe 273.955†	4693.8	4.787	mg/L	0.0071	4.787	mg/L	0.0071 0.15%
K 766.490†	45030.4	40.45	mg/L	0.025	40.45	mg/L	0.025 0.06%
Mg 279.077†	41936.0	53.77	mg/L	0.163	53.77	mg/L	0.163 0.30%
Mn 257.610†	79285.2	2.105	mg/L	0.0063	2.105	mg/L	0.0063 0.30%
Mo 202.031†	90.3	0.00646	mg/L	0.000180	0.00646	mg/L	0.000180 2.79%
Na 589.592†	1208439.1	149.4	mg/L	0.79	149.4	mg/L	0.79 0.53%
Na 330.237†	2662.4	138.5	mg/L	0.96	138.5	mg/L	0.96 0.69%
Ni 231.604†	48.1	0.01782	mg/L	0.000298	0.01782	mg/L	0.000298 1.67%
Pb 220.353†	-31.8	-0.00596	mg/L	0.000318	-0.00596	mg/L	0.000318 5.34%
Sb 206.836†	14.0	0.00712	mg/L	0.000921	0.00712	mg/L	0.000921 12.94%
Se 196.026†	-22.3	-0.02706	mg/L	0.006640	-0.02706	mg/L	0.006640 24.54%
Si 288.158†	24425.9	28.86	mg/L	0.123	28.86	mg/L	0.123 0.43%
Sn 189.927†	-67.0	-0.00928	mg/L	0.000161	-0.00928	mg/L	0.000161 1.74%
Sr 421.552†	245116.8	0.5722	mg/L	0.00231	0.5722	mg/L	0.00231 0.40%
Ti 334.903†	138.4	0.00599	mg/L	0.000042	0.00599	mg/L	0.000042 0.69%
Tl 190.801†	42.6	0.03412	mg/L	0.001553	0.03412	mg/L	0.001553 4.55%
V 292.402†	79.8	0.00207	mg/L	0.000117	0.00207	mg/L	0.000117 5.66%
Zn 206.200†	12.4	0.00612	mg/L	0.001180	0.00612	mg/L	0.001180 19.29%

Sequence No.: 34

Sample ID: 20K0097-01

Autosampler Location: 351

Date Collected: 11/10/2020 8:50:52 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0097-01

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0097-01

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1414116.5	103.7	%	0.40			0.38%
ScR 361.383	159205.6	102.7	%	0.41			0.40%
Ag 328.068†	-85.6	-0.00066	mg/L	0.000309	-0.00066	mg/L	0.000309 46.57%
Al 308.215†	24.5	0.02373	mg/L	0.022411	0.02373	mg/L	0.022411 94.45%
As 188.979†	39.7	0.03607	mg/L	0.004229	0.03607	mg/L	0.004229 11.72%
B 249.677†	3142.0	0.4877	mg/L	0.00257	0.4877	mg/L	0.00257 0.53%
Ba 233.527†	377.6	0.09298	mg/L	0.001078	0.09298	mg/L	0.001078 1.16%
Be 313.042†	-14.1	-0.00004	mg/L	0.000050	-0.00004	mg/L	0.000050 127.93%
Ca 317.933†	484413.7	75.28	mg/L	0.175	75.28	mg/L	0.175 0.23%
Cd 228.802†	4.4	-0.00008	mg/L	0.000318	-0.00008	mg/L	0.000318 417.89%
Co 228.616†	204.3	0.00812	mg/L	0.000054	0.00812	mg/L	0.000054 0.67%
Cr 267.716†	28.5	0.00195	mg/L	0.001404	0.00195	mg/L	0.001404 72.13%
Cu 324.752†	339.0	0.00178	mg/L	0.000167	0.00178	mg/L	0.000167 9.36%
Fe 273.955†	4678.9	4.772	mg/L	0.0449	4.772	mg/L	0.0449 0.94%
K 766.490†	45201.7	40.60	mg/L	0.312	40.60	mg/L	0.312 0.77%
Mg 279.077†	42136.9	54.03	mg/L	0.400	54.03	mg/L	0.400 0.74%
Mn 257.610†	80012.0	2.125	mg/L	0.0146	2.125	mg/L	0.0146 0.69%
Mo 202.031†	92.8	0.00666	mg/L	0.000300	0.00666	mg/L	0.000300 4.51%
Na 589.592†	1221364.4	151.0	mg/L	0.43	151.0	mg/L	0.43 0.29%
Na 330.237†	2673.3	139.0	mg/L	0.99	139.0	mg/L	0.99 0.71%
Ni 231.604†	54.1	0.02005	mg/L	0.000533	0.02005	mg/L	0.000533 2.66%
Pb 220.353†	-29.0	-0.00545	mg/L	0.000379	-0.00545	mg/L	0.000379 6.94%
Sb 206.836†	16.0	0.00823	mg/L	0.001622	0.00823	mg/L	0.001622 19.70%
Se 196.026†	-24.3	-0.02954	mg/L	0.004146	-0.02954	mg/L	0.004146 14.03%
Si 288.158†	24783.4	29.28	mg/L	0.215	29.28	mg/L	0.215 0.74%
Sn 189.927†	-68.4	-0.00970	mg/L	0.000719	-0.00970	mg/L	0.000719 7.41%
Sr 421.552†	248005.9	0.5790	mg/L	0.00097	0.5790	mg/L	0.00097 0.17%
Ti 334.903†	114.4	0.00420	mg/L	0.001725	0.00420	mg/L	0.001725 41.04%
Tl 190.801†	42.4	0.03400	mg/L	0.001514	0.03400	mg/L	0.001514 4.45%
V 292.402†	86.7	0.00218	mg/L	0.000278	0.00218	mg/L	0.000278 12.77%
Zn 206.200†	-9.4	-0.00466	mg/L	0.000923	-0.00466	mg/L	0.000923 19.81%

Sequence No.: 35

Autosampler Location: 352

Sample ID: BIK0168-MS2

Date Collected: 11/10/2020 8:55:24 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-MS2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0168-MS2

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1419606.0	104.1	%	1.24				1.20%
ScR 361.383	160805.1	103.7	%	0.17				0.16%
Ag 328.068†	67764.3	0.5263	mg/L	0.00788	0.5263	mg/L	0.00788	1.50%
Al 308.215†	2201.5	2.135	mg/L	0.0081	2.135	mg/L	0.0081	0.38%
As 188.979†	1891.5	2.060	mg/L	0.0263	2.060	mg/L	0.0263	1.28%
B 249.677†	3111.0	0.4827	mg/L	0.00243	0.4827	mg/L	0.00243	0.50%
Ba 233.527†	8390.1	2.076	mg/L	0.0028	2.076	mg/L	0.0028	0.14%
Be 313.042†	219906.2	0.5034	mg/L	0.00086	0.5034	mg/L	0.00086	0.17%
Ca 317.933†	521020.6	80.97	mg/L	0.391	80.97	mg/L	0.391	0.48%
Cd 228.802†	8827.6	0.5048	mg/L	0.00558	0.5048	mg/L	0.00558	1.11%
Co 228.616†	12243.2	0.4925	mg/L	0.00641	0.4925	mg/L	0.00641	1.30%
Cr 267.716†	1489.4	0.5020	mg/L	0.00171	0.5020	mg/L	0.00171	0.34%
Cu 324.752†	77942.9	0.5072	mg/L	0.00781	0.5072	mg/L	0.00781	1.54%
Fe 273.955†	6560.9	6.683	mg/L	0.0168	6.683	mg/L	0.0168	0.25%
K 766.490†	54667.6	49.10	mg/L	0.277	49.10	mg/L	0.277	0.56%
Mg 279.077†	47286.9	60.63	mg/L	0.244	60.63	mg/L	0.244	0.40%
Mn 257.610†	93513.9	2.483	mg/L	0.0123	2.483	mg/L	0.0123	0.50%
Mo 202.031†	6202.4	0.5119	mg/L	0.00602	0.5119	mg/L	0.00602	1.18%
Na 589.592†	1277458.2	157.9	mg/L	0.29	157.9	mg/L	0.29	0.18%
Na 330.237†	2841.5	147.7	mg/L	0.26	147.7	mg/L	0.26	0.18%
Ni 231.604†	1358.6	0.5030	mg/L	0.00278	0.5030	mg/L	0.00278	0.55%
Pb 220.353†	10876.2	1.971	mg/L	0.0243	1.971	mg/L	0.0243	1.23%
Sb 206.836†	18.4	0.00714	mg/L	0.002256	0.00714	mg/L	0.002256	31.60%
Se 196.026†	1607.8	1.992	mg/L	0.0222	1.992	mg/L	0.0222	1.11%
Si 288.158†	23456.3	27.71	mg/L	0.197	27.71	mg/L	0.197	0.71%
Sn 189.927†	1282.3	0.5052	mg/L	0.00529	0.5052	mg/L	0.00529	1.05%
Sr 421.552†	450897.6	1.053	mg/L	0.0024	1.053	mg/L	0.0024	0.22%
Ti 334.903†	152.0	0.00604	mg/L	0.000749	0.00604	mg/L	0.000749	12.38%
Tl 190.801†	2623.6	1.943	mg/L	0.0225	1.943	mg/L	0.0225	1.16%
V 292.402†	27322.2	0.4926	mg/L	0.00999	0.4926	mg/L	0.00999	2.03%
Zn 206.200†	973.7	0.4819	mg/L	0.00185	0.4819	mg/L	0.00185	0.38%

Sequence No.: 36

Autosampler Location: 353

Sample ID: **BIK0168-BS2**

Date Collected: 11/10/2020 8:59:57 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-BS2

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: BIK0168-BS2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1483389.9	108.8	%	0.71			0.65%
ScR 361.383	166611.1	107.4	%	0.84			0.78%
Ag 328.068†	67373.6	0.5233	mg/L	0.00363	0.5233	mg/L	0.69%
Al 308.215†	2127.7	2.063	mg/L	0.0095	2.063	mg/L	0.46%
As 188.979†	1850.0	2.021	mg/L	0.0101	2.021	mg/L	0.50%
B 249.677†	105.9	0.01615	mg/L	0.001759	0.01615	mg/L	10.89%
Ba 233.527†	8055.9	1.994	mg/L	0.0143	1.994	mg/L	0.72%
Be 313.042†	216138.7	0.4947	mg/L	0.00685	0.4947	mg/L	1.38%
Ca 317.933†	63798.2	9.915	mg/L	0.0812	9.915	mg/L	0.82%
Cd 228.802†	8615.2	0.4926	mg/L	0.00240	0.4926	mg/L	0.49%
Co 228.616†	12606.1	0.5072	mg/L	0.00403	0.5072	mg/L	0.79%
Cr 267.716†	1455.2	0.4975	mg/L	0.00284	0.4975	mg/L	0.57%
Cu 324.752†	76551.0	0.4985	mg/L	0.00414	0.4985	mg/L	0.83%
Fe 273.955†	1987.1	2.018	mg/L	0.0178	2.018	mg/L	0.88%
K 766.490†	10468.0	9.402	mg/L	0.0577	9.402	mg/L	0.61%
Mg 279.077†	8246.2	10.58	mg/L	0.081	10.58	mg/L	0.77%
Mn 257.610†	18065.0	0.4800	mg/L	0.00665	0.4800	mg/L	1.38%
Mo 202.031†	6199.1	0.5125	mg/L	0.00461	0.5125	mg/L	0.90%
Na 589.592†	77506.1	9.582	mg/L	0.0613	9.582	mg/L	0.64%
Na 330.237†	194.0	9.957	mg/L	0.1275	9.957	mg/L	1.28%
Ni 231.604†	1335.2	0.4943	mg/L	0.00755	0.4943	mg/L	1.53%
Pb 220.353†	11140.6	2.020	mg/L	0.0116	2.020	mg/L	0.57%
Sb 206.836†	1.2	-0.00166	mg/L	0.001502	-0.00166	mg/L	90.61%
Se 196.026†	1628.0	2.016	mg/L	0.0234	2.016	mg/L	1.16%
Si 288.158†	116.8	0.1414	mg/L	0.00926	0.1414	mg/L	6.55%
Sn 189.927†	1352.2	0.5164	mg/L	0.00133	0.5164	mg/L	0.26%
Sr 421.552†	212509.8	0.4961	mg/L	0.00601	0.4961	mg/L	1.21%
Ti 334.903†	19.0	0.00024	mg/L	0.001234	0.00024	mg/L	511.60%
Tl 190.801†	2735.3	2.023	mg/L	0.0180	2.023	mg/L	0.89%
V 292.402†	27493.6	0.4950	mg/L	0.00291	0.4950	mg/L	0.59%
Zn 206.200†	993.1	0.4915	mg/L	0.00562	0.4915	mg/L	1.14%

Sequence No.: 37

Sample ID: SEQ-CCV7

Autosampler Location: 7

Date Collected: 11/10/2020 9:04:14 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV7

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: SEQ-CCV7

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1466842.3	107.6	%	0.07			0.06%
ScR 361.383	162787.3	105.0	%	0.48			0.46%
Ag 328.068†	131804.7	1.024	mg/L	0.0072	1.024	mg/L	0.70%
Al 308.215†	2140.8	2.058	mg/L	0.0265	2.058	mg/L	1.29%
As 188.979†	1796.0	1.989	mg/L	0.0069	1.989	mg/L	0.35%
B 249.677†	6522.9	1.011	mg/L	0.0047	1.011	mg/L	0.46%
Ba 233.527†	4045.9	1.001	mg/L	0.0084	1.001	mg/L	0.84%
Be 313.042†	438058.4	1.003	mg/L	0.0023	1.003	mg/L	0.23%
Ca 317.933†	13375.4	2.078	mg/L	0.0137	2.078	mg/L	0.66%
Cd 228.802†	16958.9	0.9845	mg/L	0.00577	0.9845	mg/L	0.59%
Co 228.616†	24493.1	0.9838	mg/L	0.00773	0.9838	mg/L	0.79%
Cr 267.716†	2876.6	0.9853	mg/L	0.00709	0.9853	mg/L	0.72%
Cu 324.752†	154209.6	1.004	mg/L	0.0053	1.004	mg/L	0.53%
Fe 273.955†	1992.7	2.023	mg/L	0.0156	2.023	mg/L	0.77%
K 766.490†	21541.1	19.35	mg/L	0.168	19.35	mg/L	0.87%
Mg 279.077†	1628.0	2.098	mg/L	0.0182	2.098	mg/L	0.87%
Mn 257.610†	36535.5	0.9706	mg/L	0.00543	0.9706	mg/L	0.56%
Mo 202.031†	12164.4	1.006	mg/L	0.0028	1.006	mg/L	0.27%
Na 589.592†	409285.0	50.60	mg/L	0.370	50.60	mg/L	0.73%
Na 330.237†	981.1	50.97	mg/L	0.351	50.97	mg/L	0.69%
Ni 231.604†	2716.2	1.008	mg/L	0.0073	1.008	mg/L	0.73%
Pb 220.353†	11248.4	2.039	mg/L	0.0069	2.039	mg/L	0.34%
Sb 206.836†	3900.3	2.074	mg/L	0.0098	2.074	mg/L	0.47%
Se 196.026†	1653.0	2.048	mg/L	0.0135	2.048	mg/L	0.66%
Si 288.158†	1874.4	2.206	mg/L	0.0121	2.206	mg/L	0.55%
Sn 189.927†	2711.4	1.033	mg/L	0.0049	1.033	mg/L	0.48%
Sr 421.552†	427575.1	0.9982	mg/L	0.00408	0.9982	mg/L	0.41%
Ti 334.903†	13543.0	0.9887	mg/L	0.00525	0.9887	mg/L	0.53%
Tl 190.801†	2710.6	2.002	mg/L	0.0070	2.002	mg/L	0.35%
V 292.402†	55480.2	0.9986	mg/L	0.00285	0.9986	mg/L	0.29%
Zn 206.200†	2056.4	1.018	mg/L	0.0057	1.018	mg/L	0.56%

Sequence No.: 38
 Sample ID: SEQ-CCB7

Autosampler Location: 1
 Date Collected: 11/10/2020 9:09:35 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB7

Analyte Back Pressure Flow
 All 238.0 kPa 0.65 L/min

Mean Data: SEQ-CCB7

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1453764.8	106.7	%	0.21				0.19%
ScR 361.383	162012.3	104.5	%	0.15				0.15%
Ag 328.068†	22.5	0.00017	mg/L	0.000238	0.00017	mg/L	0.000238	136.37%
Al 308.215†	-5.2	-0.00510	mg/L	0.015236	-0.00510	mg/L	0.015236	298.60%
As 188.979†	0.5	0.00058	mg/L	0.002357	0.00058	mg/L	0.002357	405.06%
B 249.677†	43.8	0.00680	mg/L	0.000492	0.00680	mg/L	0.000492	7.23%
Ba 233.527†	8.2	0.00204	mg/L	0.000251	0.00204	mg/L	0.000251	12.32%
Be 313.042†	-73.3	-0.00017	mg/L	0.000034	-0.00017	mg/L	0.000034	20.08%
Ca 317.933†	-3.7	-0.00057	mg/L	0.002219	-0.00057	mg/L	0.002219	389.91%
Cd 228.802†	-1.1	-0.00007	mg/L	0.000103	-0.00007	mg/L	0.000103	152.95%
Co 228.616†	4.2	0.00017	mg/L	0.000120	0.00017	mg/L	0.000120	72.70%
Cr 267.716†	2.0	0.00069	mg/L	0.003490	0.00069	mg/L	0.003490	509.29%
Cu 324.752†	7.0	0.00005	mg/L	0.000065	0.00005	mg/L	0.000065	143.57%
Fe 273.955†	2.3	0.00235	mg/L	0.002472	0.00235	mg/L	0.002472	105.23%
K 766.490†	8.4	0.00755	mg/L	0.024472	0.00755	mg/L	0.024472	324.14%
Mg 279.077†	1.8	0.00231	mg/L	0.013861	0.00231	mg/L	0.013861	600.64%
Mn 257.610†	6.9	0.00018	mg/L	0.000121	0.00018	mg/L	0.000121	65.98%
Mo 202.031†	3.8	0.00032	mg/L	0.000245	0.00032	mg/L	0.000245	77.11%
Na 589.592†	76.9	0.00951	mg/L	0.006742	0.00951	mg/L	0.006742	70.89%
Na 330.237†	-6.8	-0.3555	mg/L	0.31270	-0.3555	mg/L	0.31270	87.95%
Ni 231.604†	6.6	0.00246	mg/L	0.002988	0.00246	mg/L	0.002988	121.32%
Pb 220.353†	1.6	0.00029	mg/L	0.000405	0.00029	mg/L	0.000405	139.94%
Sb 206.836†	3.8	0.00204	mg/L	0.000879	0.00204	mg/L	0.000879	43.07%
Se 196.026†	5.6	0.00696	mg/L	0.002179	0.00696	mg/L	0.002179	31.30%
Si 288.158†	9.9	0.01167	mg/L	0.006078	0.01167	mg/L	0.006078	52.07%
Sn 189.927†	2.4	0.00093	mg/L	0.000176	0.00093	mg/L	0.000176	18.92%
Sr 421.552†	-0.7	-0.00000	mg/L	0.000006	-0.00000	mg/L	0.000006	350.90%
Ti 334.903†	18.1	0.00132	mg/L	0.001521	0.00132	mg/L	0.001521	115.12%
Tl 190.801†	-0.1	-0.00009	mg/L	0.001348	-0.00009	mg/L	0.001348	>999.9%
V 292.402†	22.5	0.00041	mg/L	0.000413	0.00041	mg/L	0.000413	101.67%
Zn 206.200†	-0.3	-0.00016	mg/L	0.001230	-0.00016	mg/L	0.001230	758.90%

Sequence No.: 39

Autosampler Location: 354

Sample ID: BIK0220-BLK2

Date Collected: 11/10/2020 9:13:51 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-BLK2

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: BIK0220-BLK2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1529963.1	112.2	%	0.89				0.79%
ScR 361.383	169910.5	109.6	%	0.61				0.56%
Ag 328.068†	-15.8	-0.00012	mg/L	0.000223	-0.00012	mg/L	0.000223	181.52%
Al 308.215†	-21.4	-0.02089	mg/L	0.017334	-0.02089	mg/L	0.017334	82.98%
As 188.979†	-0.8	-0.00087	mg/L	0.004253	-0.00087	mg/L	0.004253	489.01%
B 249.677†	16.4	0.00255	mg/L	0.000527	0.00255	mg/L	0.000527	20.71%
Ba 233.527†	-0.1	-0.00002	mg/L	0.001196	-0.00002	mg/L	0.001196	>999.9%
Be 313.042†	-149.5	-0.00035	mg/L	0.000028	-0.00035	mg/L	0.000028	8.05%
Ca 317.933†	20.0	0.00312	mg/L	0.000201	0.00312	mg/L	0.000201	6.46%
Cd 228.802†	-6.5	-0.00038	mg/L	0.000155	-0.00038	mg/L	0.000155	41.31%
Co 228.616†	7.0	0.00028	mg/L	0.000157	0.00028	mg/L	0.000157	55.58%
Cr 267.716†	14.4	0.00494	mg/L	0.001251	0.00494	mg/L	0.001251	25.32%
Cu 324.752†	-20.6	-0.00013	mg/L	0.000174	-0.00013	mg/L	0.000174	129.89%
Fe 273.955†	-0.3	-0.00026	mg/L	0.001851	-0.00026	mg/L	0.001851	703.30%
K 766.490†	-11.3	-0.01015	mg/L	0.038559	-0.01015	mg/L	0.038559	379.81%
Mg 279.077†	5.6	0.00712	mg/L	0.002849	0.00712	mg/L	0.002849	39.99%
Mn 257.610†	-12.1	-0.00032	mg/L	0.000099	-0.00032	mg/L	0.000099	30.83%
Mo 202.031†	-5.4	-0.00045	mg/L	0.000171	-0.00045	mg/L	0.000171	38.39%
Na 589.592†	98.2	0.01214	mg/L	0.004464	0.01214	mg/L	0.004464	36.76%
Na 330.237†	5.0	0.2589	mg/L	0.40543	0.2589	mg/L	0.40543	156.59%
Ni 231.604†	1.0	0.00036	mg/L	0.001139	0.00036	mg/L	0.001139	319.59%
Pb 220.353†	5.9	0.00107	mg/L	0.000855	0.00107	mg/L	0.000855	80.06%
Sb 206.836†	-5.5	-0.00303	mg/L	0.002705	-0.00303	mg/L	0.002705	89.42%
Se 196.026†	8.0	0.00996	mg/L	0.002888	0.00996	mg/L	0.002888	29.00%
Si 288.158†	1.3	0.00159	mg/L	0.003033	0.00159	mg/L	0.003033	190.90%
Sn 189.927†	1.6	0.00060	mg/L	0.001086	0.00060	mg/L	0.001086	179.53%
Sr 421.552†	-46.1	-0.00011	mg/L	0.000069	-0.00011	mg/L	0.000069	64.05%
Ti 334.903†	-16.8	-0.00123	mg/L	0.000970	-0.00123	mg/L	0.000970	79.08%
Tl 190.801†	-1.6	-0.00122	mg/L	0.001829	-0.00122	mg/L	0.001829	149.36%
V 292.402†	19.1	0.00037	mg/L	0.000403	0.00037	mg/L	0.000403	108.05%
Zn 206.200†	5.1	0.00252	mg/L	0.001011	0.00252	mg/L	0.001011	40.08%

Sequence No.: 40

Sample ID: BIK0220-DUP2

Autosampler Location: 355

Date Collected: 11/10/2020 9:18:07 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-DUP2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0220-DUP2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1520491.9	111.5	%	0.41				0.37%
ScR 361.383	170536.7	110.0	%	0.48				0.43%
Ag 328.068†	-37.1	-0.00029	mg/L	0.000200	-0.00029	mg/L	0.000200	69.76%
Al 308.215†	-10.2	-0.01002	mg/L	0.008744	-0.01002	mg/L	0.008744	87.25%
As 188.979†	7.9	0.00760	mg/L	0.002815	0.00760	mg/L	0.002815	37.06%
B 249.677†	51.7	0.00802	mg/L	0.000218	0.00802	mg/L	0.000218	2.72%
Ba 233.527†	16.4	0.00406	mg/L	0.000639	0.00406	mg/L	0.000639	15.73%
Be 313.042†	-117.3	-0.00028	mg/L	0.000081	-0.00028	mg/L	0.000081	28.58%
Ca 317.933†	69478.7	10.80	mg/L	0.046	10.80	mg/L	0.046	0.42%
Cd 228.802†	1.9	0.00005	mg/L	0.000165	0.00005	mg/L	0.000165	323.64%
Co 228.616†	12.1	0.00048	mg/L	0.000052	0.00048	mg/L	0.000052	10.72%
Cr 267.716†	18.8	0.00538	mg/L	0.002724	0.00538	mg/L	0.002724	50.60%
Cu 324.752†	37.3	0.00021	mg/L	0.000185	0.00021	mg/L	0.000185	86.56%
Fe 273.955†	27.3	0.02781	mg/L	0.003186	0.02781	mg/L	0.003186	11.46%
K 766.490†	1147.7	1.031	mg/L	0.0261	1.031	mg/L	0.0261	2.53%
Mg 279.077†	2911.4	3.733	mg/L	0.0111	3.733	mg/L	0.0111	0.30%
Mn 257.610†	425.2	0.01126	mg/L	0.000355	0.01126	mg/L	0.000355	3.15%
Mo 202.031†	17.2	0.00128	mg/L	0.000161	0.00128	mg/L	0.000161	12.60%
Na 589.592†	30411.9	3.760	mg/L	0.0127	3.760	mg/L	0.0127	0.34%
Na 330.237†	72.6	3.776	mg/L	0.3072	3.776	mg/L	0.3072	8.14%
Ni 231.604†	7.6	0.00280	mg/L	0.001110	0.00280	mg/L	0.001110	39.70%
Pb 220.353†	-6.5	-0.00117	mg/L	0.000775	-0.00117	mg/L	0.000775	66.40%
Sb 206.836†	-6.1	-0.00336	mg/L	0.001943	-0.00336	mg/L	0.001943	57.89%
Se 196.026†	2.1	0.00262	mg/L	0.002098	0.00262	mg/L	0.002098	80.14%
Si 288.158†	9832.2	11.61	mg/L	0.058	11.61	mg/L	0.058	0.50%
Sn 189.927†	-15.7	-0.00362	mg/L	0.000615	-0.00362	mg/L	0.000615	16.99%
Sr 421.552†	17846.9	0.04166	mg/L	0.000224	0.04166	mg/L	0.000224	0.54%
Ti 334.903†	7.9	-0.00002	mg/L	0.000492	-0.00002	mg/L	0.000492	>999.9%
Tl 190.801†	6.2	0.00460	mg/L	0.002191	0.00460	mg/L	0.002191	47.66%
V 292.402†	184.5	0.00334	mg/L	0.000064	0.00334	mg/L	0.000064	1.91%
Zn 206.200†	-2.1	-0.00106	mg/L	0.000939	-0.00106	mg/L	0.000939	88.40%

Sequence No.: 41

Sample ID: 20J0383-02

Autosampler Location: 356

Date Collected: 11/10/2020 9:22:23 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0383-02

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0383-02

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1497120.7	109.8	%	0.18				0.16%
ScR 361.383	169333.6	109.2	%	0.94				0.86%
Ag 328.068†	-7.7	-0.00006	mg/L	0.000315	-0.00006	mg/L	0.000315	532.95%
Al 308.215†	-9.5	-0.00934	mg/L	0.003812	-0.00934	mg/L	0.003812	40.83%
As 188.979†	11.3	0.01131	mg/L	0.005570	0.01131	mg/L	0.005570	49.23%
B 249.677†	37.4	0.00581	mg/L	0.000899	0.00581	mg/L	0.000899	15.49%
Ba 233.527†	10.0	0.00247	mg/L	0.001307	0.00247	mg/L	0.001307	52.97%
Be 313.042†	-137.4	-0.00033	mg/L	0.000018	-0.00033	mg/L	0.000018	5.40%
Ca 317.933†	68248.2	10.61	mg/L	0.035	10.61	mg/L	0.035	0.33%
Cd 228.802†	0.3	-0.00007	mg/L	0.000124	-0.00007	mg/L	0.000124	175.37%
Co 228.616†	12.7	0.00051	mg/L	0.000125	0.00051	mg/L	0.000125	24.39%
Cr 267.716†	15.9	0.00442	mg/L	0.004247	0.00442	mg/L	0.004247	96.19%
Cu 324.752†	-3.7	-0.00005	mg/L	0.000110	-0.00005	mg/L	0.000110	207.57%
Fe 273.955†	17.6	0.01790	mg/L	0.004008	0.01790	mg/L	0.004008	22.40%
K 766.490†	1176.2	1.057	mg/L	0.0145	1.057	mg/L	0.0145	1.37%
Mg 279.077†	2843.8	3.646	mg/L	0.0207	3.646	mg/L	0.0207	0.57%
Mn 257.610†	408.0	0.01081	mg/L	0.000057	0.01081	mg/L	0.000057	0.52%
Mo 202.031†	16.5	0.00122	mg/L	0.000484	0.00122	mg/L	0.000484	39.54%
Na 589.592†	30260.8	3.741	mg/L	0.0085	3.741	mg/L	0.0085	0.23%
Na 330.237†	79.2	4.122	mg/L	0.1986	4.122	mg/L	0.1986	4.82%
Ni 231.604†	-0.4	-0.00014	mg/L	0.001452	-0.00014	mg/L	0.001452	>999.9%
Pb 220.353†	-2.0	-0.00036	mg/L	0.000654	-0.00036	mg/L	0.000654	183.27%
Sb 206.836†	-0.0	-0.00014	mg/L	0.001014	-0.00014	mg/L	0.001014	743.65%
Se 196.026†	-0.2	-0.00024	mg/L	0.002967	-0.00024	mg/L	0.002967	>999.9%
Si 288.158†	9784.2	11.56	mg/L	0.119	11.56	mg/L	0.119	1.03%
Sn 189.927†	-17.1	-0.00419	mg/L	0.000950	-0.00419	mg/L	0.000950	22.69%
Sr 421.552†	17714.4	0.04135	mg/L	0.000207	0.04135	mg/L	0.000207	0.50%
Ti 334.903†	2.3	-0.00042	mg/L	0.001948	-0.00042	mg/L	0.001948	461.33%
Tl 190.801†	3.9	0.00287	mg/L	0.001189	0.00287	mg/L	0.001189	41.37%
V 292.402†	176.2	0.00319	mg/L	0.000105	0.00319	mg/L	0.000105	3.31%
Zn 206.200†	-1.7	-0.00082	mg/L	0.001506	-0.00082	mg/L	0.001506	183.79%

Sequence No.: 42

Autosampler Location: 357

Sample ID: BIK0220-MS2

Date Collected: 11/10/2020 9:26:39 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-MS2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0220-MS2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1508800.8	110.7	%	0.60			0.54%
ScR 361.383	167356.3	107.9	%	0.35			0.33%
Ag 328.068†	64887.2	0.5040	mg/L	0.01192	0.5040	mg/L	0.01192 2.36%
Al 308.215†	2153.9	2.089	mg/L	0.0140	2.089	mg/L	0.0140 0.67%
As 188.979†	1914.3	2.091	mg/L	0.0131	2.091	mg/L	0.0131 0.62%
B 249.677†	45.4	0.00676	mg/L	0.001183	0.00676	mg/L	0.001183 17.50%
Ba 233.527†	8100.0	2.005	mg/L	0.0066	2.005	mg/L	0.0066 0.33%
Be 313.042†	217622.3	0.4981	mg/L	0.00191	0.4981	mg/L	0.00191 0.38%
Ca 317.933†	131629.9	20.46	mg/L	0.014	20.46	mg/L	0.014 0.07%
Cd 228.802†	8925.7	0.5104	mg/L	0.00087	0.5104	mg/L	0.00087 0.17%
Co 228.616†	12167.2	0.4895	mg/L	0.00240	0.4895	mg/L	0.00240 0.49%
Cr 267.716†	1455.1	0.4964	mg/L	0.00392	0.4964	mg/L	0.00392 0.79%
Cu 324.752†	75214.6	0.4898	mg/L	0.00049	0.4898	mg/L	0.00049 0.10%
Fe 273.955†	1982.7	2.014	mg/L	0.0086	2.014	mg/L	0.0086 0.43%
K 766.490†	11866.6	10.66	mg/L	0.049	10.66	mg/L	0.049 0.46%
Mg 279.077†	11317.2	14.51	mg/L	0.044	14.51	mg/L	0.044 0.30%
Mn 257.610†	18530.7	0.4923	mg/L	0.00010	0.4923	mg/L	0.00010 0.02%
Mo 202.031†	5810.9	0.4803	mg/L	0.00056	0.4803	mg/L	0.00056 0.12%
Na 589.592†	111321.2	13.76	mg/L	0.046	13.76	mg/L	0.046 0.34%
Na 330.237†	272.6	14.05	mg/L	0.236	14.05	mg/L	0.236 1.68%
Ni 231.604†	1331.6	0.4929	mg/L	0.00554	0.4929	mg/L	0.00554 1.12%
Pb 220.353†	11156.5	2.022	mg/L	0.0058	2.022	mg/L	0.0058 0.29%
Sb 206.836†	8.5	-0.00143	mg/L	0.001750	-0.00143	mg/L	0.001750 122.76%
Se 196.026†	1872.9	2.320	mg/L	0.0161	2.320	mg/L	0.0161 0.70%
Si 288.158†	9831.8	11.62	mg/L	0.084	11.62	mg/L	0.084 0.73%
Sn 189.927†	-28.2	-0.00620	mg/L	0.000814	-0.00620	mg/L	0.000814 13.13%
Sr 421.552†	231403.1	0.5402	mg/L	0.00105	0.5402	mg/L	0.00105 0.19%
Ti 334.903†	34.5	0.00082	mg/L	0.000671	0.00082	mg/L	0.000671 81.64%
Tl 190.801†	2745.0	2.031	mg/L	0.0170	2.031	mg/L	0.0170 0.84%
V 292.402†	27669.5	0.4982	mg/L	0.00305	0.4982	mg/L	0.00305 0.61%
Zn 206.200†	996.3	0.4931	mg/L	0.00235	0.4931	mg/L	0.00235 0.48%

Sequence No.: 43

Autosampler Location: 358

Sample ID: BIK0220-BS2

Date Collected: 11/10/2020 9:30:55 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-BS2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0220-BS2

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1540945.3	113.0	%	0.74				0.66%
ScR 361.383	172949.4	111.5	%	0.85				0.77%
Ag 328.068†	69356.9	0.5387	mg/L	0.00413	0.5387	mg/L	0.00413	0.77%
Al 308.215†	2140.1	2.075	mg/L	0.0269	2.075	mg/L	0.0269	1.30%
As 188.979†	1936.8	2.116	mg/L	0.0195	2.116	mg/L	0.0195	0.92%
B 249.677†	13.4	0.00180	mg/L	0.001359	0.00180	mg/L	0.001359	75.50%
Ba 233.527†	8212.4	2.033	mg/L	0.0270	2.033	mg/L	0.0270	1.33%
Be 313.042†	221136.9	0.5062	mg/L	0.00348	0.5062	mg/L	0.00348	0.69%
Ca 317.933†	65019.4	10.10	mg/L	0.058	10.10	mg/L	0.058	0.58%
Cd 228.802†	9005.0	0.5149	mg/L	0.00532	0.5149	mg/L	0.00532	1.03%
Co 228.616†	12545.2	0.5047	mg/L	0.00360	0.5047	mg/L	0.00360	0.71%
Cr 267.716†	1488.0	0.5087	mg/L	0.00239	0.5087	mg/L	0.00239	0.47%
Cu 324.752†	75700.9	0.4930	mg/L	0.00396	0.4930	mg/L	0.00396	0.80%
Fe 273.955†	2015.8	2.047	mg/L	0.0245	2.047	mg/L	0.0245	1.20%
K 766.490†	10703.3	9.614	mg/L	0.0225	9.614	mg/L	0.0225	0.23%
Mg 279.077†	8439.5	10.83	mg/L	0.137	10.83	mg/L	0.137	1.26%
Mn 257.610†	18430.9	0.4897	mg/L	0.00351	0.4897	mg/L	0.00351	0.72%
Mo 202.031†	6118.6	0.5059	mg/L	0.00406	0.5059	mg/L	0.00406	0.80%
Na 589.592†	77576.3	9.591	mg/L	0.0753	9.591	mg/L	0.0753	0.79%
Na 330.237†	195.4	10.03	mg/L	0.221	10.03	mg/L	0.221	2.21%
Ni 231.604†	1370.0	0.5072	mg/L	0.00535	0.5072	mg/L	0.00535	1.06%
Pb 220.353†	11516.0	2.088	mg/L	0.0215	2.088	mg/L	0.0215	1.03%
Sb 206.836†	4.1	-0.00389	mg/L	0.000060	-0.00389	mg/L	0.000060	1.55%
Se 196.026†	1878.6	2.327	mg/L	0.0145	2.327	mg/L	0.0145	0.62%
Si 288.158†	-6.3	-0.00374	mg/L	0.006126	-0.00374	mg/L	0.006126	163.72%
Sn 189.927†	-15.1	-0.00346	mg/L	0.000447	-0.00346	mg/L	0.000447	12.93%
Sr 421.552†	214542.0	0.5008	mg/L	0.00072	0.5008	mg/L	0.00072	0.14%
Ti 334.903†	11.4	-0.00032	mg/L	0.000843	-0.00032	mg/L	0.000843	264.49%
Tl 190.801†	2789.2	2.063	mg/L	0.0161	2.063	mg/L	0.0161	0.78%
V 292.402†	28181.8	0.5074	mg/L	0.00420	0.5074	mg/L	0.00420	0.83%
Zn 206.200†	1031.1	0.5103	mg/L	0.01116	0.5103	mg/L	0.01116	2.19%

Sequence No.: 44

Sample ID: 20K0008-14

Autosampler Location: 359

Date Collected: 11/10/2020 9:36:34 PM

Data Type: Original

Dilution: 10X

Wash Time: 120

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-14

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-14

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1462938.7	107.3	%	0.69				0.65%
ScR 361.383	165808.4	106.9	%	0.74				0.69%
Ag 328.068†	165.7	0.00130	mg/L	0.000333	0.01303	mg/L	0.003332	25.56%
Al 308.215†	19788.6	19.34	mg/L	0.134	193.4	mg/L	1.34	0.69%
As 188.979†	-34.1	-0.00047	mg/L	0.001636	-0.00468	mg/L	0.016360	349.60%
B 249.677†	59.7	0.01175	mg/L	0.000701	0.1175	mg/L	0.00701	5.96%
Ba 233.527†	3765.9	0.9287	mg/L	0.00592	9.287	mg/L	0.0592	0.64%
Be 313.042†	168.8	0.00014	mg/L	0.000025	0.00144	mg/L	0.000253	17.55%
Ca 317.933†	80447.7	12.50	mg/L	0.036	125.0	mg/L	0.36	0.29%
Cd 228.802†	52.6	0.00311	mg/L	0.000064	0.03113	mg/L	0.000637	2.05%
Co 228.616†	397.3	0.01276	mg/L	0.000312	0.1276	mg/L	0.00312	2.44%
Cr 267.716†	1410.8	0.4850	mg/L	0.00314	4.850	mg/L	0.0314	0.65%
Cu 324.752†	9107.2	0.06044	mg/L	0.000873	0.6044	mg/L	0.00873	1.45%
Fe 273.955†	32623.8	33.27	mg/L	0.226	332.7	mg/L	2.26	0.68%
K 766.490†	2946.8	2.647	mg/L	0.0218	26.47	mg/L	0.218	0.83%
Mg 279.077†	6216.0	7.952	mg/L	0.0631	79.52	mg/L	0.631	0.79%
Mn 257.610†	8288.9	0.2204	mg/L	0.00099	2.204	mg/L	0.0099	0.45%
Mo 202.031†	88.9	0.00716	mg/L	0.000335	0.07157	mg/L	0.003354	4.69%
Na 589.592†	36162.2	4.471	mg/L	0.0432	44.71	mg/L	0.432	0.97%
Na 330.237†	122.6	4.981	mg/L	0.2335	49.81	mg/L	2.335	4.69%
Ni 231.604†	43.3	0.01607	mg/L	0.001632	0.1607	mg/L	0.01632	10.15%
Pb 220.353†	22322.8	4.049	mg/L	0.0521	40.49	mg/L	0.521	1.29%
Sb 206.836†	54.2	0.02385	mg/L	0.001830	0.2385	mg/L	0.01830	7.67%
Se 196.026†	-7.0	-0.00460	mg/L	0.005330	-0.04597	mg/L	0.053303	115.96%
Si 288.158†	156.2	0.1690	mg/L	0.01056	1.690	mg/L	0.1056	6.25%
Sn 189.927†	-4.1	0.00195	mg/L	0.000661	0.01947	mg/L	0.006615	33.97%
Sr 421.552†	46067.9	0.1075	mg/L	0.00072	1.075	mg/L	0.0072	0.67%
Ti 334.903†	18696.6	1.366	mg/L	0.0038	13.66	mg/L	0.038	0.28%
Tl 190.801†	36.6	0.02696	mg/L	0.004465	0.2696	mg/L	0.04465	16.57%
V 292.402†	3079.7	0.05911	mg/L	0.000756	0.5911	mg/L	0.00756	1.28%
Zn 206.200†	10363.3	5.130	mg/L	0.0263	51.30	mg/L	0.263	0.51%

Sequence No.: 45

Sample ID: BIK0175-DUP1

Autosampler Location: 360

Date Collected: 11/10/2020 9:40:50 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-DUP1

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0175-DUP1

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1490585.4	109.4	%	0.35				0.32%
ScR 361.383	165499.4	106.7	%	0.57				0.53%
Ag 328.068†	25.8	0.00021	mg/L	0.000138	0.00214	mg/L	0.001380	64.41%
Al 308.215†	15254.8	14.91	mg/L	0.029	149.1	mg/L	0.29	0.20%
As 188.979†	-9.2	0.01532	mg/L	0.004914	0.1532	mg/L	0.04914	32.07%
B 249.677†	27.4	0.01580	mg/L	0.000768	0.1580	mg/L	0.00768	4.86%
Ba 233.527†	511.2	0.1106	mg/L	0.00100	1.106	mg/L	0.0100	0.90%
Be 313.042†	149.0	0.00015	mg/L	0.000059	0.00147	mg/L	0.000590	40.00%
Ca 317.933†	37593.4	5.842	mg/L	0.0204	58.42	mg/L	0.204	0.35%
Cd 228.802†	32.9	0.00089	mg/L	0.000203	0.00887	mg/L	0.002030	22.88%
Co 228.616†	649.9	0.02212	mg/L	0.000247	0.2212	mg/L	0.00247	1.12%
Cr 267.716†	173.9	0.06908	mg/L	0.002921	0.6908	mg/L	0.02921	4.23%
Cu 324.752†	42603.4	0.2837	mg/L	0.00166	2.837	mg/L	0.0166	0.59%
Fe 273.955†	143368.6	146.2	mg/L	0.34	1462	mg/L	3.38	0.23%
K 766.490†	789.6	0.7092	mg/L	0.05772	7.092	mg/L	0.5772	8.14%
Mg 279.077†	3222.6	4.052	mg/L	0.0143	40.52	mg/L	0.143	0.35%
Mn 257.610†	21990.4	0.5828	mg/L	0.00132	5.828	mg/L	0.0132	0.23%
Mo 202.031†	33.4	0.00268	mg/L	0.000256	0.02677	mg/L	0.002561	9.56%
Na 589.592†	11128.7	1.376	mg/L	0.0098	13.76	mg/L	0.098	0.72%
Na 330.237†	26.3	1.405	mg/L	0.1376	14.05	mg/L	1.376	9.79%
Ni 231.604†	135.7	0.05040	mg/L	0.002360	0.5040	mg/L	0.02360	4.68%
Pb 220.353†	7915.4	1.431	mg/L	0.0148	14.31	mg/L	0.148	1.03%
Sb 206.836†	286.6	0.1629	mg/L	0.00031	1.629	mg/L	0.0031	0.19%
Se 196.026†	-5.8	0.00829	mg/L	0.006445	0.08285	mg/L	0.064451	77.79%
Si 288.158†	202.7	0.2286	mg/L	0.00646	2.286	mg/L	0.0646	2.83%
Sn 189.927†	3626.8	1.381	mg/L	0.0006	13.81	mg/L	0.006	0.04%
Sr 421.552†	23905.8	0.05581	mg/L	0.000048	0.5581	mg/L	0.00048	0.09%
Ti 334.903†	12493.9	0.9130	mg/L	0.00092	9.130	mg/L	0.0092	0.10%
Tl 190.801†	44.4	0.03335	mg/L	0.000751	0.3335	mg/L	0.00751	2.25%
V 292.402†	2465.1	0.04960	mg/L	0.000225	0.4960	mg/L	0.00225	0.45%
Zn 206.200†	1024.0	0.5069	mg/L	0.00145	5.069	mg/L	0.0145	0.29%

Sequence No.: 46

Sample ID: 20K0008-01

Autosampler Location: 361

Date Collected: 11/10/2020 9:45:06 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-01

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0008-01

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1530536.6	112.3	%	0.35			0.32%	
ScR 361.383	168833.4	108.9	%	0.50			0.46%	
Ag 328.068†	-44.4	-0.00033	mg/L	0.000172	-0.00332	mg/L	0.001716	51.69%
Al 308.215†	14765.3	14.43	mg/L	0.040	144.3	mg/L	0.40	0.28%
As 188.979†	2.4	0.02652	mg/L	0.001290	0.2652	mg/L	0.01290	4.86%
B 249.677†	-6.0	0.01803	mg/L	0.001105	0.1803	mg/L	0.01105	6.13%
Ba 233.527†	534.8	0.1063	mg/L	0.00095	1.063	mg/L	0.0095	0.89%
Be 313.042†	150.1	0.00017	mg/L	0.000028	0.00167	mg/L	0.000285	17.09%
Ca 317.933†	38405.6	5.968	mg/L	0.0403	59.68	mg/L	0.403	0.68%
Cd 228.802†	49.0	0.00100	mg/L	0.000145	0.01003	mg/L	0.001449	14.44%
Co 228.616†	835.9	0.02828	mg/L	0.000173	0.2828	mg/L	0.00173	0.61%
Cr 267.716†	199.6	0.08437	mg/L	0.001600	0.8437	mg/L	0.01600	1.90%
Cu 324.752†	28096.7	0.1934	mg/L	0.00211	1.934	mg/L	0.0211	1.09%
Fe 273.955†	234912.9	239.6	mg/L	0.96	2396	mg/L	9.57	0.40%
K 766.490†	762.9	0.6852	mg/L	0.01428	6.852	mg/L	0.1428	2.08%
Mg 279.077†	3032.3	3.757	mg/L	0.0050	37.57	mg/L	0.050	0.13%
Mn 257.610†	33842.7	0.8967	mg/L	0.00338	8.967	mg/L	0.0338	0.38%
Mo 202.031†	41.6	0.00336	mg/L	0.000319	0.03360	mg/L	0.003185	9.48%
Na 589.592†	10645.5	1.316	mg/L	0.0066	13.16	mg/L	0.066	0.50%
Na 330.237†	20.5	1.101	mg/L	0.2763	11.01	mg/L	2.763	25.09%
Ni 231.604†	149.1	0.05526	mg/L	0.001141	0.5526	mg/L	0.01141	2.06%
Pb 220.353†	8140.9	1.467	mg/L	0.0209	14.67	mg/L	0.209	1.42%
Sb 206.836†	113.2	0.06461	mg/L	0.003056	0.6461	mg/L	0.03056	4.73%
Se 196.026†	-16.2	0.00528	mg/L	0.003393	0.05275	mg/L	0.033929	64.32%
Si 288.158†	124.5	0.1369	mg/L	0.00539	1.369	mg/L	0.0539	3.94%
Sn 189.927†	1443.3	0.5505	mg/L	0.00431	5.505	mg/L	0.0431	0.78%
Sr 421.552†	23944.7	0.05590	mg/L	0.000229	0.5590	mg/L	0.00229	0.41%
Ti 334.903†	11767.5	0.8599	mg/L	0.00327	8.599	mg/L	0.0327	0.38%
Tl 190.801†	64.7	0.04869	mg/L	0.000448	0.4869	mg/L	0.00448	0.92%
V 292.402†	2252.2	0.04923	mg/L	0.002343	0.4923	mg/L	0.02343	4.76%
Zn 206.200†	978.6	0.4845	mg/L	0.00119	4.845	mg/L	0.0119	0.24%

Sequence No.: 47

Autosampler Location: 362

Sample ID: BIK0175-MS1

Date Collected: 11/10/2020 9:49:22 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-MS1

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0175-MS1

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1486288.5	109.0	%	0.60				0.55%
ScR 361.383	166324.5	107.3	%	0.58				0.54%
Ag 328.068†	12481.3	0.09695	mg/L	0.000669	0.9695	mg/L	0.00669	0.69%
Al 308.215†	17221.0	16.83	mg/L	0.022	168.3	mg/L	0.22	0.13%
As 188.979†	326.8	0.3838	mg/L	0.00370	3.838	mg/L	0.0370	0.96%
B 249.677†	30.9	0.01480	mg/L	0.000907	0.1480	mg/L	0.00907	6.12%
Ba 233.527†	2028.0	0.4879	mg/L	0.00169	4.879	mg/L	0.0169	0.35%
Be 313.042†	40916.3	0.09346	mg/L	0.000352	0.9346	mg/L	0.00352	0.38%
Ca 317.933†	57013.7	8.860	mg/L	0.0183	88.60	mg/L	0.183	0.21%
Cd 228.802†	1696.7	0.09634	mg/L	0.000492	0.9634	mg/L	0.00492	0.51%
Co 228.616†	3002.4	0.1169	mg/L	0.00045	1.169	mg/L	0.0045	0.38%
Cr 267.716†	626.0	0.2226	mg/L	0.00312	2.226	mg/L	0.0312	1.40%
Cu 324.752†	56225.0	0.3717	mg/L	0.00038	3.717	mg/L	0.0038	0.10%
Fe 273.955†	127187.7	129.7	mg/L	0.72	1297	mg/L	7.17	0.55%
K 766.490†	2769.7	2.488	mg/L	0.0254	24.88	mg/L	0.254	1.02%
Mg 279.077†	5090.3	6.457	mg/L	0.0188	64.57	mg/L	0.188	0.29%
Mn 257.610†	25808.3	0.6844	mg/L	0.00191	6.844	mg/L	0.0191	0.28%
Mo 202.031†	61.0	0.00491	mg/L	0.000178	0.04912	mg/L	0.001779	3.62%
Na 589.592†	26054.0	3.221	mg/L	0.0068	32.21	mg/L	0.068	0.21%
Na 330.237†	56.8	2.999	mg/L	0.1942	29.99	mg/L	1.942	6.48%
Ni 231.604†	399.8	0.1481	mg/L	0.00116	1.481	mg/L	0.0116	0.78%
Pb 220.353†	11840.5	2.144	mg/L	0.0041	21.44	mg/L	0.041	0.19%
Sb 206.836†	147.9	0.08191	mg/L	0.001639	0.8191	mg/L	0.01639	2.00%
Se 196.026†	285.7	0.3676	mg/L	0.00171	3.676	mg/L	0.0171	0.46%
Si 288.158†	206.5	0.2334	mg/L	0.00551	2.334	mg/L	0.0551	2.36%
Sn 189.927†	1643.8	0.6275	mg/L	0.00241	6.275	mg/L	0.0241	0.38%
Sr 421.552†	67009.7	0.1564	mg/L	0.00052	1.564	mg/L	0.0052	0.33%
Ti 334.903†	13066.2	0.9546	mg/L	0.00212	9.546	mg/L	0.0212	0.22%
Tl 190.801†	553.8	0.4101	mg/L	0.00048	4.101	mg/L	0.0048	0.12%
V 292.402†	7612.9	0.1420	mg/L	0.00201	1.420	mg/L	0.0201	1.42%
Zn 206.200†	1091.8	0.5405	mg/L	0.00214	5.405	mg/L	0.0214	0.40%

STL

Sequence No.: 48

Autosampler Location: 363

Sample ID: BIK0175-MSD1

Date Collected: 11/10/2020 9:53:38 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-MSD1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIK0175-MSD1

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1471186.5	107.9	%	0.12				0.11%
ScR 361.383	163020.2	105.1	%	0.81				0.77%
Ag 328.068†	12201.8	0.09477	mg/L	0.000586	0.9477	mg/L	0.00586	0.62%
Al 308.215†	11874.2	11.61	mg/L	0.100	116.1	mg/L	1.00	0.86%
As 188.979†	338.8	0.3882	mg/L	0.00100	3.882	mg/L	0.0100	0.26%
B 249.677†	11.9	0.01853	mg/L	0.000307	0.1853	mg/L	0.00307	1.65%
Ba 233.527†	1986.6	0.4685	mg/L	0.00606	4.685	mg/L	0.0606	1.29%
Be 313.042†	39369.6	0.08999	mg/L	0.000717	0.8999	mg/L	0.00717	0.80%
Ca 317.933†	46193.5	7.179	mg/L	0.0584	71.79	mg/L	0.584	0.81%
Cd 228.802†	1674.3	0.09426	mg/L	0.000733	0.9426	mg/L	0.00733	0.78%
Co 228.616†	3067.9	0.1189	mg/L	0.00055	1.189	mg/L	0.0055	0.46%
Cr 267.716†	449.7	0.1681	mg/L	0.00119	1.681	mg/L	0.0119	0.71%
Cu 324.752†	50291.8	0.3369	mg/L	0.00054	3.369	mg/L	0.0054	0.16%
Fe 273.955†	209521.0	213.7	mg/L	0.47	2137	mg/L	4.73	0.22%
K 766.490†	2366.6	2.126	mg/L	0.0211	21.26	mg/L	0.211	0.99%
Mg 279.077†	4115.1	5.160	mg/L	0.0350	51.60	mg/L	0.350	0.68%
Mn 257.610†	35627.0	0.9445	mg/L	0.00794	9.445	mg/L	0.0794	0.84%
Mo 202.031†	40.8	0.00327	mg/L	0.000820	0.03271	mg/L	0.008198	25.06%
Na 589.592†	21846.1	2.701	mg/L	0.0248	27.01	mg/L	0.248	0.92%
Na 330.237†	43.9	2.257	mg/L	0.6413	22.57	mg/L	6.413	28.41%
Ni 231.604†	408.9	0.1516	mg/L	0.00252	1.516	mg/L	0.0252	1.66%
Pb 220.353†	12283.1	2.218	mg/L	0.0056	22.18	mg/L	0.056	0.25%
Sb 206.836†	383.5	0.2121	mg/L	0.00408	2.121	mg/L	0.0408	1.92%
Se 196.026†	283.6	0.3738	mg/L	0.00299	3.738	mg/L	0.0299	0.80%
Si 288.158†	175.1	0.1999	mg/L	0.00756	1.999	mg/L	0.0756	3.78%
Sn 189.927†	3340.8	1.272	mg/L	0.0034	12.72	mg/L	0.034	0.27%
Sr 421.552†	58271.8	0.1360	mg/L	0.00106	1.360	mg/L	0.0106	0.78%
Ti 334.903†	8748.9	0.6391	mg/L	0.00450	6.391	mg/L	0.0450	0.70%
Tl 190.801†	547.0	0.4054	mg/L	0.00328	4.054	mg/L	0.0328	0.81%
V 292.402†	6554.7	0.1258	mg/L	0.00265	1.258	mg/L	0.0265	2.11%
Zn 206.200†	1085.3	0.5373	mg/L	0.00385	5.373	mg/L	0.0385	0.72%

STL

Sequence No.: 49

Autosampler Location: 7

Sample ID: SEQ-CCV8

Date Collected: 11/10/2020 9:57:54 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV8

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CCV8

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1484553.9	108.9	%	0.25			0.23%
ScR 361.383	161579.8	104.2	%	0.42			0.40%
Ag 328.068†	134004.6	1.041	mg/L	0.0088	1.041	mg/L	0.85%
Al 308.215†	2192.5	2.108	mg/L	0.0187	2.108	mg/L	0.89%
As 188.979†	1840.2	2.038	mg/L	0.0145	2.038	mg/L	0.71%
B 249.677†	6634.5	1.028	mg/L	0.0069	1.028	mg/L	0.67%
Ba 233.527†	4122.8	1.020	mg/L	0.0035	1.020	mg/L	0.34%
Be 313.042†	445780.9	1.020	mg/L	0.0016	1.020	mg/L	0.16%
Ca 317.933†	13625.0	2.117	mg/L	0.0148	2.117	mg/L	0.70%
Cd 228.802†	17166.7	0.9964	mg/L	0.00527	0.9964	mg/L	0.53%
Co 228.616†	25008.6	1.005	mg/L	0.0104	1.005	mg/L	1.03%
Cr 267.716†	2906.7	0.9957	mg/L	0.00855	0.9957	mg/L	0.86%
Cu 324.752†	155751.1	1.014	mg/L	0.0046	1.014	mg/L	0.45%
Fe 273.955†	2020.9	2.052	mg/L	0.0114	2.052	mg/L	0.55%
K 766.490†	21832.6	19.61	mg/L	0.025	19.61	mg/L	0.13%
Mg 279.077†	1660.4	2.139	mg/L	0.0182	2.139	mg/L	0.85%
Mn 257.610†	37235.2	0.9892	mg/L	0.00166	0.9892	mg/L	0.17%
Mo 202.031†	12086.1	0.9995	mg/L	0.00558	0.9995	mg/L	0.56%
Na 589.592†	417739.3	51.65	mg/L	0.184	51.65	mg/L	0.36%
Na 330.237†	987.5	51.30	mg/L	0.350	51.30	mg/L	0.68%
Ni 231.604†	2768.6	1.027	mg/L	0.0062	1.027	mg/L	0.60%
Pb 220.353†	11210.3	2.033	mg/L	0.0152	2.033	mg/L	0.75%
Sb 206.836†	3968.9	2.111	mg/L	0.0081	2.111	mg/L	0.38%
Se 196.026†	1682.8	2.085	mg/L	0.0076	2.085	mg/L	0.37%
Si 288.158†	1913.8	2.253	mg/L	0.0062	2.253	mg/L	0.28%
Sn 189.927†	2772.9	1.056	mg/L	0.0060	1.056	mg/L	0.57%
Sr 421.552†	433496.6	1.012	mg/L	0.0002	1.012	mg/L	0.02%
Ti 334.903†	13694.3	0.9998	mg/L	0.00255	0.9998	mg/L	0.26%
Tl 190.801†	2766.1	2.043	mg/L	0.0092	2.043	mg/L	0.45%
V 292.402†	55963.2	1.007	mg/L	0.0116	1.007	mg/L	1.15%
Zn 206.200†	2100.5	1.039	mg/L	0.0053	1.039	mg/L	0.51%

Sequence No.: 50

Sample ID: SEQ-CCB8

Autosampler Location: 1

Date Collected: 11/10/2020 10:03:14 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB8

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCB8

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1479662.0	108.6	%	0.42			0.39%
ScR 361.383	164417.3	106.0	%	0.27			0.25%
Ag 328.068†	3.1	0.00002	mg/L	0.000325	0.00002	mg/L	0.000325 >999.9%
Al 308.215†	25.1	0.02457	mg/L	0.019870	0.02457	mg/L	0.019870 80.86%
As 188.979†	-0.2	-0.00019	mg/L	0.002107	-0.00019	mg/L	0.002107 >999.9%
B 249.677†	15.0	0.00233	mg/L	0.000403	0.00233	mg/L	0.000403 17.28%
Ba 233.527†	4.1	0.00100	mg/L	0.001730	0.00100	mg/L	0.001730 172.49%
Be 313.042†	-38.9	-0.00009	mg/L	0.000053	-0.00009	mg/L	0.000053 58.30%
Ca 317.933†	6.6	0.00102	mg/L	0.000309	0.00102	mg/L	0.000309 30.22%
Cd 228.802†	2.1	0.00012	mg/L	0.000098	0.00012	mg/L	0.000098 80.12%
Co 228.616†	0.8	0.00003	mg/L	0.000071	0.00003	mg/L	0.000071 225.96%
Cr 267.716†	-2.1	-0.00074	mg/L	0.003424	-0.00074	mg/L	0.003424 464.69%
Cu 324.752†	51.0	0.00033	mg/L	0.000104	0.00033	mg/L	0.000104 31.27%
Fe 273.955†	2.3	0.00232	mg/L	0.003760	0.00232	mg/L	0.003760 162.05%
K 766.490†	-22.2	-0.01991	mg/L	0.027777	-0.01991	mg/L	0.027777 139.55%
Mg 279.077†	6.9	0.00885	mg/L	0.009311	0.00885	mg/L	0.009311 105.18%
Mn 257.610†	20.4	0.00054	mg/L	0.000033	0.00054	mg/L	0.000033 6.02%
Mo 202.031†	3.9	0.00032	mg/L	0.000145	0.00032	mg/L	0.000145 45.46%
Na 589.592†	19.4	0.00239	mg/L	0.003823	0.00239	mg/L	0.003823 159.74%
Na 330.237†	3.0	0.1566	mg/L	0.40486	0.1566	mg/L	0.40486 258.52%
Ni 231.604†	-1.1	-0.00041	mg/L	0.001268	-0.00041	mg/L	0.001268 307.50%
Pb 220.353†	3.8	0.00070	mg/L	0.001212	0.00070	mg/L	0.001212 173.59%
Sb 206.836†	3.0	0.00159	mg/L	0.003769	0.00159	mg/L	0.003769 236.88%
Se 196.026†	4.3	0.00536	mg/L	0.009668	0.00536	mg/L	0.009668 180.34%
Si 288.158†	-5.1	-0.00599	mg/L	0.002212	-0.00599	mg/L	0.002212 36.94%
Sn 189.927†	-0.7	-0.00026	mg/L	0.000464	-0.00026	mg/L	0.000464 177.24%
Sr 421.552†	23.0	0.00005	mg/L	0.000053	0.00005	mg/L	0.000053 99.55%
Ti 334.903†	-7.2	-0.00053	mg/L	0.000879	-0.00053	mg/L	0.000879 166.25%
Tl 190.801†	3.3	0.00242	mg/L	0.001994	0.00242	mg/L	0.001994 82.46%
V 292.402†	17.7	0.00031	mg/L	0.000120	0.00031	mg/L	0.000120 38.25%
Zn 206.200†	1.4	0.00068	mg/L	0.000790	0.00068	mg/L	0.000790 115.42%

Sequence No.: 51
 Sample ID: RINSE - 1

Autosampler Location: 9
 Date Collected: 11/10/2020 10:07:30 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 1

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: RINSE - 1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1457515.0	106.9	%	0.74			0.69%
ScR 361.383	161166.7	103.9	%	0.80			0.77%
Ag 328.068†	-16.0	-0.00012	mg/L	0.000232	-0.00012	mg/L	0.000232 187.00%
Al 308.215†	-0.9	-0.00087	mg/L	0.003498	-0.00087	mg/L	0.003498 401.98%
As 188.979†	-3.3	-0.00358	mg/L	0.001503	-0.00358	mg/L	0.001503 42.02%
B 249.677†	10.3	0.00159	mg/L	0.002184	0.00159	mg/L	0.002184 137.39%
Ba 233.527†	6.2	0.00153	mg/L	0.001975	0.00153	mg/L	0.001975 129.36%
Be 313.042†	-58.0	-0.00013	mg/L	0.000063	-0.00013	mg/L	0.000063 47.32%
Ca 317.933†	13.9	0.00216	mg/L	0.002416	0.00216	mg/L	0.002416 111.99%
Cd 228.802†	-2.1	-0.00010	mg/L	0.000054	-0.00010	mg/L	0.000054 54.41%
Co 228.616†	1.3	0.00005	mg/L	0.000218	0.00005	mg/L	0.000218 427.74%
Cr 267.716†	-3.2	-0.00108	mg/L	0.003800	-0.00108	mg/L	0.003800 351.29%
Cu 324.752†	26.0	0.00017	mg/L	0.000253	0.00017	mg/L	0.000253 149.39%
Fe 273.955†	-1.1	-0.00111	mg/L	0.003800	-0.00111	mg/L	0.003800 341.46%
K 766.490†	13.8	0.01237	mg/L	0.045173	0.01237	mg/L	0.045173 365.25%
Mg 279.077†	4.7	0.00596	mg/L	0.015296	0.00596	mg/L	0.015296 256.53%
Mn 257.610†	19.7	0.00052	mg/L	0.000210	0.00052	mg/L	0.000210 40.11%
Mo 202.031†	-8.3	-0.00069	mg/L	0.000072	-0.00069	mg/L	0.000072 10.46%
Na 589.592†	-5.3	-0.00066	mg/L	0.007347	-0.00066	mg/L	0.007347 >999.9%
Na 330.237†	-3.4	-0.1768	mg/L	0.65116	-0.1768	mg/L	0.65116 368.38%
Ni 231.604†	1.9	0.00072	mg/L	0.000506	0.00072	mg/L	0.000506 70.64%
Pb 220.353†	8.5	0.00154	mg/L	0.001160	0.00154	mg/L	0.001160 75.15%
Sb 206.836†	-2.0	-0.00107	mg/L	0.002858	-0.00107	mg/L	0.002858 266.79%
Se 196.026†	1.8	0.00229	mg/L	0.007510	0.00229	mg/L	0.007510 328.19%
Si 288.158†	3.6	0.00427	mg/L	0.006189	0.00427	mg/L	0.006189 144.77%
Sn 189.927†	-0.5	-0.00018	mg/L	0.000552	-0.00018	mg/L	0.000552 299.08%
Sr 421.552†	34.8	0.00008	mg/L	0.000050	0.00008	mg/L	0.000050 62.04%
Ti 334.903†	3.9	0.00029	mg/L	0.001508	0.00029	mg/L	0.001508 527.81%
Tl 190.801†	3.1	0.00233	mg/L	0.002734	0.00233	mg/L	0.002734 117.56%
V 292.402†	5.8	0.00010	mg/L	0.000408	0.00010	mg/L	0.000408 422.44%
Zn 206.200†	2.2	0.00107	mg/L	0.000944	0.00107	mg/L	0.000944 88.54%

Sequence No.: 52
 Sample ID: RINSE - 2

Autosampler Location: 9
 Date Collected: 11/10/2020 10:11:46 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 2

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: RINSE - 2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1479665.5	108.6	%	0.69			0.64%
ScR 361.383	163635.3	105.5	%	0.15			0.15%
Ag 328.068†	-3.4	-0.00003	mg/L	0.000178	-0.00003	mg/L	0.000178 684.89%
Al 308.215†	8.7	0.00849	mg/L	0.034663	0.00849	mg/L	0.034663 408.52%
As 188.979†	0.5	0.00048	mg/L	0.000264	0.00048	mg/L	0.000264 55.62%
B 249.677†	9.0	0.00139	mg/L	0.000462	0.00139	mg/L	0.000462 33.24%
Ba 233.527†	4.0	0.00100	mg/L	0.001024	0.00100	mg/L	0.001024 102.84%
Be 313.042†	-86.6	-0.00020	mg/L	0.000042	-0.00020	mg/L	0.000042 20.97%
Ca 317.933†	12.0	0.00186	mg/L	0.001547	0.00186	mg/L	0.001547 82.96%
Cd 228.802†	-1.0	-0.00007	mg/L	0.000088	-0.00007	mg/L	0.000088 134.97%
Co 228.616†	1.3	0.00005	mg/L	0.000120	0.00005	mg/L	0.000120 224.88%
Cr 267.716†	3.8	0.00132	mg/L	0.002480	0.00132	mg/L	0.002480 188.49%
Cu 324.752†	20.8	0.00014	mg/L	0.000017	0.00014	mg/L	0.000017 12.88%
Fe 273.955†	0.9	0.00091	mg/L	0.001628	0.00091	mg/L	0.001628 178.35%
K 766.490†	-0.5	-0.00048	mg/L	0.026802	-0.00048	mg/L	0.026802 >999.9%
Mg 279.077†	1.9	0.00244	mg/L	0.005691	0.00244	mg/L	0.005691 233.03%
Mn 257.610†	8.4	0.00022	mg/L	0.000107	0.00022	mg/L	0.000107 47.79%
Mo 202.031†	-3.9	-0.00032	mg/L	0.000148	-0.00032	mg/L	0.000148 46.06%
Na 589.592†	-4.8	-0.00059	mg/L	0.003814	-0.00059	mg/L	0.003814 643.55%
Na 330.237†	-0.2	-0.01012	mg/L	0.207917	-0.01012	mg/L	0.207917 >999.9%
Ni 231.604†	-0.7	-0.00027	mg/L	0.001624	-0.00027	mg/L	0.001624 599.21%
Pb 220.353†	7.4	0.00134	mg/L	0.001371	0.00134	mg/L	0.001371 102.16%
Sb 206.836†	-3.6	-0.00193	mg/L	0.001104	-0.00193	mg/L	0.001104 57.29%
Se 196.026†	6.4	0.00799	mg/L	0.004846	0.00799	mg/L	0.004846 60.69%
Si 288.158†	2.0	0.00235	mg/L	0.002652	0.00235	mg/L	0.002652 112.70%
Sn 189.927†	1.7	0.00065	mg/L	0.000197	0.00065	mg/L	0.000197 30.41%
Sr 421.552†	-5.9	-0.00001	mg/L	0.000015	-0.00001	mg/L	0.000015 110.36%
Ti 334.903†	-11.6	-0.00085	mg/L	0.000861	-0.00085	mg/L	0.000861 101.74%
Tl 190.801†	0.8	0.00057	mg/L	0.002336	0.00057	mg/L	0.002336 412.50%
V 292.402†	12.7	0.00024	mg/L	0.000212	0.00024	mg/L	0.000212 89.98%
Zn 206.200†	2.6	0.00130	mg/L	0.000891	0.00130	mg/L	0.000891 68.56%

Sequence No.: 53
 Sample ID: RINSE - 3

Autosampler Location: 9
 Date Collected: 11/10/2020 10:16:02 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 3

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: RINSE - 3

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1487506.9	109.1	%	0.81				0.75%
ScR 361.383	166541.6	107.4	%	0.64				0.60%
Ag 328.068†	-17.0	-0.00013	mg/L	0.000116	-0.00013	mg/L	0.000116	88.12%
Al 308.215†	3.0	0.00290	mg/L	0.004956	0.00290	mg/L	0.004956	171.04%
As 188.979†	-1.1	-0.00117	mg/L	0.000124	-0.00117	mg/L	0.000124	10.61%
B 249.677†	5.3	0.00082	mg/L	0.000754	0.00082	mg/L	0.000754	92.24%
Ba 233.527†	7.4	0.00184	mg/L	0.001218	0.00184	mg/L	0.001218	66.07%
Be 313.042†	-92.7	-0.00021	mg/L	0.000083	-0.00021	mg/L	0.000083	38.67%
Ca 317.933†	-2.5	-0.00038	mg/L	0.003188	-0.00038	mg/L	0.003188	833.22%
Cd 228.802†	-1.6	-0.00008	mg/L	0.000195	-0.00008	mg/L	0.000195	236.14%
Co 228.616†	1.3	0.00005	mg/L	0.000218	0.00005	mg/L	0.000218	405.73%
Cr 267.716†	-6.3	-0.00215	mg/L	0.001351	-0.00215	mg/L	0.001351	62.83%
Cu 324.752†	-3.2	-0.00002	mg/L	0.000085	-0.00002	mg/L	0.000085	410.66%
Fe 273.955†	2.1	0.00215	mg/L	0.004748	0.00215	mg/L	0.004748	220.77%
K 766.490†	-1.8	-0.00163	mg/L	0.015489	-0.00163	mg/L	0.015489	948.76%
Mg 279.077†	3.1	0.00399	mg/L	0.003613	0.00399	mg/L	0.003613	90.56%
Mn 257.610†	10.9	0.00029	mg/L	0.000132	0.00029	mg/L	0.000132	45.90%
Mo 202.031†	-3.5	-0.00029	mg/L	0.000145	-0.00029	mg/L	0.000145	50.19%
Na 589.592†	-27.0	-0.00334	mg/L	0.005003	-0.00334	mg/L	0.005003	149.63%
Na 330.237†	-3.6	-0.1851	mg/L	0.68946	-0.1851	mg/L	0.68946	372.48%
Ni 231.604†	4.5	0.00165	mg/L	0.001630	0.00165	mg/L	0.001630	98.60%
Pb 220.353†	2.8	0.00050	mg/L	0.001087	0.00050	mg/L	0.001087	218.30%
Sb 206.836†	2.0	0.00111	mg/L	0.003020	0.00111	mg/L	0.003020	271.17%
Se 196.026†	6.4	0.00792	mg/L	0.003969	0.00792	mg/L	0.003969	50.14%
Si 288.158†	1.8	0.00210	mg/L	0.008888	0.00210	mg/L	0.008888	422.69%
Sn 189.927†	0.0	0.00000	mg/L	0.000874	0.00000	mg/L	0.000874	>999.9%
Sr 421.552†	-6.2	-0.00001	mg/L	0.000023	-0.00001	mg/L	0.000023	157.31%
Ti 334.903†	-8.8	-0.00064	mg/L	0.001454	-0.00064	mg/L	0.001454	225.40%
Tl 190.801†	3.0	0.00226	mg/L	0.000566	0.00226	mg/L	0.000566	25.07%
V 292.402†	15.3	0.00026	mg/L	0.000202	0.00026	mg/L	0.000202	77.42%
Zn 206.200†	1.7	0.00086	mg/L	0.001179	0.00086	mg/L	0.001179	137.03%

Sequence No.: 54

Autosampler Location: 9

Sample ID: RINSE - 4

Date Collected: 11/10/2020 10:20:18 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 4

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: RINSE - 4

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1458417.5	107.0	%	0.19				0.17%
ScR 361.383	162740.5	104.9	%	0.55				0.52%
Ag 328.068†	-40.8	-0.00032	mg/L	0.000052	-0.00032	mg/L	0.000052	16.39%
Al 308.215†	19.1	0.01869	mg/L	0.016255	0.01869	mg/L	0.016255	86.95%
As 188.979†	-2.4	-0.00261	mg/L	0.001934	-0.00261	mg/L	0.001934	74.07%
B 249.677†	-0.1	-0.00001	mg/L	0.001444	-0.00001	mg/L	0.001444	>999.9%
Ba 233.527†	4.9	0.00121	mg/L	0.000133	0.00121	mg/L	0.000133	10.97%
Be 313.042†	-43.7	-0.00010	mg/L	0.000093	-0.00010	mg/L	0.000093	91.49%
Ca 317.933†	13.6	0.00211	mg/L	0.002122	0.00211	mg/L	0.002122	100.62%
Cd 228.802†	-4.4	-0.00024	mg/L	0.000107	-0.00024	mg/L	0.000107	44.78%
Co 228.616†	-0.5	-0.00002	mg/L	0.000017	-0.00002	mg/L	0.000017	80.02%
Cr 267.716†	-4.8	-0.00164	mg/L	0.001320	-0.00164	mg/L	0.001320	80.55%
Cu 324.752†	21.8	0.00014	mg/L	0.000170	0.00014	mg/L	0.000170	119.37%
Fe 273.955†	2.4	0.00240	mg/L	0.002602	0.00240	mg/L	0.002602	108.24%
K 766.490†	-8.0	-0.00720	mg/L	0.006677	-0.00720	mg/L	0.006677	92.75%
Mg 279.077†	1.4	0.00180	mg/L	0.012602	0.00180	mg/L	0.012602	699.72%
Mn 257.610†	16.0	0.00042	mg/L	0.000157	0.00042	mg/L	0.000157	36.91%
Mo 202.031†	-3.7	-0.00031	mg/L	0.000239	-0.00031	mg/L	0.000239	77.37%
Na 589.592†	-52.9	-0.00654	mg/L	0.003951	-0.00654	mg/L	0.003951	60.38%
Na 330.237†	6.1	0.3148	mg/L	0.66345	0.3148	mg/L	0.66345	210.77%
Ni 231.604†	0.8	0.00030	mg/L	0.002758	0.00030	mg/L	0.002758	927.29%
Pb 220.353†	4.0	0.00073	mg/L	0.000370	0.00073	mg/L	0.000370	50.93%
Sb 206.836†	-2.1	-0.00106	mg/L	0.000239	-0.00106	mg/L	0.000239	22.58%
Se 196.026†	5.1	0.00628	mg/L	0.001940	0.00628	mg/L	0.001940	30.88%
Si 288.158†	-4.7	-0.00559	mg/L	0.002027	-0.00559	mg/L	0.002027	36.24%
Sn 189.927†	2.5	0.00093	mg/L	0.000713	0.00093	mg/L	0.000713	76.42%
Sr 421.552†	-11.2	-0.00003	mg/L	0.000081	-0.00003	mg/L	0.000081	309.87%
Ti 334.903†	3.4	0.00025	mg/L	0.000158	0.00025	mg/L	0.000158	63.29%
Tl 190.801†	2.8	0.00207	mg/L	0.002304	0.00207	mg/L	0.002304	111.36%
V 292.402†	18.0	0.00031	mg/L	0.000324	0.00031	mg/L	0.000324	104.28%
Zn 206.200†	1.3	0.00066	mg/L	0.000740	0.00066	mg/L	0.000740	112.70%

Sequence No.: 55
 Sample ID: DI - 1

Autosampler Location: 10
 Date Collected: 11/10/2020 10:24:34 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 1

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: DI - 1

Analyte	Mean Corrected			Std.Dev.	Sample		
	Intensity	Conc.	Calib. Units		Conc.	Units	Std.Dev.
ScA 357.253	1500277.0	110.1	%	0.18			0.16%
ScR 361.383	167721.4	108.2	%	0.88			0.82%
Ag 328.068†	-24.3	-0.00019	mg/L	0.000291	-0.00019	mg/L	0.000291 154.51%
Al 308.215†	-33.5	-0.03278	mg/L	0.003846	-0.03278	mg/L	0.003846 11.73%
As 188.979†	1.7	0.00183	mg/L	0.003476	0.00183	mg/L	0.003476 190.13%
B 249.677†	7.0	0.00109	mg/L	0.000927	0.00109	mg/L	0.000927 85.39%
Ba 233.527†	0.9	0.00022	mg/L	0.000194	0.00022	mg/L	0.000194 86.99%
Be 313.042†	-152.7	-0.00035	mg/L	0.000062	-0.00035	mg/L	0.000062 17.57%
Ca 317.933†	-18.2	-0.00283	mg/L	0.000327	-0.00283	mg/L	0.000327 11.54%
Cd 228.802†	-0.5	-0.00004	mg/L	0.000141	-0.00004	mg/L	0.000141 370.59%
Co 228.616†	2.2	0.00009	mg/L	0.000088	0.00009	mg/L	0.000088 97.76%
Cr 267.716†	11.4	0.00392	mg/L	0.001002	0.00392	mg/L	0.001002 25.60%
Cu 324.752†	-44.7	-0.00029	mg/L	0.000053	-0.00029	mg/L	0.000053 18.22%
Fe 273.955†	5.5	0.00565	mg/L	0.001720	0.00565	mg/L	0.001720 30.43%
K 766.490†	10.2	0.00918	mg/L	0.012992	0.00918	mg/L	0.012992 141.54%
Mg 279.077†	5.1	0.00650	mg/L	0.005421	0.00650	mg/L	0.005421 83.36%
Mn 257.610†	-13.8	-0.00036	mg/L	0.000239	-0.00036	mg/L	0.000239 65.52%
Mo 202.031†	-5.8	-0.00048	mg/L	0.000148	-0.00048	mg/L	0.000148 30.98%
Na 589.592†	-2.3	-0.00028	mg/L	0.003216	-0.00028	mg/L	0.003216 >999.9%
Na 330.237†	-7.4	-0.3871	mg/L	0.94205	-0.3871	mg/L	0.94205 243.35%
Ni 231.604†	5.2	0.00192	mg/L	0.002296	0.00192	mg/L	0.002296 119.68%
Pb 220.353†	6.2	0.00112	mg/L	0.000930	0.00112	mg/L	0.000930 83.01%
Sb 206.836†	-5.4	-0.00293	mg/L	0.002316	-0.00293	mg/L	0.002316 79.02%
Se 196.026†	7.0	0.00873	mg/L	0.006729	0.00873	mg/L	0.006729 77.07%
Si 288.158†	14.5	0.01716	mg/L	0.011458	0.01716	mg/L	0.011458 66.78%
Sn 189.927†	1.6	0.00061	mg/L	0.000187	0.00061	mg/L	0.000187 30.87%
Sr 421.552†	-15.0	-0.00003	mg/L	0.000022	-0.00003	mg/L	0.000022 61.73%
Ti 334.903†	-3.5	-0.00025	mg/L	0.001409	-0.00025	mg/L	0.001409 556.96%
Tl 190.801†	-3.1	-0.00229	mg/L	0.002016	-0.00229	mg/L	0.002016 87.94%
V 292.402†	23.4	0.00044	mg/L	0.000204	0.00044	mg/L	0.000204 45.91%
Zn 206.200†	2.2	0.00110	mg/L	0.001291	0.00110	mg/L	0.001291 117.49%

Sequence No.: 56
Sample ID: DI - 2

Autosampler Location: 10
Date Collected: 11/10/2020 10:28:49 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: DI - 2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1523396.2	111.8	%	0.60			0.54%
ScR 361.383	169049.7	109.0	%	0.69			0.63%
Ag 328.068†	-26.4	-0.00021	mg/L	0.000149	-0.00021	mg/L	0.000149 72.78%
Al 308.215†	-25.8	-0.02523	mg/L	0.000738	-0.02523	mg/L	0.000738 2.93%
As 188.979†	0.0	0.00001	mg/L	0.000635	0.00001	mg/L	0.000635 >999.9%
B 249.677†	2.7	0.00042	mg/L	0.001367	0.00042	mg/L	0.001367 328.24%
Ba 233.527†	2.5	0.00063	mg/L	0.001626	0.00063	mg/L	0.001626 259.49%
Be 313.042†	-142.0	-0.00033	mg/L	0.000059	-0.00033	mg/L	0.000059 18.12%
Ca 317.933†	11.0	0.00171	mg/L	0.000518	0.00171	mg/L	0.000518 30.20%
Cd 228.802†	0.8	0.00005	mg/L	0.000158	0.00005	mg/L	0.000158 328.18%
Co 228.616†	8.3	0.00034	mg/L	0.000149	0.00034	mg/L	0.000149 44.54%
Cr 267.716†	14.5	0.00499	mg/L	0.002419	0.00499	mg/L	0.002419 48.49%
Cu 324.752†	-37.0	-0.00024	mg/L	0.000040	-0.00024	mg/L	0.000040 16.49%
Fe 273.955†	-0.3	-0.00032	mg/L	0.001801	-0.00032	mg/L	0.001801 557.00%
K 766.490†	-9.8	-0.00877	mg/L	0.034986	-0.00877	mg/L	0.034986 398.98%
Mg 279.077†	-4.0	-0.00518	mg/L	0.004365	-0.00518	mg/L	0.004365 84.29%
Mn 257.610†	-7.7	-0.00021	mg/L	0.000068	-0.00021	mg/L	0.000068 33.32%
Mo 202.031†	-9.2	-0.00076	mg/L	0.000419	-0.00076	mg/L	0.000419 55.33%
Na 589.592†	-3.1	-0.00038	mg/L	0.002816	-0.00038	mg/L	0.002816 735.10%
Na 330.237†	-4.0	-0.2102	mg/L	0.30034	-0.2102	mg/L	0.30034 142.92%
Ni 231.604†	3.9	0.00145	mg/L	0.001739	0.00145	mg/L	0.001739 120.14%
Pb 220.353†	7.8	0.00141	mg/L	0.000842	0.00141	mg/L	0.000842 59.59%
Sb 206.836†	-5.0	-0.00272	mg/L	0.001028	-0.00272	mg/L	0.001028 37.76%
Se 196.026†	7.9	0.00983	mg/L	0.005443	0.00983	mg/L	0.005443 55.40%
Si 288.158†	11.1	0.01307	mg/L	0.007387	0.01307	mg/L	0.007387 56.51%
Sn 189.927†	2.8	0.00107	mg/L	0.000738	0.00107	mg/L	0.000738 69.26%
Sr 421.552†	-16.9	-0.00004	mg/L	0.000024	-0.00004	mg/L	0.000024 59.99%
Ti 334.903†	-6.4	-0.00047	mg/L	0.000990	-0.00047	mg/L	0.000990 211.55%
Tl 190.801†	-2.3	-0.00168	mg/L	0.001699	-0.00168	mg/L	0.001699 101.29%
V 292.402†	6.9	0.00015	mg/L	0.000111	0.00015	mg/L	0.000111 71.79%
Zn 206.200†	3.1	0.00154	mg/L	0.002008	0.00154	mg/L	0.002008 130.65%



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: ICP2

Calibration: DK00022

Control Limit: +/- 10.00%

Sequence: SIK0141

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0141-ICV1	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0141-CCV1	Lead	2.0000	2.03	102	mg/L	EPA 6010C
SIK0141-CCV2	Lead	2.0000	2.00	99.8	mg/L	EPA 6010C
SIK0141-CCV3	Lead	2.0000	2.04	102	mg/L	EPA 6010C
SIK0141-CCV4	Lead	2.0000	2.07	104	mg/L	EPA 6010C
SIK0141-CCV5	Lead	2.0000	2.08	104	mg/L	EPA 6010C
SIK0141-CCV6	Lead	2.0000	2.01	101	mg/L	EPA 6010C
SIK0141-CCV7	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0141-CCV8	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0141-CCV9	Lead	2.0000	1.99	99.6	mg/L	EPA 6010C
SIK0141-CCVA	Lead	2.0000	2.00	100	mg/L	EPA 6010C
SIK0141-CCVB	Lead	2.0000	2.00	99.9	mg/L	EPA 6010C

* Values outside of QC limits



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Control Limit: +/- 10.00%

Sequence: SIK0154

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0154-ICV1	Lead	2.0000	2.06	103	mg/L	EPA 6010C
SIK0154-CCV1	Lead	2.0000	2.02	101	mg/L	EPA 6010C
SIK0154-CCV2	Lead	2.0000	2.09	105	mg/L	EPA 6010C
SIK0154-CCV3	Lead	2.0000	2.14	107	mg/L	EPA 6010C
SIK0154-CCV4	Lead	2.0000	2.09	104	mg/L	EPA 6010C
SIK0154-CCV5	Lead	2.0000	2.03	102	mg/L	EPA 6010C
SIK0154-CCV6	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0154-CCV7	Lead	2.0000	2.04	102	mg/L	EPA 6010C
SIK0154-CCV8	Lead	2.0000	2.03	102	mg/L	EPA 6010C

* Values outside of QC limits



INSTRUMENT BLANKS EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: ICP2

Calibration: DK00022

Sequence: SIK0141

Date Analyzed: 11/09/20 09:16

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0141-ICB1	Lead	-0.0006	0.0024	0.0200	mg/L	
SIK0141-CCB1	Lead	-0.0013	0.0024	0.0200	mg/L	
SIK0141-CCB2	Lead	-0.0008	0.0024	0.0200	mg/L	
SIK0141-IBL1	Lead	-0.0005	0.0024	0.0200	mg/L	
SIK0141-CCB3	Lead	-0.0006	0.0024	0.0200	mg/L	
SIK0141-CCB4	Lead	-0.0002	0.0024	0.0200	mg/L	
SIK0141-CCB5	Lead	-0.0013	0.0024	0.0200	mg/L	
SIK0141-CCB6	Lead	-0.0002	0.0024	0.0200	mg/L	
SIK0141-CCB7	Lead	-0.0011	0.0024	0.0200	mg/L	
SIK0141-CCB8	Lead	-0.0012	0.0024	0.0200	mg/L	
SIK0141-CCB9	Lead	-0.0005	0.0024	0.0200	mg/L	
SIK0141-CCBA	Lead	-0.0005	0.0024	0.0200	mg/L	
SIK0141-CCBB	Lead	-0.0008	0.0024	0.0200	mg/L	



INSTRUMENT BLANKS EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Date Analyzed: 11/10/20 16:10

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0154-ICB1	Lead	-0.0008	0.0024	0.0200	mg/L	
SIK0154-CCB1	Lead	0.00001	0.0024	0.0200	mg/L	
SIK0154-CCB2	Lead	0.0015	0.0024	0.0200	mg/L	
SIK0154-CCB3	Lead	0.0009	0.0024	0.0200	mg/L	
SIK0154-CCB4	Lead	-0.0004	0.0024	0.0200	mg/L	
SIK0154-CCB5	Lead	0.0018	0.0024	0.0200	mg/L	
SIK0154-CCB6	Lead	0.0014	0.0024	0.0200	mg/L	
SIK0154-CCB7	Lead	0.0003	0.0024	0.0200	mg/L	
SIK0154-CCB8	Lead	0.0007	0.0024	0.0200	mg/L	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0141

Instrument: ICP2

Calibration: DK00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
ZZZZZ	20J0383-02	I2201109-034	Water	11/09/20 10:57
RINSE	SIK0141-IBL1	I2201109-037	NA	11/09/20 11:09
ZZZZZ	20J0387-04	I2201109-039	Solid	11/09/20 11:18
ZZZZZ	20J0387-10	I2201109-041	Solid	11/09/20 11:27
Calibration Check	SIK0141-CCV3	I2201109-042	NA	11/09/20 11:31
Calibration Blank	SIK0141-CCB3	I2201109-043	NA	11/09/20 11:36
ZZZZZ	BIK0033-BLK1	I2201109-044	Solid	11/09/20 11:41
ZZZZZ	20J0387-14	I2201109-045	Solid	11/09/20 11:45
ZZZZZ	20J0387-17	I2201109-046	Solid	11/09/20 11:49
ZZZZZ	20J0387-19	I2201109-047	Solid	11/09/20 11:53
ZZZZZ	20J0387-20	I2201109-048	Solid	11/09/20 11:58
ZZZZZ	20J0387-02	I2201109-050	Solid	11/09/20 12:06
ZZZZZ	20J0387-02	I2201109-050	Solid	11/09/20 12:06
ZZZZZ	20J0387-02	I2201109-050	Solid	11/09/20 12:06
ZZZZZ	20J0387-02	I2201109-050	Solid	11/09/20 12:06
ZZZZZ	BIK0033-BS1	I2201109-053	Solid	11/09/20 12:18
Calibration Check	SIK0141-CCV4	I2201109-054	NA	11/09/20 12:22
Calibration Blank	SIK0141-CCB4	I2201109-055	NA	11/09/20 12:27
ZZZZZ	20J0387-23	I2201109-056	Solid	11/09/20 12:32
ZZZZZ	20J0387-26	I2201109-058	Solid	11/09/20 12:41
ZZZZZ	20J0387-28	I2201109-059	Solid	11/09/20 12:45



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0141

Instrument: ICP2

Calibration: DK00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0387-32	I2201109-060	Solid	11/09/20 12:49
ZZZZZ	20J0387-34	I2201109-061	Solid	11/09/20 12:53
Calibration Check	SIK0141-CCV5	I2201109-066	NA	11/09/20 13:12
Calibration Blank	SIK0141-CCB5	I2201109-067	NA	11/09/20 13:17
Calibration Check	SIK0141-CCV6	I2201109-069	NA	11/09/20 13:25
Calibration Blank	SIK0141-CCB6	I2201109-070	NA	11/09/20 13:30
Blank	BIK0040-BLK1	I2201109-071	Solid	11/09/20 13:34
ZZZZZ	20J0387-08	I2201109-072	Solid	11/09/20 13:39
ZZZZZ	20J0422-08	I2201109-073	Solid	11/09/20 13:43
ZZZZZ	20J0422-08	I2201109-073	Solid	11/09/20 13:43
ZZZZZ	20J0422-08	I2201109-073	Solid	11/09/20 13:43
ZZZZZ	20J0422-08	I2201109-073	Solid	11/09/20 13:43
ZZZZZ	20J0422-08	I2201109-073	Solid	11/09/20 13:43
ZZZZZ	20J0422-09	I2201109-074	Solid	11/09/20 13:47
ZZZZZ	20J0422-09	I2201109-074	Solid	11/09/20 13:47
ZZZZZ	20J0422-09	I2201109-074	Solid	11/09/20 13:47
ZZZZZ	20J0422-09	I2201109-074	Solid	11/09/20 13:47
PP28-2.5	BIK0040-DUP1	I2201109-076	Solid	11/09/20 13:56
PP28-2.5	20J0410-01	I2201109-077	Solid	11/09/20 14:00
PP28-2.5	BIK0040-MS1	I2201109-078	Solid	11/09/20 14:04
PP28-2.5	BIK0040-MSD1	I2201109-079	Solid	11/09/20 14:08
LCS	BIK0040-BS1	I2201109-080	Solid	11/09/20 14:13
Calibration Check	SIK0141-CCV7	I2201109-081	NA	11/09/20 14:17
Calibration Blank	SIK0141-CCB7	I2201109-082	NA	11/09/20 14:22
ZZZZZ	20J0393-02	I2201109-083	Solid	11/09/20 14:26
ZZZZZ	20J0393-02	I2201109-083	Solid	11/09/20 14:26
ZZZZZ	20J0393-04	I2201109-085	Solid	11/09/20 14:35
ZZZZZ	20J0393-04	I2201109-085	Solid	11/09/20 14:35
ZZZZZ	20J0393-05	I2201109-086	Solid	11/09/20 14:39
ZZZZZ	20J0393-05	I2201109-086	Solid	11/09/20 14:39
PP28-14	20J0410-06	I2201109-088	Solid	11/09/20 14:47



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0141

Instrument: ICP2

Calibration: DK00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
PP26-7.5	20J0410-09	I2201109-089	Solid	11/09/20 14:51
PP26-12.5	20J0410-11	I2201109-090	Solid	11/09/20 14:56
PP23-2	20J0410-15	I2201109-091	Solid	11/09/20 15:00
PP23-7.5	20J0410-17	I2201109-092	Solid	11/09/20 15:04
Calibration Check	SIK0141-CCV8	I2201109-093	NA	11/09/20 15:09
Calibration Blank	SIK0141-CCB8	I2201109-094	NA	11/09/20 15:14
PP24-7.5	20J0410-23	I2201109-096	Solid	11/09/20 15:22
PP21-2.5	20J0410-27	I2201109-097	Solid	11/09/20 15:27
PP21-7.5	20J0410-29	I2201109-098	Solid	11/09/20 15:31
PP25-7.5	20J0410-36	I2201109-099	Solid	11/09/20 15:35
PP25-10	20J0410-37	I2201109-100	Solid	11/09/20 15:39
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
ZZZZZ	20K0054-01	I2201109-103	Solid	11/09/20 15:53
Calibration Check	SIK0141-CCV9	I2201109-105	NA	11/09/20 16:02
Calibration Blank	SIK0141-CCB9	I2201109-106	NA	11/09/20 16:07
ZZZZZ	20J0387-25	I2201109-113	Solid	11/09/20 16:37
ZZZZZ	20J0422-03	I2201109-114	Solid	11/09/20 16:41
ZZZZZ	20J0422-03	I2201109-114	Solid	11/09/20 16:41
ZZZZZ	20J0422-03	I2201109-114	Solid	11/09/20 16:41
ZZZZZ	20J0422-05	I2201109-115	Solid	11/09/20 16:46
ZZZZZ	20J0422-05	I2201109-115	Solid	11/09/20 16:46
ZZZZZ	20J0422-05	I2201109-115	Solid	11/09/20 16:46
ZZZZZ	20J0422-06	I2201109-116	Solid	11/09/20 16:50
ZZZZZ	20J0422-06	I2201109-116	Solid	11/09/20 16:50



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc. SDG: 20J0410
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Sequence: SIK0141 Instrument: ICP2
Calibration: DK00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0422-06	I2201109-116	Solid	11/09/20 16:50
Calibration Check	SIK0141-CCVA	I2201109-117	NA	11/09/20 16:54
Calibration Blank	SIK0141-CCBA	I2201109-118	NA	11/09/20 16:59
ZZZZZ	20J0422-07	I2201109-119	Solid	11/09/20 17:04
ZZZZZ	20J0422-07	I2201109-119	Solid	11/09/20 17:04
ZZZZZ	20J0422-07	I2201109-119	Solid	11/09/20 17:04
ZZZZZ	20J0435-01	I2201109-122	Solid	11/09/20 17:17
ZZZZZ	20J0435-01	I2201109-122	Solid	11/09/20 17:17
ZZZZZ	20J0435-01	I2201109-122	Solid	11/09/20 17:17
Calibration Check	SIK0141-CCVB	I2201109-123	NA	11/09/20 17:21
Calibration Blank	SIK0141-CCBB	I2201109-124	NA	11/09/20 17:26



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0154

Instrument: ICP2

Calibration: DK00024

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SIK0154-CAL1	I2201110-006	NA	11/10/20 15:49
CAL 1 - LOW CHECK	SIK0154-CAL2	I2201110-007	NA	11/10/20 15:54
CAL 2	SIK0154-CAL3	I2201110-008	NA	11/10/20 15:56
CAL 3	SIK0154-CAL4	I2201110-009	NA	11/10/20 15:59
CAL 4	SIK0154-CAL5	I2201110-010	NA	11/10/20 16:01
Initial Cal Check	SIK0154-ICV1	I2201110-011	NA	11/10/20 16:05
Initial Cal Blank	SIK0154-ICB1	I2201110-012	NA	11/10/20 16:10
Instrument RL Check	SIK0154-CRL1	I2201110-013	NA	11/10/20 16:14
Interference Check A	SIK0154-IFA1	I2201110-014	NA	11/10/20 16:18
Interference Check B	SIK0154-IFB1	I2201110-015	NA	11/10/20 16:23
Calibration Check	SIK0154-CCV1	I2201110-016	NA	11/10/20 16:30
Calibration Blank	SIK0154-CCB1	I2201110-017	NA	11/10/20 16:35
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20J0393-01	I2201110-019	Solid	11/10/20 16:45
ZZZZZ	20J0393-01	I2201110-019	Solid	11/10/20 16:45
ZZZZZ	20J0393-03	I2201110-020	Solid	11/10/20 16:49
ZZZZZ	20J0393-03	I2201110-020	Solid	11/10/20 16:49
PP28-10	20J0410-04	I2201110-021	Solid	11/10/20 16:53
PP24-2.5	20J0410-21	I2201110-022	Solid	11/10/20 16:57
ZZZZZ	20J0435-01	I2201110-023	Solid	11/10/20 17:02
ZZZZZ	20J0422-03	I2201110-024	Solid	11/10/20 17:06
ZZZZZ	20J0422-05	I2201110-025	Solid	11/10/20 17:10
ZZZZZ	20J0422-06	I2201110-026	Solid	11/10/20 17:14



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20J0410</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0422-07	I2201110-027	Solid	11/10/20 17:18
Calibration Check	SIK0154-CCV2	I2201110-028	NA	11/10/20 17:22
Calibration Blank	SIK0154-CCB2	I2201110-029	NA	11/10/20 17:28
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20J0410</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
Calibration Check	SIK0154-CCV3	I2201110-040	NA	11/10/20 18:15
Calibration Blank	SIK0154-CCB3	I2201110-041	NA	11/10/20 18:21
Calibration Check	SIK0154-CCV4	I2201110-044	NA	11/10/20 18:32
Calibration Blank	SIK0154-CCB4	I2201110-045	NA	11/10/20 18:37
ZZZZZ	BIK0175-BLK1	I2201110-046	Solid	11/10/20 18:41
ZZZZZ	20K0008-03	I2201110-047	Solid	11/10/20 18:45
ZZZZZ	20K0008-07	I2201110-048	Solid	11/10/20 18:50
ZZZZZ	20K0008-09	I2201110-049	Solid	11/10/20 18:54
ZZZZZ	BIK0175-BS1	I2201110-052	Solid	11/10/20 19:11
Calibration Check	SIK0154-CCV5	I2201110-053	NA	11/10/20 19:15
Calibration Blank	SIK0154-CCB5	I2201110-054	NA	11/10/20 19:21
ZZZZZ	20K0008-16	I2201110-055	Solid	11/10/20 19:25
ZZZZZ	20K0008-20	I2201110-056	Solid	11/10/20 19:29



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20J0410</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Coopera</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20K0008-22	I2201110-057	Solid	11/10/20 19:33
ZZZZZ	20K0008-26	I2201110-058	Solid	11/10/20 19:38
ZZZZZ	20K0008-28	I2201110-059	Solid	11/10/20 19:42
ZZZZZ	20K0008-31	I2201110-060	Solid	11/10/20 19:46
ZZZZZ	20K0008-33	I2201110-061	Solid	11/10/20 19:51
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-07RE1	I2201110-063	Solid	11/10/20 19:59
ZZZZZ	BIK0224-BS1	I2201110-064	Water	11/10/20 20:03
Calibration Check	SIK0154-CCV6	I2201110-065	NA	11/10/20 20:08
Calibration Blank	SIK0154-CCB6	I2201110-066	NA	11/10/20 20:13
ZZZZZ	BIK0224-BLK1	I2201110-068	Water	11/10/20 20:21
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0097-01	I2201110-074	Water	11/10/20 20:50
Calibration Check	SIK0154-CCV7	I2201110-077	NA	11/10/20 21:04
Calibration Blank	SIK0154-CCB7	I2201110-078	NA	11/10/20 21:09
ZZZZZ	20J0383-02	I2201110-081	Water	11/10/20 21:22
ZZZZZ	20J0383-02	I2201110-081	Water	11/10/20 21:22
ZZZZZ	20K0008-14	I2201110-084	Solid	11/10/20 21:36
ZZZZZ	20K0008-01	I2201110-086	Solid	11/10/20 21:45
ZZZZZ	20K0008-01	I2201110-086	Solid	11/10/20 21:45
ZZZZZ	20K0008-01	I2201110-086	Solid	11/10/20 21:45
ZZZZZ	20K0008-01	I2201110-086	Solid	11/10/20 21:45
Calibration Check	SIK0154-CCV8	I2201110-089	NA	11/10/20 21:57
Calibration Blank	SIK0154-CCB8	I2201110-090	NA	11/10/20 22:03



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00022

Sequence: SIK0141

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0141-IFA1	Lead	0	-0.0116		mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00022

Sequence: SIK0141

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0141-IFB1	Lead	1.0000	1.0269	103	mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0154-IFA1	Lead	0	-0.0063		mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0154-IFB1	Lead	1.0000	0.9850	98.5	mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



DETECTION LEVEL STANDARD
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00022

Sequence: SIK0141

Lab Sample ID: SIK0141-CRL1

Analyte	True	Found	%R	Units	QC Limits
Lead	0.0200	0.0195	97.4	mg/L	50 - 150

* Values outside of QC limits



DETECTION LEVEL STANDARD
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Lab Sample ID: SIK0154-CRL1

Analyte	True	Found	%R	Units	QC Limits
Lead	0.0200	0.0203	102	mg/L	50 - 150

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP28-2.5 20J0410-01	10/28/20 08:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:00	12	180	
PP28-10 20J0410-04	10/28/20 08:55	10/29/20 12:47	11/03/20 07:28	5	180	11/10/20 16:53	13	180	
PP28-14 20J0410-06	10/28/20 09:05	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:47	12	180	
PP26-7.5 20J0410-09	10/28/20 09:45	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:51	12	180	
PP26-12.5 20J0410-11	10/28/20 09:55	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:56	12	180	
PP23-2 20J0410-15	10/28/20 11:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:00	12	180	
PP23-7.5 20J0410-17	10/28/20 11:50	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:04	12	180	
PP24-2.5 20J0410-21	10/28/20 13:30	10/29/20 12:47	11/03/20 07:28	5	180	11/10/20 16:57	13	180	
PP24-7.5 20J0410-23	10/28/20 13:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:22	12	180	
PP21-2.5 20J0410-27	10/28/20 14:15	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:27	12	180	
PP21-7.5 20J0410-29	10/28/20 14:25	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:31	12	180	
PP25-7.5 20J0410-36	10/28/20 15:55	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:35	12	180	
PP25-10 20J0410-37	10/28/20 16:00	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 15:39	12	180	
Duplicate BIK0040-DUP1	10/28/20 08:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 13:56	12	180	
Matrix Spike BIK0040-MS1	10/28/20 08:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:04	12	180	
Matrix Spike Dup BIK0040-MSD1	10/28/20 08:40	10/29/20 12:47	11/03/20 07:28	5	180	11/09/20 14:08	12	180	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.240	2.00	mg/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20J0410

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.0024	0.0200	mg/L



04 December 2020

Matt Dalton
Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

RE: ICS-Former NW Cooperage

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
20K0007

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Amanda Volgardsen Johnson, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20X007	Turn-around Requested: Normal	Date: 11/1/20 10/31/20
ARI Client Company: Dalton Olmsted & Fuglevand	Phone: 206-660-3466	Page: 2 of 3
Client Contact: Matt Dalton / Dave Cooper		No. of Coolers: 4 Cooler Temps: 0.9



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Client Project Name: ICS/Former NW Cooperage	Analysis Requested	Notes/Comments				
Client Project #: SUM-008-03						
Samplers: DG Cooper, A Cerruti	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)	ARCHIVE


Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)	ARCHIVE
PP12-2.5	10/30/2020	1050	soil	1-8oz 2-4oz	X	X	X	X		
PP12-5	10/30/2020	1055	soil	1-8oz 2-4oz						X
PP12-7.5	10/29/2020	1100	soil	1-8oz 2-4oz	X	X	X	X		
PP12-10	10/29/2020	1105	soil	1-8oz 2-4oz						X
PP12-12.5	10/29/2020	1110	soil	1-8oz 2-4oz						X
PP12-15	10/29/2020	1115	soil	1-8oz 2-4oz						X
PP10-2.5	10/29/2020	1235	soil	1-8oz 2-4oz	X	X	X	X		
PP10-5	10/29/2020	1240	soil	1-8oz 2-4oz						X
PP10-7.5	10/29/2020	1245	soil	1-8oz 2-4oz	X	X	X	X		
PP10-10	10/29/2020	1250	soil	1-8oz 2-4oz						X
PP10-12.5	10/29/2020	1255	soil	1-8oz 2-4oz						X
PP10-15	10/29/2020	1300	soil	1-8oz 2-4oz						X

Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: <i>[Name]</i>	Printed Name: <i>VAN SPORN</i>	Printed Name:	Printed Name:
	Company: DOF	Company: ARI	Company:	Company:
	Date & Time: 10/31/20 12:30	Date & Time: 10/31/20 12:30	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSSDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 2020007		Turn-around Requested: Normal			Date: 11/4/20 10/31/20				Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)							
ARI Client Company: Dalton Olmsted & Fuglevand		Phone: 206-660-3466			Page: 3 of 3											
Client Contact: Matt Dalton / Dave Cooper		Client Project Name: ICS/Former NW Cooperage			No. of Coolers: 4								Cooler Temps: 1.3			
Client Project #: SUM-008-03		Samplers: DG Cooper, A Cerruti			Analysis Requested							Notes/Comments				
Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)						ARCHIVE	
PP9-2.5	10/30/2020	1330	soil	1-8oz 2-4oz	X	X	X	X								
PP9-5	10/30/2020	1335	soil	1-8oz 2-4oz											X	
PP9-7.5	10/29/2020	1340	soil	1-8oz 2-4oz	X	X	X	X								
PP9-10	10/29/2020	1345	soil	1-8oz 2-4oz											X	
PP9-12.5	10/29/2020	1350	soil	1-8oz 2-4oz											X	
PP9-15	10/29/2020	1355	soil	1-8oz 2-4oz											X	
PP4-2.5	10/29/2020	1425	soil	1-8oz 2-4oz	X	X	X	X								
PP4-5	10/29/2020	1430	soil	1-8oz 2-4oz											X	
PP4-7.5	10/29/2020	1435	soil	1-8oz 2-4oz	X	X	X	X								
PP4-10	10/29/2020	1440	soil	1-8oz 2-4oz											X	
PP4-12.5	10/29/2020	1445	soil	1-8oz 2-4oz											X	
PP4-15	10/29/2020	1450	soil	1-8oz 2-4oz											X	
Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature) <i>[Signature]</i>			Received by: (Signature) <i>[Signature]</i>			Relinquished by: (Signature)			Received by: (Signature)						
	Printed Name: <i>DG COOPER</i>			Printed Name: <i>DAN SPURIN</i>			Printed Name:			Printed Name:						
	Company: DOF			Company: ARI			Company:			Company:						
	Date & Time: 10/31/20 1230			Date & Time: 10/31/20 12:30			Date & Time:			Date & Time:						

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: DOF

Project Name: ICS / Former NW Cooperaage

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 20K0007

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1230 1.8 1.3 0.9 2.2 _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD for US Date: 10/31/20 Time: 1230

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not KD

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: SL Date: 10/21/2020 Time: 1320 Labels checked by: SL

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
12/04/2020 16:57

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
20K0007-01	PP8-2.5	Solid	10/30/20 08:45	10/31/20 12:30
20K0007-02	PP8-5	Solid	10/30/20 08:50	10/31/20 12:30
20K0007-03	PP8-7.5	Solid	10/30/20 08:55	10/31/20 12:30
20K0007-04	PP8-10	Solid	10/30/20 09:00	10/31/20 12:30
20K0007-05	PP8-12.5	Solid	10/30/20 09:05	10/31/20 12:30
20K0007-06	PP8-15	Solid	10/30/20 09:10	10/31/20 12:30
20K0007-07	PP11-2.5	Solid	10/30/20 09:35	10/31/20 12:30
20K0007-08	PP11-5	Solid	10/30/20 09:40	10/31/20 12:30
20K0007-09	PP11-7.5	Solid	10/30/20 09:45	10/31/20 12:30
20K0007-10	PP11-10	Solid	10/30/20 09:50	10/31/20 12:30
20K0007-11	PP11-12.5	Solid	10/30/20 09:55	10/31/20 12:30
20K0007-12	PP11-15	Solid	10/30/20 10:00	10/31/20 12:30
20K0007-13	PP12-2.5	Solid	10/30/20 10:50	10/31/20 12:30
20K0007-14	PP12-5	Solid	10/30/20 10:55	10/31/20 12:30
20K0007-15	PP12-7.5	Solid	10/30/20 11:00	10/31/20 12:30
20K0007-16	PP12-10	Solid	10/30/20 11:05	10/31/20 12:30
20K0007-17	PP12-12.5	Solid	10/30/20 11:10	10/31/20 12:30
20K0007-18	PP12-15	Solid	10/30/20 11:15	10/31/20 12:30
20K0007-19	PP10-2.5	Solid	10/30/20 12:35	10/31/20 12:30
20K0007-20	PP10-5	Solid	10/30/20 12:40	10/31/20 12:30
20K0007-21	PP10-7.5	Solid	10/30/20 12:45	10/31/20 12:30
20K0007-22	PP10-10	Solid	10/30/20 12:50	10/31/20 12:30
20K0007-23	PP10-12.5	Solid	10/30/20 12:55	10/31/20 12:30
20K0007-24	PP10-15	Solid	10/30/20 13:00	10/31/20 12:30
20K0007-25	PP9-2.5	Solid	10/30/20 13:30	10/31/20 12:30
20K0007-26	PP9-5	Solid	10/30/20 13:35	10/31/20 12:30
20K0007-27	PP9-7.5	Solid	10/30/20 13:40	10/31/20 12:30
20K0007-28	PP9-10	Solid	10/30/20 13:45	10/31/20 12:30
20K0007-29	PP9-12.5	Solid	10/30/20 13:50	10/31/20 12:30
20K0007-30	PP9-15	Solid	10/30/20 13:55	10/31/20 12:30
20K0007-31	PP4-2.5	Solid	10/30/20 14:25	10/31/20 12:30
20K0007-32	PP4-5	Solid	10/30/20 14:30	10/31/20 12:30
20K0007-33	PP4-7.5	Solid	10/30/20 14:35	10/31/20 12:30
20K0007-34	PP4-10	Solid	10/30/20 14:40	10/31/20 12:30
20K0007-35	PP4-12.5	Solid	10/30/20 14:45	10/31/20 12:30
20K0007-36	PP4-15	Solid	10/30/20 14:50	10/31/20 12:30



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
04-Dec-2020 16:57

Case Narrative

Sample receipt

Samples as listed on the preceding page were received 31-Oct-2020 12:30 under ARI work order 20K0007. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The blank spike/blank spike duplicate (BS/LCS/BSD/LCSD) percent recoveries and RPD were within control limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits, with the exception of several flagged surrogates which have low percent recoveries. No corrective action was taken.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike and matrix spike duplicate were prepared in conjunction with sample PP 10-2.5. The matrix spike and matrix spike duplicate had low spike recoveries. The results are advisory. No corrective action was taken.

Total Hg - EPA Method 7471B

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A duplicate was prepared in conjunction with sample PP8-5. The duplicate RPD was within QC limits.

Total Lead - EPA Method 6010C

The samples were digested and analyzed within the recommended holding times.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
04-Dec-2020 16:57

Case Narrative

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike, matrix spike duplicate and duplicate were prepared in conjunction with sample PP8-5. The duplicate has high RPD. The results are advisory. No corrective action was taken.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
04-Dec-2020 16:57

Case Narrative



Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0007-02 A SDG: 20K0007
 Sampled: 10/30/20 08:50 Prepared: 11/13/20 14:23 File ID: 420K2515.D
 % Solids: 77.89 Preparation: EPA 3546 (Microwave) Analyzed: 11/25/20 23:17
 Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

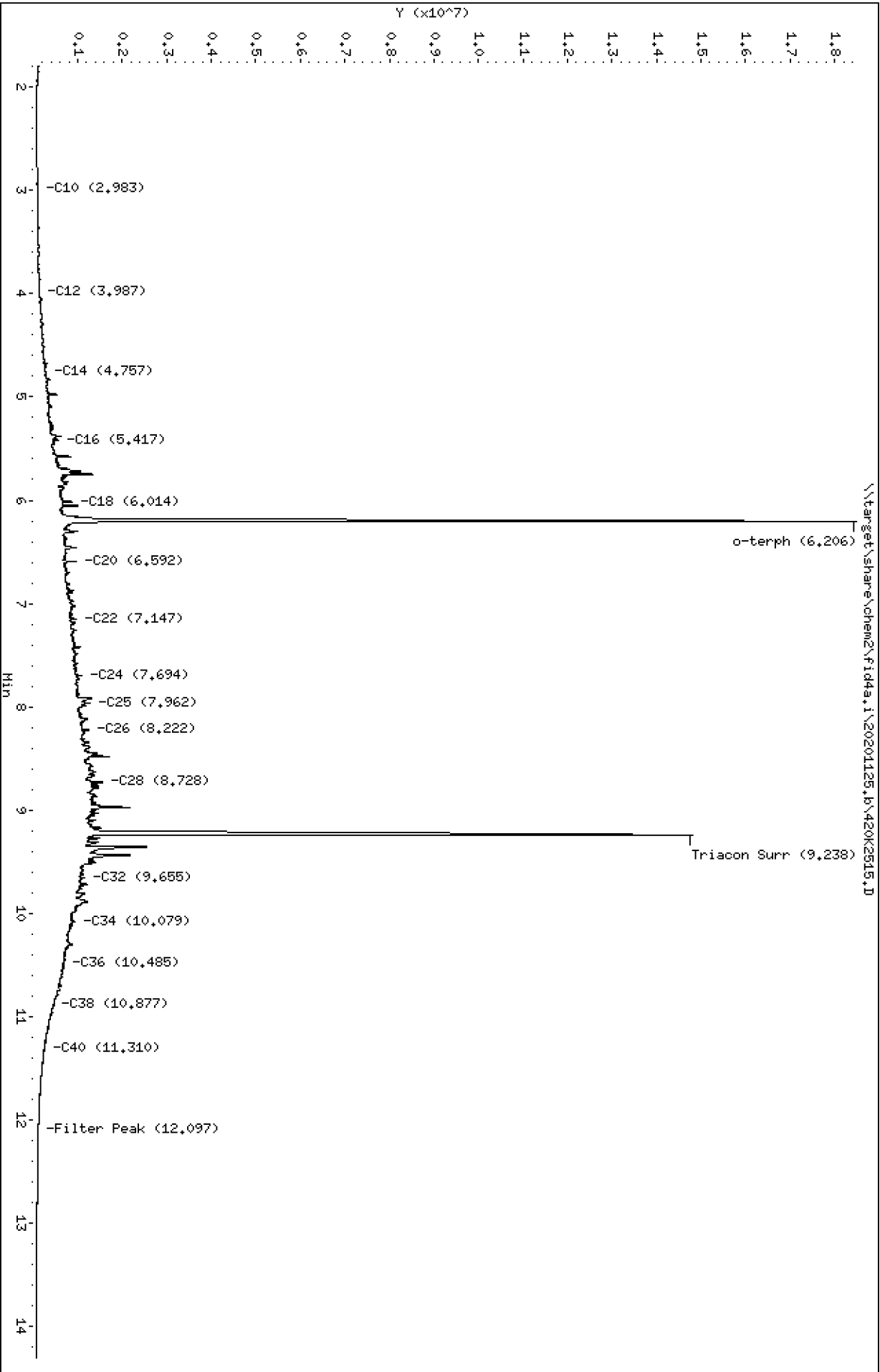
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	91.7		3.00	6.42
RRO	Motor Oil Range Organics (C24-C38)	1	238		3.84	12.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.443	13.0	90.0	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2515.D
Date: 25-NOV-2020 23:17
Client ID:
Sample Info: 20K0007-02

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2515.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-02
Client ID:
Injection: 25-NOV-2020 23:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

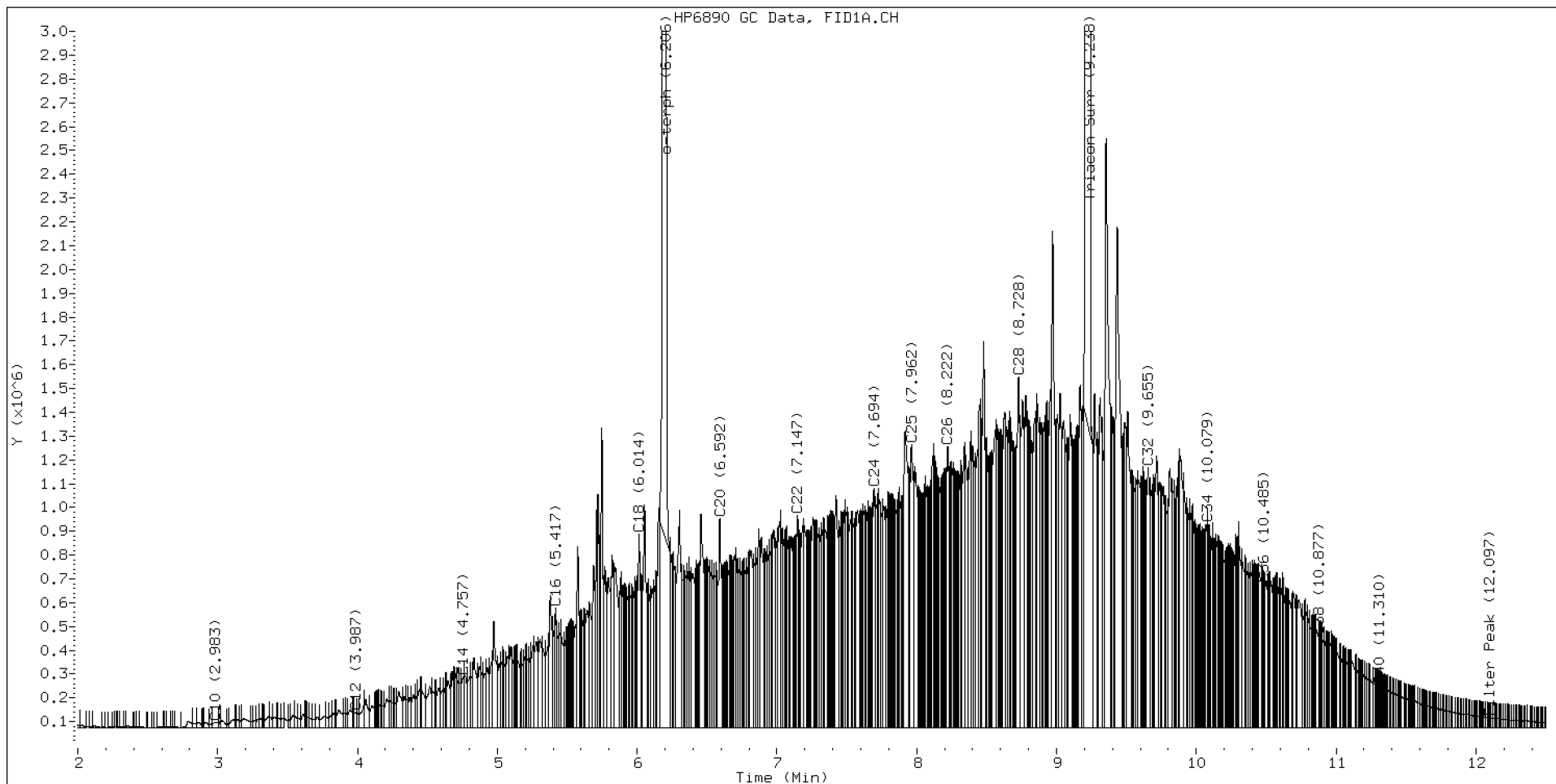
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.871	-0.007	37840	71942	WATPHD	(C12-C24)	113812509	714.3
C10	2.983	0.007	25175	58022	WATPHM	(C24-C38)	187572478	1854.1
C12	3.987	0.018	64742	84187	AK102	(C10-C25)	125037882	639.6
C14	4.757	0.006	214559	221958	AK103	(C25-C36)	167306052	2285.4
C16	5.417	-0.002	502613	522479	OR.DIES	(C10-C28)	183123751	934.3
C18	6.014	-0.003	814533	997572				
C20	6.592	0.005	881004	1447583	JET-A	(C10-C18)	41596517	250.8
C22	7.147	-0.001	893038	906565				
C24	7.694	-0.003	1005288	1219283				
C25	7.962	-0.002	1191248	1905883				
C26	8.222	-0.004	1183077	1596286				
C28	8.728	-0.001	1473429	2308034				
C32	9.655	-0.003	1096899	1392150				
C34	10.079	-0.001	860599	662252				
Filter Peak	12.097	0.004	42168	10522	BUNKERC	(C10-C38)	303908925	7698.3
C36	10.485	0.001	602897	178909				
C38	10.877	0.004	384574	134327				
C40	11.310	-0.004	175464	95035				
o-terph	6.206	0.004	17627053	20726166				
Triacon Surr	9.238	0.006	13498694	18837429	NAS DIES	(C10-C24)	116336447	596.1

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20726166	101.3 M
Triacontane	18837429	127.0 M

M Indicates the peak was manually integrated

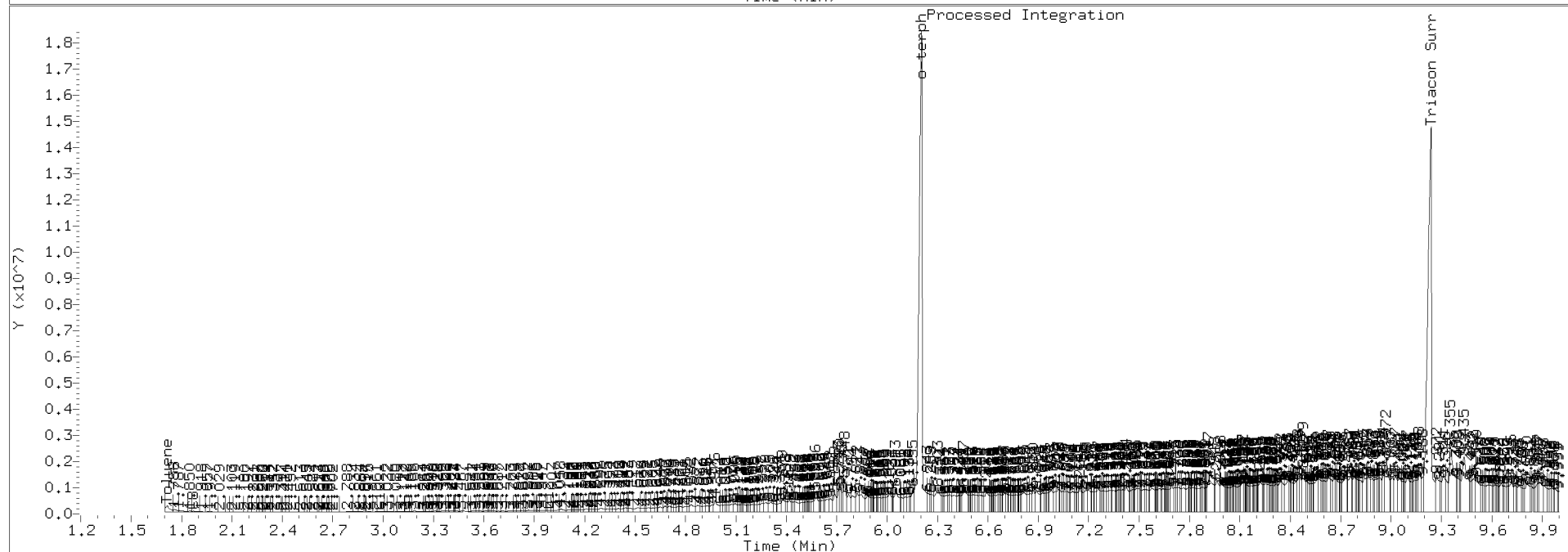
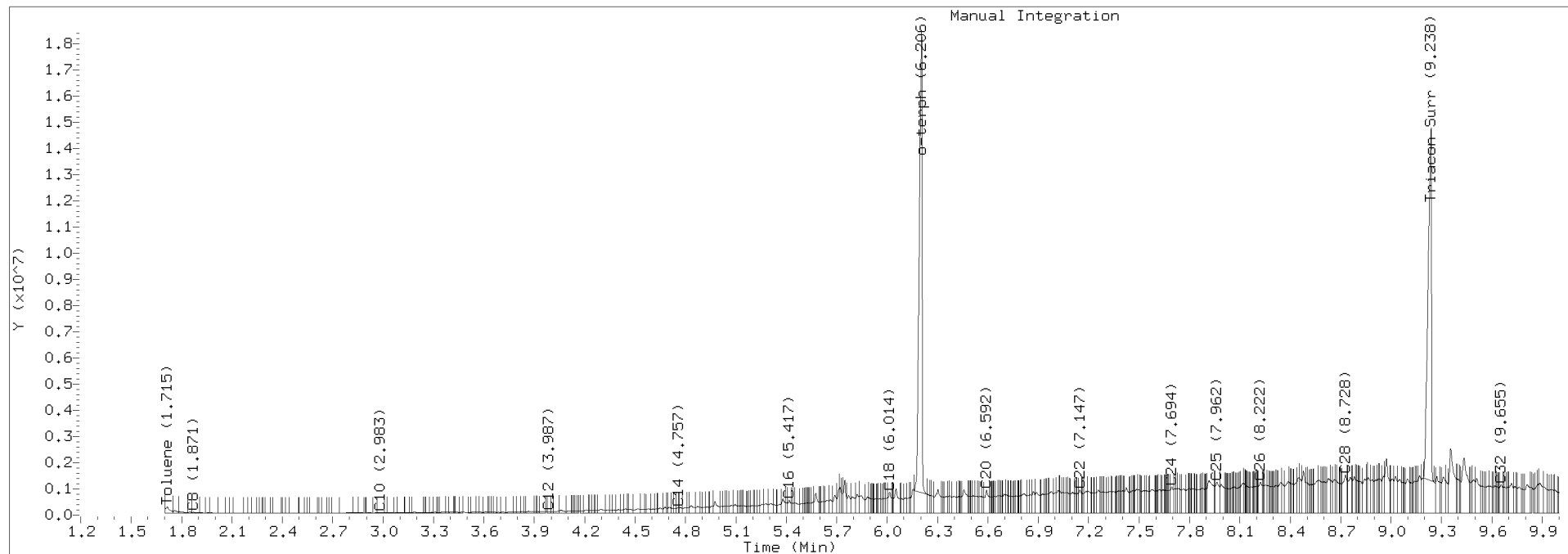
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2515.D Injection: 25-NOV-2020 23:17

Lab ID:20K0007-02





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0007-04 A SDG: 20K0007
 Sampled: 10/30/20 09:00 Prepared: 11/13/20 14:23 File ID: 420K2516.D
 % Solids: 71.19 Preparation: EPA 3546 (Microwave) Analyzed: 11/25/20 23:38
 Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.01 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

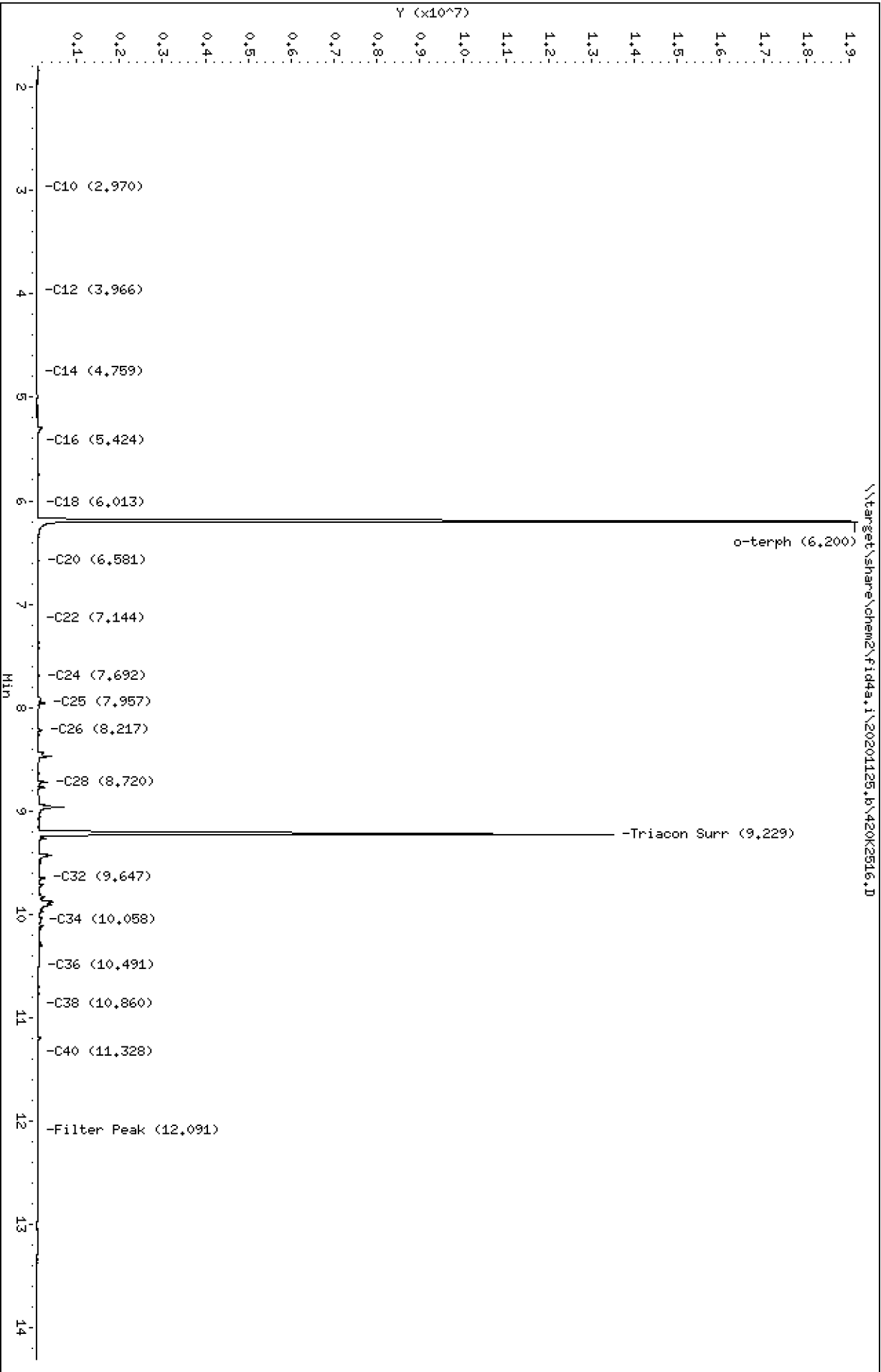
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	7.02	U	3.28	7.02
RRO	Motor Oil Range Organics (C24-C38)	1	17.9		4.20	14.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.787	14.5	91.6	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2516.D
Date: 25-NOV-2020 23:38
Client ID:
Sample Info: 20K0007-04

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2516.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-04
Client ID:
Injection: 25-NOV-2020 23:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

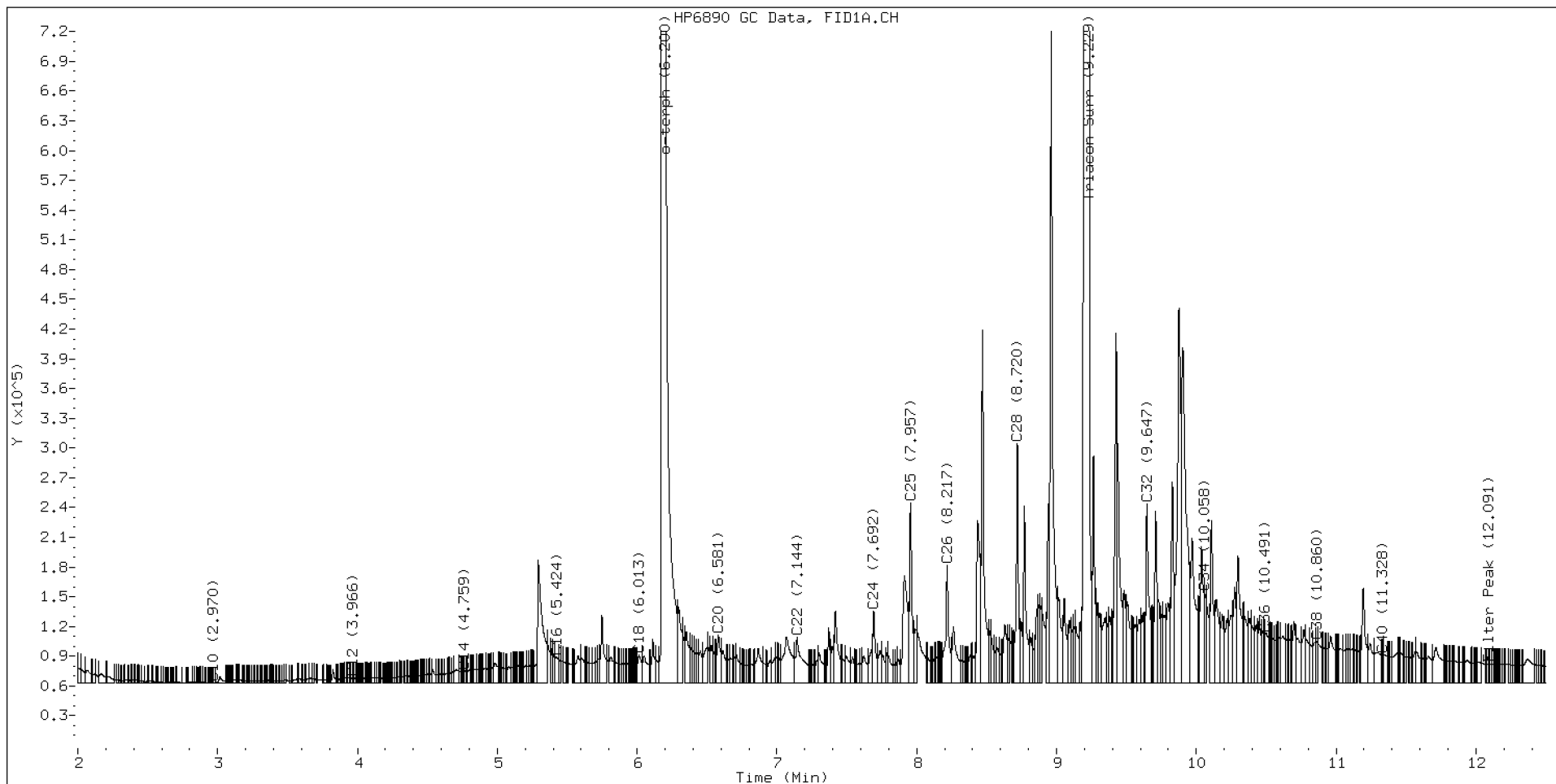
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.845	-0.033	50244	172362	WATPHD	(C12-C24)	4414031	27.7
C10	2.970	-0.006	301	128	WATPHM	(C24-C38)	12914214	127.7
C12	3.966	-0.003	4853	1913	AK102	(C10-C25)	5013741	25.6
C14	4.759	0.007	11664	2325	AK103	(C25-C36)	11532232	157.5
C16	5.424	0.006	26186	43770	OR.DIES	(C10-C28)	7606134	38.8
C18	6.013	-0.004	28178	53570				
C20	6.581	-0.006	48665	82424	JET-A	(C10-C18)	2120487	12.8
C22	7.144	-0.004	45858	158895				
C24	7.692	-0.004	72751	104745				
C25	7.957	-0.008	181331	219133				
C26	8.217	-0.009	119084	196013				
C28	8.720	-0.009	241353	266812				
C32	9.647	-0.011	180558	276916				
C34	10.058	-0.022	91474	92776				
Filter Peak	12.091	-0.002	19111	7620	BUNKERC	(C10-C38)	17497465	443.2
C36	10.491	0.007	49123	21976				
C38	10.860	-0.013	41599	32869				
C40	11.328	0.014	28361	9886				
o-terph	6.200	-0.002	19132921	21081593				
Triacon Surr	9.229	-0.003	13457379	18488093	NAS DIES	(C10-C24)	4583252	23.5

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	21081593	103.0
Triacontane	18488093	124.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0007-07 A SDG: 20K0007
Sampled: 10/30/20 09:35 Prepared: 11/13/20 14:23 File ID: 420K2517.D
% Solids: 79.50 Preparation: EPA 3546 (Microwave) Analyzed: 11/25/20 23:58
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.01 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

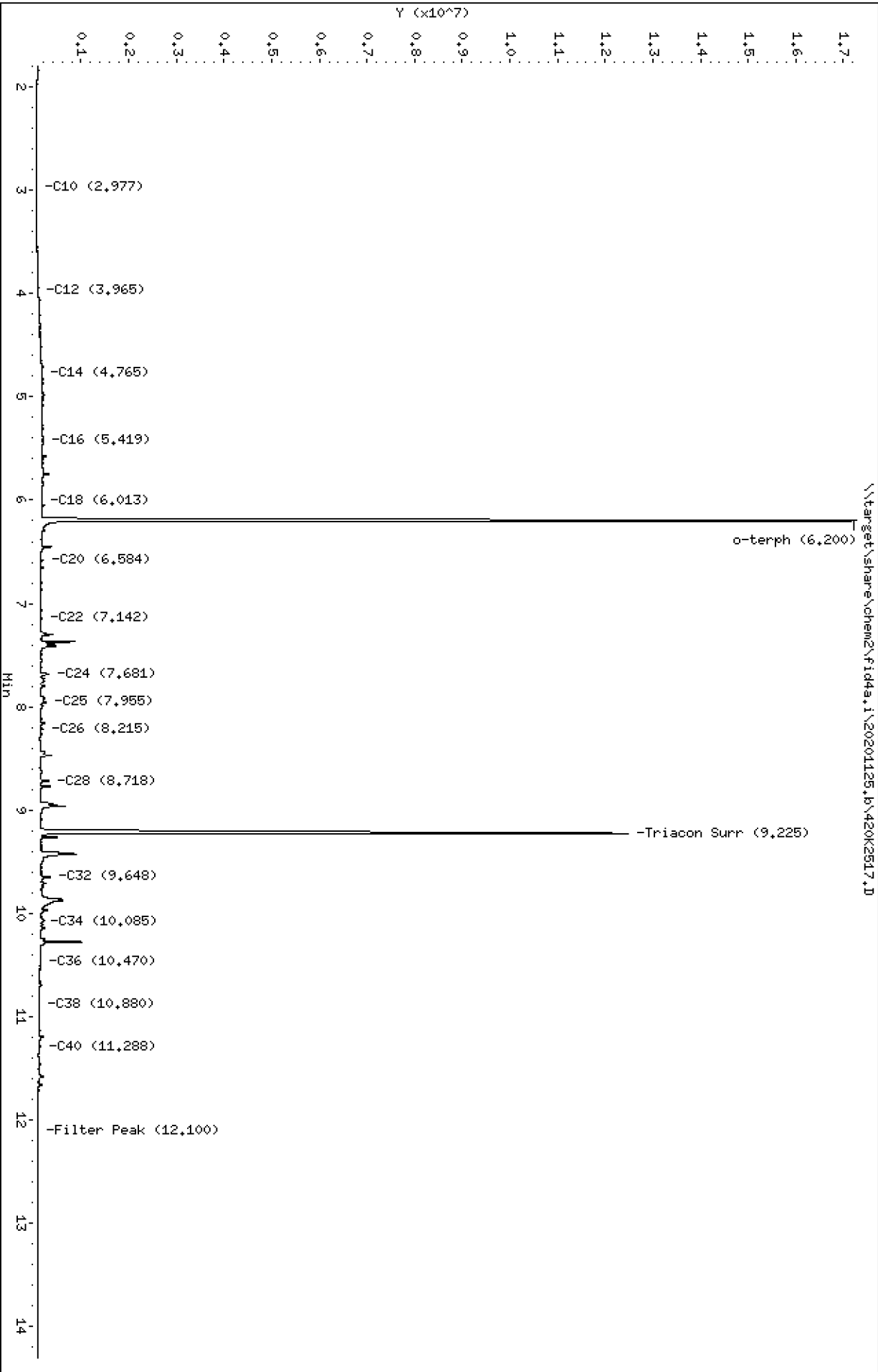
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	19.5		2.94	6.28
RRO	Motor Oil Range Organics (C24-C38)	1	28.5		3.76	12.6

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.137	11.2	79.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2517.D
Date: 25-NOV-2020 23:58
Client ID:
Sample Info: 20K0007-07

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2517.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-07
Client ID:
Injection: 25-NOV-2020 23:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

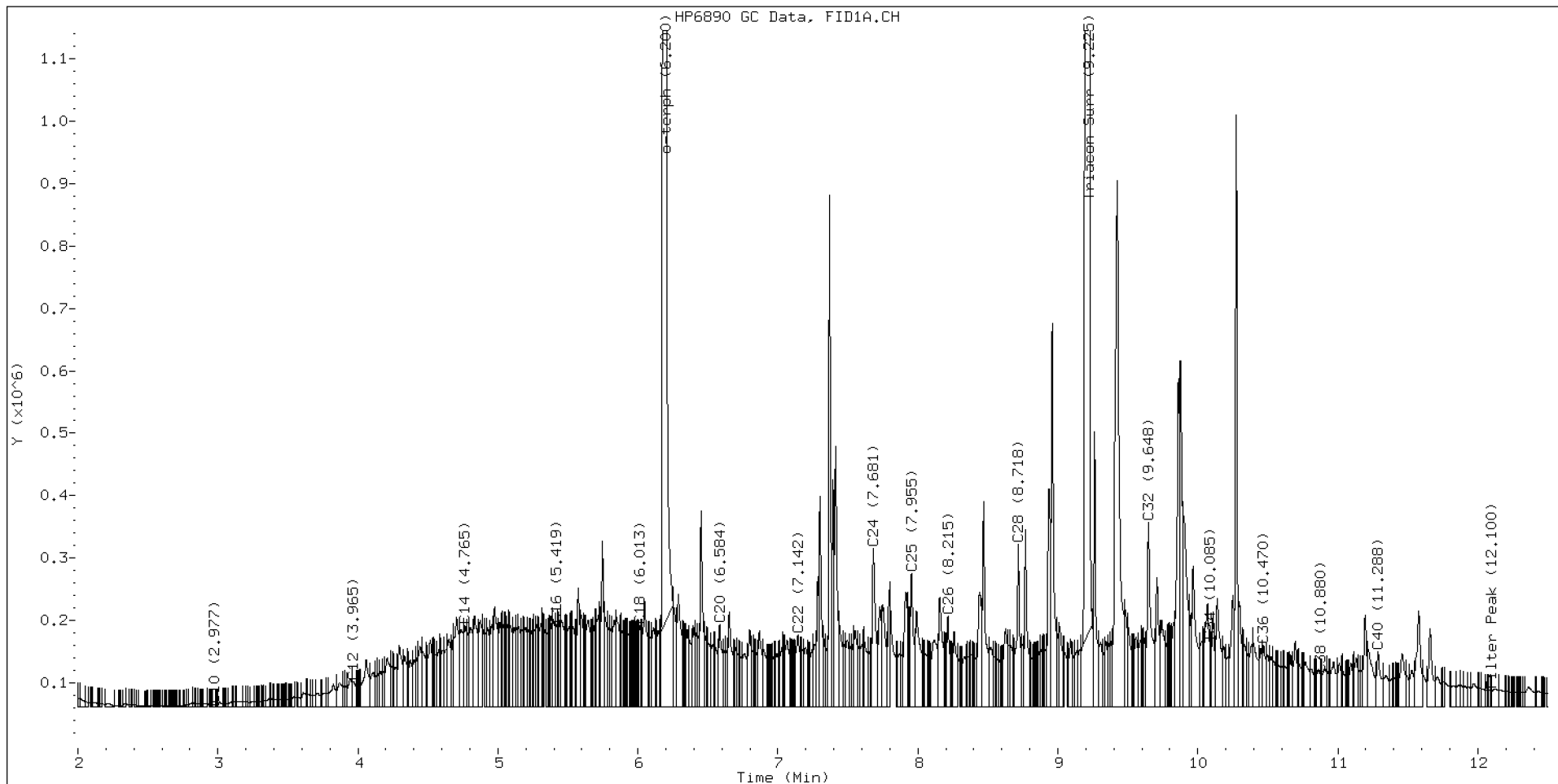
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.844	-0.034	45214	129936	WATPHD	(C12-C24)	24751890	155.3
C10	2.977	0.001	3499	4413	WATPHM	(C24-C38)	22919740	226.6
C12	3.965	-0.003	39557	64276	AK102	(C10-C25)	26496192	135.5
C14	4.765	0.014	129591	194880	AK103	(C25-C36)	20713987	283.0
C16	5.419	0.000	130943	103343	OR.DIES	(C10-C28)	32188561	164.2
C18	6.013	-0.004	129779	151149				
C20	6.584	-0.003	130698	235633	JET-A	(C10-C18)	14064433	84.8
C22	7.142	-0.006	113949	231191				
C24	7.681	-0.016	253300	448532				
C25	7.955	-0.010	213302	296553				
C26	8.215	-0.011	145066	217353				
C28	8.718	-0.011	260420	389377				
C32	9.648	-0.010	294921	583450				
C34	10.085	0.005	105283	15774				
Filter Peak	12.100	0.008	25116	6266	BUNKERC	(C10-C38)	48659978	1232.6
C36	10.470	-0.013	97180	144851				
C38	10.880	0.007	51281	22965				
C40	11.288	-0.026	87806	177211				
o-terph	6.200	-0.002	17076797	18276266				
Triacon Surr	9.225	-0.007	12302222	16013880	NAS DIES	(C10-C24)	25740238	131.9

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18276266	89.3 M
Triacontane	16013880	107.9 M

M Indicates the peak was manually integrated

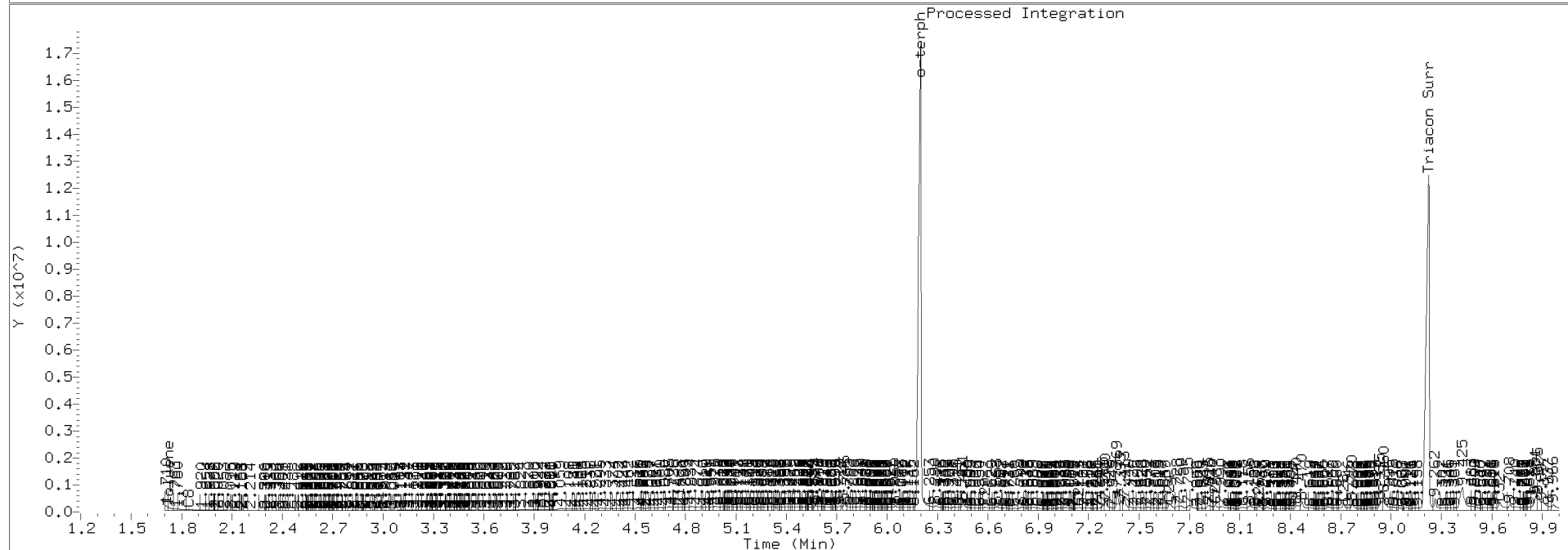
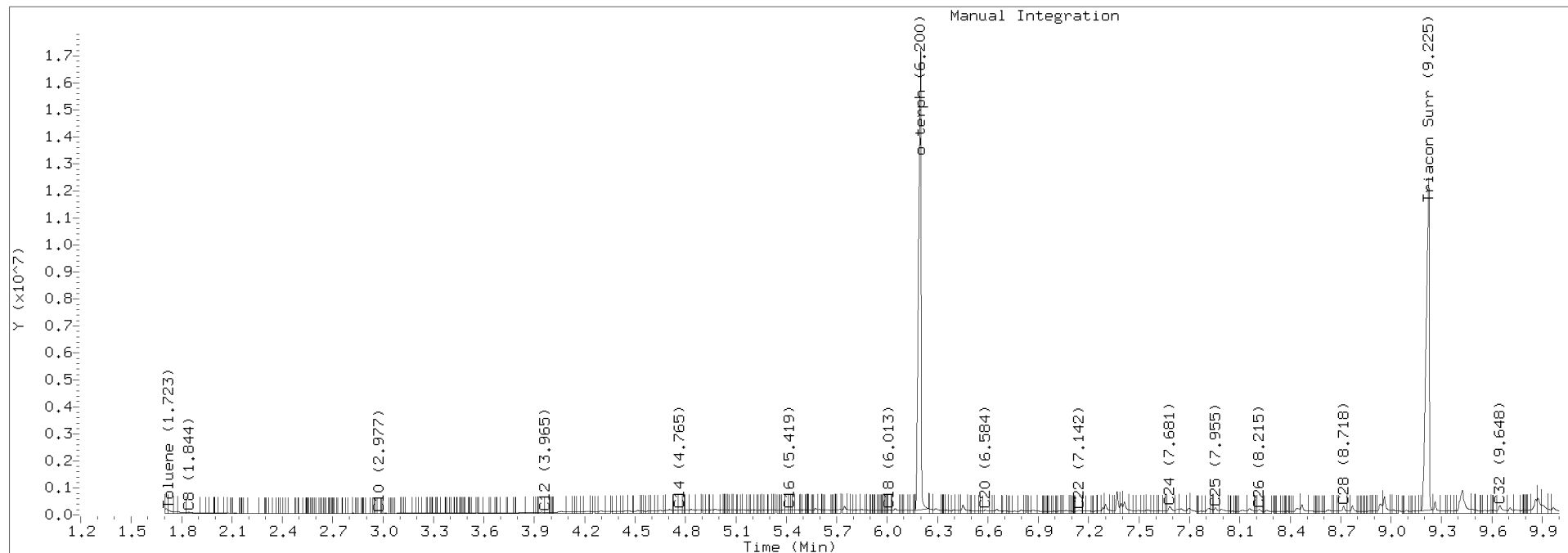
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2517.D Injection: 25-NOV-2020 23:58

Lab ID:20K0007-07





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-09 A SDG: 20K0007
Sampled: 10/30/20 09:45 Prepared: 11/13/20 14:23 File ID: 420K2518.D
% Solids: 73.70 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 00:18
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.06 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

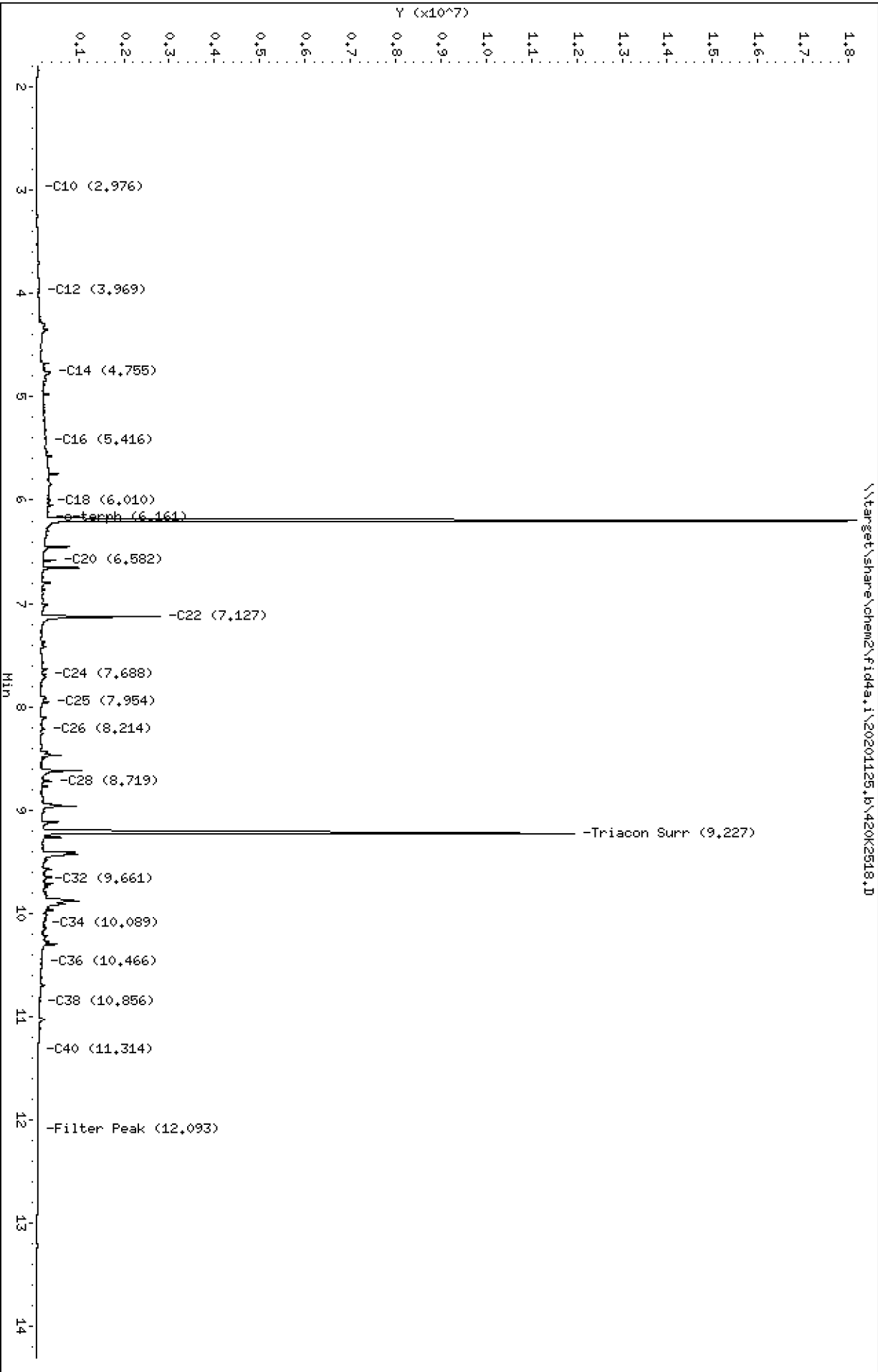
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	34.8		3.16	6.74
RRO	Motor Oil Range Organics (C24-C38)	1	43.4		4.03	13.5

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.174	12.1	79.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2518.D
Date: 26-NOV-2020 00:18
Client ID:
Sample Info: 20K0007-09

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2518.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-09
Client ID:
Injection: 26-NOV-2020 00:18
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

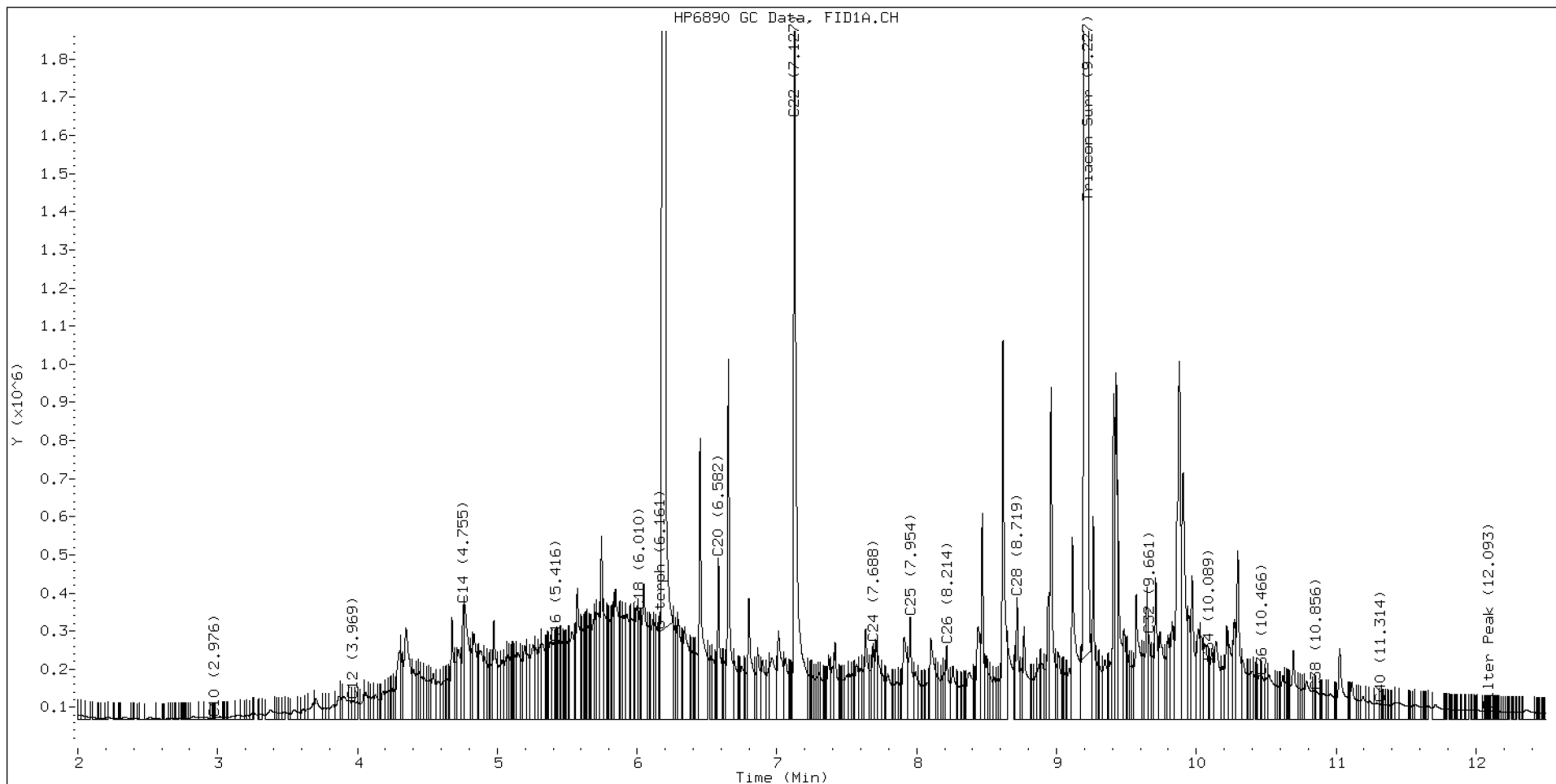
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.865	-0.012	24986	33321	WATPHD	(C12-C24)	41113510	258.0
C10	2.976	0.000	4684	2062	WATPHM	(C24-C38)	32574061	322.0
C12	3.969	0.001	51128	73774	AK102	(C10-C25)	43857310	224.3
C14	4.755	0.003	301572	256950	AK103	(C25-C36)	29379127	401.3
C16	5.416	-0.002	200463	108861	OR.DIES	(C10-C28)	51264008	261.6
C18	6.010	-0.007	284682	272429				
C20	6.582	-0.005	423090	546254	JET-A	(C10-C18)	23235883	140.1
C22	7.127	-0.022	2744778	3269595				
C24	7.688	-0.009	199456	255352				
C25	7.954	-0.010	268858	414441				
C26	8.214	-0.012	194332	278650				
C28	8.719	-0.011	320821	390502				
C32	9.661	0.003	220949	212963				
C34	10.089	0.008	151525	22692				
Filter Peak	12.093	0.000	22234	12156	BUNKERC	(C10-C38)	75133407	1903.2
C36	10.466	-0.017	113639	151552				
C38	10.856	-0.017	75700	143150				
C40	11.314	-0.001	41185	30584				
o-terph	6.199	-0.002	17874443	18386934				
Triacon Surr	9.227	-0.005	11711683	15937236	NAS DIES	(C10-C24)	42559345	218.1

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18386934	89.8 M
Triacontane	15937236	107.4 M

M Indicates the peak was manually integrated

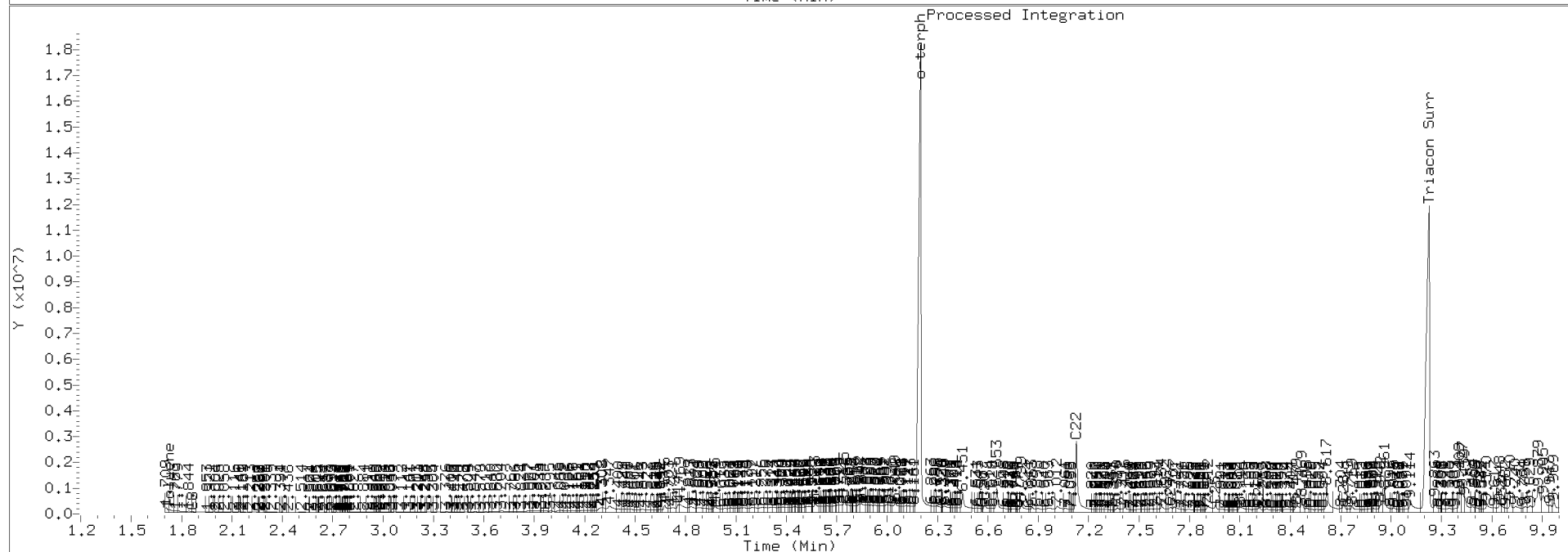
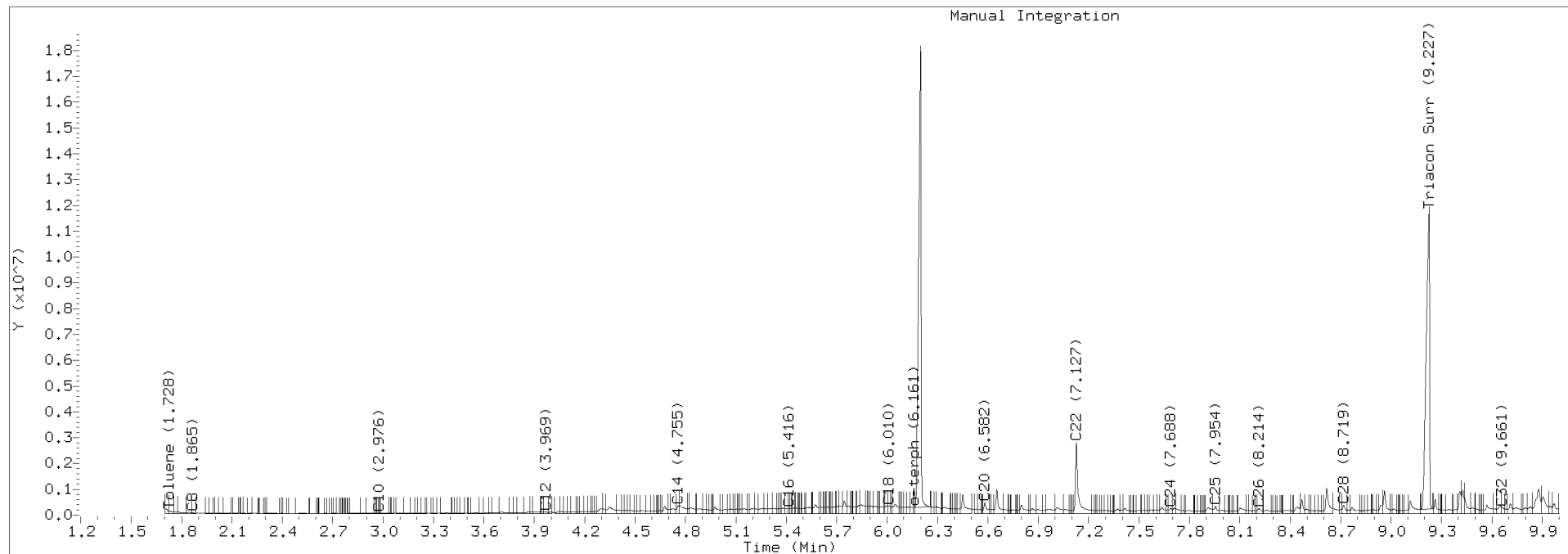
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2518.D Injection: 26-NOV-2020 00:18

Lab ID:20K0007-09





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-13 A SDG: 20K0007
Sampled: 10/30/20 10:50 Prepared: 11/13/20 14:23 File ID: 420K2519.D
% Solids: 82.69 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 00:38
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.08 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

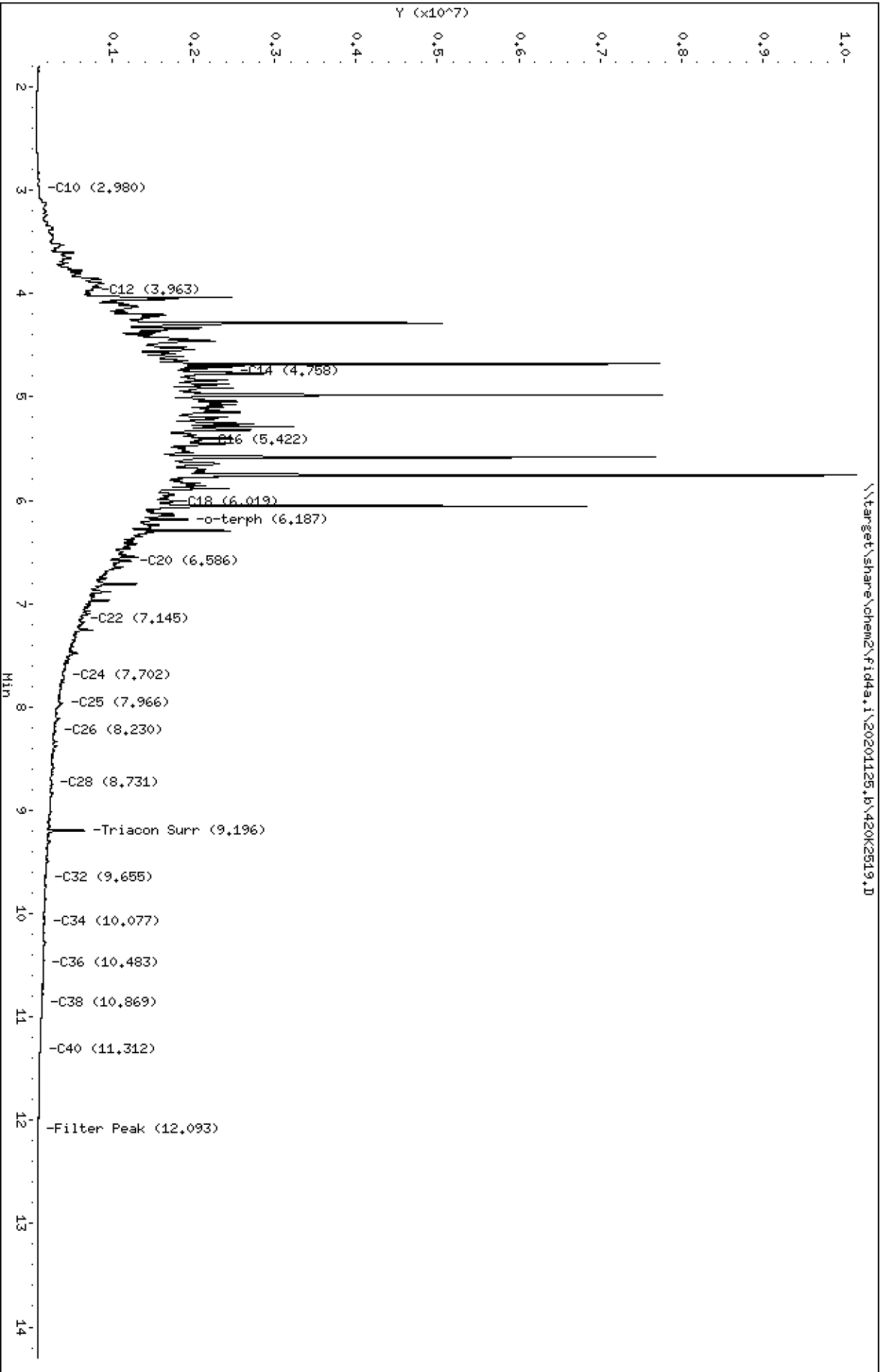
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	50	12100	D	140	300
RRO	Motor Oil Range Organics (C24-C38)	50	1640	D	179	600

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.497	11.4	84.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2519.D
Date: 26-NOV-2020 00:38
Client ID:
Sample Info: 20K0007-13.50

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2519.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-13
Client ID:
Injection: 26-NOV-2020 00:38
Dilution Factor: 50
RT Std: 419H1603.D

FID:4A RESULTS

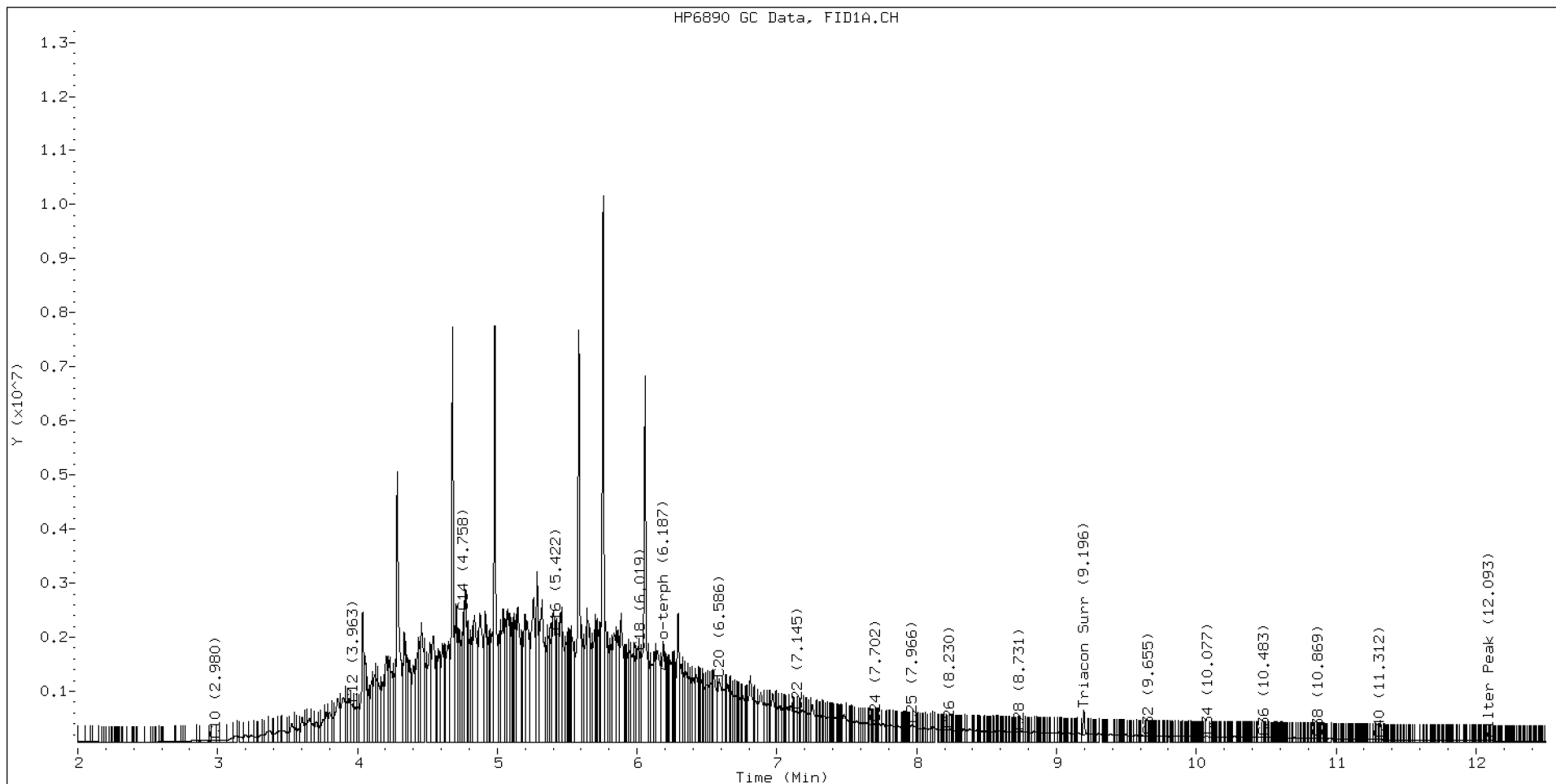
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.844	-0.033	40354	124817	WATPHD	(C12-C24)	320497868	2011.5
C10	2.980	0.004	34608	60642	WATPHM	(C24-C38)	27727190	274.1
C12	3.963	-0.005	699659	901519	AK102	(C10-C25)	341178283	1745.2
C14	4.758	0.007	2406079	1930565	AK103	(C25-C36)	23127631	315.9
C16	5.422	0.003	2038219	1303341	OR.DIES	(C10-C28)	351907839	1795.5
C18	6.019	0.002	1667345	1048434				
C20	6.586	-0.001	1160488	2269401	JET-A	(C10-C18)	258844818	1560.7
C22	7.145	-0.003	563220	518270				
C24	7.702	0.005	341302	381405				
C25	7.966	0.002	320541	341828				
C26	8.230	0.004	231234	145883				
C28	8.731	0.002	186363	45898				
C32	9.655	-0.003	111756	49568				
C34	10.077	-0.003	108302	162118				
Filter Peak	12.093	0.001	23636	8248	BUNKERC	(C10-C38)	365988472	9270.9
C36	10.483	-0.001	82278	24590				
C38	10.869	-0.003	66631	39314				
C40	11.312	-0.003	44228	49910				
o-terph	6.187	-0.015	510886	390815				
Triacon Surr	9.196	-0.036	448987	331953	NAS DIES	(C10-C24)	338261282	1733.4

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	390815	1.9 M
Triacontane	331953	2.2 M

M Indicates the peak was manually integrated

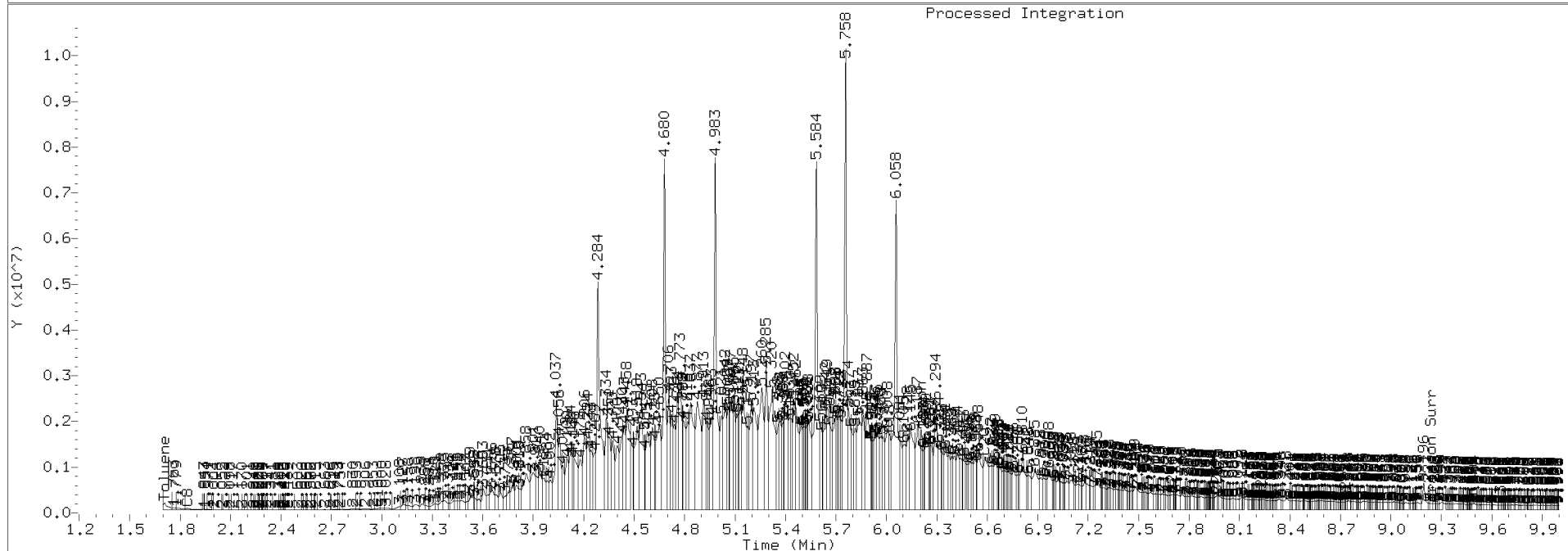
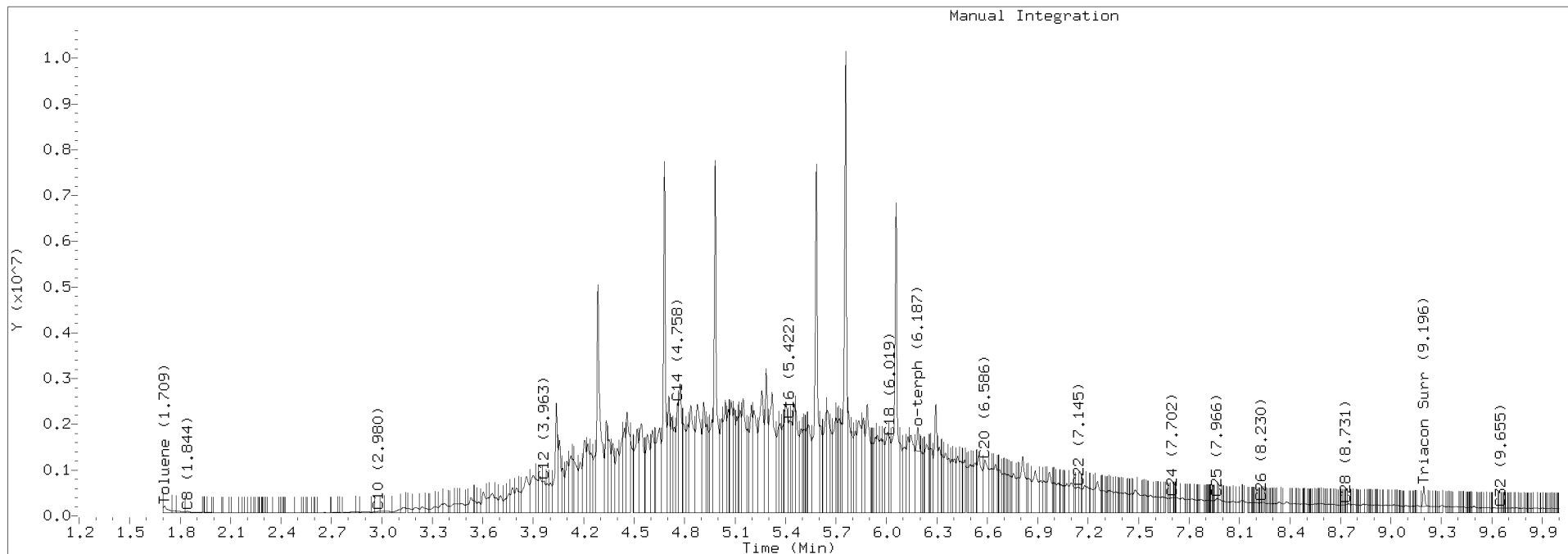
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2519.D Injection: 26-NOV-2020 00:38

Lab ID:20K0007-13





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-15 A SDG: 20K0007
Sampled: 10/30/20 11:00 Prepared: 11/13/20 14:23 File ID: 420K2955.D
% Solids: 77.96 Preparation: EPA 3546 (Microwave) Analyzed: 11/30/20 14:22
Batch: BIK0374 Sequence: SIK0411 Initial/Final: 10.03 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

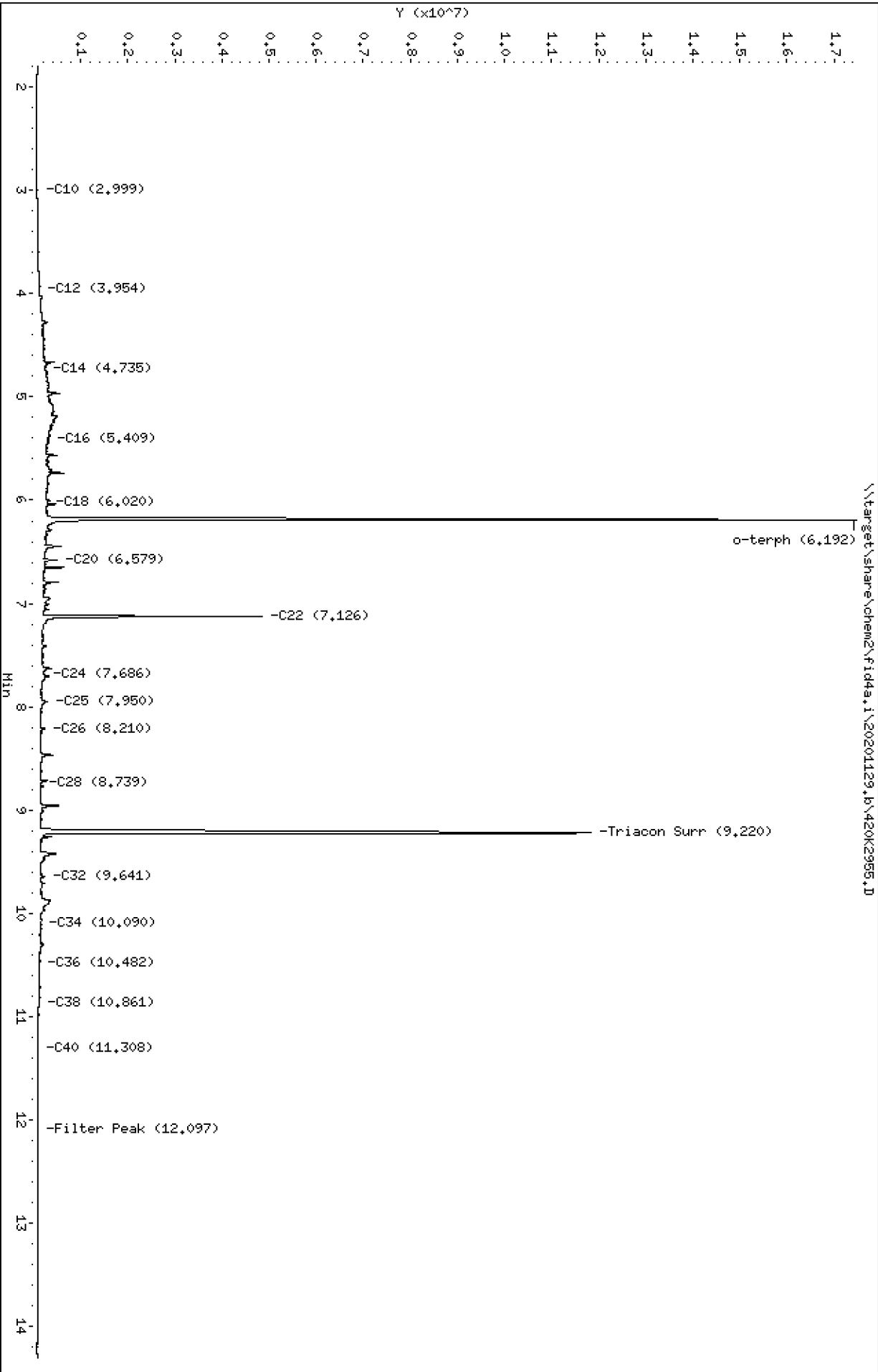
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	39.4		2.99	6.39
RRO	Motor Oil Range Organics (C24-C38)	1	24.6		3.82	12.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.387	11.9	82.6	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201129,b\420K2955.D
Date: 30-NOV-2020 14:22
Client ID:
Sample Info: 20K0007-15RE1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2955.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-15RE1
Client ID:
Injection: 30-NOV-2020 14:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

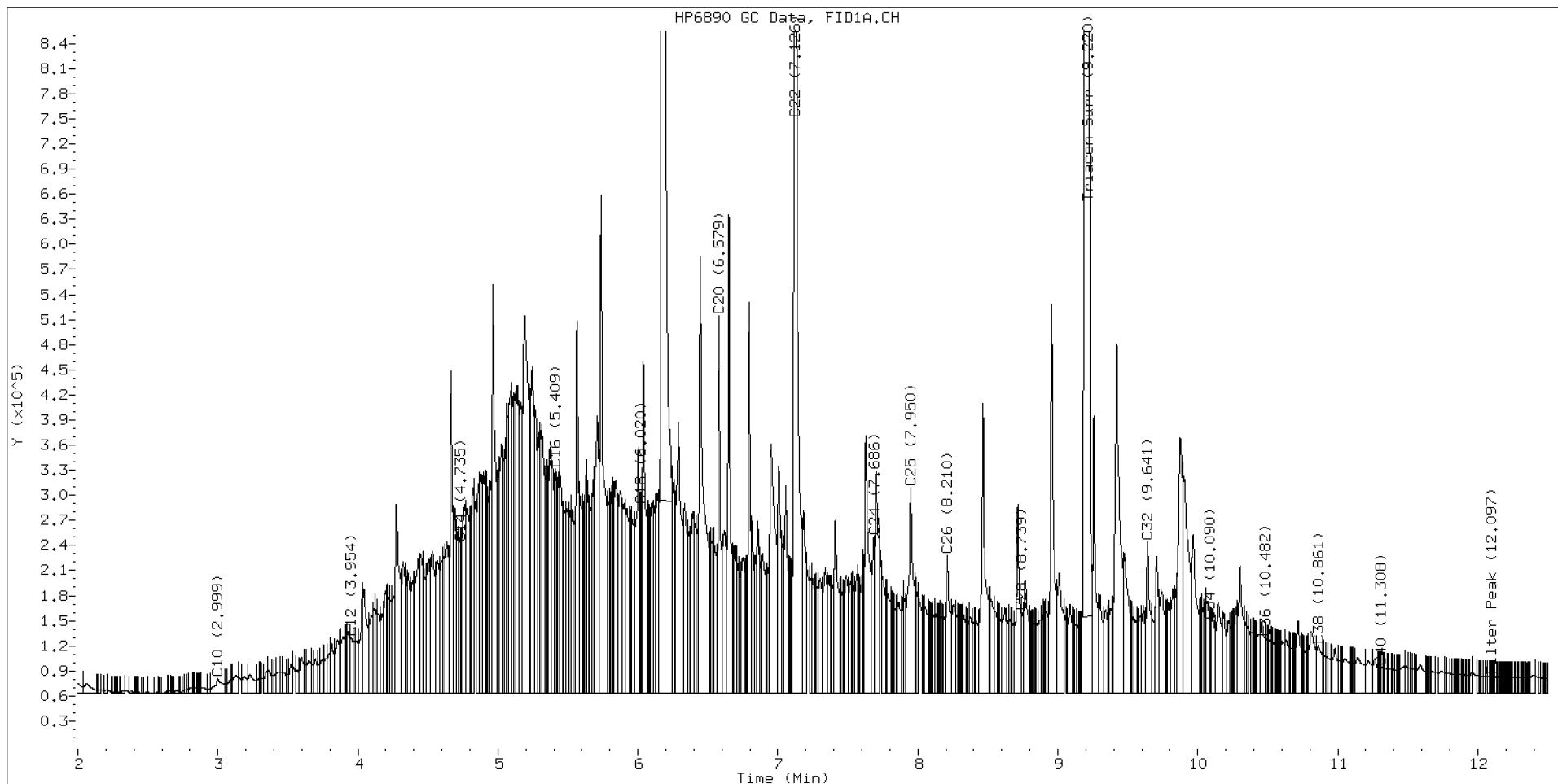
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.908	0.037	12573	11835	WATPHD	(C12-C24)	49116496	308.3
C10	2.999	0.029	17416	66683	WATPHM	(C24-C38)	19496936	192.7
C12	3.954	-0.010	65877	76851	AK102	(C10-C25)	52083190	266.4
C14	4.735	-0.013	179966	62820	AK103	(C25-C36)	17151126	234.3
C16	5.409	-0.005	267976	318259	OR.DIES	(C10-C28)	57524833	293.5
C18	6.020	0.008	225108	111471				
C20	6.579	-0.004	450915	537189	JET-A	(C10-C18)	29140003	175.7
C22	7.126	-0.018	4792250	4386197				
C24	7.686	-0.007	186648	237627				
C25	7.950	-0.012	246077	578524				
C26	8.210	-0.013	165304	314760				
C28	8.739	0.012	97490	29041				
C32	9.641	-0.014	181334	335462				
C34	10.090	0.011	85946	42365				
Filter Peak	12.097	-0.001	19921	9960	BUNKERC	(C10-C38)	70505525	1786.0
C36	10.482	-0.000	66295	67859				
C38	10.861	-0.011	57122	129192				
C40	11.308	-0.006	31435	40025				
o-terph	6.192	-0.006	17183117	19006609				
Triacon Surr	9.220	-0.010	11685531	16004318	NAS DIES	(C10-C24)	51008589	261.4

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	19006609	92.9 M
Triacontane	16004318	107.9 M

M Indicates the peak was manually integrated

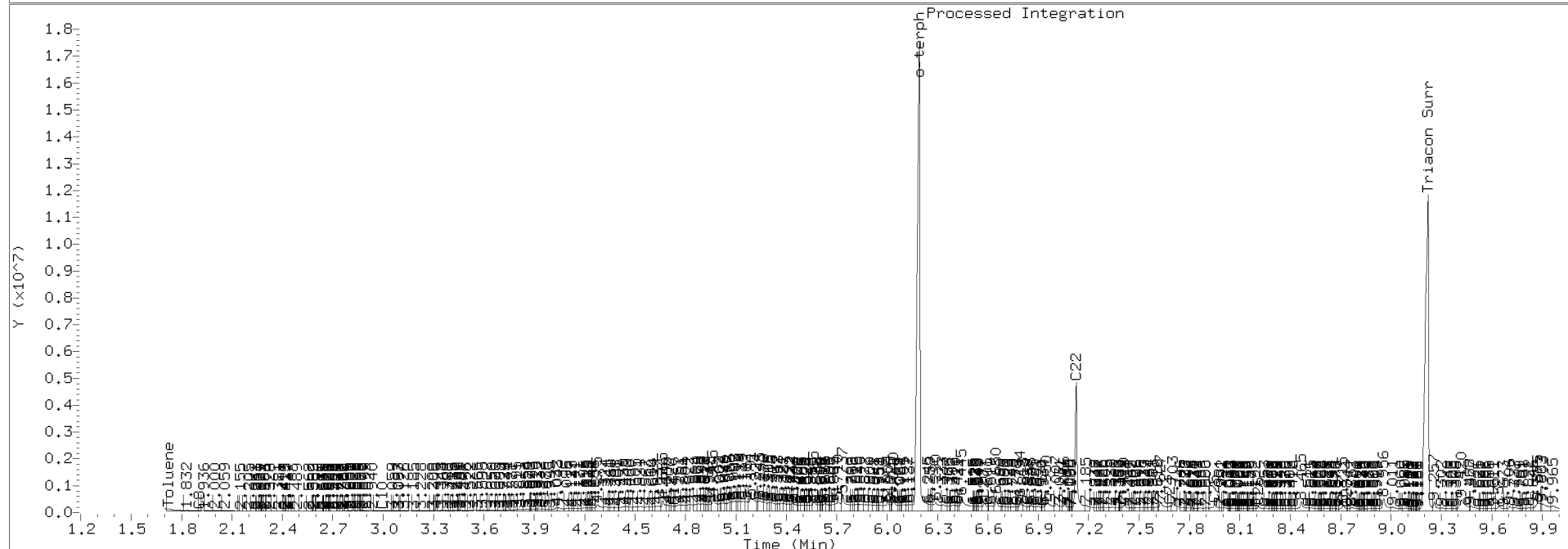
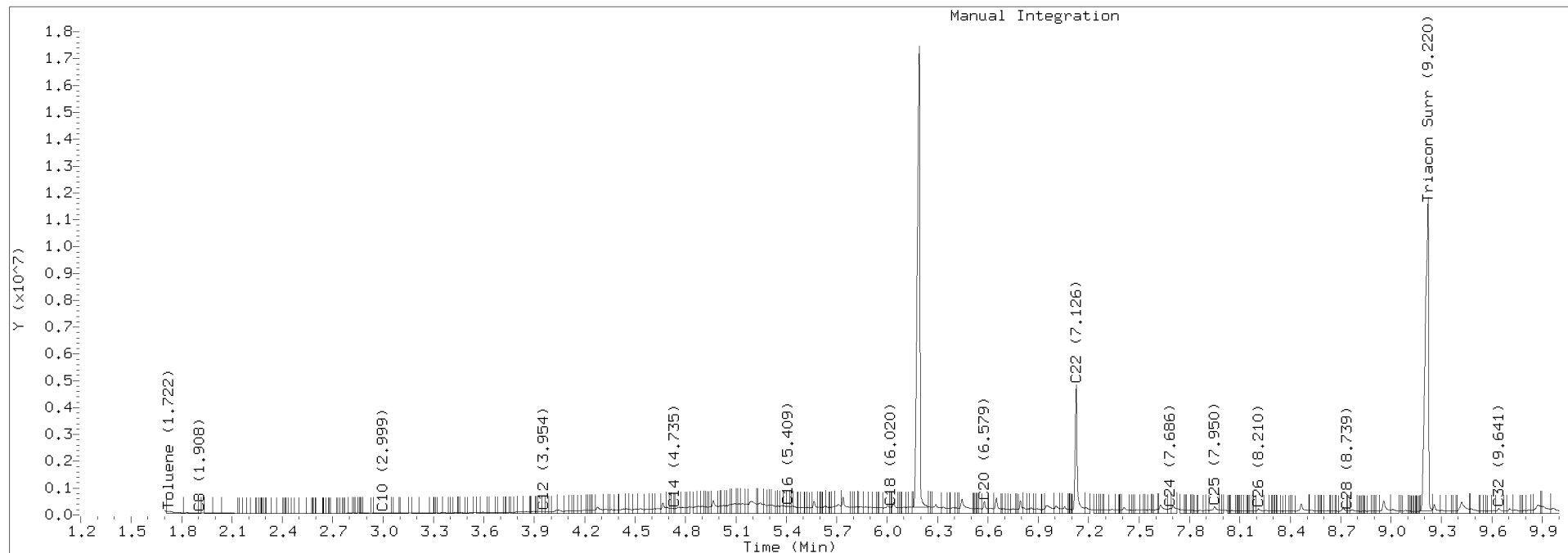
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2955.D Injection: 30-NOV-2020 14:22

Lab ID:20K0007-15RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0007-19 A SDG: 20K0007
Sampled: 10/30/20 12:35 Prepared: 11/13/20 14:23 File ID: 420K2521.D
% Solids: 88.97 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 01:19
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.07 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

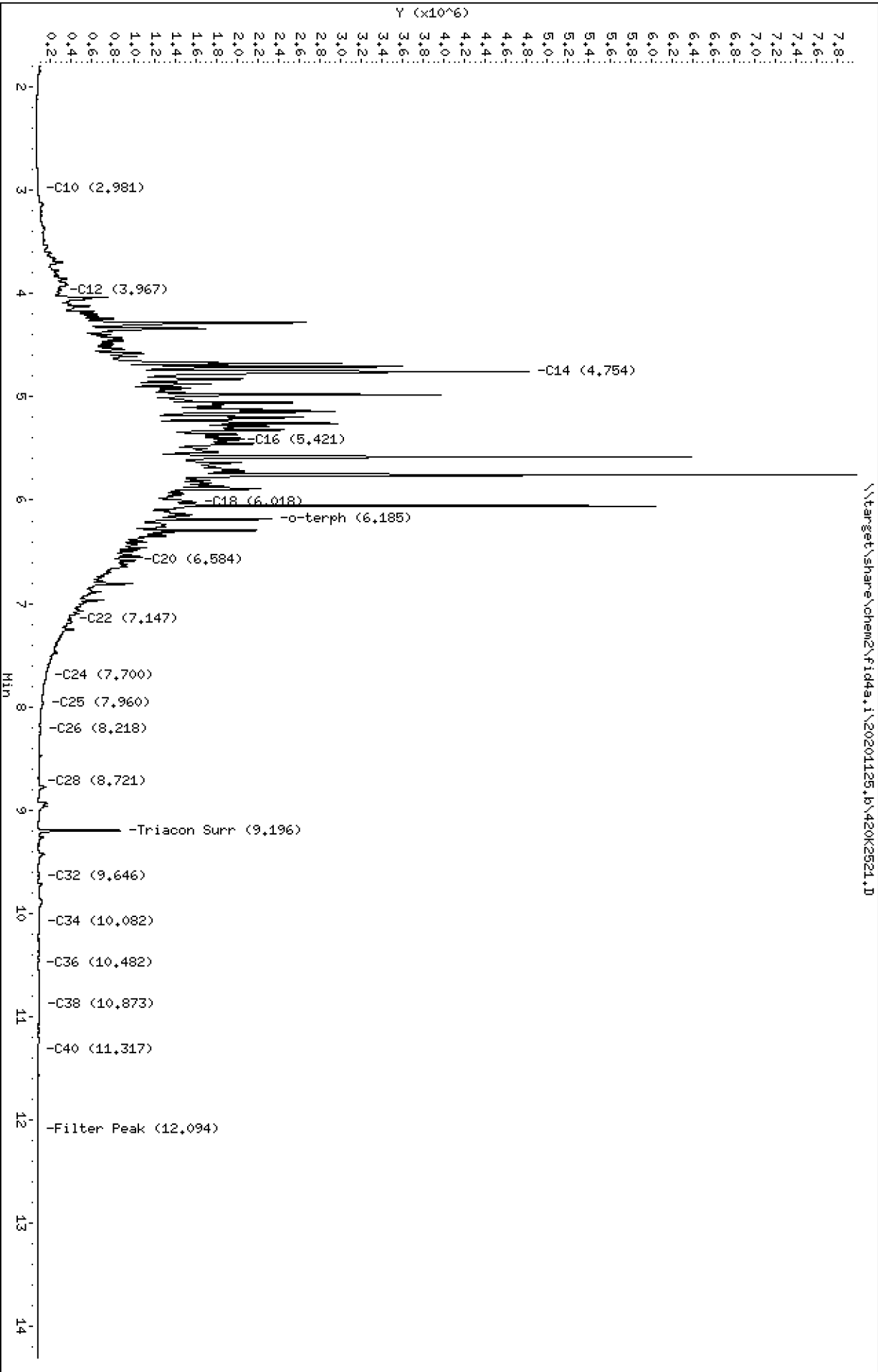
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	25	4140	D	65.3	140
RRO	Motor Oil Range Organics (C24-C38)	25	279	U	83.4	279

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.557	11.2	88.9	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2521.D
Date: 26-NOV-2020 01:19
Client ID:
Sample Info: 20K0007-19,25

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2521.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-19
Client ID:
Injection: 26-NOV-2020 01:19
Dilution Factor: 25
RT Std: 419H1603.D

FID:4A RESULTS

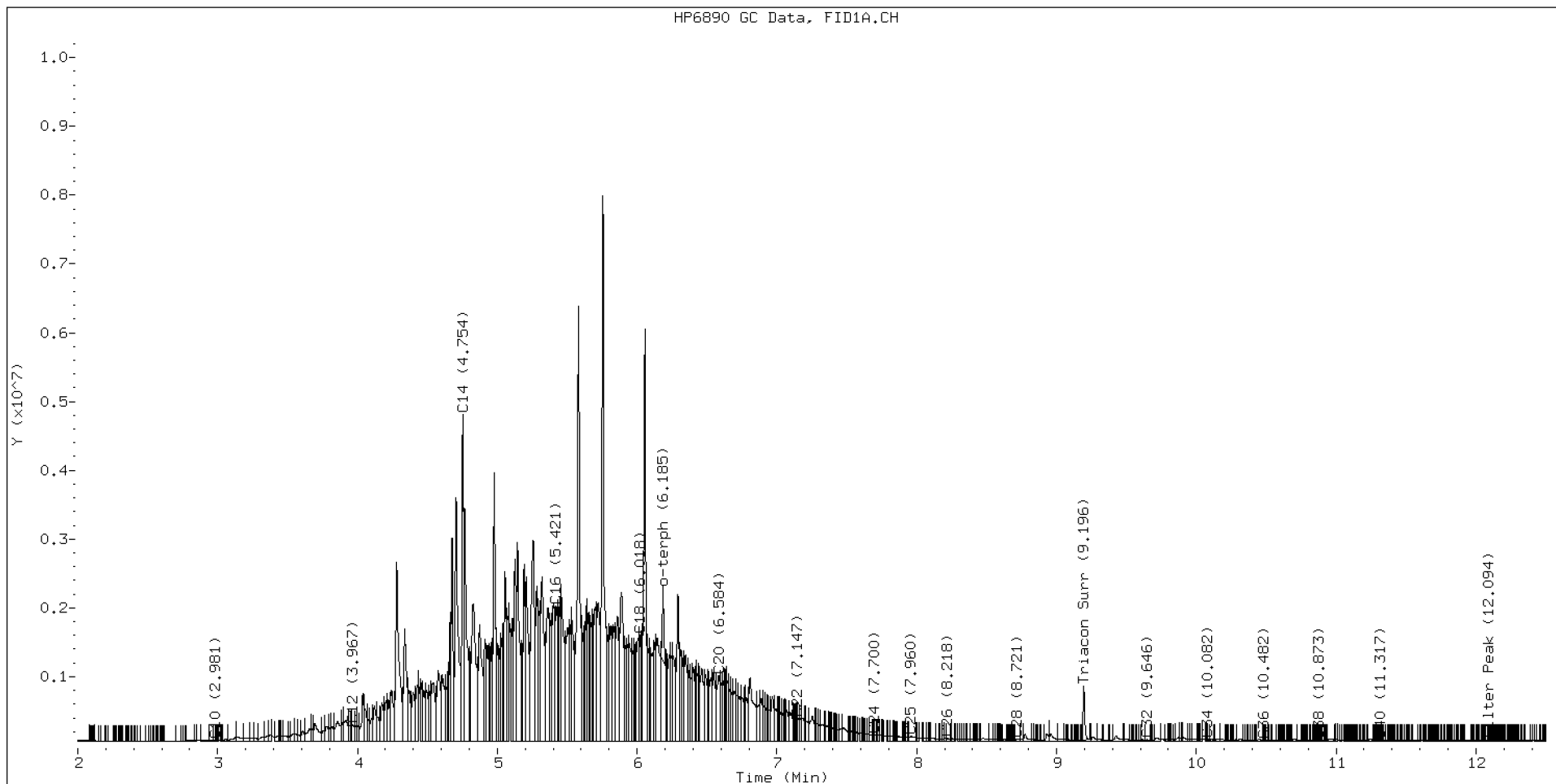
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.845	-0.033	39696	129914	WATPHD	(C12-C24)	236352405	1483.4
C10	2.981	0.005	13700	12898	WATPHM	(C24-C38)	5457590	53.9
C12	3.967	-0.002	237264	248386	AK102	(C10-C25)	243694409	1246.6
C14	4.754	0.002	4755110	3878080	AK103	(C25-C36)	4412390	60.3
C16	5.421	0.002	1959333	1870064	OR.DIES	(C10-C28)	245458137	1252.3
C18	6.018	0.001	1536726	1177653				
C20	6.584	-0.003	958053	1575998	JET-A	(C10-C18)	184873208	1114.7
C22	7.147	-0.002	326520	65230				
C24	7.700	0.003	96728	75775				
C25	7.960	-0.005	70259	192167				
C26	8.218	-0.008	37756	55934				
C28	8.721	-0.009	27590	53393				
C32	9.646	-0.011	22250	40076				
C34	10.082	0.001	22385	21668				
Filter Peak	12.094	0.001	16155	6439	BUNKERC	(C10-C38)	248565876	6296.4
C36	10.482	-0.001	19425	3874				
C38	10.873	0.000	20884	7294				
C40	11.317	0.003	19519	7771				
o-terph	6.185	-0.017	1094830	811093				
Triacon Surr	9.196	-0.036	783680	625773	NAS DIES	(C10-C24)	243108286	1245.8

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	811093	4.0 M
Triacontane	625773	4.2 M

M Indicates the peak was manually integrated

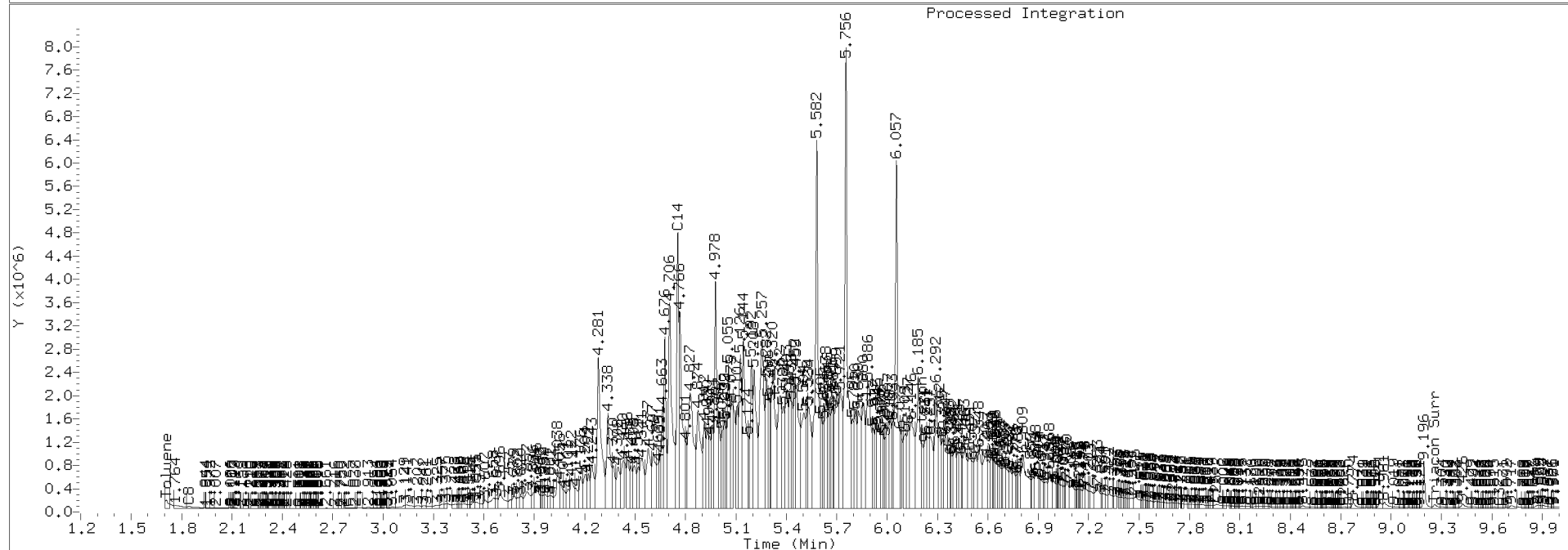
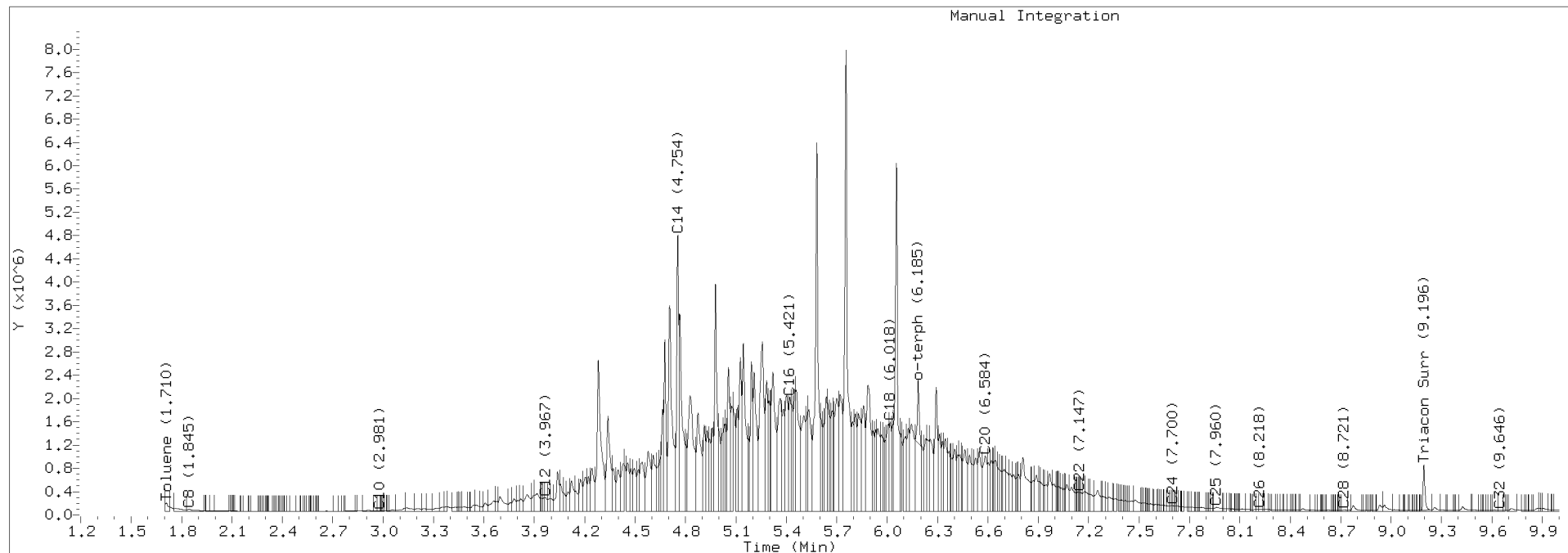
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2521.D Injection: 26-NOV-2020 01:19

Lab ID:20K0007-19





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0007-21 A SDG: 20K0007
 Sampled: 10/30/20 12:45 Prepared: 11/13/20 14:23 File ID: 420K2524.D
 % Solids: 76.66 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 02:19
 Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.11 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

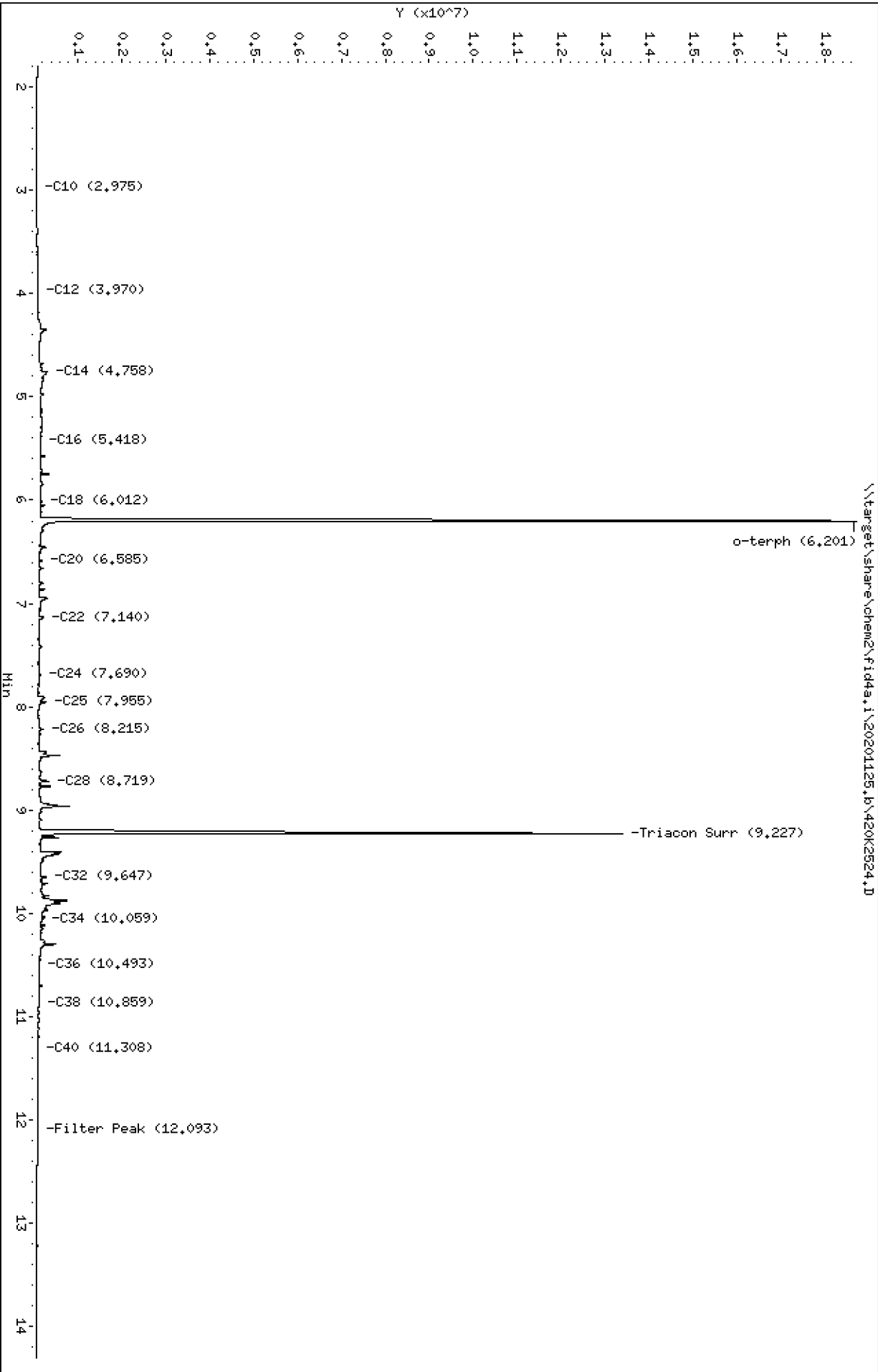
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	15.7		3.02	6.45
RRO	Motor Oil Range Organics (C24-C38)	1	27.1		3.86	12.9

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.516	12.6	87.1	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2524.D
Date: 26-NOV-2020 02:19
Client ID:
Sample Info: 20K0007-21

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2524.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-21
Client ID:
Injection: 26-NOV-2020 02:19
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

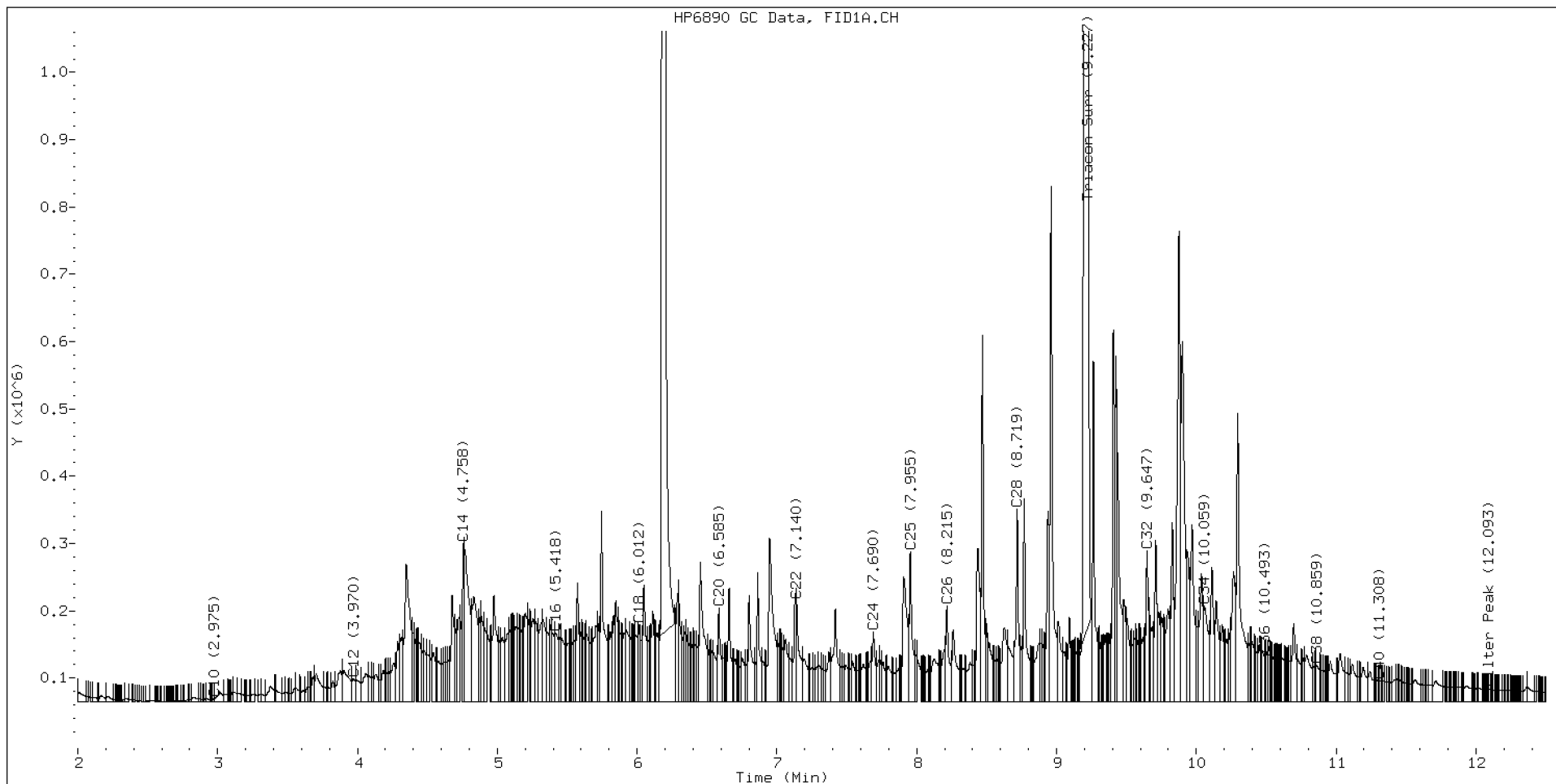
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.846	-0.032	43560	142160	WATPHD	(C12-C24)	19439206	122.0
C10	2.975	-0.001	4806	4571	WATPHM	(C24-C38)	21233274	209.9
C12	3.970	0.002	33886	54827	AK102	(C10-C25)	21462301	109.8
C14	4.758	0.006	235622	201960	AK103	(C25-C36)	19046505	260.2
C16	5.418	-0.001	103133	162620	OR.DIES	(C10-C28)	25884308	132.1
C18	6.012	-0.005	115194	133312				
C20	6.585	-0.002	139850	185092	JET-A	(C10-C18)	12667318	76.4
C22	7.140	-0.008	149962	256430				
C24	7.690	-0.007	103686	163572				
C25	7.955	-0.009	223930	321140				
C26	8.215	-0.011	143032	221979				
C28	8.719	-0.011	286153	389636				
C32	9.647	-0.011	225061	280038				
C34	10.059	-0.022	142203	338127				
Filter Peak	12.093	0.000	18599	16632	BUNKERC	(C10-C38)	41877212	1060.8
C36	10.493	0.009	70305	27838				
C38	10.859	-0.013	54304	98129				
C40	11.308	-0.007	32239	34844				
o-terph	6.201	-0.001	18551905	20067197				
Triacon Surr	9.227	-0.005	13222445	17074605	NAS DIES	(C10-C24)	20643938	105.8

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20067197	98.0 M
Triacontane	17074605	115.1 M

M Indicates the peak was manually integrated

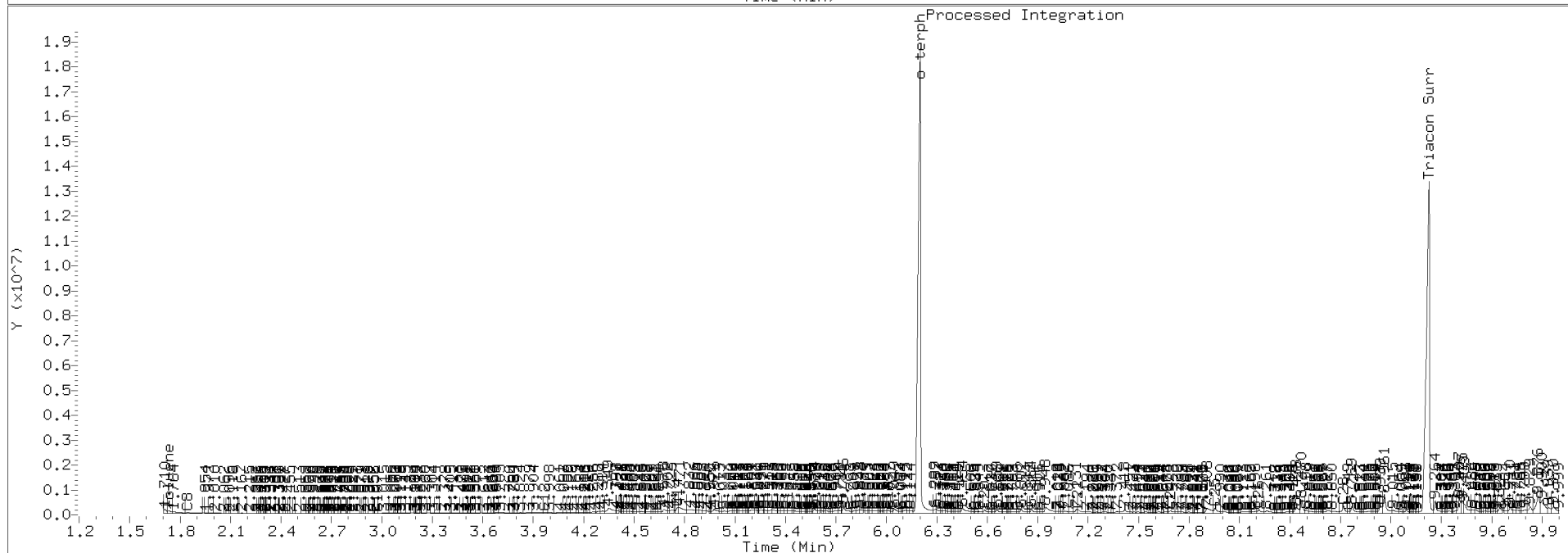
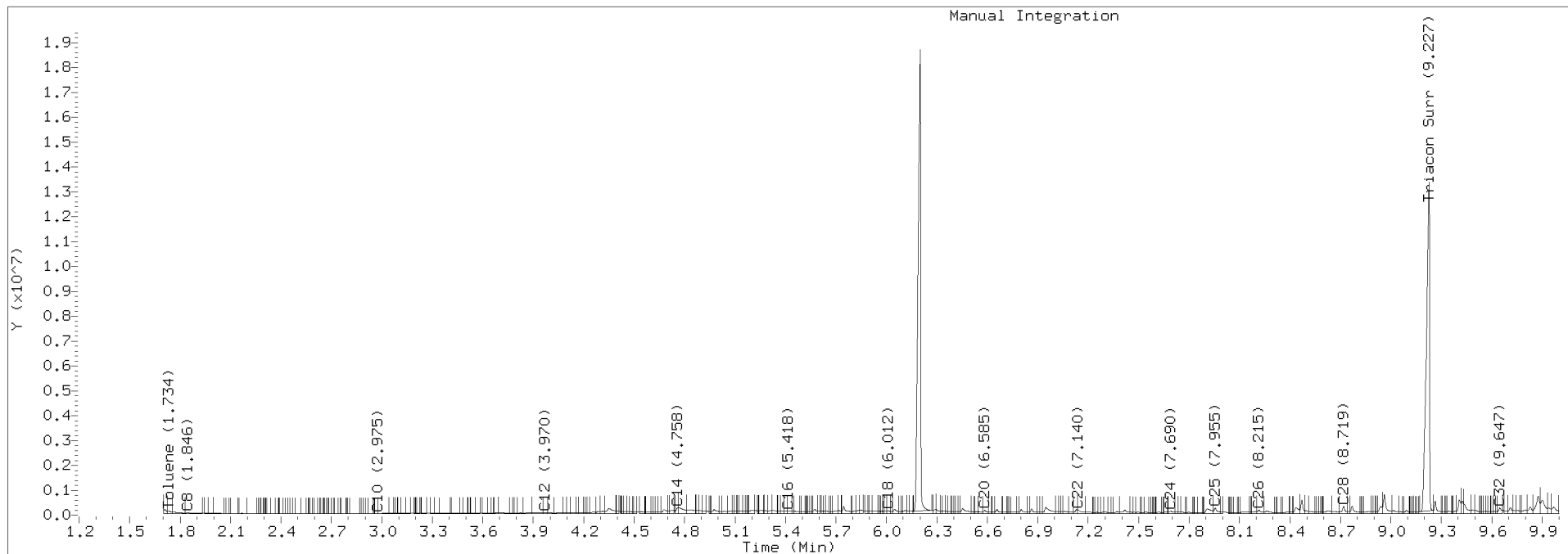
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2524.D Injection: 26-NOV-2020 02:19

Lab ID:20K0007-21





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0007-25 A SDG: 20K0007
Sampled: 10/30/20 13:30 Prepared: 11/13/20 14:23 File ID: 420K2525.D
% Solids: 86.82 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 02:39
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.05 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

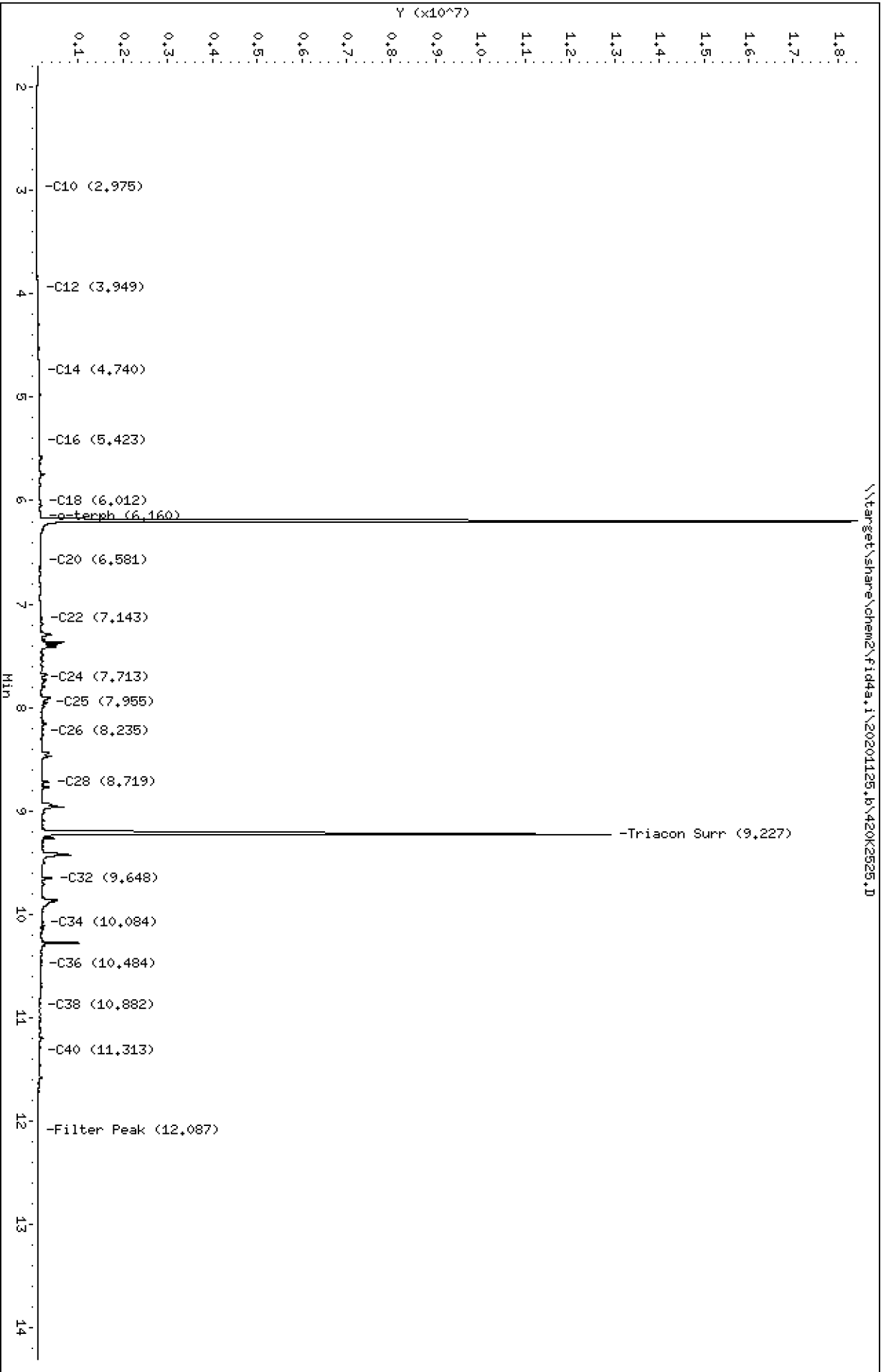
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	13.2		2.68	5.73
RRO	Motor Oil Range Organics (C24-C38)	1	31.0		3.43	11.5

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.893	11.0	85.2	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2525.D
Date: 26-NOV-2020 02:39
Client ID:
Sample Info: 20K0007-25

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2525.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-25
Client ID:
Injection: 26-NOV-2020 02:39
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

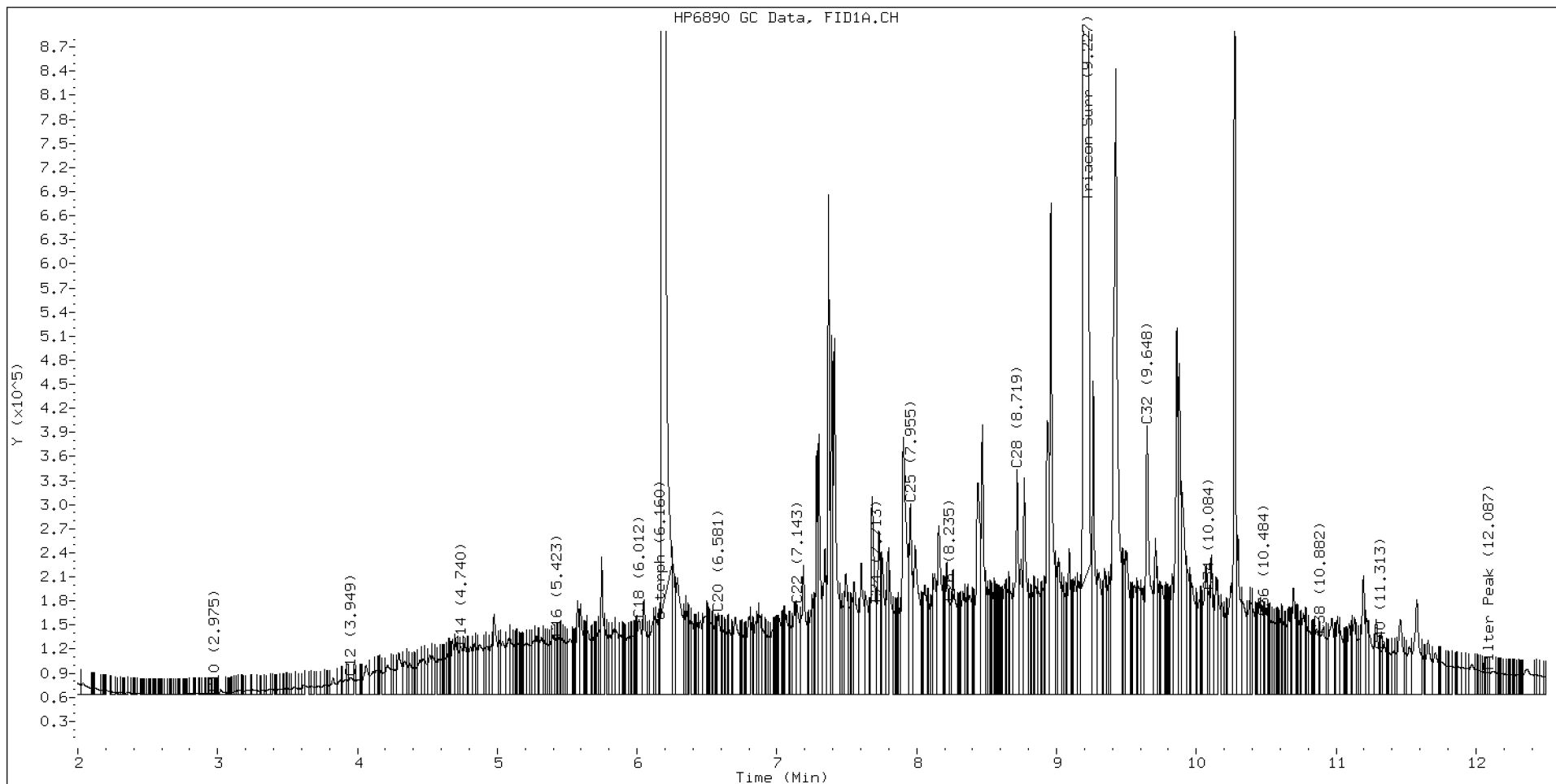
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	-0.001	30602	64929	WATPHD	(C12-C24)	18362279	115.2
C10	2.975	-0.001	1234	358	WATPHM	(C24-C38)	27402522	270.9
C12	3.949	-0.020	20994	45233	AK102	(C10-C25)	20396863	104.3
C14	4.740	-0.012	60011	86786	AK103	(C25-C36)	23866851	326.0
C16	5.423	0.004	70410	51956	OR.DIES	(C10-C28)	27674785	141.2
C18	6.012	-0.005	93532	164134				
C20	6.581	-0.006	101407	159237	JET-A	(C10-C18)	7566485	45.6
C22	7.143	-0.006	111284	184493				
C24	7.713	0.016	113133	28213				
C25	7.955	-0.009	238318	354744				
C26	8.235	0.009	114007	101158				
C28	8.719	-0.011	280498	490102				
C32	9.648	-0.010	334820	707528				
C34	10.084	0.004	128231	112275				
Filter Peak	12.087	-0.006	27305	24359	BUNKERC	(C10-C38)	46269833	1172.1
C36	10.484	0.000	96390	33668				
C38	10.882	0.009	74382	44233				
C40	11.313	-0.001	54765	19083				
o-terph	6.200	-0.002	18252020	19608691				
Triacon Surr	9.227	-0.005	12690249	17342540	NAS DIES	(C10-C24)	18867311	96.7

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	19608691	95.8 M
Triacontane	17342540	116.9 M

M Indicates the peak was manually integrated

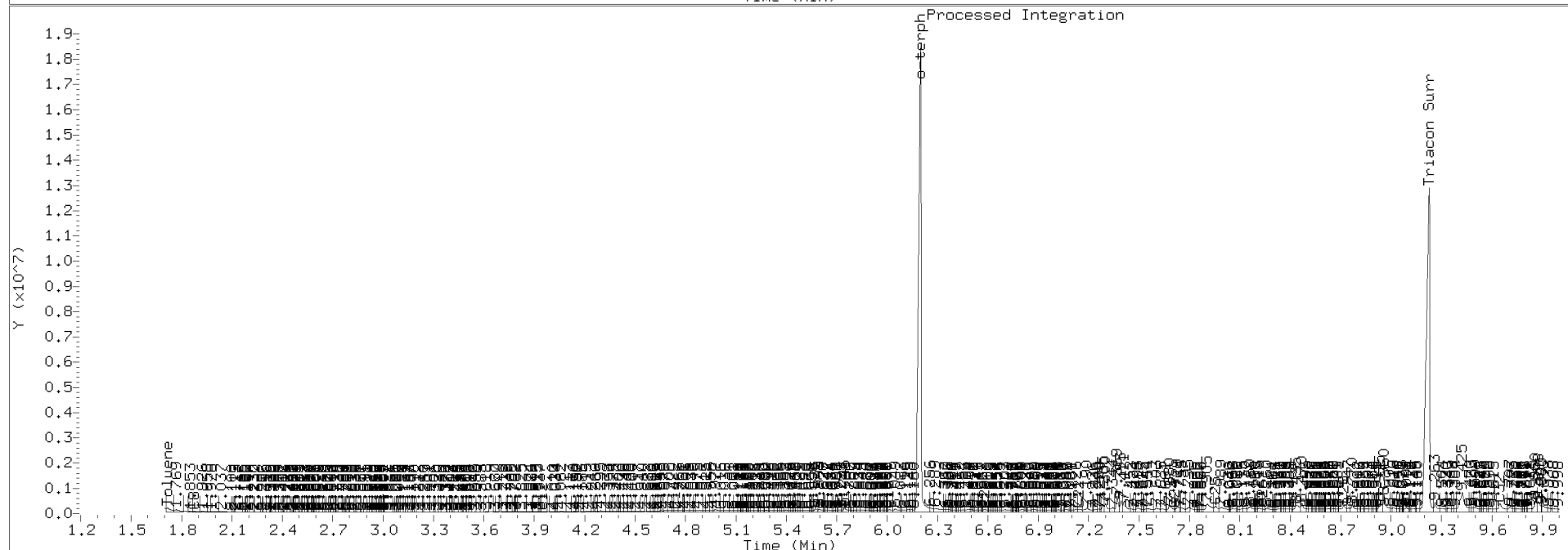
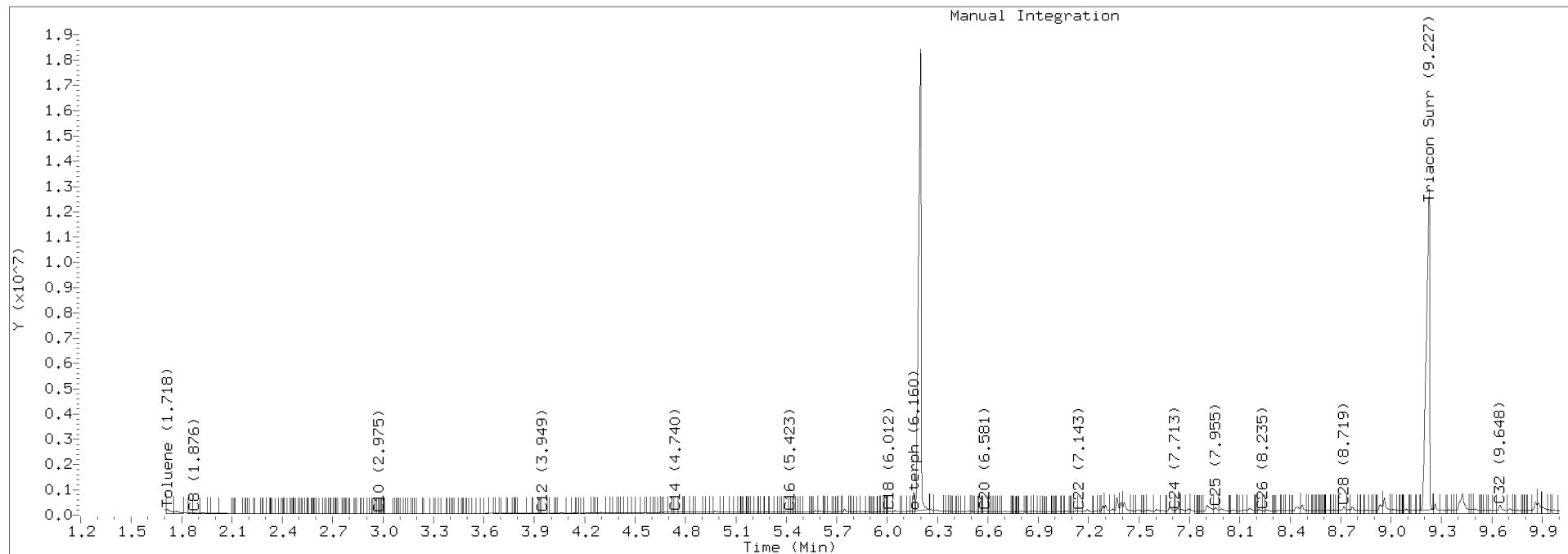
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2525.D Injection: 26-NOV-2020 02:39

Lab ID:20K0007-25





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0007-27 A SDG: 20K0007
 Sampled: 10/30/20 13:40 Prepared: 11/13/20 14:23 File ID: 420K2526.D
 % Solids: 54.70 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 02:59
 Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.03 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

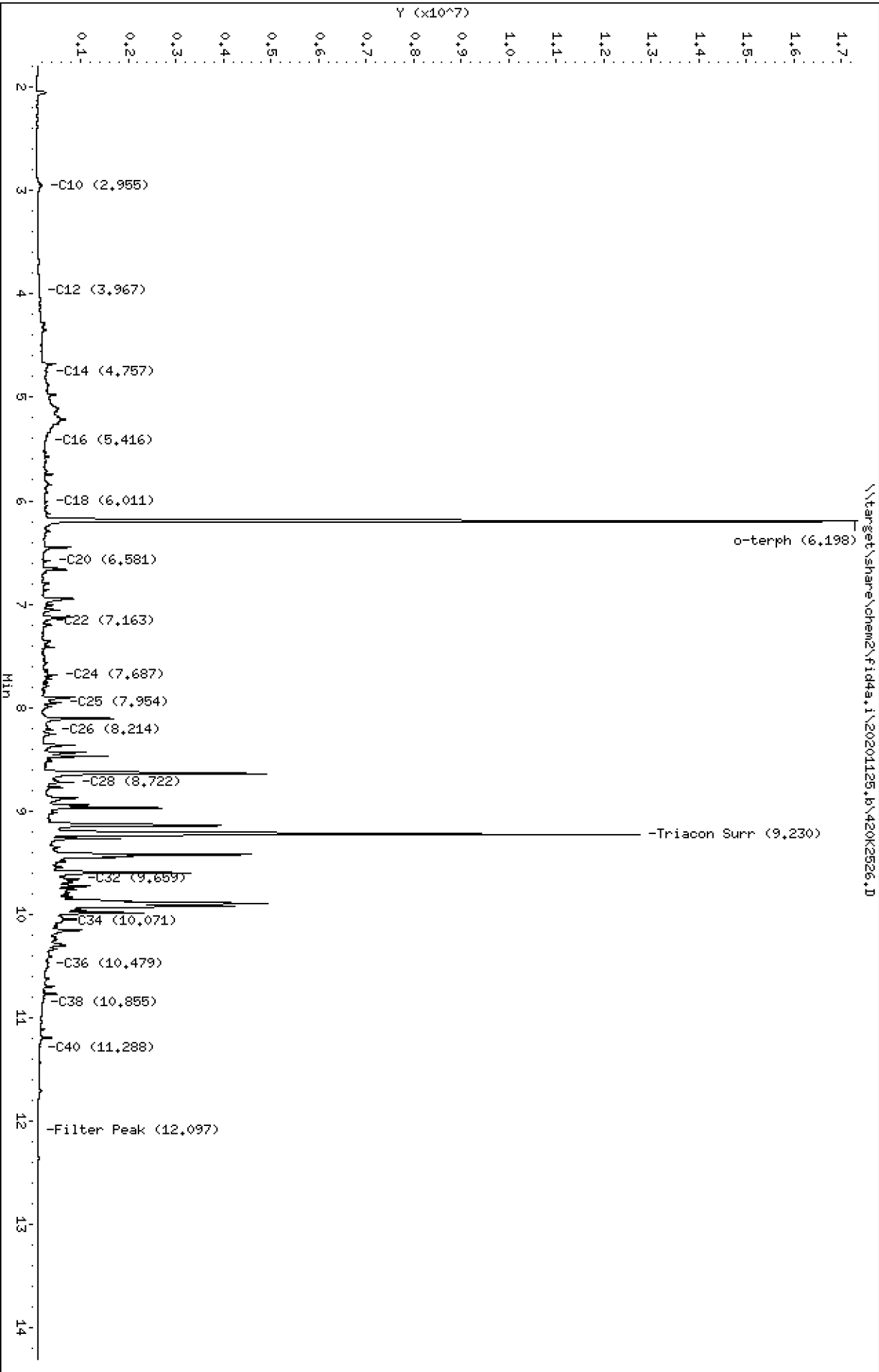
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	51.7		4.27	9.11
RRO	Motor Oil Range Organics (C24-C38)	1	183		5.45	18.2

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	20.505	15.8	77.2	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2526.D
Date: 26-NOV-2020 02:59
Client ID:
Sample Info: 20K0007-27

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2526.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-27
Client ID:
Injection: 26-NOV-2020 02:59
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

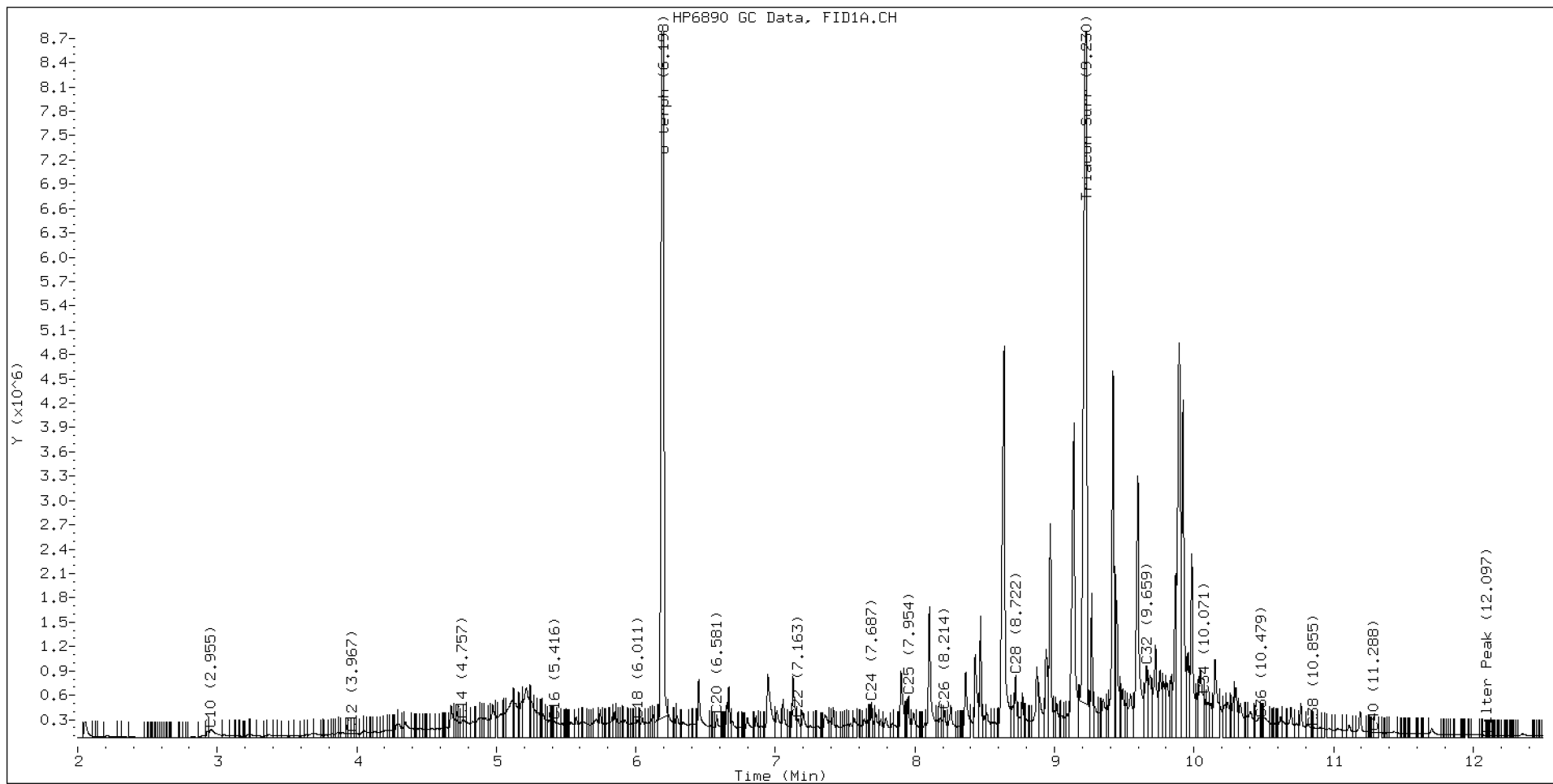
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.861	-0.017	27943	71553	WATPHD	(C12-C24)	45157731	283.4
C10	2.955	-0.021	108790	356680	WATPHM	(C24-C38)	101702183	1005.3
C12	3.967	-0.002	52640	89241	AK102	(C10-C25)	50228729	256.9
C14	4.757	0.005	218519	240736	AK103	(C25-C36)	95087103	1298.9
C16	5.416	-0.003	208680	290808	OR.DIES	(C10-C28)	71632232	365.5
C18	6.011	-0.006	221378	310581				
C20	6.581	-0.006	280730	457083	JET-A	(C10-C18)	27211301	164.1
C22	7.163	0.015	233597	333046				
C24	7.687	-0.010	434406	402129				
C25	7.954	-0.010	510375	478375				
C26	8.214	-0.012	341951	457775				
C28	8.722	-0.008	776609	837131				
C32	9.659	0.001	884694	1434542				
C34	10.071	-0.009	535084	510686				
Filter Peak	12.097	0.004	35338	10580	BUNKERC	(C10-C38)	149402706	3784.5
C36	10.479	-0.004	229917	57231				
C38	10.855	-0.018	129146	235046				
C40	11.288	-0.026	71821	156332				
o-terph	6.198	-0.004	17004184	17778983				
Triacon Surr	9.230	-0.002	12268892	15851339	NAS DIES	(C10-C24)	47700523	244.4

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17778983	86.9 M
Triacontane	15851339	106.8 M

M Indicates the peak was manually integrated

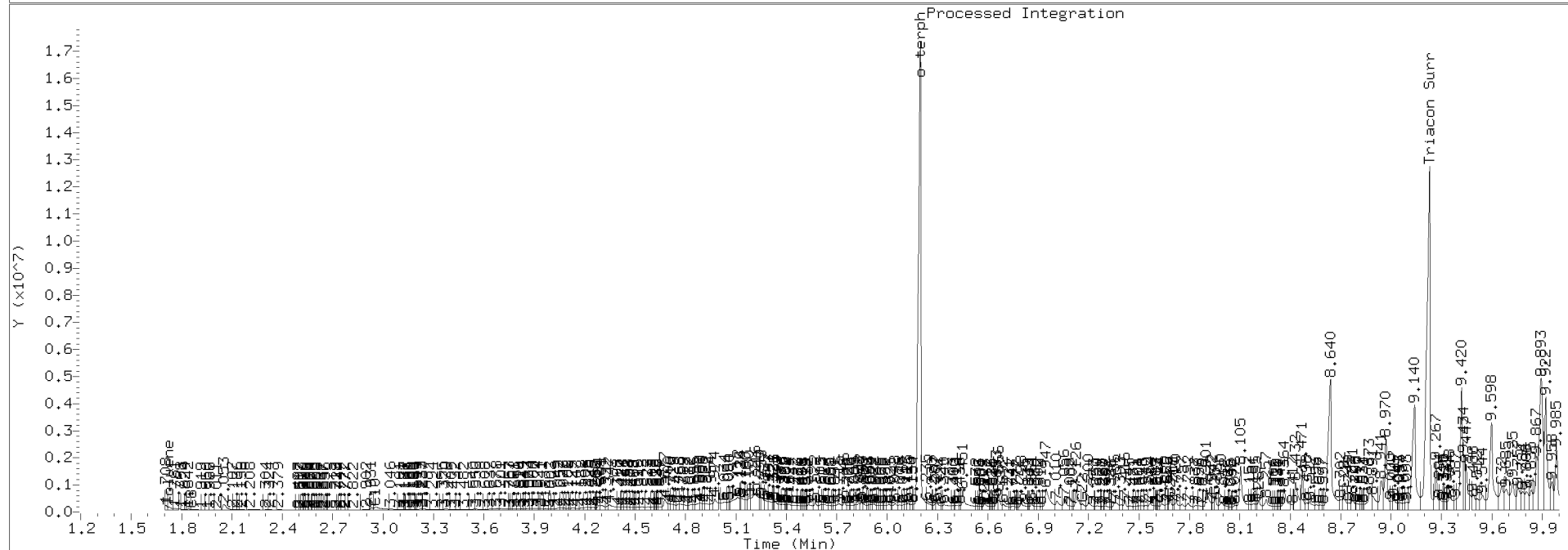
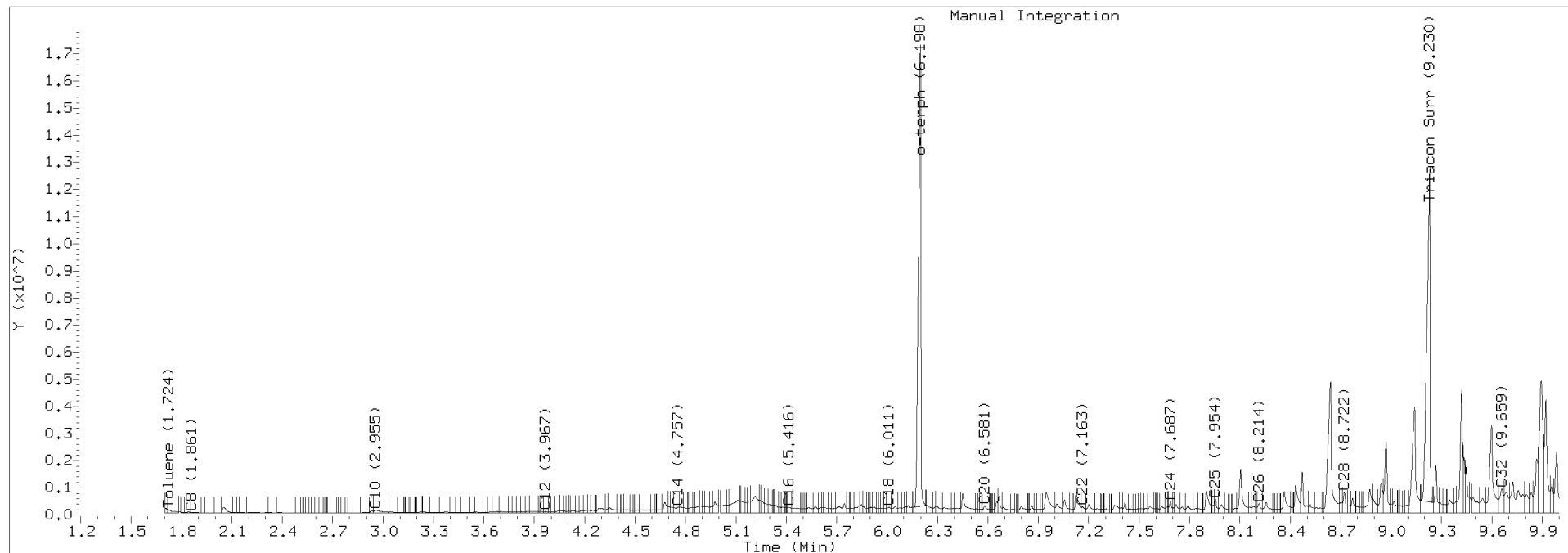
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2526.D Injection: 26-NOV-2020 02:59

Lab ID:20K0007-27





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0007-31 A SDG: 20K0007
 Sampled: 10/30/20 14:25 Prepared: 11/13/20 14:23 File ID: 420K2527.D
 % Solids: 88.14 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 03:20
 Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.06 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

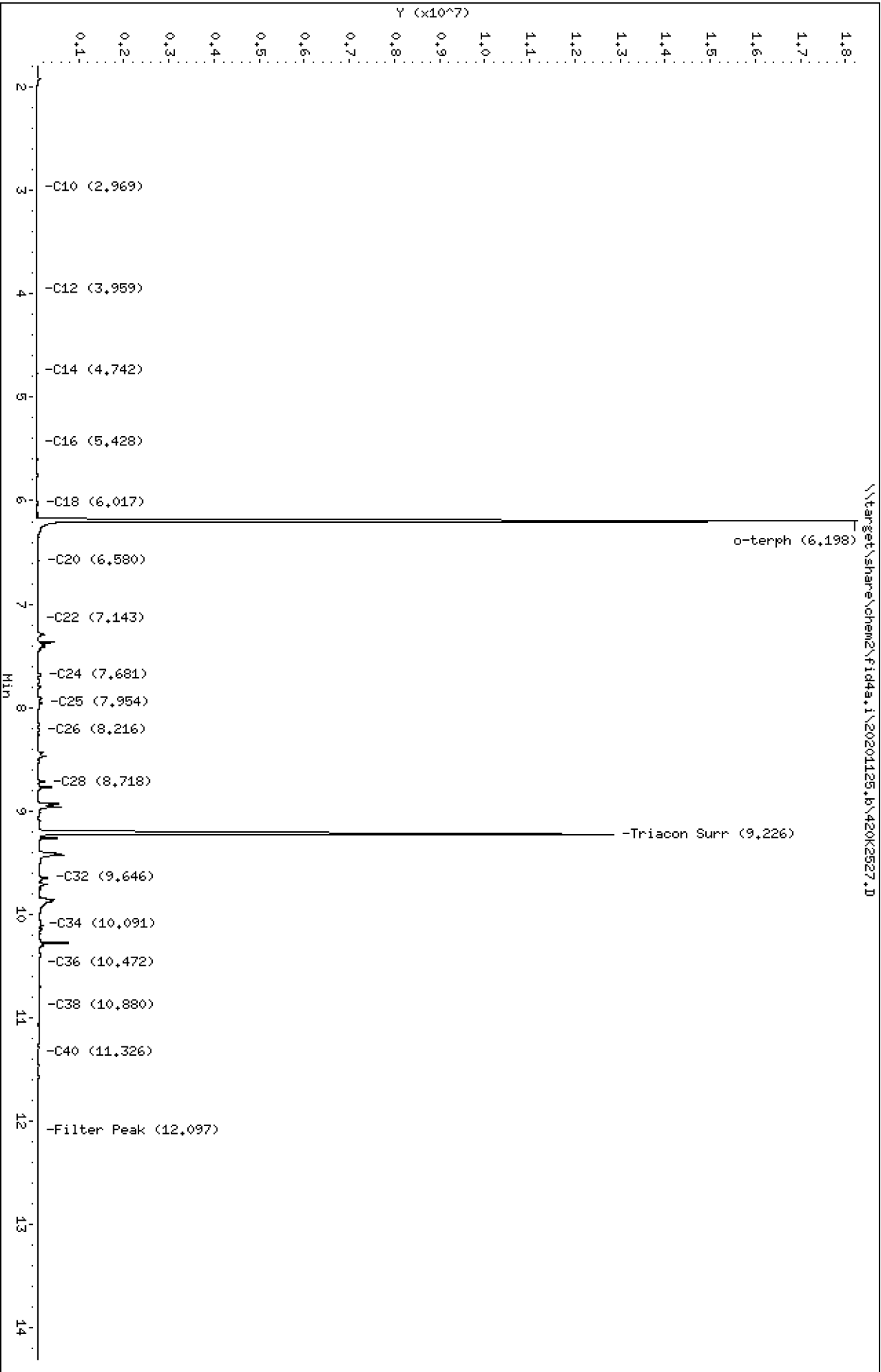
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.64	U	2.64	5.64
RRO	Motor Oil Range Organics (C24-C38)	1	16.8		3.37	11.3

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.688	10.5	83.1	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2527.D
Date: 26-NOV-2020 03:20
Client ID:
Sample Info: 20K0007-31

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2527.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-31
Client ID:
Injection: 26-NOV-2020 03:20
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

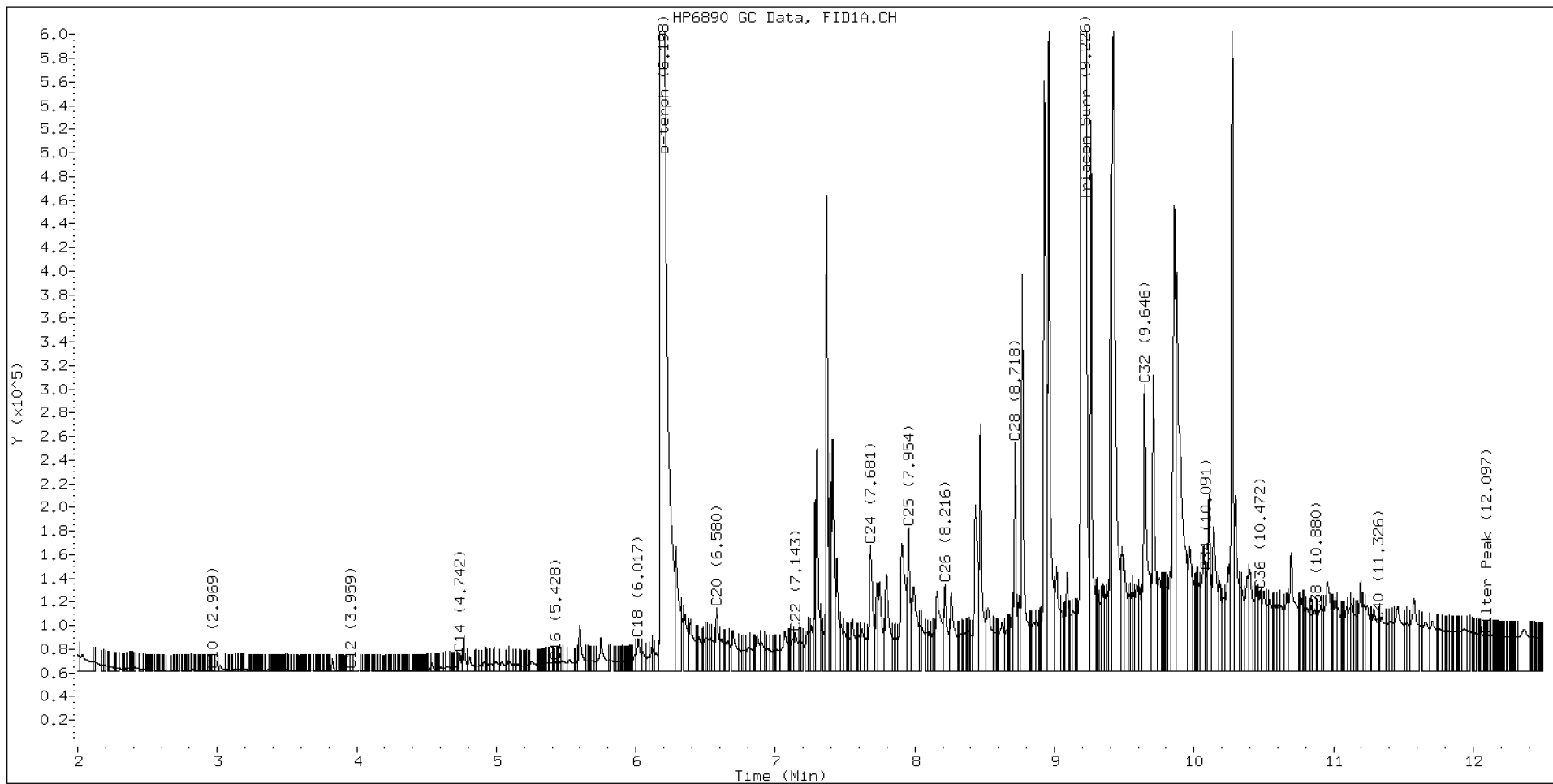
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.871	-0.006	27773	55980	WATPHD	(C12-C24)	4264287	26.8
C10	2.969	-0.007	294	234	WATPHM	(C24-C38)	15081026	149.1
C12	3.959	-0.010	355	261	AK102	(C10-C25)	4819480	24.7
C14	4.742	-0.010	14734	13665	AK103	(C25-C36)	13291305	181.6
C16	5.428	0.010	7622	7481	OR.DIES	(C10-C28)	7540807	38.5
C18	6.017	0.000	26873	46366				
C20	6.580	-0.007	53599	82266	JET-A	(C10-C18)	751716	4.5
C22	7.143	-0.005	32772	51628				
C24	7.681	-0.015	106203	193920				
C25	7.954	-0.010	120714	157487				
C26	8.216	-0.010	73356	121398				
C28	8.718	-0.011	192739	192738				
C32	9.646	-0.011	242622	476168				
C34	10.091	0.010	84413	61693				
Filter Peak	12.097	0.005	29924	14932	BUNKERC	(C10-C38)	19397990	491.4
C36	10.472	-0.011	68524	81818				
C38	10.880	0.007	48185	23883				
C40	11.326	0.011	40943	12263				
o-terph	6.198	-0.004	18198045	19131565				
Triacon Surr	9.226	-0.005	12804910	17033314	NAS DIES	(C10-C24)	4316963	22.1

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	19131565	93.5
Triacontane	17033314	114.8

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-33 A SDG: 20K0007
Sampled: 10/30/20 14:35 Prepared: 11/13/20 14:23 File ID: 420K2528.D
% Solids: 75.77 Preparation: EPA 3546 (Microwave) Analyzed: 11/26/20 03:40
Batch: BIK0374 Sequence: SIK0402 Initial/Final: 10.08 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

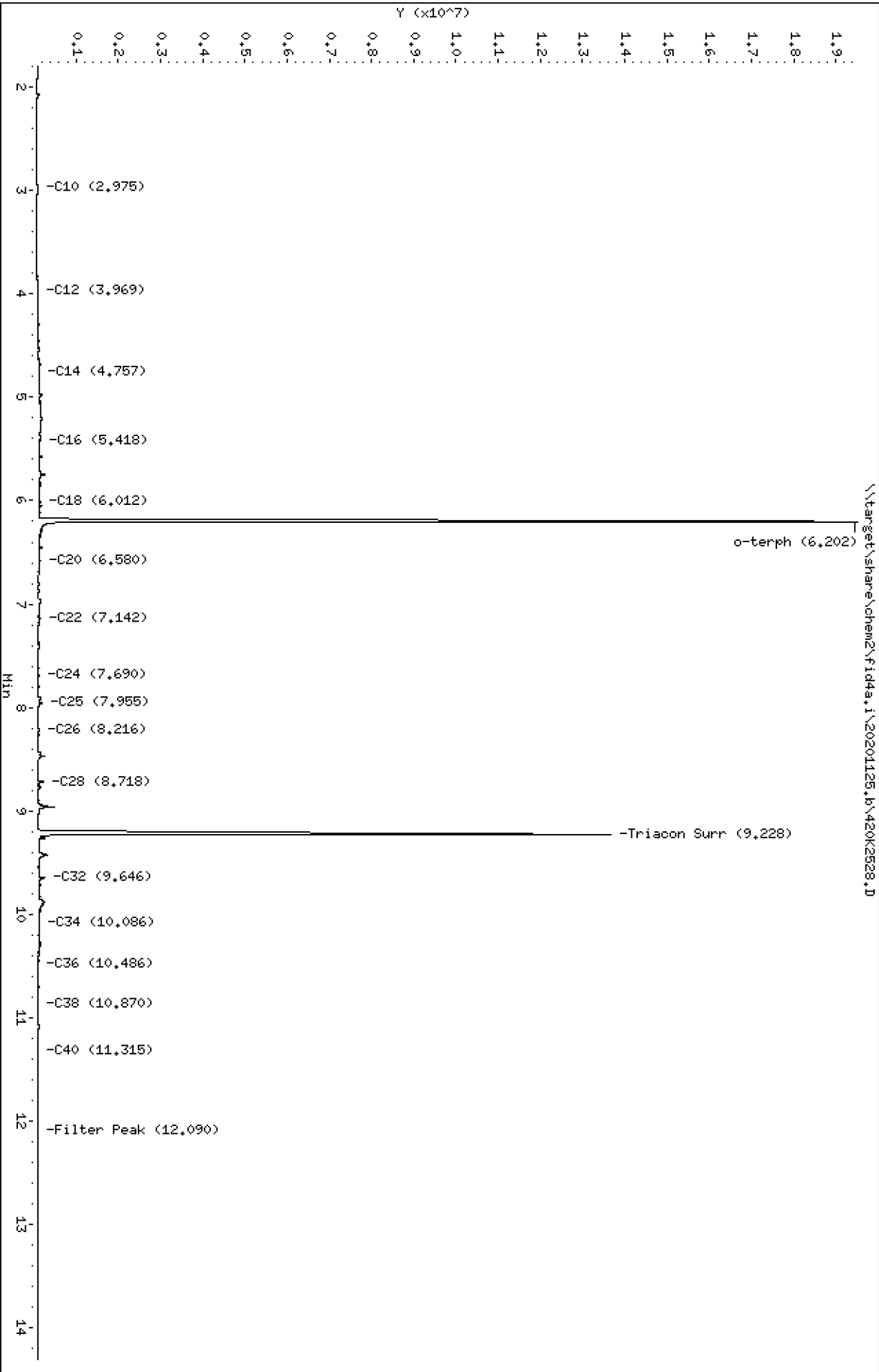
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	11.1		3.06	6.55
RRO	Motor Oil Range Organics (C24-C38)	1	13.9		3.91	13.1

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.730	14.1	95.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2528.D
Date: 26-NOV-2020 03:40
Client ID:
Sample Info: 20K0007-33

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2528.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0007-33
Client ID:
Injection: 26-NOV-2020 03:40
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

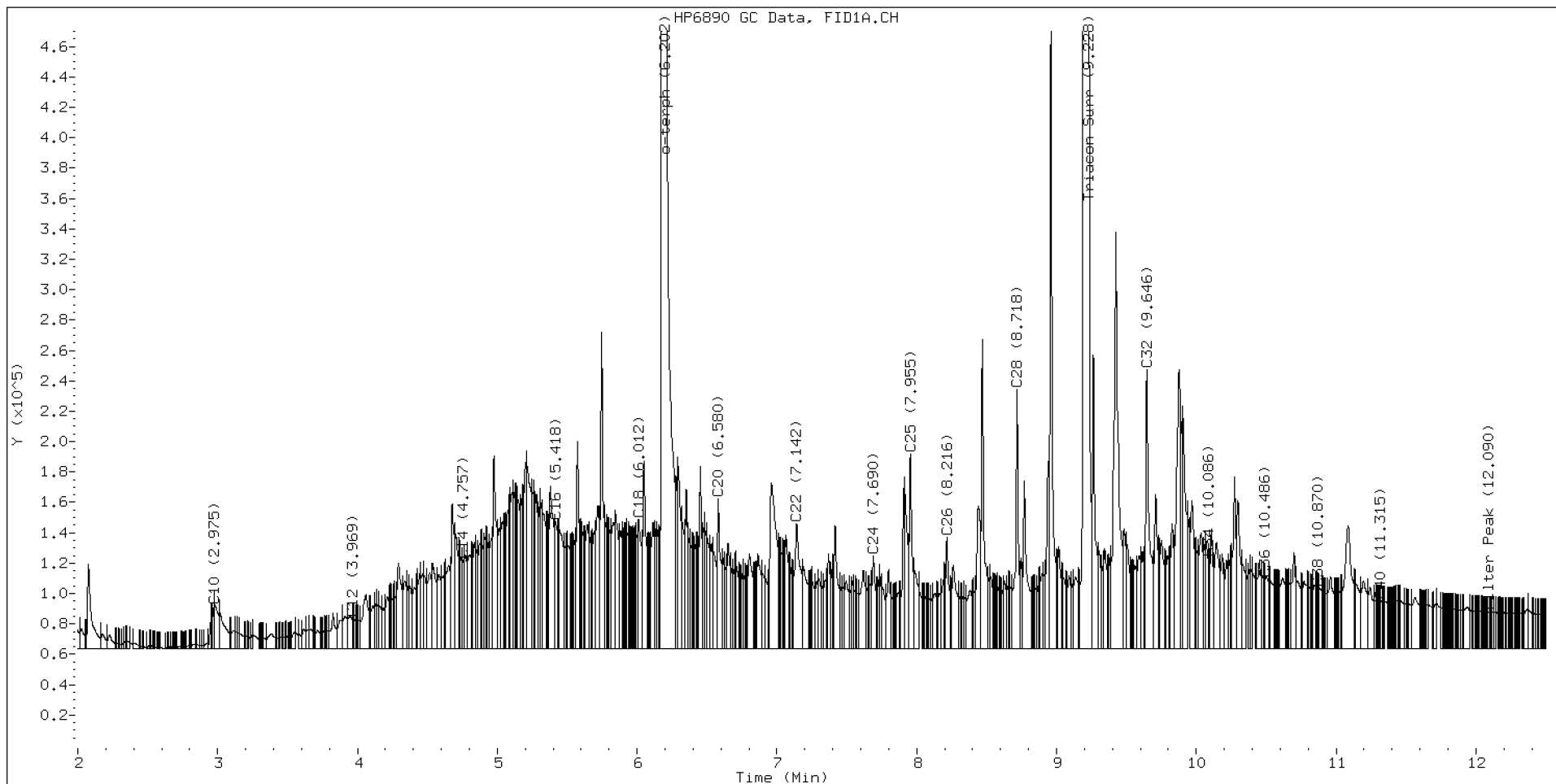
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.863	-0.015	29618	70507	WATPHD	(C12-C24)	13487637	84.6
C10	2.975	-0.001	28202	26197	WATPHM	(C24-C38)	10729339	106.1
C12	3.969	0.000	19483	7759	AK102	(C10-C25)	14630072	74.8
C14	4.757	0.005	58088	37207	AK103	(C25-C36)	9435282	128.9
C16	5.418	-0.001	83365	127157	OR.DIES	(C10-C28)	17270882	88.1
C18	6.012	-0.005	84833	138807				
C20	6.580	-0.006	98449	157093	JET-A	(C10-C18)	8888208	53.6
C22	7.142	-0.006	81848	222464				
C24	7.690	-0.007	60840	106537				
C25	7.955	-0.009	127598	166822				
C26	8.216	-0.010	72954	110362				
C28	8.718	-0.011	170242	241201				
C32	9.646	-0.011	183143	338021				
C34	10.086	0.006	59145	42905				
Filter Peak	12.090	-0.003	24038	16788	BUNKERC	(C10-C38)	24953952	632.1
C36	10.486	0.003	45707	13685				
C38	10.870	-0.002	39597	21656				
C40	11.315	0.001	31204	10892				
o-terph	6.202	0.000	19451322	22076046				
Triacon Surr	9.228	-0.004	13618697	18787529	NAS DIES	(C10-C24)	14224613	72.9

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22076046	107.8
Triacontane	18787529	126.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Batch: BIK0374 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP8-5	20K0007-02	420K2515.D	11/13/20 14:23	
PP8-10	20K0007-04	420K2516.D	11/13/20 14:23	
PP11-2.5	20K0007-07	420K2517.D	11/13/20 14:23	
PP11-7.5	20K0007-09	420K2518.D	11/13/20 14:23	
PP12-2.5	20K0007-13	420K2519.D	11/13/20 14:23	
PP12-7.5	20K0007-15	420K2955.D	11/13/20 14:23	
PP10-2.5	20K0007-19	420K2521.D	11/13/20 14:23	
PP10-7.5	20K0007-21	420K2524.D	11/13/20 14:23	
PP9-2.5	20K0007-25	420K2525.D	11/13/20 14:23	
PP9-7.5	20K0007-27	420K2526.D	11/13/20 14:23	
PP4-2.5	20K0007-31	420K2527.D	11/13/20 14:23	
PP4-7.5	20K0007-33	420K2528.D	11/13/20 14:23	
Blank	BIK0374-BLK1	420K2507.D	11/13/20 14:23	
LCS	BIK0374-BS1	420K2508.D	11/13/20 14:23	
LCS Dup	BIK0374-BSD1	420K2509.D	11/13/20 14:23	



Batch: BIK0374

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version):

TPH NW (Extractables) low level in Solid

Matrix: Solid

Date Prepared: 11/13/20

Balance ID: B146462614

Set Up By: CTO 11/12/20

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (g) Target Wet: 10		Acid C/U (1:1) Y/N	Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	(Wet)	Actual					
20K0002-02 A	(10.000)	10.03	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0002-03 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0002-04 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-02 A	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-04 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-07 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-09 A	(10.000)	10.06	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-13 A	(10.000)	10.08	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-15 A	(10.000)	10.03	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-19 A	(10.000)	10.07	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-21 A	(10.000)	10.11	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-25 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-27 A	(10.000)	10.03	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-31 A	(10.000)	10.06	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0007-33 A	(10.000)	10.08	(1:1) Y/N	(1:1) Y/N	1	1.0	

Batch QC

Lab Number	Initial (g) Target Wet: 10		Acid C/U (1:1) Y/N	Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	(Wet)	Actual					
BIK0374-BLK1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0374-BS1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0374-BSD1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0374-MS1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0002-02
BIK0374-MSD1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0002-02

Client ID verified By: 11/13/20

Date

Preparation Reviewed By: DM 11-14-20

Date

Extraction Date and Time: 11/13/20 14:23



Batch: BIK0374

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Steps	Reagents Used	Surrogates & Spike Standards Used
Microwave 1 2 3 Analyst/Date: 11/13/24 Analyst: [Signature]	Station/Reagent Microwave Analyst: [Signature] Date: 11/13/24	Type Surrogate 1125µg/mL Vial ID / Standard ID: P 1009824 Exp: 04/19/2021 Vol uL: 100µL Analyst: [Signature] Witness: [Signature]
	Methylene Chloride Standard ID: I010361	Spike 15000µg/mL Vial ID / Standard ID: H 1009822 Exp: 04/20/2021 Vol uL: 100µL Analyst: [Signature] Witness: [Signature]
TurboVap Pre Acid/Silica Clean 1 2 3 4 5 6 Analyst/Date: 11-14-20 Analyst: DM	Anhydrous Sodium Sulfate Standard ID: I010014	(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards. If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).
	Neutral Glass Wool Standard ID: I010438	
Vialing Analyst/Date: 11-14-20 Analyst: DM	Vialing Analyst: DM Date: 11-14-20	
	Methylene Chloride Standard ID: I010361	
Vialing Analyst/Date: 11-14-20 Analyst: DM	Concentrated Sulfuric Acid	
	6% Silica Clean	



Extraction Parameter: TPHO Extraction Batch Blk0374

Total Solids Batch: N/A Work Order(s): 20100007

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <u>φ4, φ7, 25, 27, 31</u>	<u>M</u> <u>11/13/20</u>
<input type="checkbox"/> Standing Water Decanted (Not shared)=	<u>11/13/20</u>
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= <u>fuel odor = φ2, φ9, 13, 15, 19, 33.</u>	<u>Y</u> <u>11/13/20</u>
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input checked="" type="checkbox"/> Share Samples Y / N	<u>Y</u> <u>11/13/20</u>
<input checked="" type="checkbox"/> Multiple Jars Y / N	<u>Y</u> <u>11/13/20</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Batch: BIK0374

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Instructions

SPECIAL INSTRUCTIONS:

1. Weigh into 100mL beakers-dry with Sodium Sulfate.
2. Transfer to microwave vessel.
3. Add DCM to the vessel until the solvent is 1 inch above soil layer after homogenization.
4. Add surr/spike.
5. Microwave on appropriate power setting determined by # of samples.
6. After microwave-Re-homogenize while hot then let cool 15 min. in Refridgerator 05. Re-homogenize while cool.
7. Collect into turbo tube with sm. funnel containing glasswool and 1 Inch sodium sulfate.
8. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube.
9. TurboVap.
10. Acid/Silica Clean-up?= Y / N
11. Vial in DCM.

A. Need Total Solids Y / N

B. Archive/Freeze Y / N

Batch: BIK0374

Batch Comment: **NONE**

Project: ICS-Former NW Cooperage

Project Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).
</G>

Work Order:20K0007

Work Order Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).
</G>

Sample: 20K0007-02

Sample Comments: **NONE**

Sample: 20K0007-04

Sample Comments: **NONE**

Sample: 20K0007-07

Sample Comments: **NONE**

Sample: 20K0007-09

Sample Comments: **NONE**

Sample: 20K0007-13

Sample Comments: **NONE**

Sample: 20K0007-15

Sample Comments: **NONE**

Sample: 20K0007-19

Sample Comments: **NONE**

Sample: 20K0007-21

Sample Comments: **NONE**

Sample: 20K0007-25

Sample Comments: **NONE**

Sample: 20K0007-27

Sample Comments: **NONE**

Sample: 20K0007-31

Sample Comments: **NONE**

Sample: 20K0007-33

Sample Comments: **NONE**

Project: Fredrickson Phase II

Project Comments: **NONE**

Work Order:20K0002

Work Order Comments: <E> BS/BSD and do a MS/MSD for solids</E>

Sample: 20K0002-02

Sample Comments: **NONE**

Sample: 20K0002-03

Sample Comments: **NONE**

Sample: 20K0002-04

Sample Comments: **NONE**



Extraction Parameter: TPH0 Extraction Batch BIK0374

Total Solids Batch: BIK0103 Work Order(s): 20K0002

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input checked="" type="checkbox"/> Rocks (%+size)? <u>20% 1/3" = φ2</u> <u>30% 1/4" = φ3</u> <u>50% 1/4" = φ4</u>	<u>11/04/20 D&P</u>
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input checked="" type="checkbox"/> Share Samples Y / (N)	<u>D&P 11/04/20</u>
<input checked="" type="checkbox"/> Multiple Jars Y / (N)	<u>D&P 11/04/20</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BIK0374-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>11/13/20 14:23</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0374</u>	Sequence:	<u>SIK0402</u>
Instrument:	<u>FID4</u>	Column:	<u>RTX-1</u>
		File ID:	<u>420K2507.D</u>
		Analyzed:	<u>11/25/20 20:36</u>
		Initial/Final:	<u>10 g / 1 mL</u>
		Calibration:	<u>DA00022</u>

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg wet)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.00	U	2.34	5.00
RRO	Motor Oil Range Organics (C24-C38)	1	10.0	U	2.99	10.0
SURROGATES		ADDED: (mg/kg wet)	FOUND: (mg/kg wet)	% REC	QC LIMITS	Q
o-Terphenyl		11.250	9.99	88.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201125,blk\420K2507.D

Date: 25-NOV-2020 20:36

Client ID:

Sample Info: BIK0374-BLK1

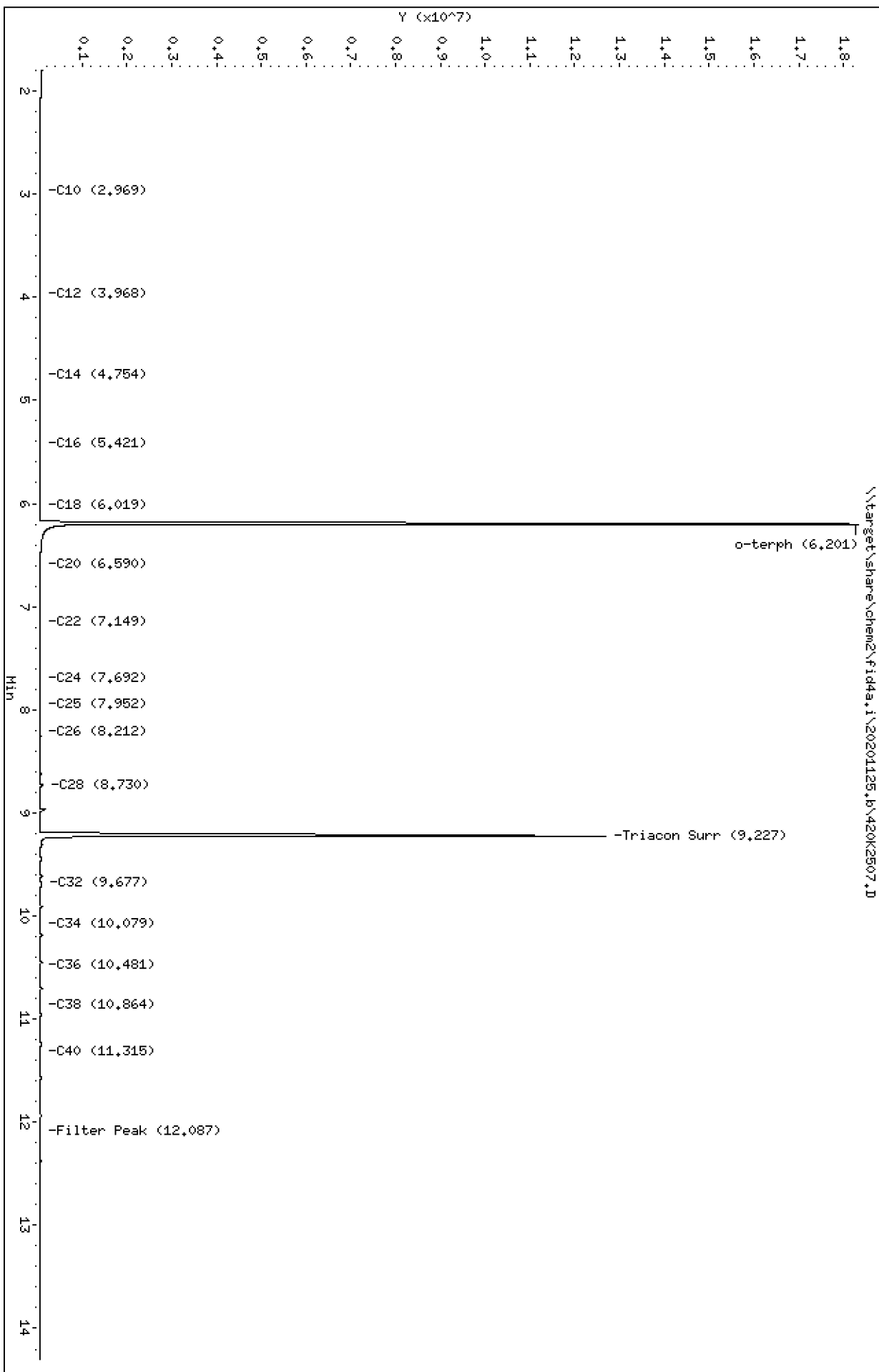
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2507.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0374-BLK1
Client ID:
Injection: 25-NOV-2020 20:36
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

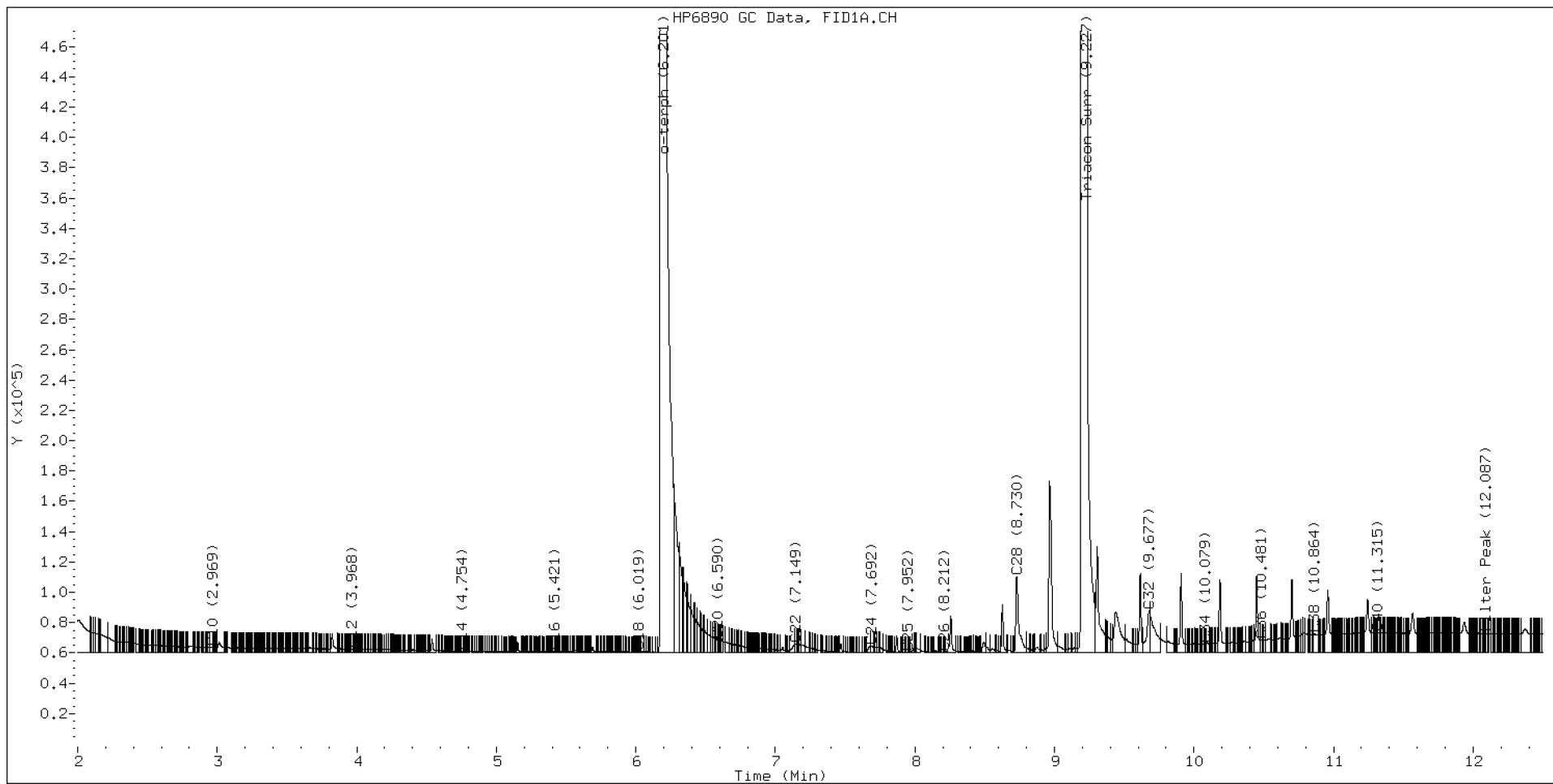
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.035	45338	227114	WATPHD	(C12-C24)	897008	5.6
C10	2.969	-0.007	3442	2497	WATPHM	(C24-C38)	1440445	14.2
C12	3.968	-0.001	2331	1726	AK102	(C10-C25)	1097829	5.6
C14	4.754	0.002	1120	814	AK103	(C25-C36)	1180575	16.1
C16	5.421	0.002	1007	469	OR.DIES	(C10-C28)	1273158	6.5
C18	6.019	0.002	780	465				
C20	6.590	0.003	8492	3361	JET-A	(C10-C18)	329532	2.0
C22	7.149	0.000	6100	6145				
C24	7.692	-0.005	4556	4687				
C25	7.952	-0.012	293	184				
C26	8.212	-0.014	290	193				
C28	8.730	0.000	50506	79152				
C32	9.677	0.020	27860	48179				
C34	10.079	-0.001	5975	2667				
Filter Peak	12.087	-0.005	12584	6884	BUNKERC	(C10-C38)	2520997	63.9
C36	10.481	-0.002	8393	4157				
C38	10.864	-0.009	12548	27174				
C40	11.315	0.000	13127	7820				
o-terph	6.201	-0.001	18272300	20441085				
Triacon Surr	9.227	-0.005	12622994	17934639	NAS DIES	(C10-C24)	1080551	5.5

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20441085	99.9
Triacontane	17934639	120.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





LCS / LCS DUPLICATE RECOVERY
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/25/20 20:56</u>
Batch:	<u>BIK0374</u>	Laboratory ID:	<u>BIK0374-BS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>10 g / 1 mL</u>		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	150	144		95.9	63 - 120

* Indicates values outside of QC limits

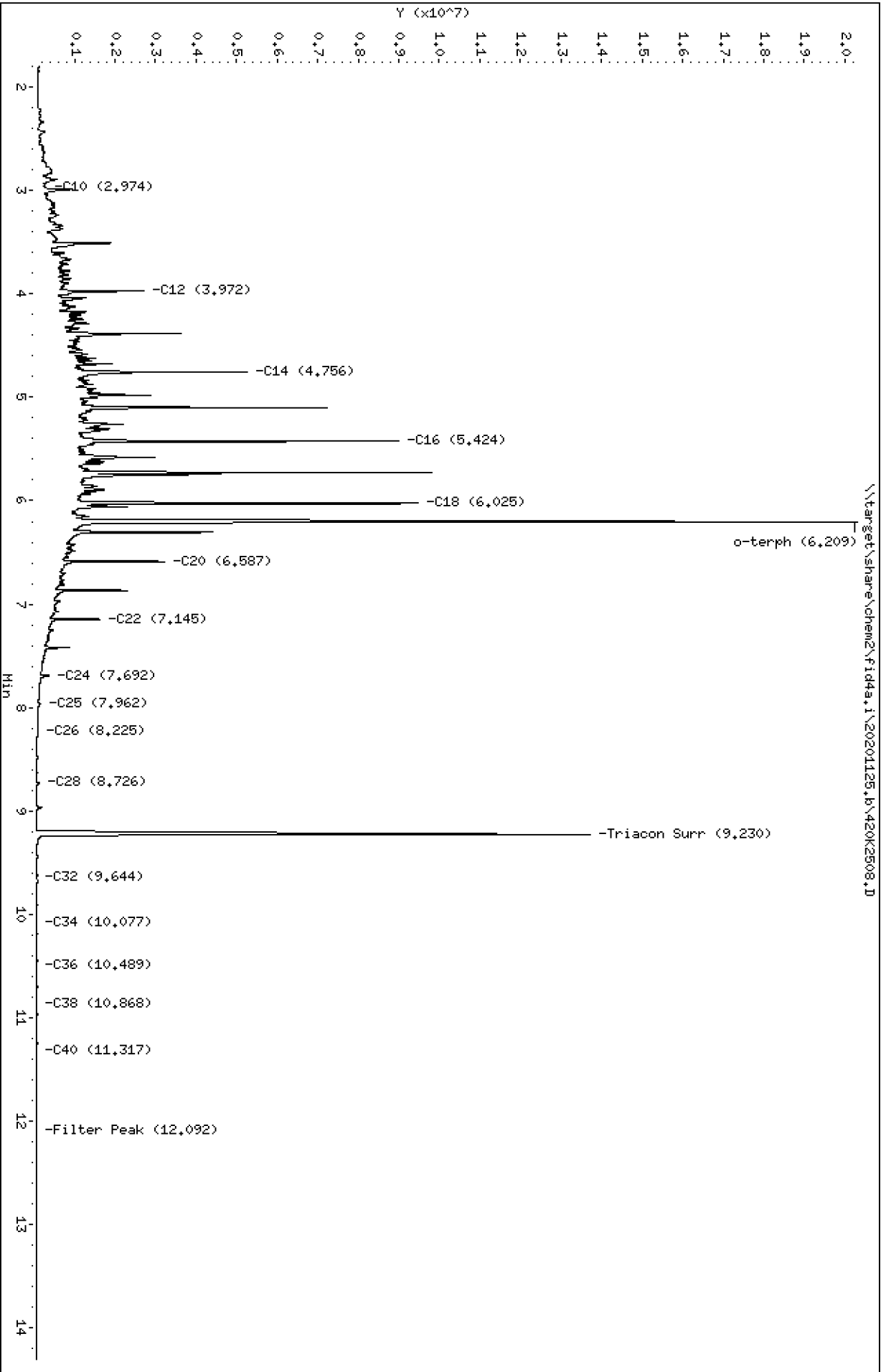
COMPOUND	SPIKE ADDED (mg/kg wet)	LCSD CONCENTRATION (mg/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Diesel Range Organics (C12-C24)	150	130		86.8	9.90	30	63 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201125,b\420k2508.D
Date: 25-NOV-2020 20:56
Client ID:
Sample Info: BIK0374-BSI

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2508.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0374-BS1
Client ID:
Injection: 25-NOV-2020 20:56
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

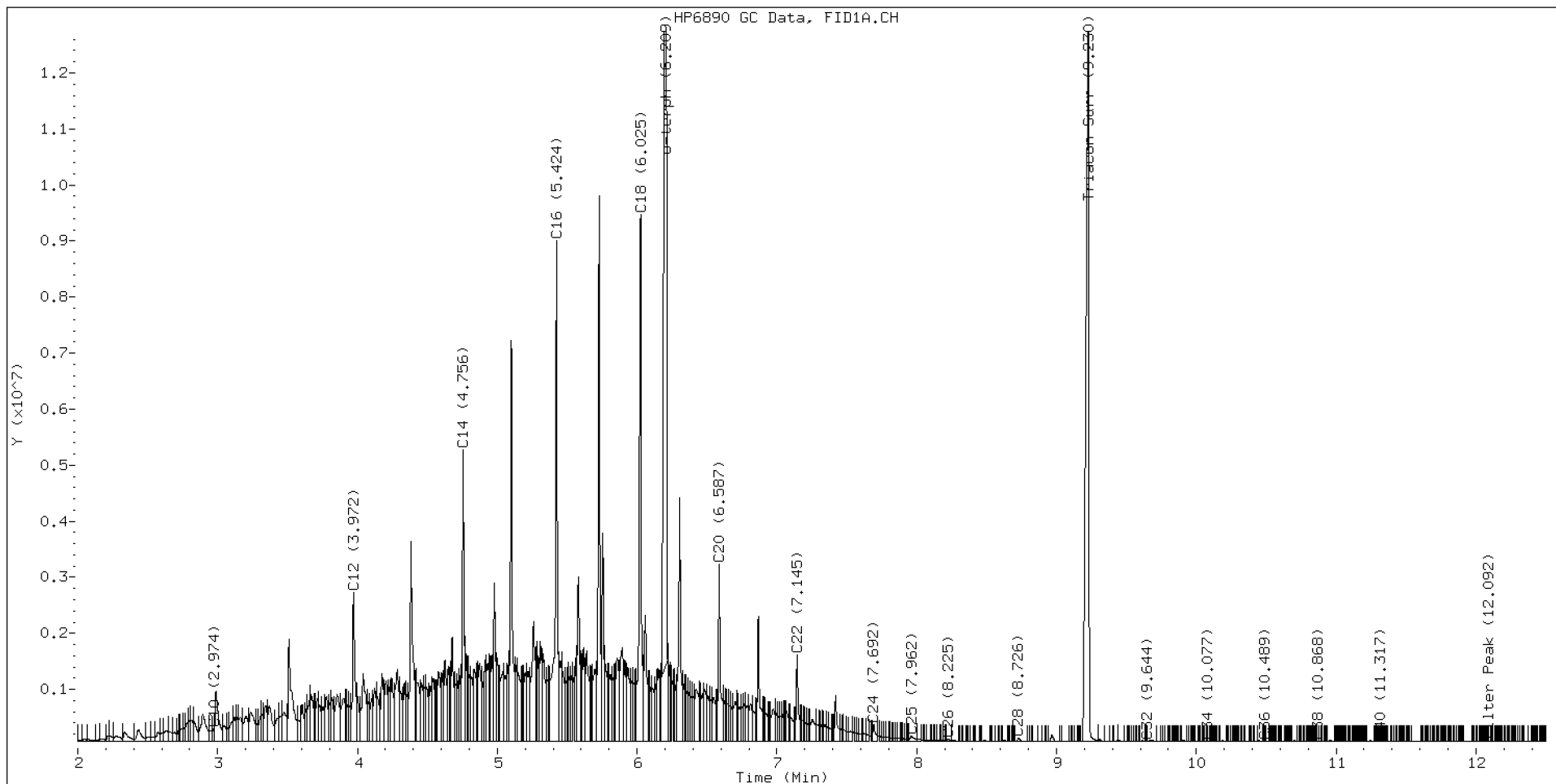
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.849	-0.029	65454	142174	WATPHD	(C12-C24)	229095432	1437.8
C10	2.974	-0.002	230317	198341	WATPHM	(C24-C38)	2563826	25.3
C12	3.972	0.003	2665177	3190673	AK102	(C10-C25)	265084140	1356.0
C14	4.756	0.004	5203752	4382528	AK103	(C25-C36)	1781588	24.3
C16	5.424	0.006	8947233	10211334	OR.DIES	(C10-C28)	266236723	1358.4
C18	6.025	0.008	9413373	10086852				
C20	6.587	0.000	3168315	3399139	JET-A	(C10-C18)	204733798	1234.5
C22	7.145	-0.003	1552886	1606596				
C24	7.692	-0.005	306381	453496				
C25	7.962	-0.002	105680	227066				
C26	8.225	-0.001	45042	76404				
C28	8.726	-0.003	69612	105777				
C32	9.644	-0.013	4311	2048				
C34	10.077	-0.003	1630	476				
Filter Peak	12.092	-0.001	5772	4551	BUNKERC	(C10-C38)	266971466	6762.7
C36	10.489	0.005	2225	965				
C38	10.868	-0.005	5169	5014				
C40	11.317	0.003	6242	2476				
o-terph	6.209	0.007	18841582	22145718				
Triacon Surr	9.230	-0.002	13654329	19500802	NAS DIES	(C10-C24)	264407640	1354.9

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22145718	108.2 M
Triacontane	19500802	131.4

M Indicates the peak was manually integrated

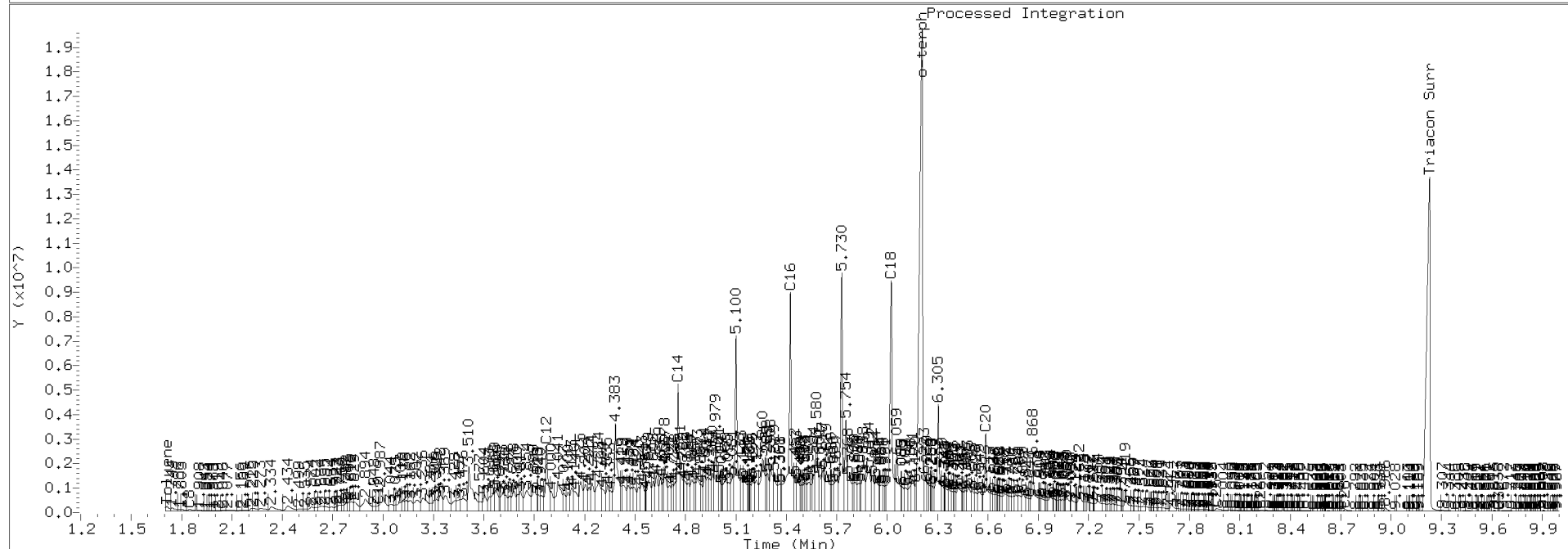
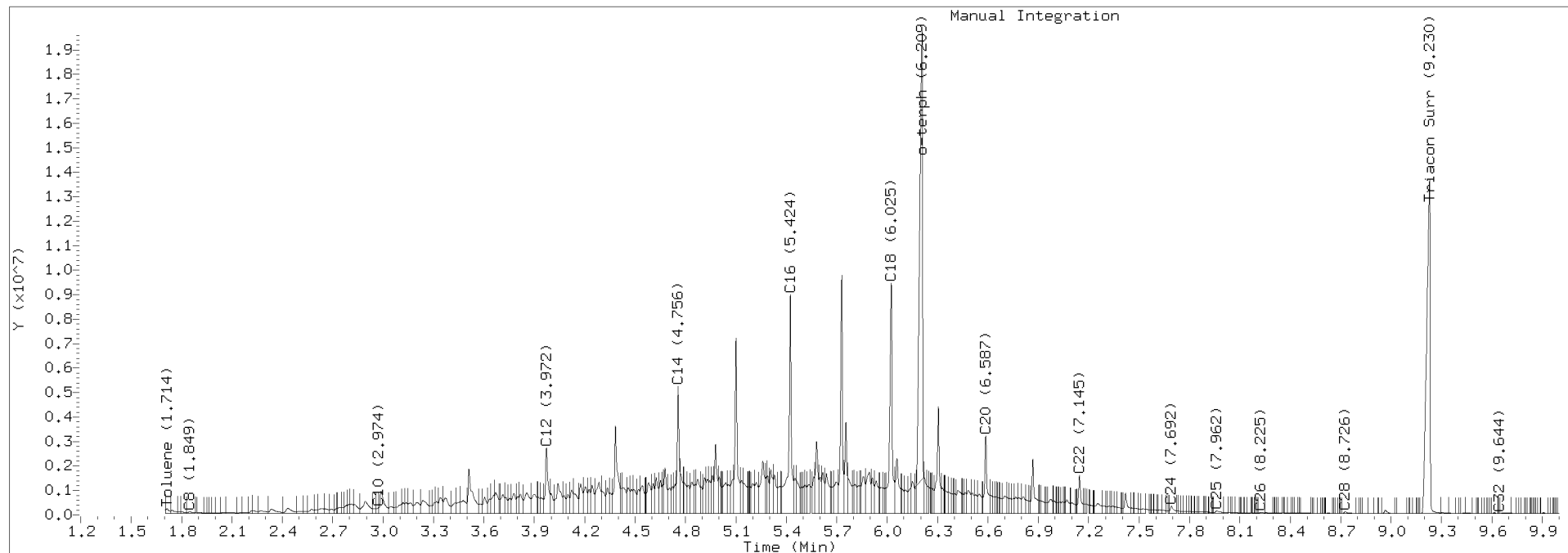
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2508.D Injection: 25-NOV-2020 20:56

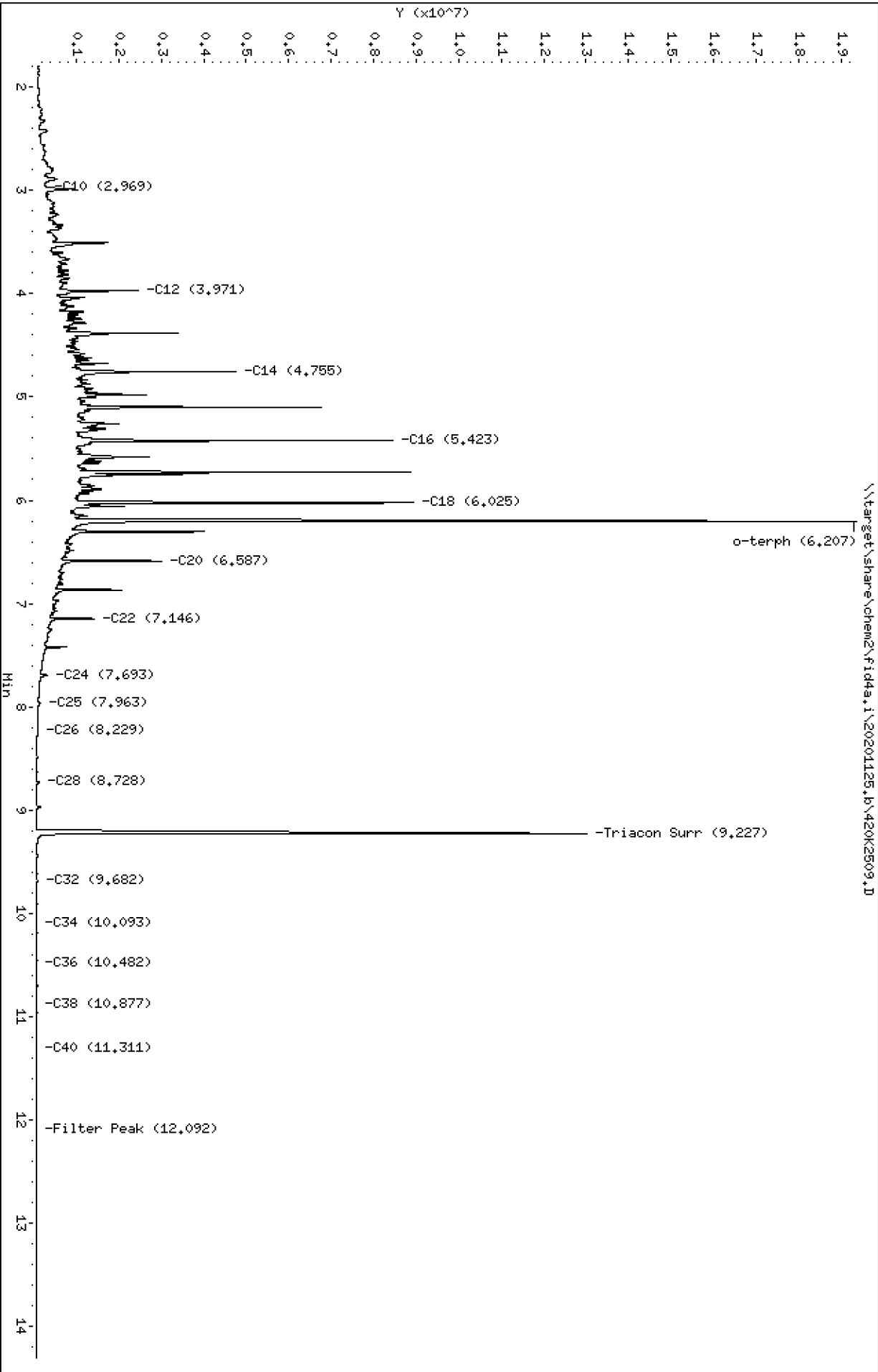
Lab ID:BIK0374-BS1



Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2509.D
Date: 25-NOV-2020 21:16
Client ID:
Sample Info: BIK0374-BSD1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2509.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0374-BSD1
Client ID:
Injection: 25-NOV-2020 21:16
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

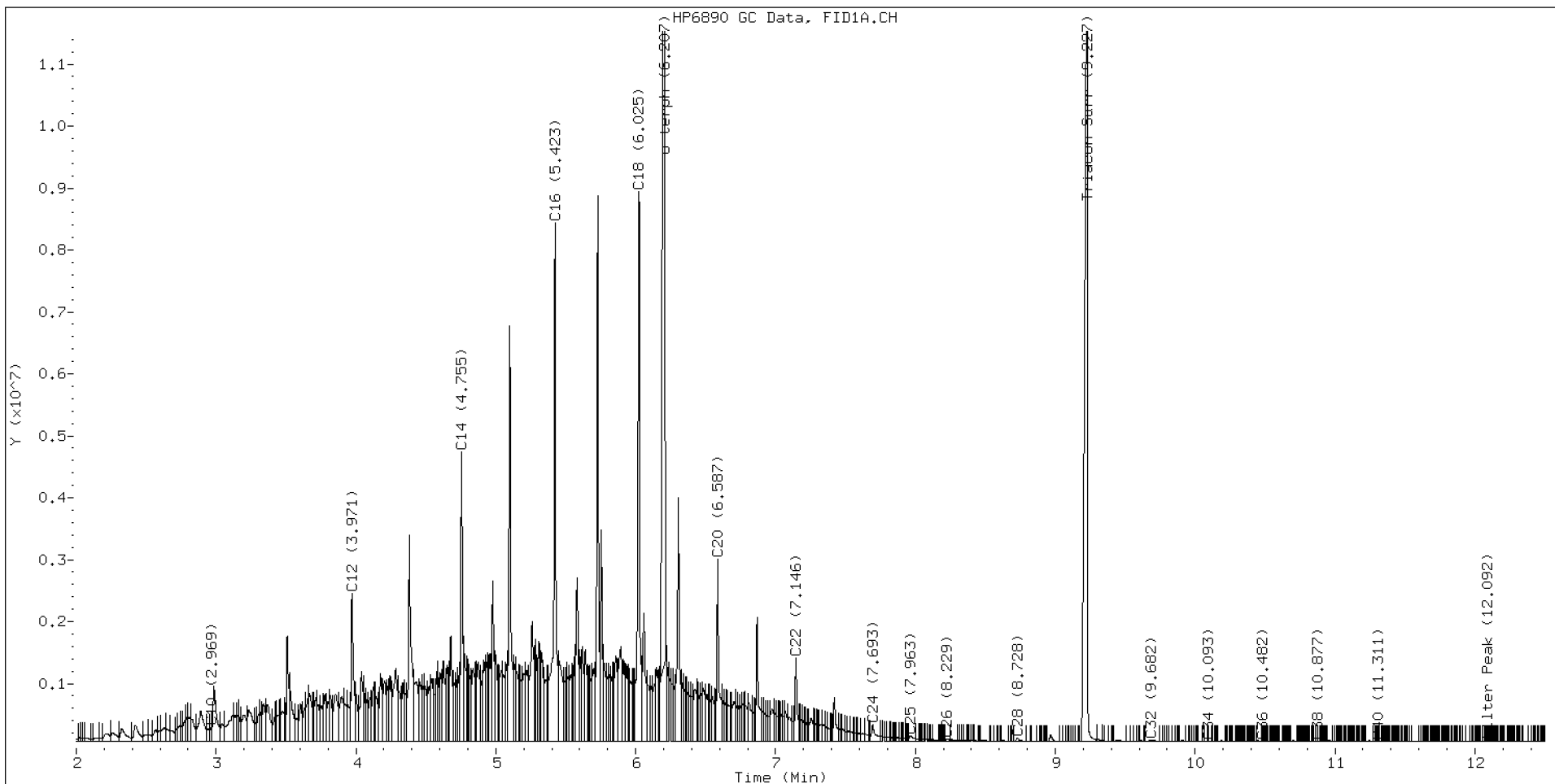
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.891	0.013	65993	132506	WATPHD	(C12-C24)	207481767	1302.2
C10	2.969	-0.007	229639	221058	WATPHM	(C24-C38)	2120978	21.0
C12	3.971	0.002	2394071	2816077	AK102	(C10-C25)	240988814	1232.7
C14	4.755	0.003	4679774	3982466	AK103	(C25-C36)	1522965	20.8
C16	5.423	0.005	8375491	9192867	OR.DIES	(C10-C28)	242029376	1234.8
C18	6.025	0.008	8882912	9103670				
C20	6.587	-0.000	2935569	3048109	JET-A	(C10-C18)	187009769	1127.6
C22	7.146	-0.003	1353870	1432422				
C24	7.693	-0.004	262765	551520				
C25	7.963	-0.001	90832	204881				
C26	8.229	0.003	39111	69753				
C28	8.728	-0.001	57843	93173				
C32	9.682	0.024	19797	65727				
C34	10.093	0.013	440	211				
Filter Peak	12.092	-0.001	2460	1102	BUNKERC	(C10-C38)	242592451	6145.1
C36	10.482	-0.001	1737	670				
C38	10.877	0.004	3784	1127				
C40	11.311	-0.004	4287	2121				
o-terph	6.207	0.005	18082195	19934105				
Triacon Surr	9.227	-0.004	12950480	17682680	NAS DIES	(C10-C24)	240471472	1232.3

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	19934105	97.4 M
Triacontane	17682680	119.2

M Indicates the peak was manually integrated

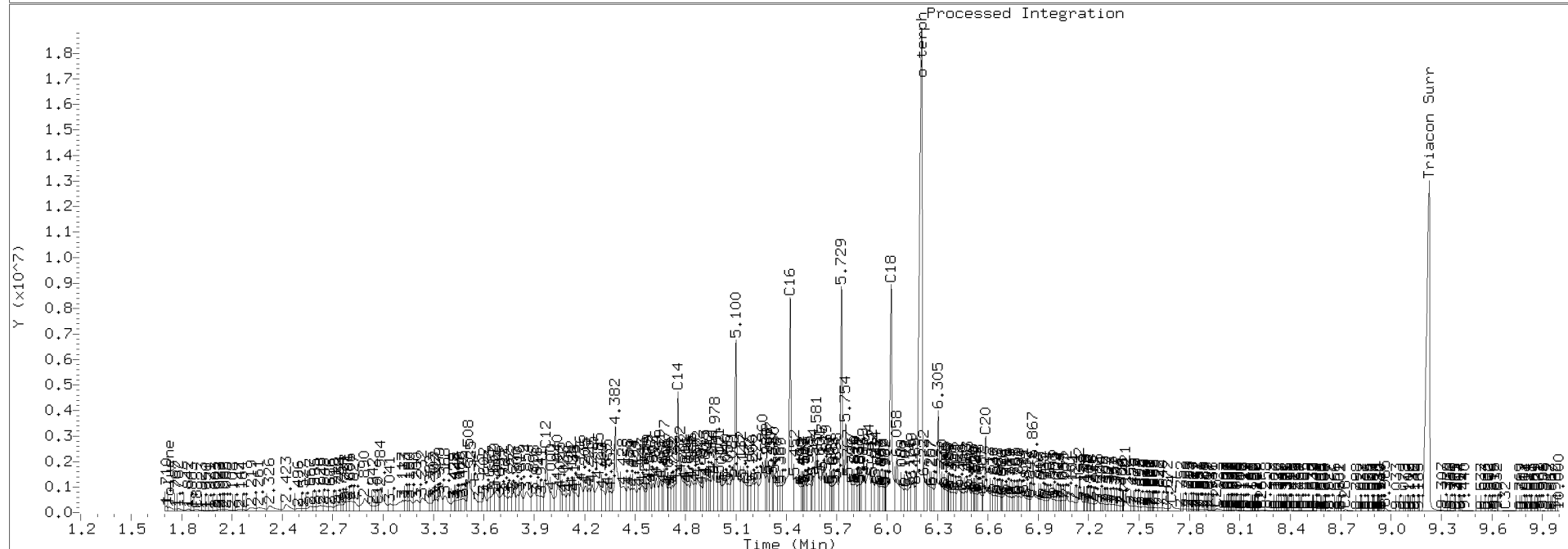
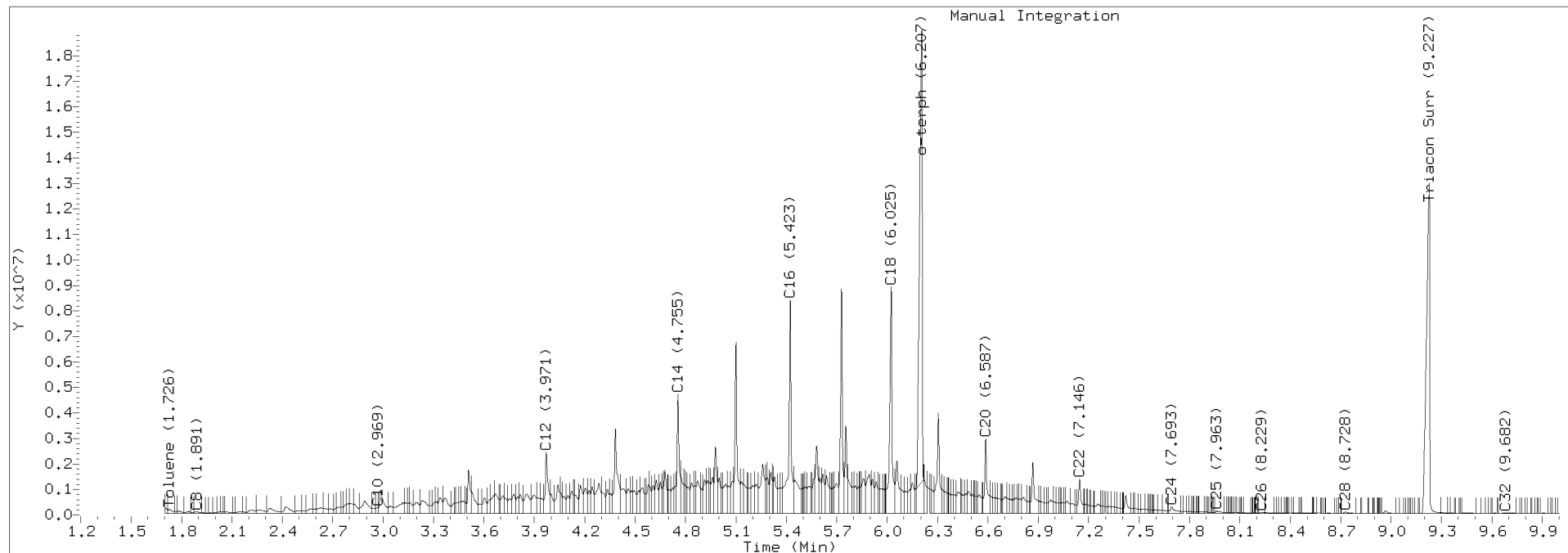
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2509.D Injection: 25-NOV-2020 21:16

Lab ID:BIK0374-BSD1





INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperation
Calibration: CJ00089 Instrument: FID4
Calibration Date: 10/29/2019 Column (1): RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	135784.6	250	138615.1	500	128616.3	1000	130458.6	2500	132749.3	5000	129568.6



INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0007
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	CJ00089	Instrument:	FID4
Calibration Date:	10/29/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	132632.1	2.9			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SHJ0406

Printed: 10/30/2019 7:24:06AM

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019	11:37	419J2501.D	1	RINSE	
2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

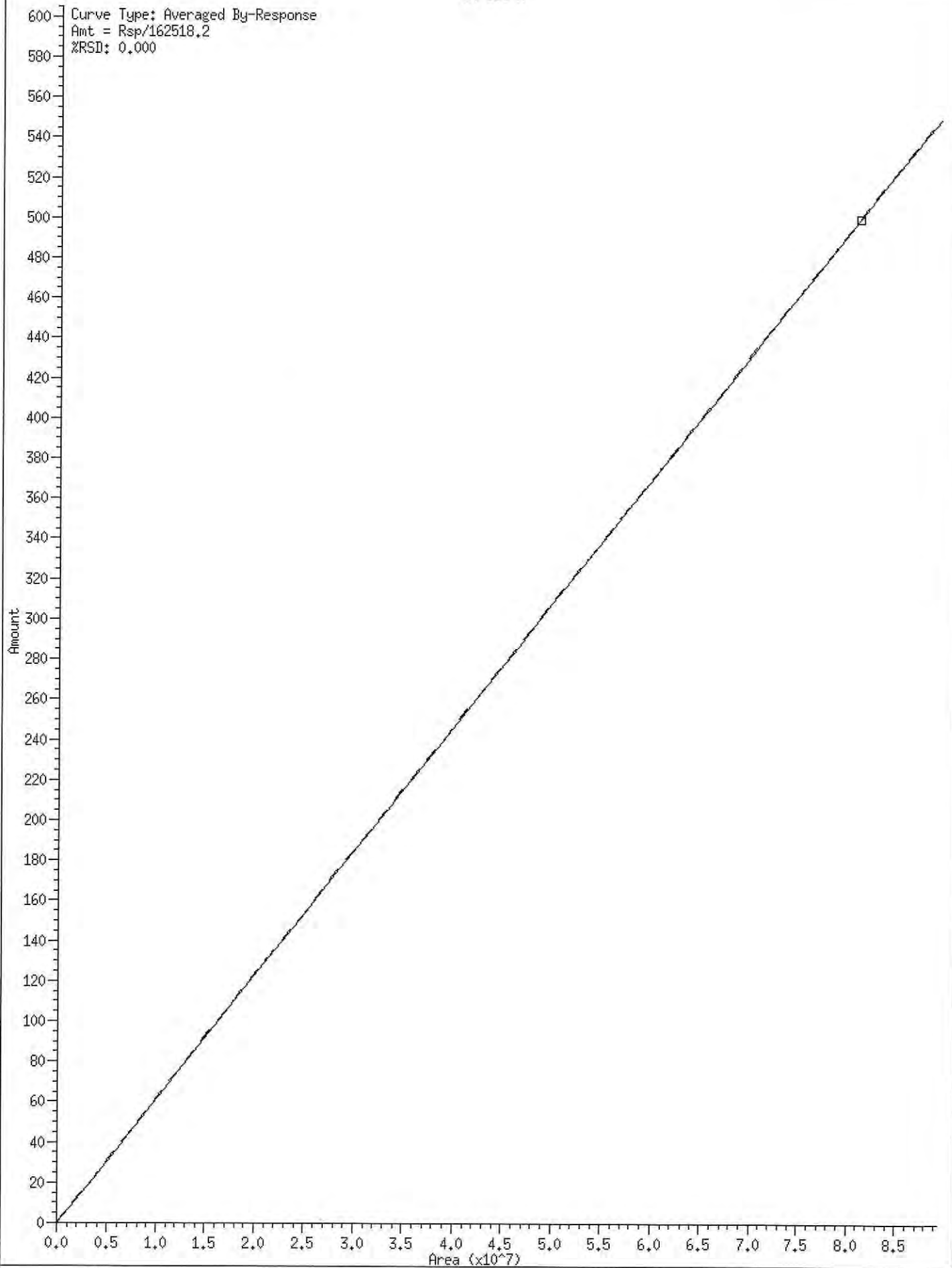
MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
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2357	419J2537.D	19J0373-06		1	Triacon Surr,
0017	419J2538.D	19J0373-07		1	Triacon Surr,
0037	419J2539.D	19J0373-08		1	Triacon Surr,
0058	419J2540.D	SHJ0406-CCV1		1	o-terph,
0118	419J2541.D	SHJ0406-CCV2		1	Triacon Surr,

Security Status Report

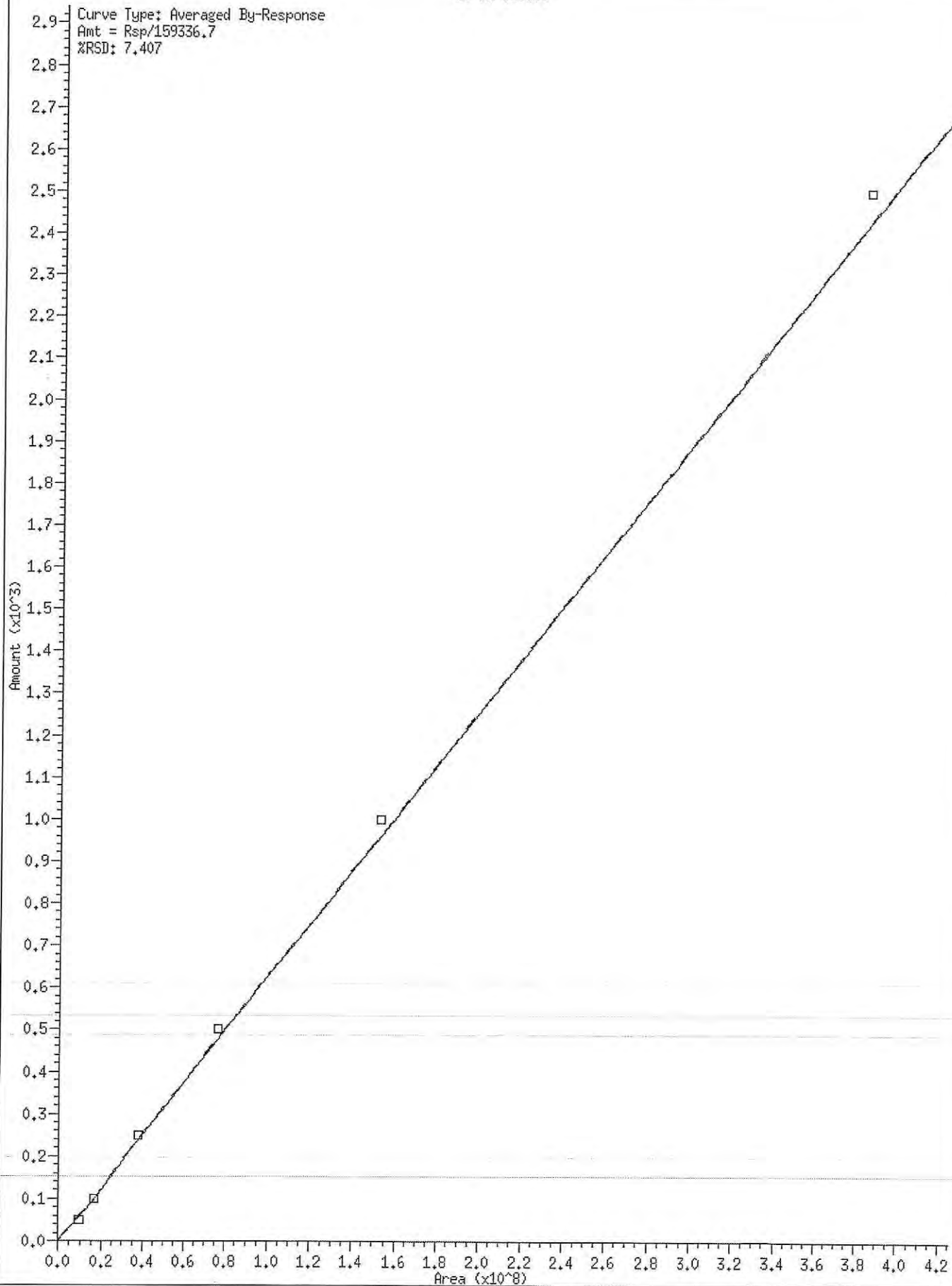
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419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2513.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2514.D	Data Locked	j rains, 30-Oct-2019 07:20
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419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
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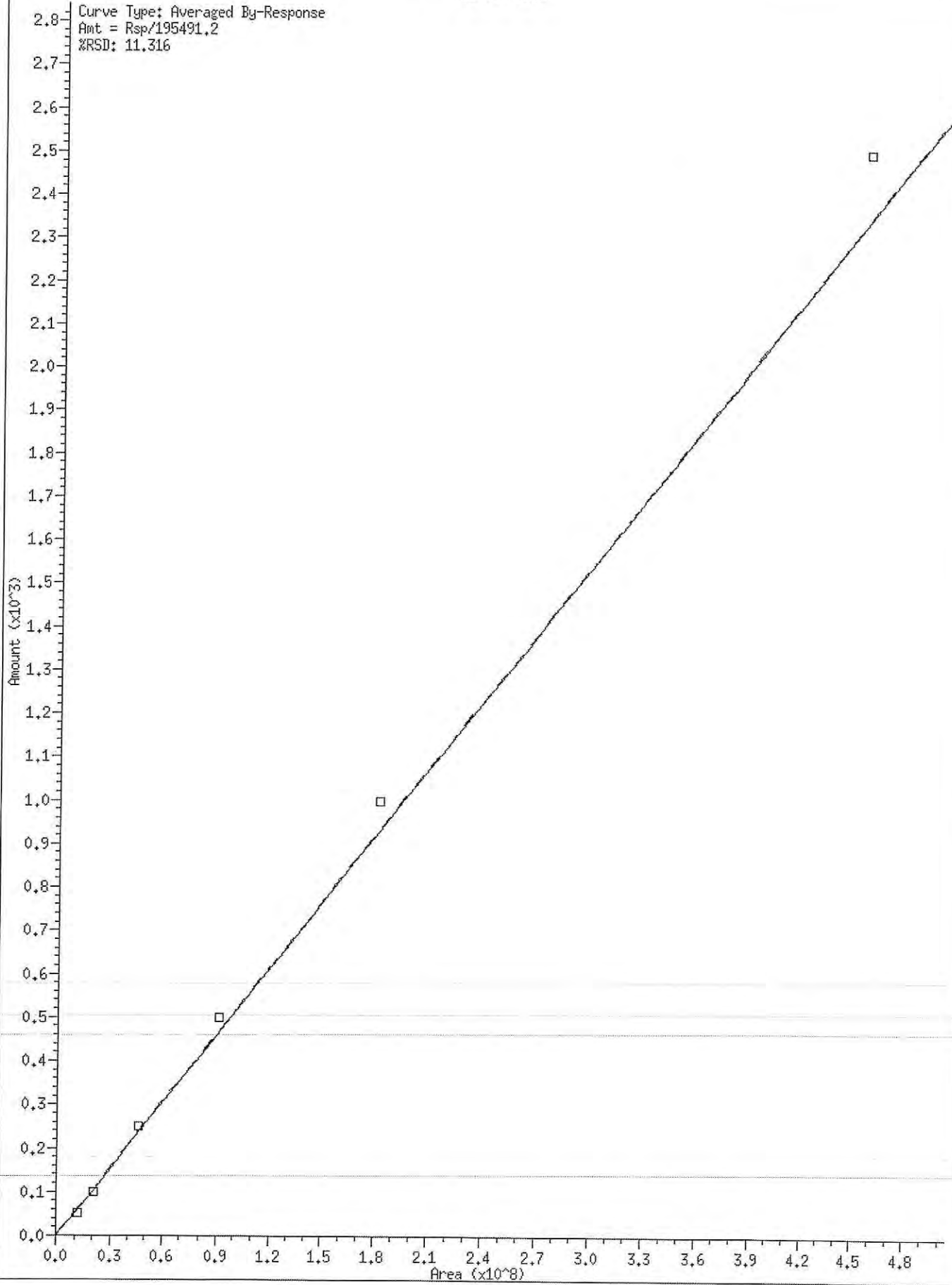


29 MW Diesel

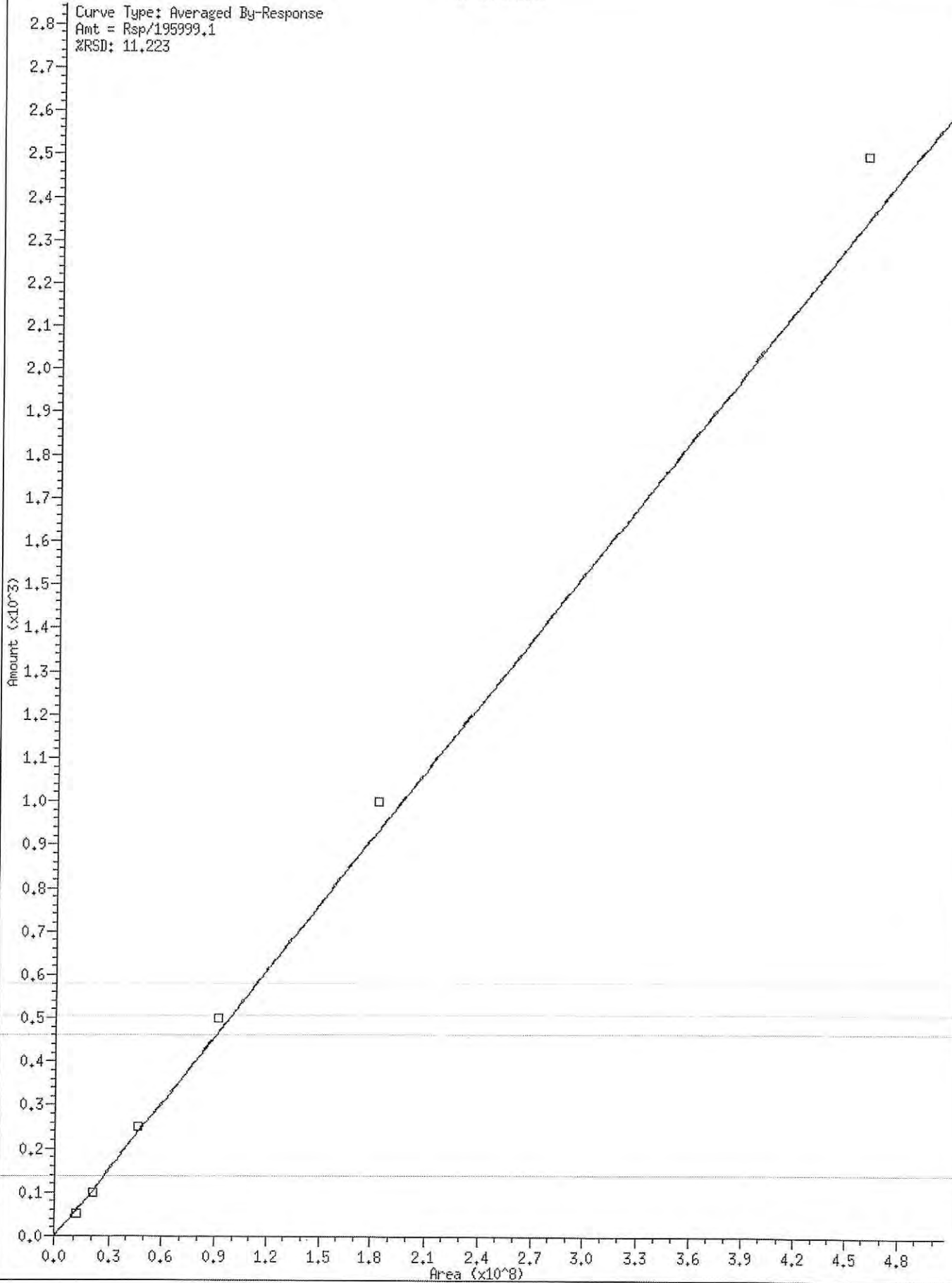
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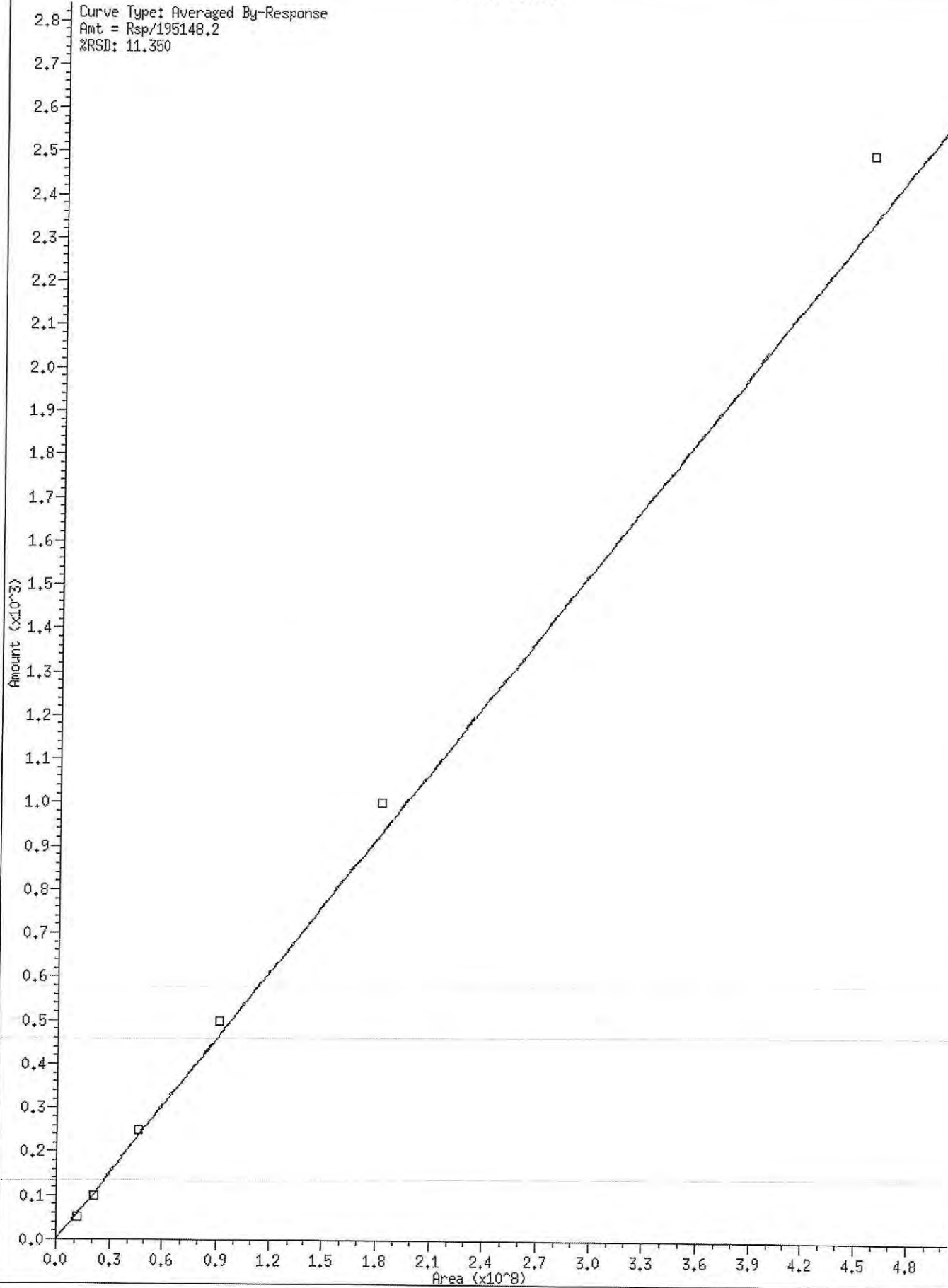
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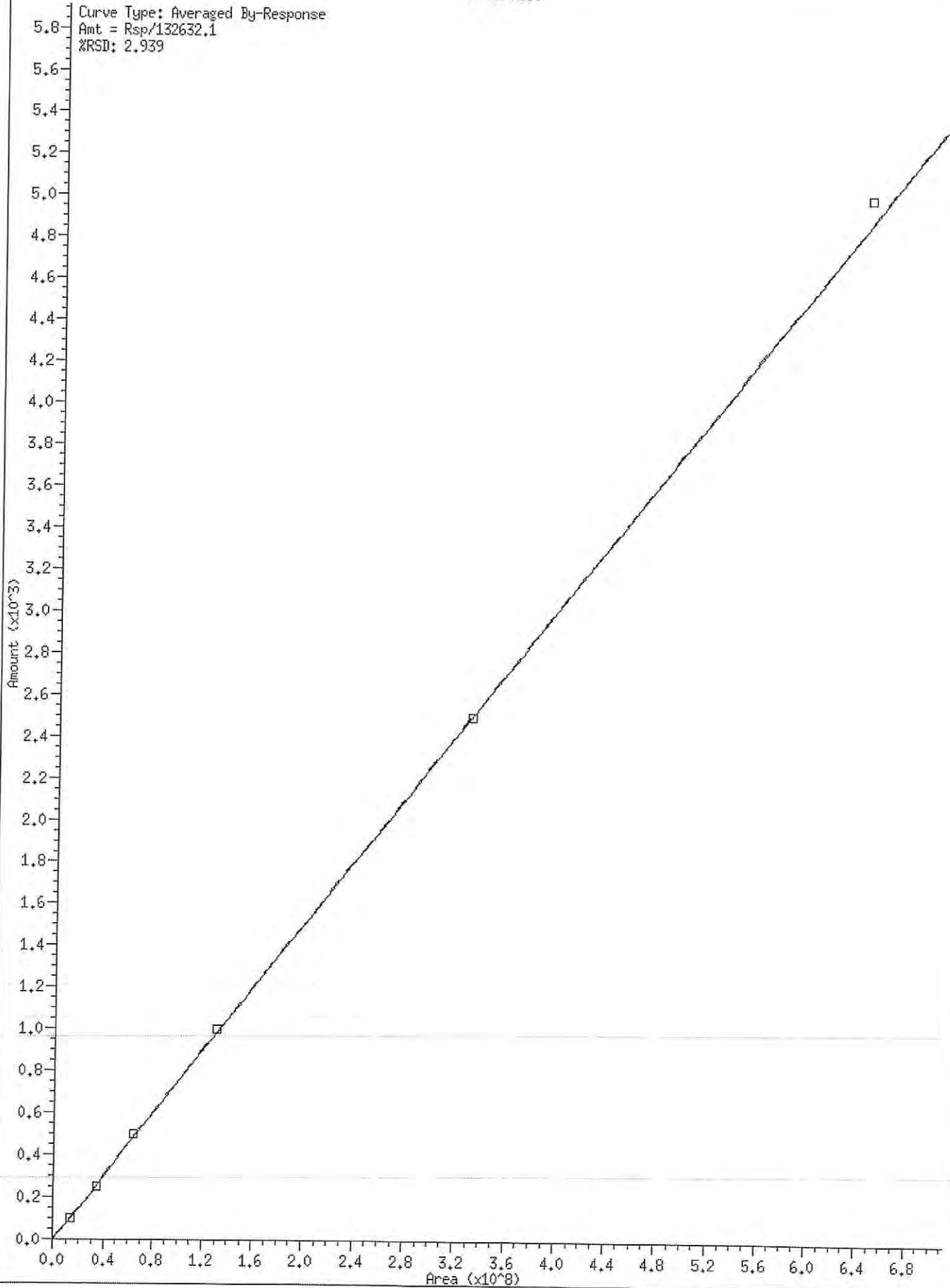
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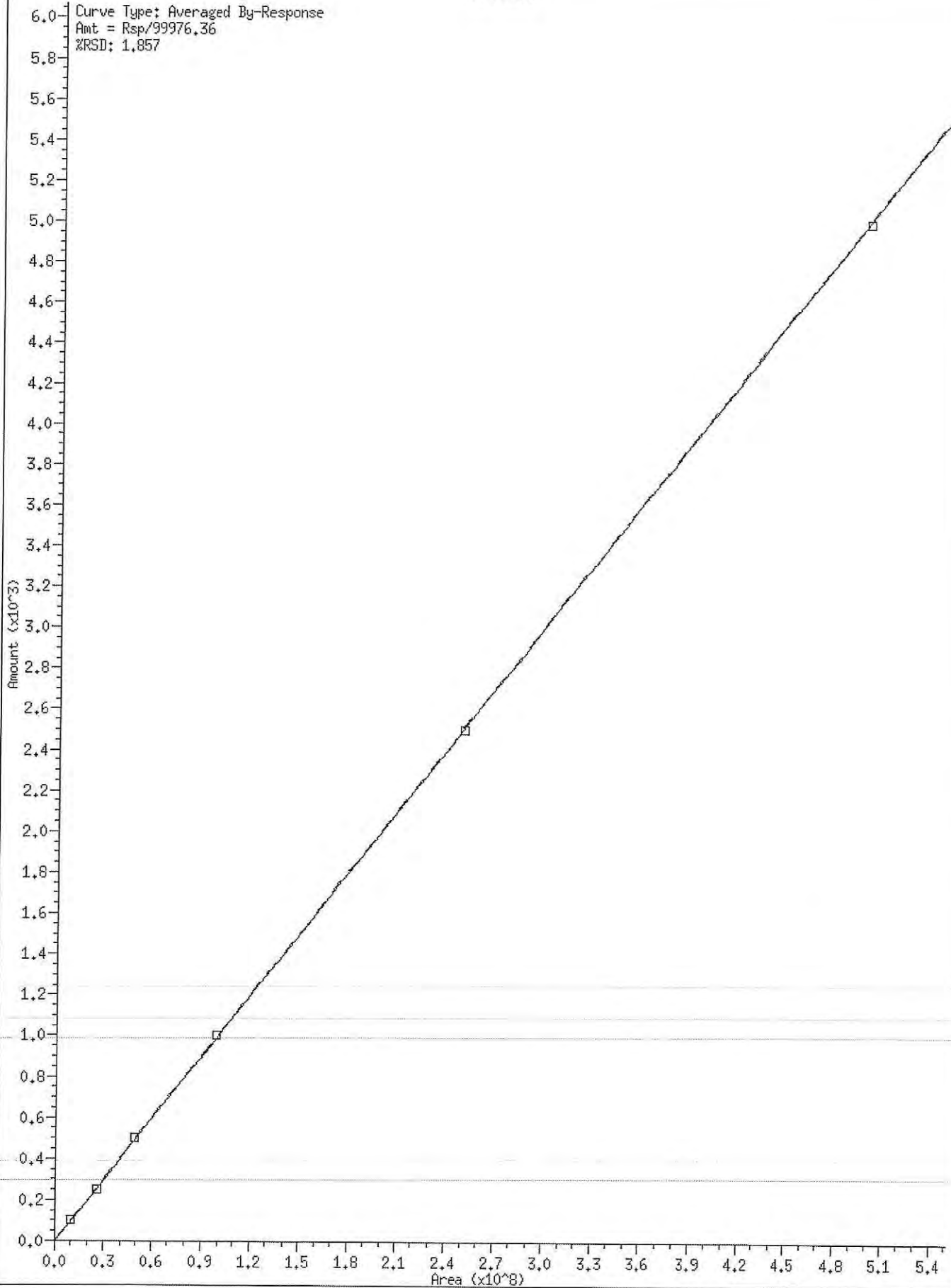
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Amt = Rsp/195148.2
%RSD: 11.350



Curve Type: Averaged By-Response
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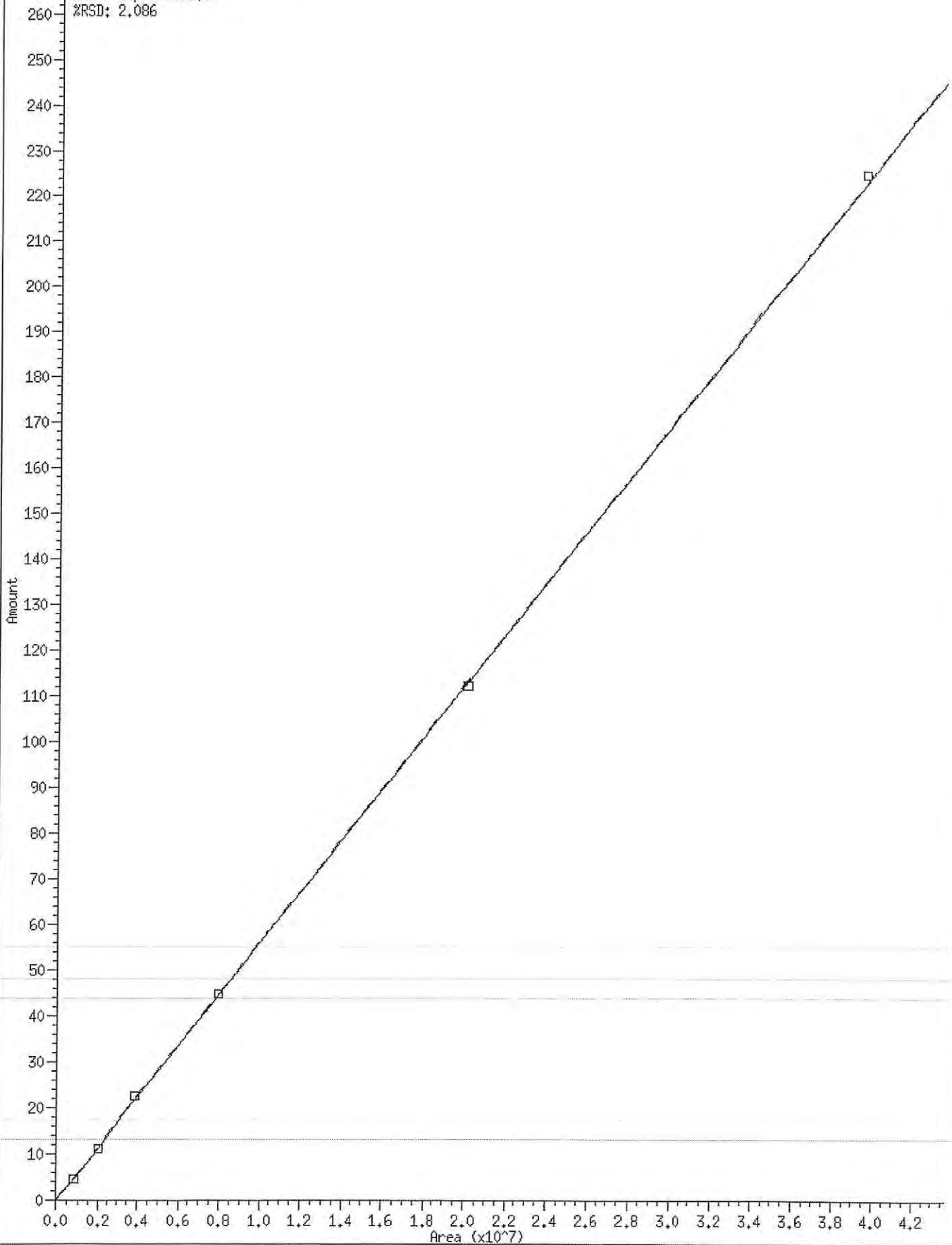


Curve Type: Averaged By-Response
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%RSD: 1,857



15 Triacon Surr

Curve Type: Averaged By-Response
Amt = Rsp/177979.9
%RSD: 2.086

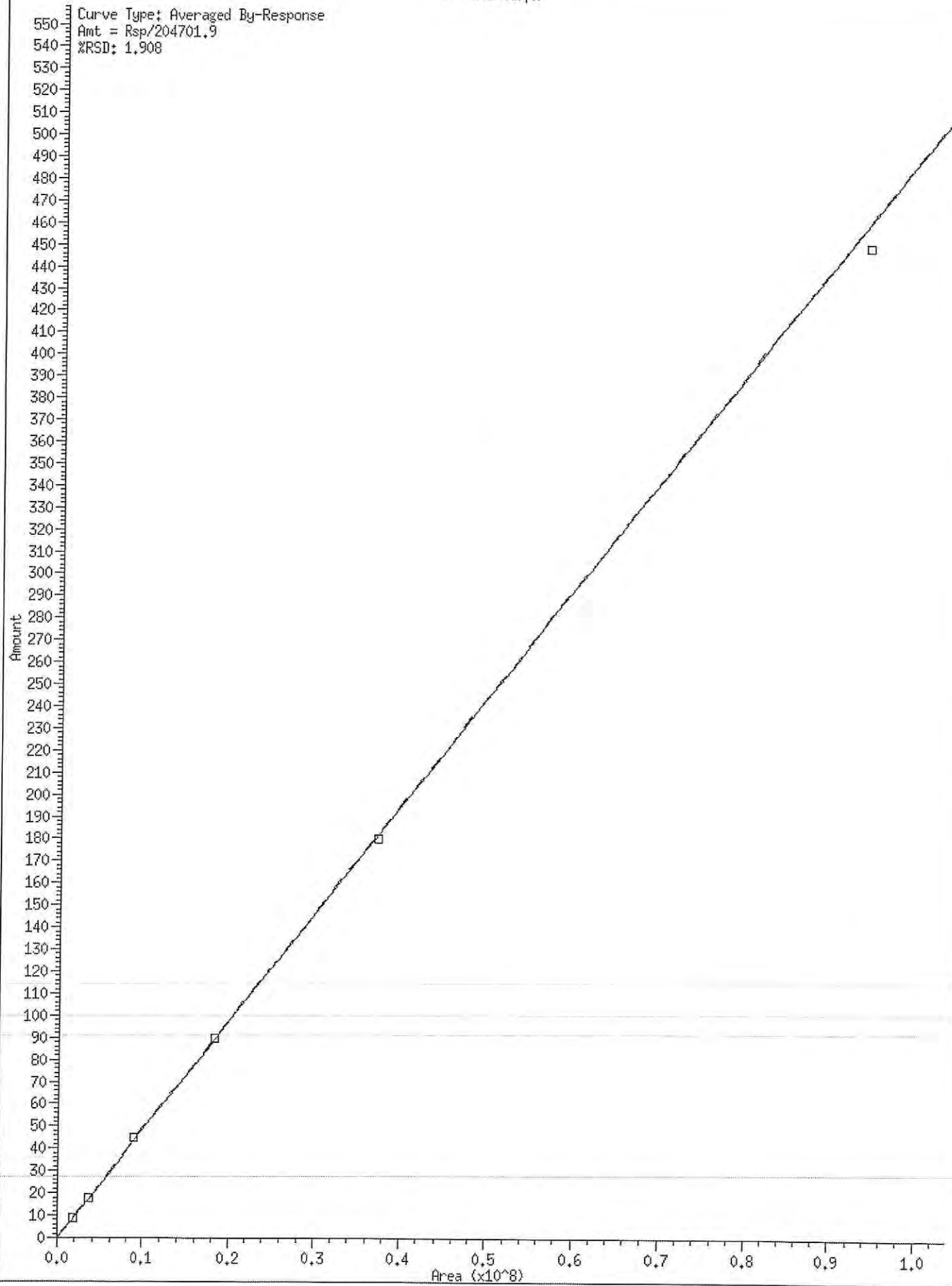


* 8 o-terph

Curve Type: Averaged By-Response

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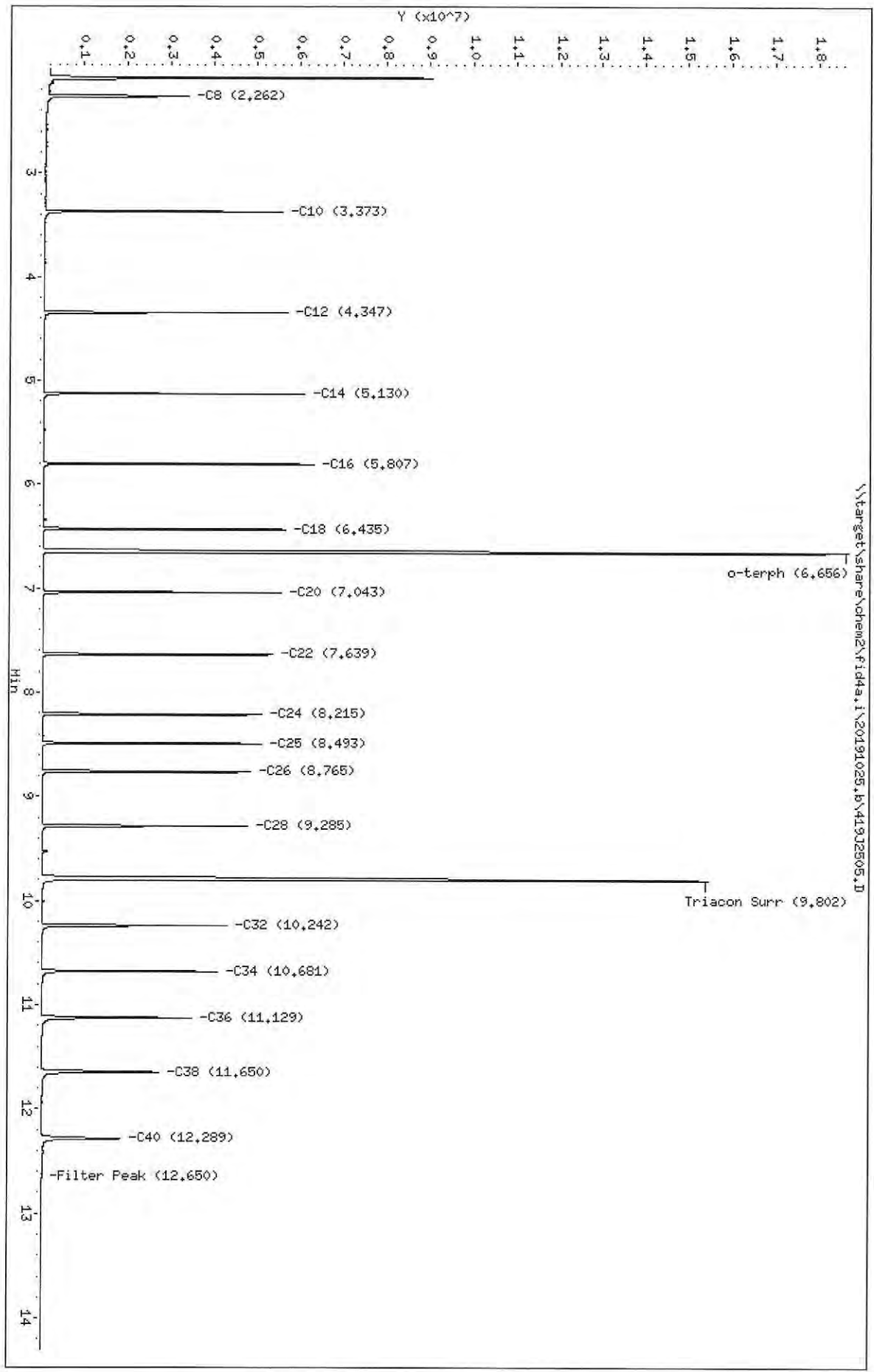
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Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SH00406-IBL1

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

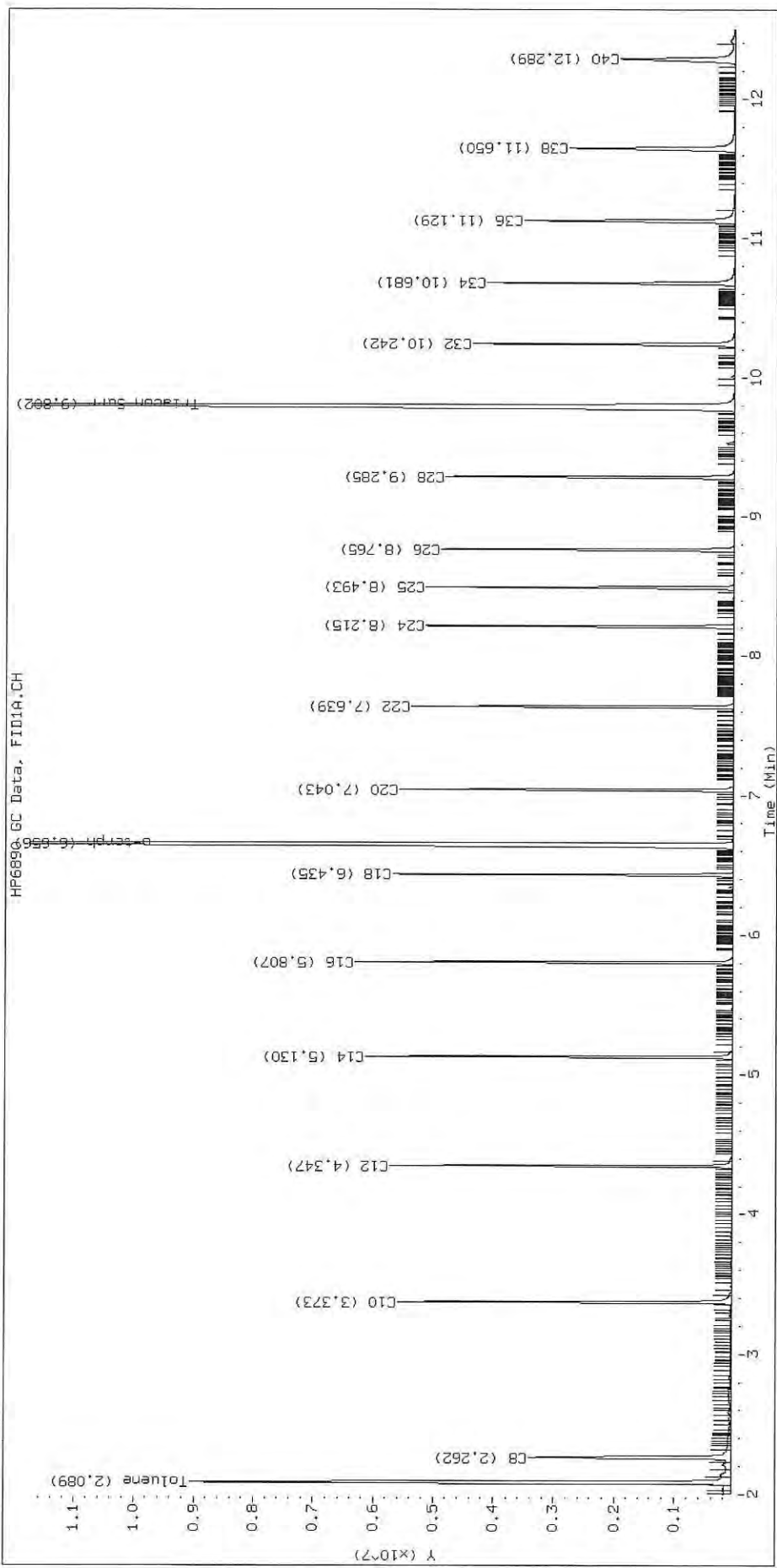
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacontane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

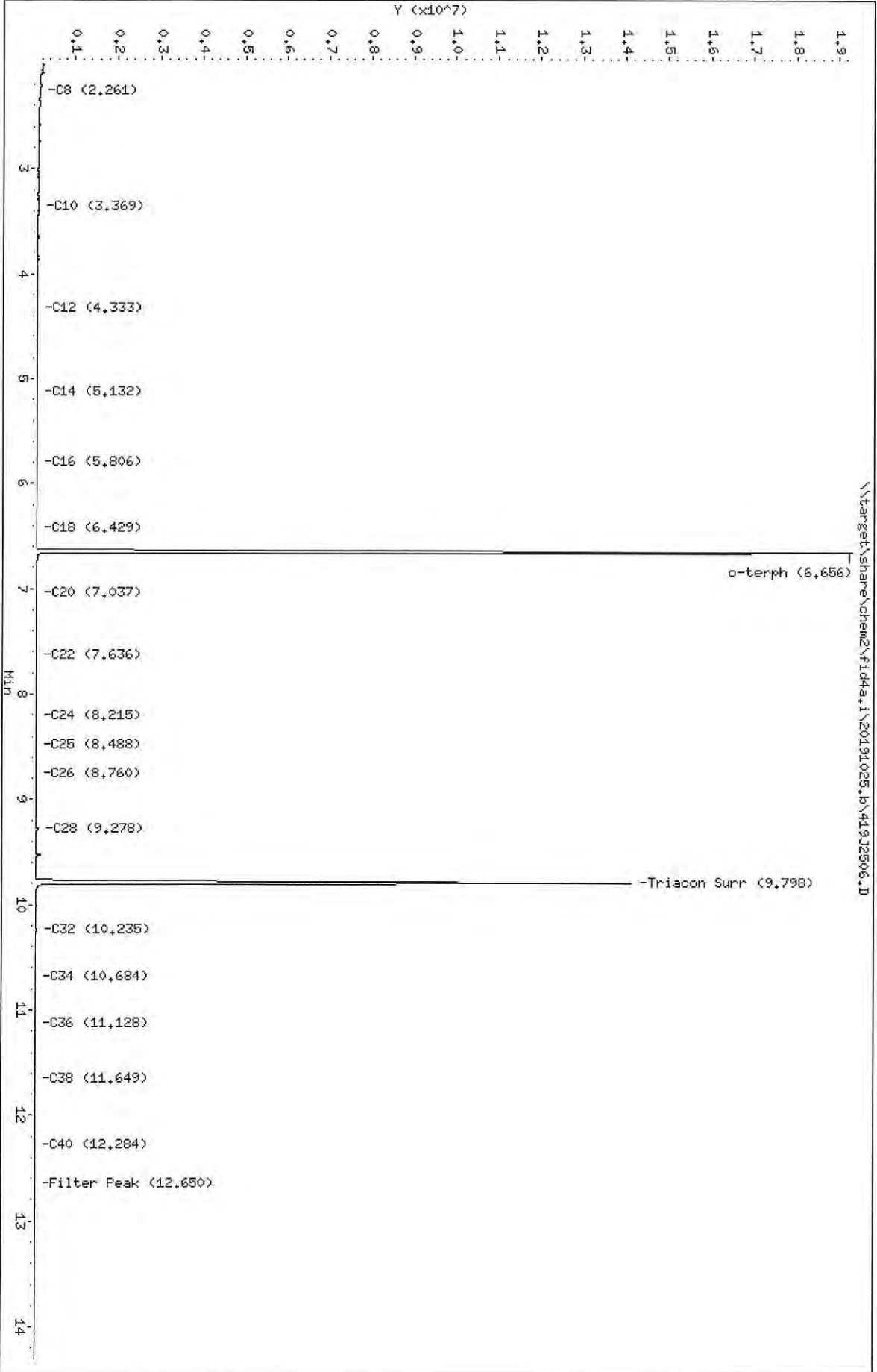
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Date: 25-OCT-2019 13:31
Client ID:
Sample Info: SH00406-IBL2

Column phase: RTX-1

Instrument: fida.i
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

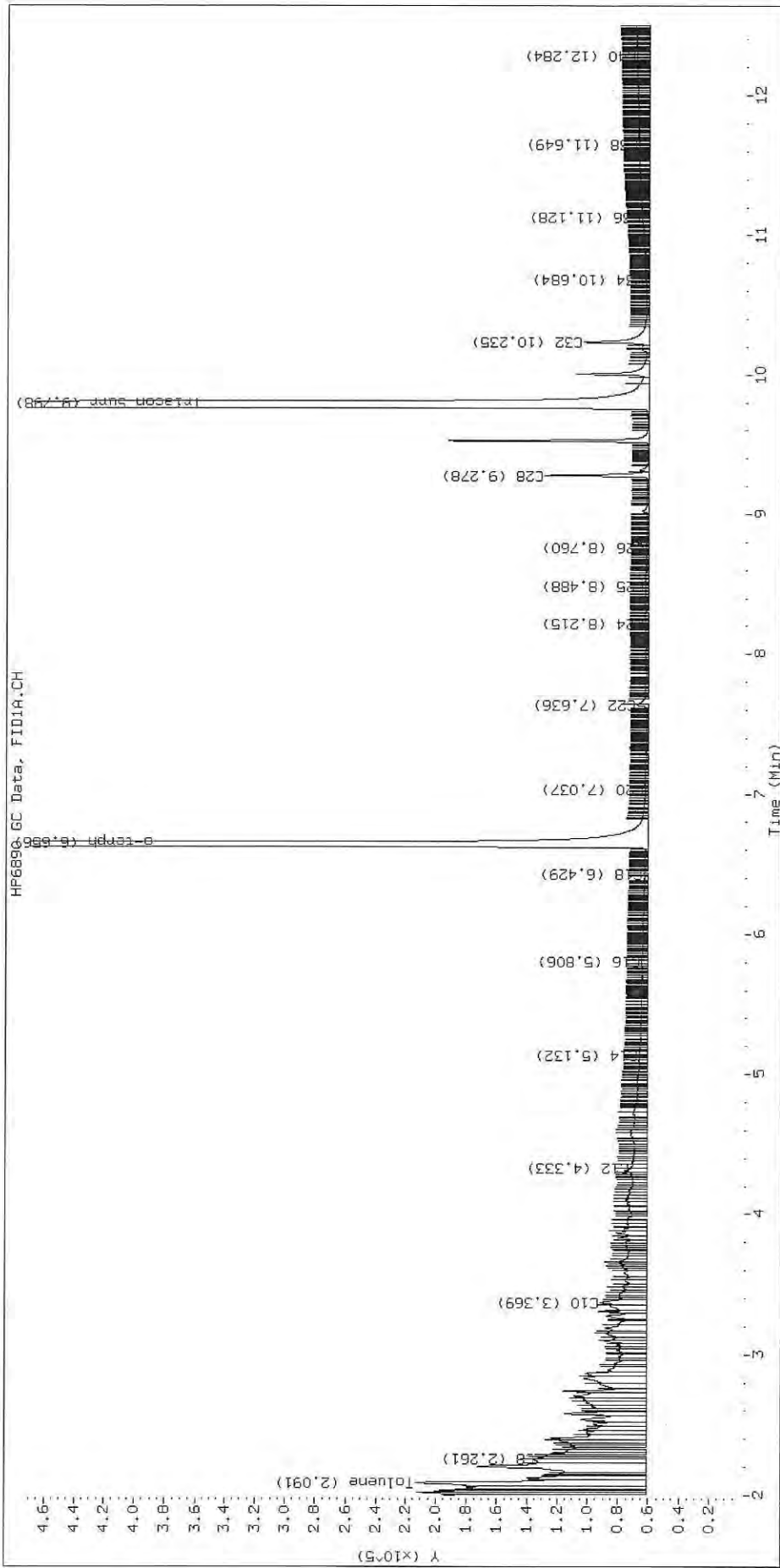
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacotane	17993211	101.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

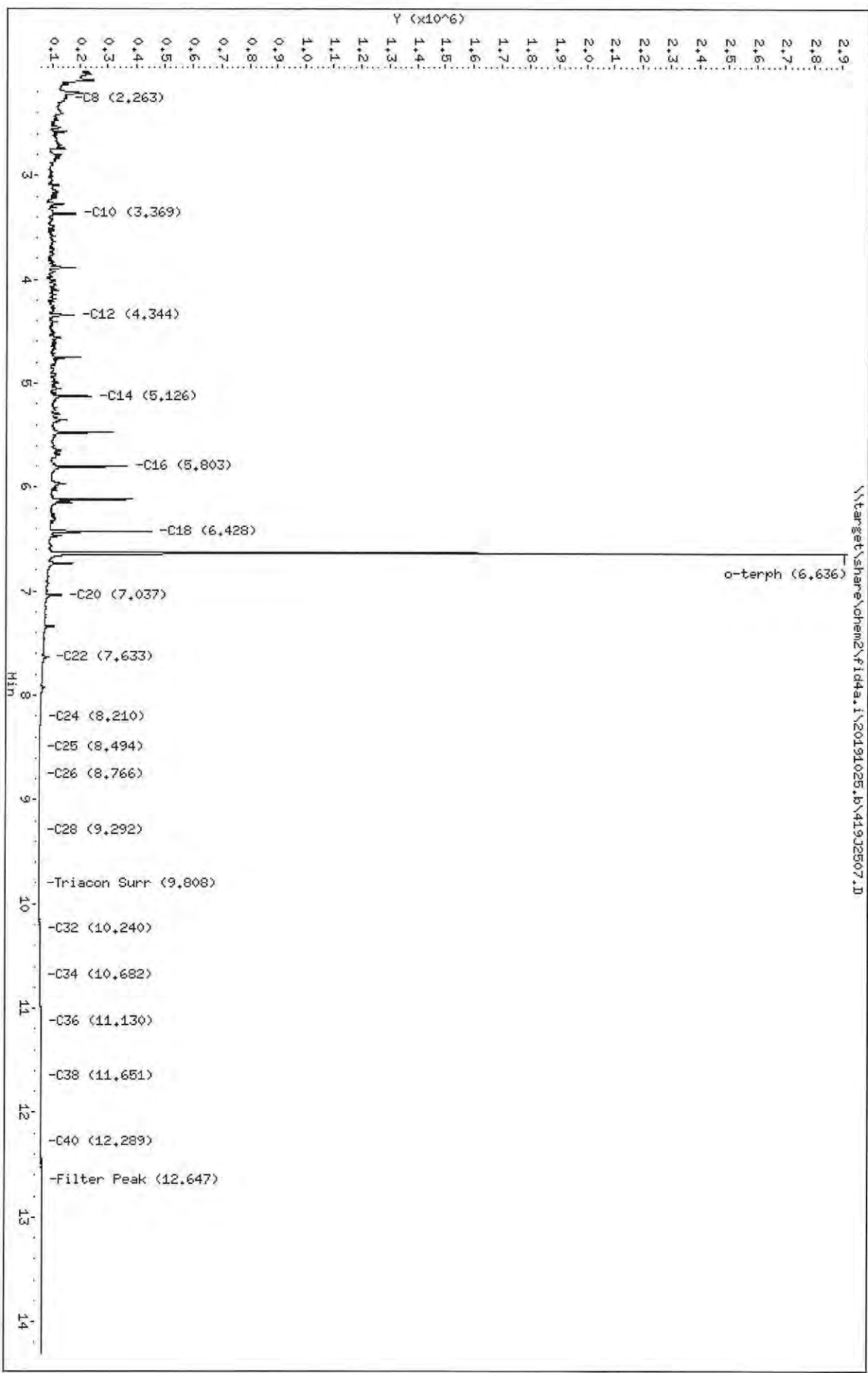
Datafile: FID4A, 20191025.b/419J2506.D SHJ0406-IBL2



Data File: \\target\share\chem2\fid4a.i\20191025.b\41932507.D
Date: 25-OCT-2019 13:52
Client ID:
Sample Info: SHJ0406-CALL

Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

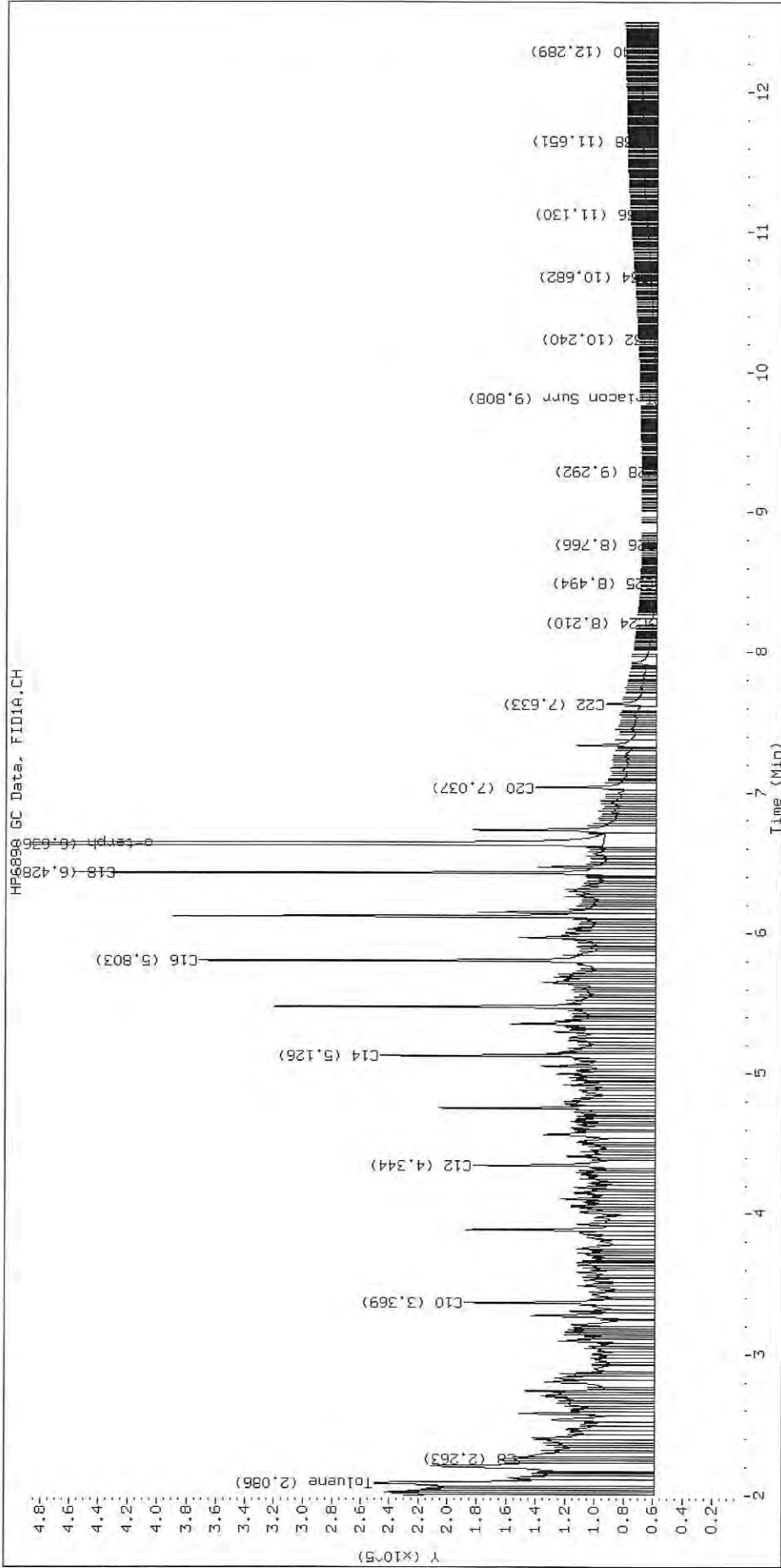
Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacotane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CAL1

HP6890 GC Data, FID1A.CH



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TTPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.084	2.085	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd 31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.368	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.128	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.678	10.683	10.684	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.648	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACreosote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
 Batch File: \\target\share\chem2\fid4a.i\20191025.b
 Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT06
FILENAME:	419J2514	419J2515	419J2516	419J2517	419J2518	419J2519	419J2519
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.015	0.965-1.065	+++++	+++++
41 Mineral Spirits	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.259	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.333	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C25	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C26	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____ Date: _____
 Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

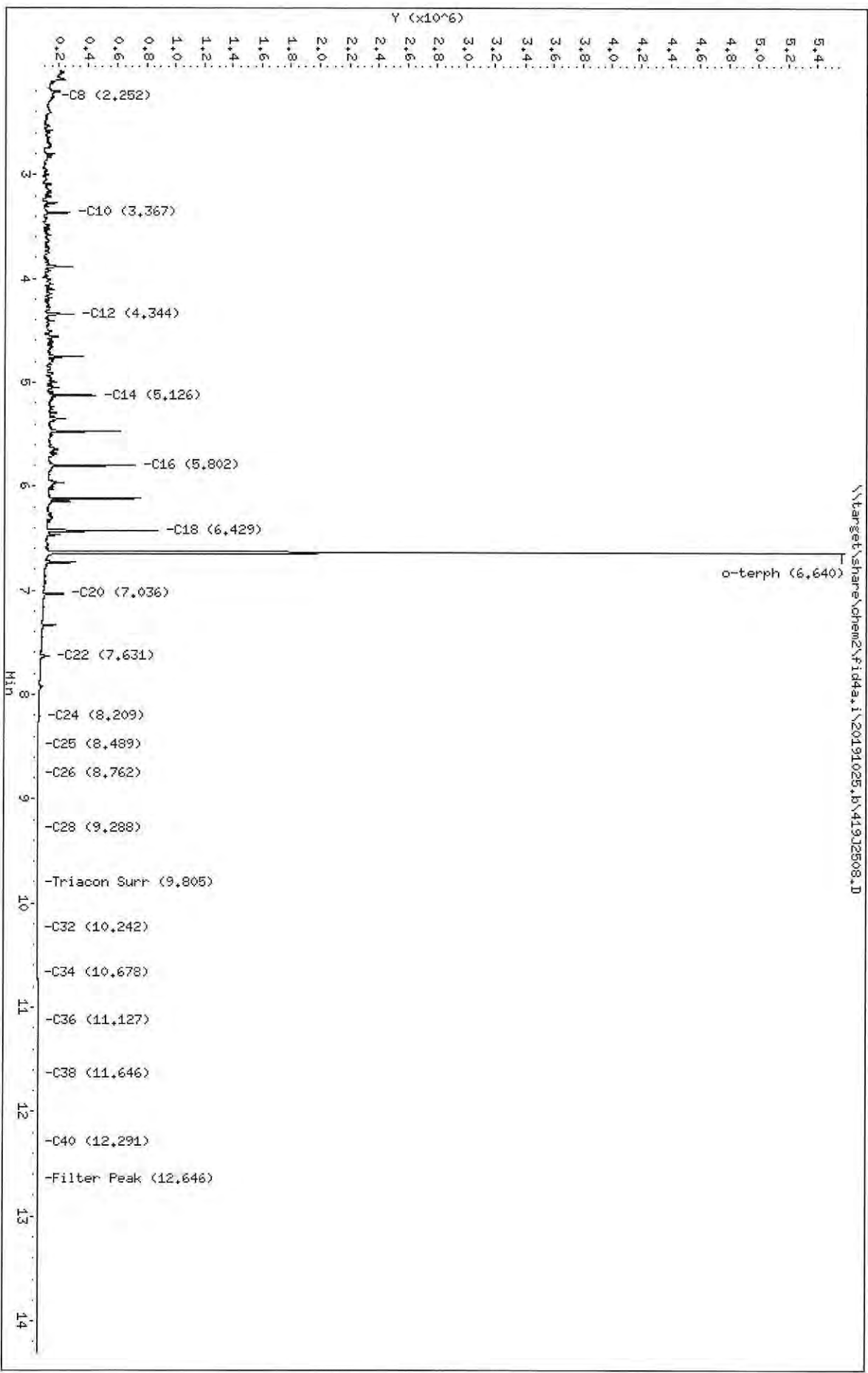
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Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.791	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACresosote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2508.D
Date: 25-OCT-2019 14:12
Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

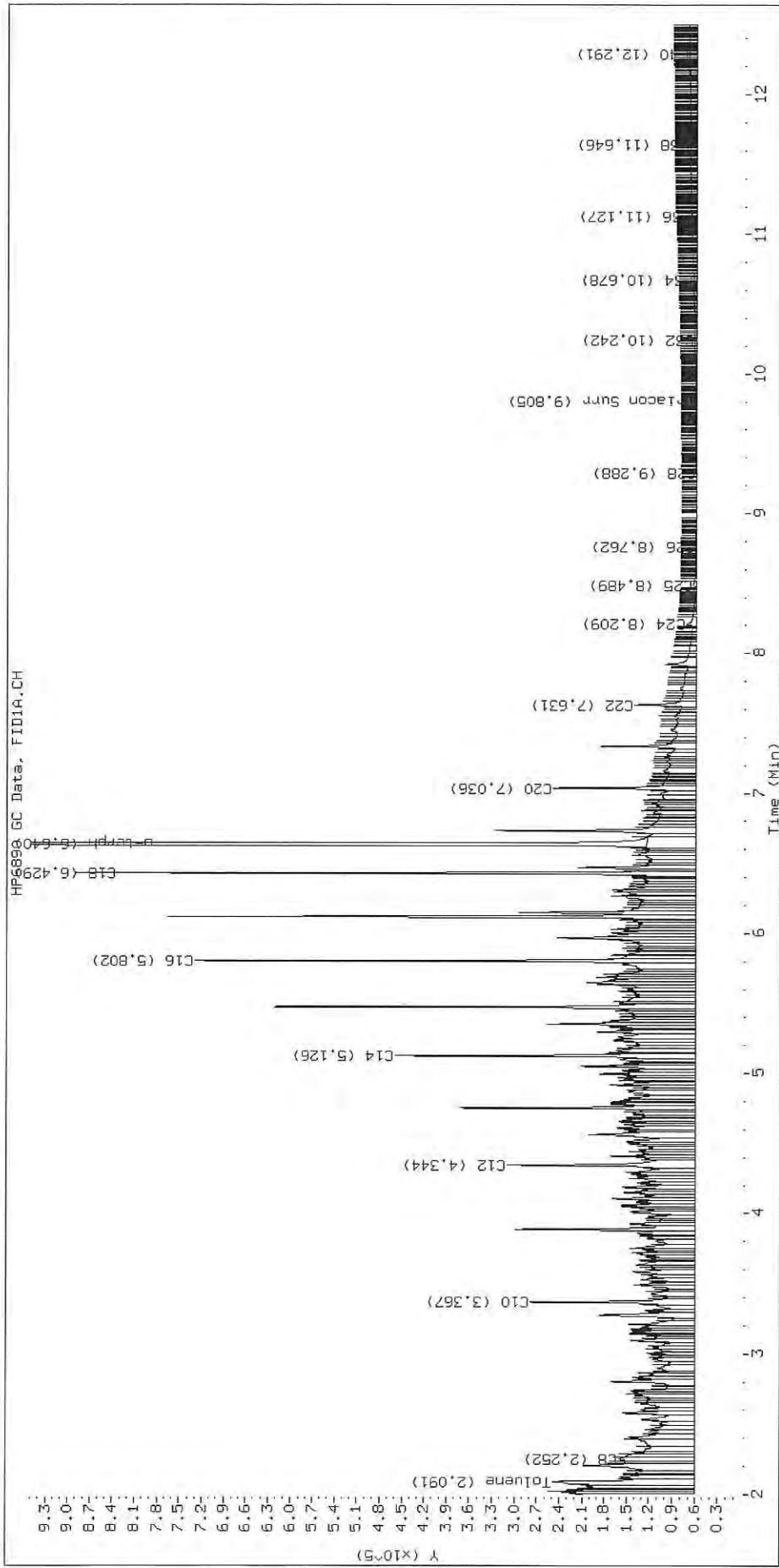
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

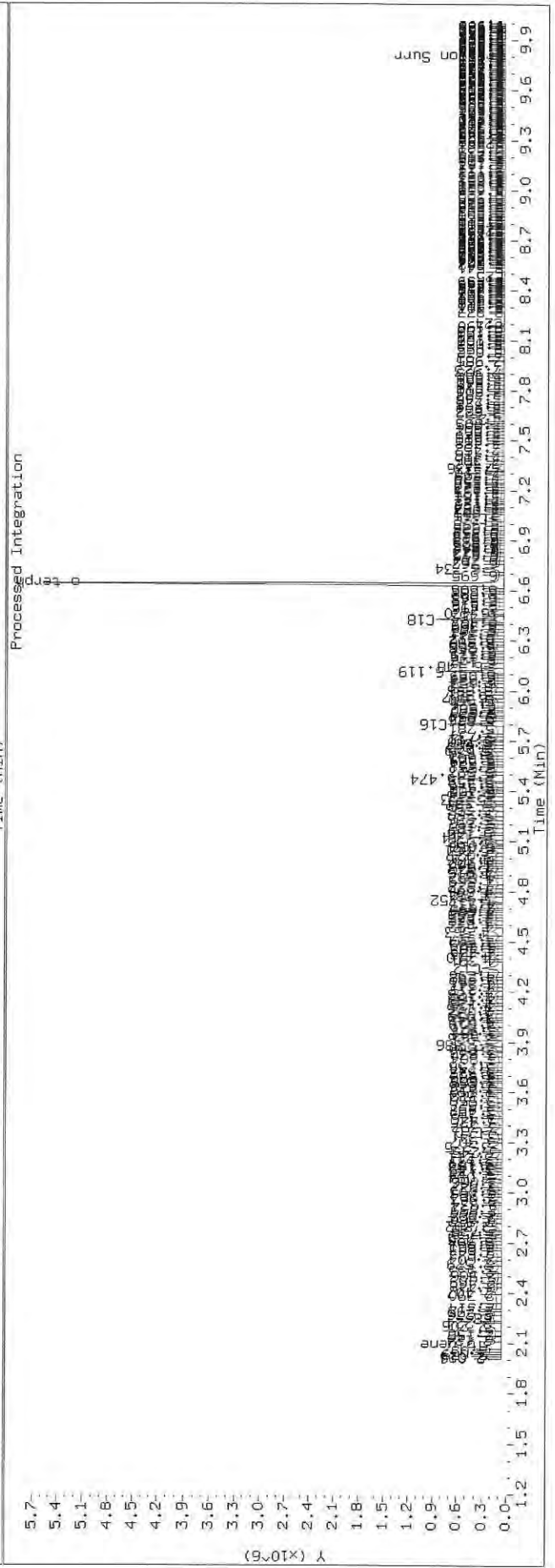
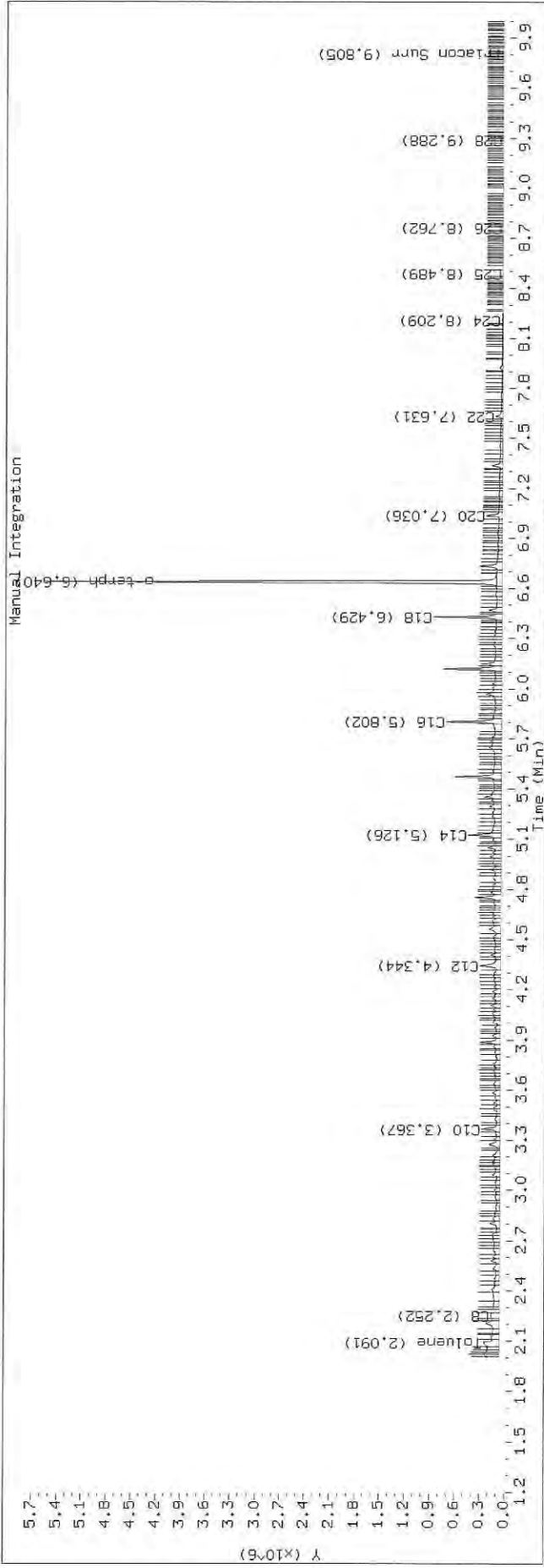
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacontane	368	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

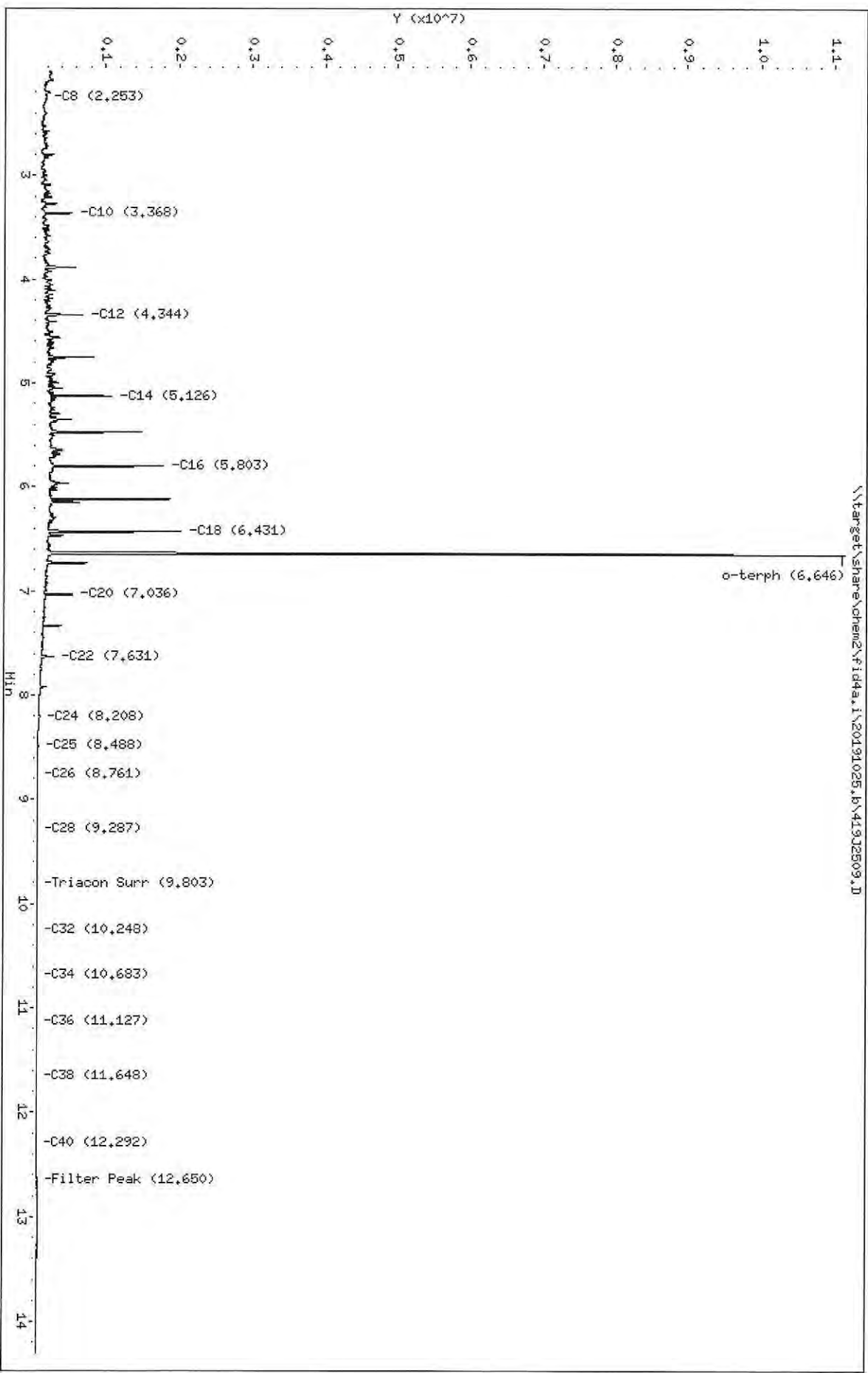




Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

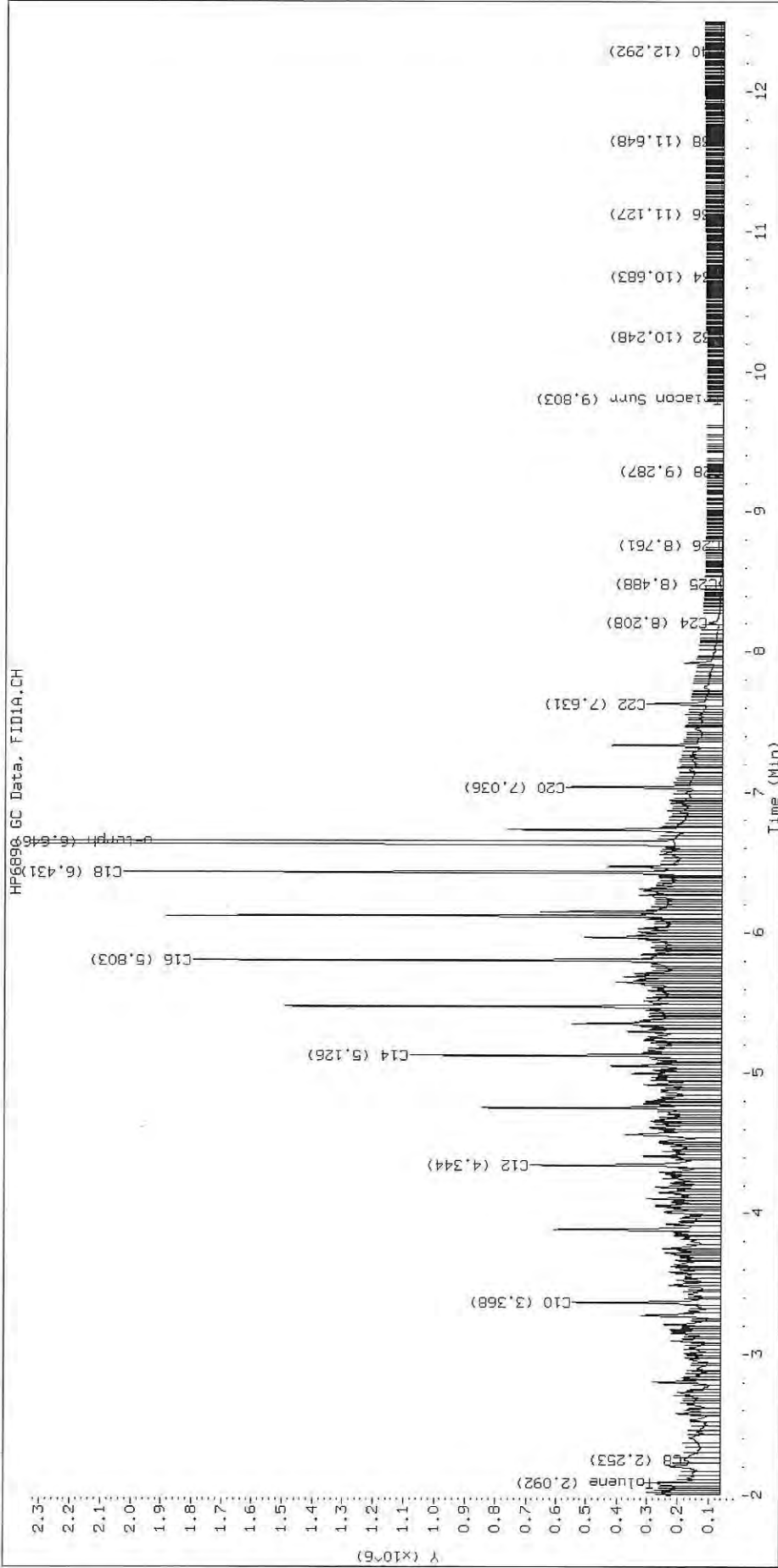
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacontane	103	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

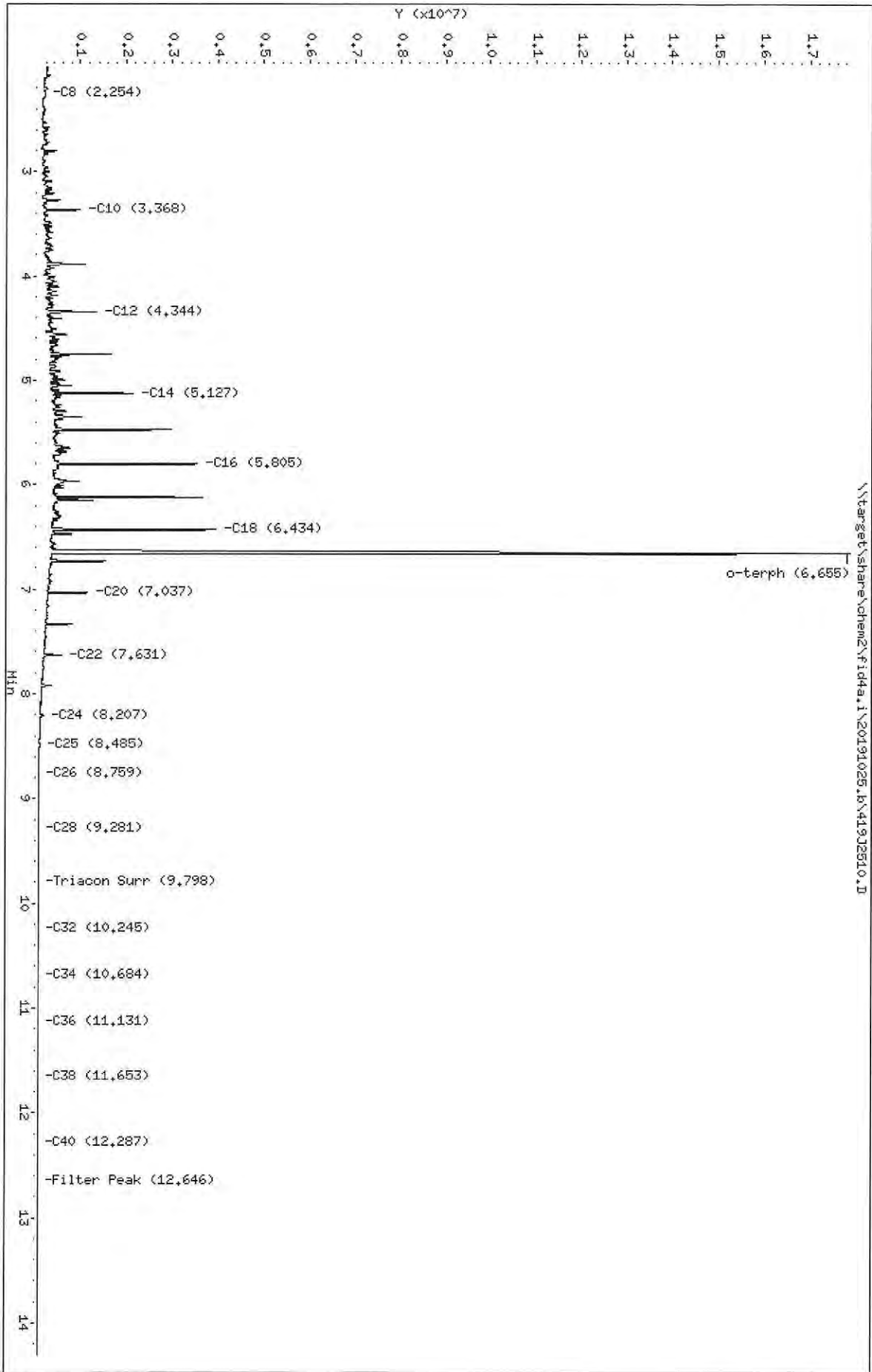
Datafile: FID4A, 20191025.b/419J2509.D SHJ0406-CAL3



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SHJ0406-CAL4

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/MTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

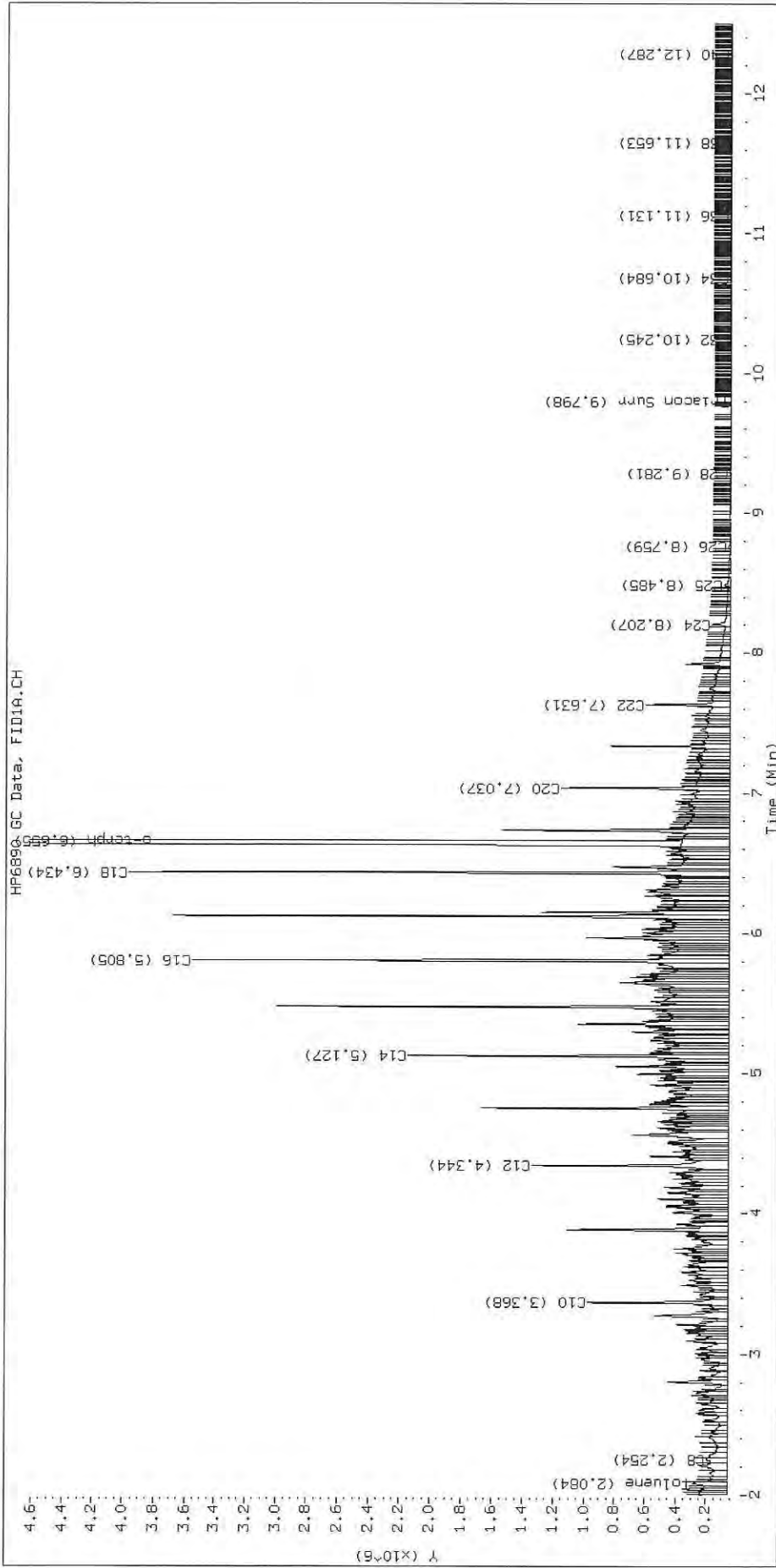
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

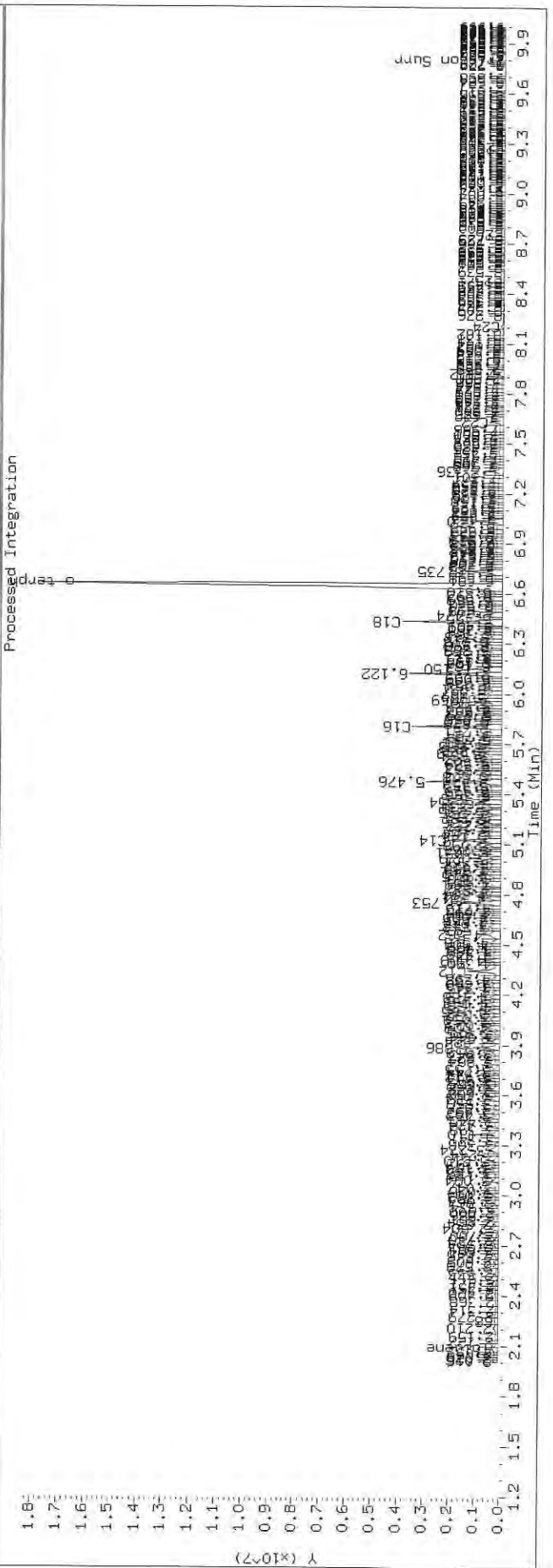
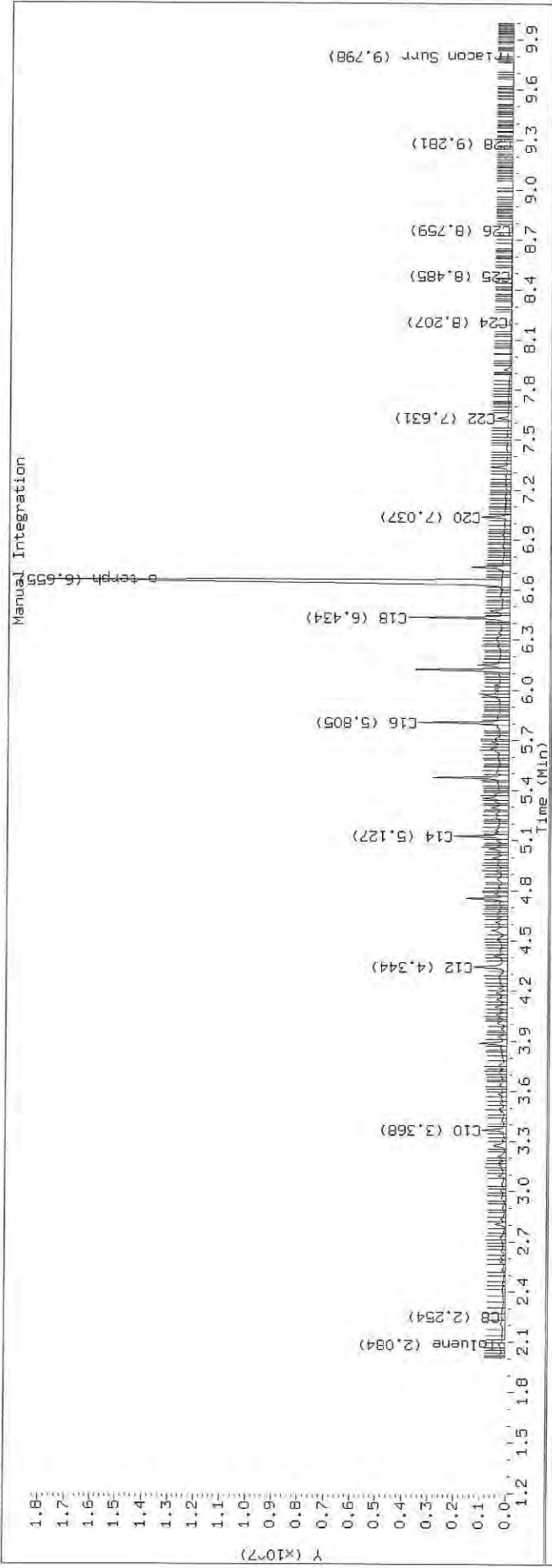
Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacontane	112	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.q/419J2510.D SHJ0406-CAL4

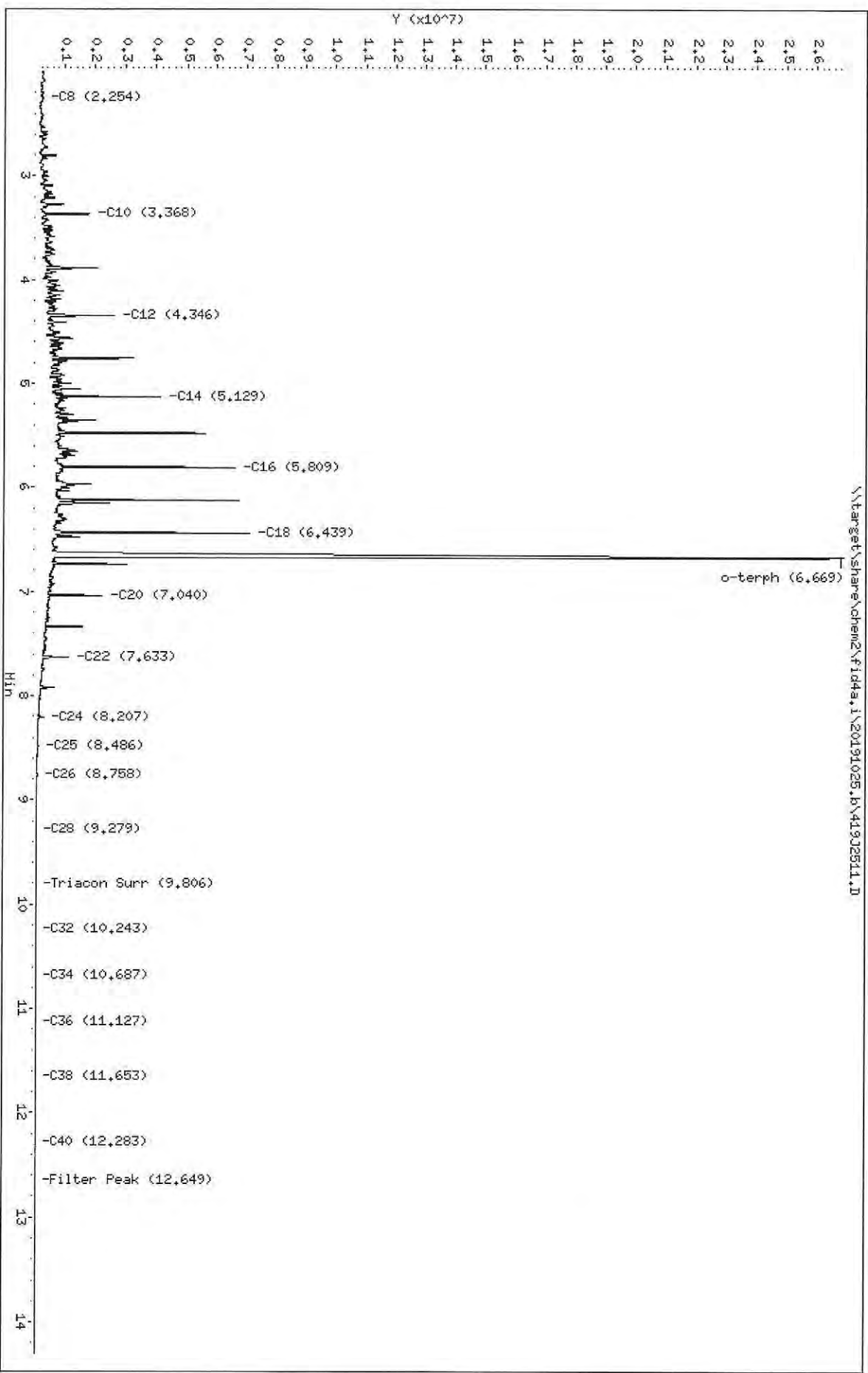




Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2511.D
Date: 25-OCT-2019 15:13
Client ID:
Sample Info: SHJ0406-CALLS

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALS
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

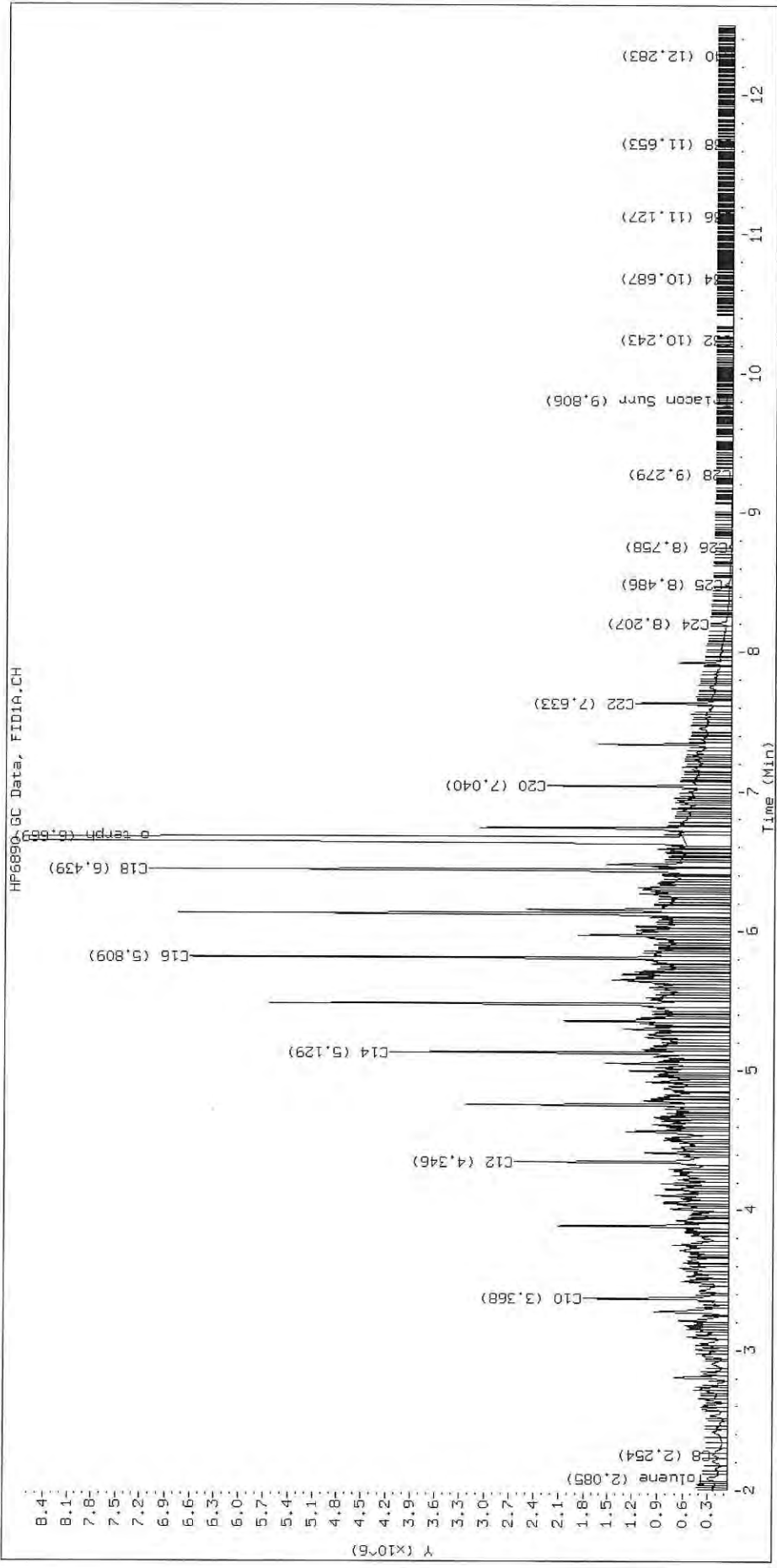
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

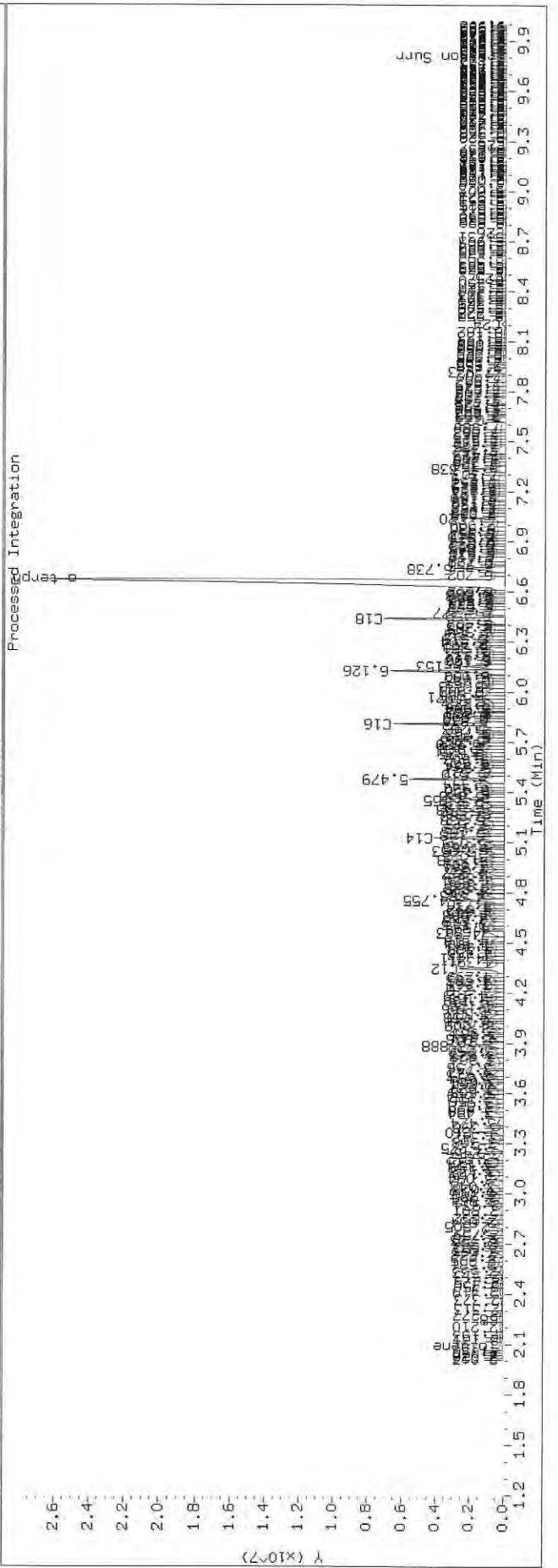
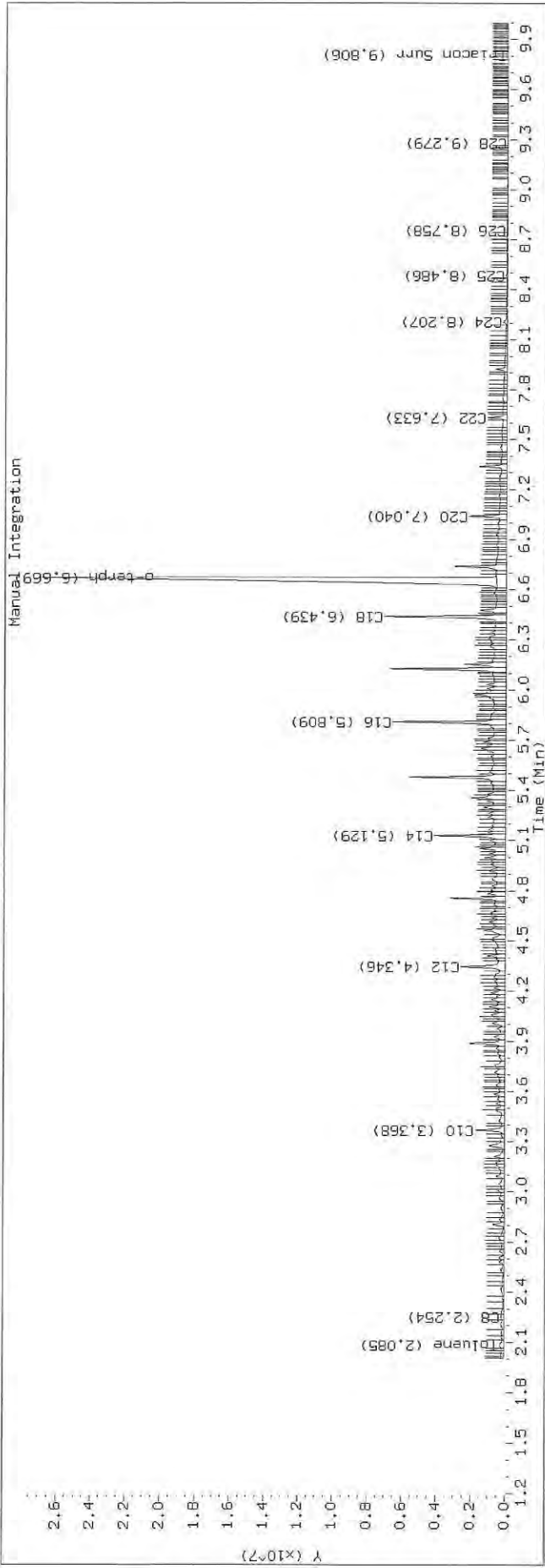
Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacontane	1069	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5





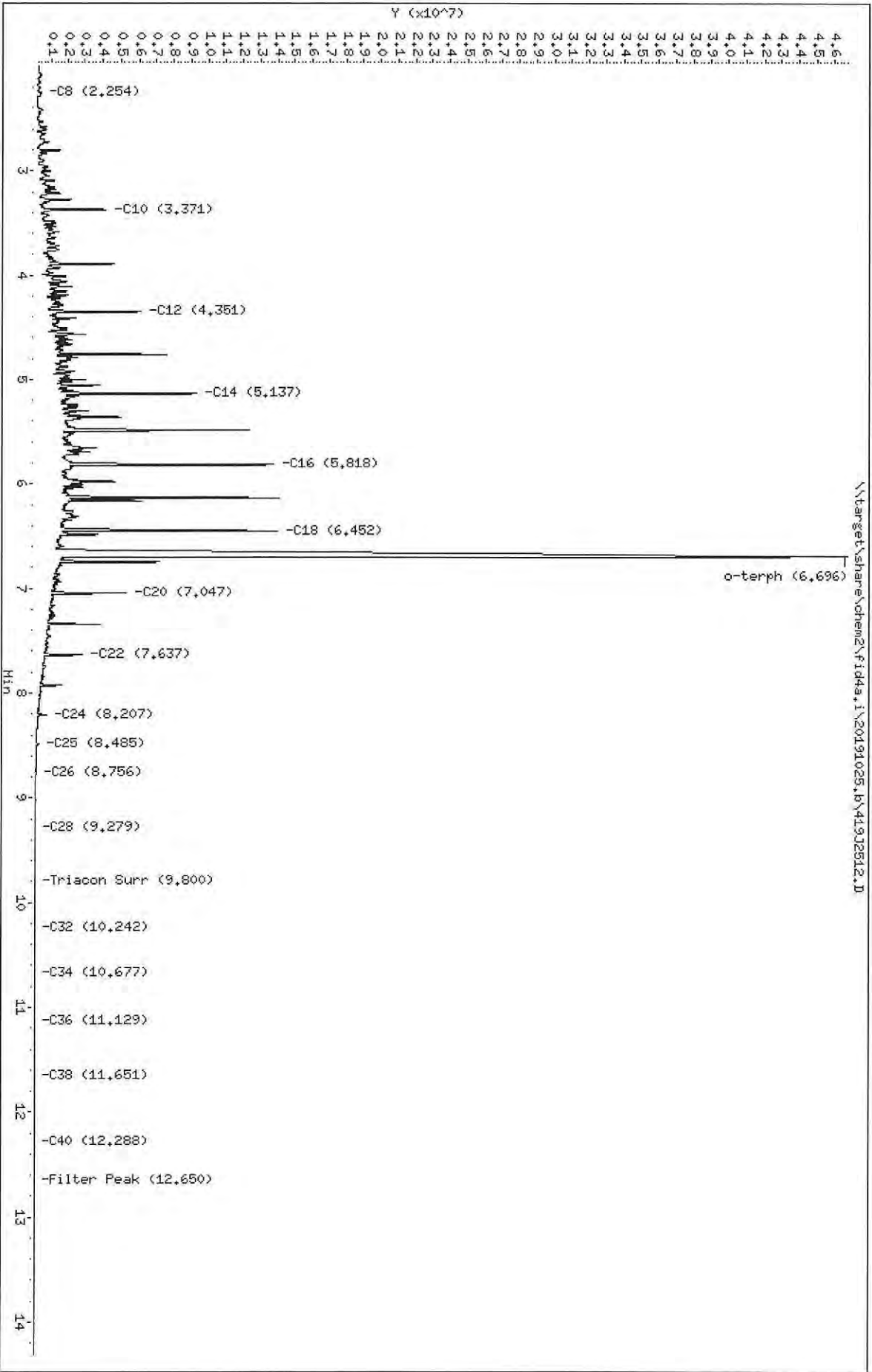
Data File: \\target\share\chem2\Fid4a.I\20191025_b\419J2512.D
Date: 26-OCT-2019 15:32

Client ID:
Sample Info: SHJ0406-CAL6

Column phase: RTX-1

Instrument: fid4a.i

Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

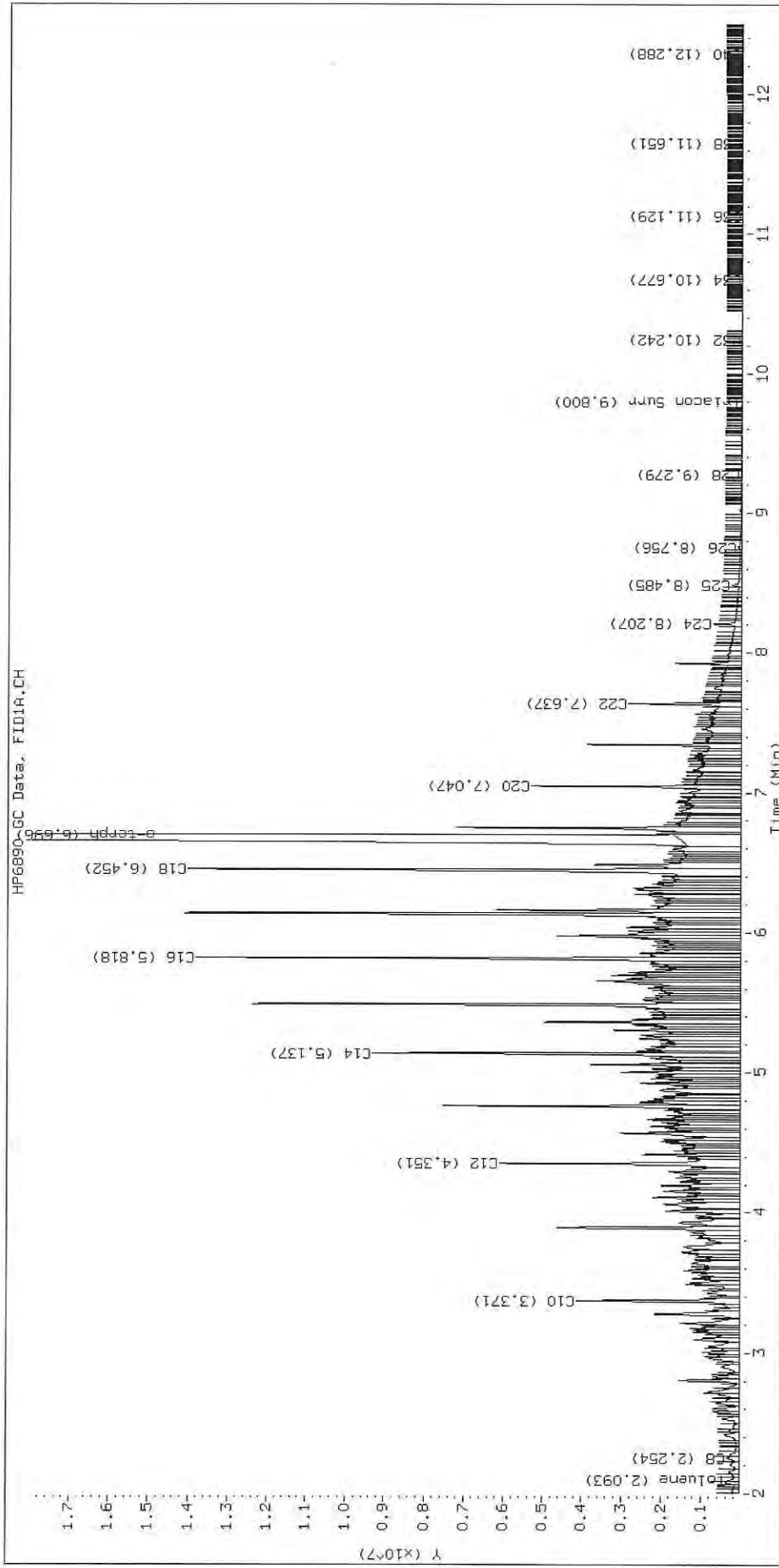
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

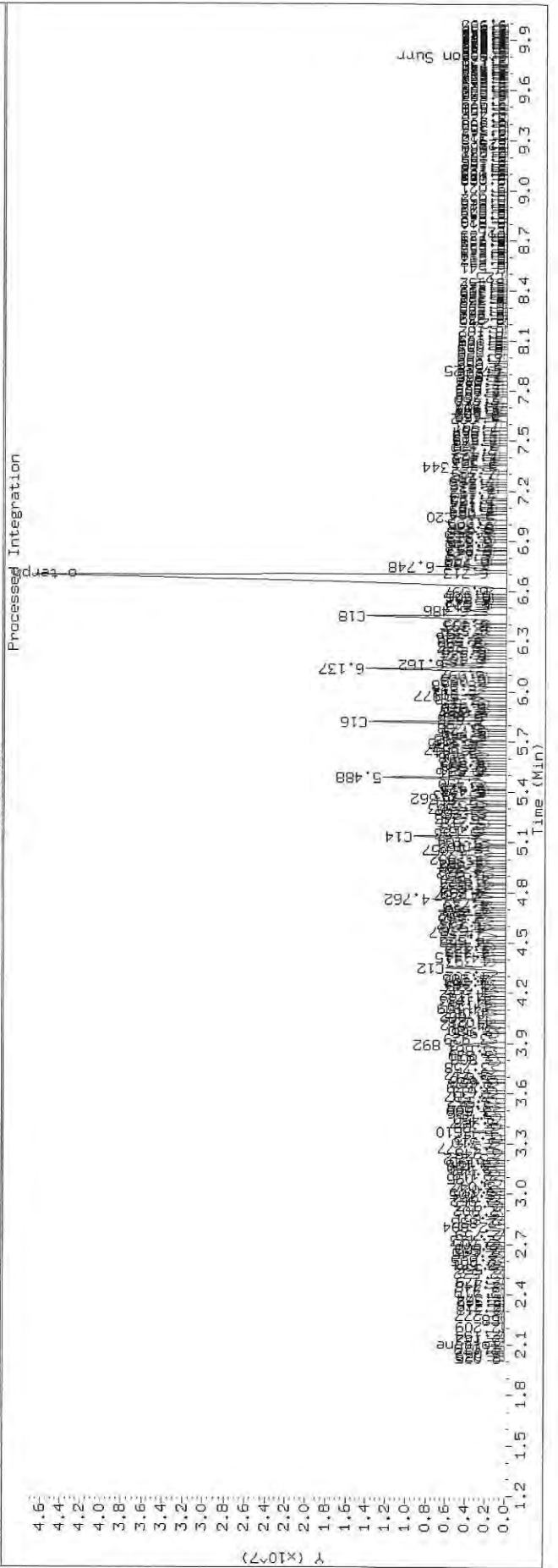
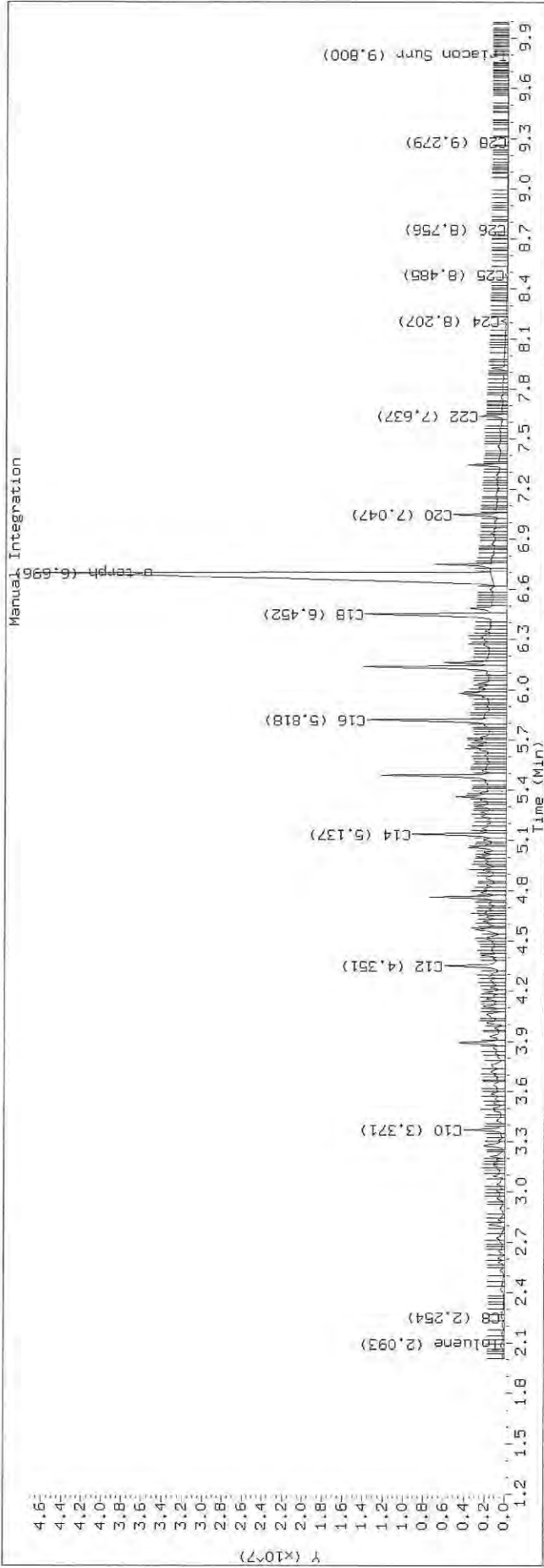
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacotane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2512.D SHJ0406-CAL6





Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2513.D
Date: 25-OCT-2019 15:52

Client ID:

Sample Info: SHJ0406-SCV1

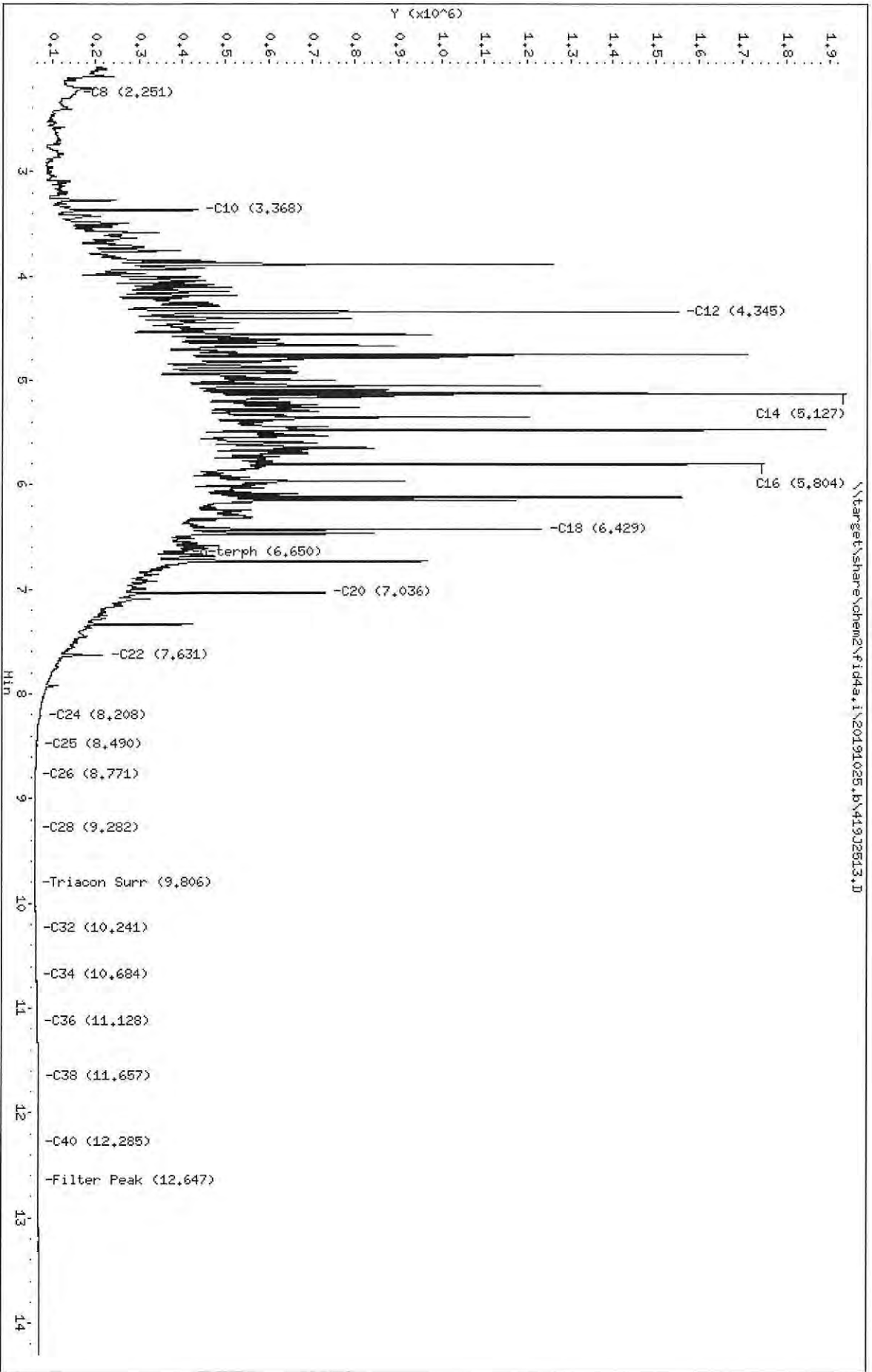
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTD/SH/MTS/JGR

Column diameter: 0.25

\\target\share\chem2\fid4a.1\20191025.b\419J2513.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

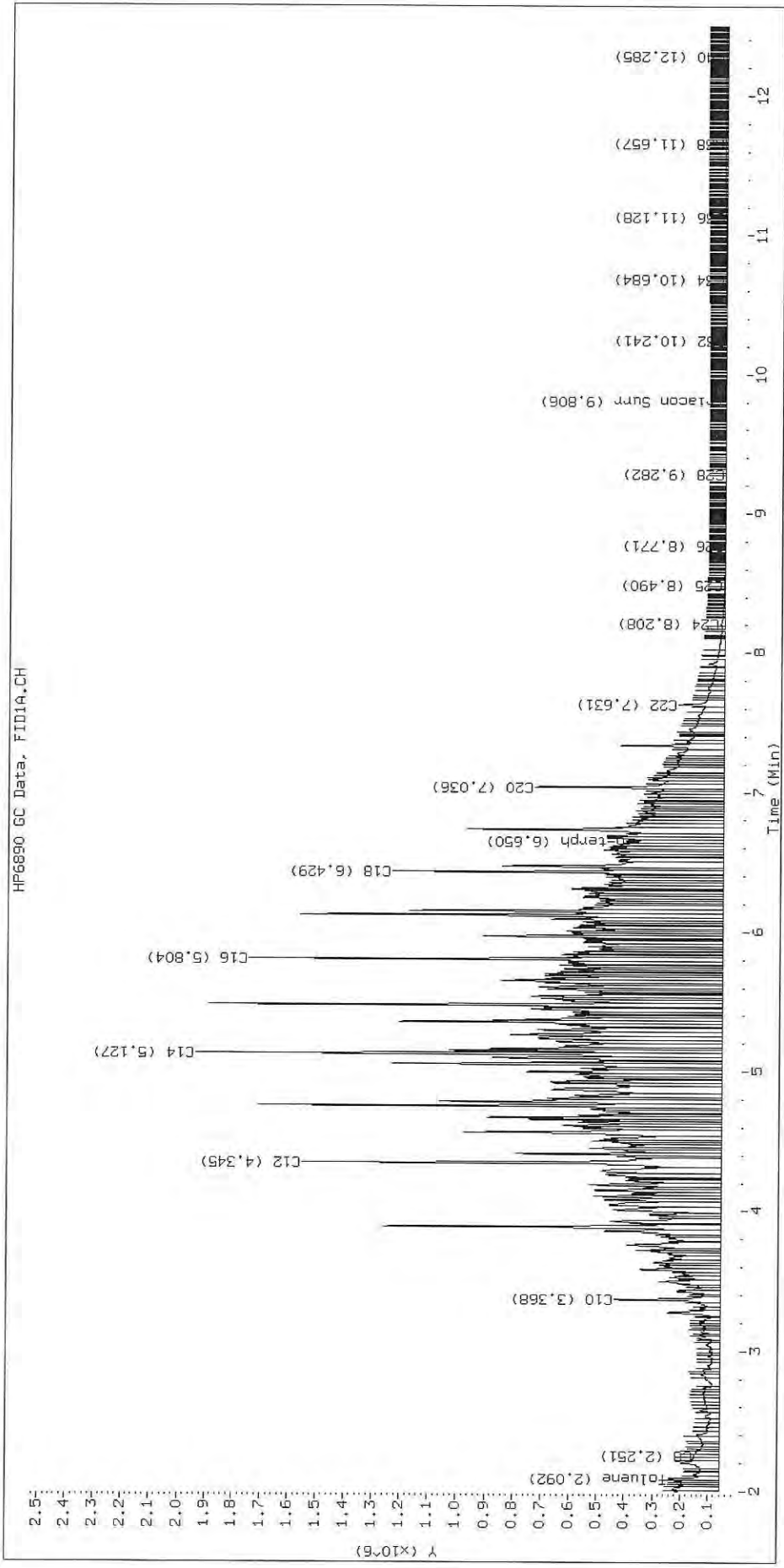
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacotane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCV1

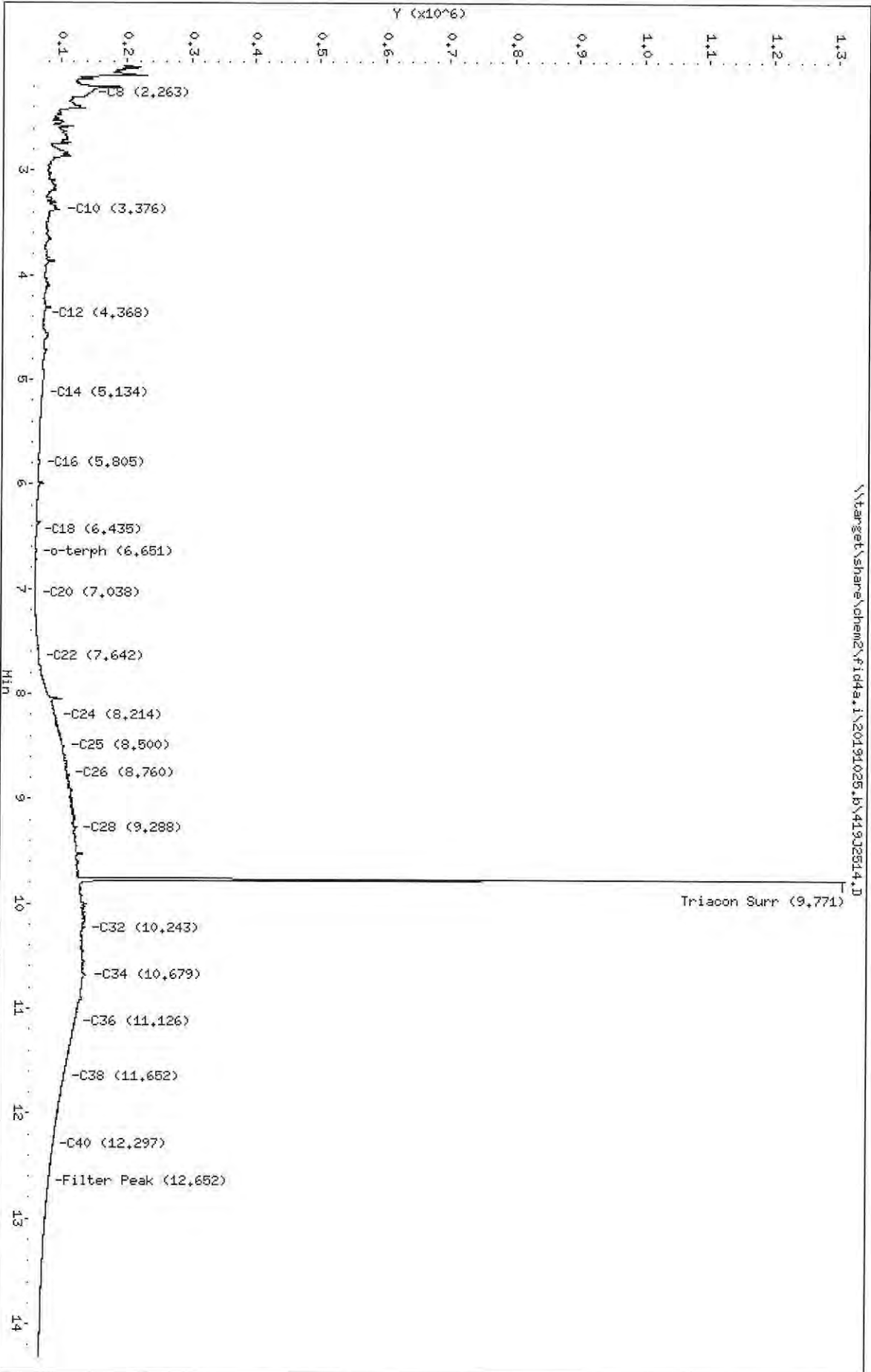
HF6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.bv41932614.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

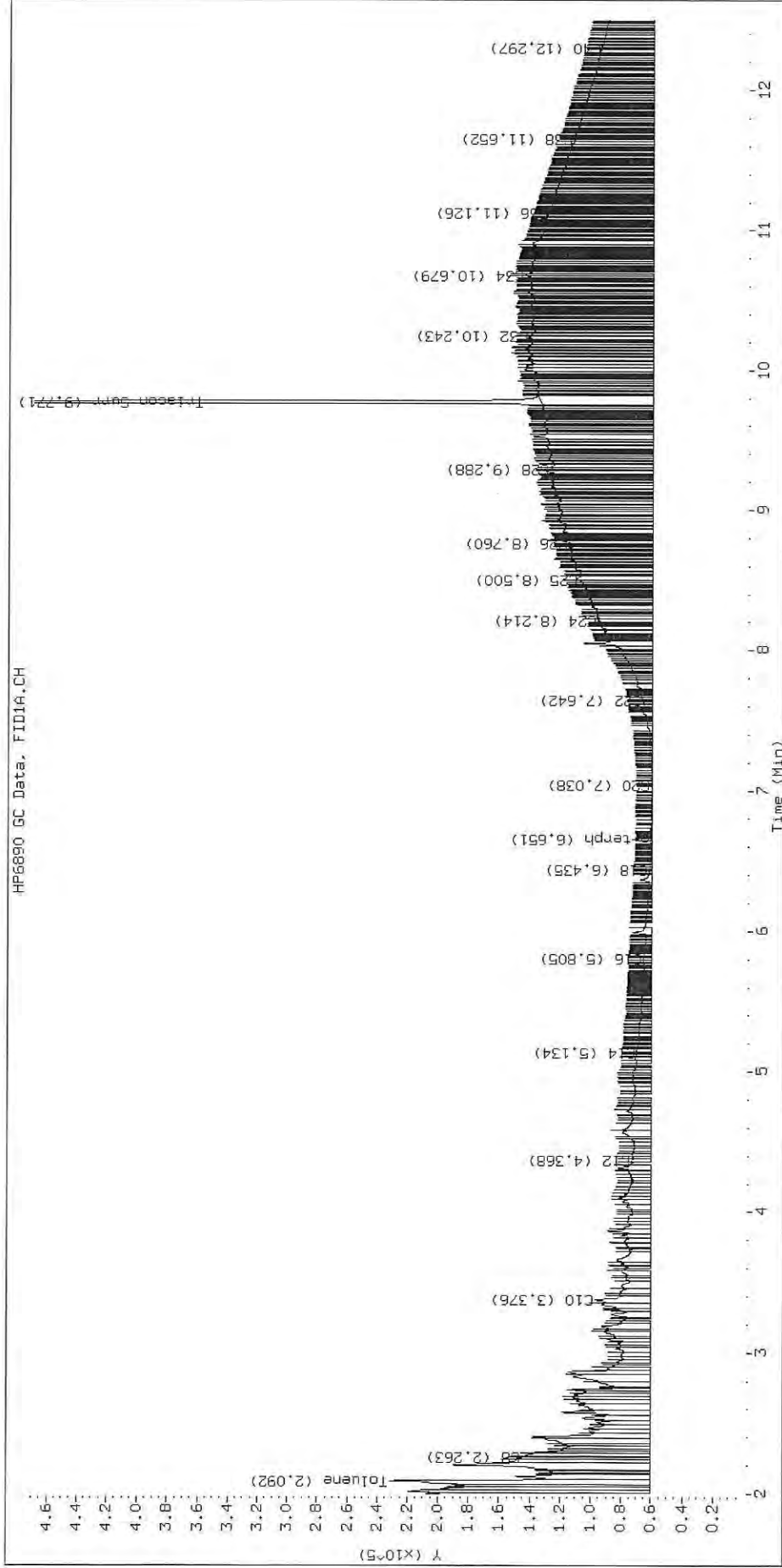
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacontane	816812	4.6 M

M Indicates the peak was manually integrated

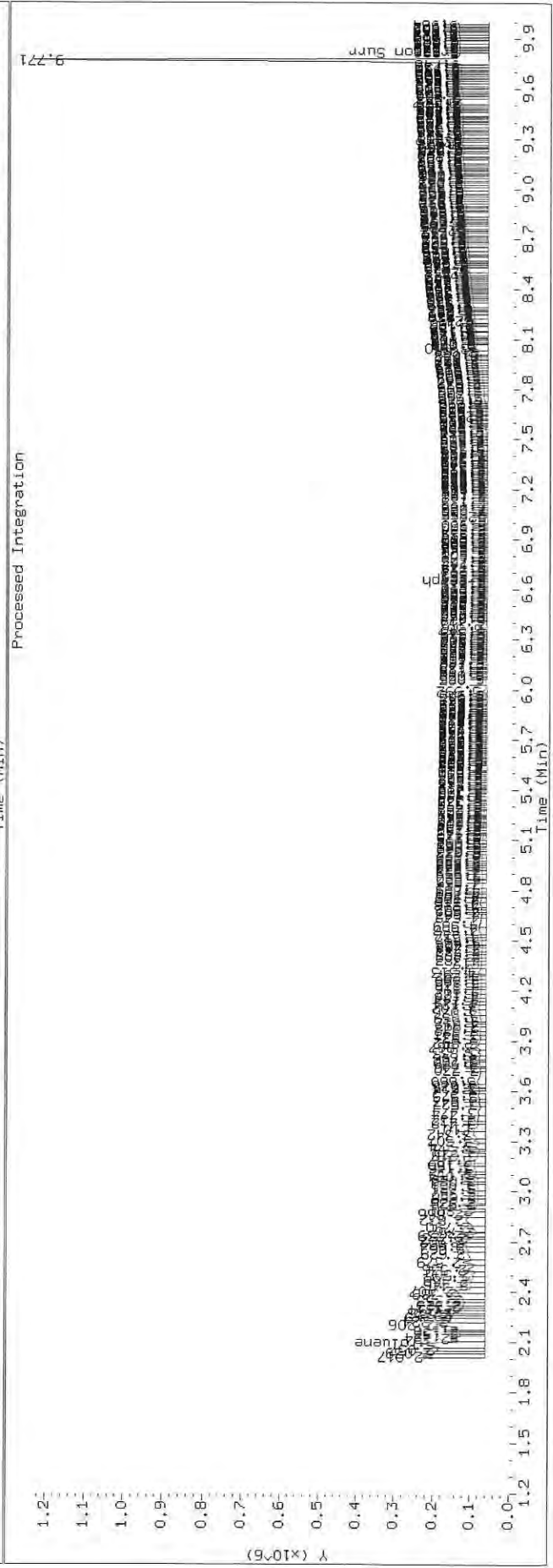
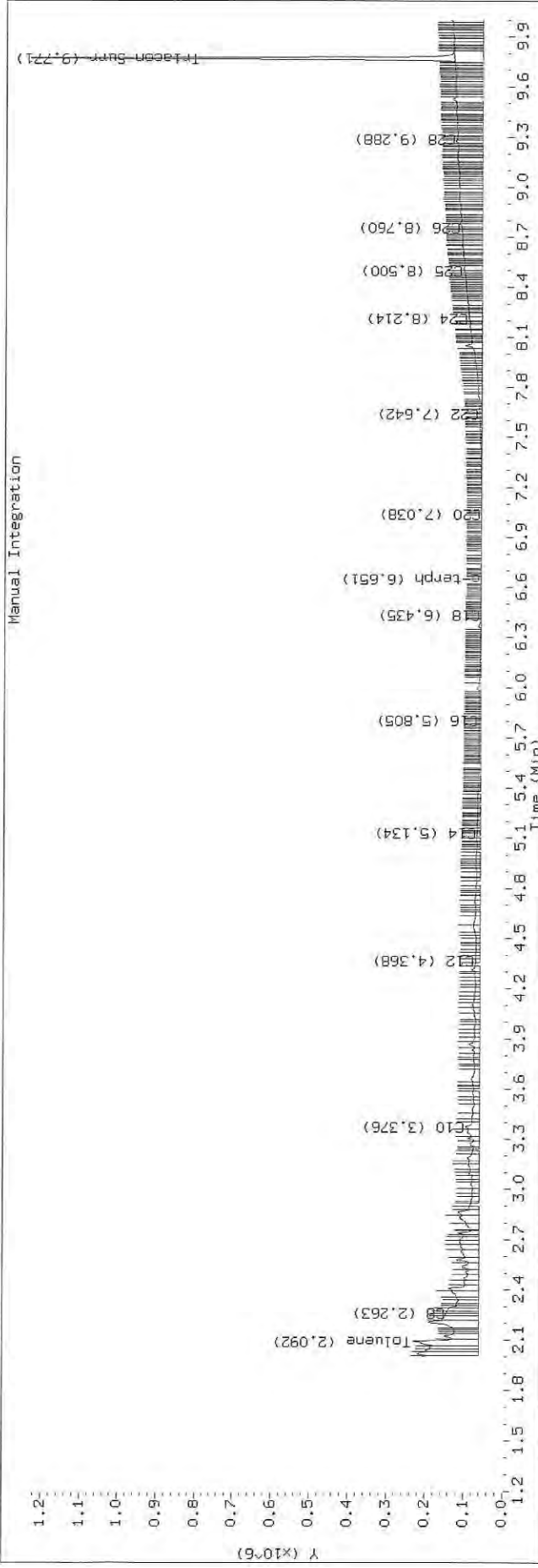
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH



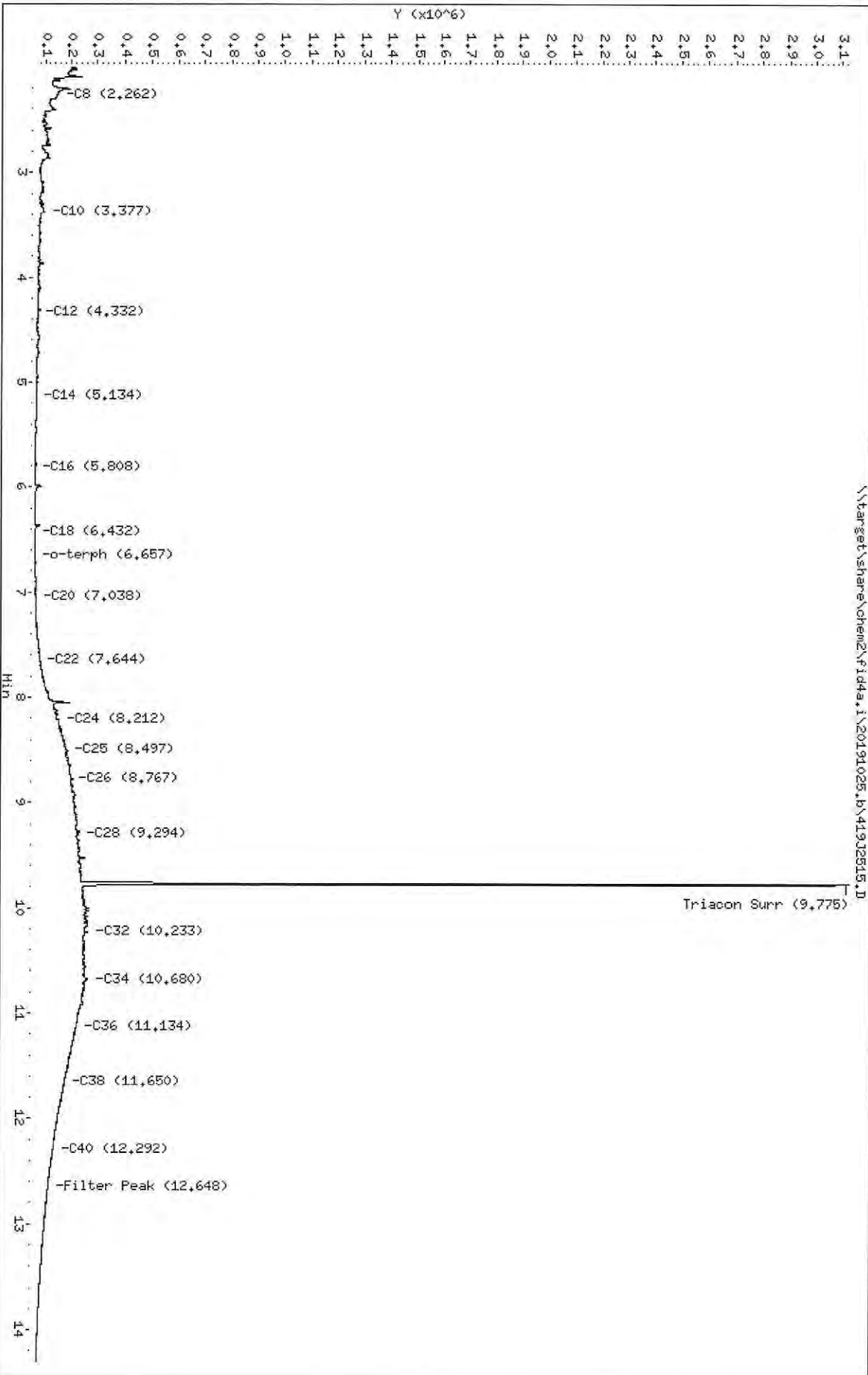
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2514.D Injection: 25-OCT-2019 16:12
 Lab ID: SHJ0406-CAL7



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Info: SHJ0406-CAL8

Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

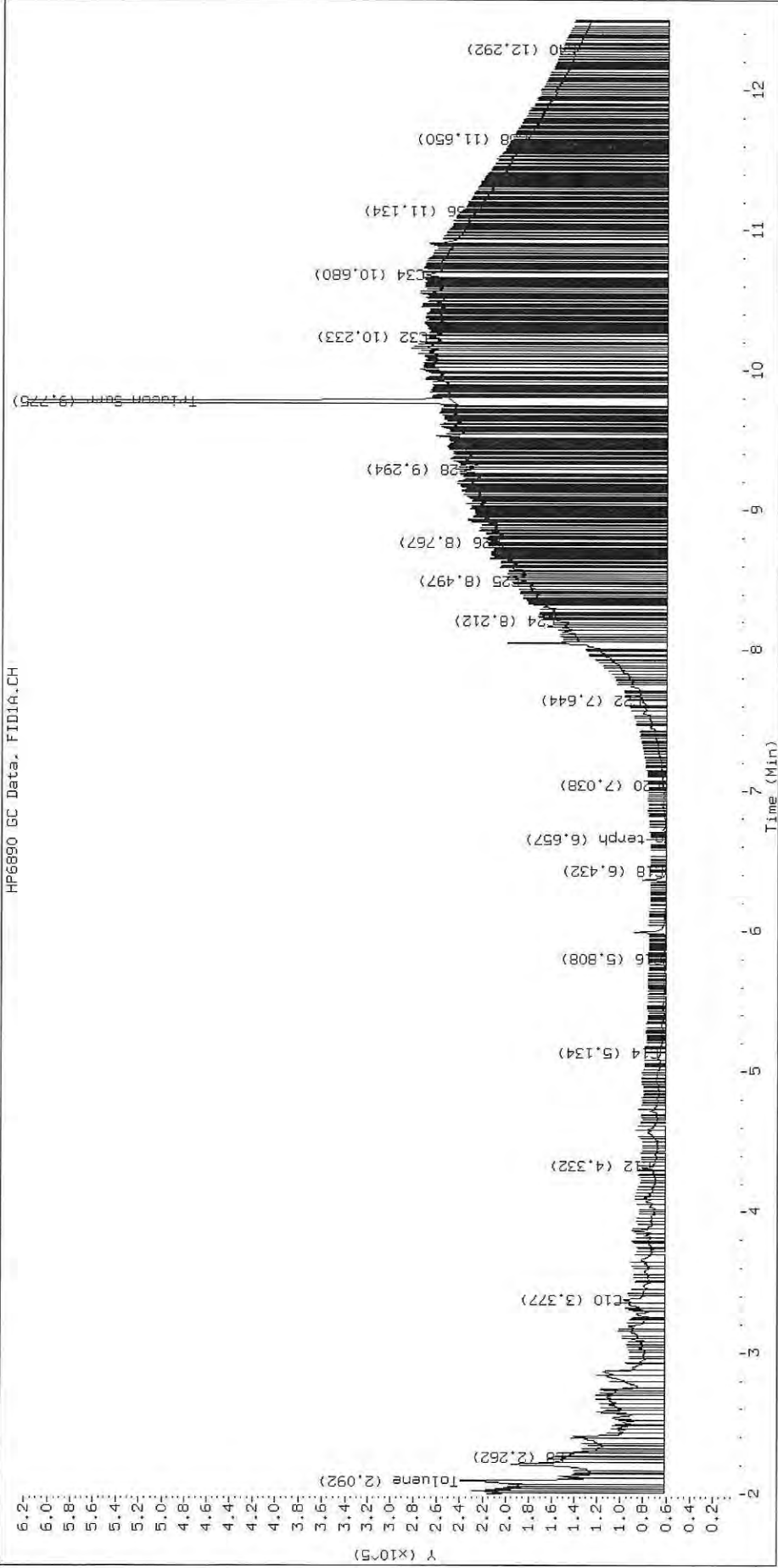
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacontane	2052387	11.5 M

M Indicates the peak was manually integrated

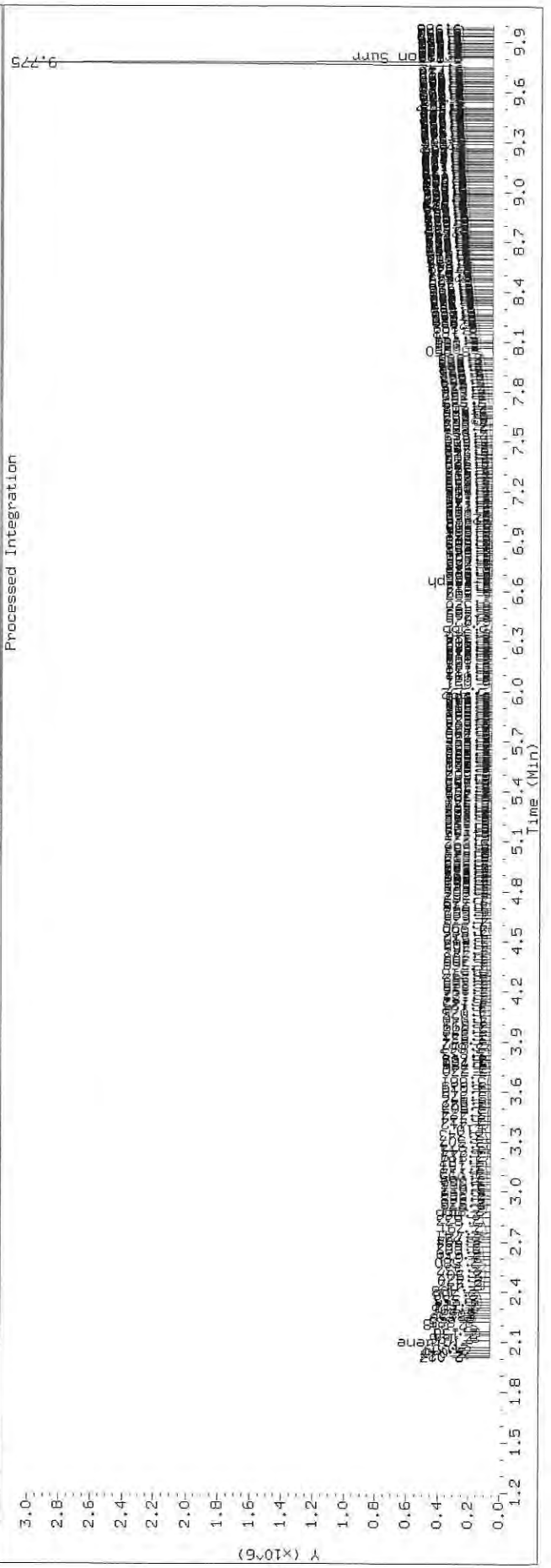
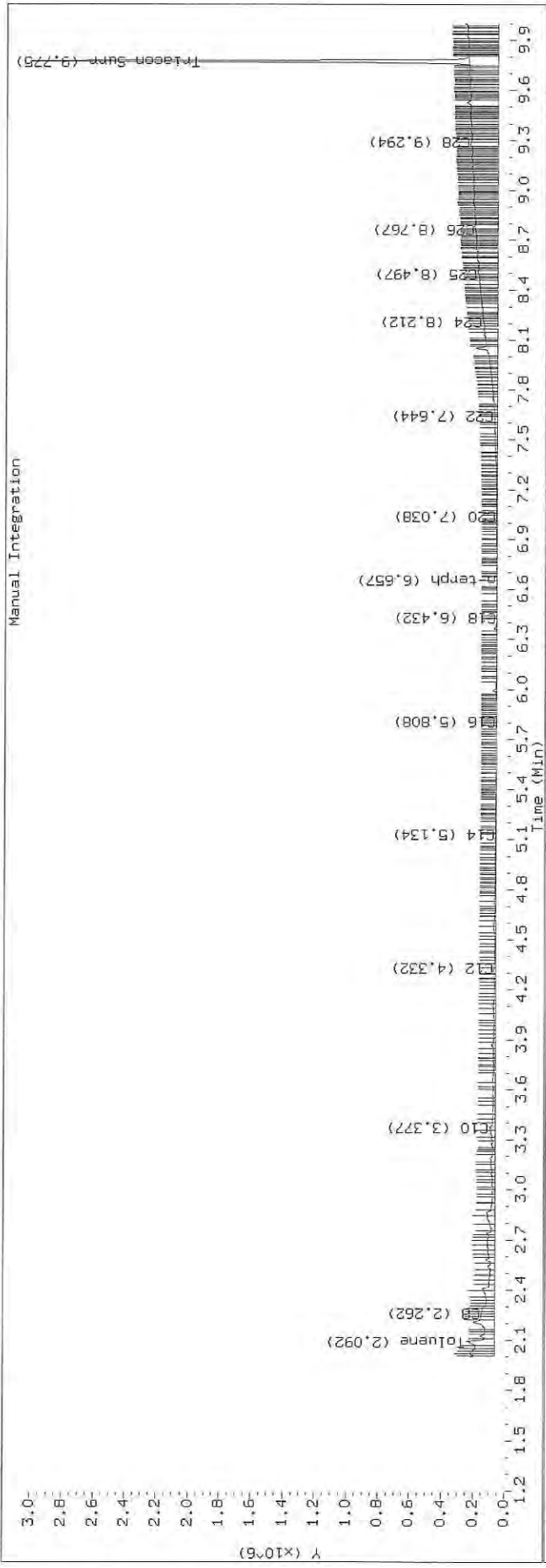
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data. FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2515.D Injection: 25-OCT-2019 16:33
 Lab ID:SHJ0406-CAL8



Data File: \\target\share\chem2\Fid4a.I\20191025.B\419J2516.D

Date: 25-OCT-2019 16:53

Client ID:

Sample Info: SHJ0406-CAL9

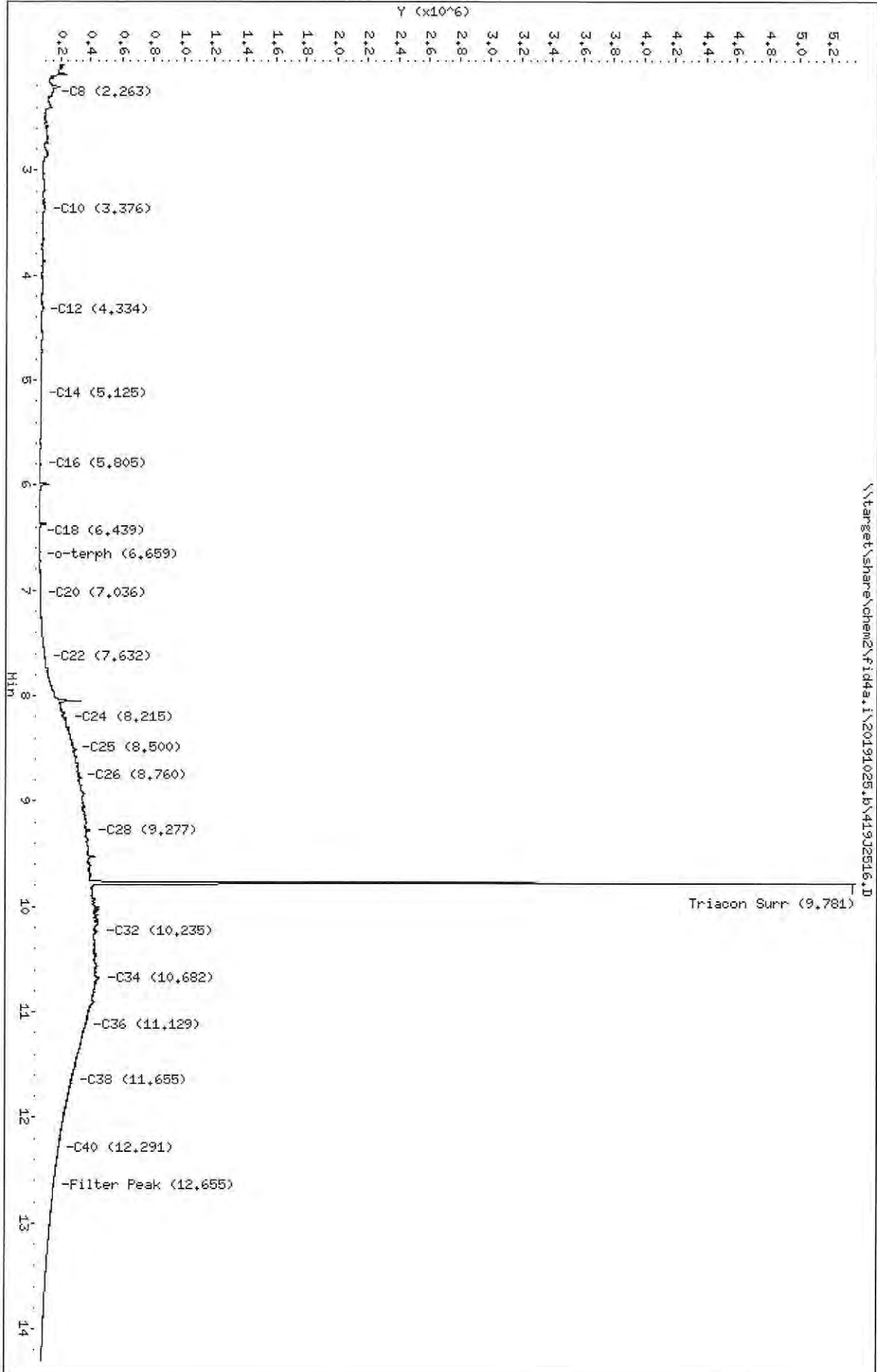
Column Phase: RTX-1

Instrument: fid4a.i

Operator: CTD/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fid4a.I\20191025.B\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

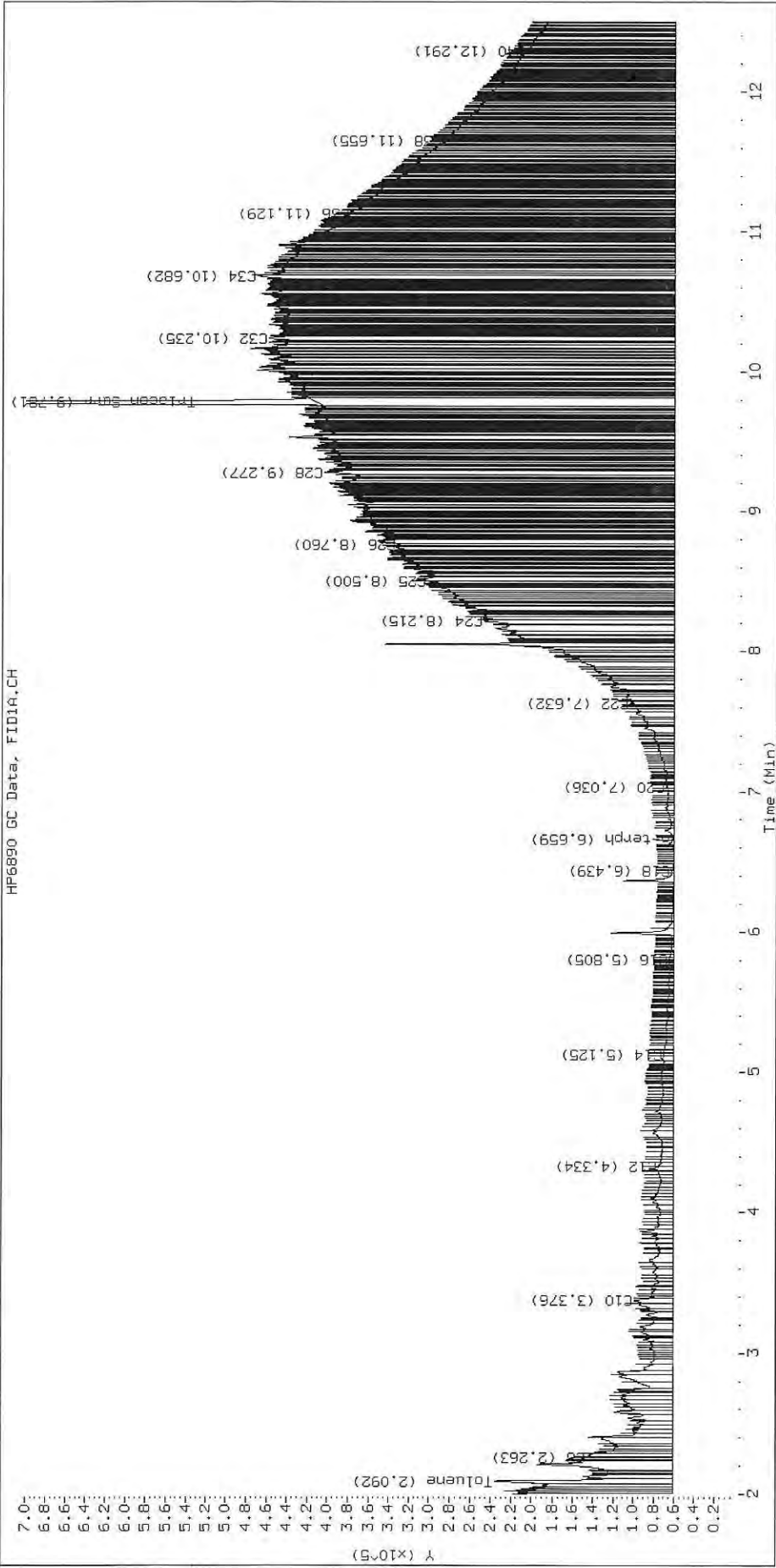
Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacotane	3881047	21.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

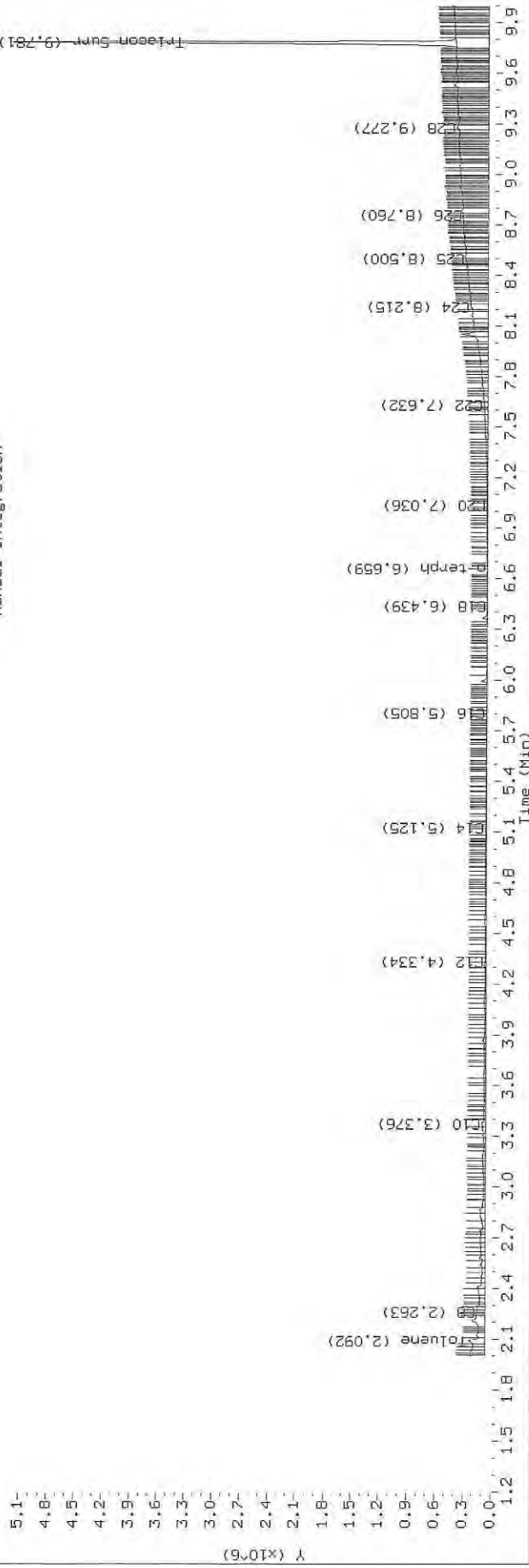
Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

HP6890 GC Data, FID1A.CH

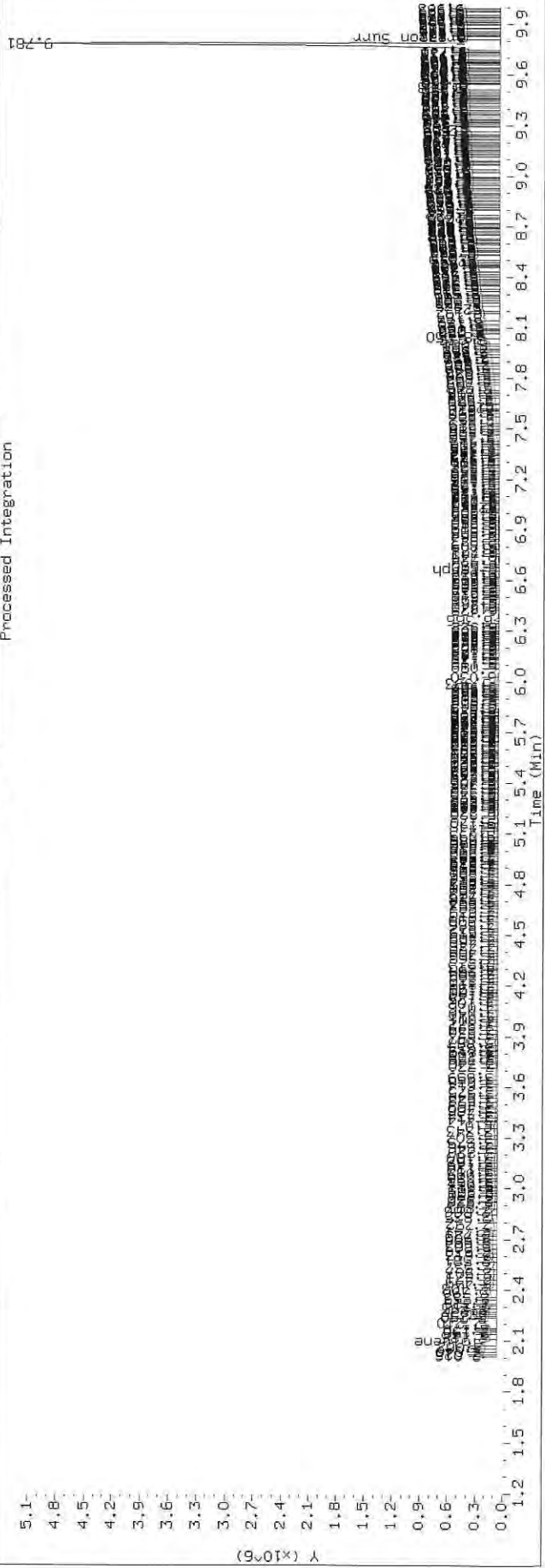


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/41902516.D Injection: 25-OCT-2019 16:53
 Lab ID: SHJ0406-CAL9

Manual Integration



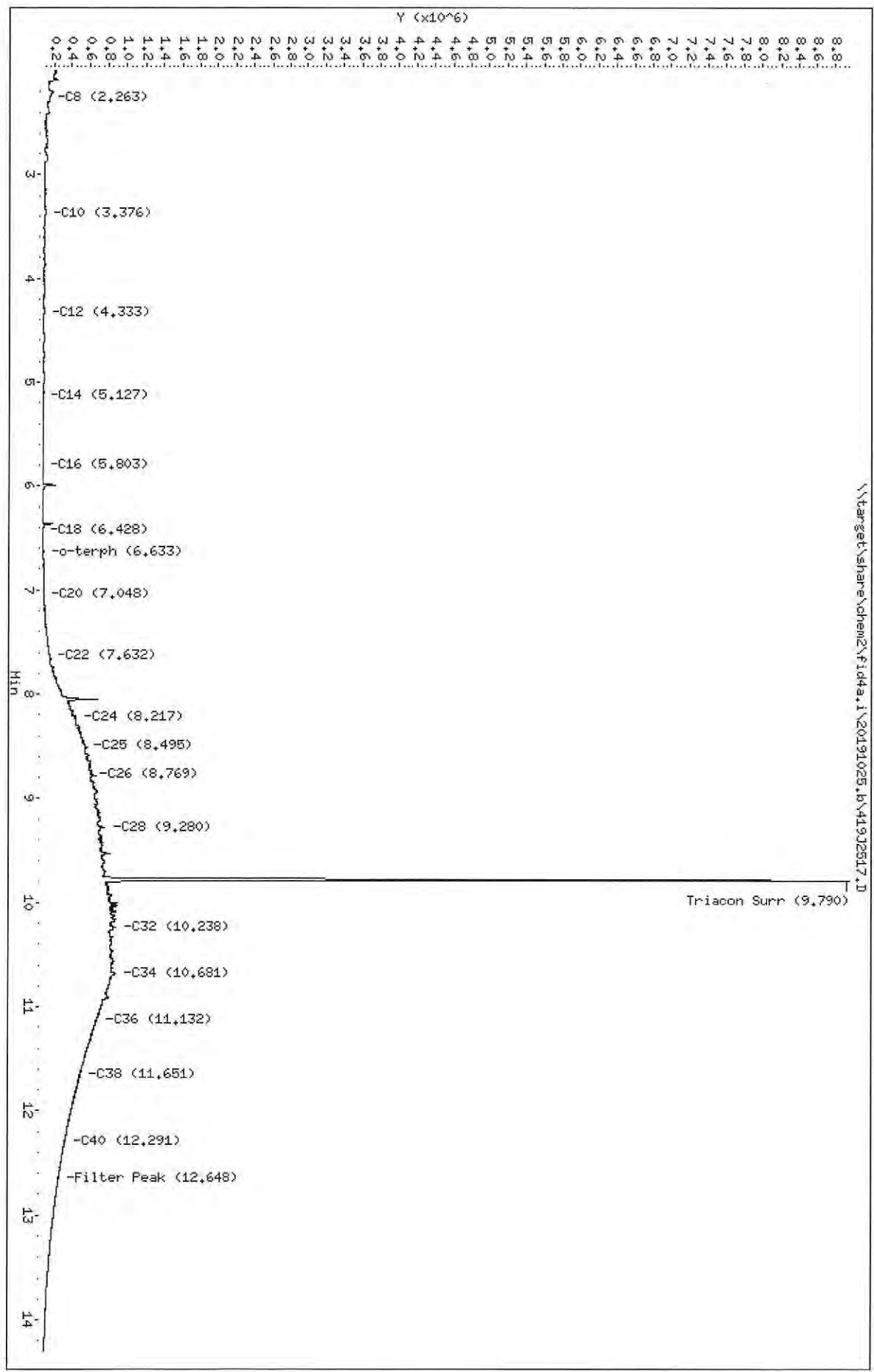
Processed Integration



Data File: \\target\share\chem2\Fidda.I\20191025.B\419J2517.D
 Date: 25-OCT-2019 17:13
 Client ID:
 Sample Info: SHJ0406-CALA

Column phase: RTX-1

Instrument: Fidda.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

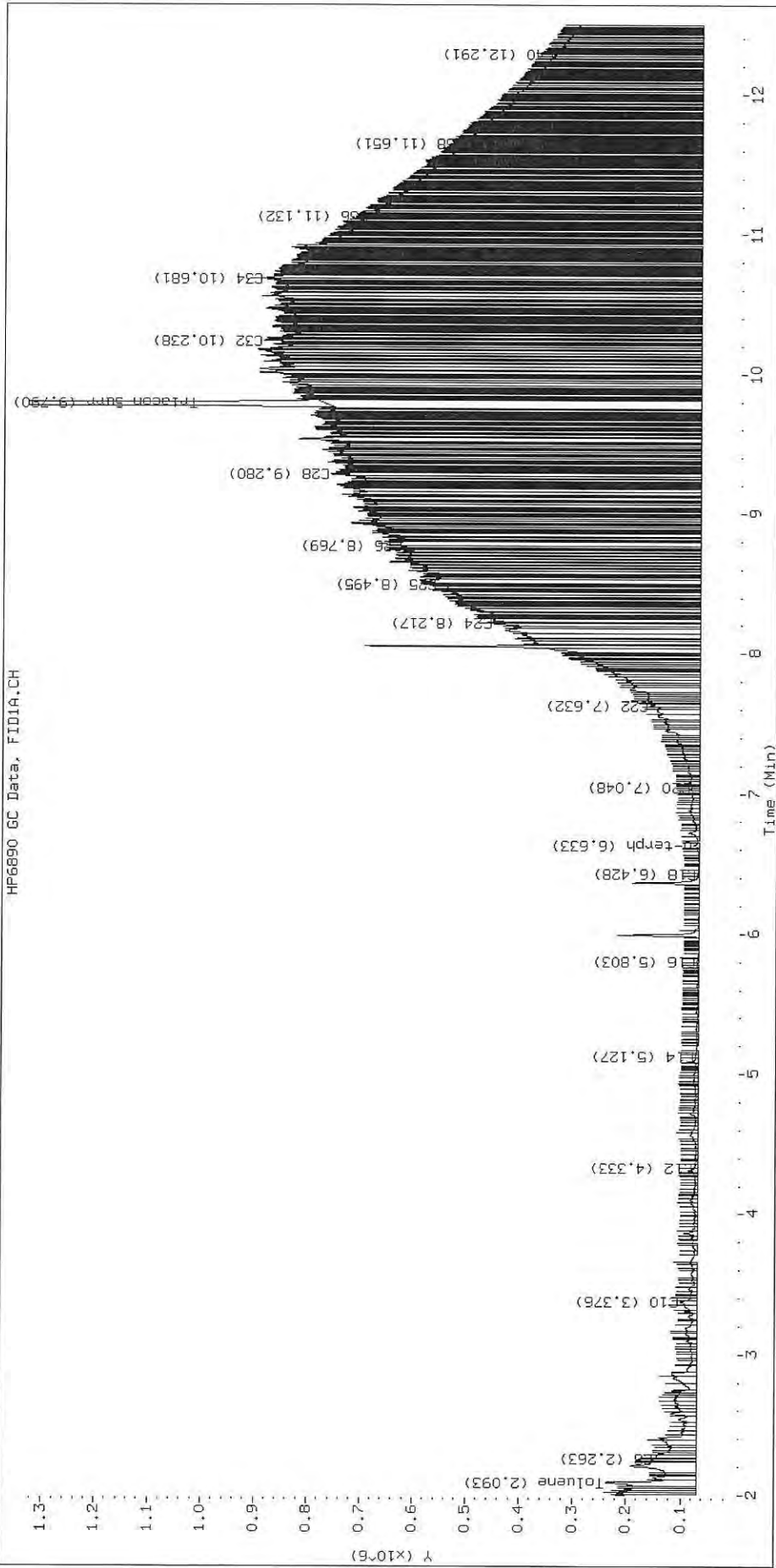
Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacotane	7927188	44.5 M

M Indicates the peak was manually integrated

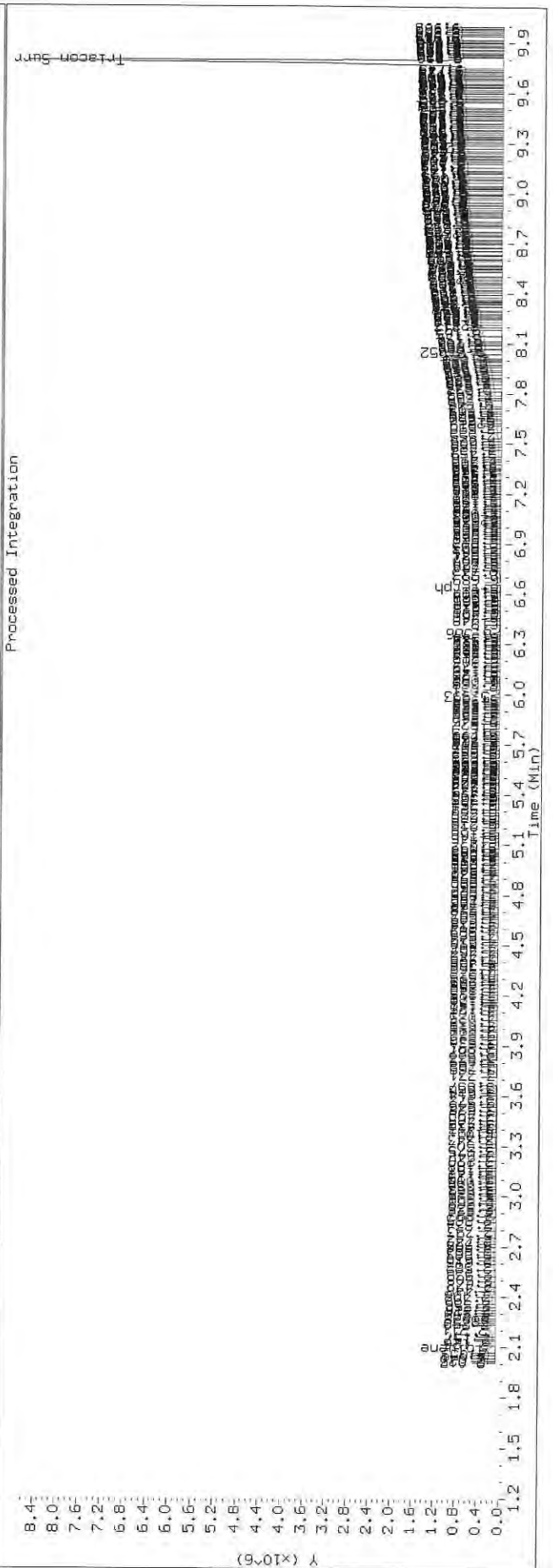
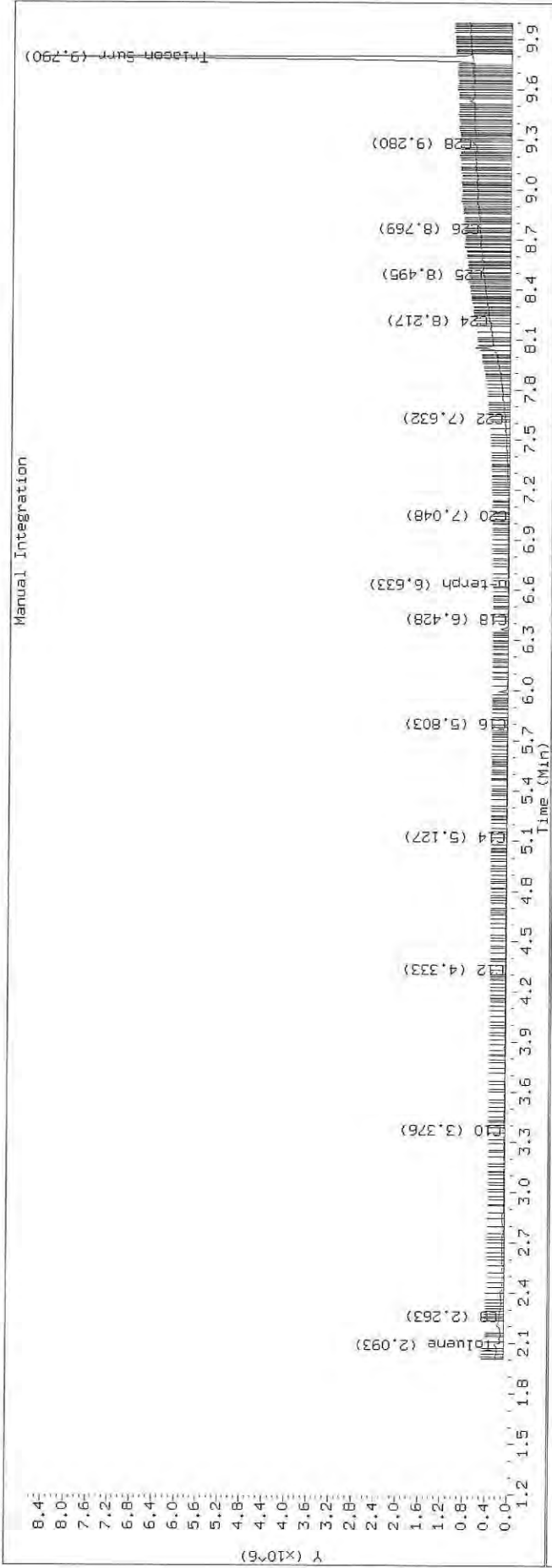
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2517.D SHJ0406-CALA

HF6890 GC Data, FID1A.CH



TPH Manual Integrations Report



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2518.D

Date: 25-OCT-2019 17:34

Client ID:

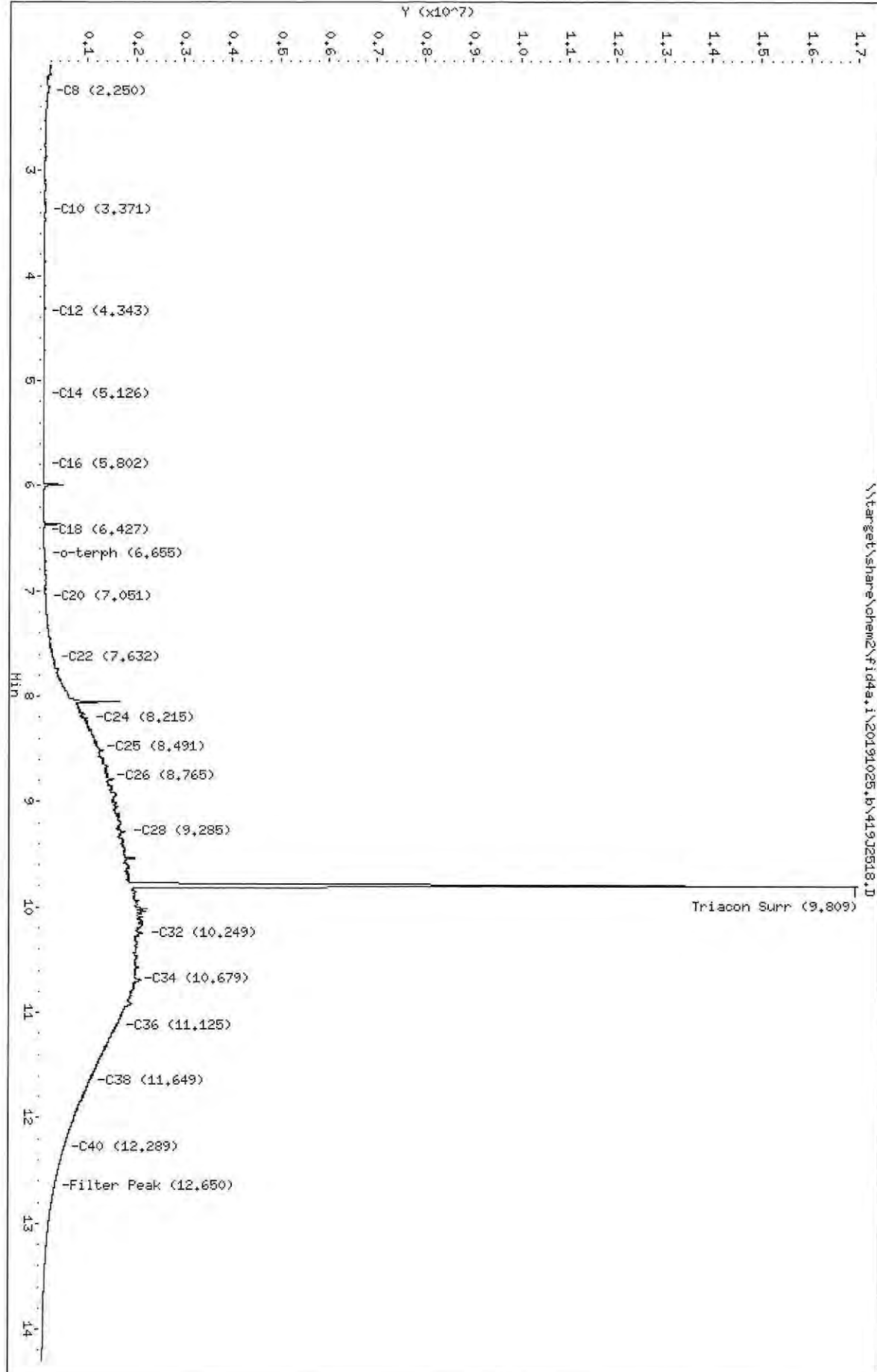
Sample Info: SHJ0406-C9LB

Column Phase: RTX-1

Instrument: fid4a.1

Operator: CTD/SH/WTS/JCR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

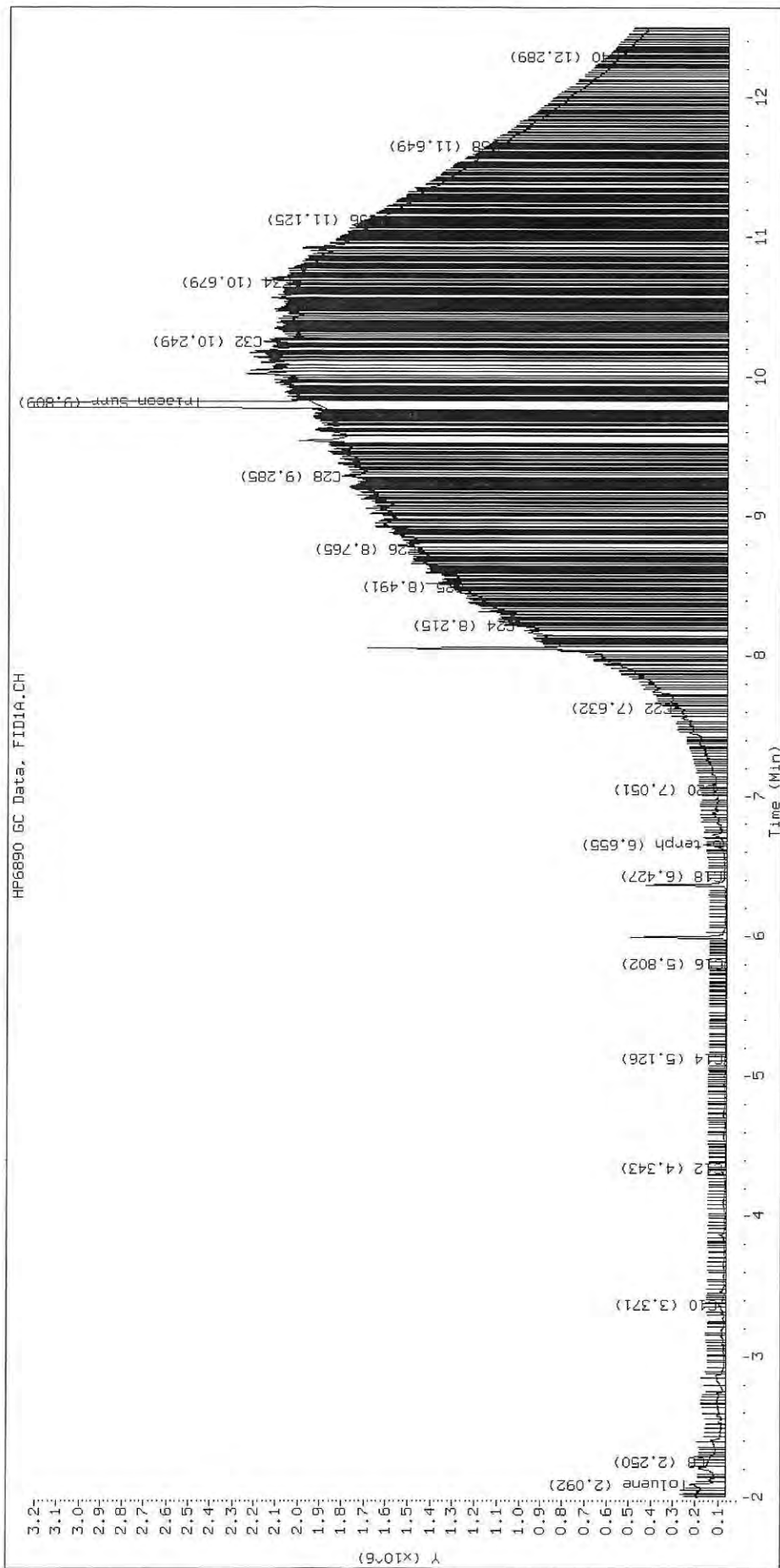
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacotane	20120024	113.0 M

M Indicates the peak was manually integrated

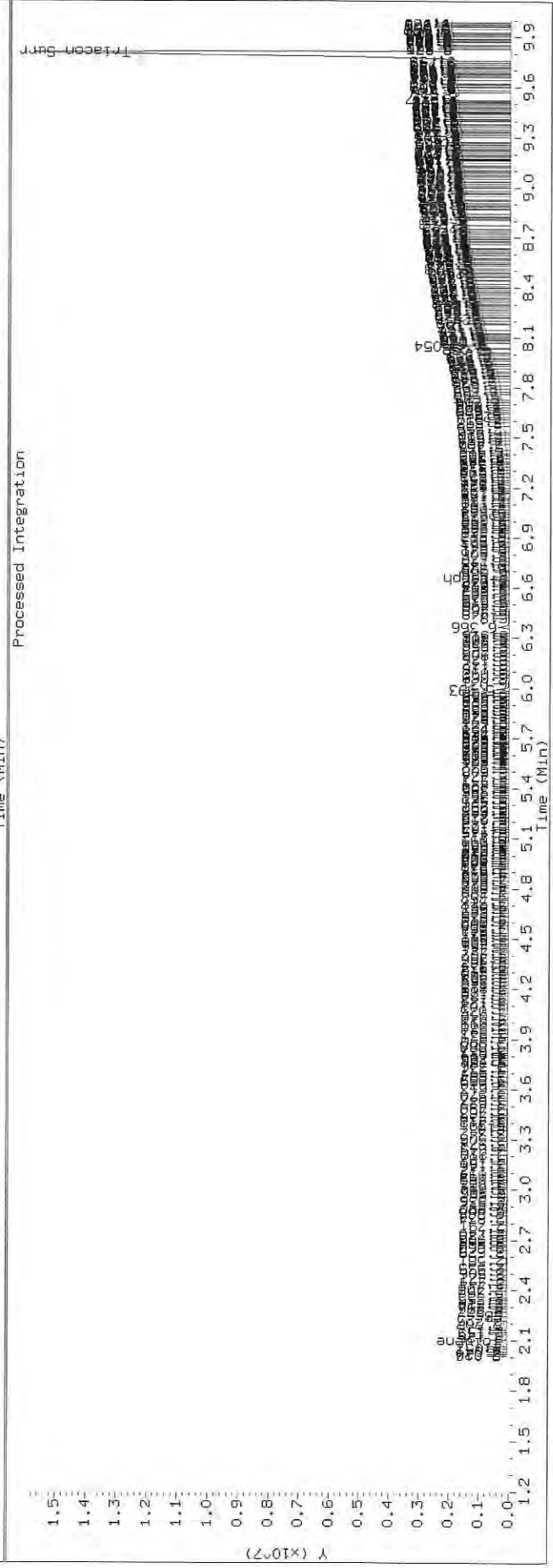
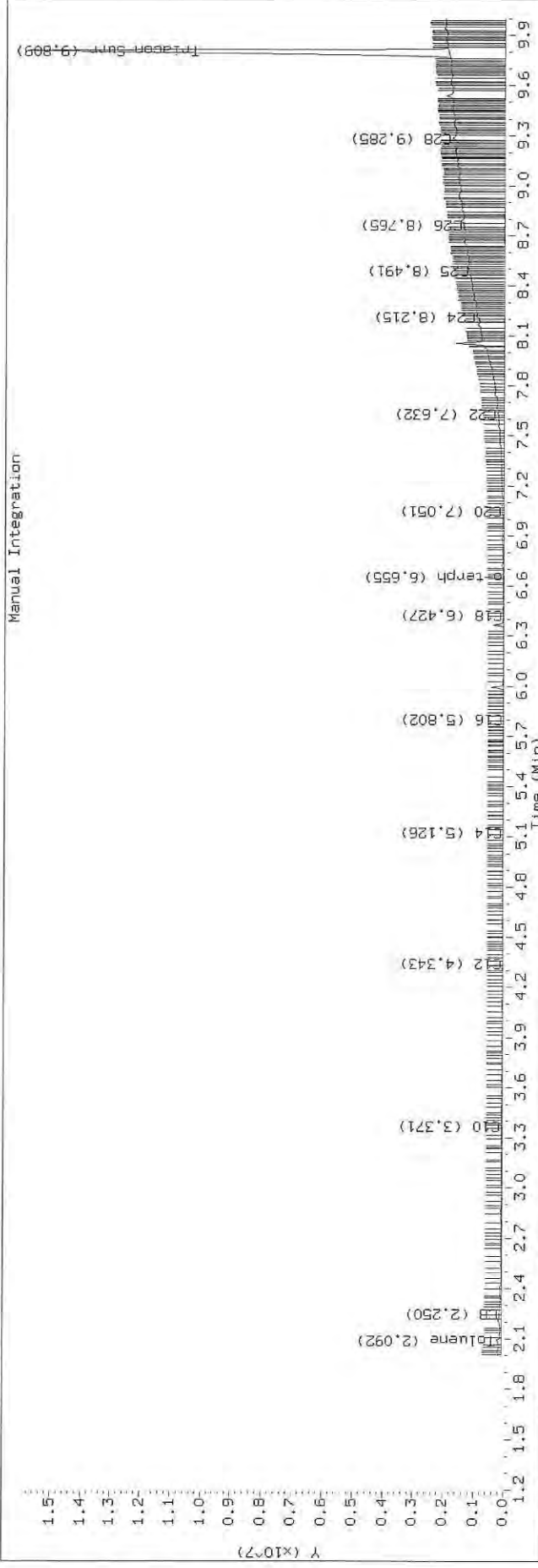
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

HP6890 GC Data, FID1A.CH



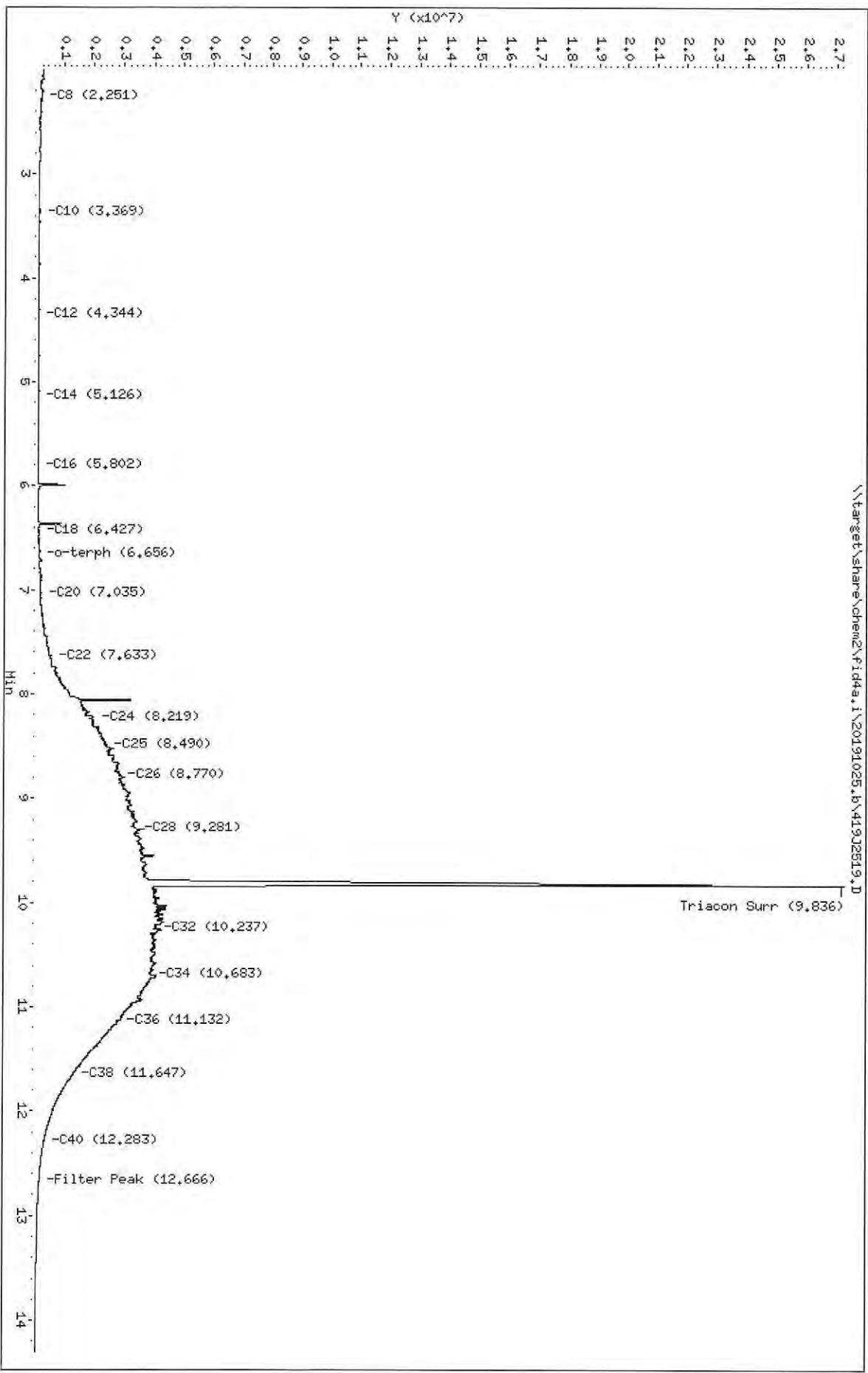
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2518.D Injection: 25-OCT-2019 17:34
 Lab ID: SHJ0406-CALB



Data File: \\target\share\chem2\fid4a.1\20191025.6\419J2519.D
Date: 25-OCT-2019 17:54
Client ID:
Sample Info: SHJ0406-CHLC

Column phase: RTX-1

Instrument: fid4a.1
Operator: CT0/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

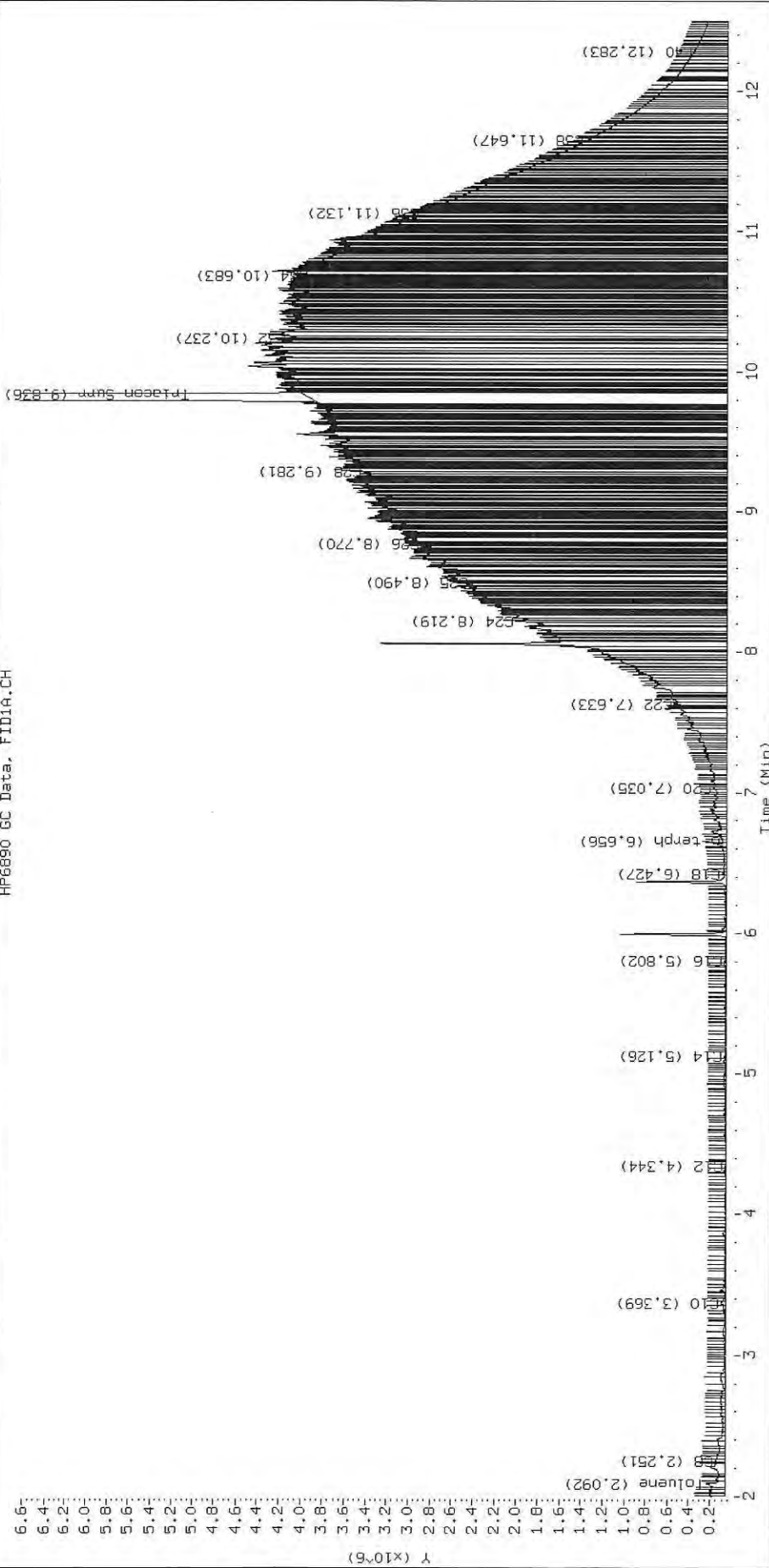
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacotane	39698048	223.0 M

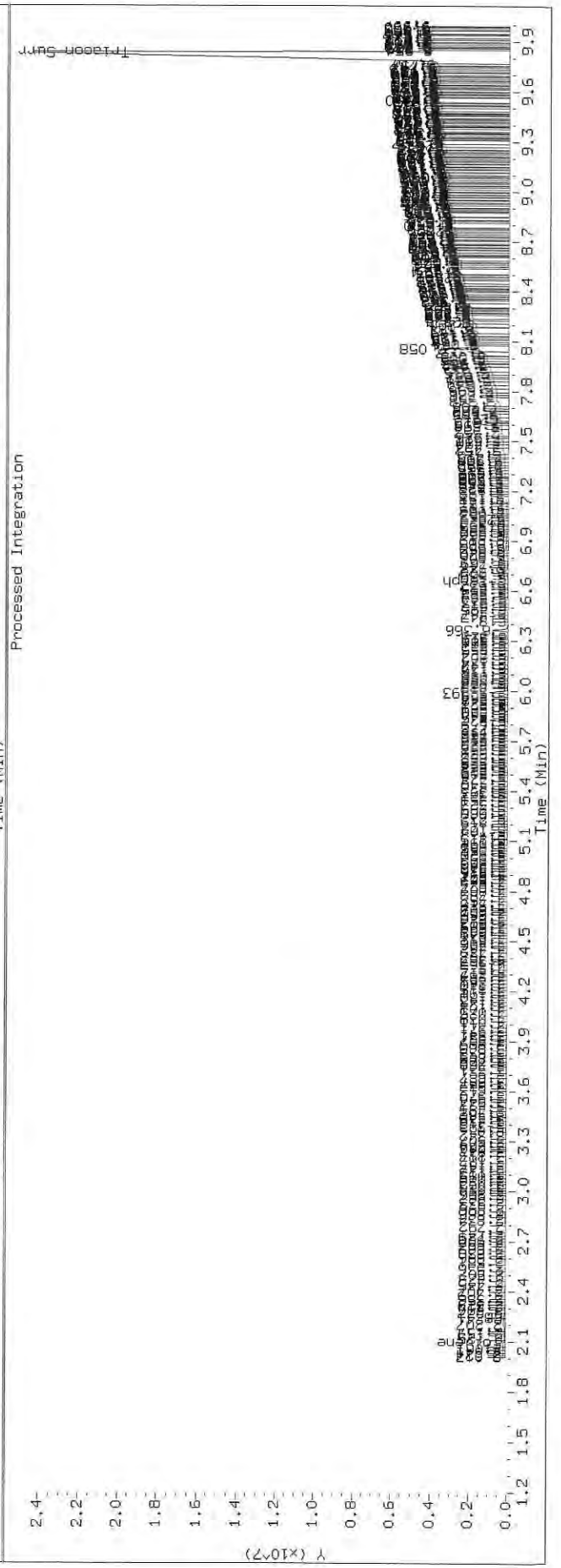
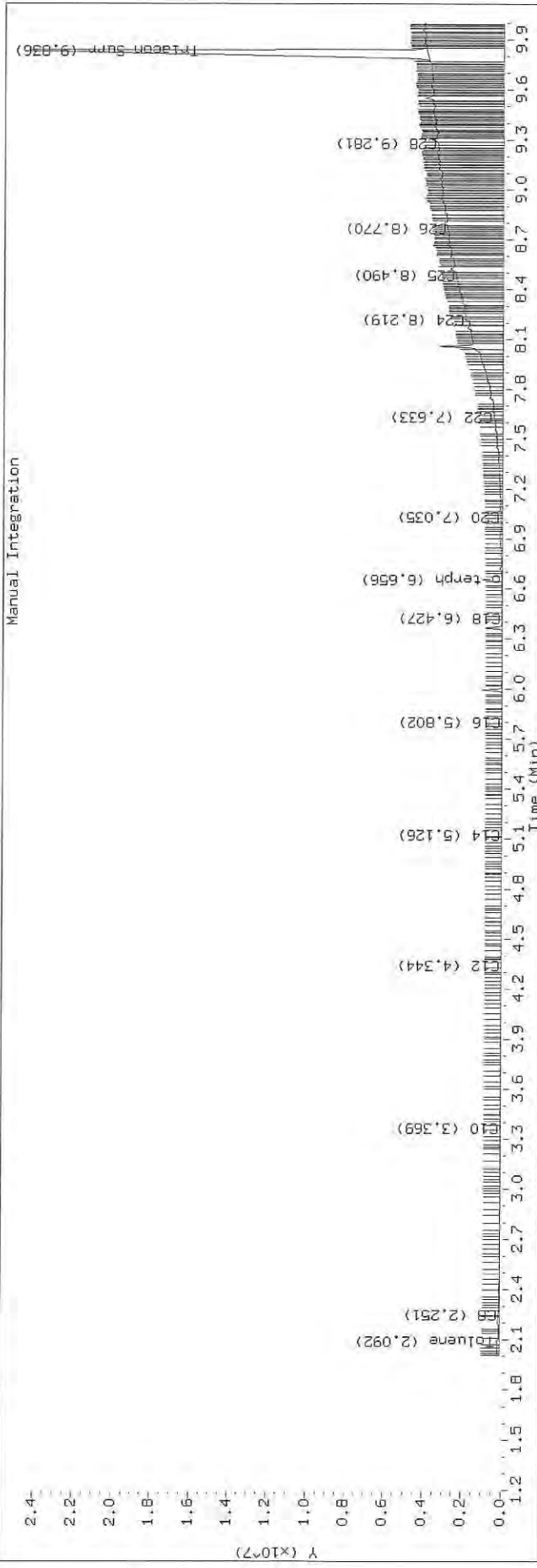
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

HP6890 GC Data, FID1A.CH



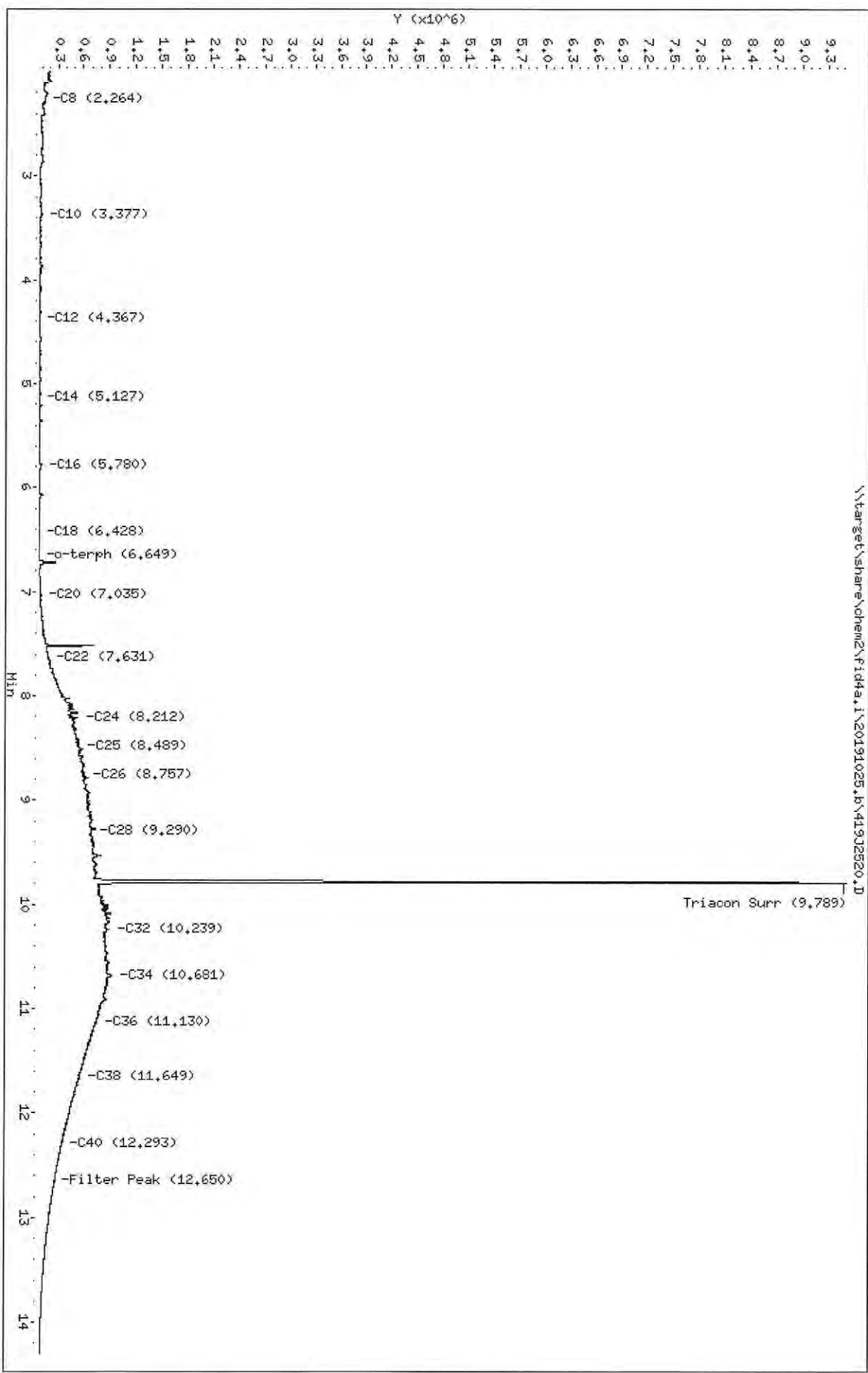


Data File: \\target\share\chem2\fid4a.1\20191025 JB\419J2520.D
Date: 25-OCT-2019 18:14
Client ID:
Sample Info: SHJ0406-SCV2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.1\20191025 JB\419J2520.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

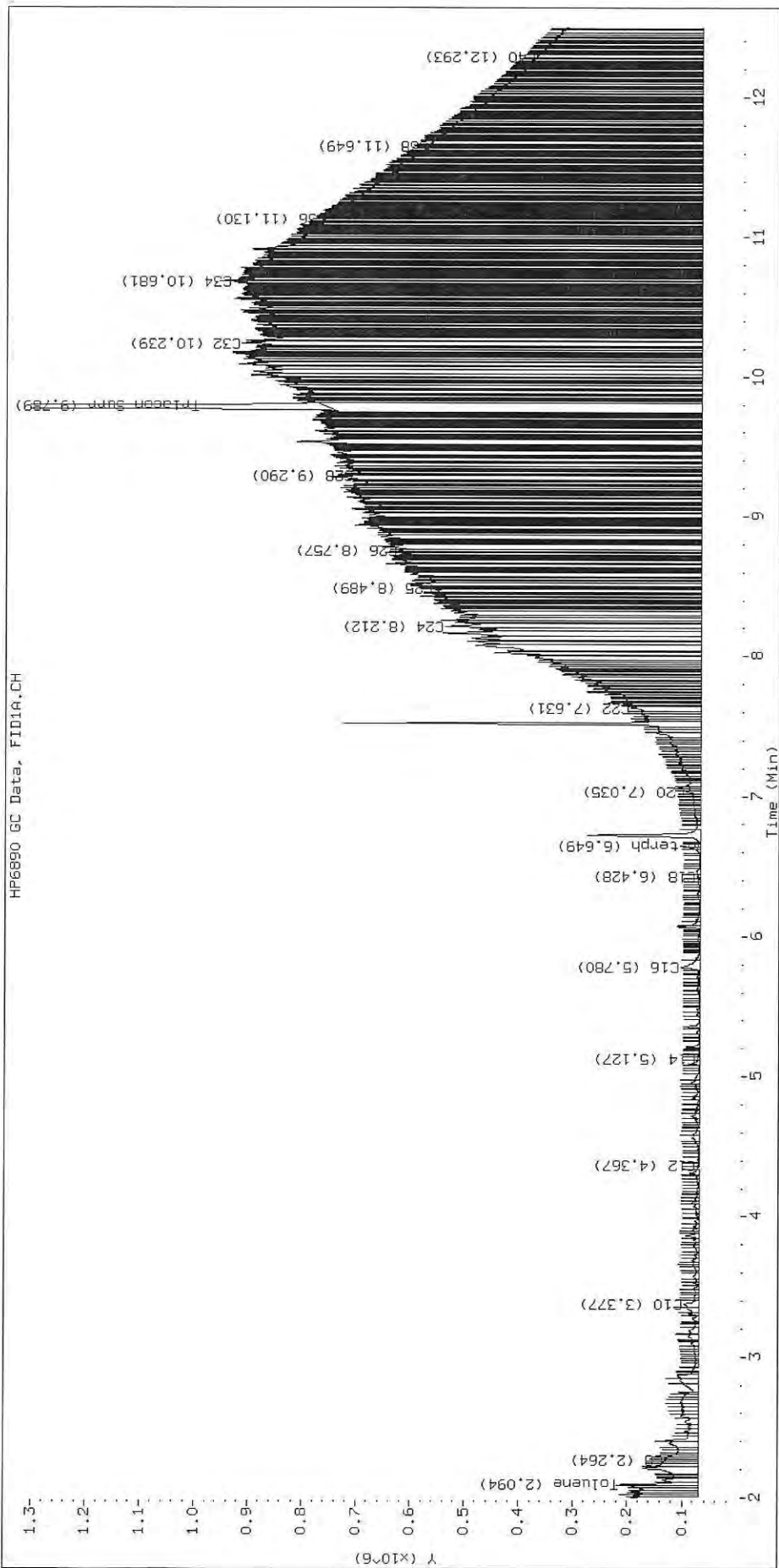
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

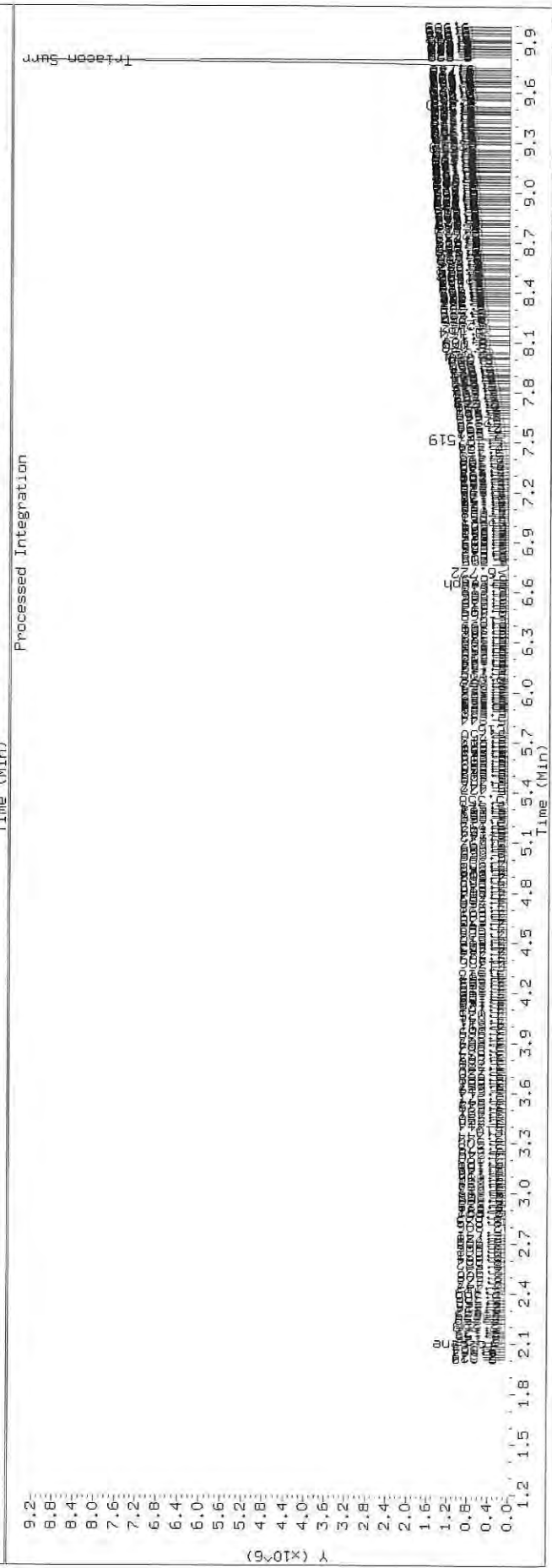
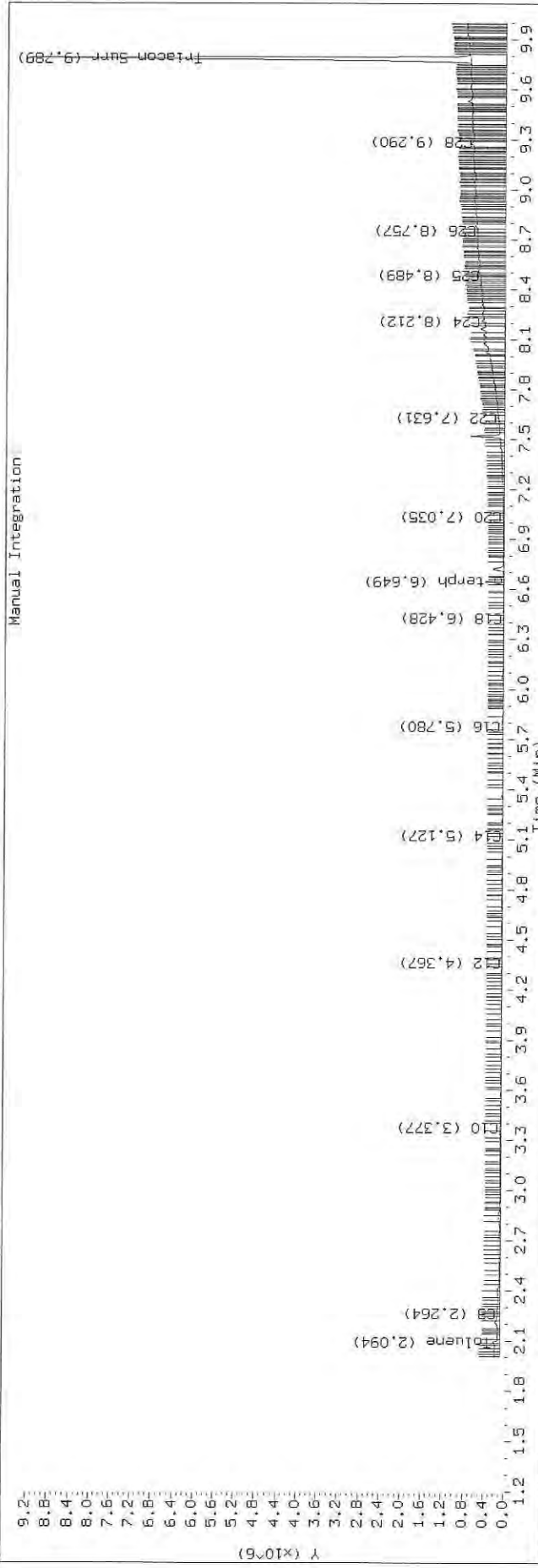
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14
 Lab ID: SHJ0406-SCV2



Data File: \\target\share\chem2\Fidda.i\20191025.b\41932521.D

Date: 25-OCT-2019 18:36

Client ID:

Sample Info: SH00406-CALD

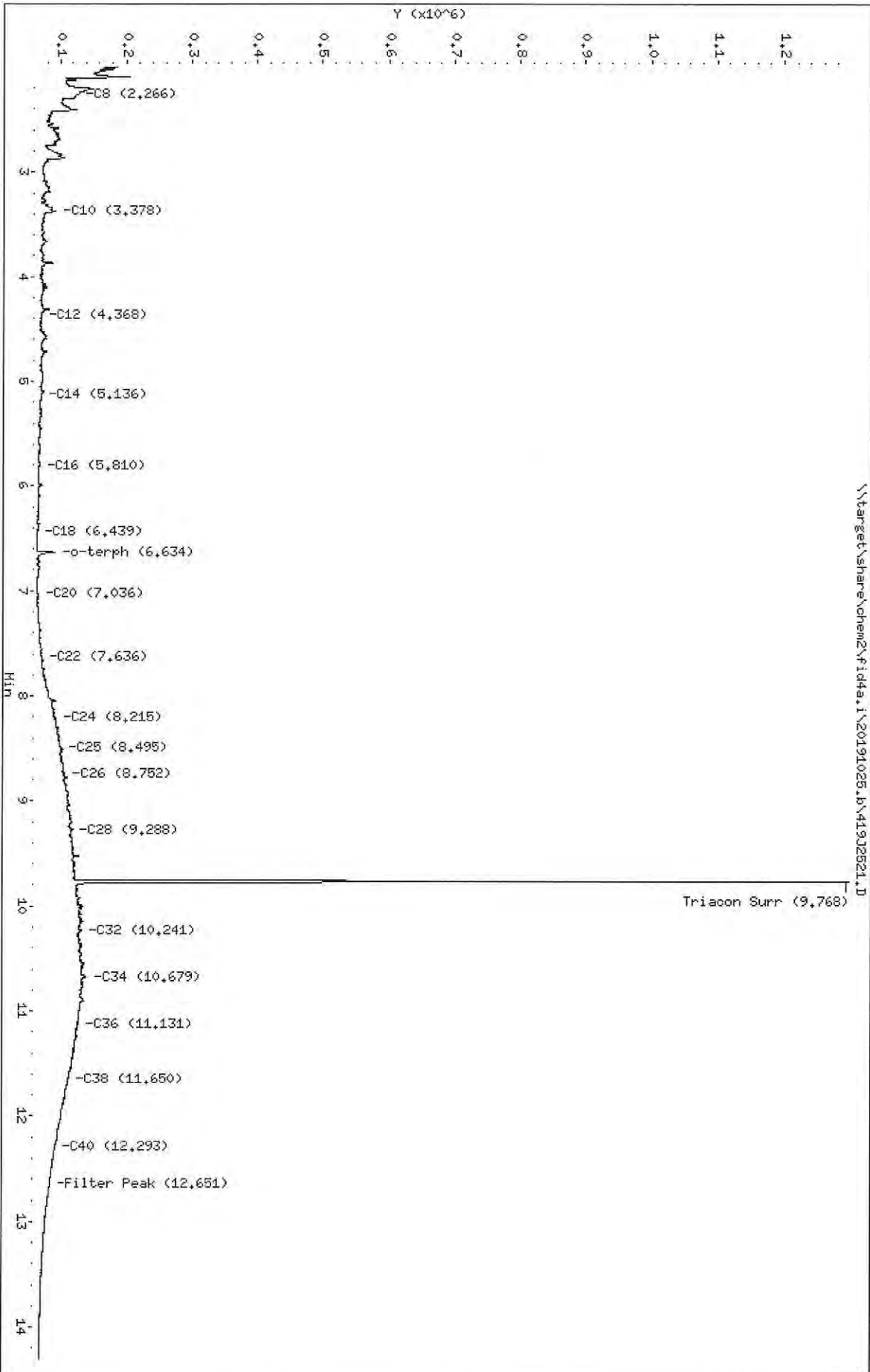
Column phase: RTX-1

Instrument: fidda.i

Operator: CTG/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fidda.i\20191025.b\41932521.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

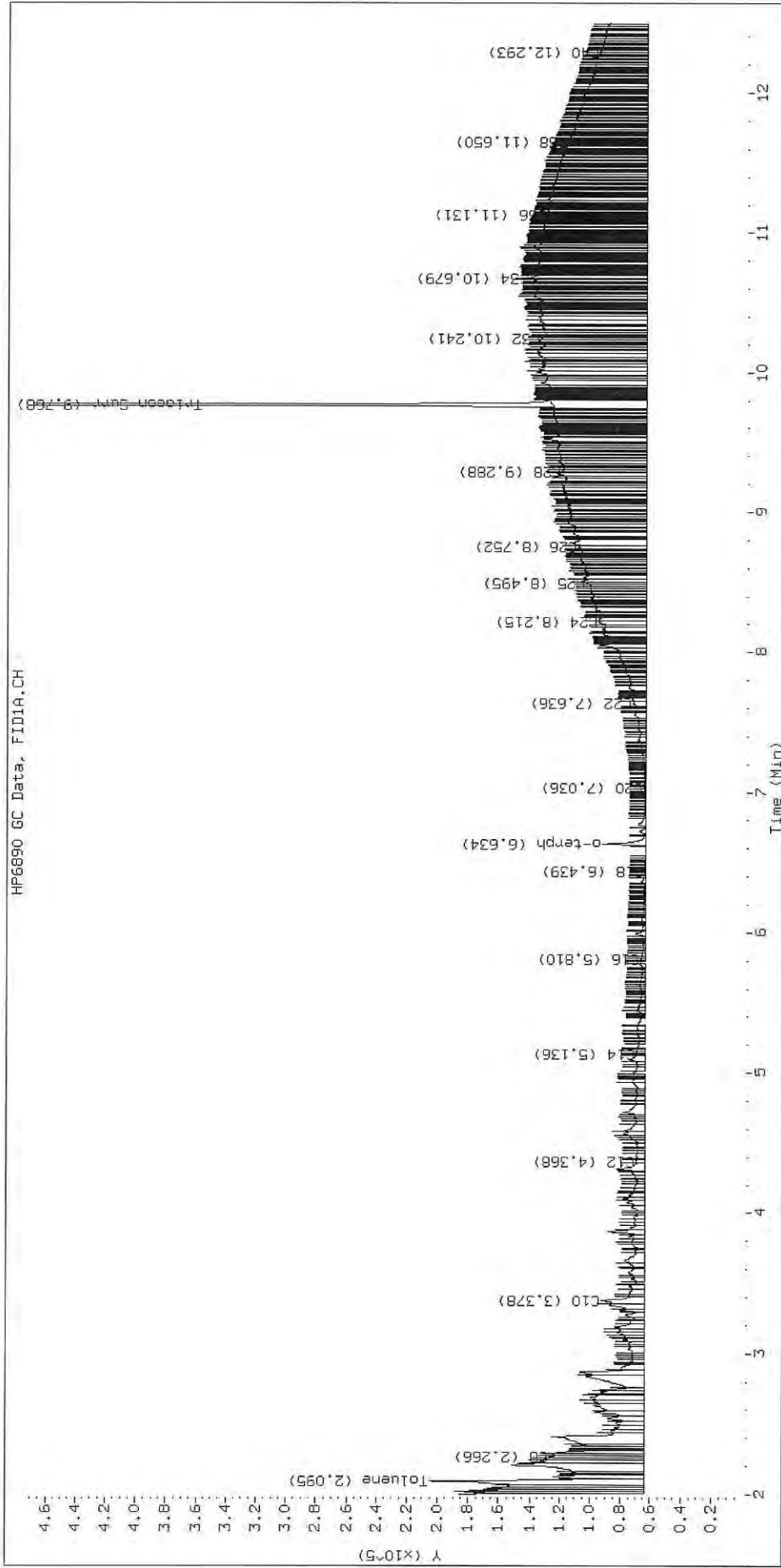
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacontane	818277	4.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

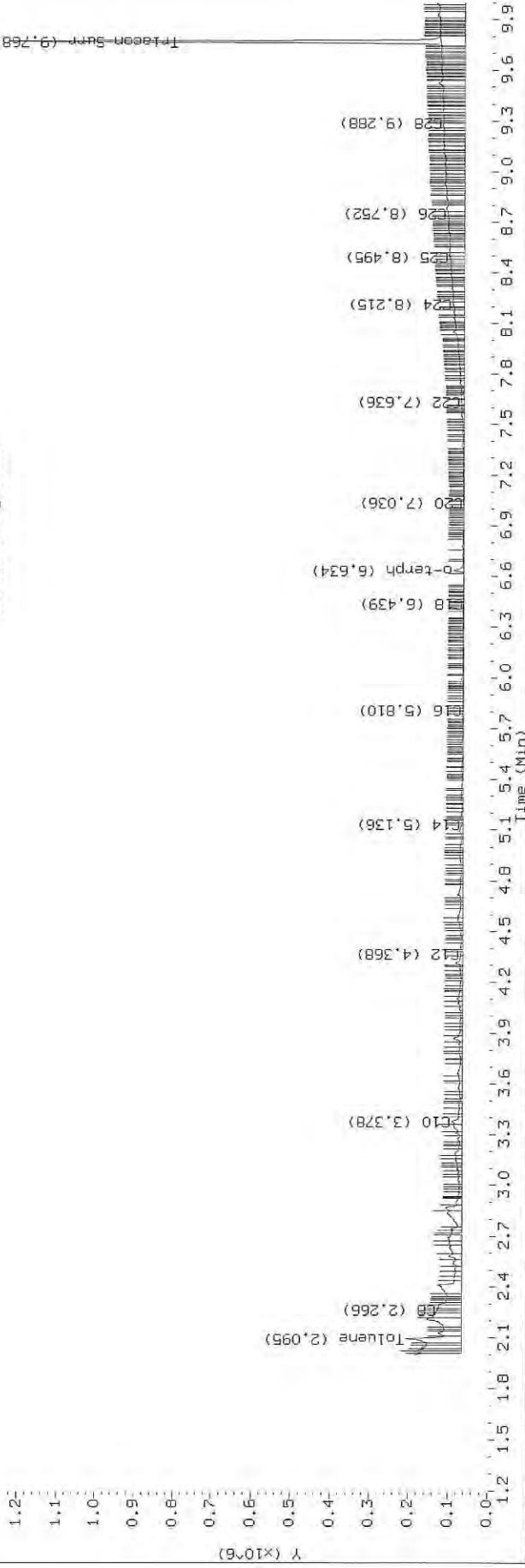
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HP6890 GC Data, FID1A.CH

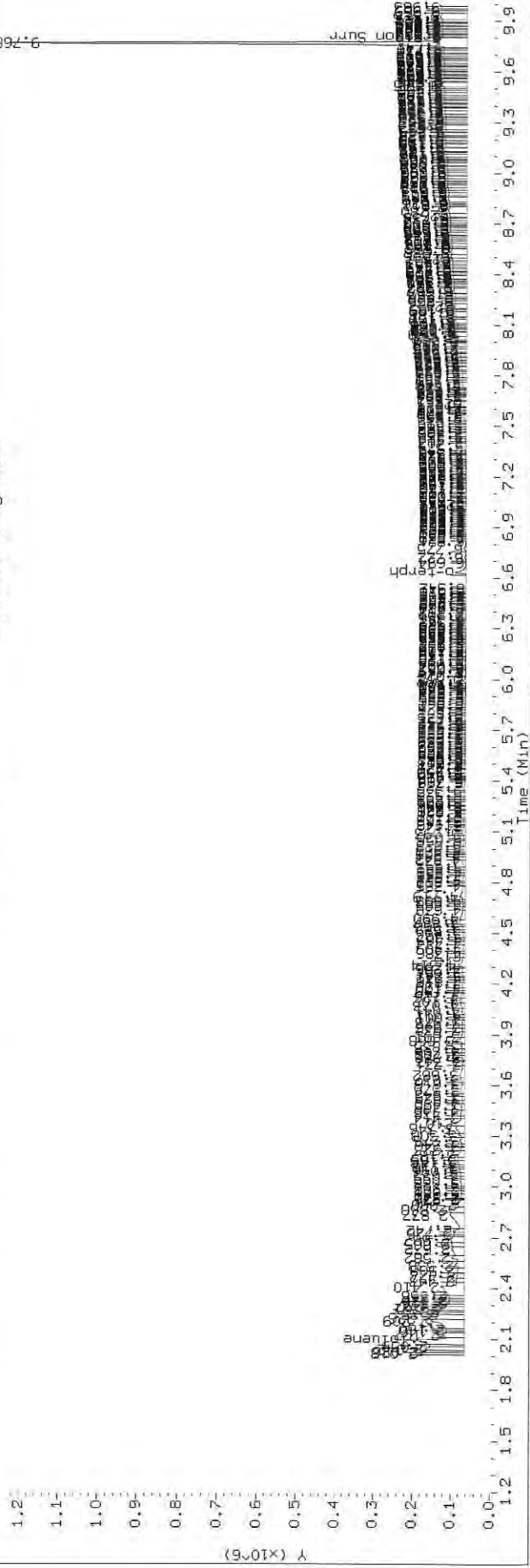


Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD

Manual Integration



Processed Integration



Data File: \\target\share\chem2\Fid4a.I\20191025.B\41932522.D

Date: 25-OCT-2019 18:55

Client ID:

Sample Info: SHJ0406-CALC

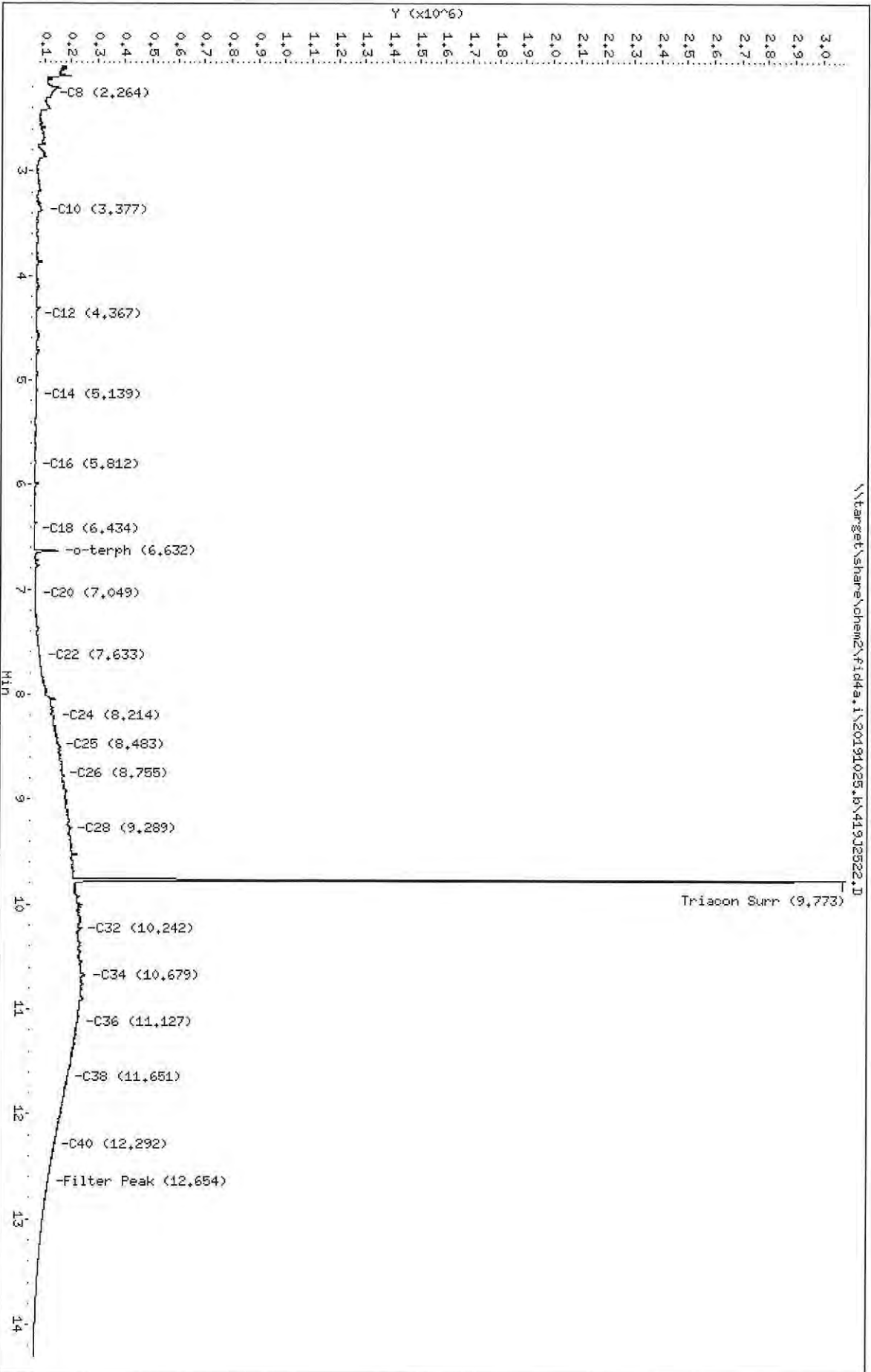
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

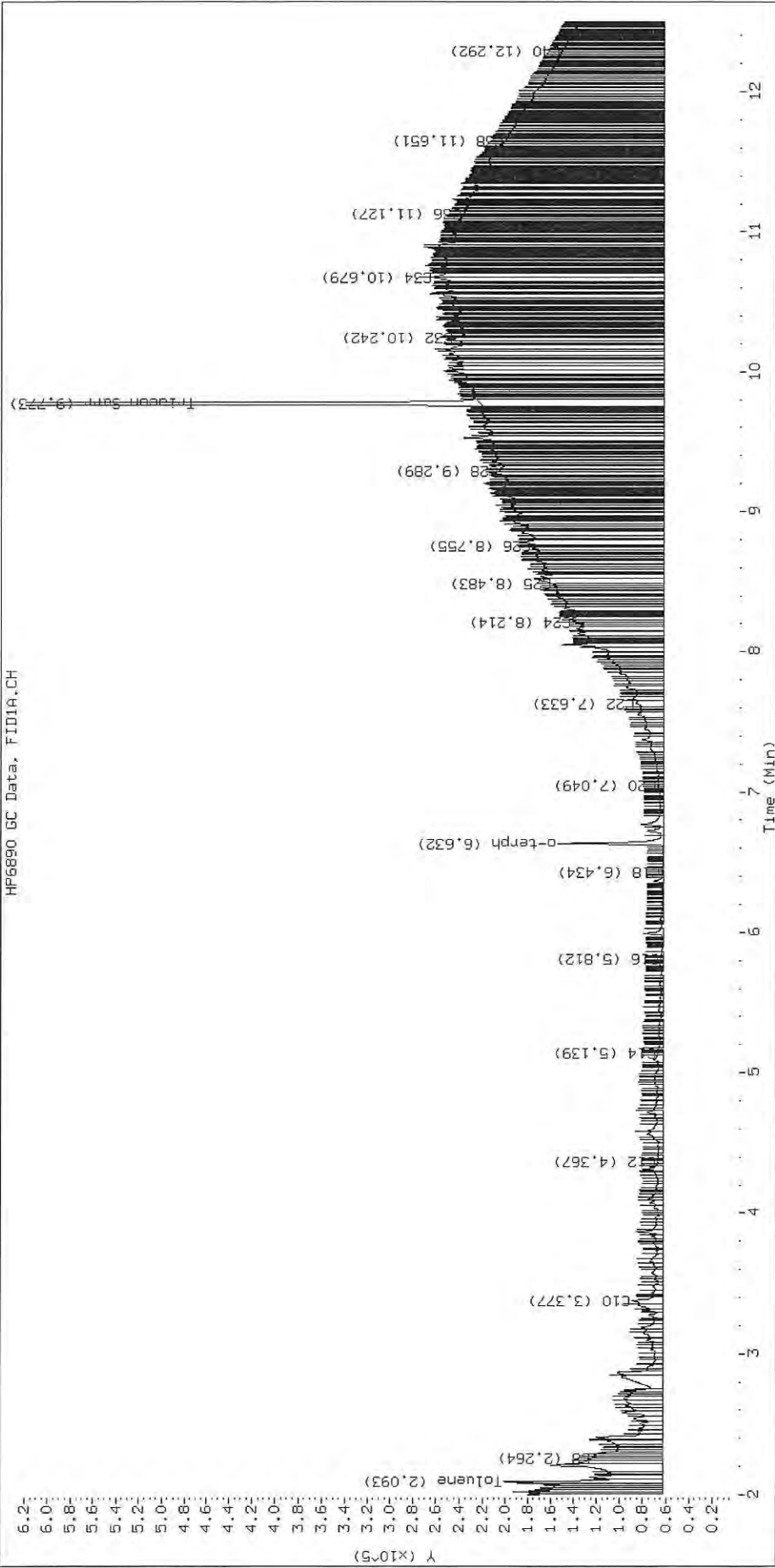
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacotane	2058184	11.6 M

M Indicates the peak was manually integrated

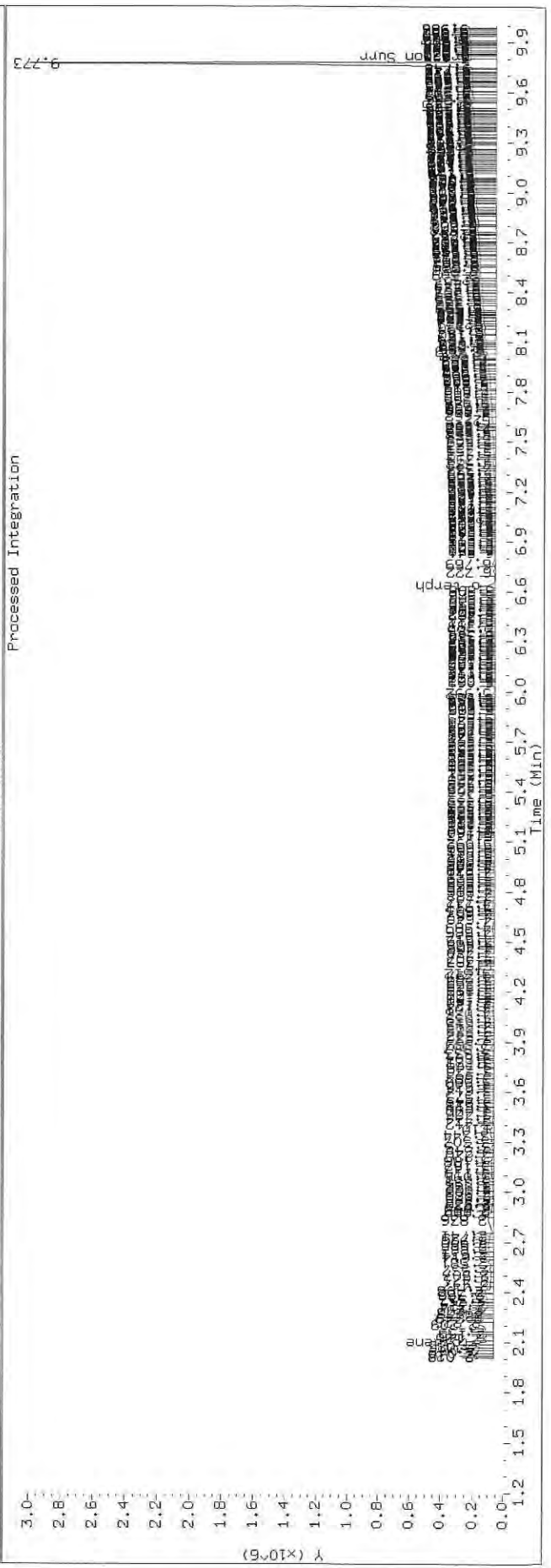
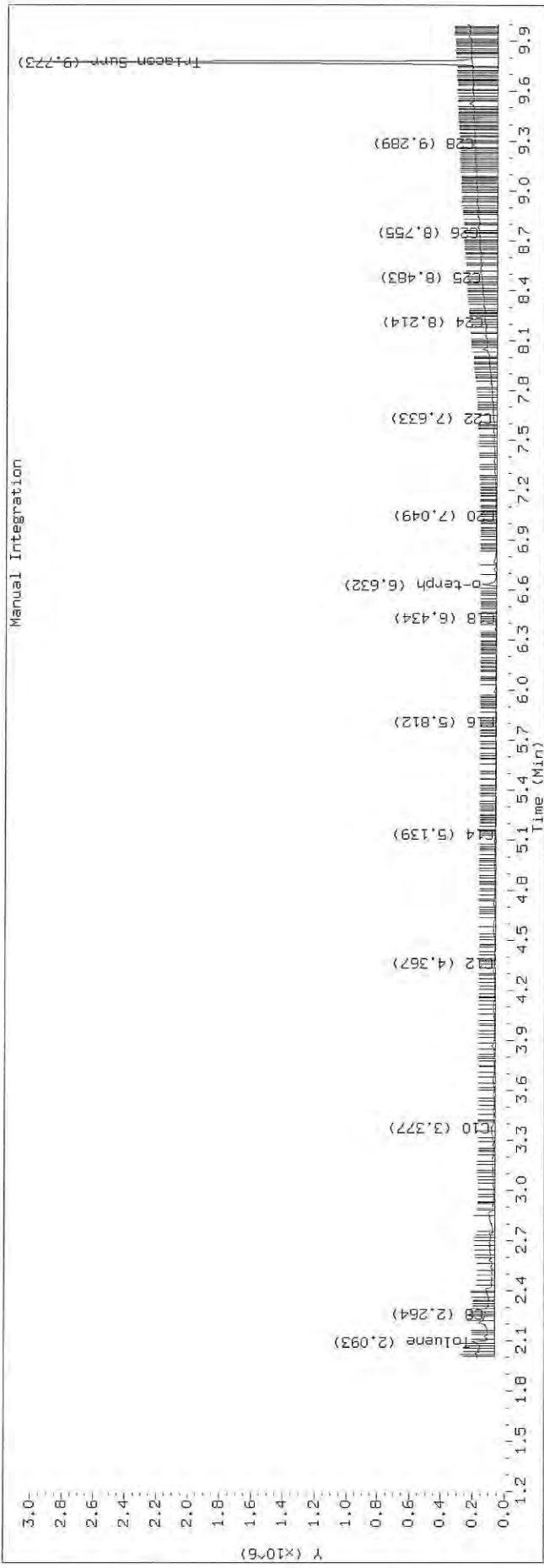
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

HF5890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2522.D Injection: 25-OCT-2019 18:55
 Lab ID: SHJ0406-CALE



Data File: \\target\share\chem2\Fidda.I\20191025.B\41932623.D

Date: 25-OCT-2019 13:15

Client ID:

Sample Info: SHJ0406-CALF

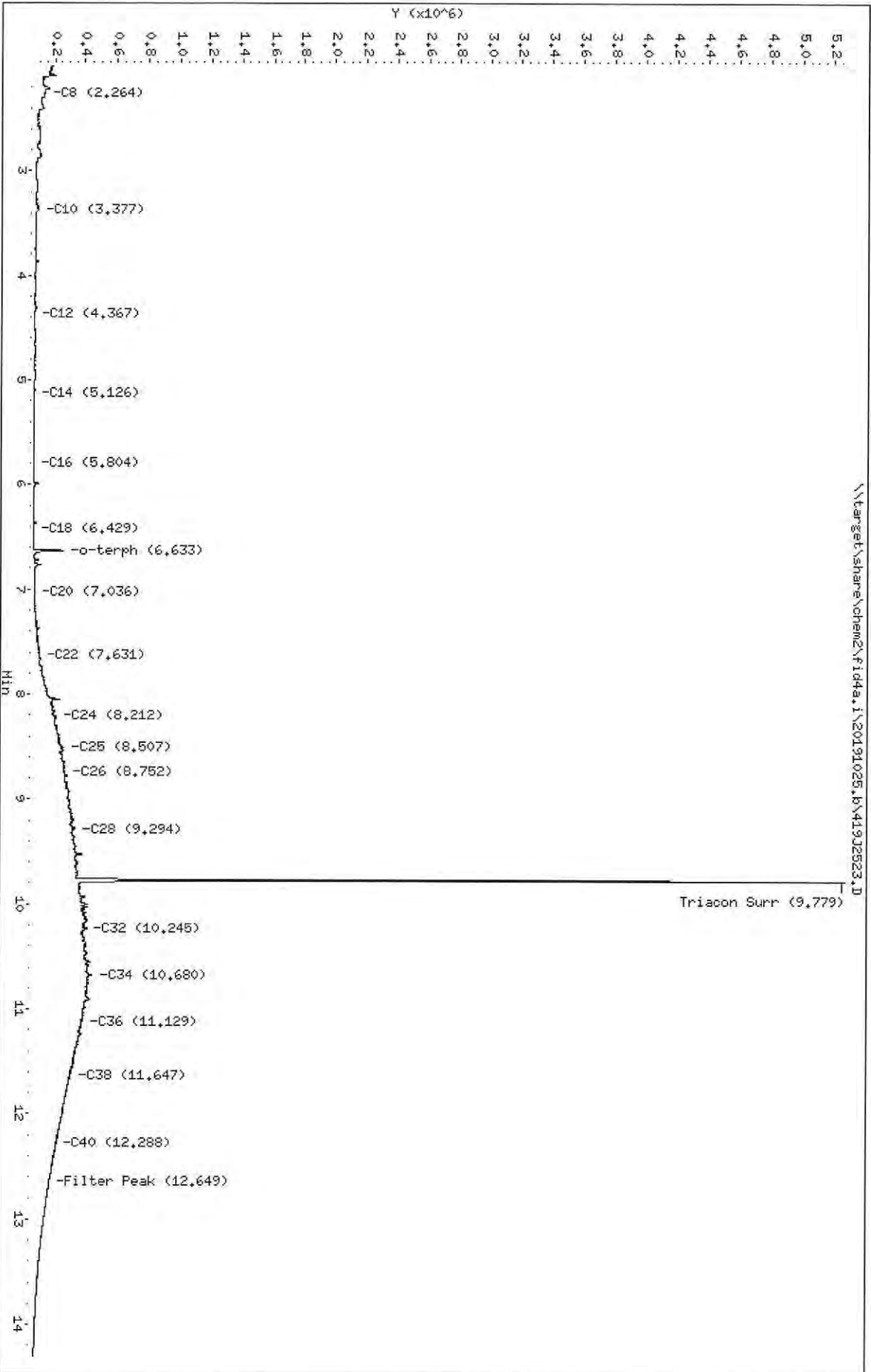
Column phase: RTX-1

Instrument: fidda.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

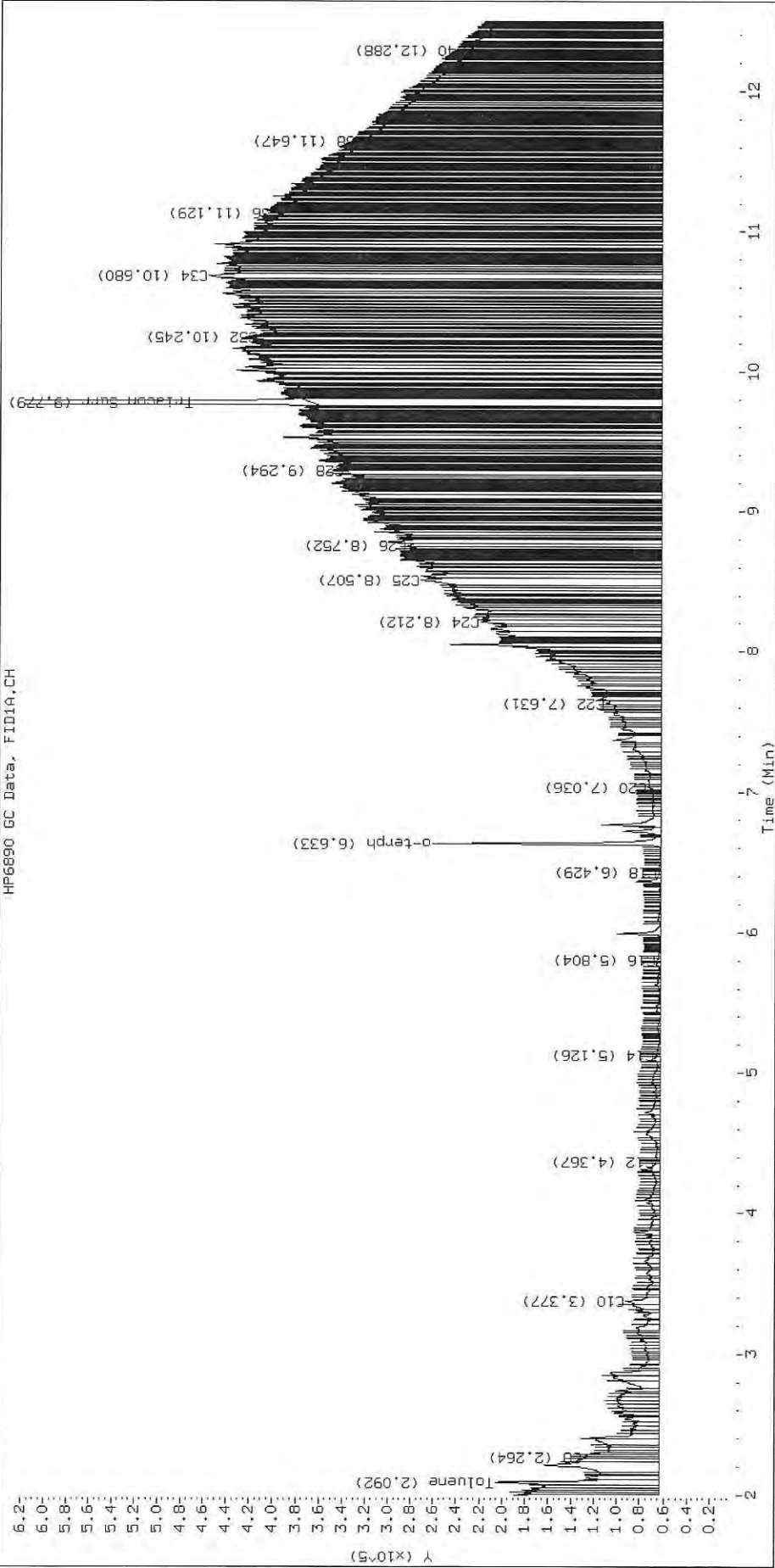
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacotane	3941895	22.1 M

M Indicates the peak was manually integrated

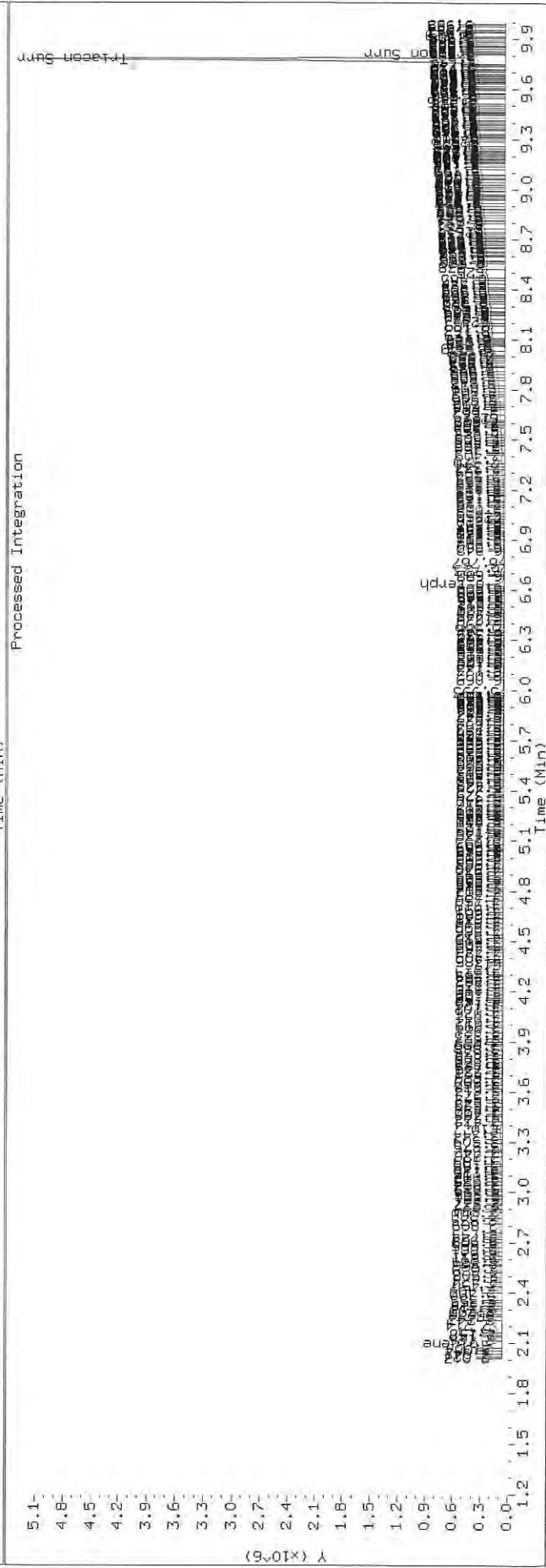
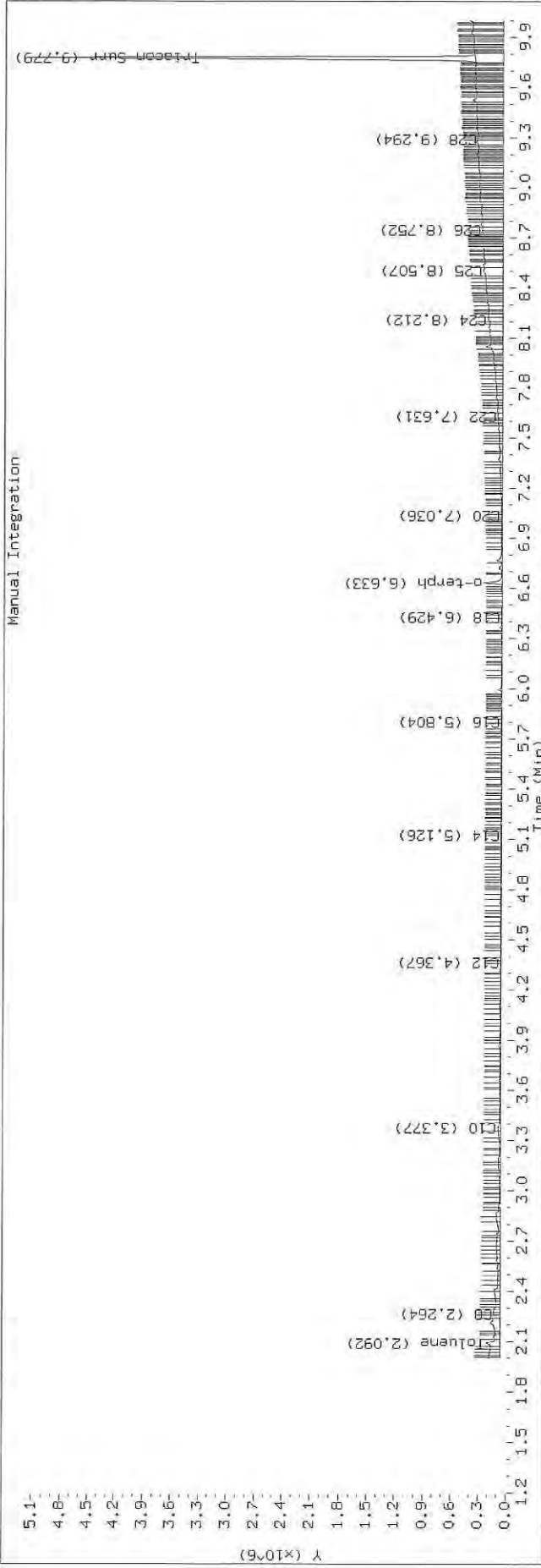
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2523.D Injection: 25-OCT-2019 19:15
 Lab ID: SHJ0406-CALF



Data File: \\target\share\chem2\Fid4a.i\20191025.B\41932824.D

Date: 25-OCT-2019 19:34

Client ID:

Sample Info: SH00406-CALG

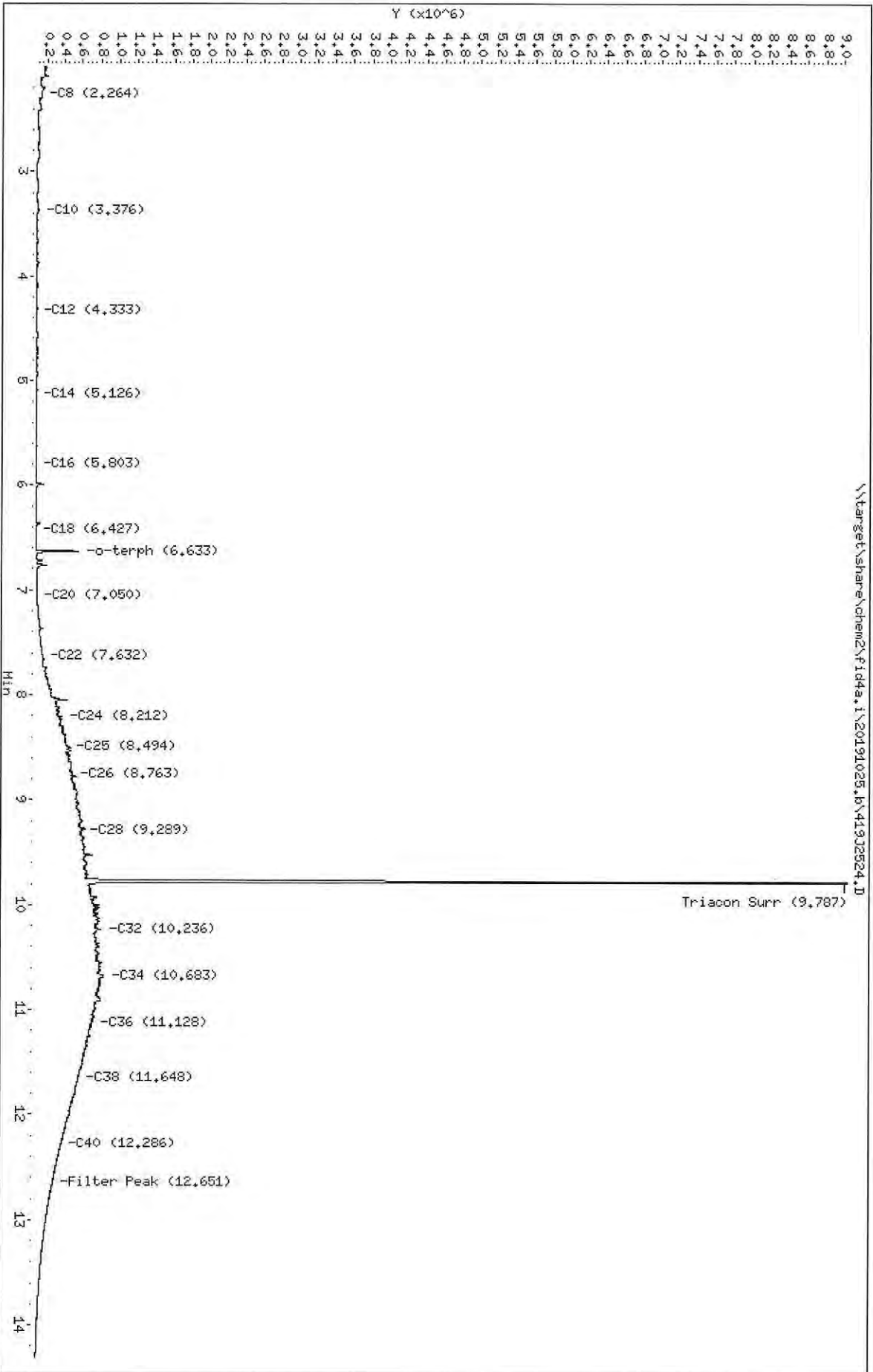
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

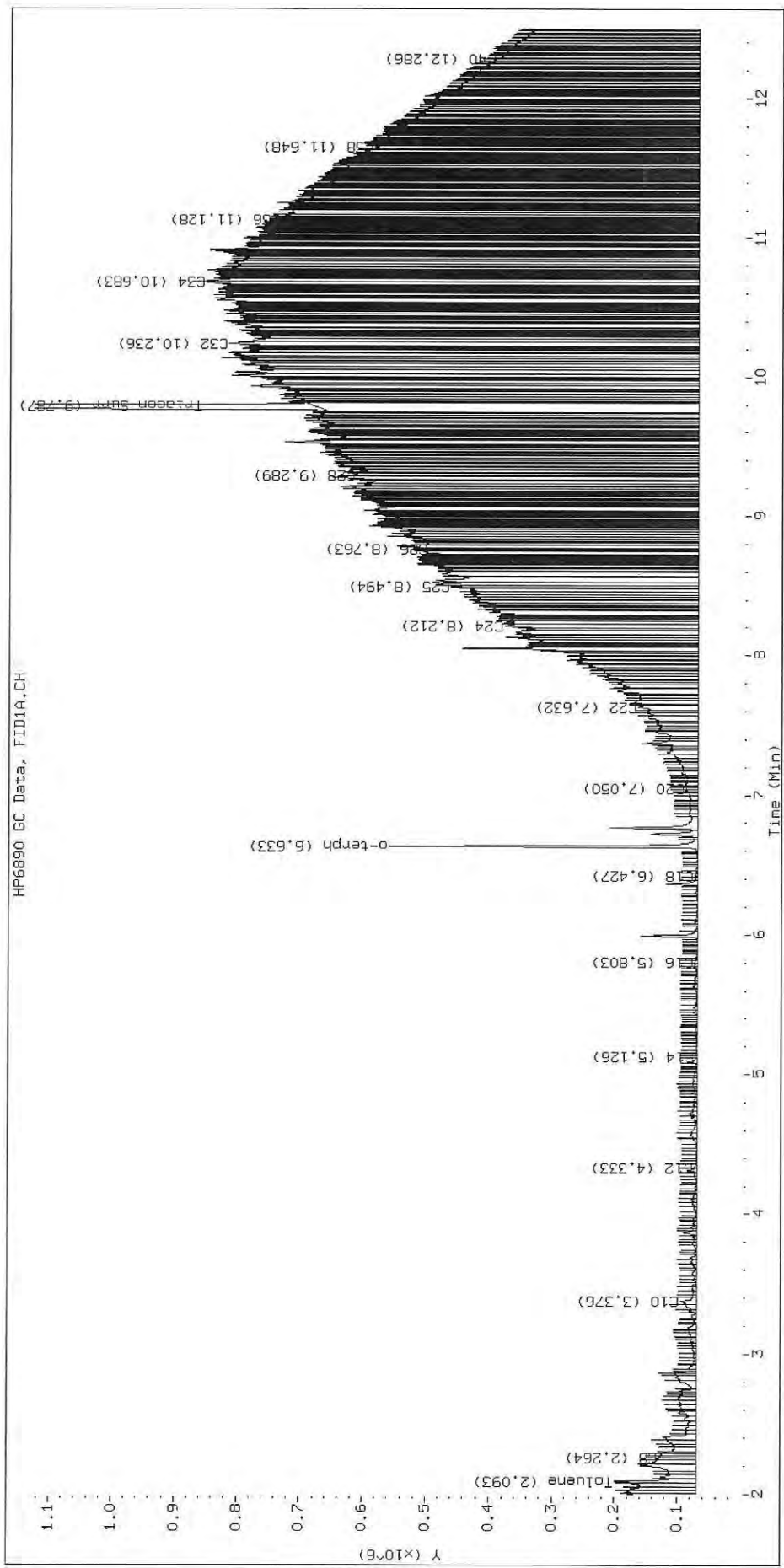
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacontane	7933666	44.6 M

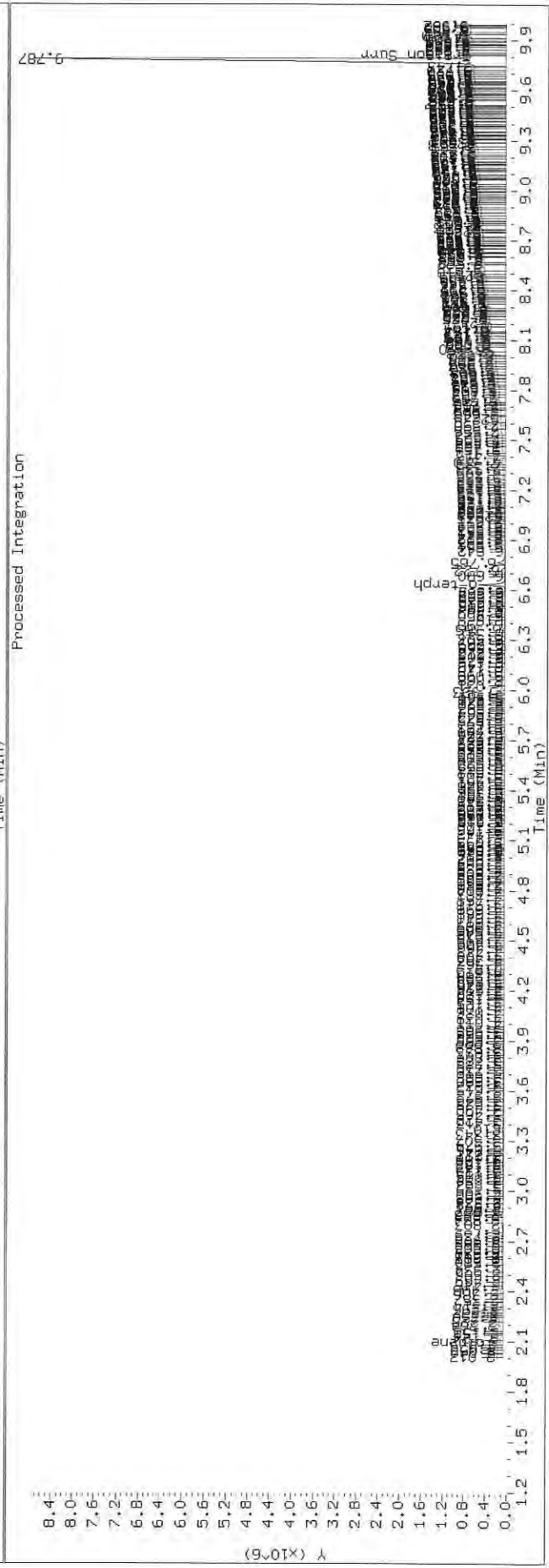
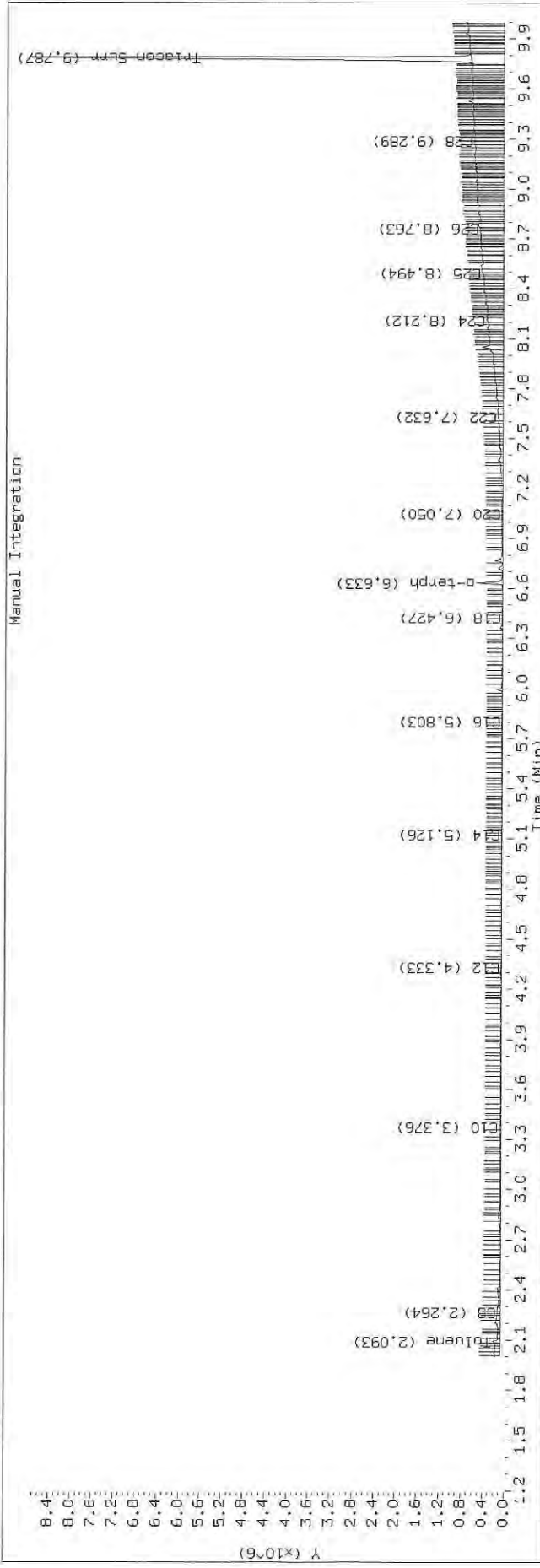
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG

HP6890 GC Data, FID1A.CH

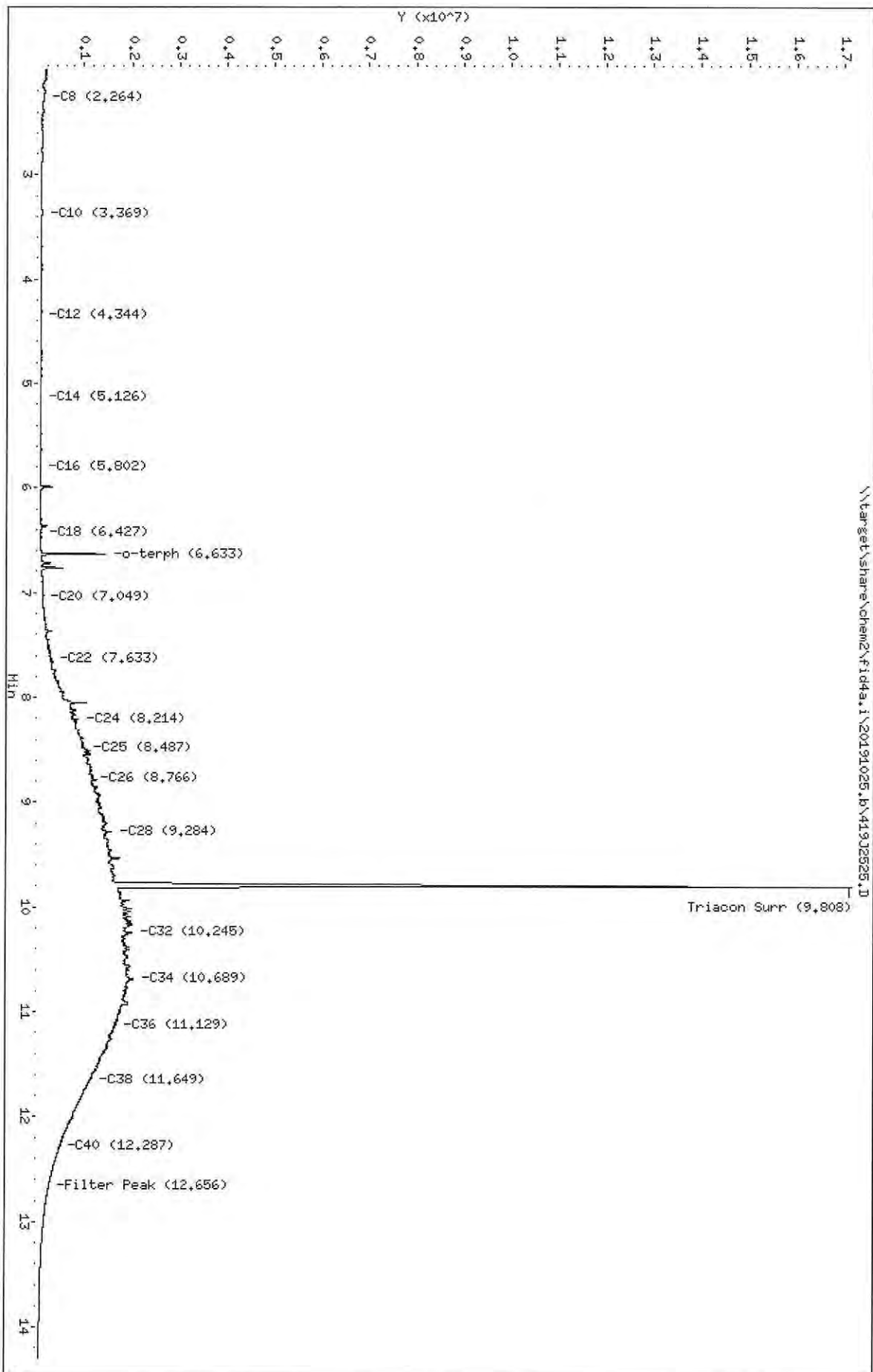




Data File: \\target\share\chem2\Fid4a.i\20191025_b\419J2525.D
Date: 25-OCT-2019 19:54
Client ID:
Sample Info: SH30406-CLLH

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

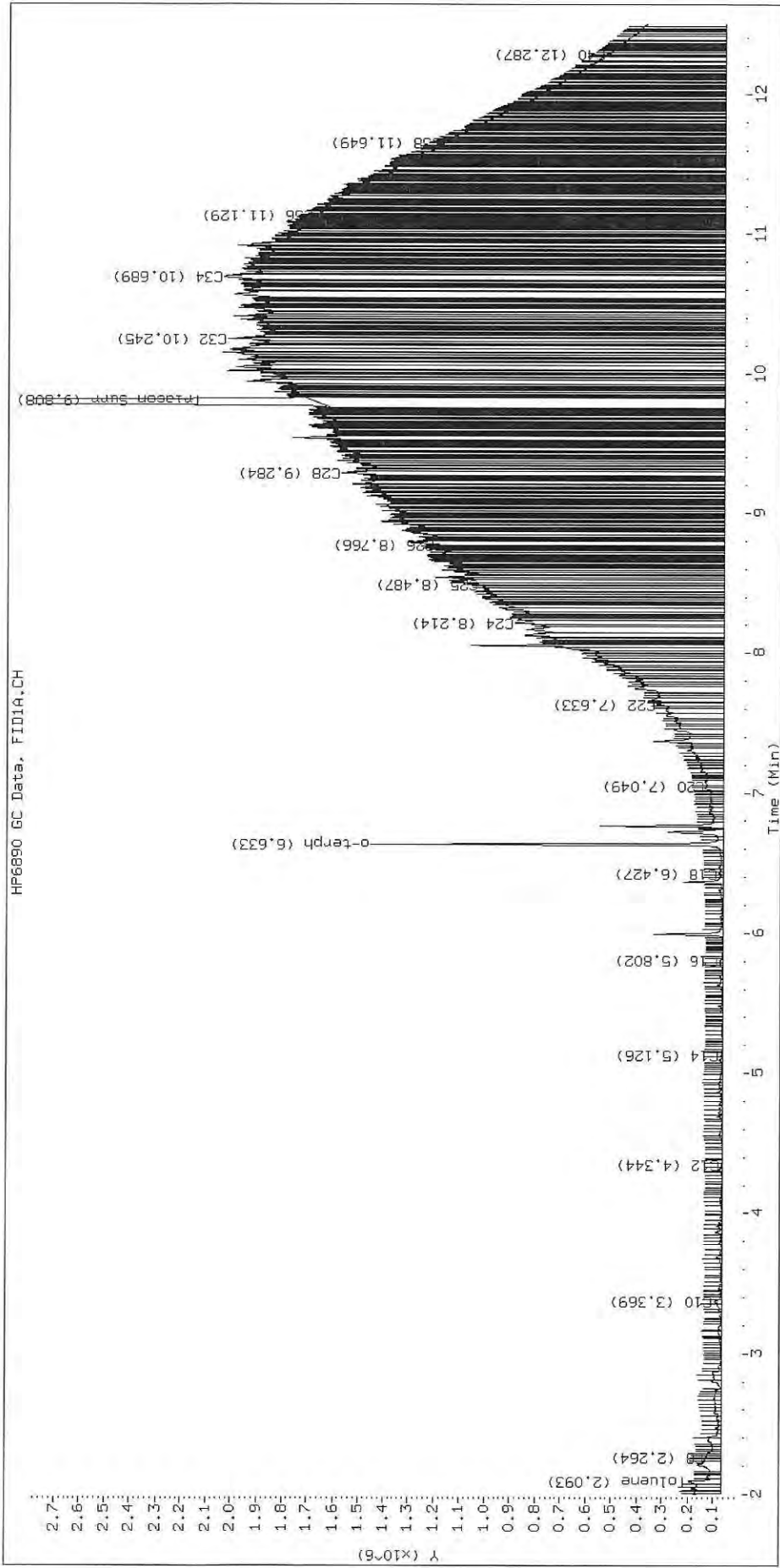
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacontane	20436973	114.8 M

M Indicates the peak was manually integrated

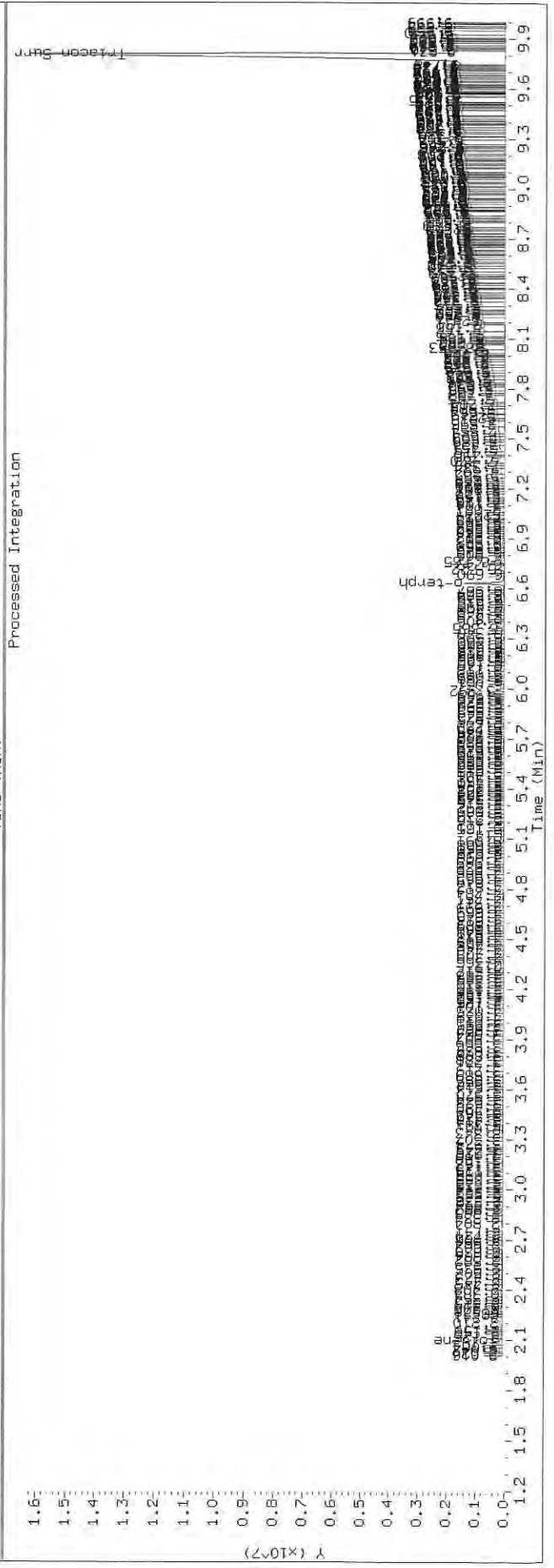
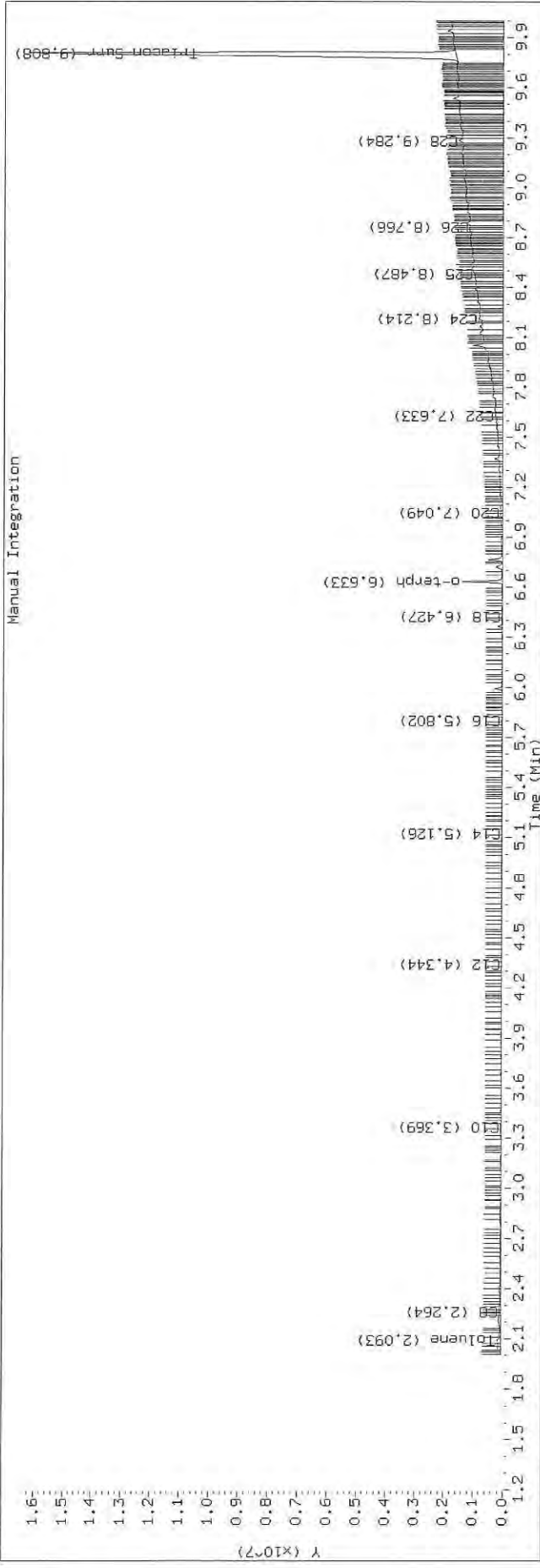
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



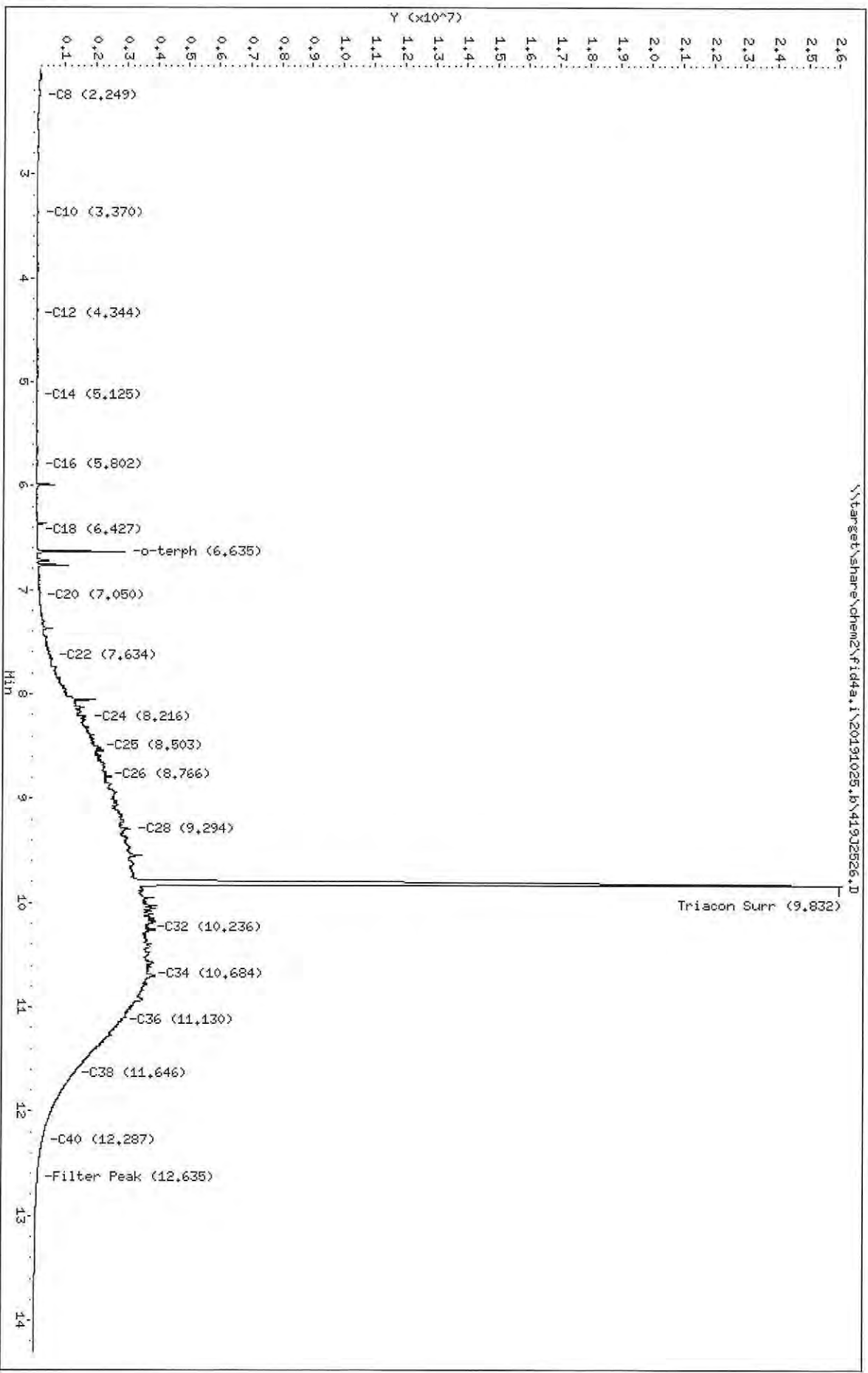
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2525.D Injection: 25-OCT-2019 19:54
 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932526.D
Date: 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column Phase: RTX-1

Instrument: fid4a.1
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

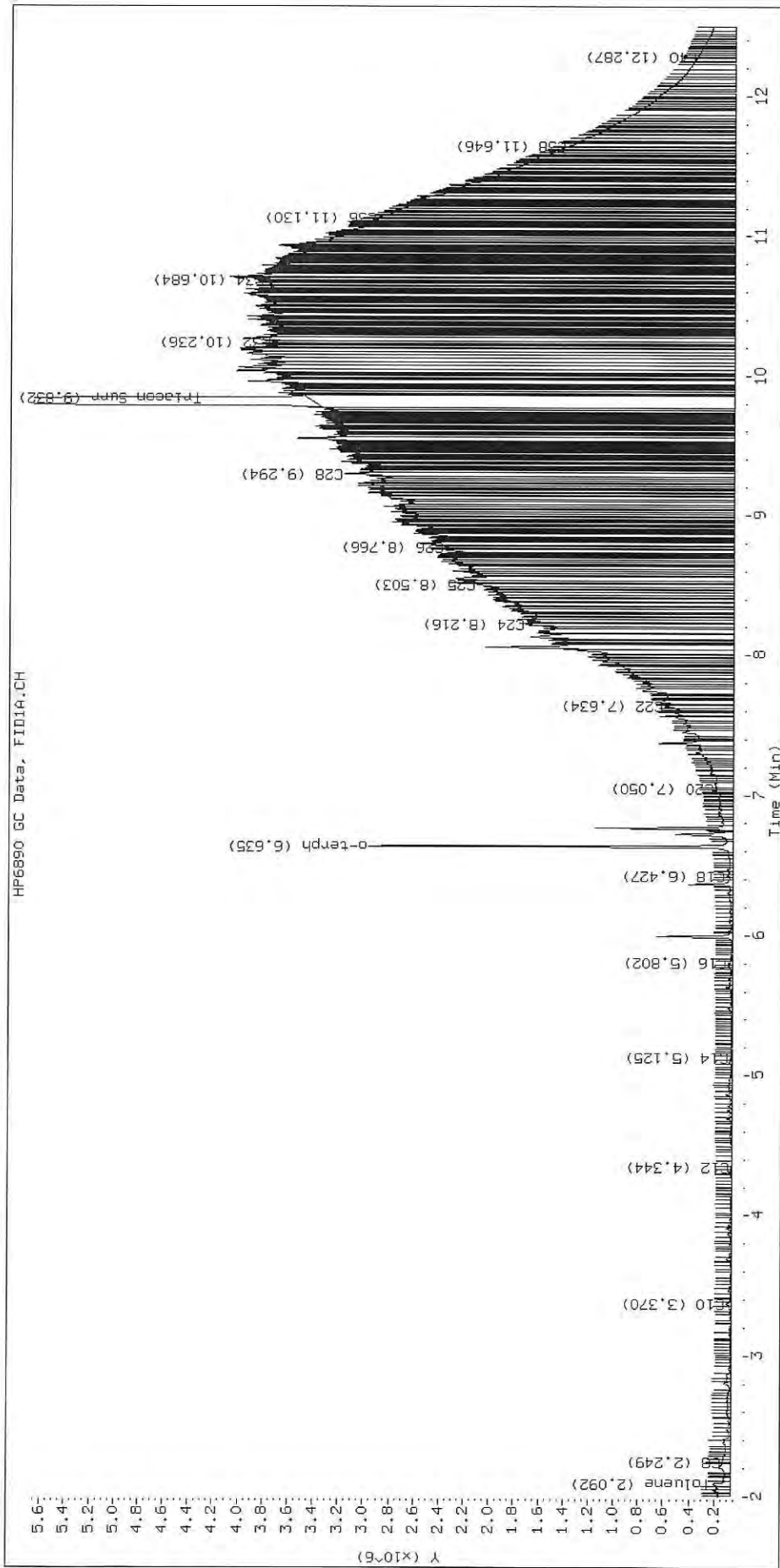
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

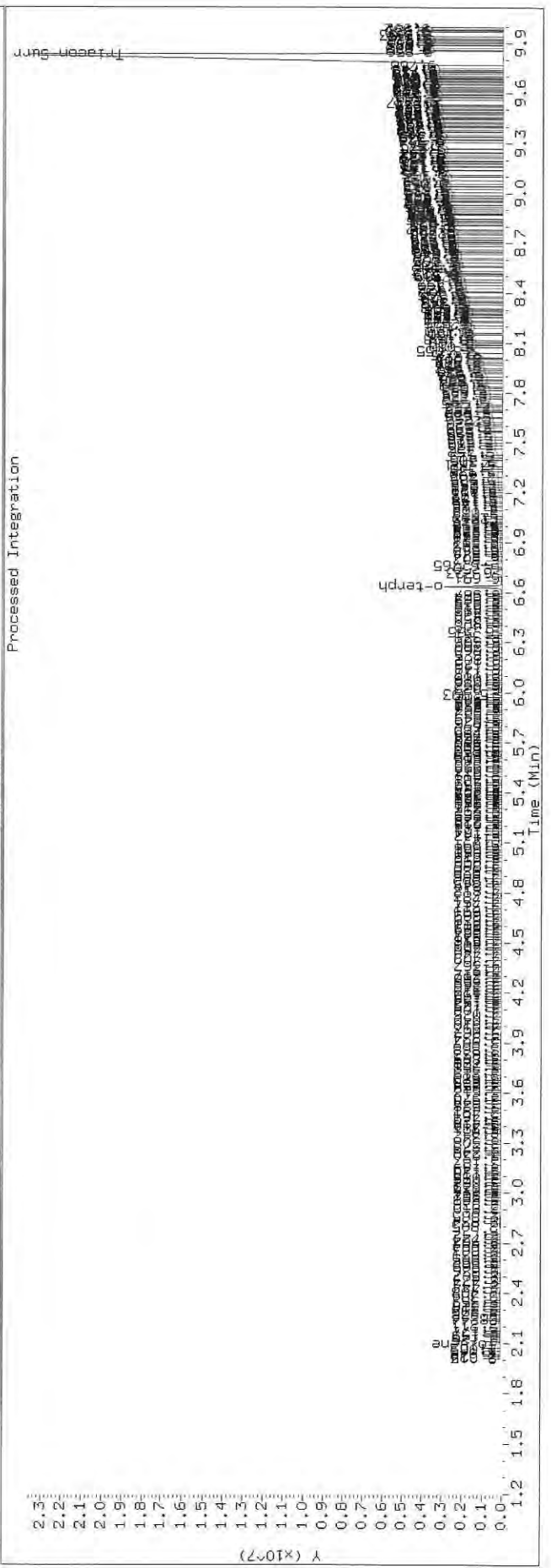
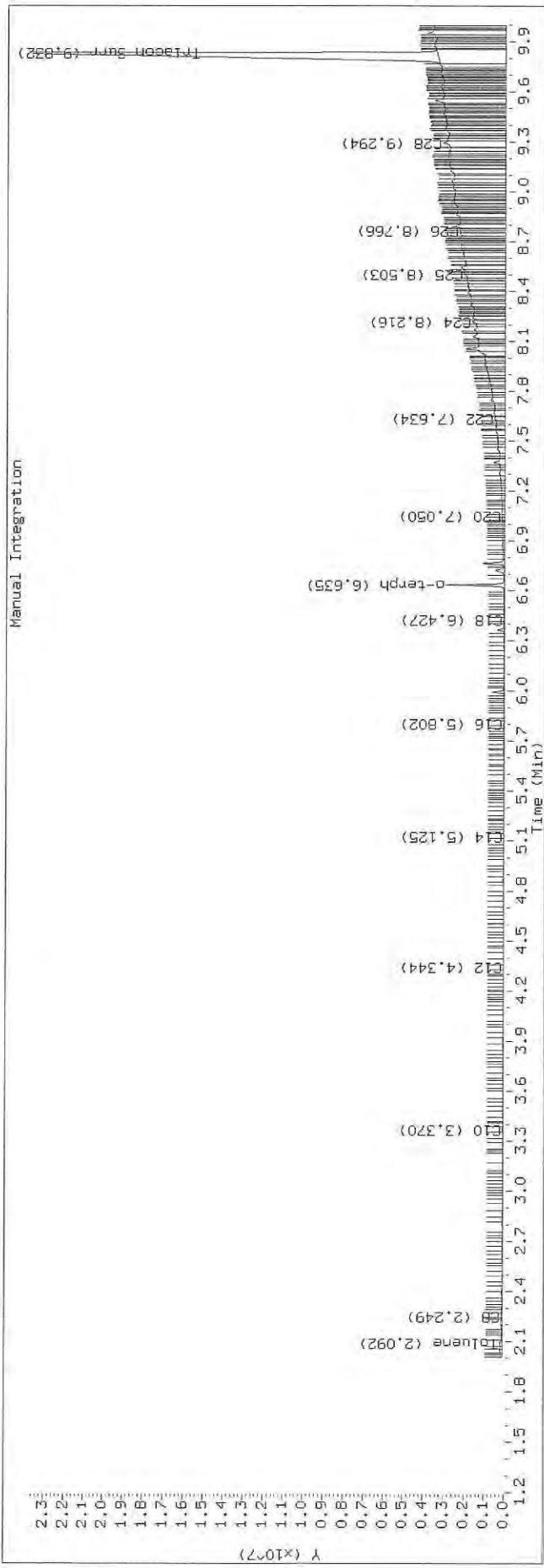
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH



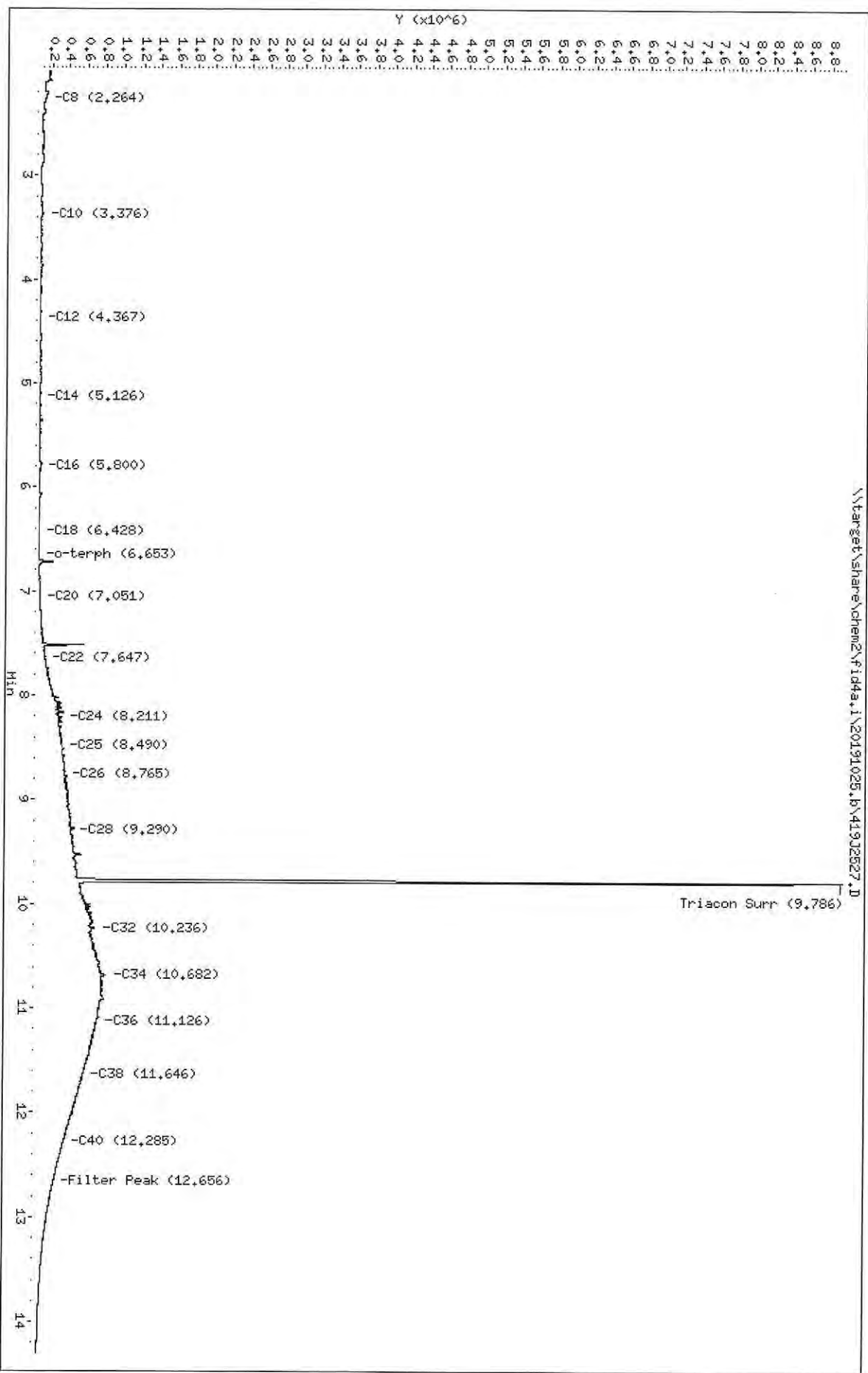
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 Lab ID: SHJ0406-CALI



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3

Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

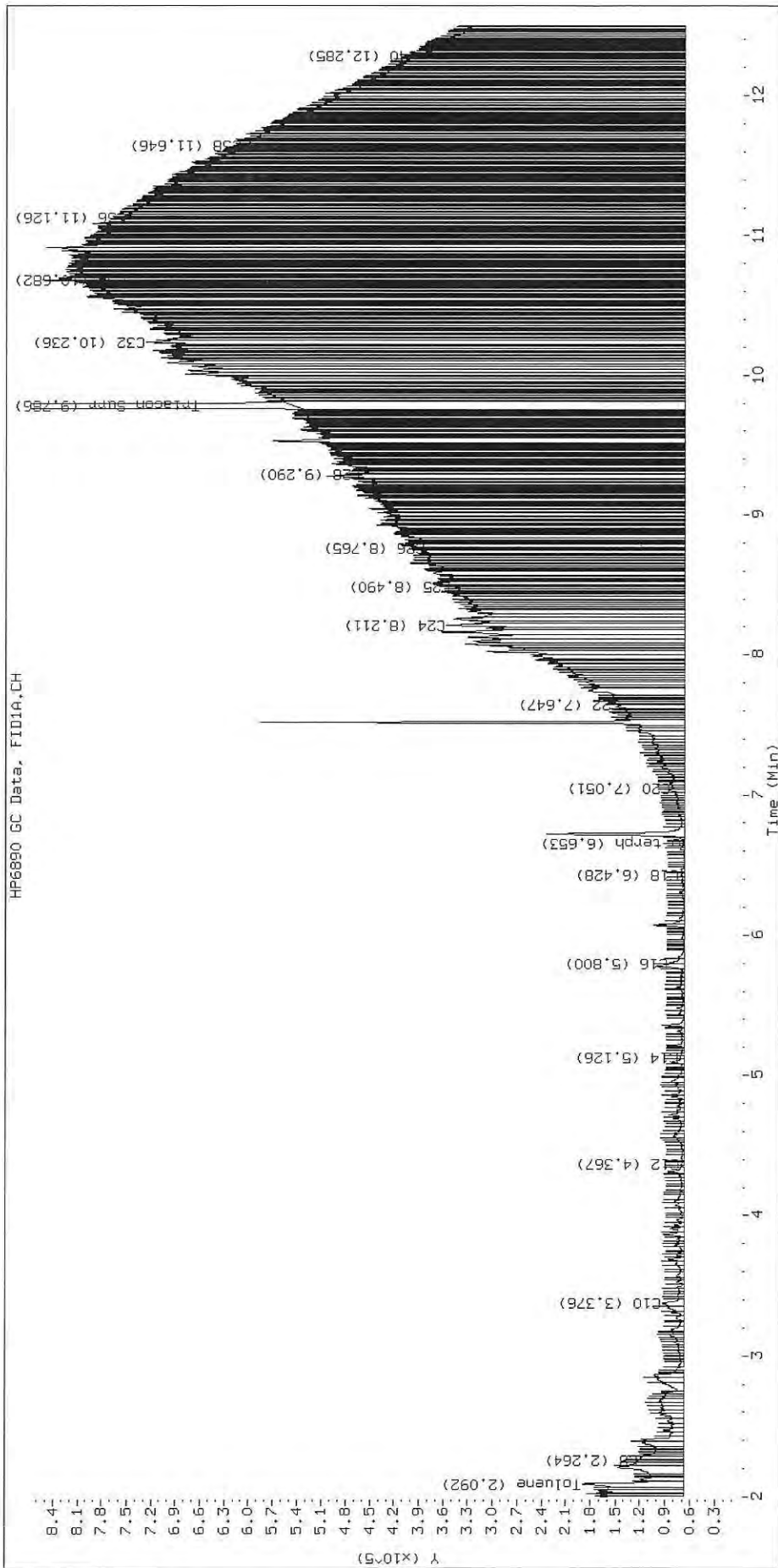
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

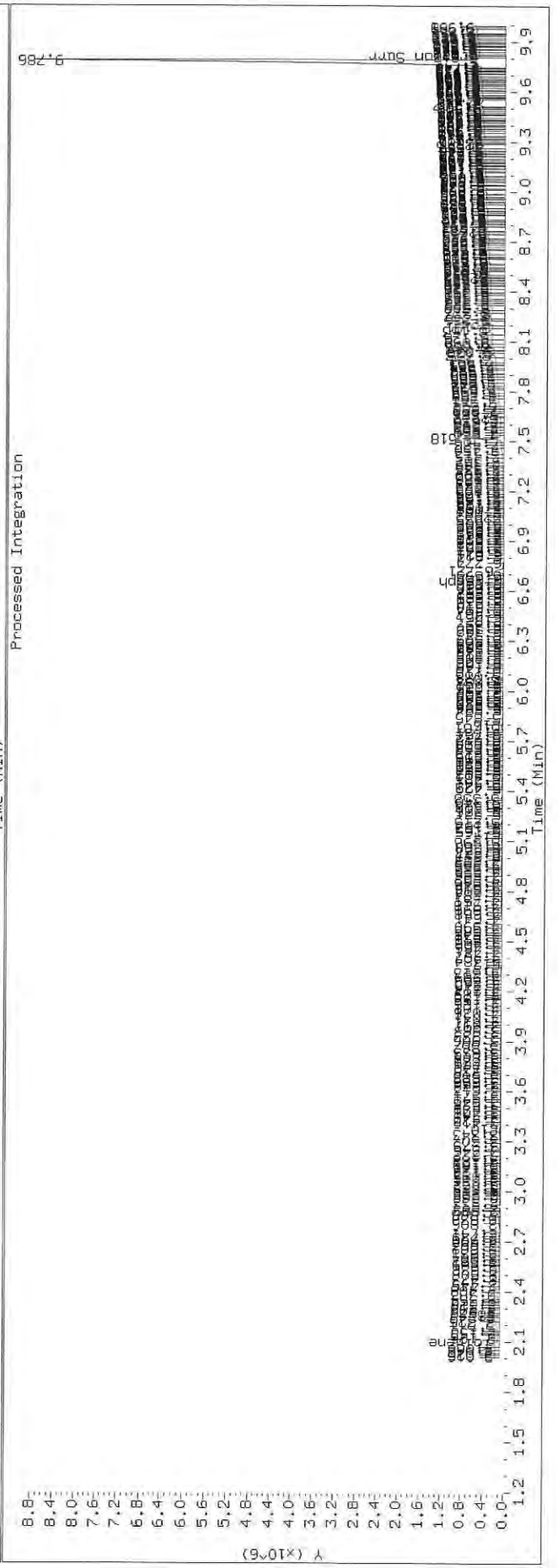
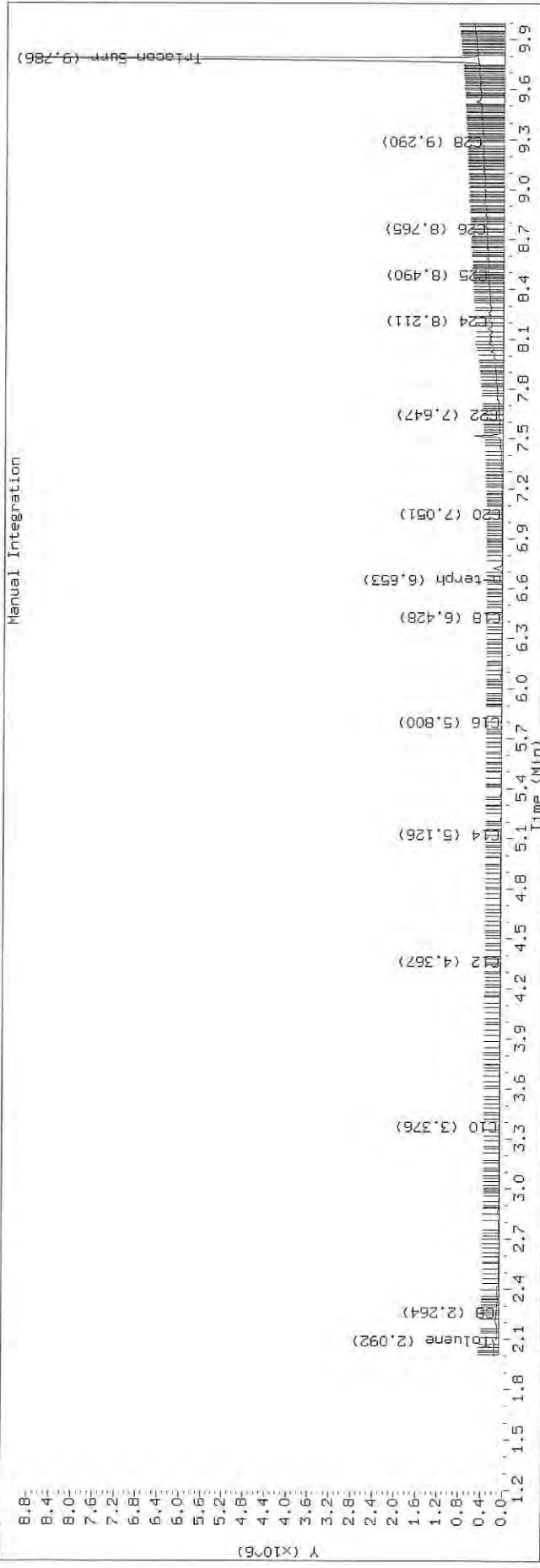
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH





Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacontane	319	0.0

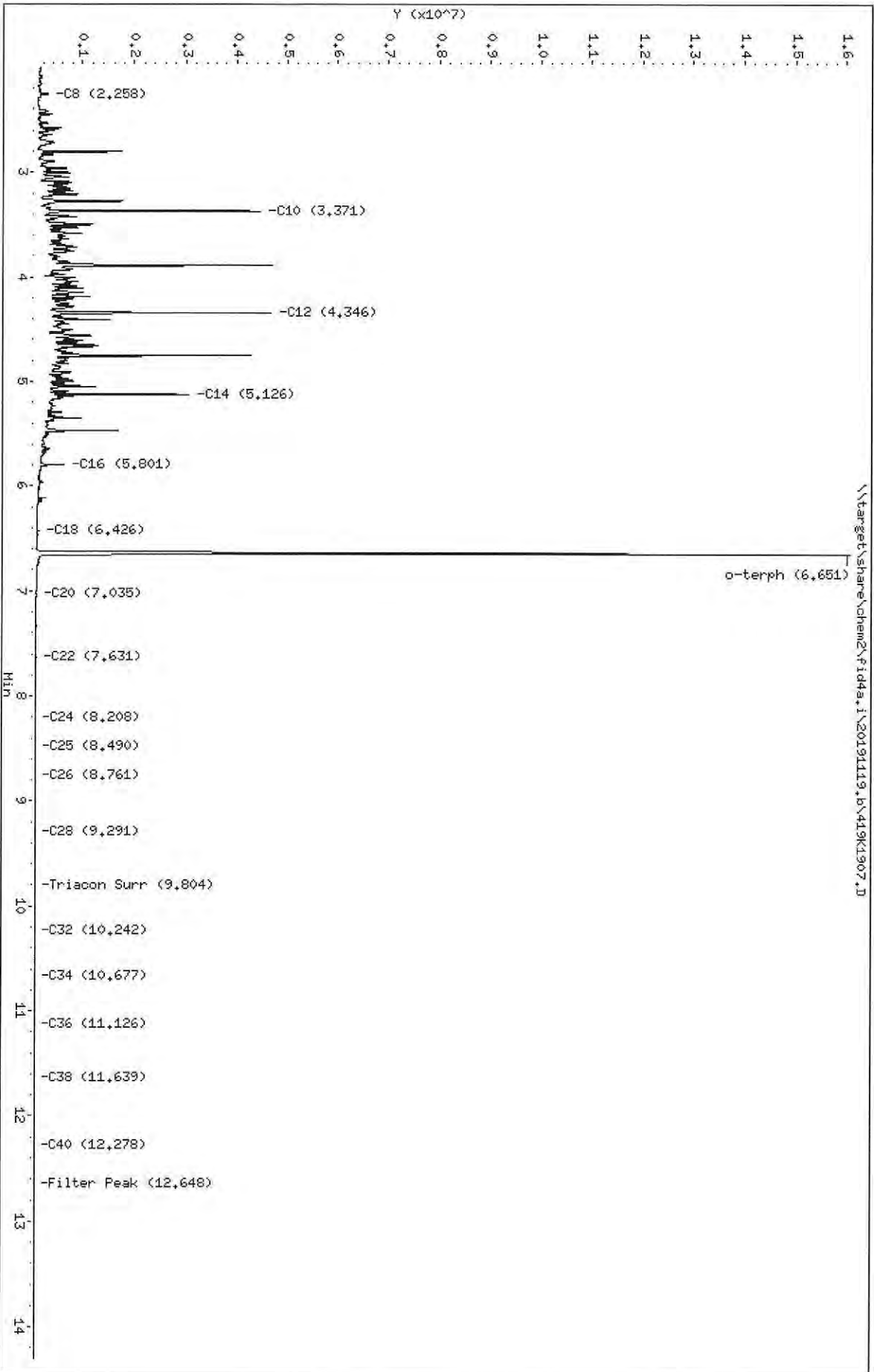
M Indicates the peak was manually integrated

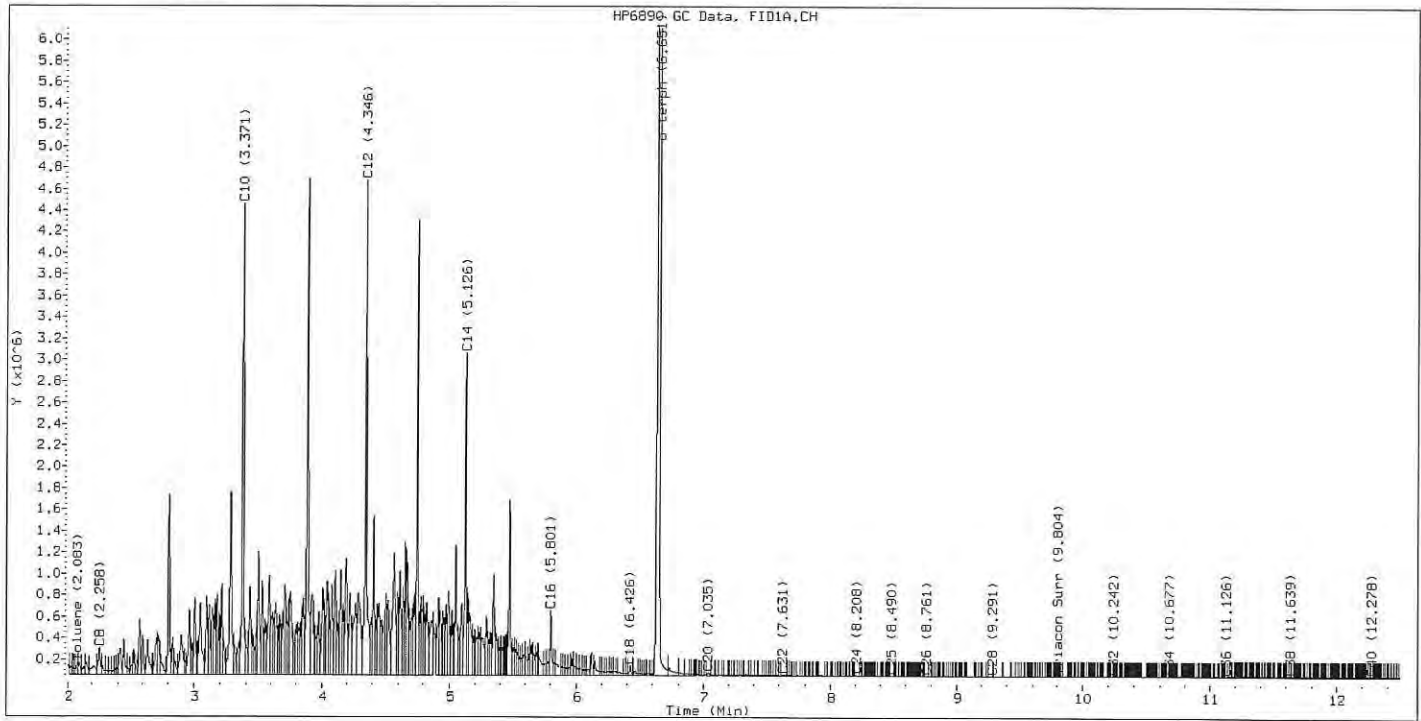
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

Data File: \\target\share\chem2\fid4a.i\20191119.b\419K1907.D
Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO
Column diameter: 0.25







INITIAL CALIBRATION DATA
NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0007
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperation
Calibration:	DA00022	Instrument:	FID4
Calibration Date:	10/25/2019	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	182114.3	100	162168.4	250	151655.3	500	152220	1000	153066.8	2500	154795.4
o-Terphenyl	9	207237.8	18	202348.9	45	199293.8	90	202627.8	180	206915.5	450	209787.6



INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0007
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DA00022	Instrument:	FID4
Calibration Date:	10/25/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	101166	4.8			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019 11:37	419J2501.D	1	RINSE	
2	25-OCT-2019 11:55	419J2502.D	1	RINSE	
3	25-OCT-2019 12:30	419J2503.D	1	RINSE	
4	25-OCT-2019 12:51	419J2504.D	1	RINSE	
5	25-OCT-2019 13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019 13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019 13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019 14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019 14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019 14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019 15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019 15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019 15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019 16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019 16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019 16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019 17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019 17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019 17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019 18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019 18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019 18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019 19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019 19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019 19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019 20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019 20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019 20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019 21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019 21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019 21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019 22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019 22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019 22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019 23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019 23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019 23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019 00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019 00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019 00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019 01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triscon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triscon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triscon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triscon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

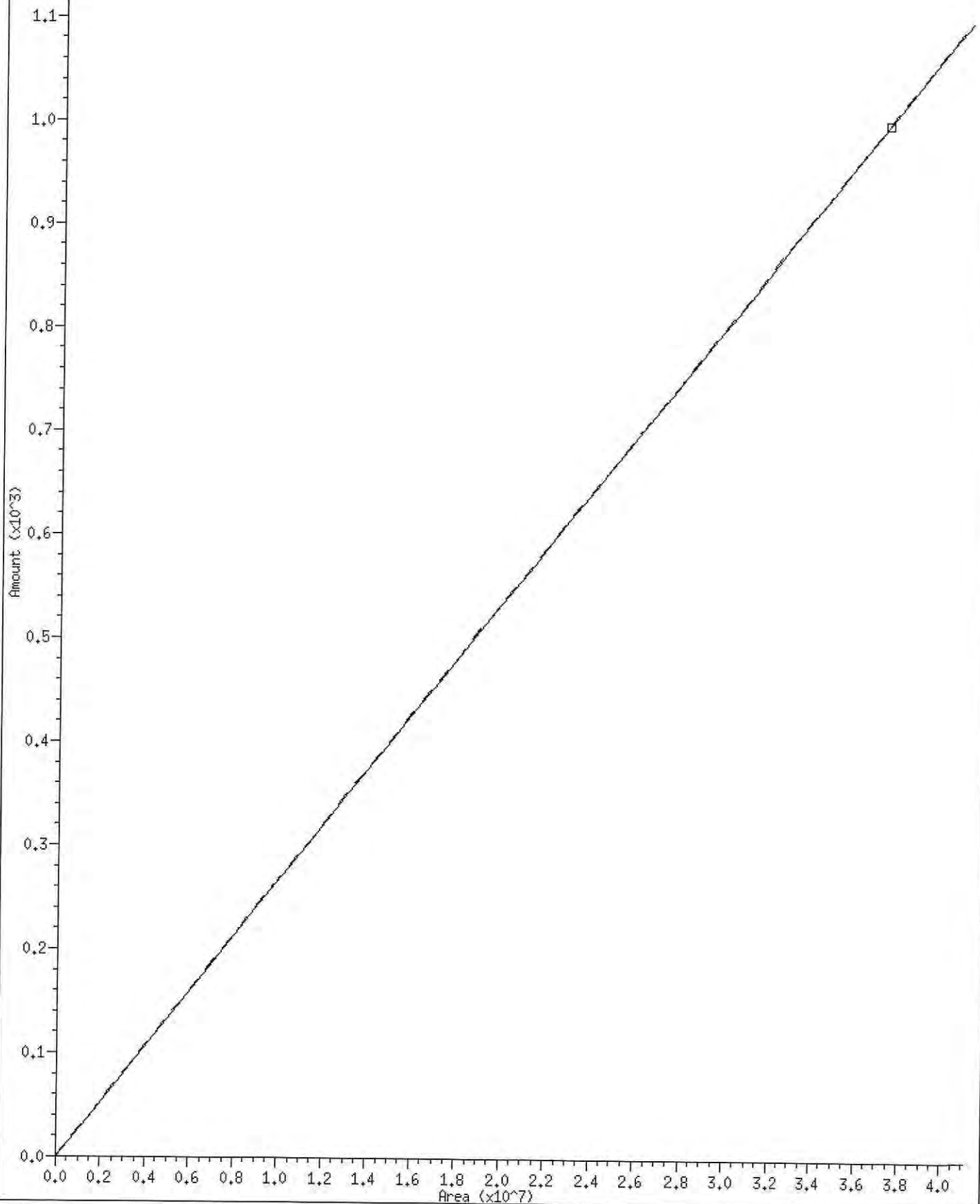
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2357	419J2537.D	19J0373-06	1	Triacon Surr,	
0017	419J2538.D	19J0373-07	1	Triacon Surr,	
0037	419J2539.D	19J0373-08	1	Triacon Surr,	
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1	Triacon Surr,	

Security Status Report

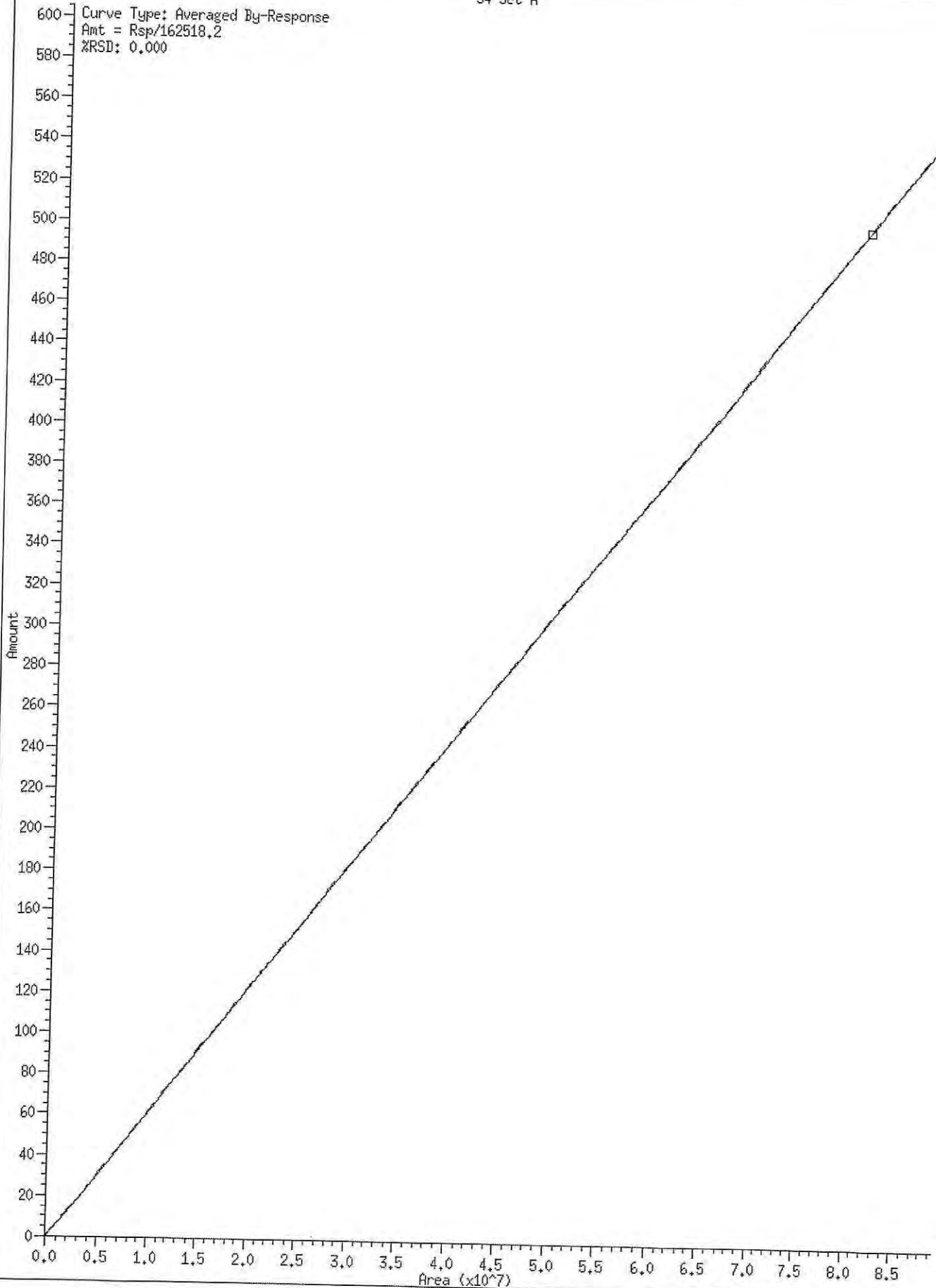
Date: 30-Oct-2019 07:25

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419J2511.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2513.D	Data Locked	j rains, 30-Oct-2019 07:20
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419J2518.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2519.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2520.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2521.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2525.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2526.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2527.D	Data Locked	j rains, 30-Oct-2019 07:20

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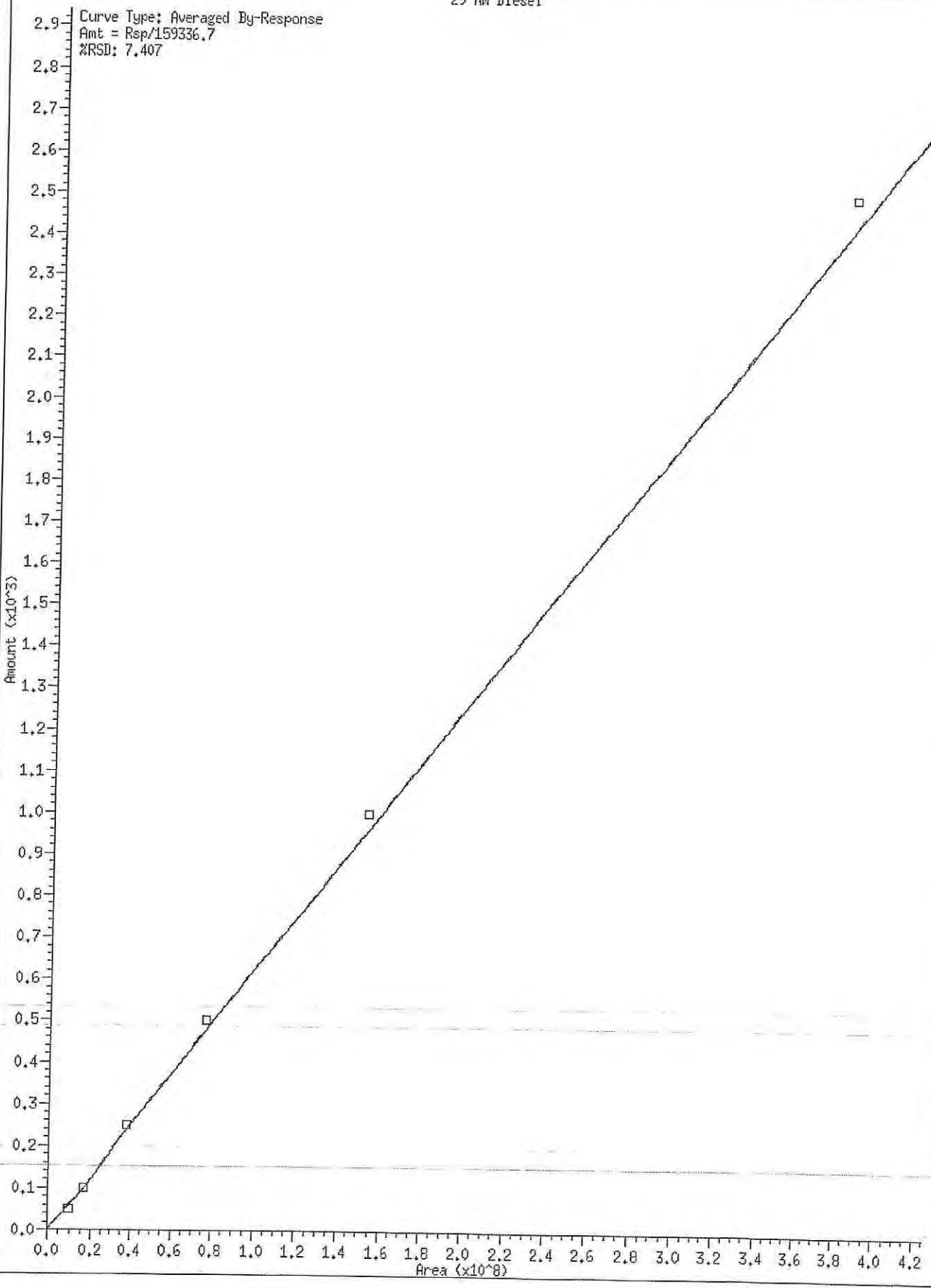


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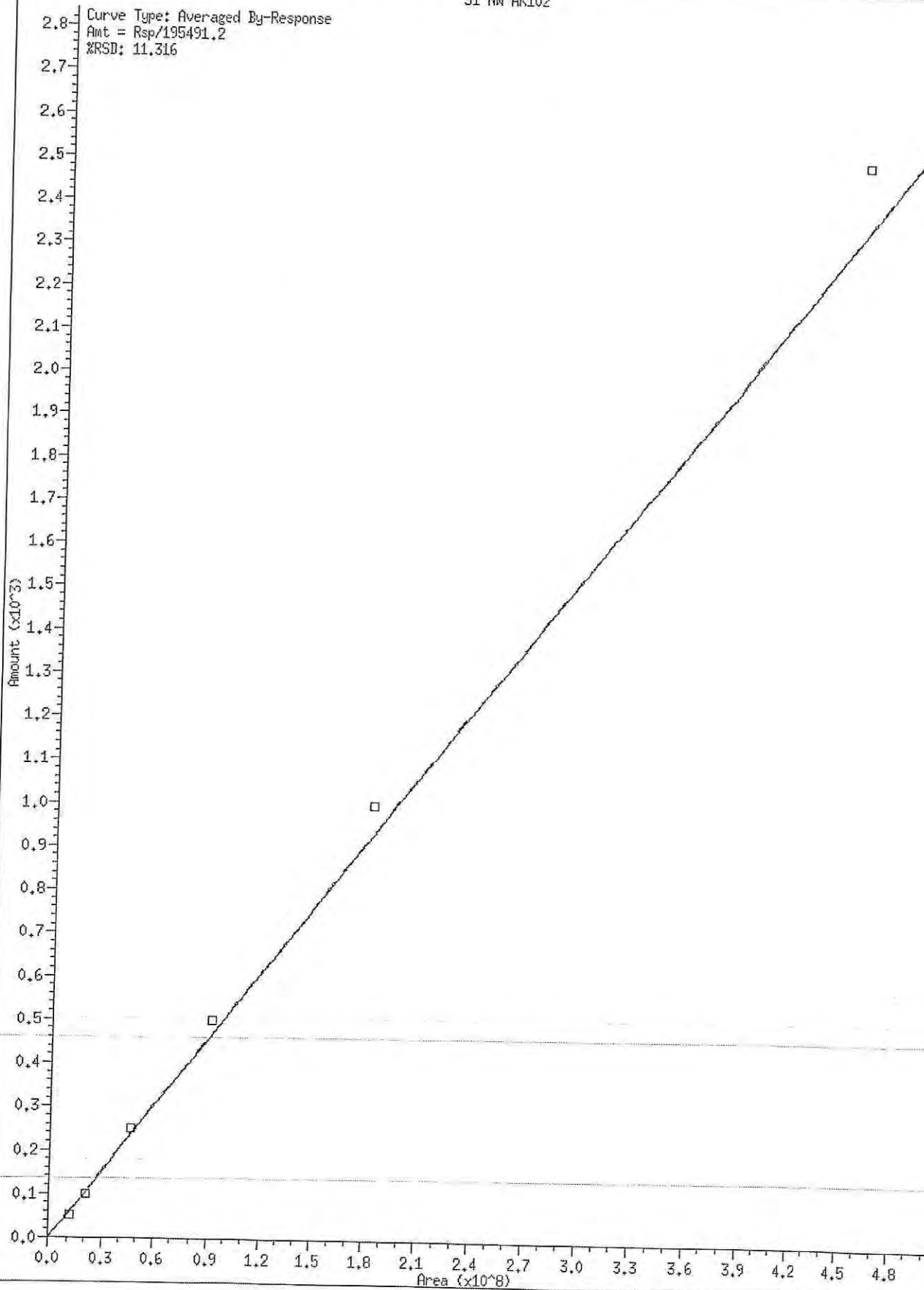
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Amount (x10³)



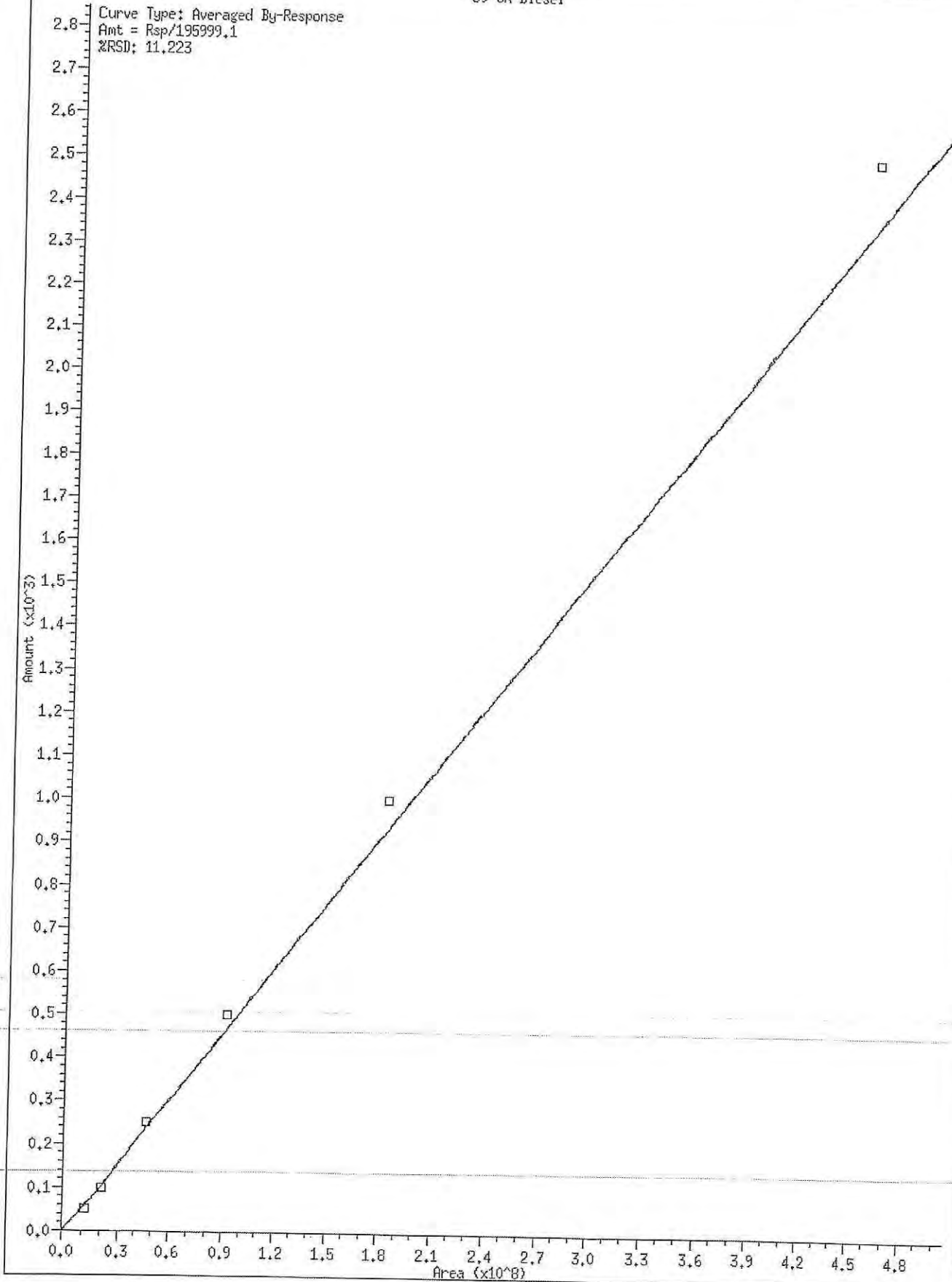
Area (x10⁸)

Curve Type: Averaged By-Response
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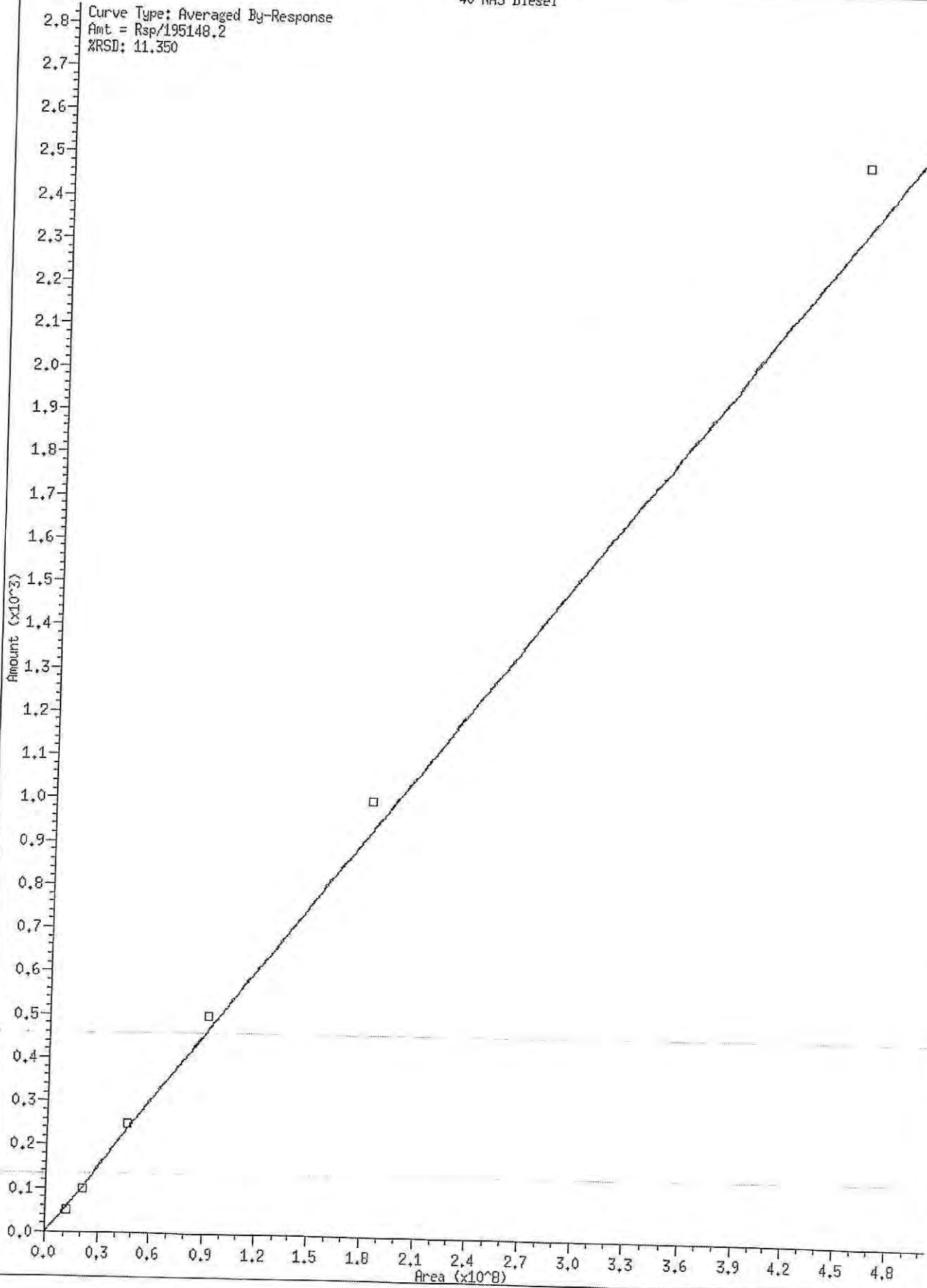
39 OR Diesel

Curve Type: Averaged By-Response
Amt = Rsp/195999,1
%RSD: 11,223



40 NAS Diesel

Curve Type: Averaged By-Response
Amt = Rsp/195148.2
%RSD: 11.350



30 NM Noil

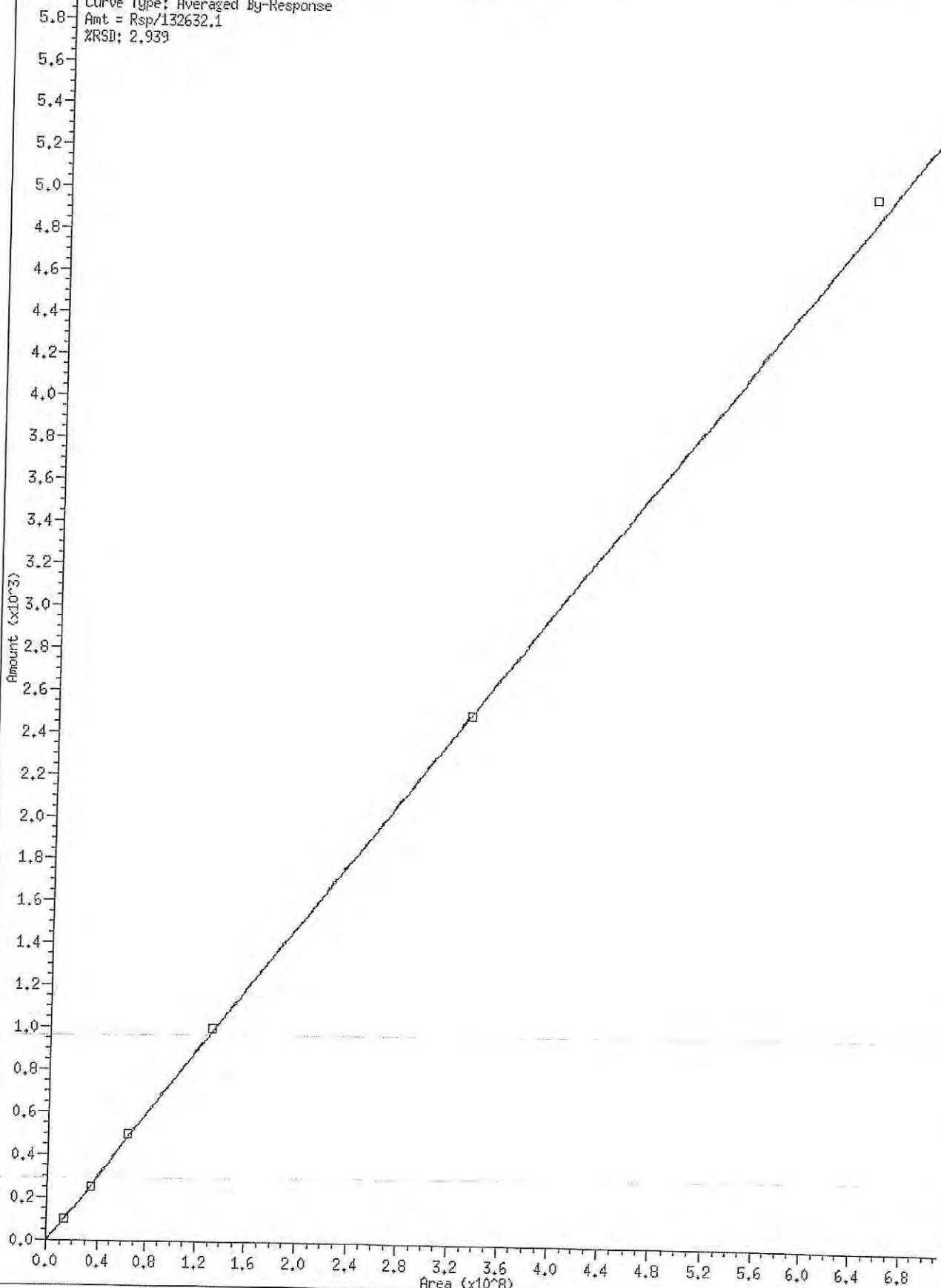
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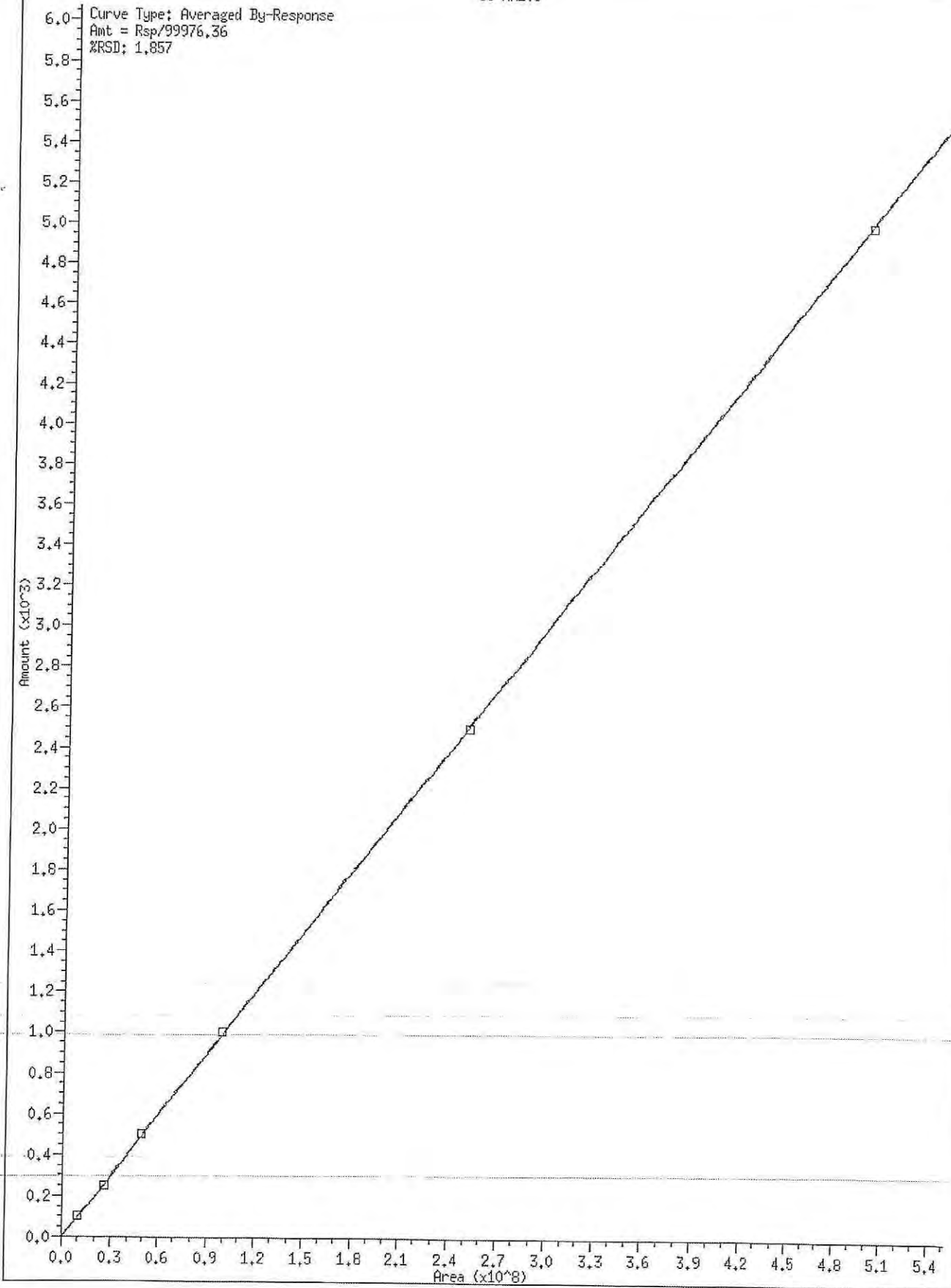
%RSD: 2.939

Amount (x10³)

Area (x10⁸)

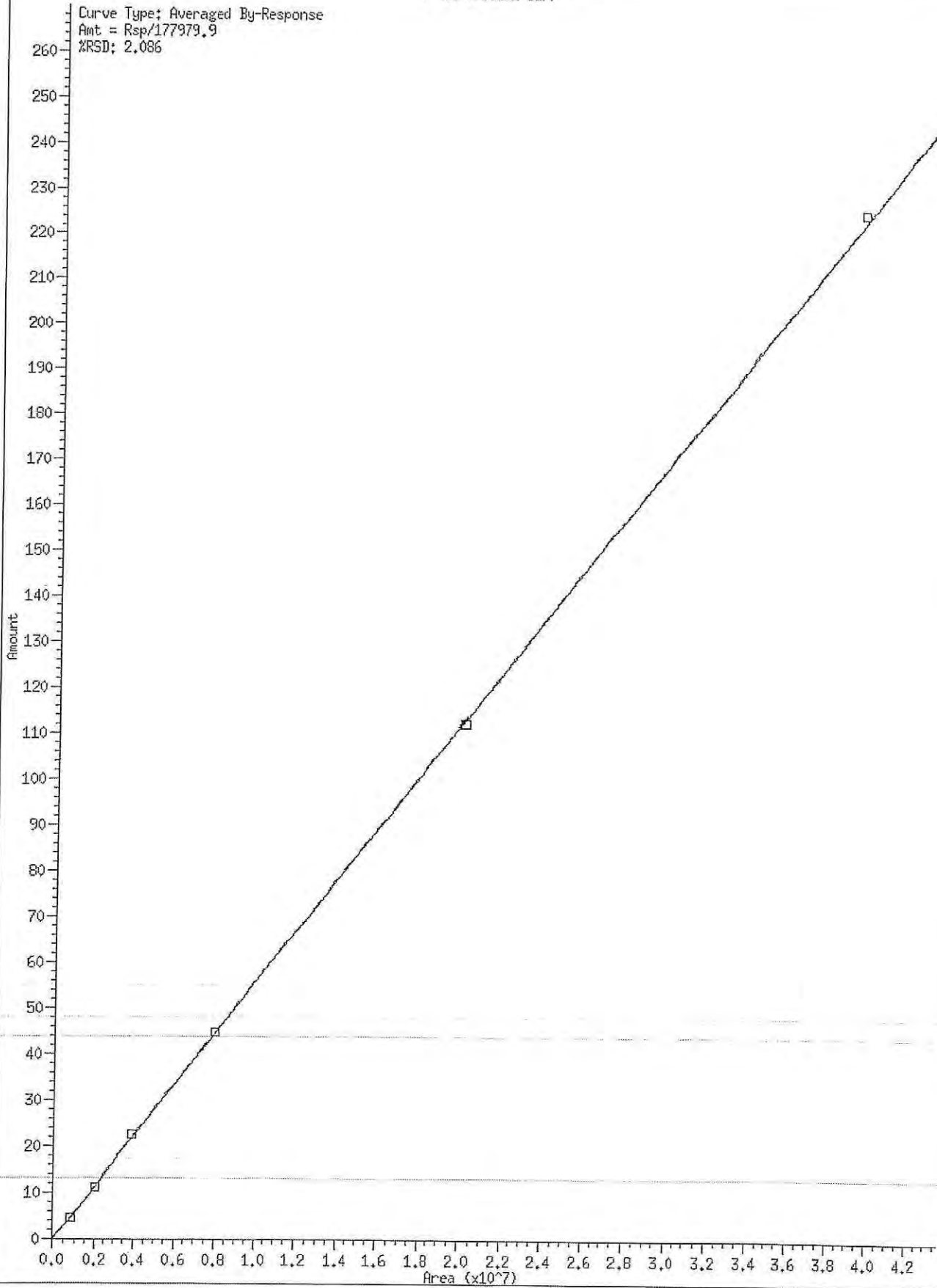


Curve Type: Averaged By-Response
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%RSD: 1,857



* 15 Triacon Surr

Curve Type: Averaged By-Response
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%RSD: 2.086



* 8 o-terph

Curve Type: Averaged By-Response
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0.2

0.3

0.4

0.5

0.6

0.7

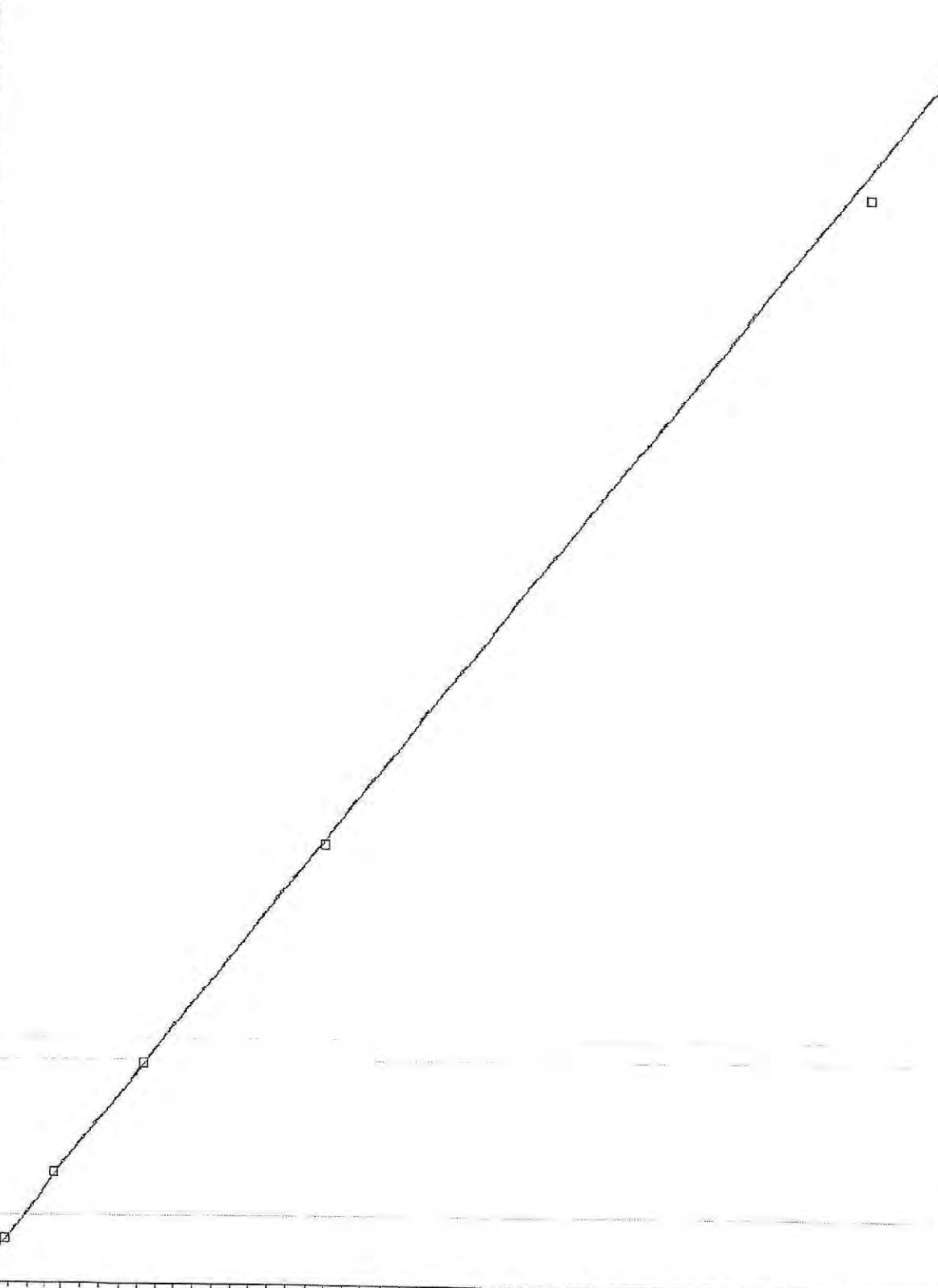
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0.9

1.0

Area (x10⁸)

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200
190
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ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	419J2507	419J2508	419J2509	419J2510	419J2511	419J2512
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	13:52	14:12	14:32	14:53	15:13	15:32

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.094	2.095	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	+++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.369	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.129	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.676	10.683	10.680	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.640	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NR Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACrosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NR Moll	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NR AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.812	0.762-0.862	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.965	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
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INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.258	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.332	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C25	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C26	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____
Reviewer 2 _____

Date: _____
Date: _____

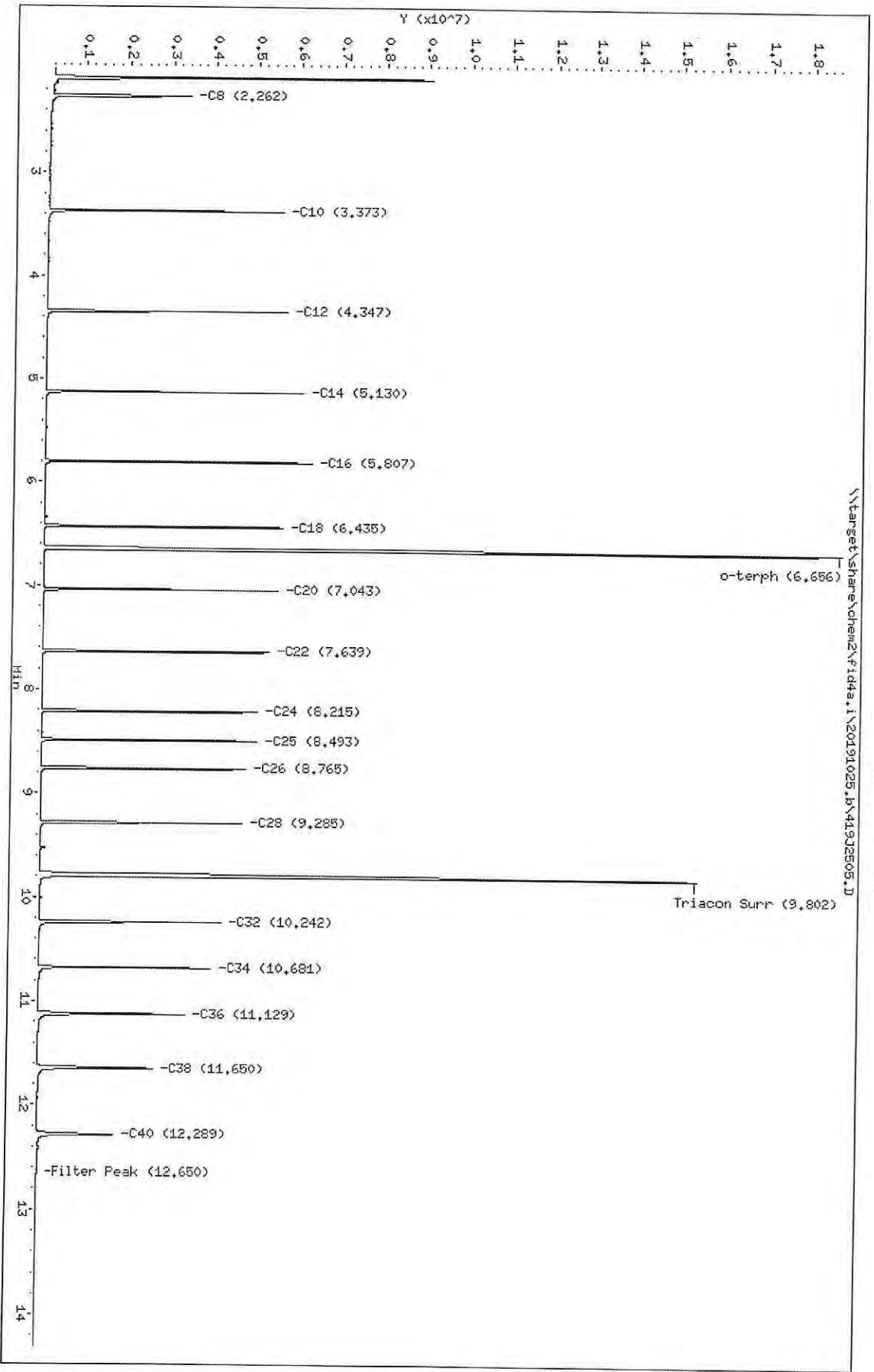
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.781	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACresosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NW M611	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NW AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.912	0.762-0.962	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.985	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2505.D
Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SHJ0406-1BL1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

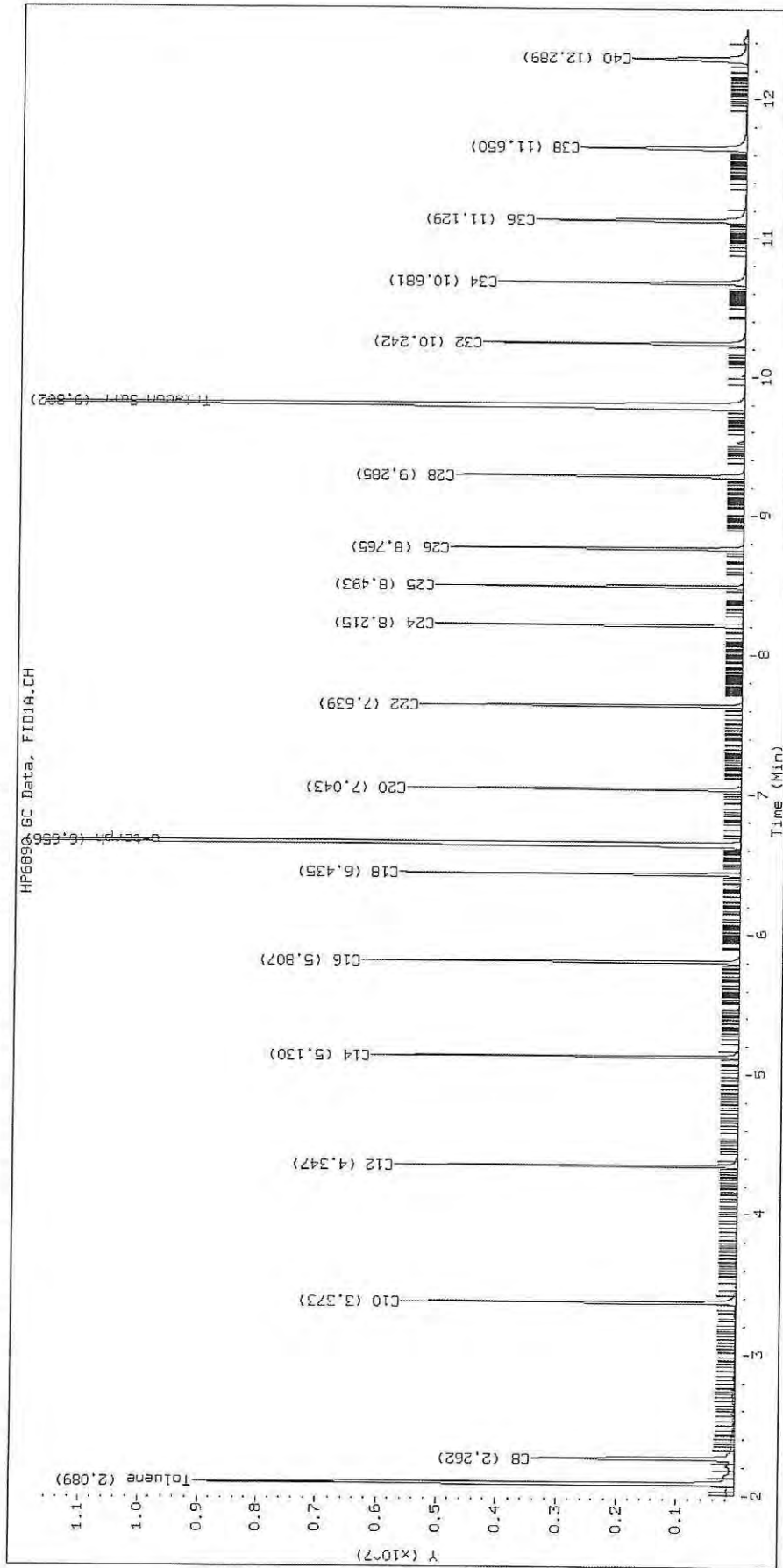
Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacantane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

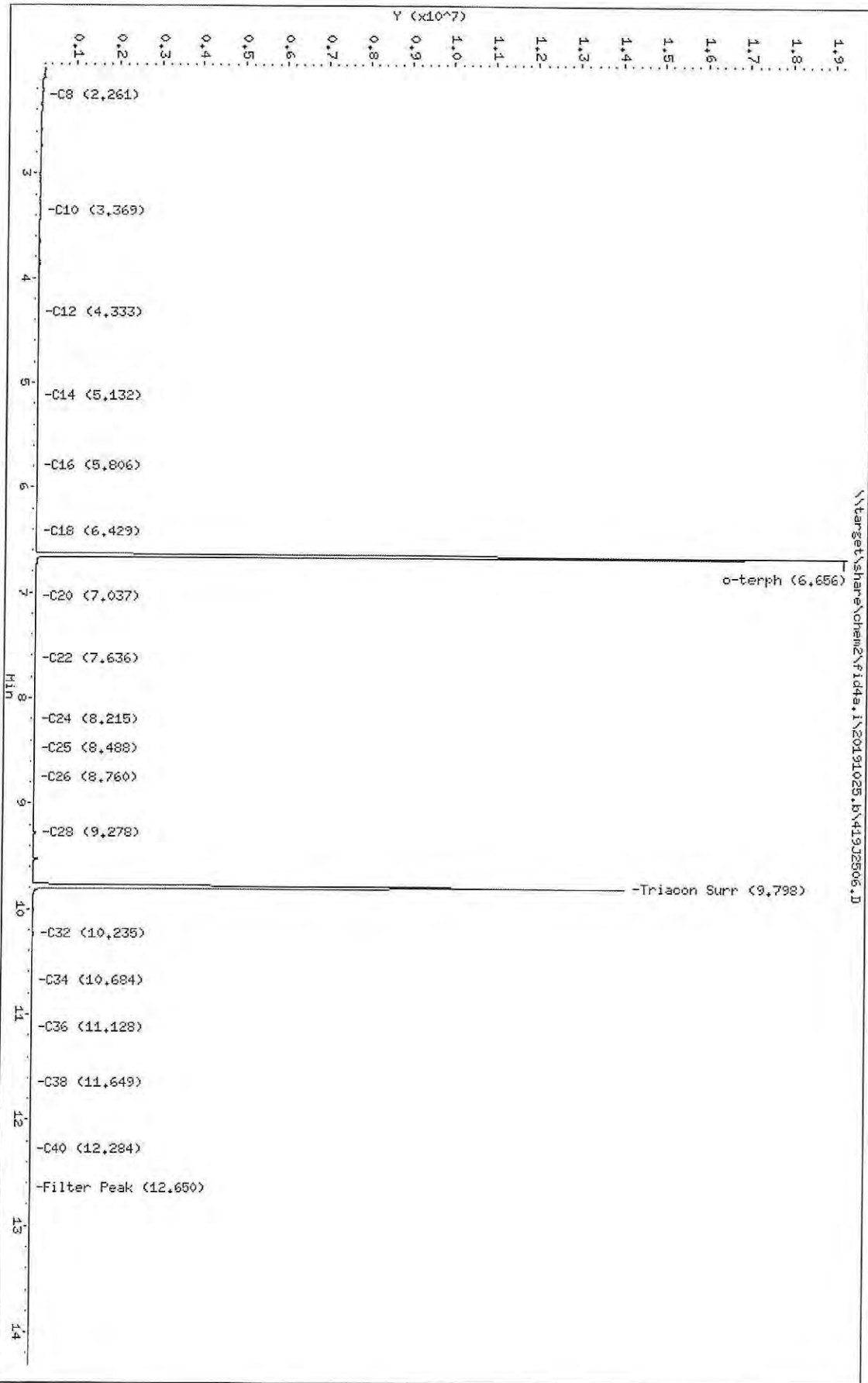
Datafile: FID4A, 20191025.b/419J2505.D SHJ0406-IBL1

HP6890A GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2506.D
Date : 25-OCT-2019 13:31
Client ID:
Sample Info: SHJ0406-IBL2
Column Phaset RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

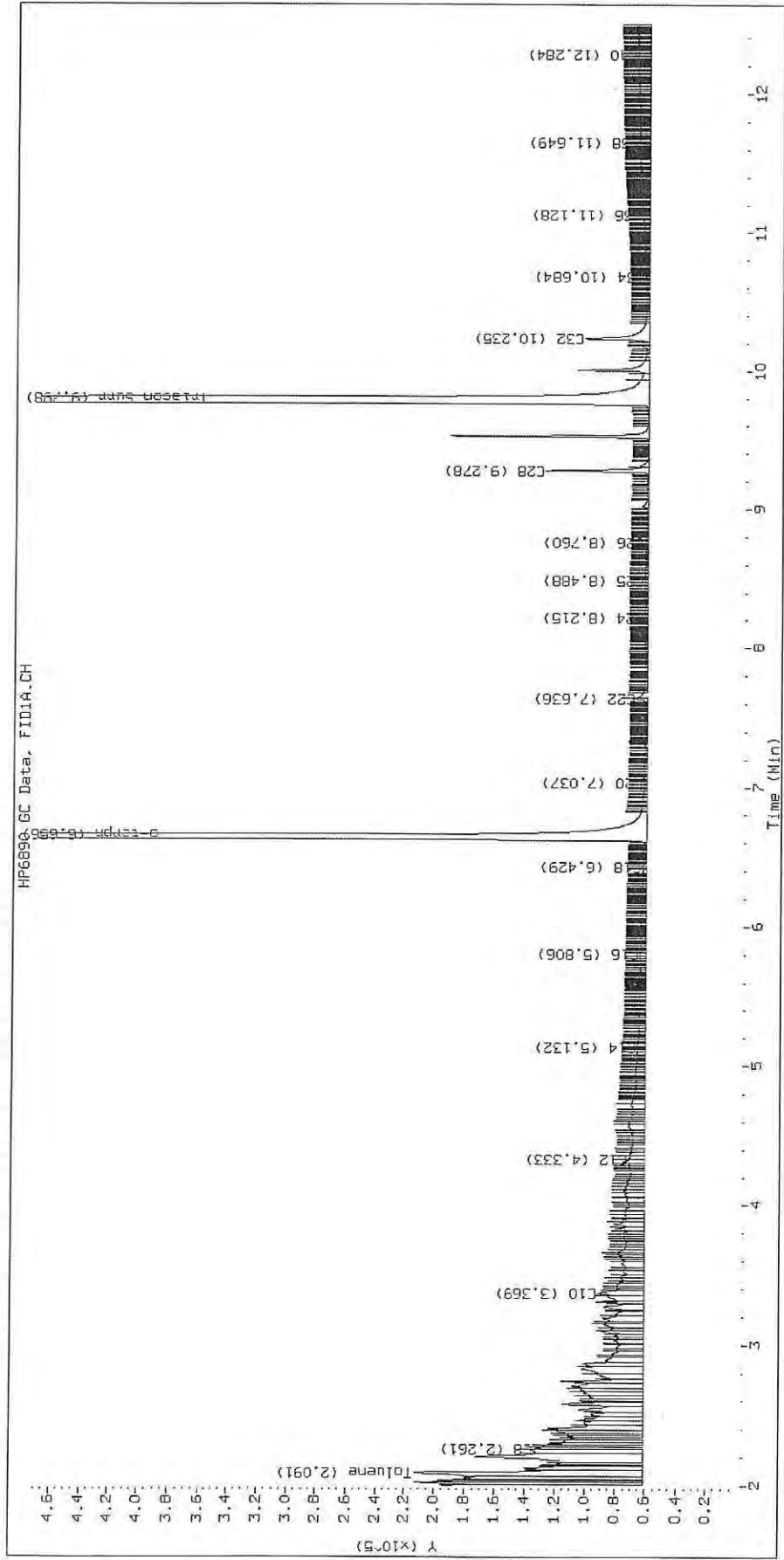
Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacontane	17993211	101.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

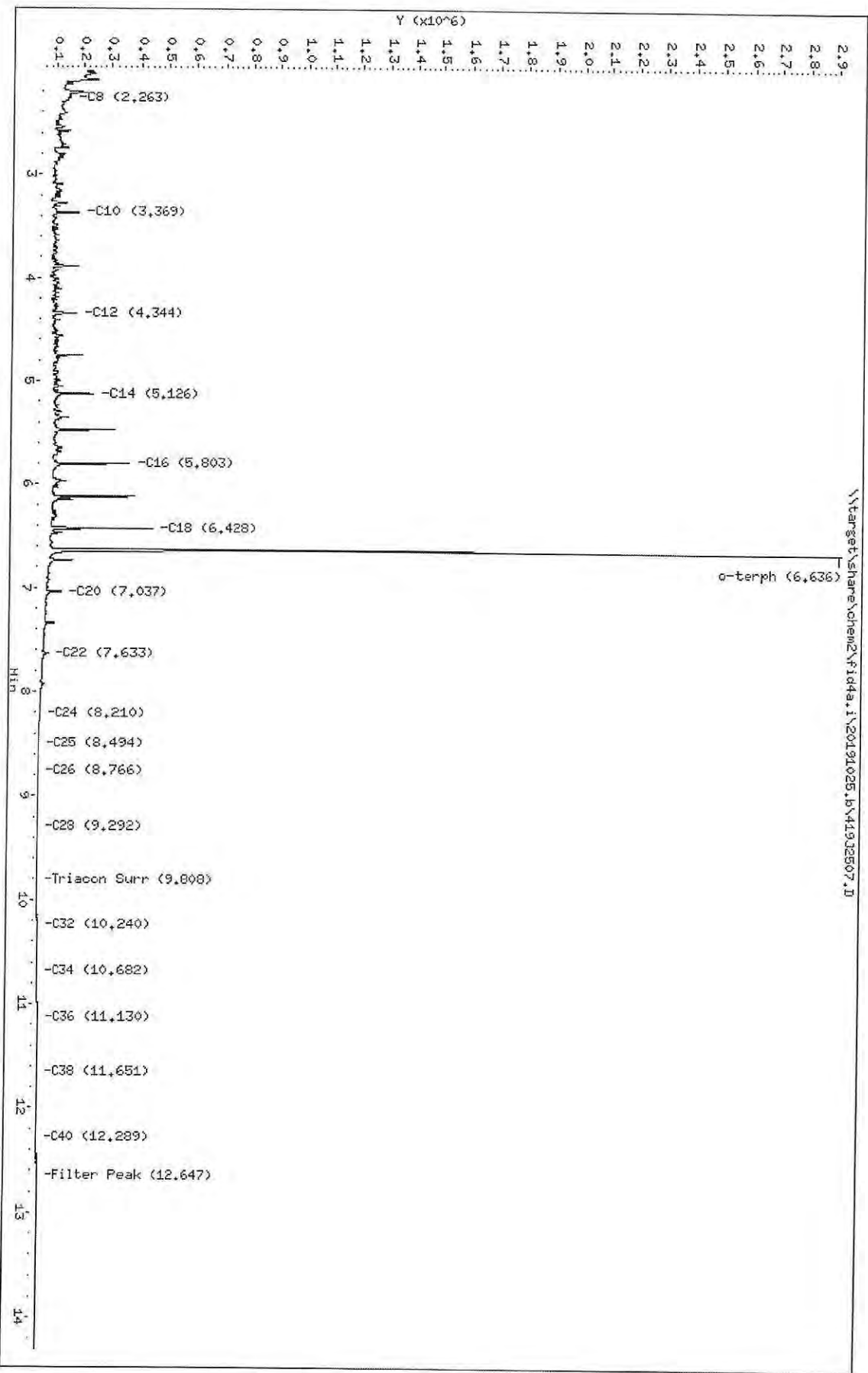
Datafile: FID4A, 20191025.b/419J2506.D SHJ0406-IBL2

HP6890 GC Data, FID1A.CH



Data File: \\farset\share\chem2\fid4a.i\20191025.bv419J2507.D
 Date: 25-OCT-2019 13:52
 Client ID:
 Sample Info: SHJ0406-CAL1
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

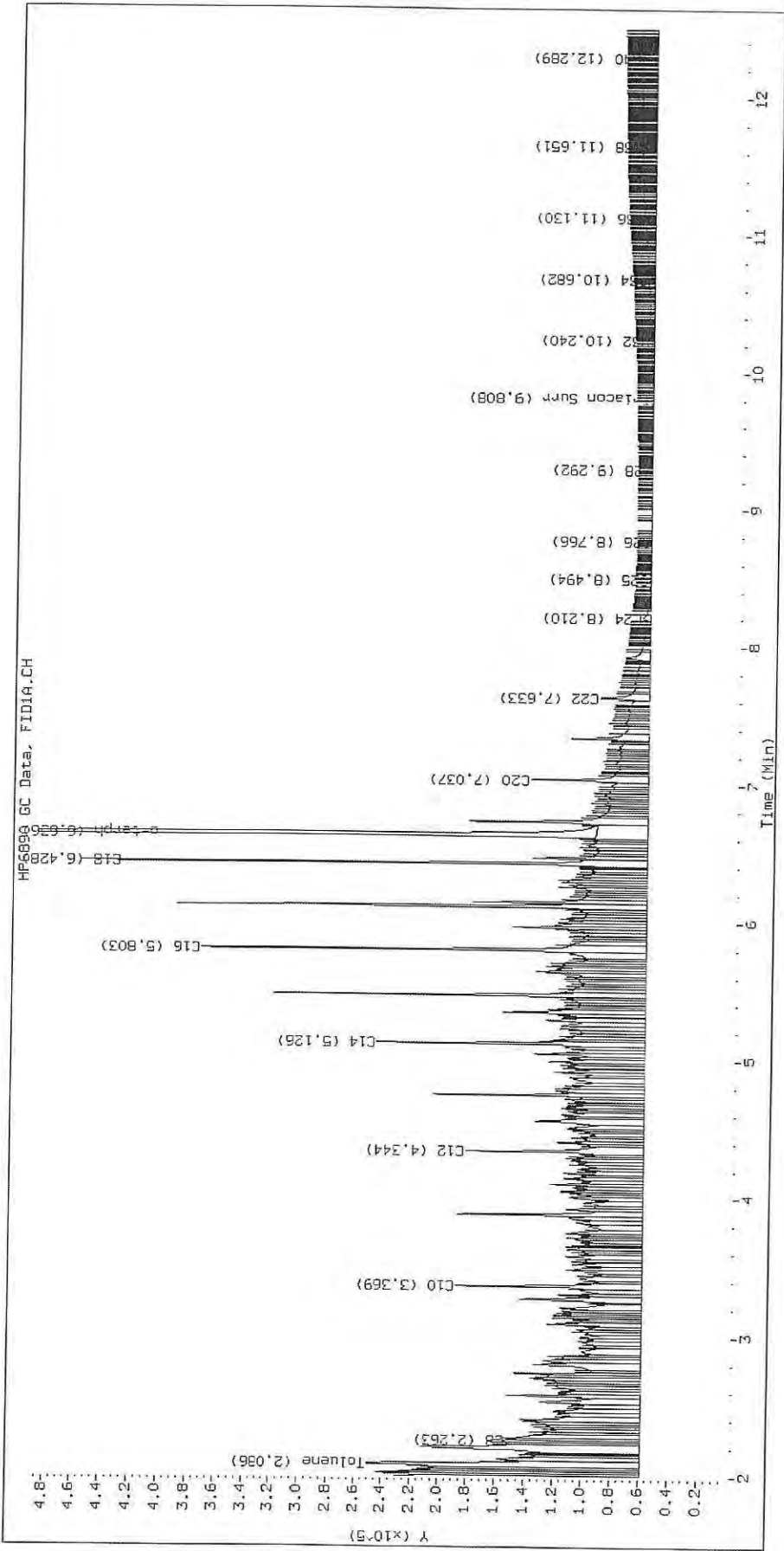
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacontane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CALI



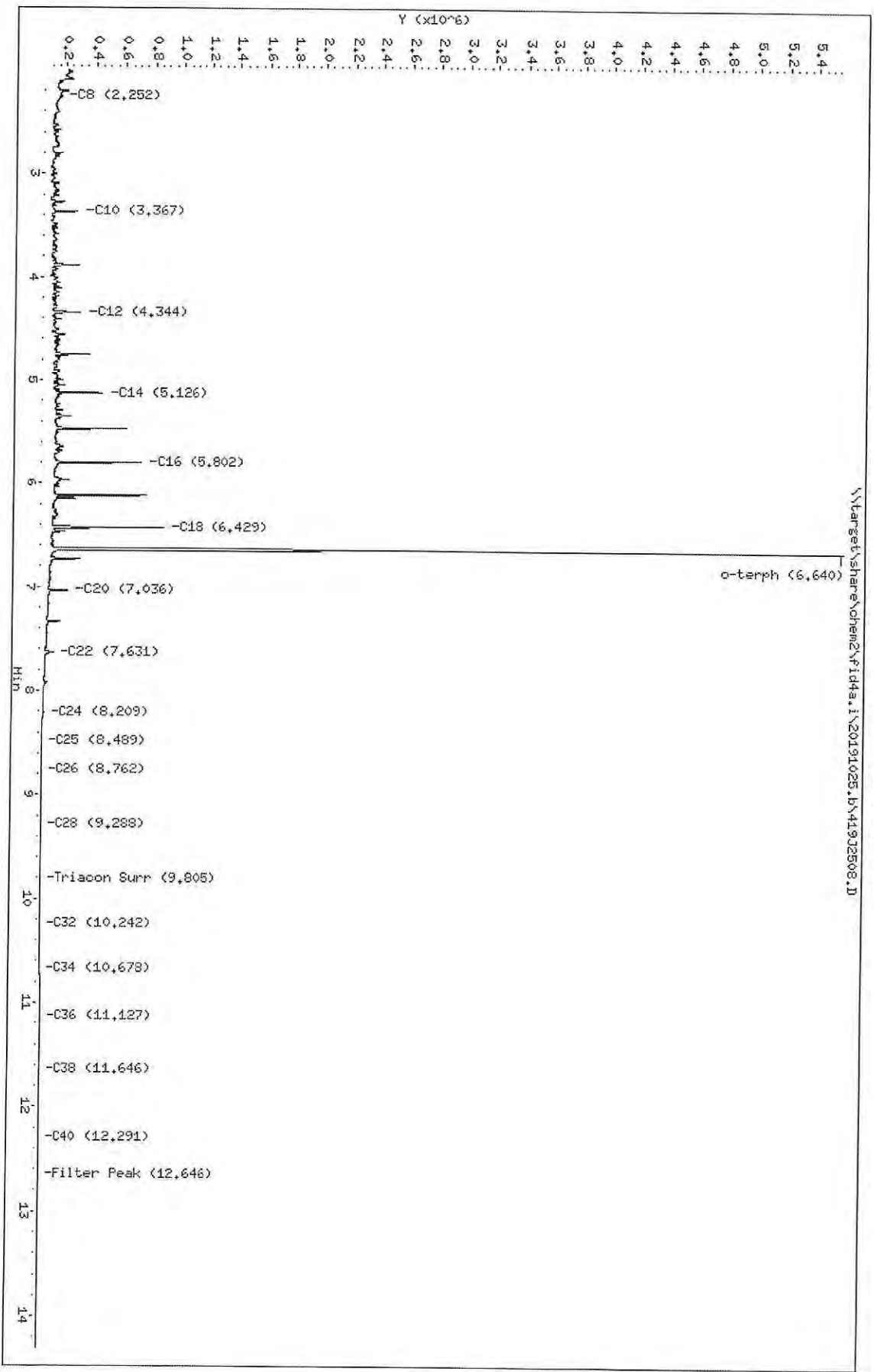
Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2508.D
Date: 25-OCT-2019 14:12

Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

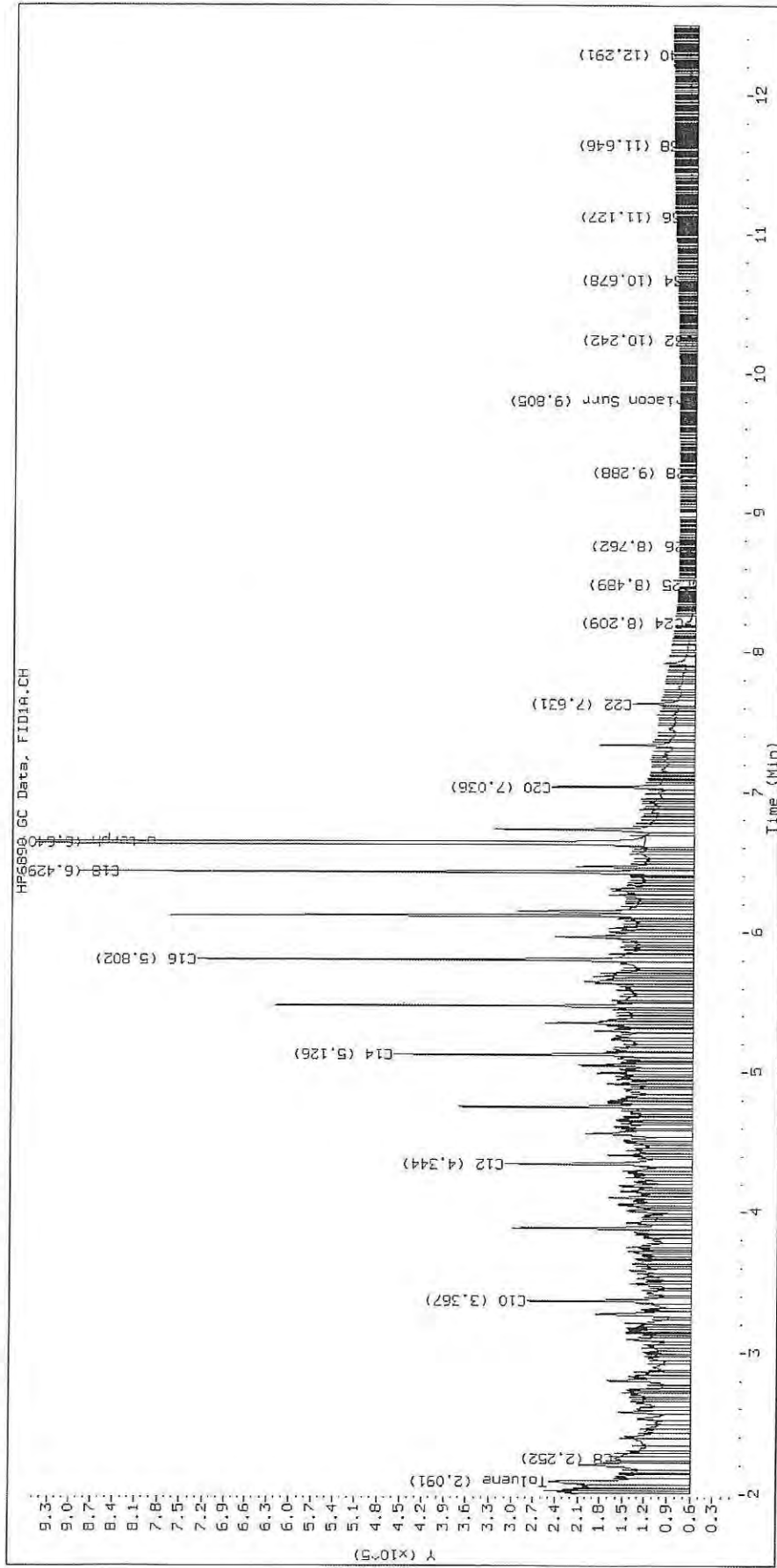
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacotane	368	0.0

M Indicates the peak was manually integrated

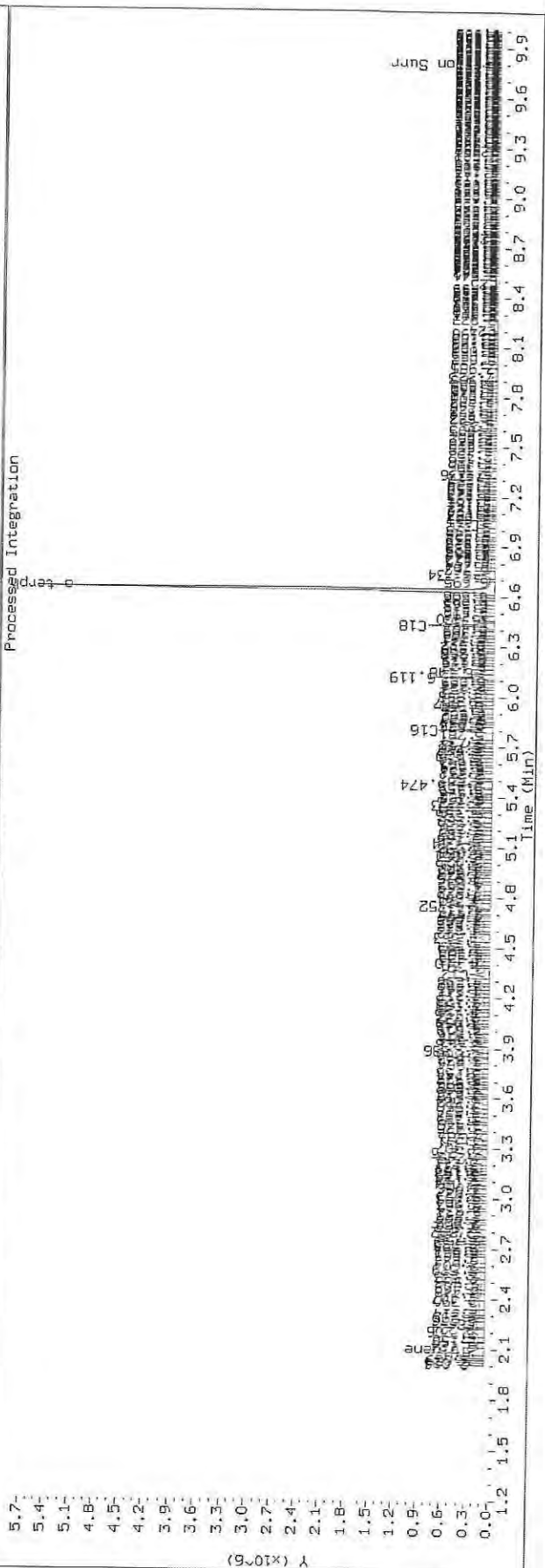
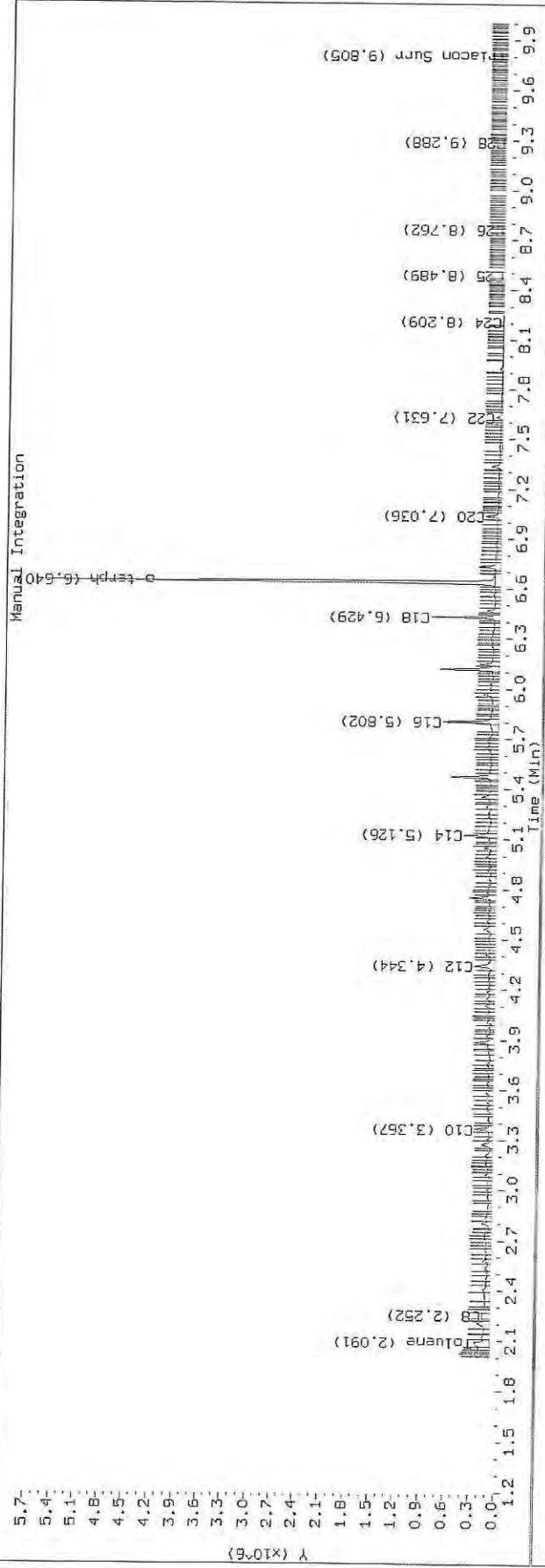
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

HP6890 GC Data, FID1A.CH

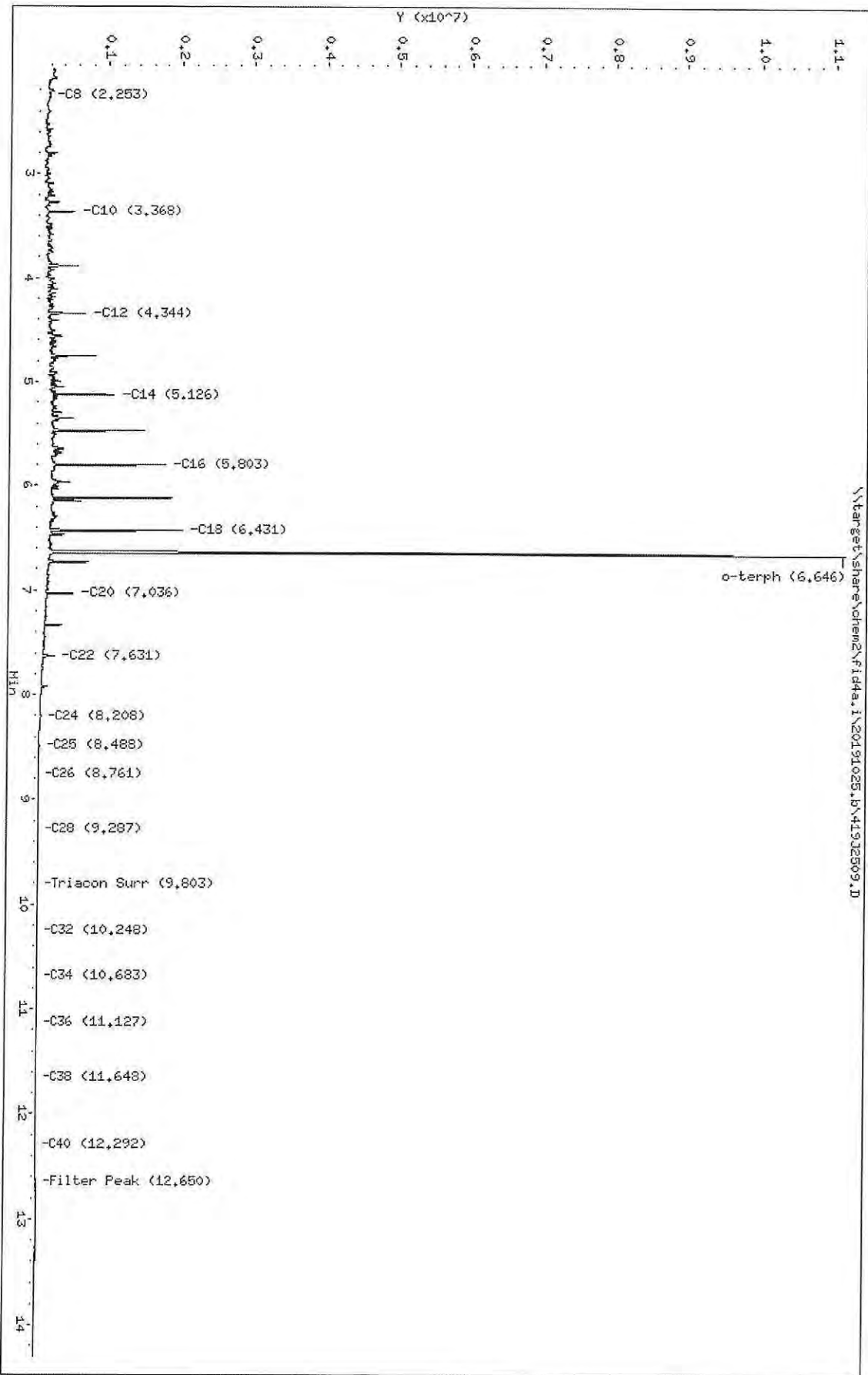


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2508.D Injection: 25-OCT-2019 14:12
 Lab ID: SHJ0406-CAL2



Data File: \\target\share\chem2\Fid4a.1\20191025.B\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3
Column phase: RTX-1

Instrument: Fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

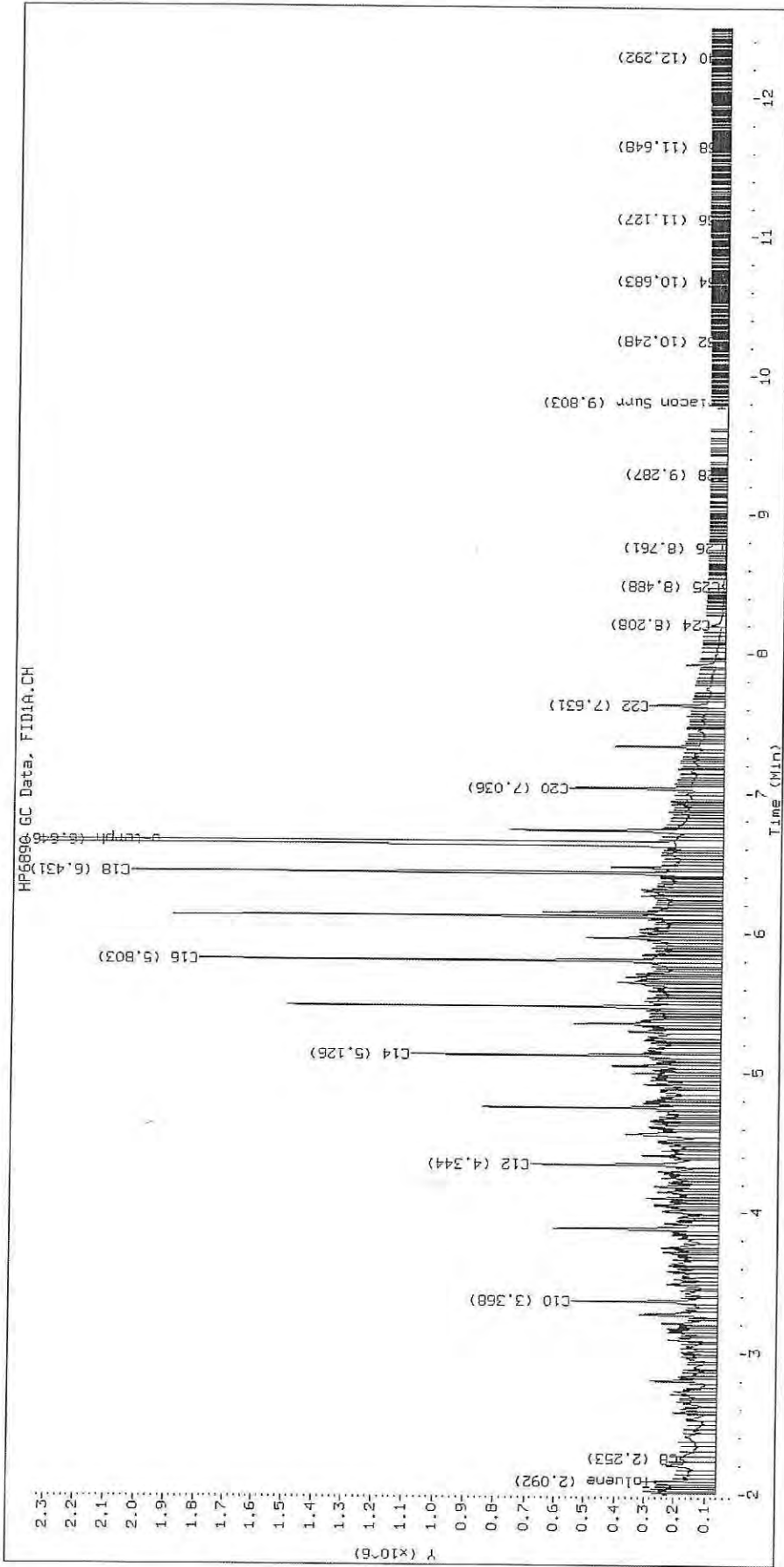
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacotane	103	0.0

M Indicates the peak was manually integrated

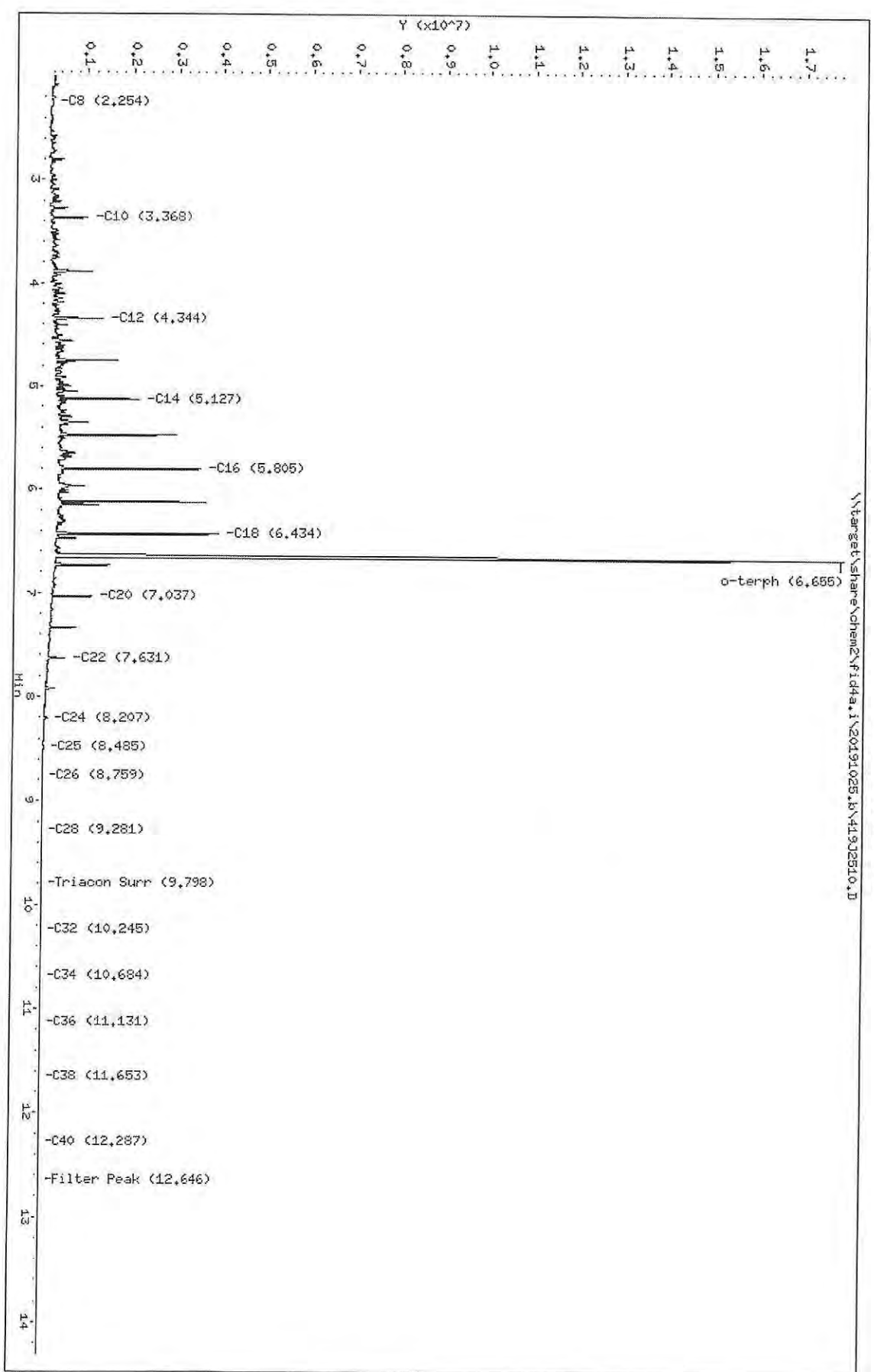
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2509.D SHJ0406-CAL3



Data File: \\target\share\chem2\fidha.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SH30406-CRL4
Column phase: RTX-1

Instrument: fidha.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

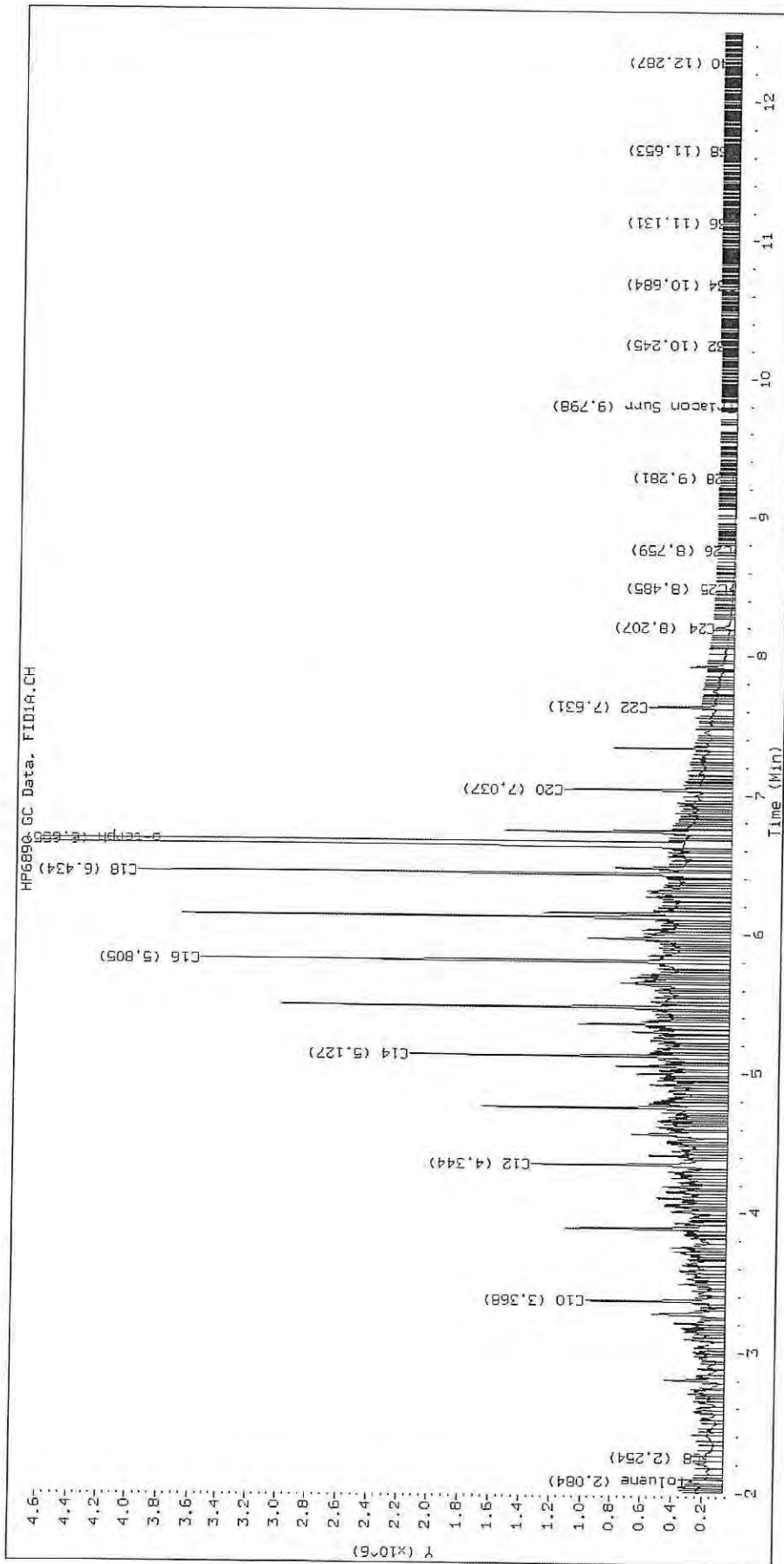
Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacotane	112	0.0

M Indicates the peak was manually integrated

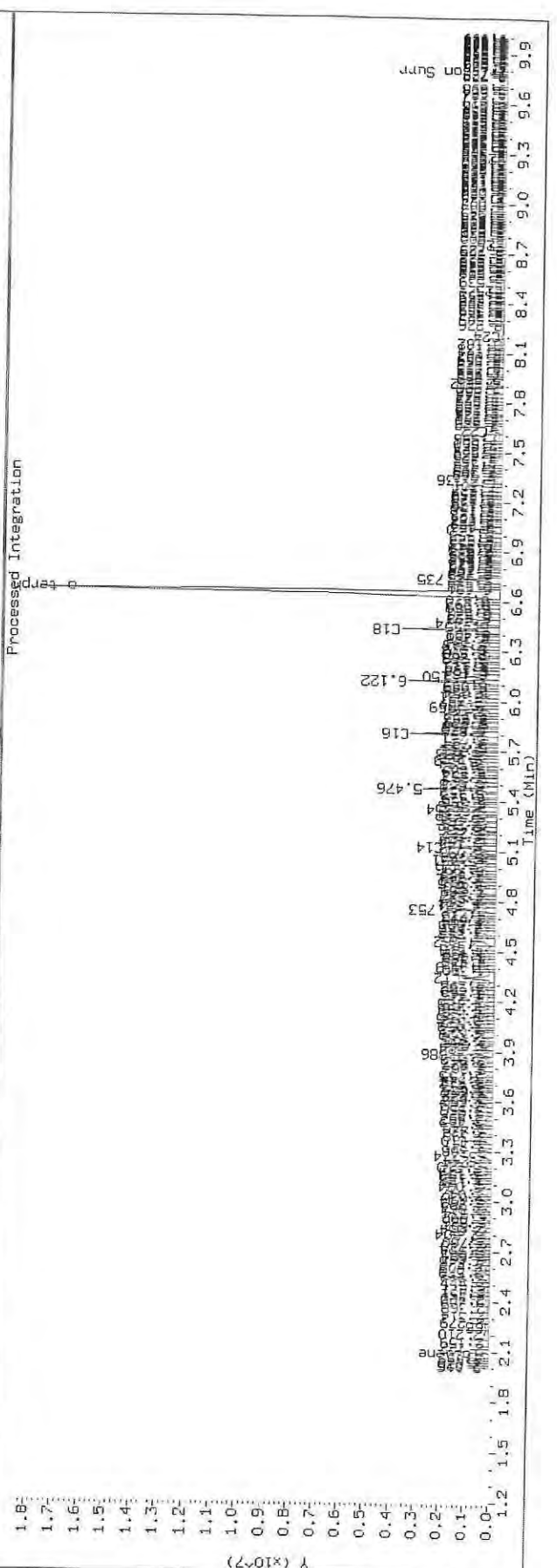
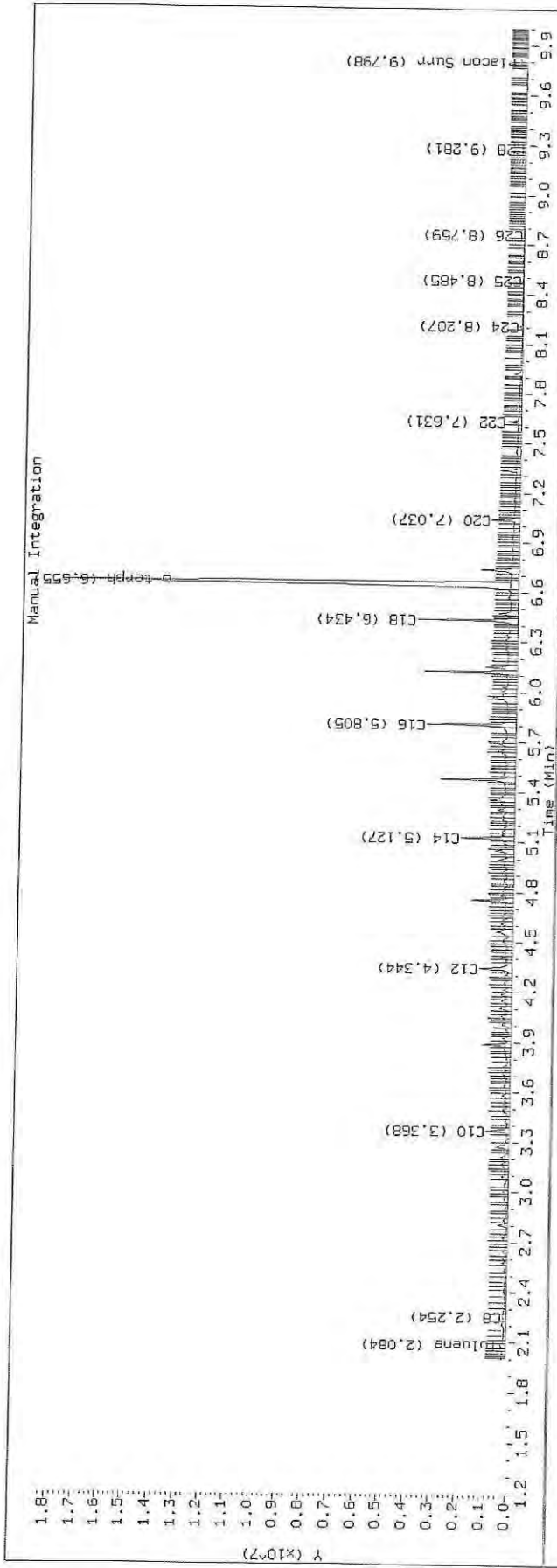
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2510.D

SHJ0406-CAL4

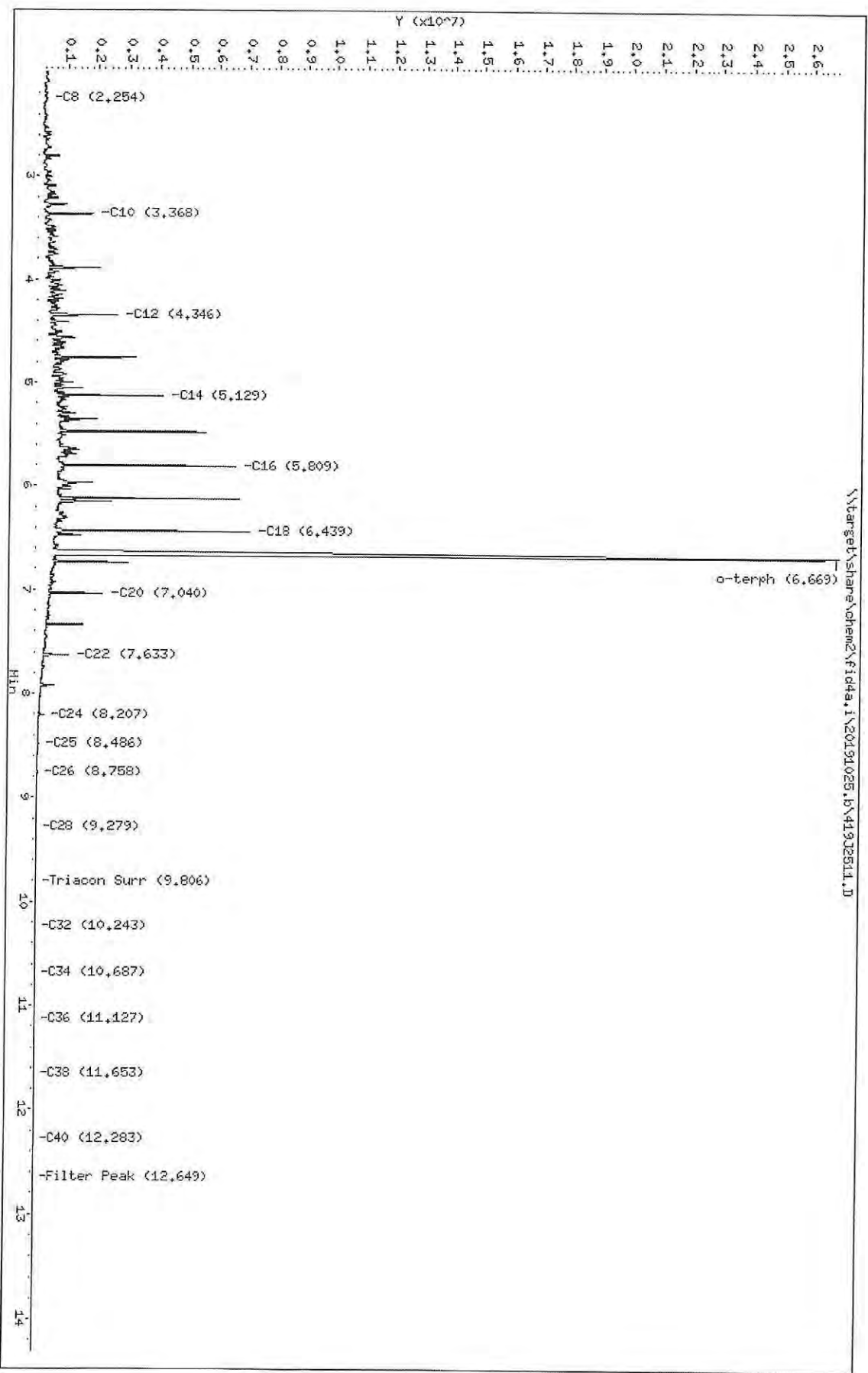


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2510.D Injection: 25-OCT-2019 14:53
 Lab ID: SH00406-CAL4



Data File: \\barger\share\chem2\fid4a.i\20191025.bv419J2511.D
 Date : 25-OCT-2019 15:13
 Client ID:
 Sample Info: SHJ0406-CALS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL5
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

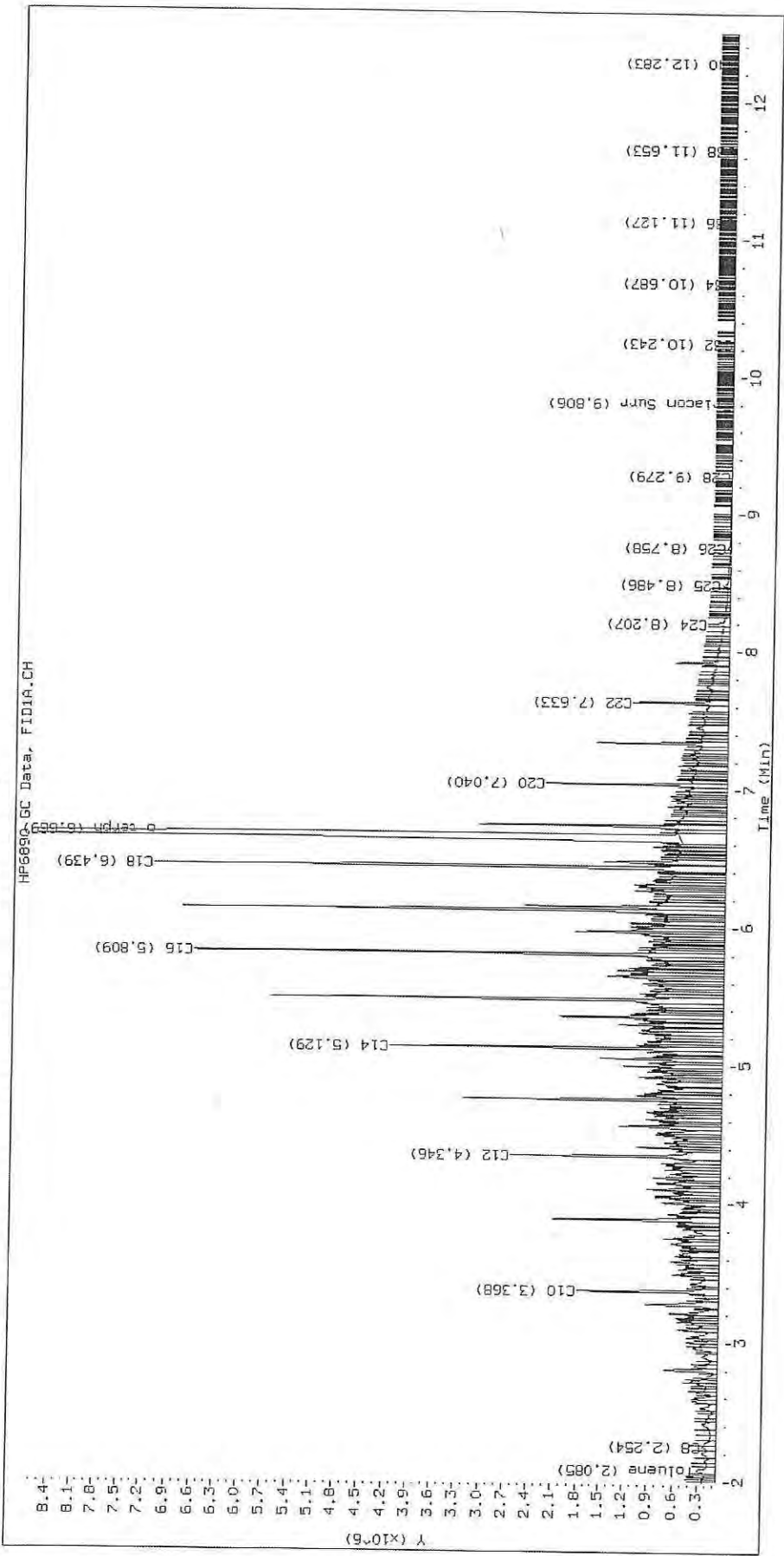
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacotane	1069	0.0

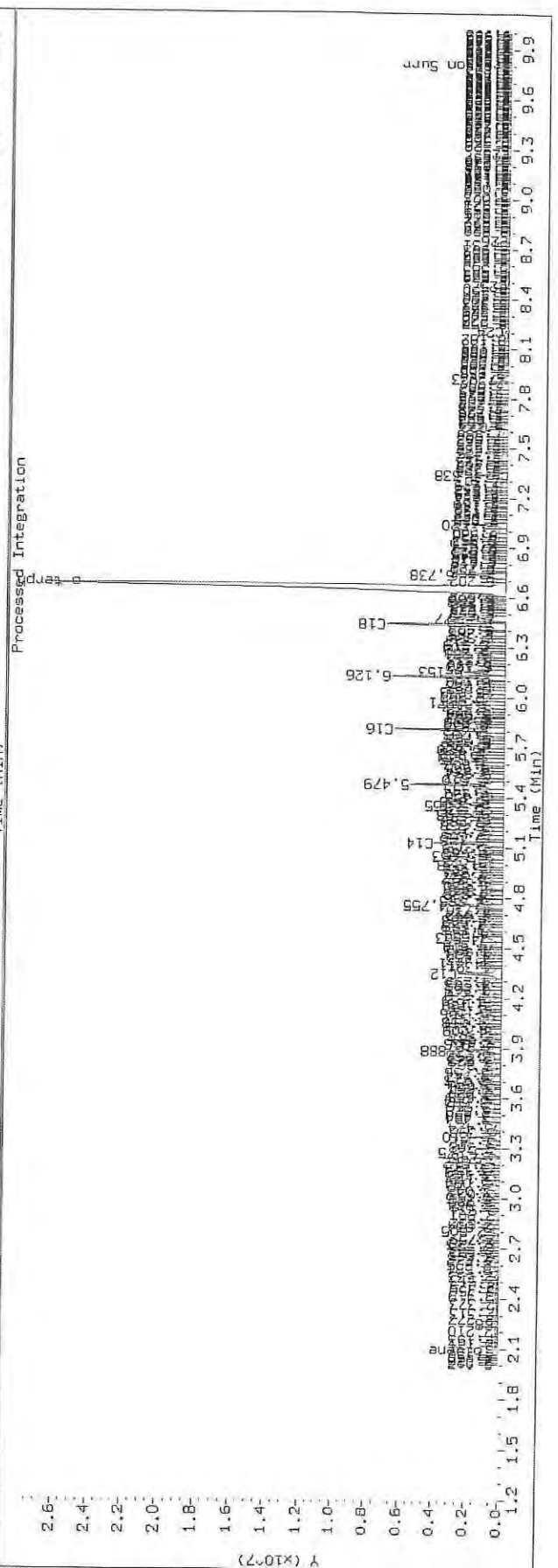
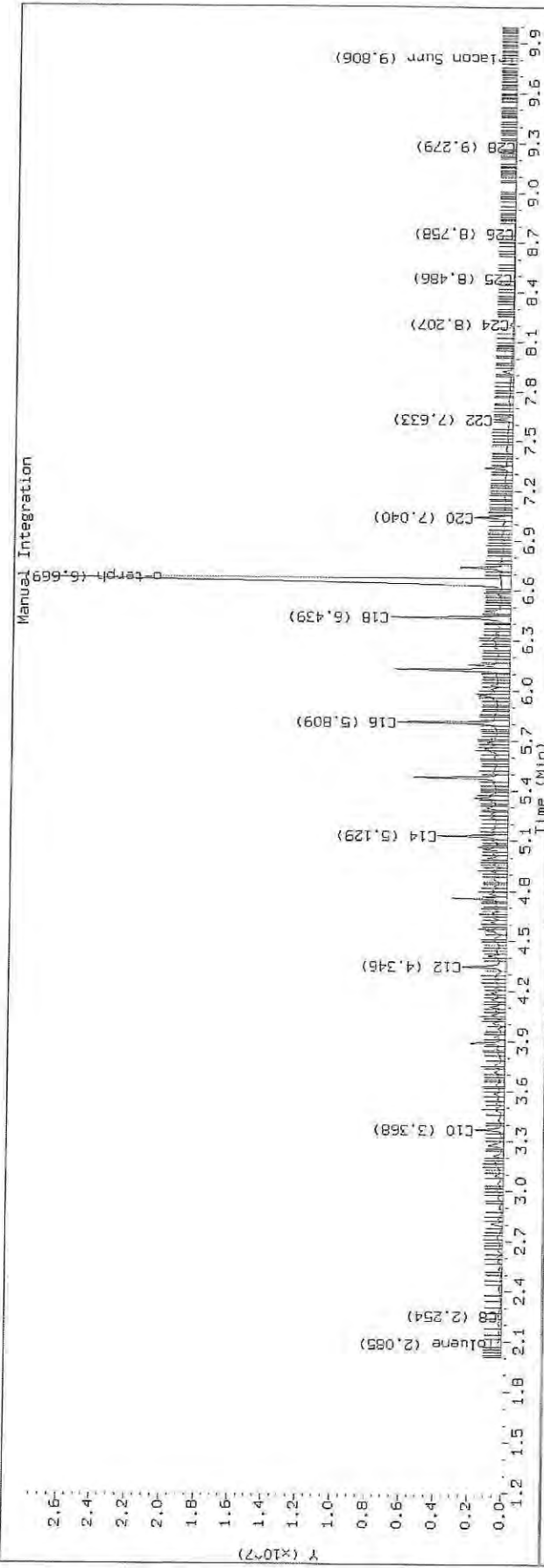
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5

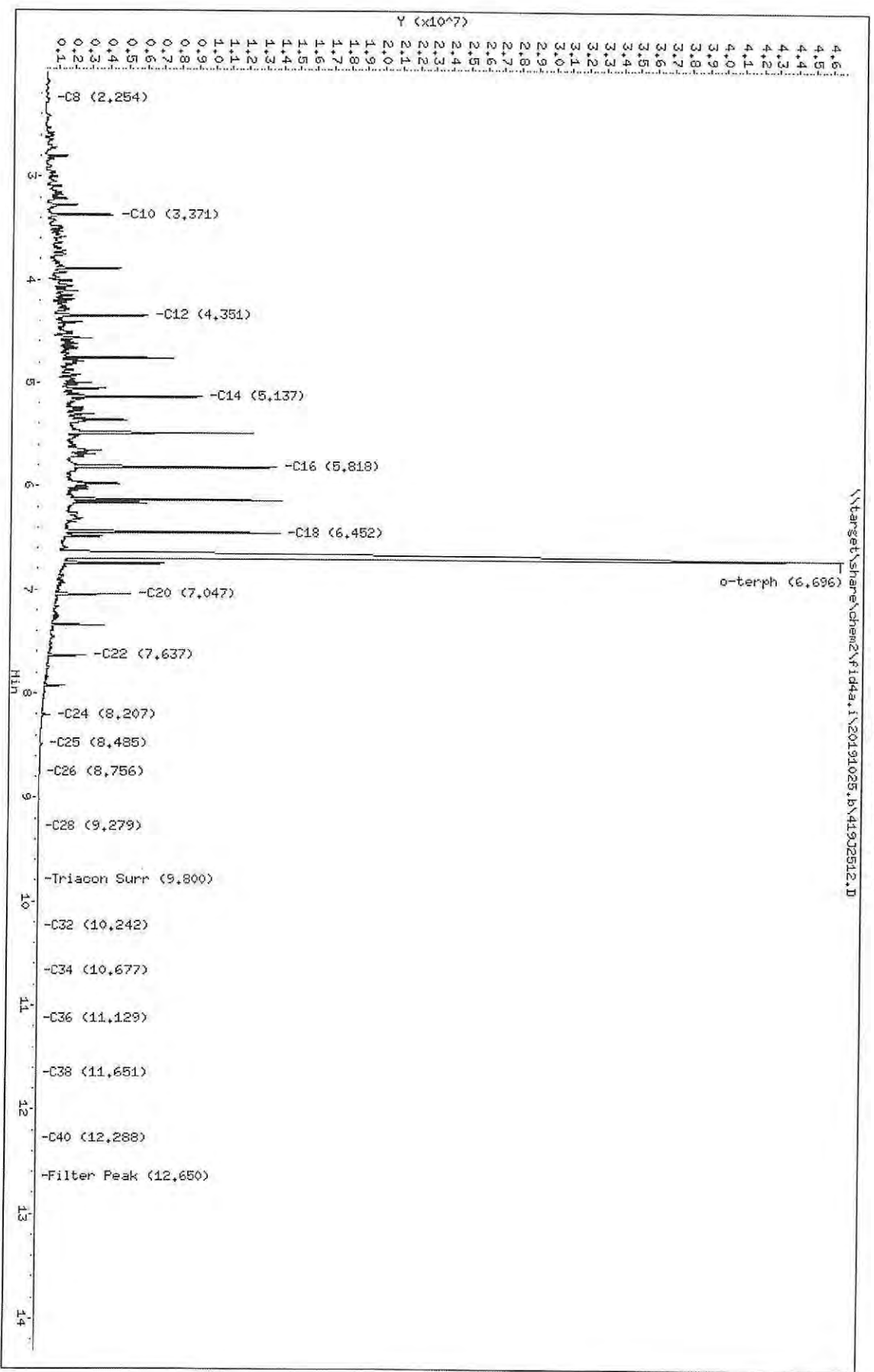


Datafile: FID4A, 20191025.b/419J2511.D Injection: 25-OCT-2019 15:13
 Lab ID: SHJ0406-CAL5



Data File: \\target\shame\chem2\fid4a.1\20191025.bv419J2B12.D
 Date: 25-OCT-2019 15:32
 Client ID:
 Sample Info: SHJ0406-CHL6
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTG/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

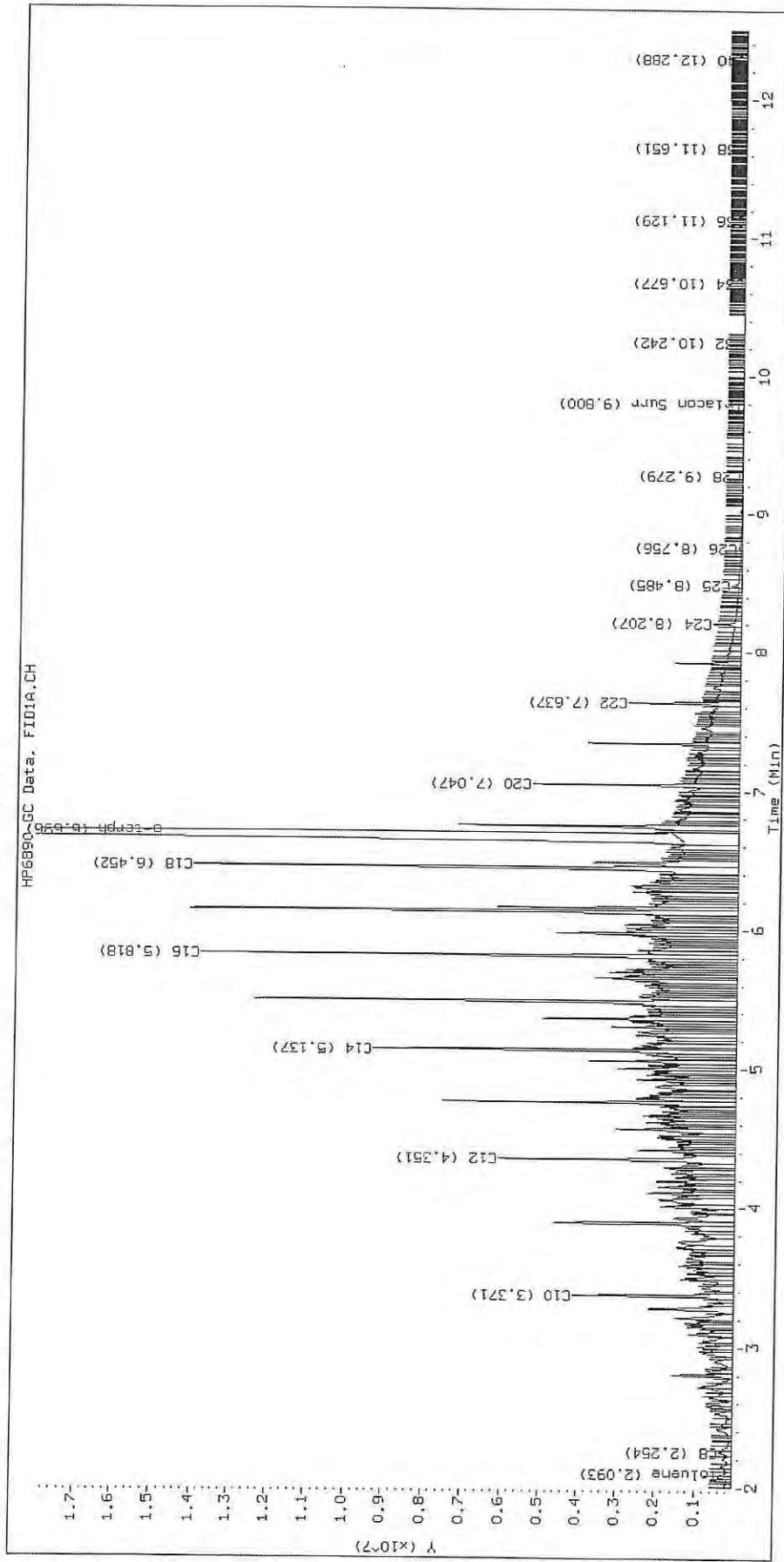
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

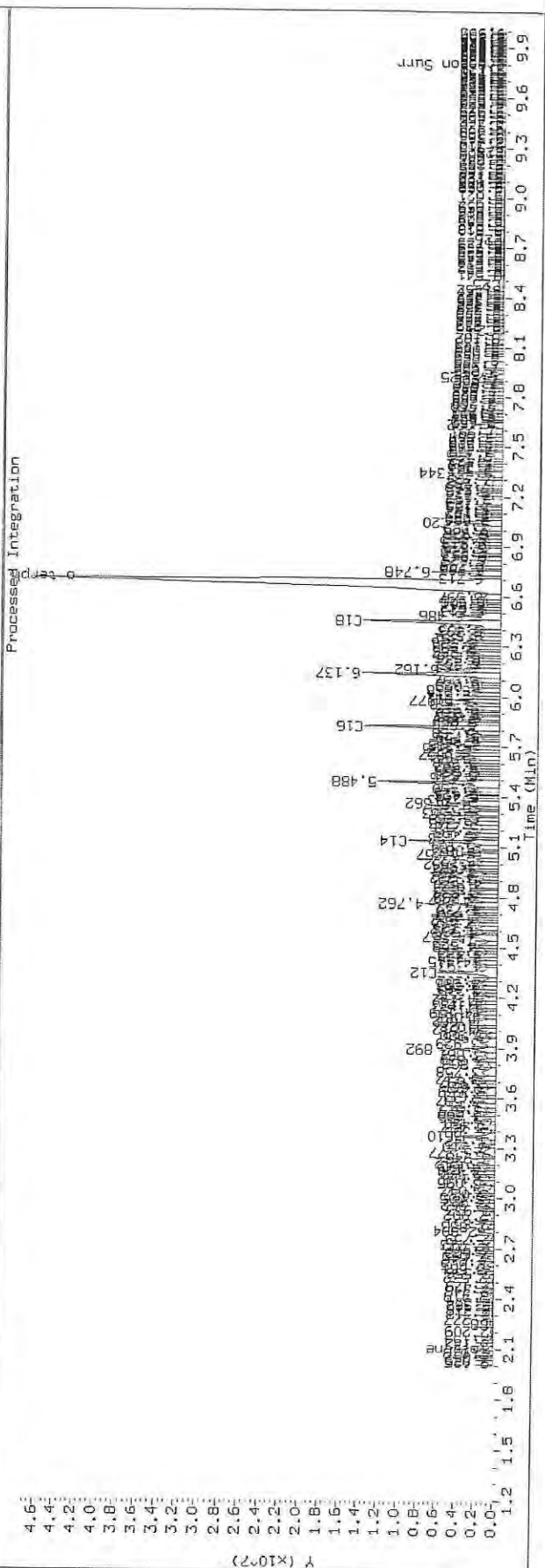
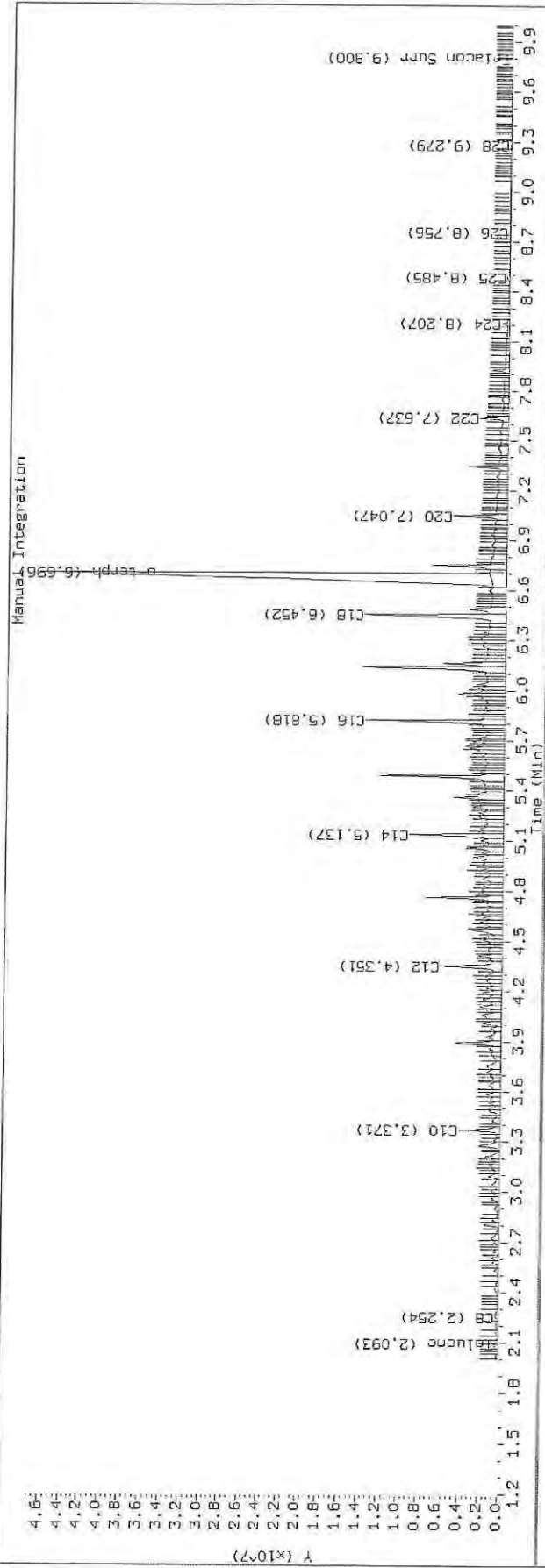
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacontane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

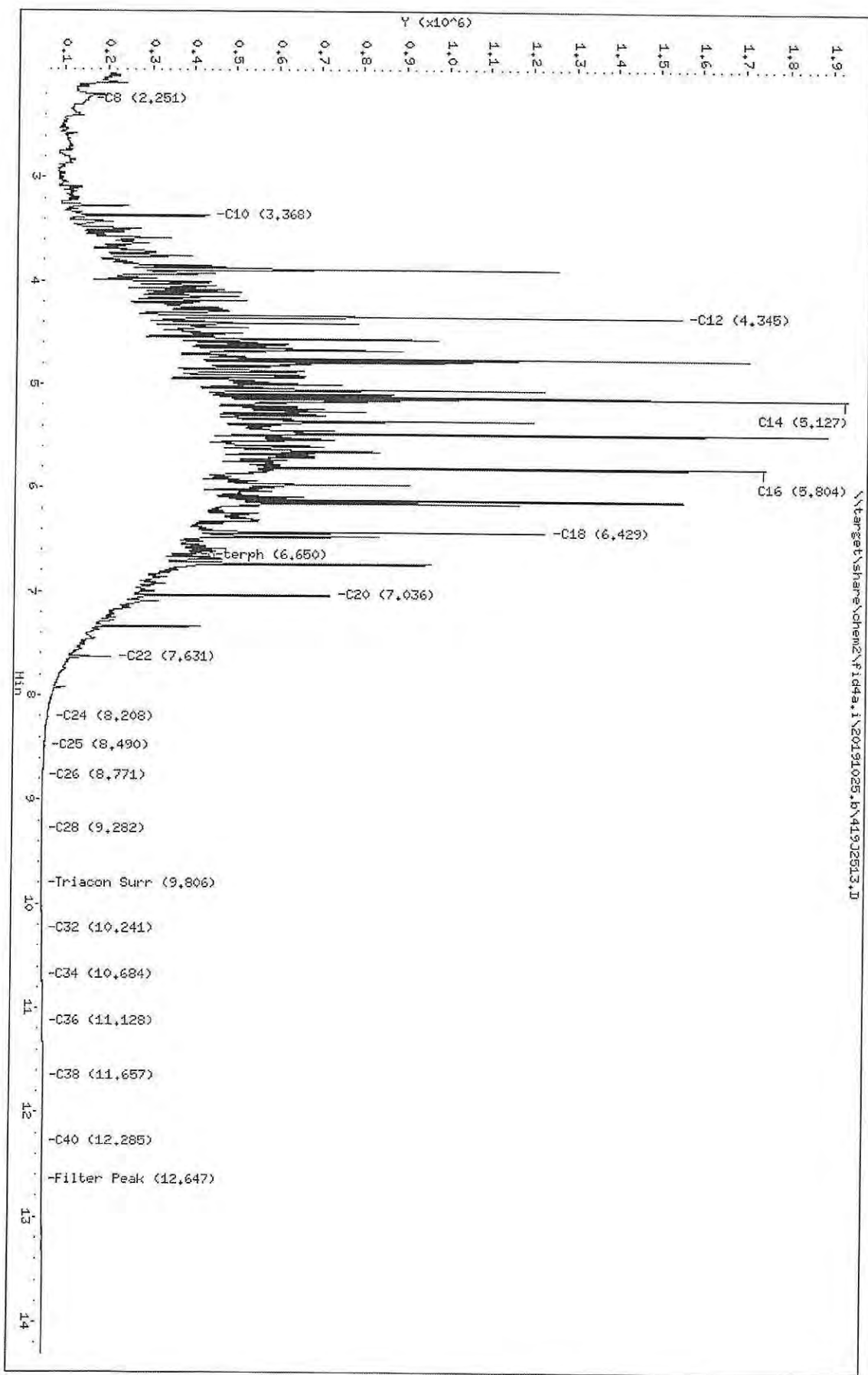
Datafile: FID4A, 20191025.b/41902512.D SHJ0406-CAL6





Data File: \\ntarget\share\chem2\fid4a.i\20191025.B\419J2513.D
Date: 25-OCT-2019 15:52
Client ID:
Sample Info: SH30406-SCW1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

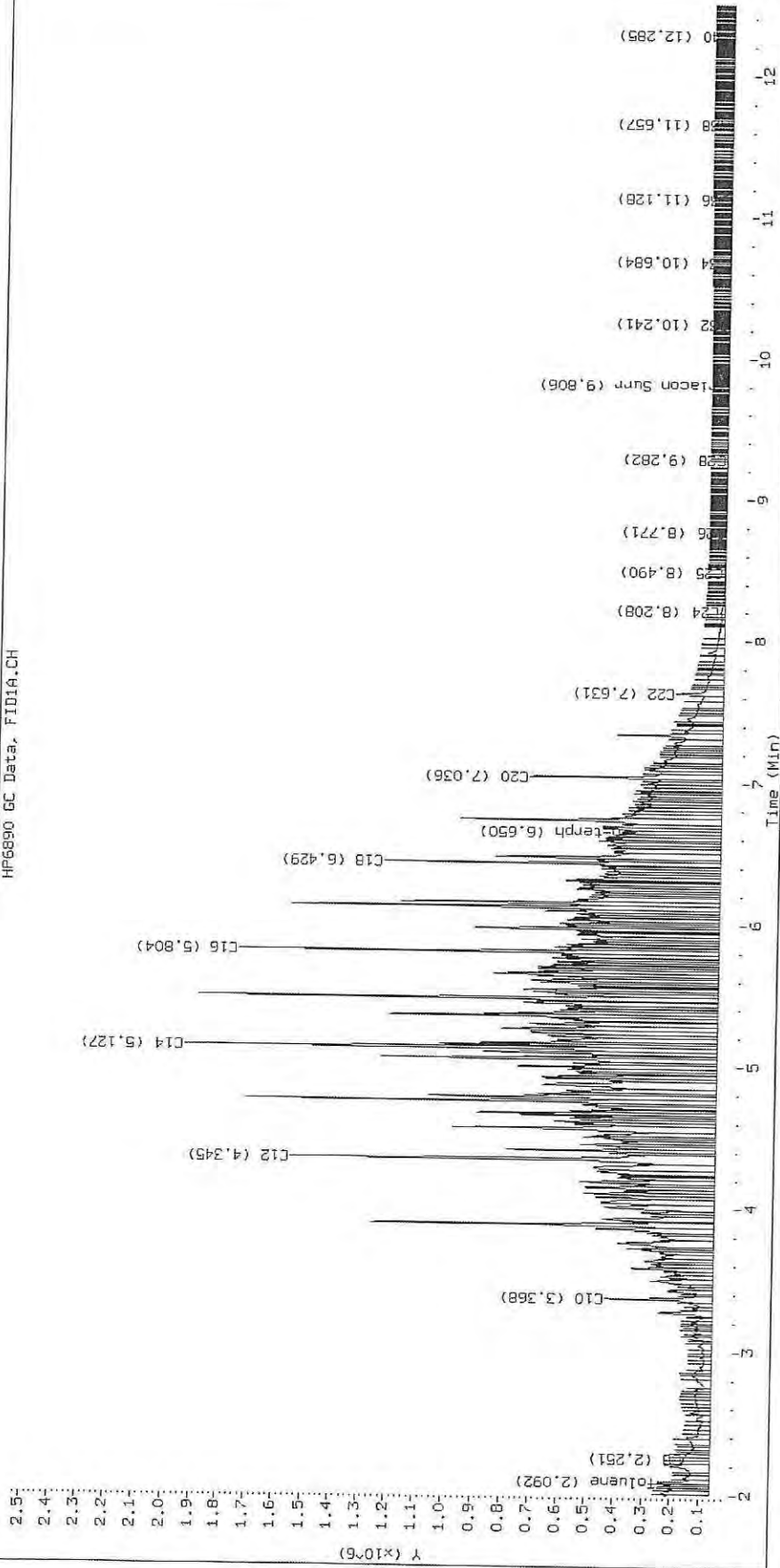
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacotane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCVI

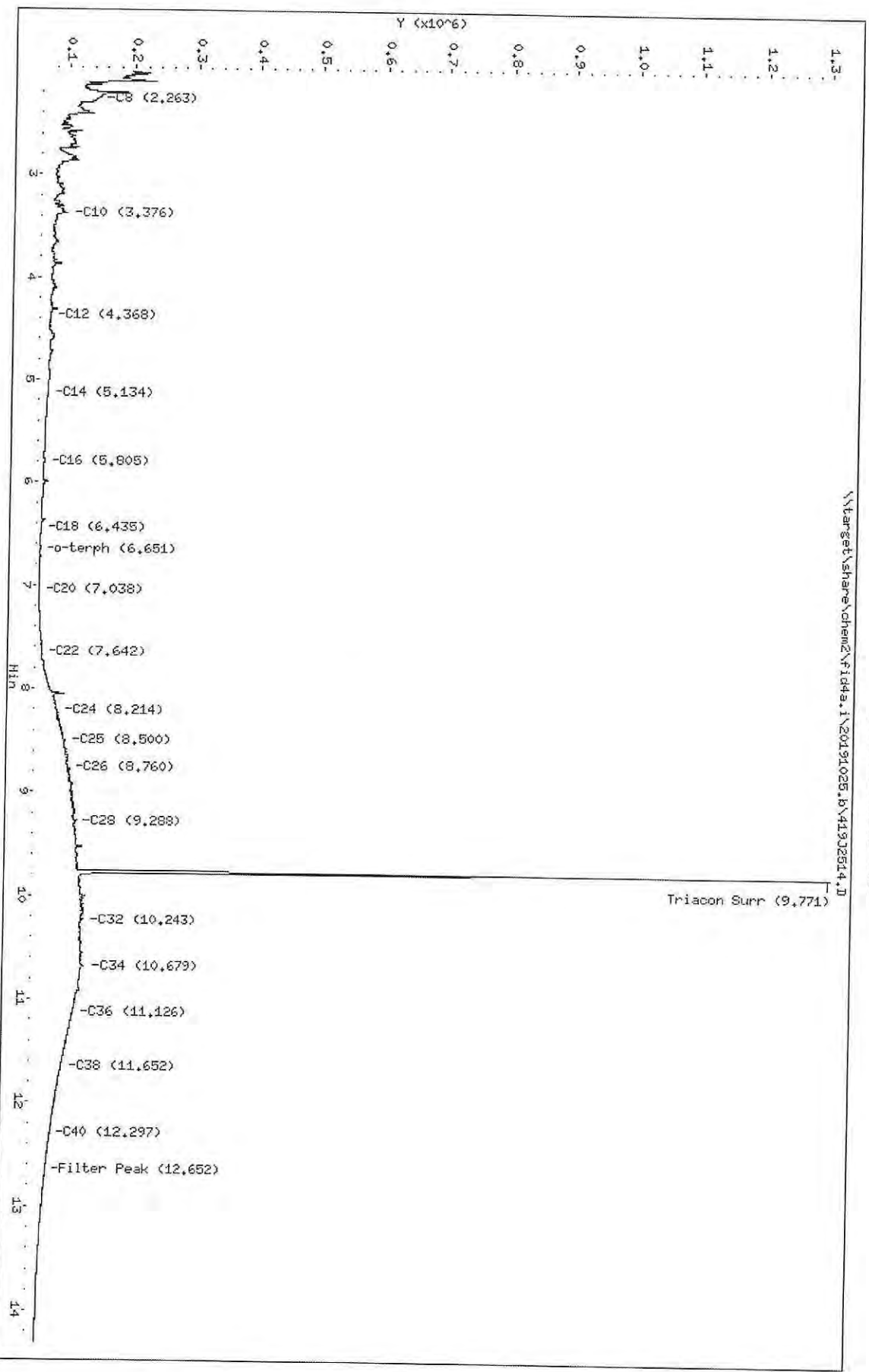
HP6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41932514.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7
Column phase: RTX-1

Instrument: fid4a.1
Operator: CTO/SH/VIS/JGR
Column diameter: 0.25

\\target\share\chem2\Fid4a.1\20191025.B\41932514.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

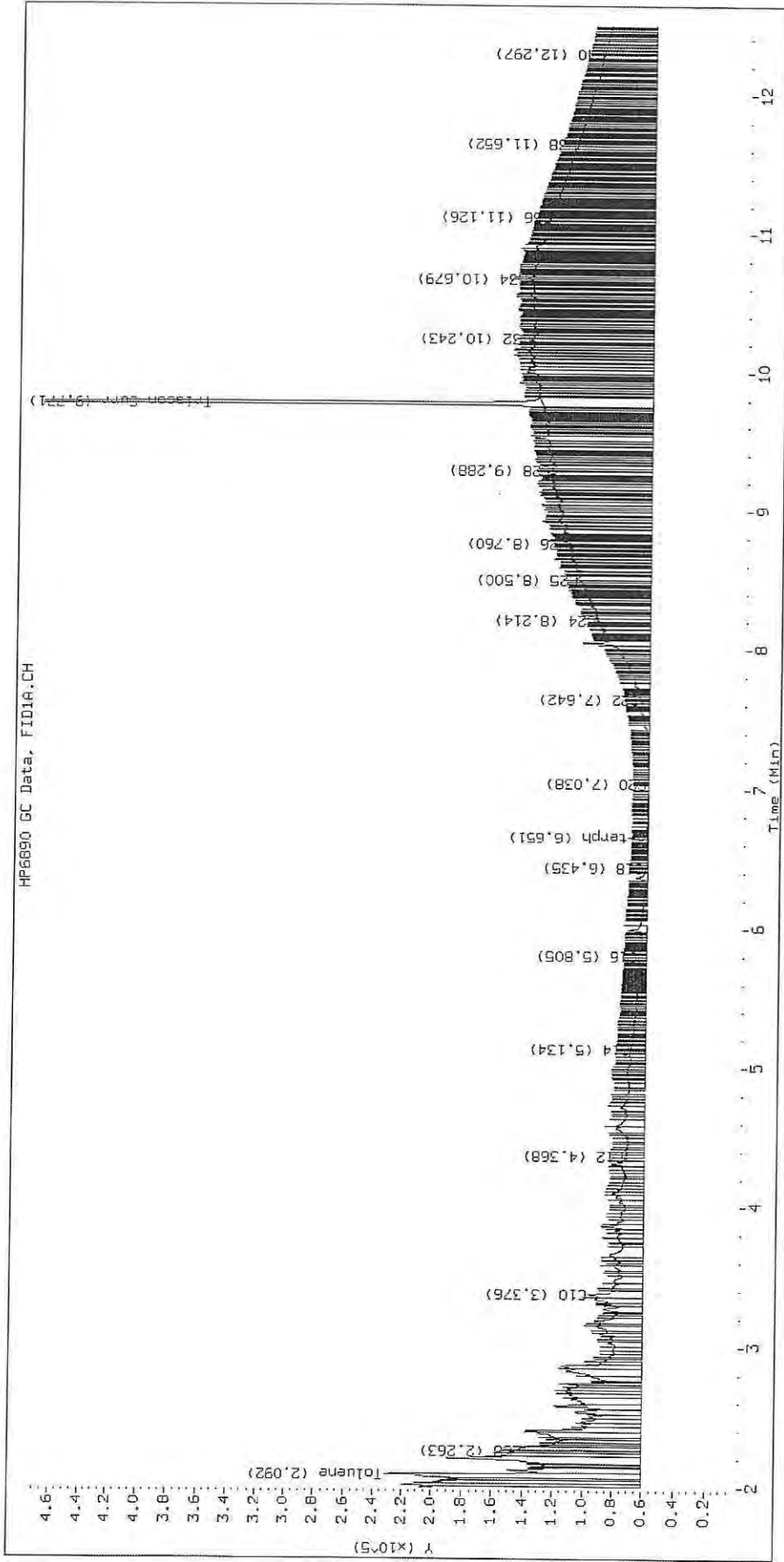
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacotane	816812	4.6 M

M Indicates the peak was manually integrated

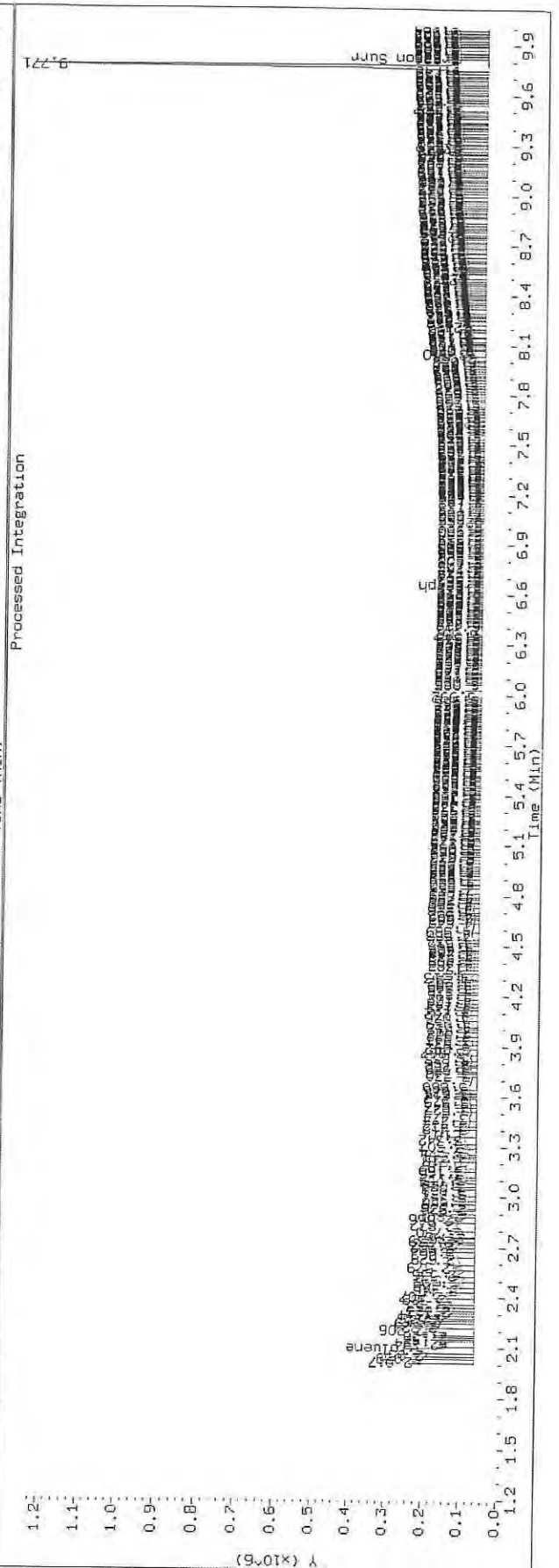
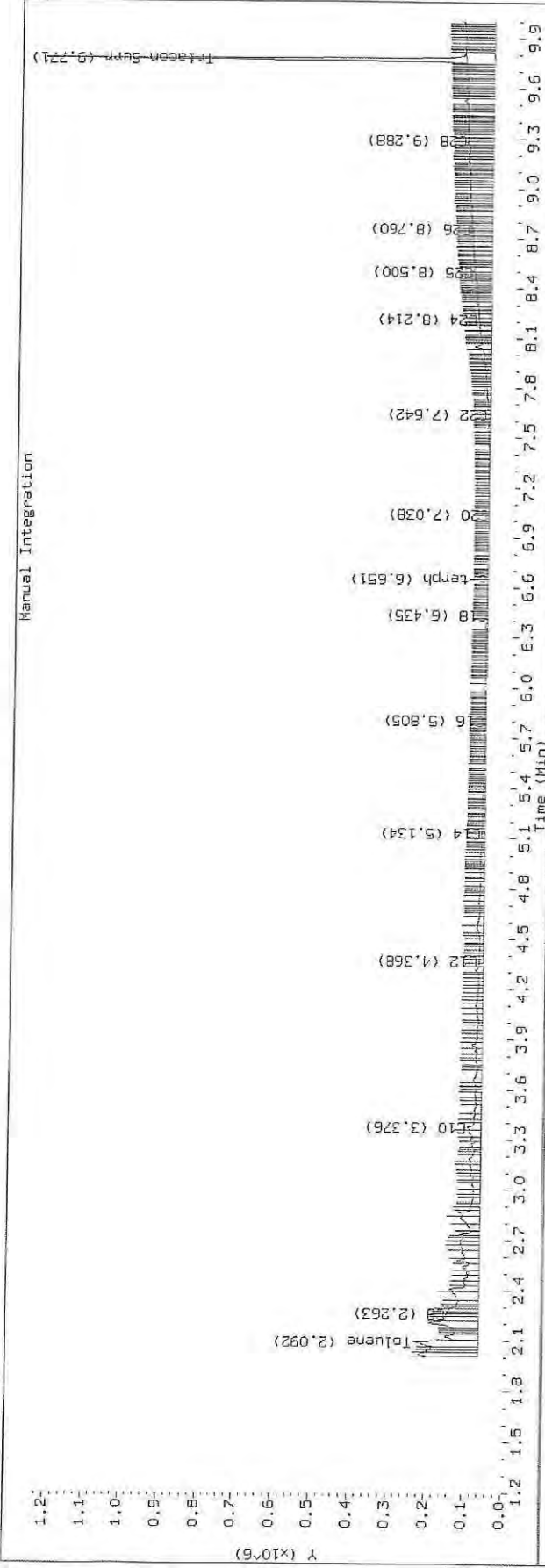
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH

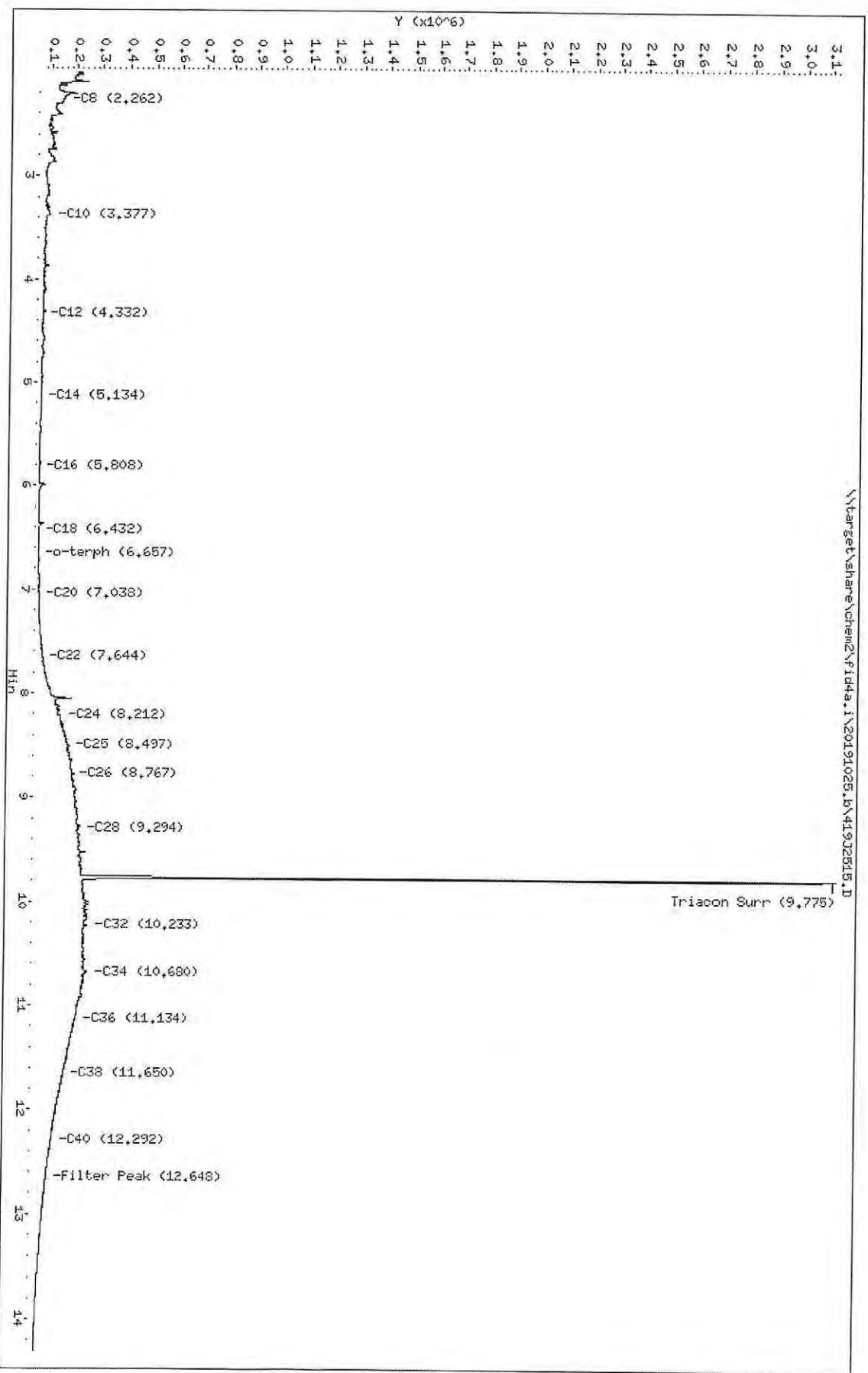


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2514.D Injection: 25-OCT-2019 16:12
 Lab ID: SHJ0406-CAL7



Data File: \\target\share\chem2\fid4a.i\20191025.BV419J2515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Inlet: SHJ0406-CAL8
Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

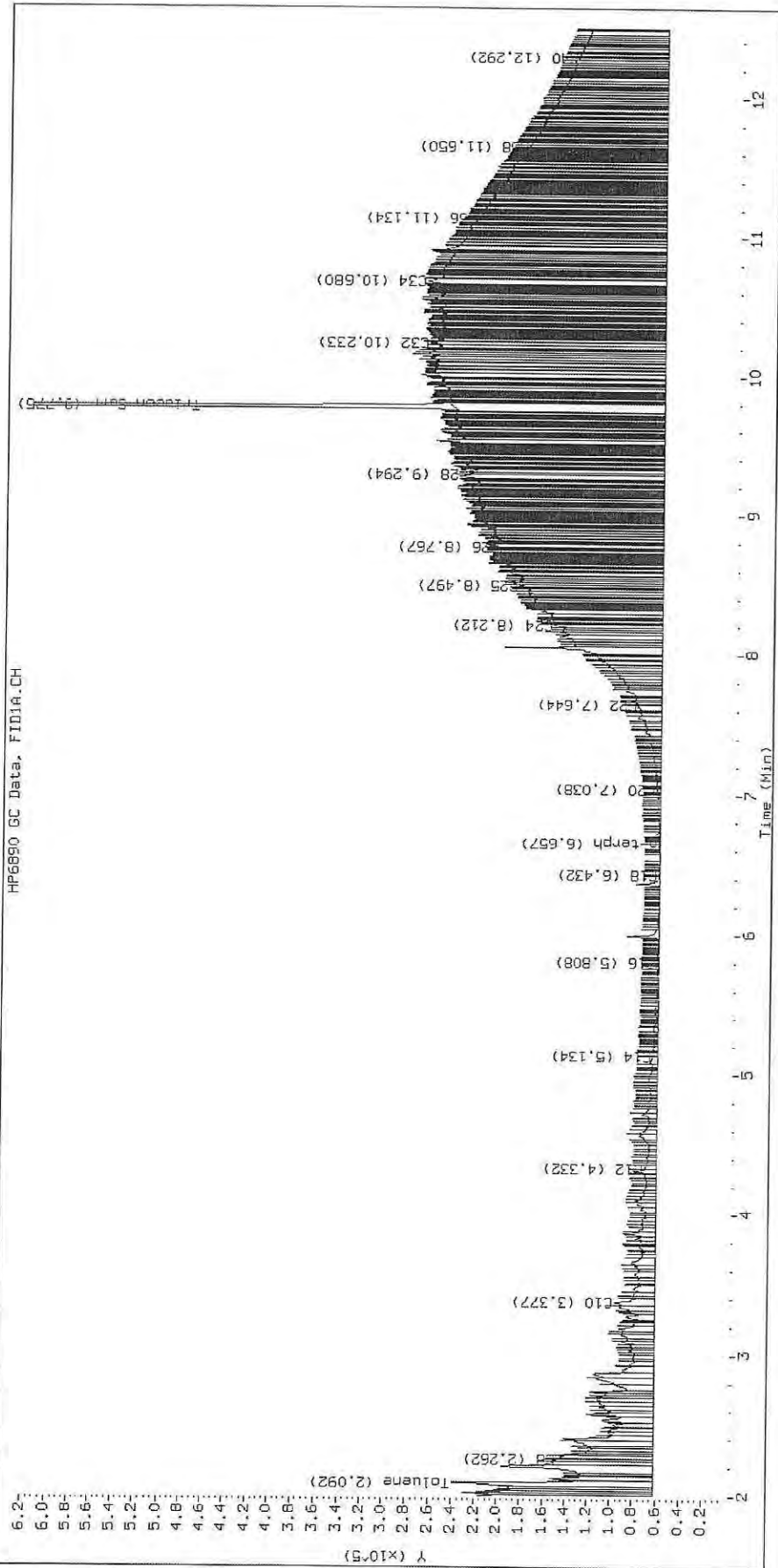
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacotane	2052387	11.5 M

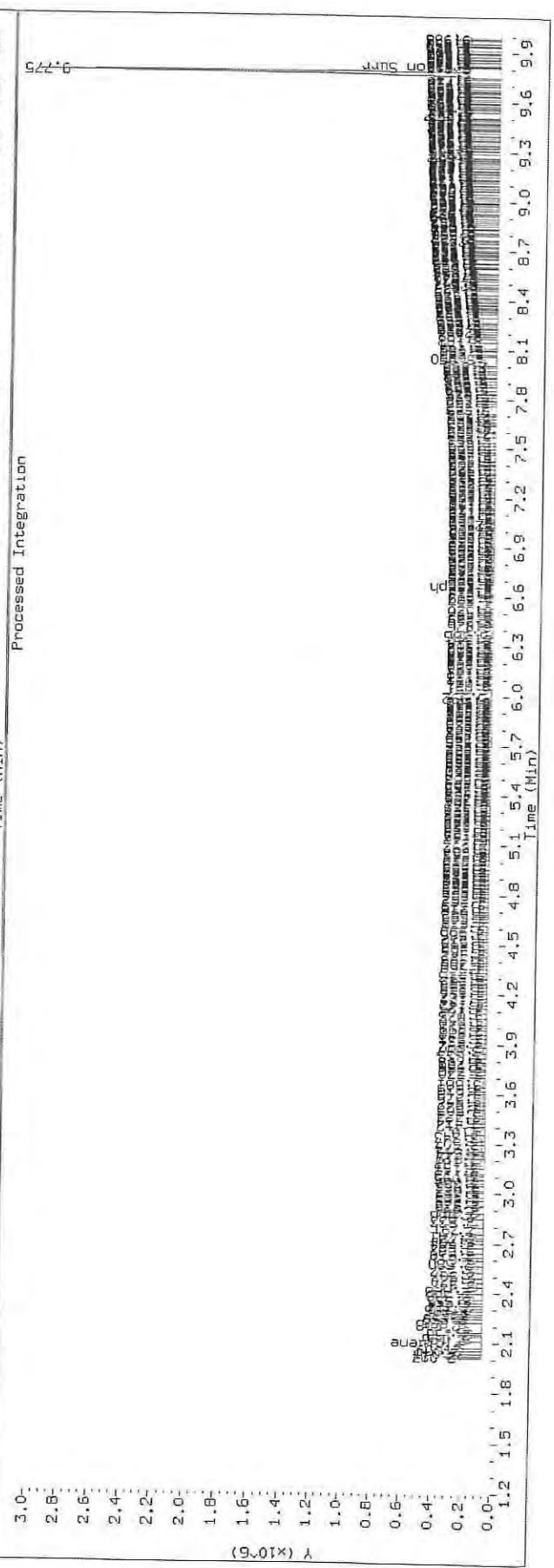
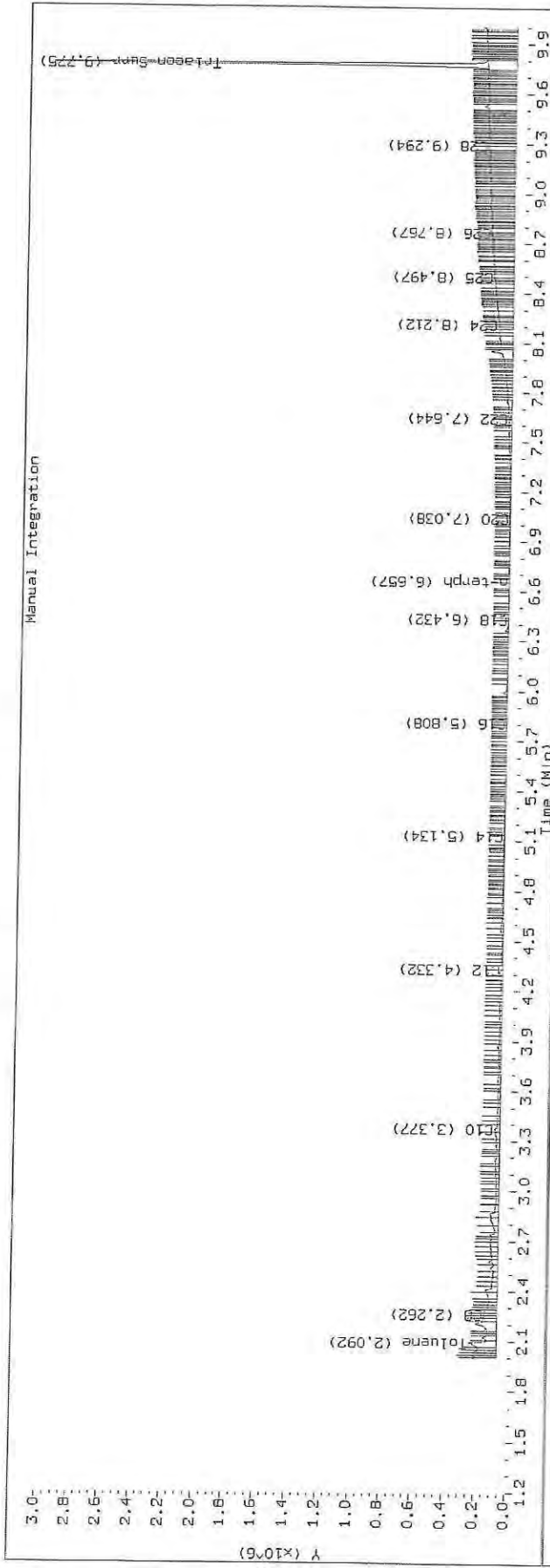
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data, FID1A.CH

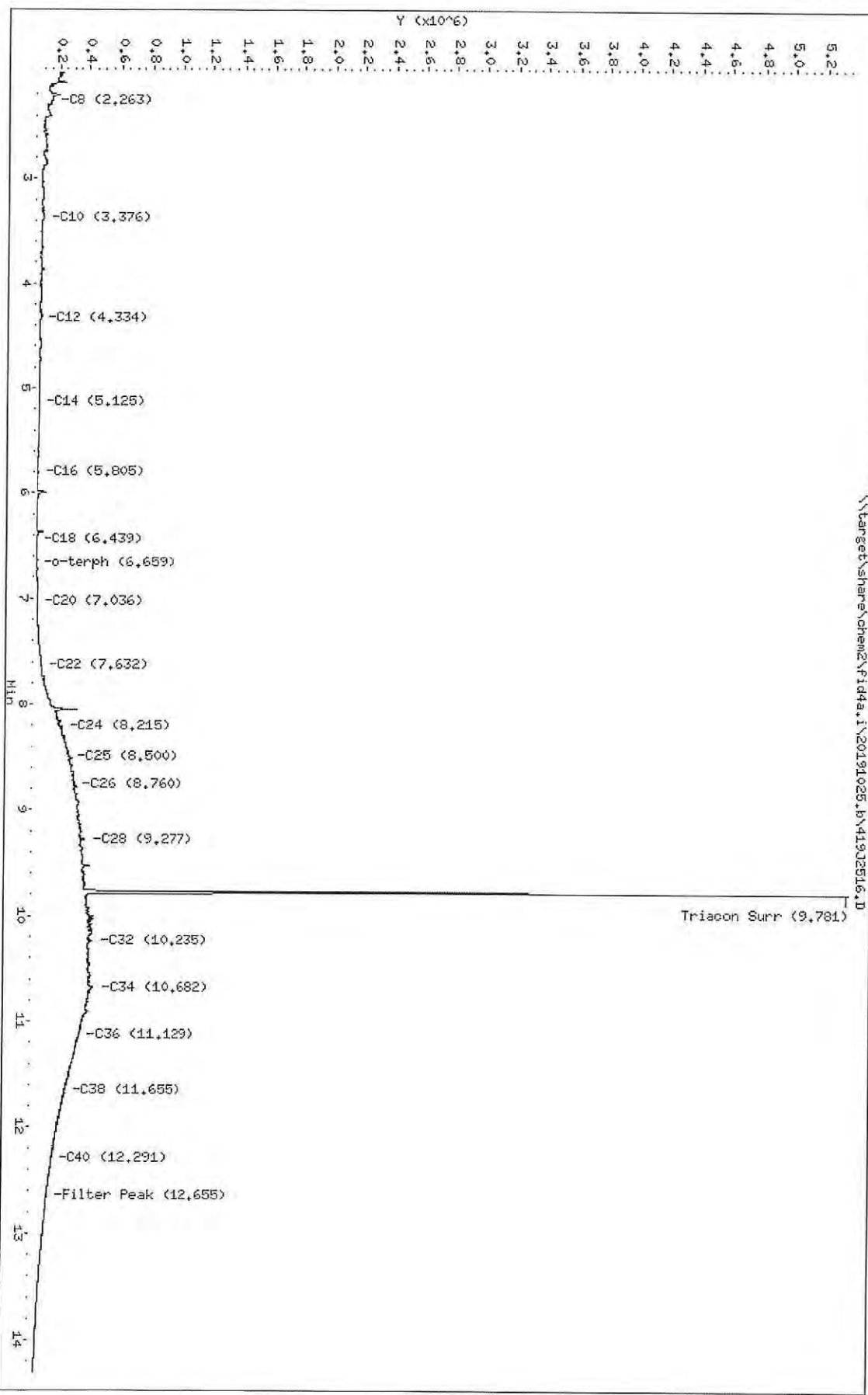




Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2516.D
 Date: 25-OCT-2019 16:53
 Client ID:
 Sample Info: SHJ0406-CAL9
 Column Phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/WTS/JGR
 Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.B\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

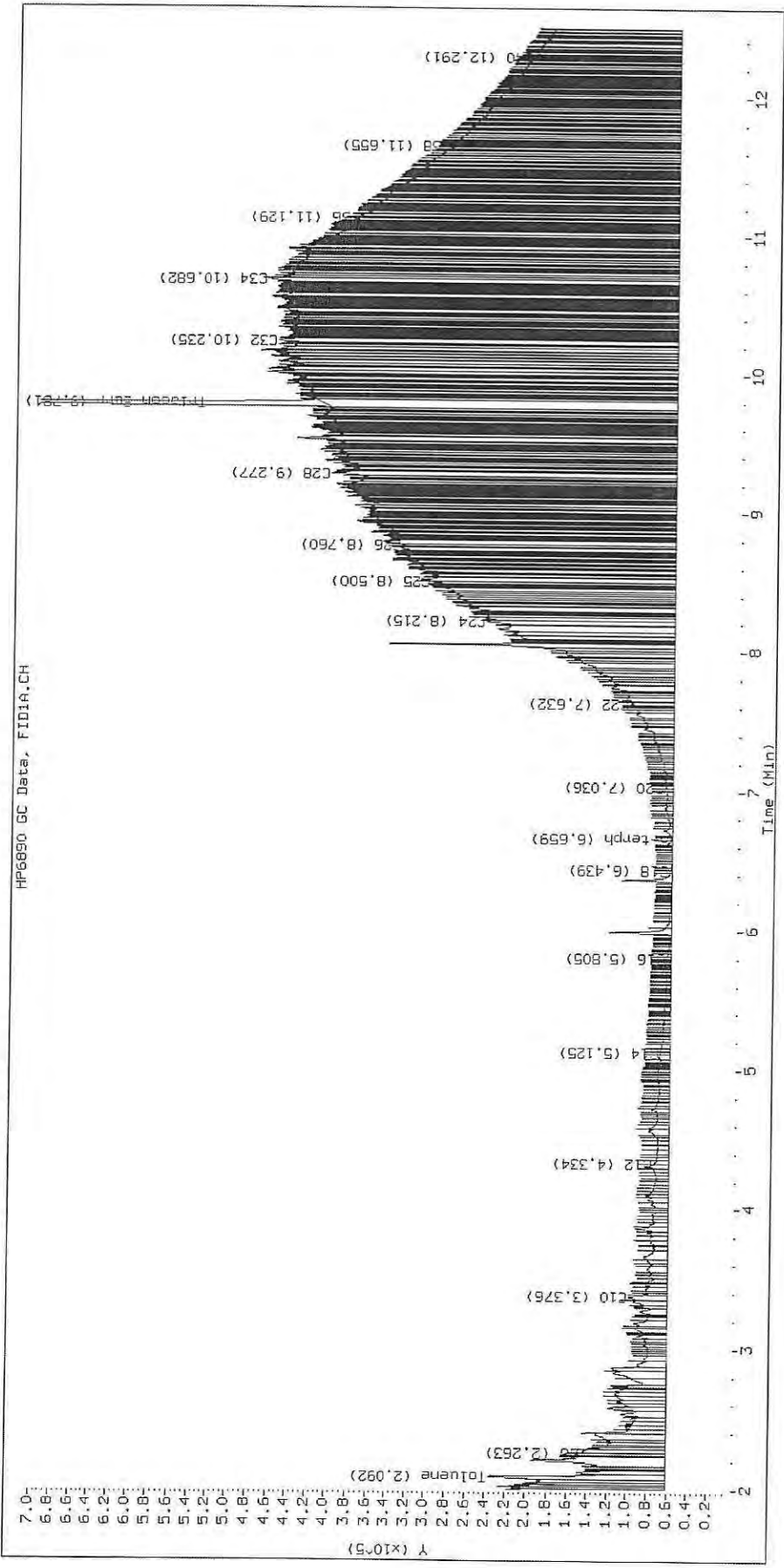
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacontane	3881047	21.8 M

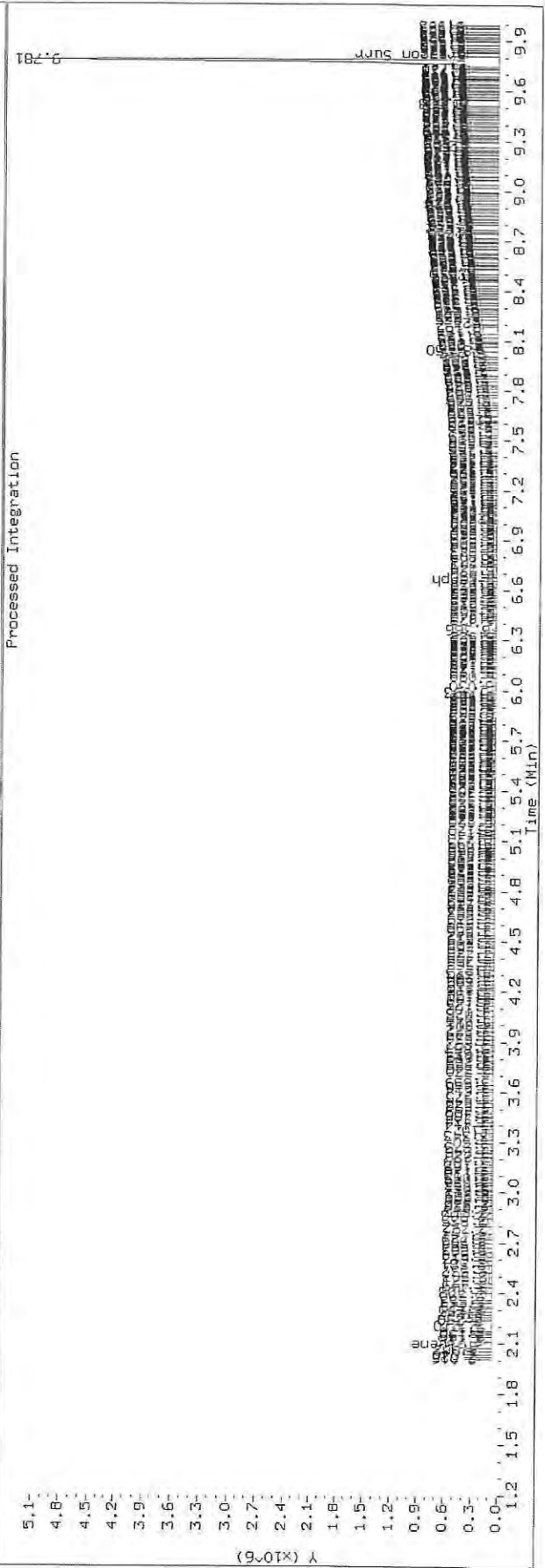
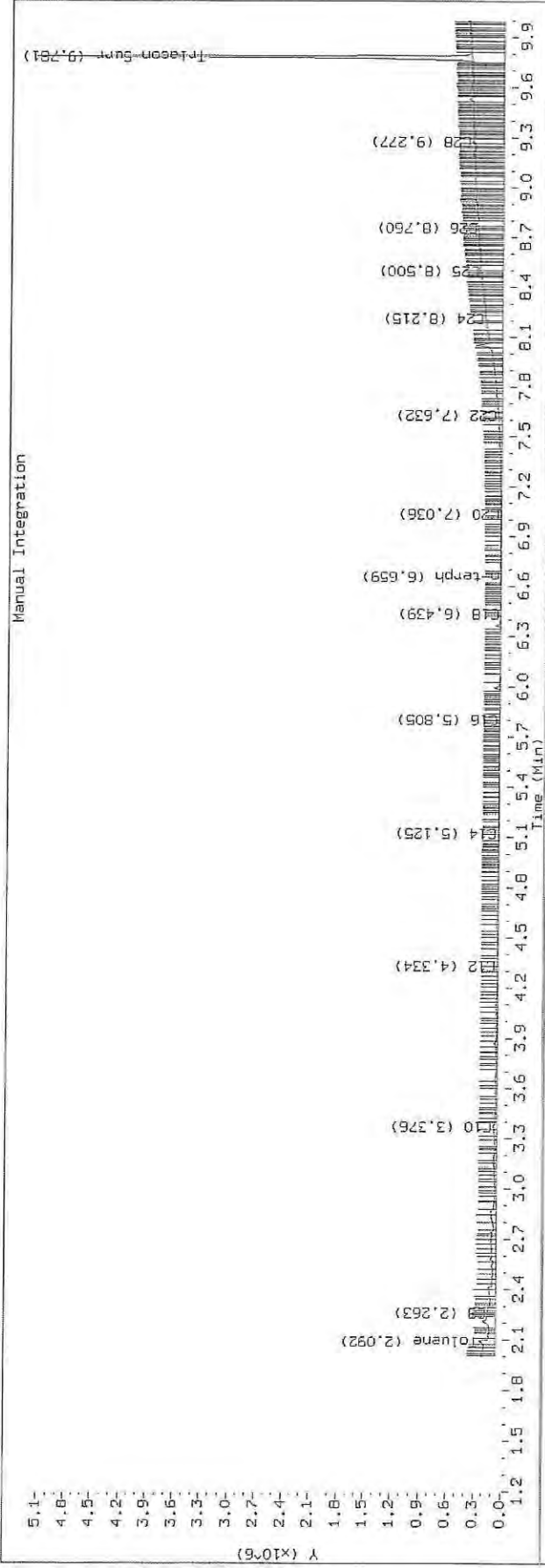
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

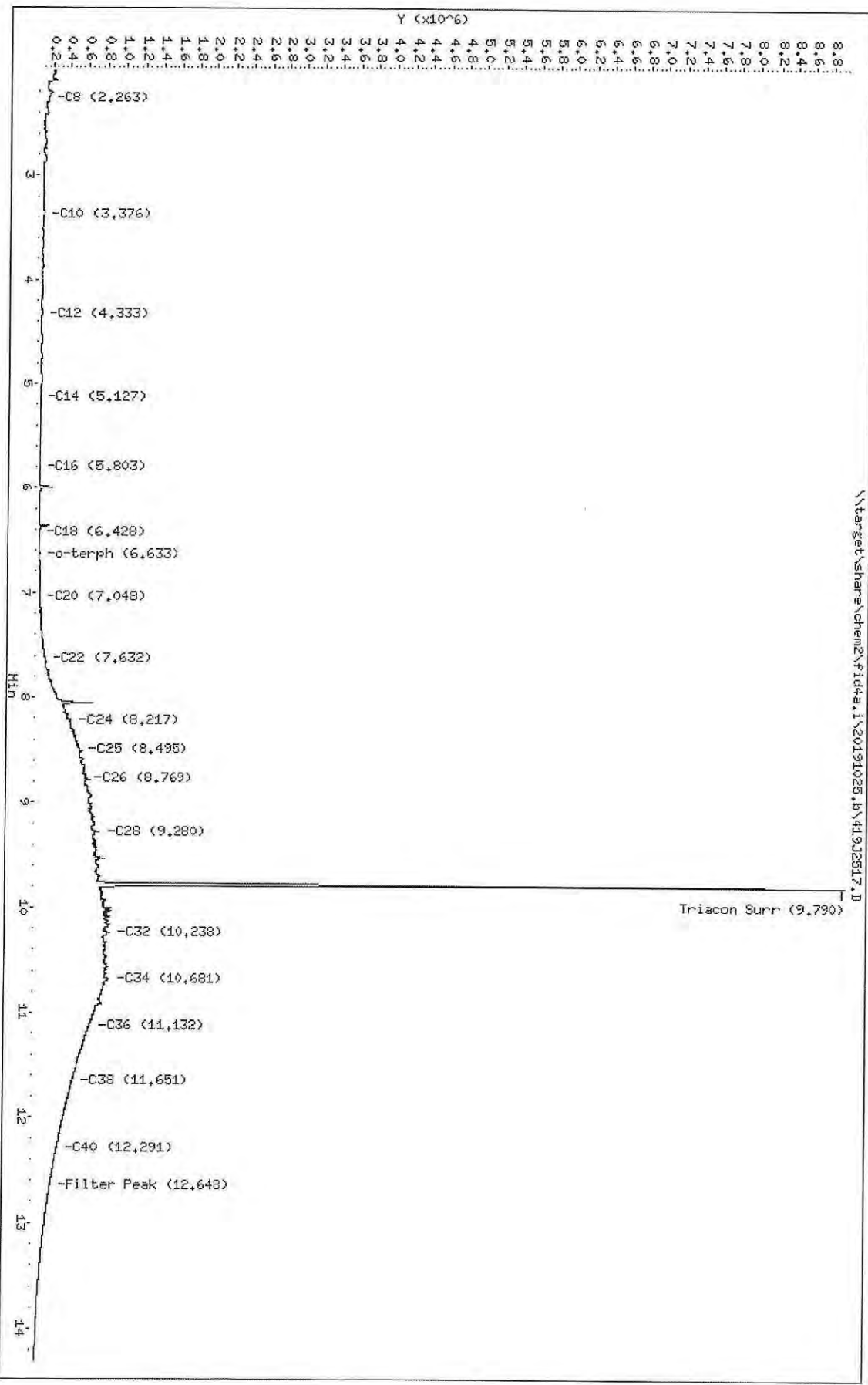


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2516.D Injection: 25-OCT-2019 16:53
 Lab ID:SHJ0406-CAL9



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2517.D
 Date : 25-OCT-2019 17:13
 Client ID:
 Sample Info: SHJ0406-CALLA
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacontane	7927188	44.5 M

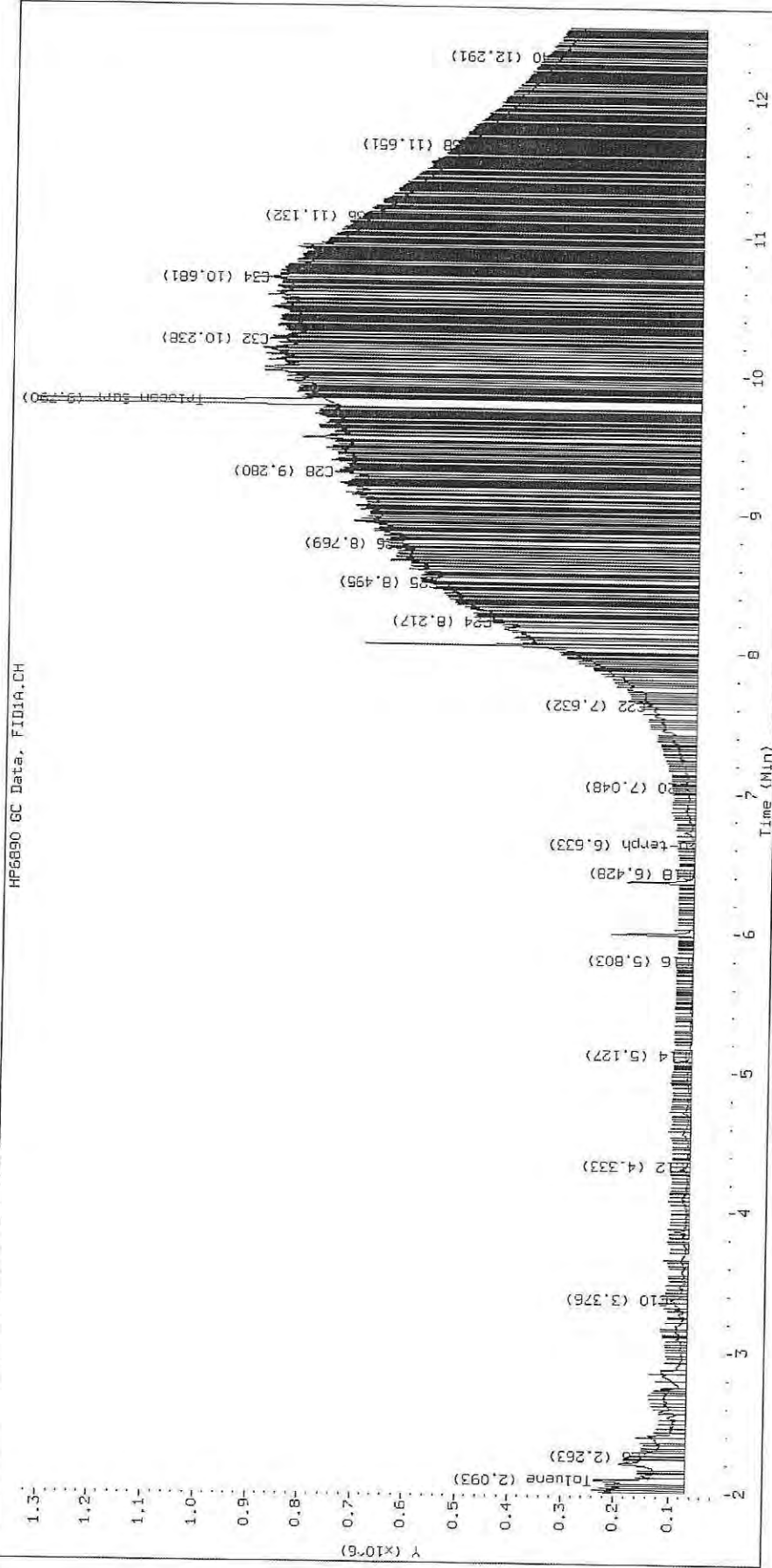
M - Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

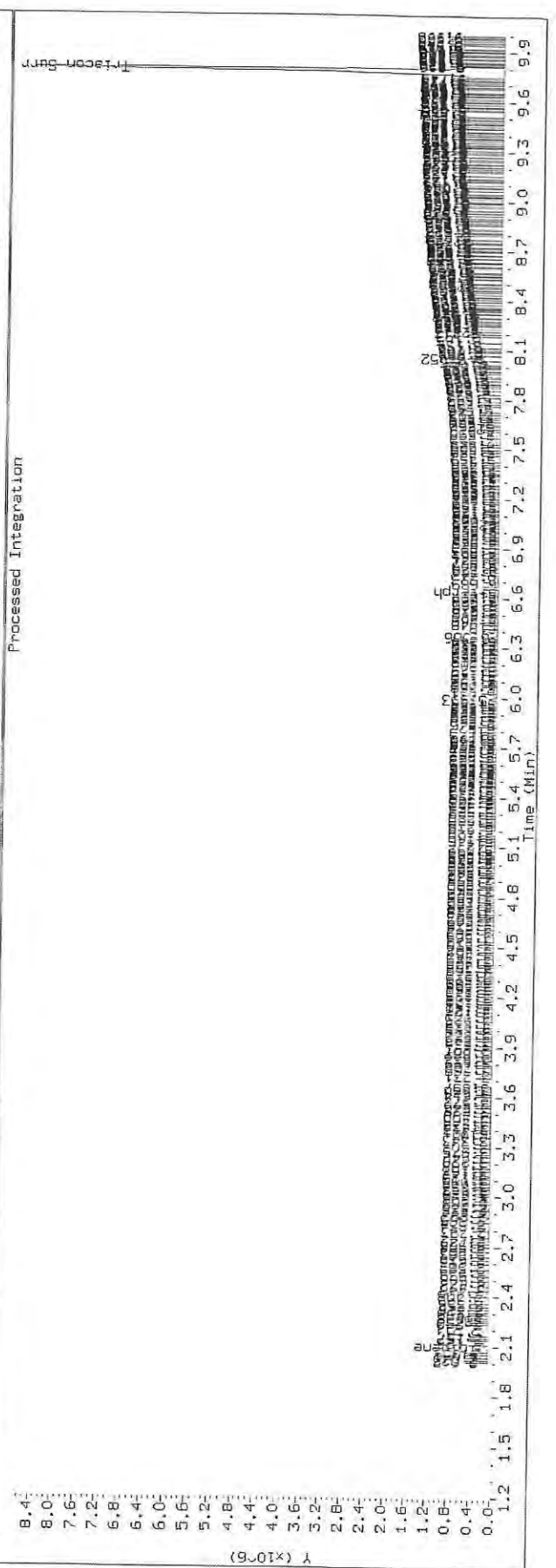
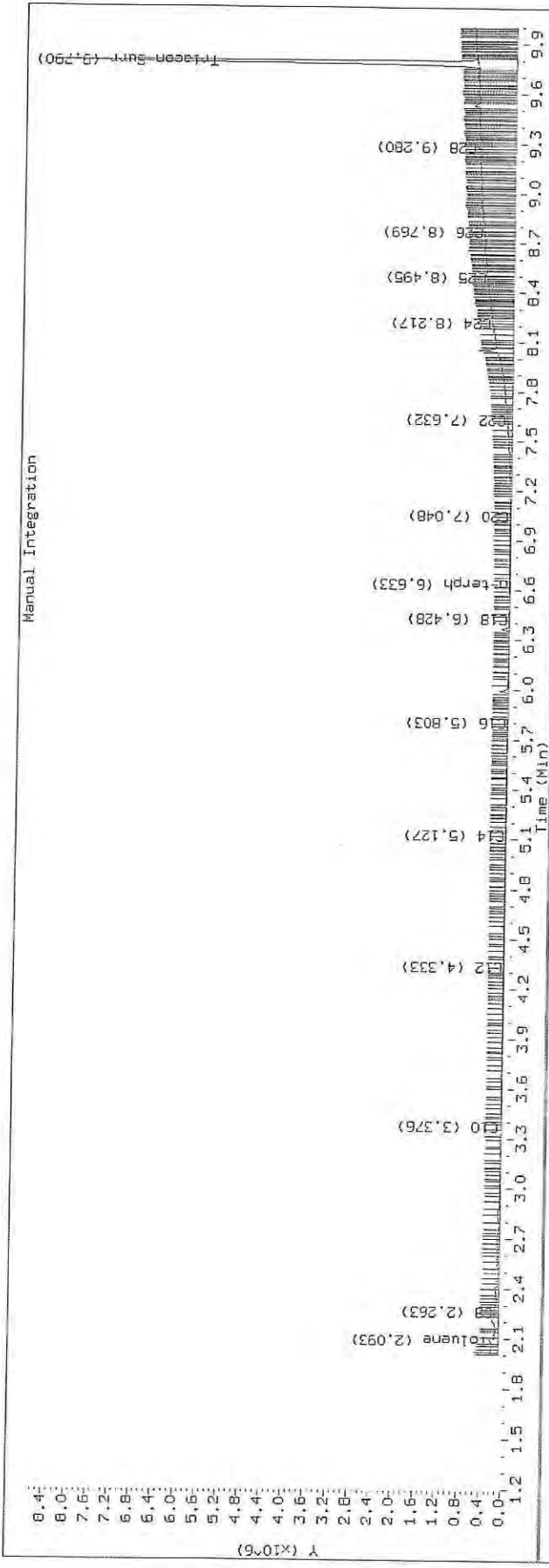
Datafile: FID4A, 20191025.b/419J2517.D

SHJ0406-CALA

HF6890 GC Data, FID1A.CH

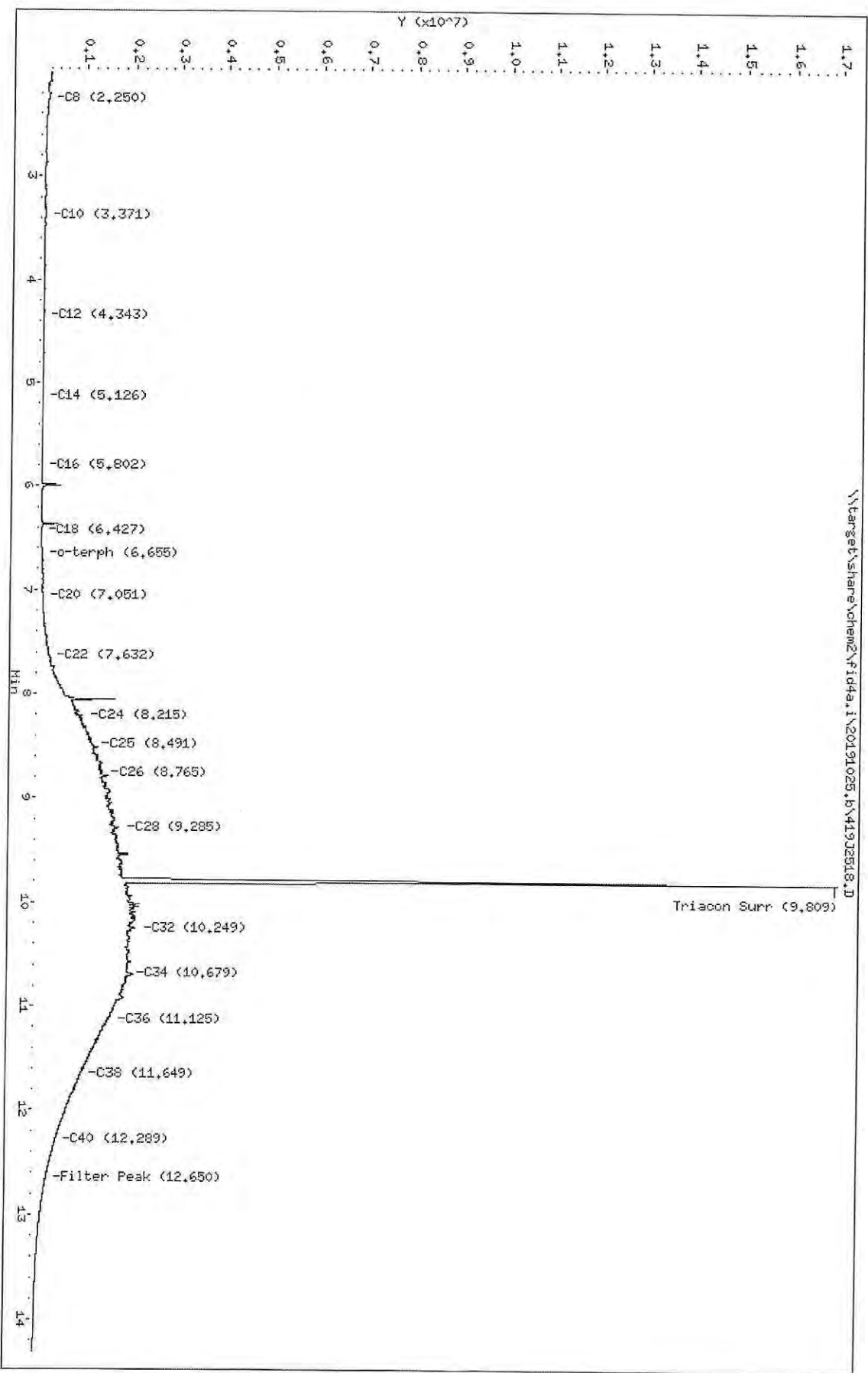


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2517.D Injection: 25-OCT-2019 17:13
 Lab ID: SHJ0406-CALA



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932518.D
 Date: 25-OCT-2019 17:34
 Client ID:
 Sample Info: SHJ0406-CALB
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

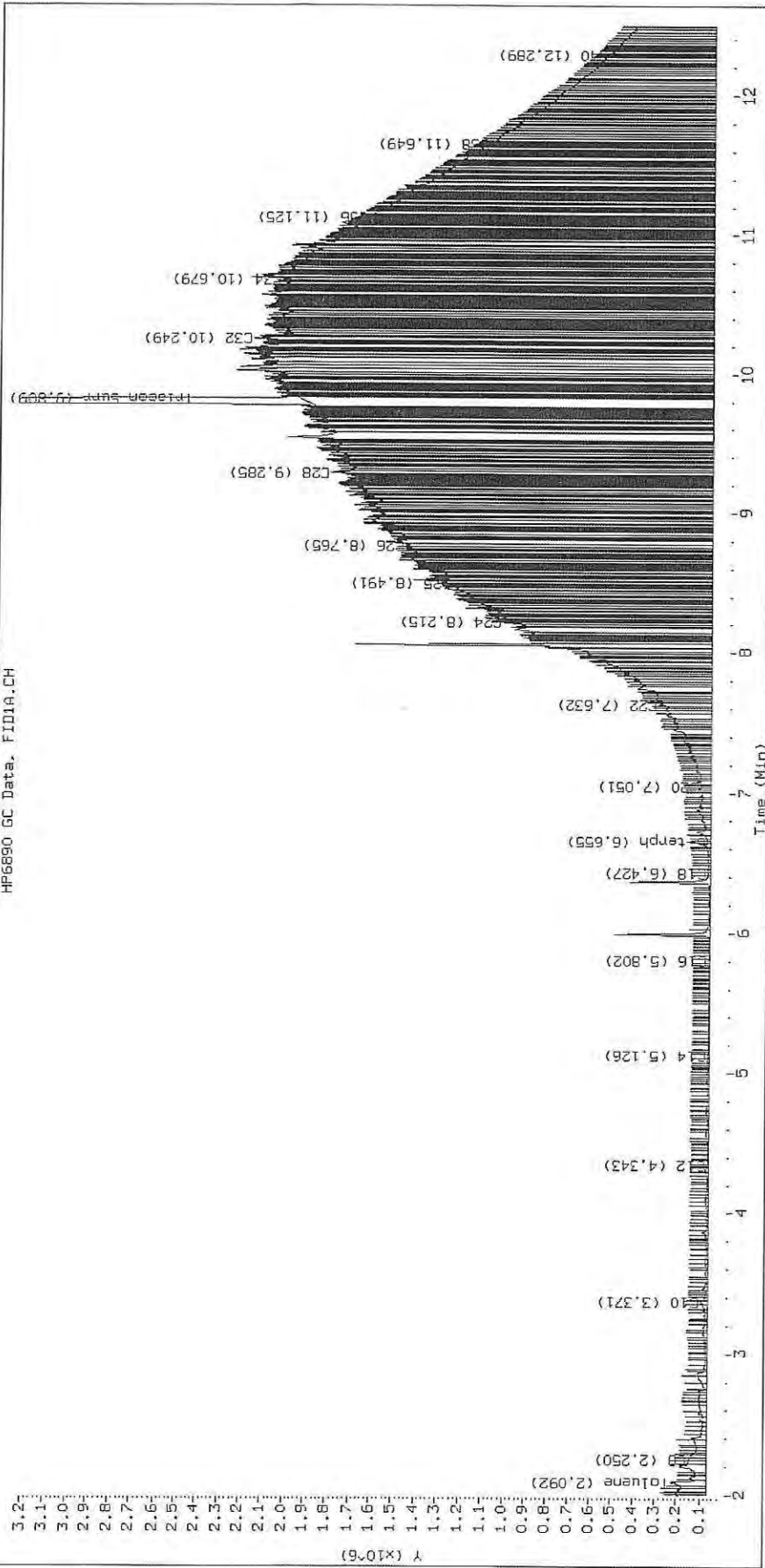
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacontane	20120024	113.0 M

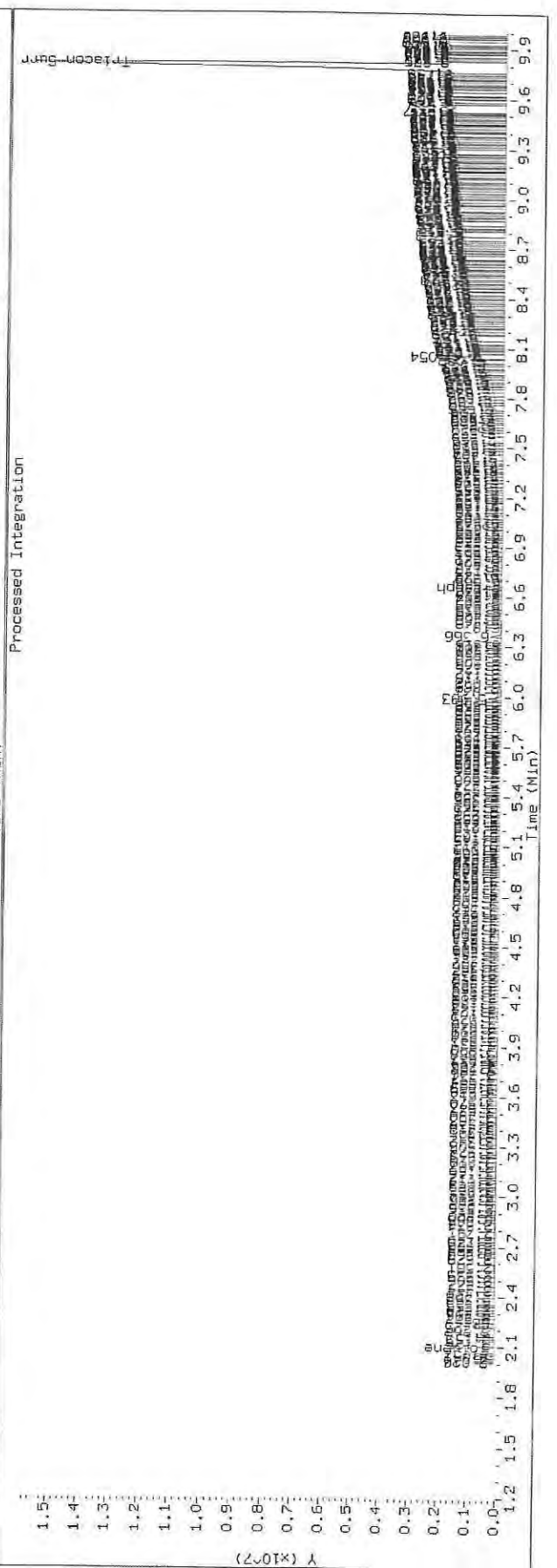
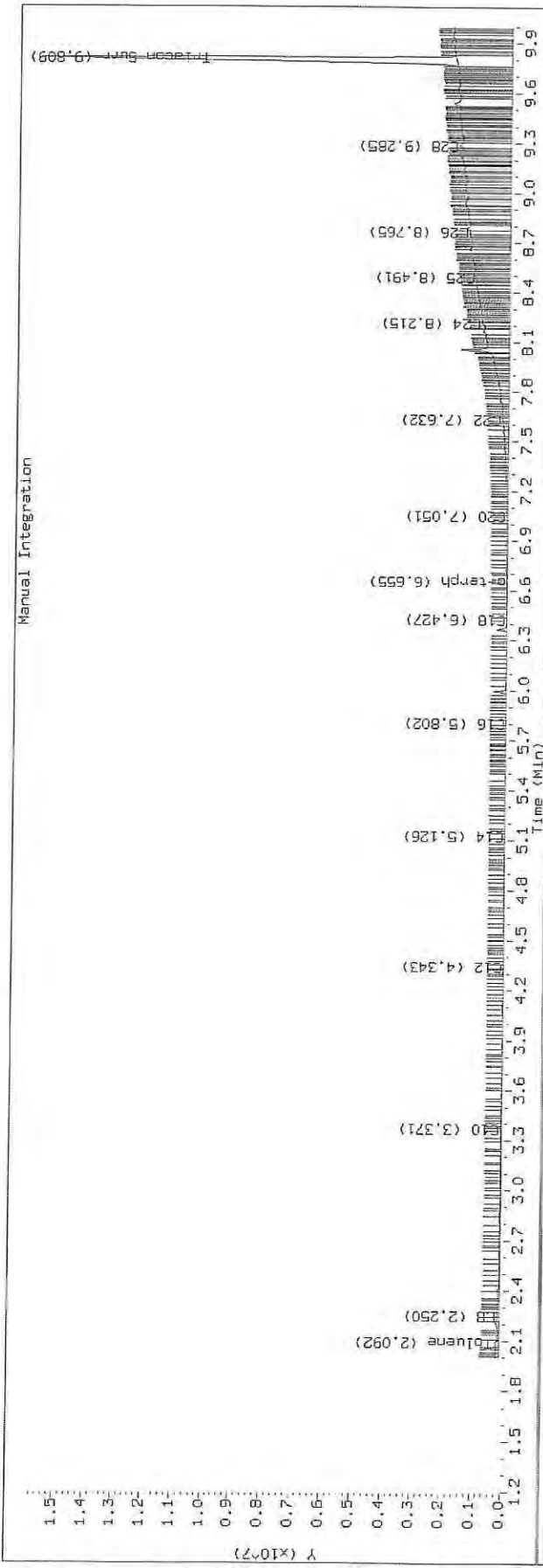
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

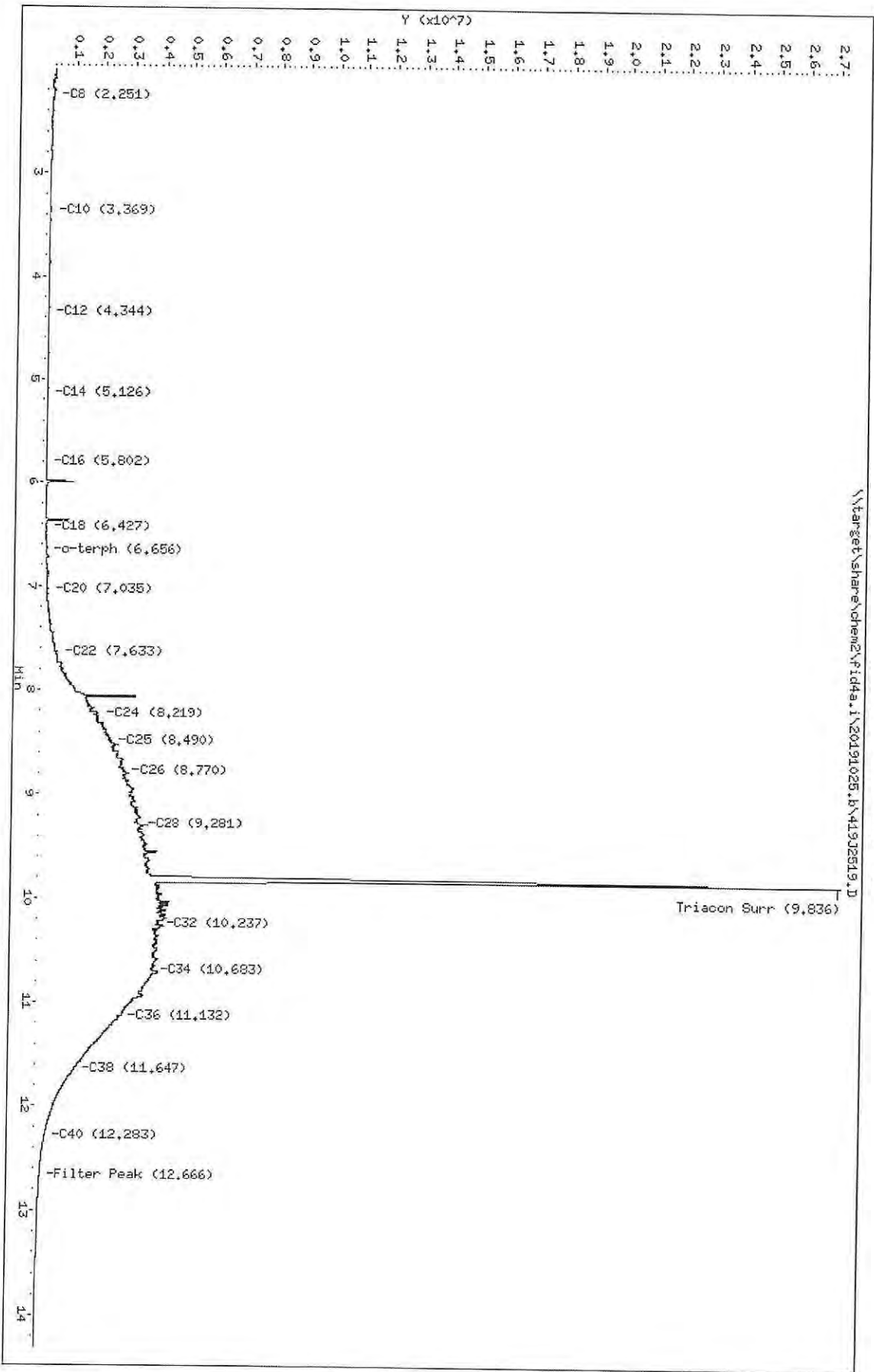
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.1\20191025.bv41932519.D
 Date: 25-OCT-2019 17:54
 Client ID:
 Sample Info: SH30406-CALC
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CT0/SH/VTS/JCR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

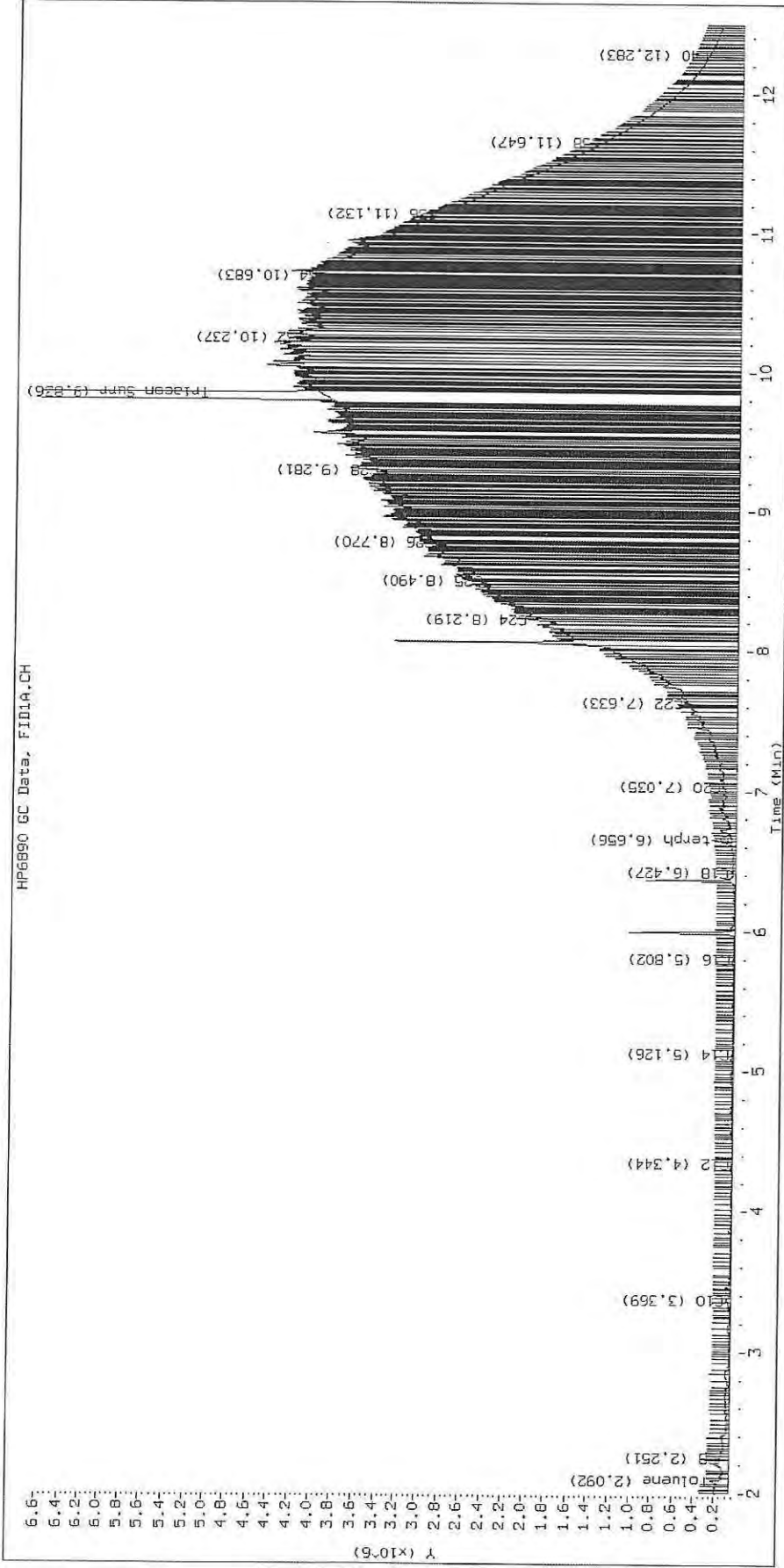
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacontane	39698048	223.0 M

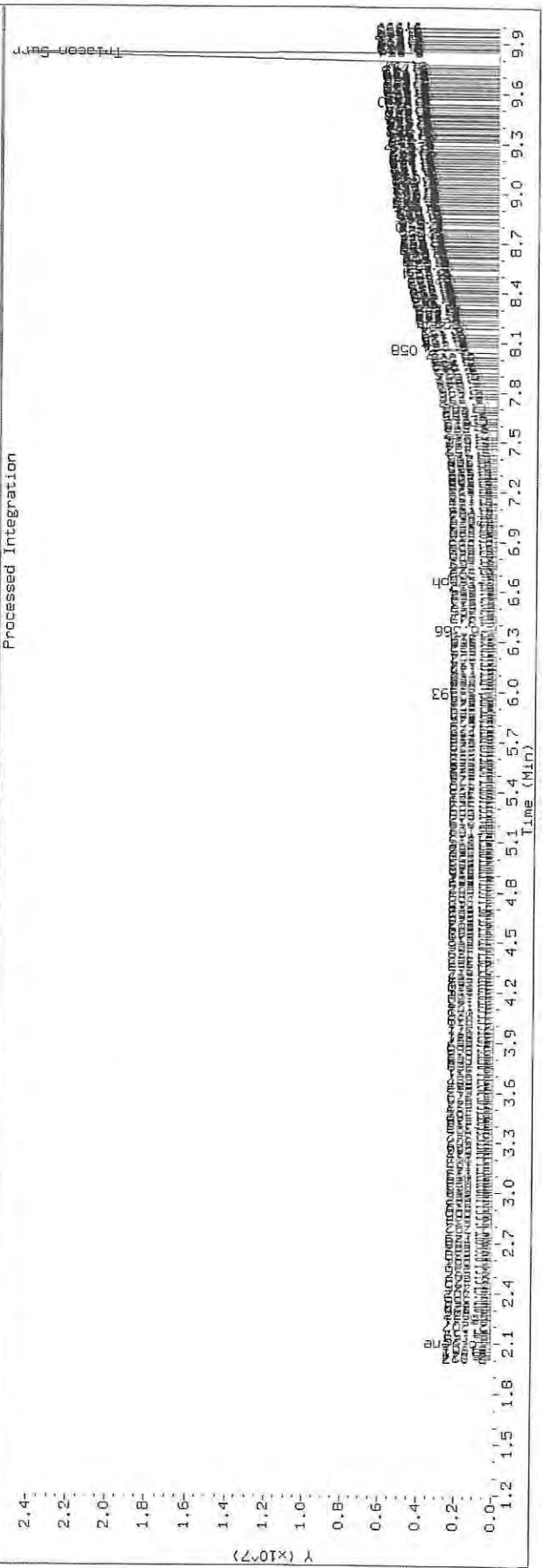
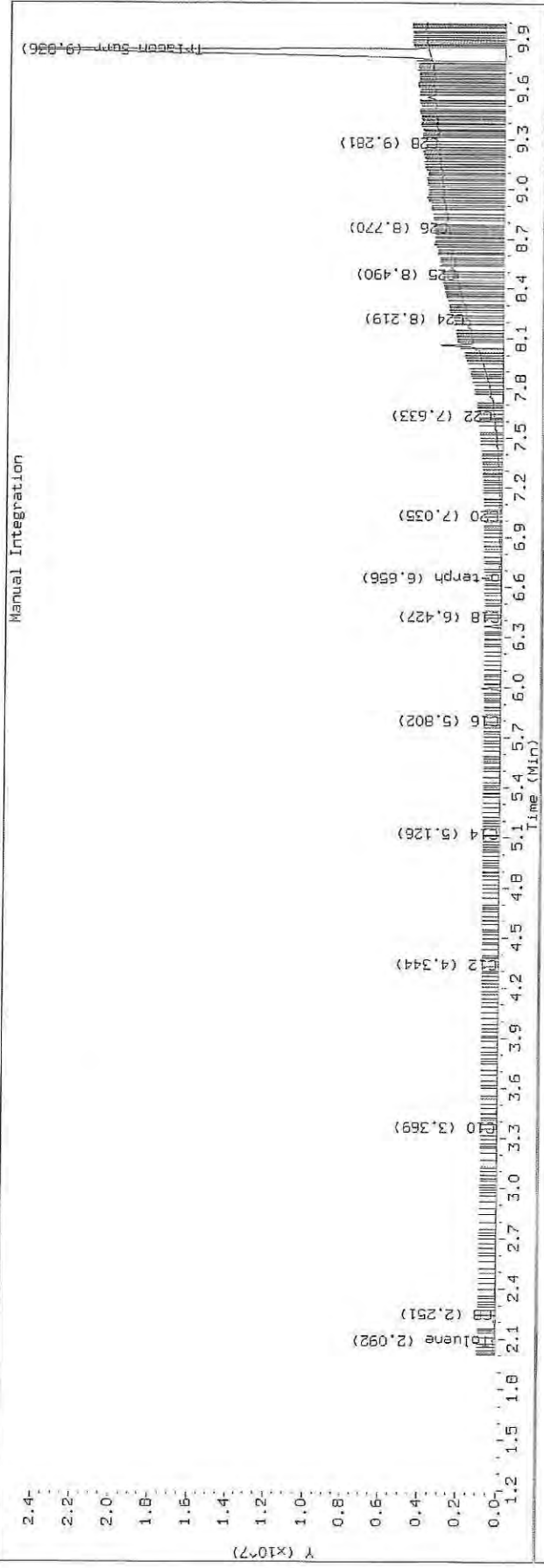
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datfile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

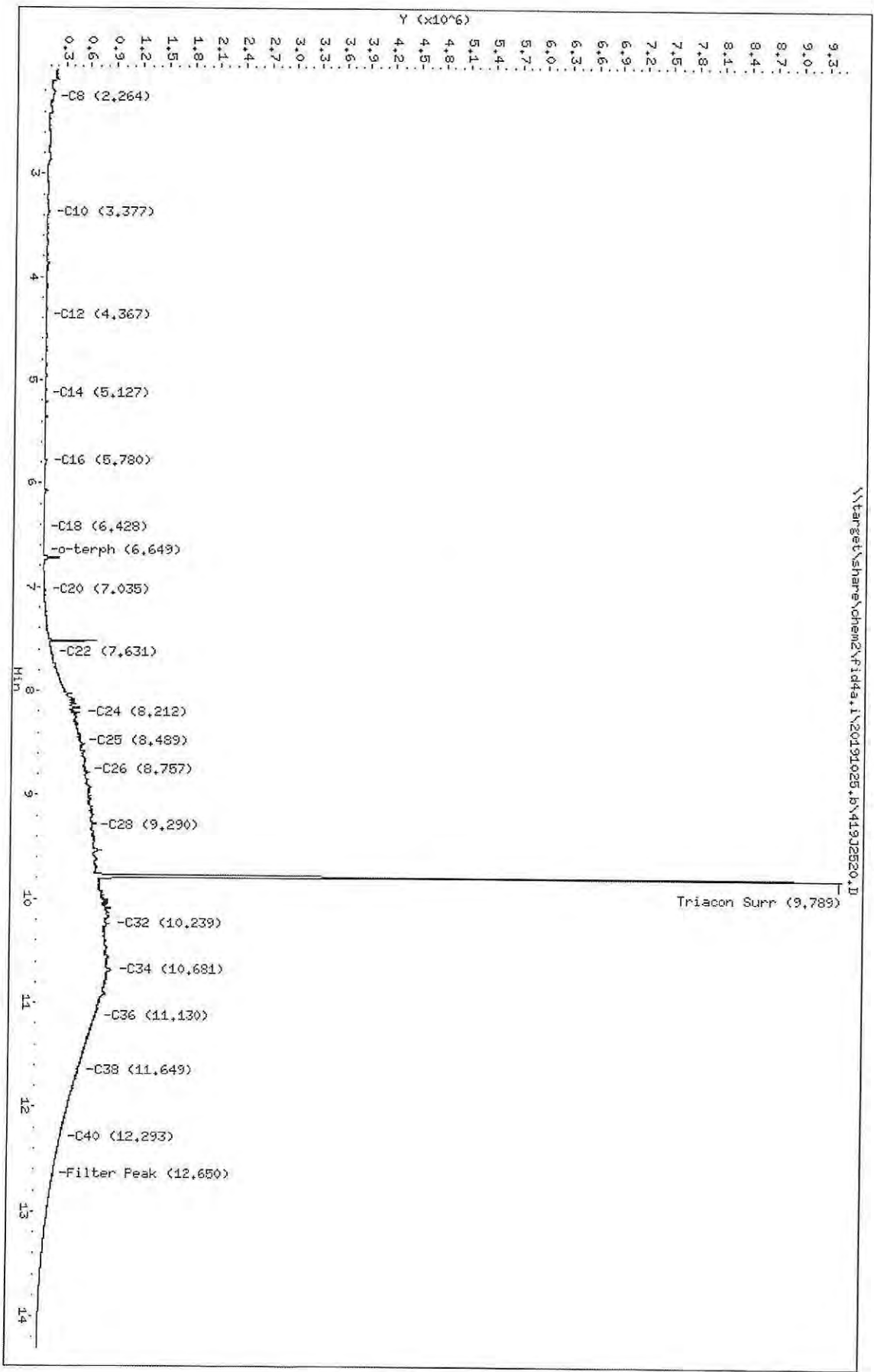
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2520.D
 Date: 25-OCT-2019 18:14
 Client ID:
 Sample Info: SHJ0406-SCV2
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/MTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D
M.Oil:25-OCT-2019

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

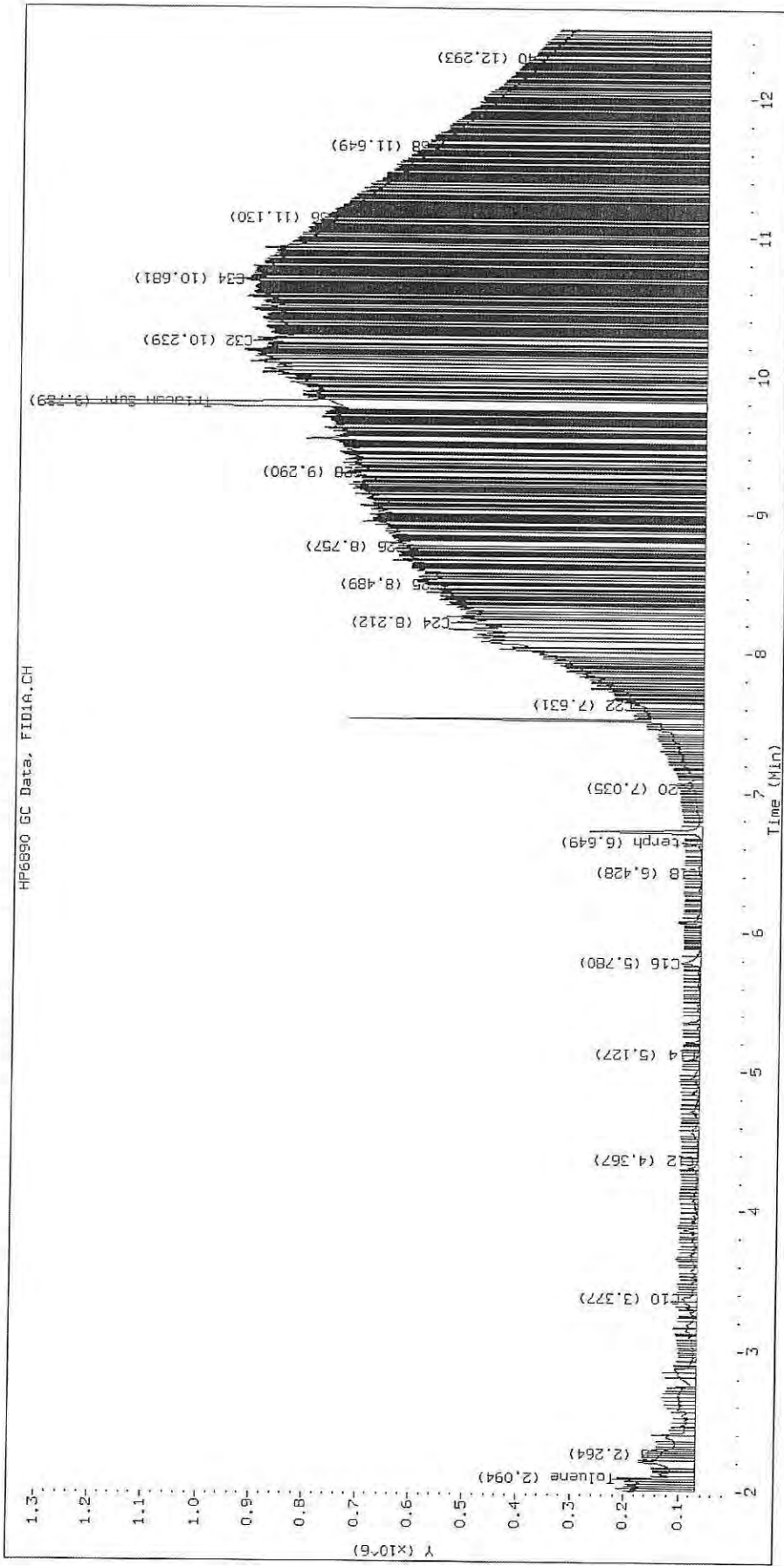
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacotane	8519530	47.9 M

M Indicates the peak was manually integrated

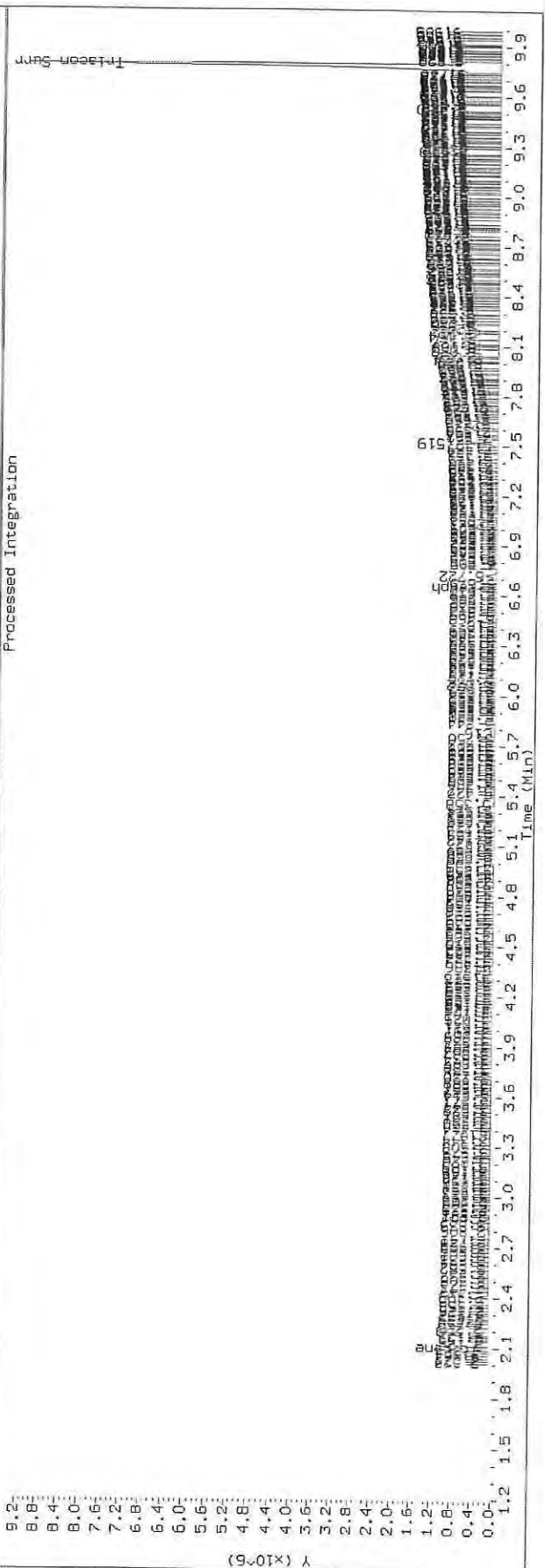
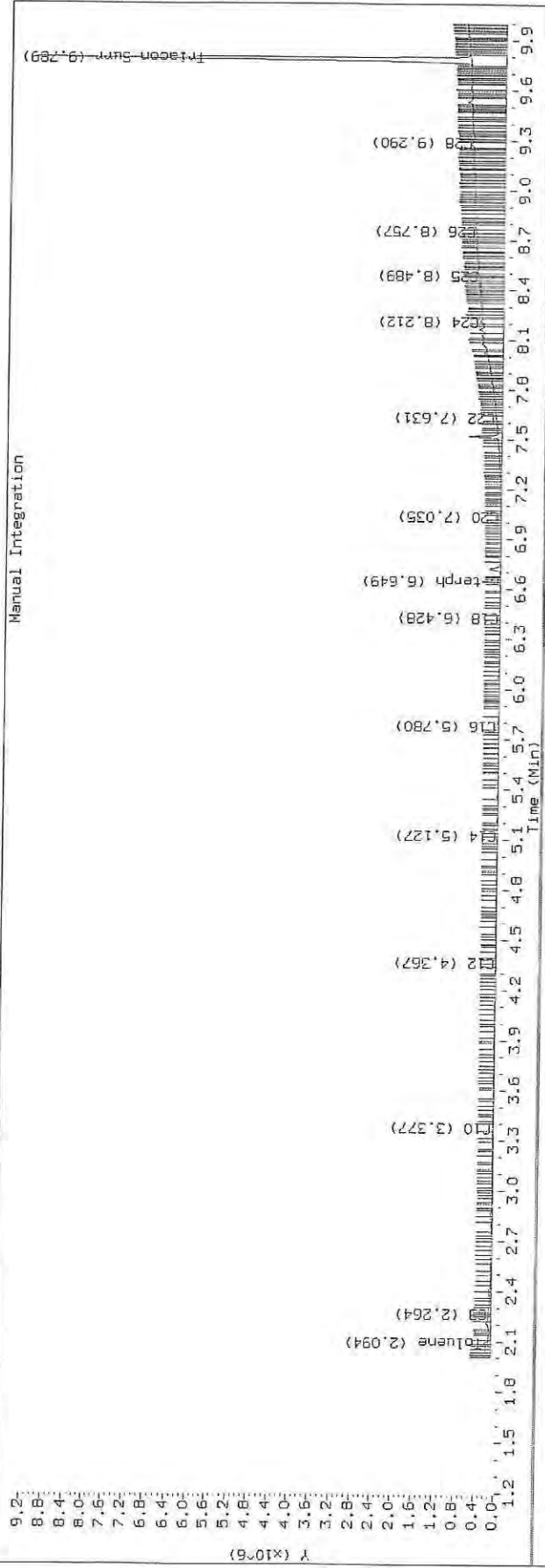
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH



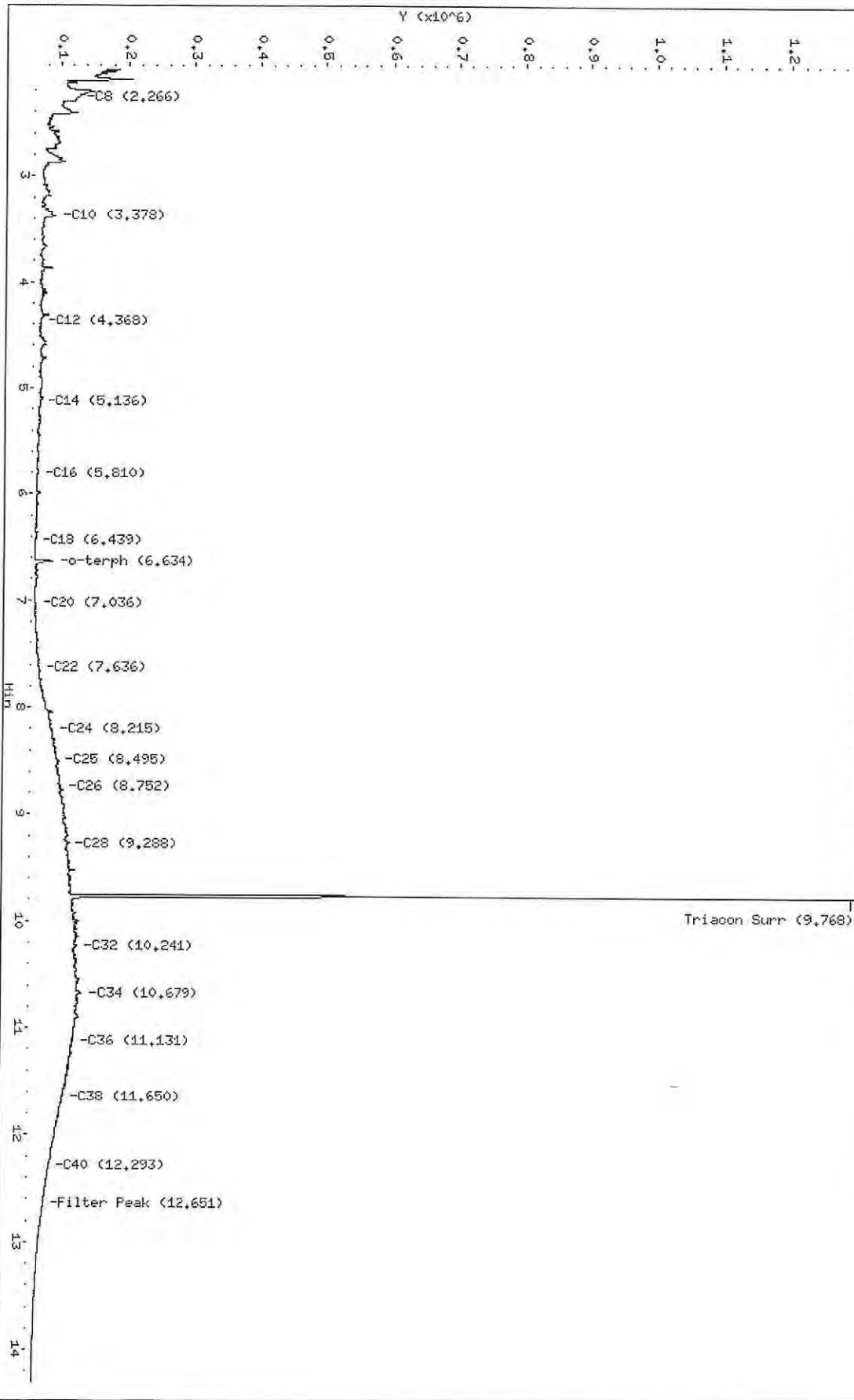
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14
 Lab ID: SHJ0406-SCV2



Data File: \\target\share\chem2\fid4a.i\20191025.b\41932521.D
Date: 25-OCT-2019 18:35
Client ID:
Sample Info: SHJ0406-CALLD
Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.b\41932521.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

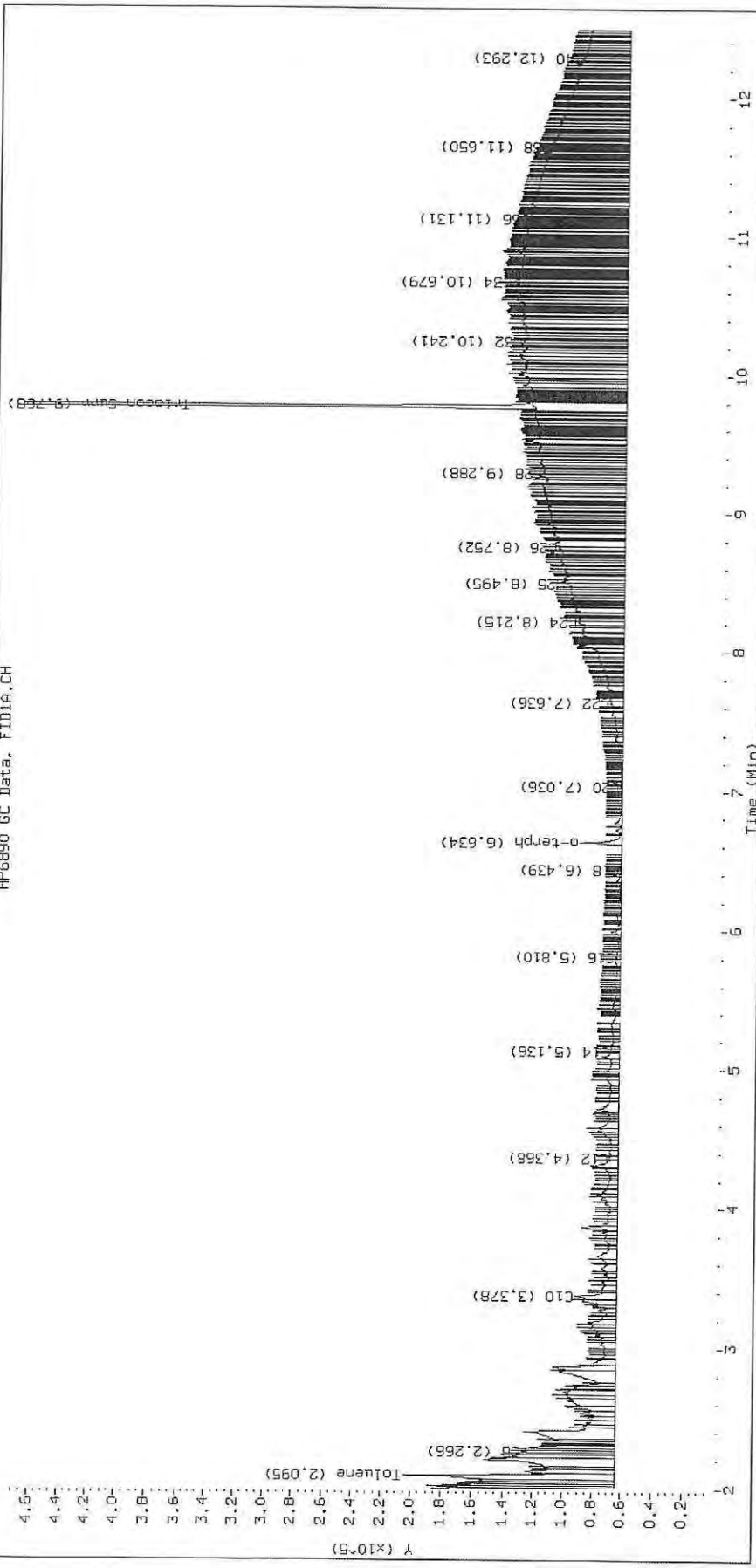
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacontane	818277	4.6 M

M Indicates the peak was manually integrated

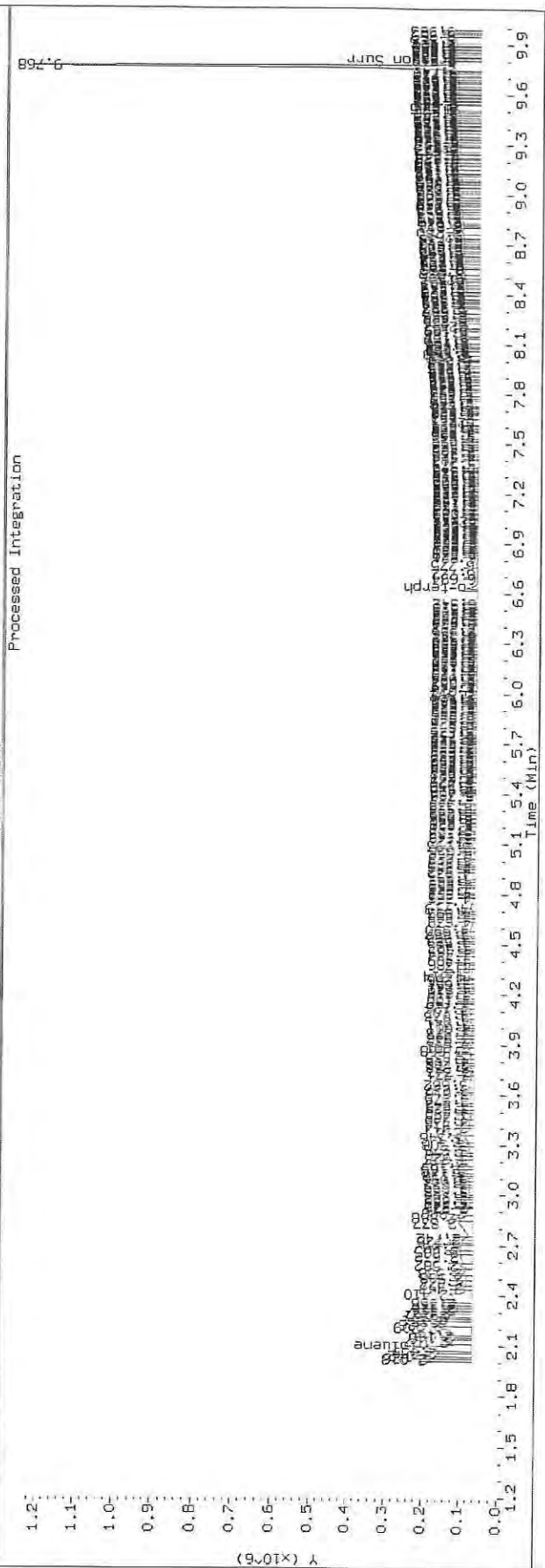
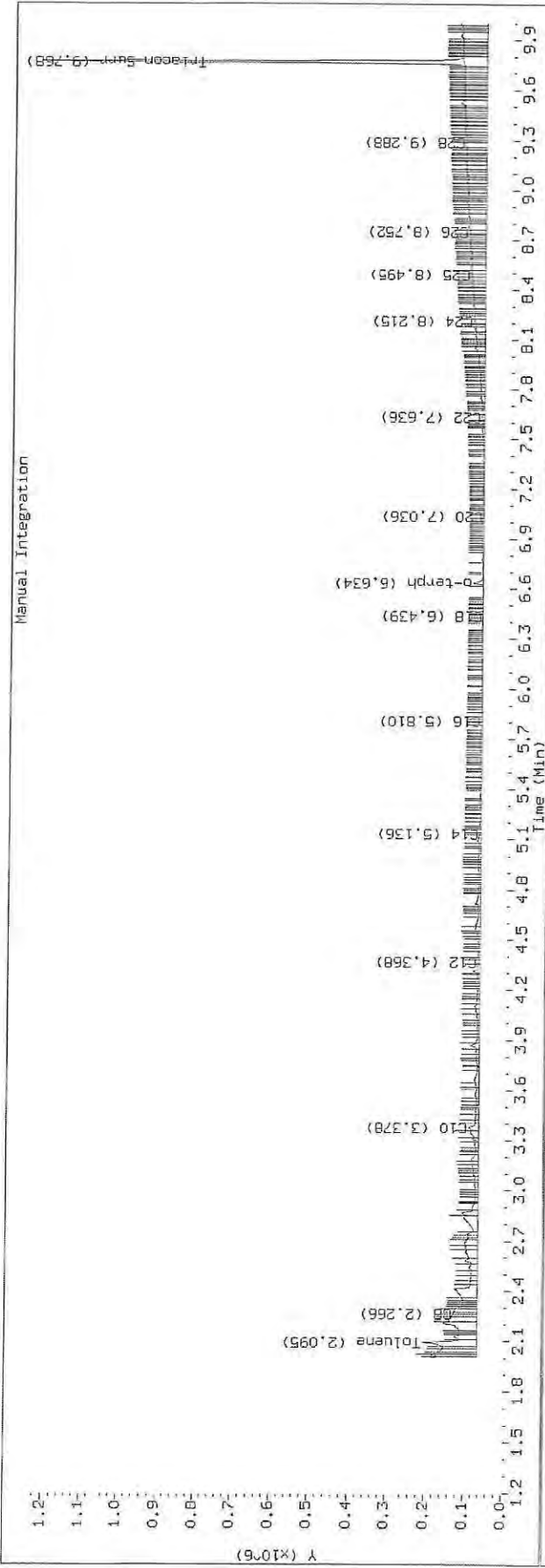
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2521.D SHJ0406-CALD

HP6890 GC Data, FID1A.CH

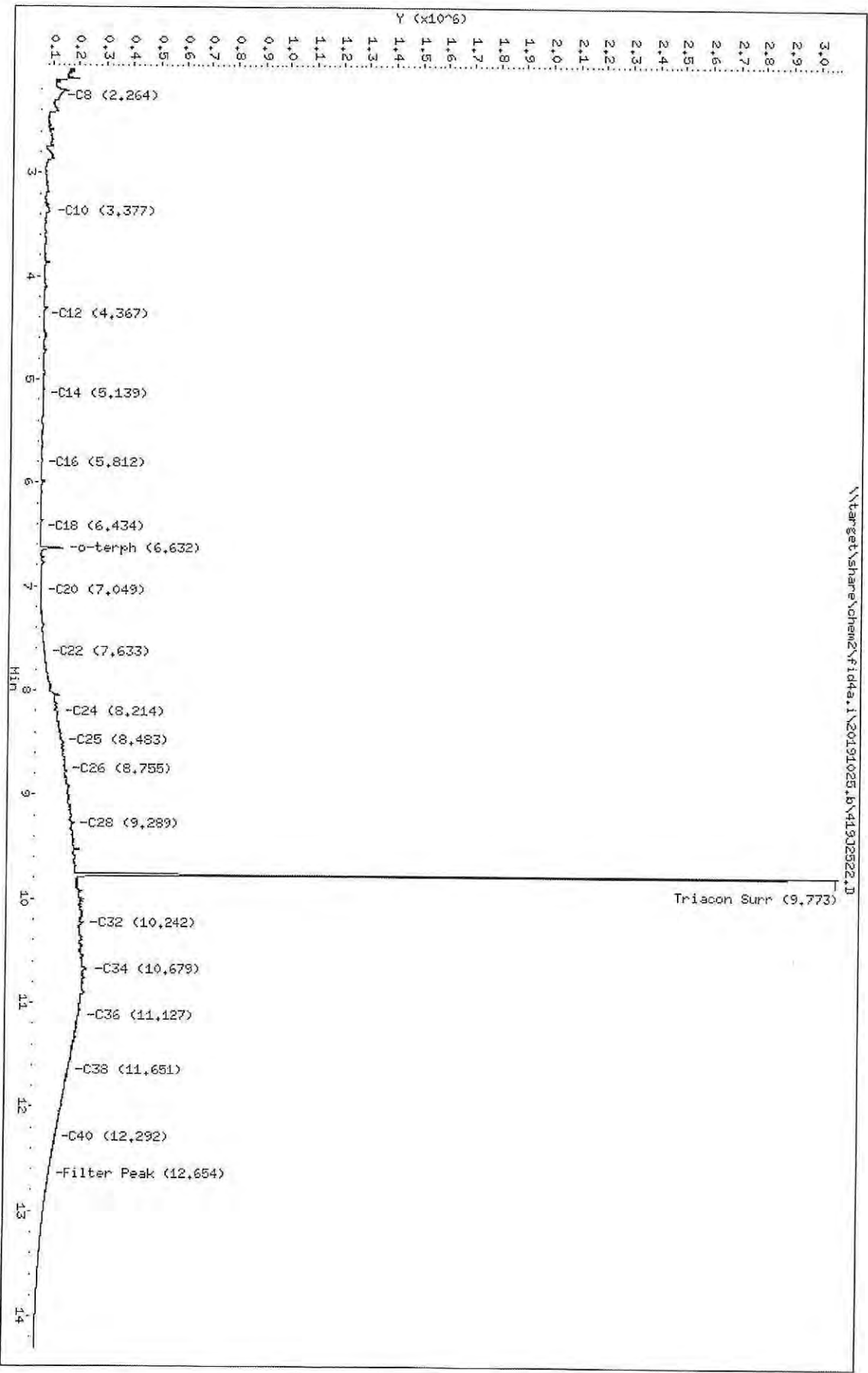


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41912522.D
 Date : 25-OCT-2019 18:55
 Client ID:
 Sample Info: SHJ0406-CRLE
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

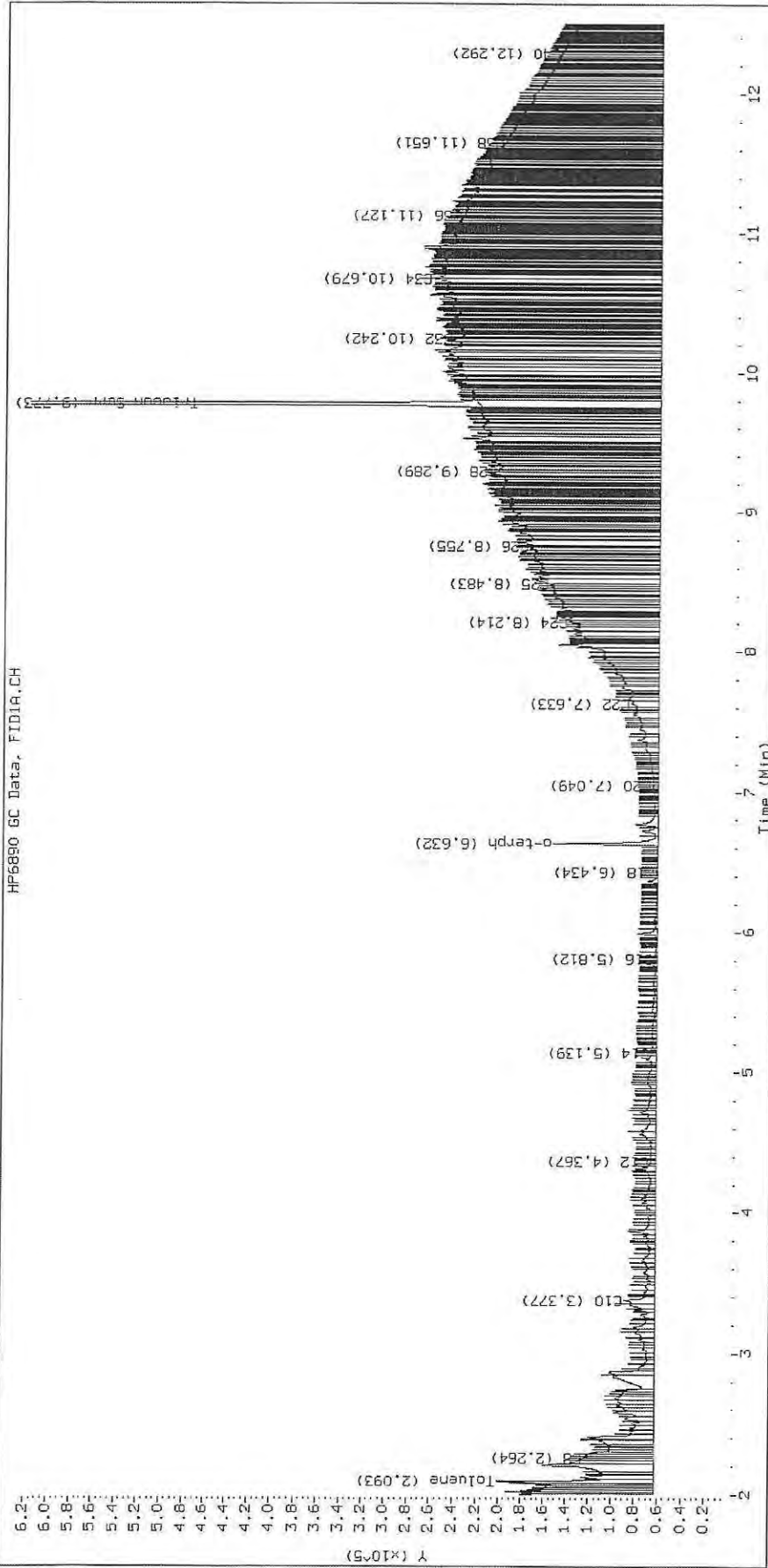
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacotane	2058184	11.6 M

M Indicates the peak was manually integrated

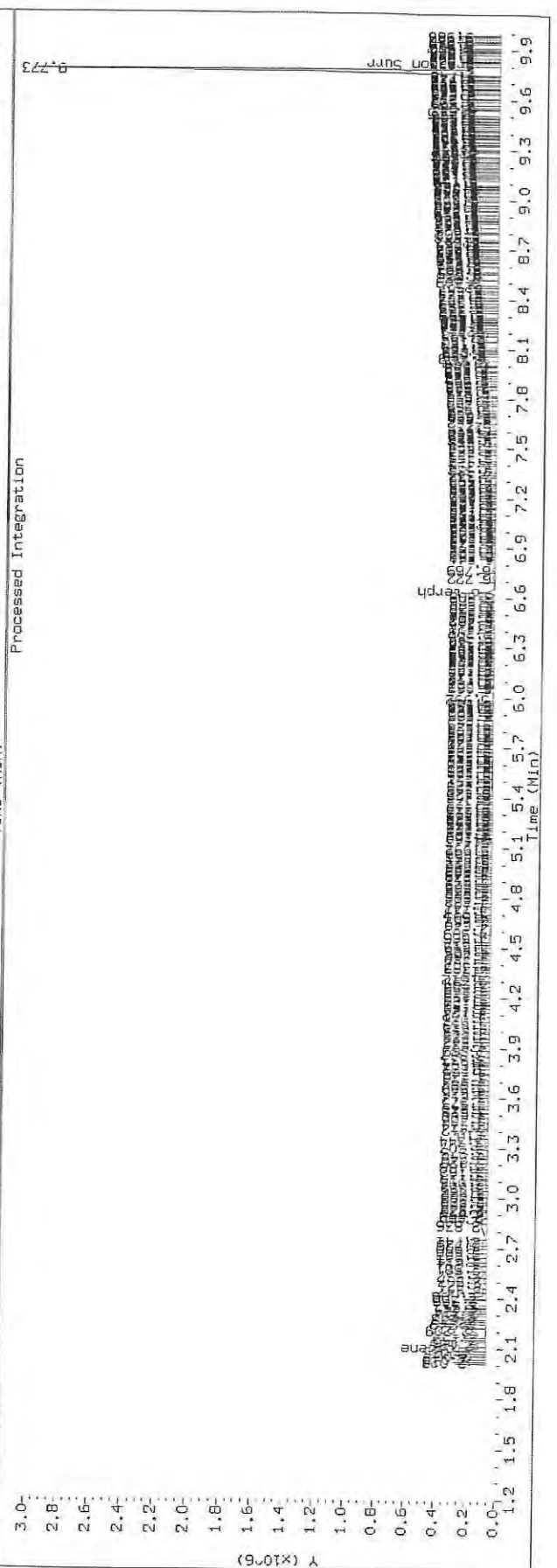
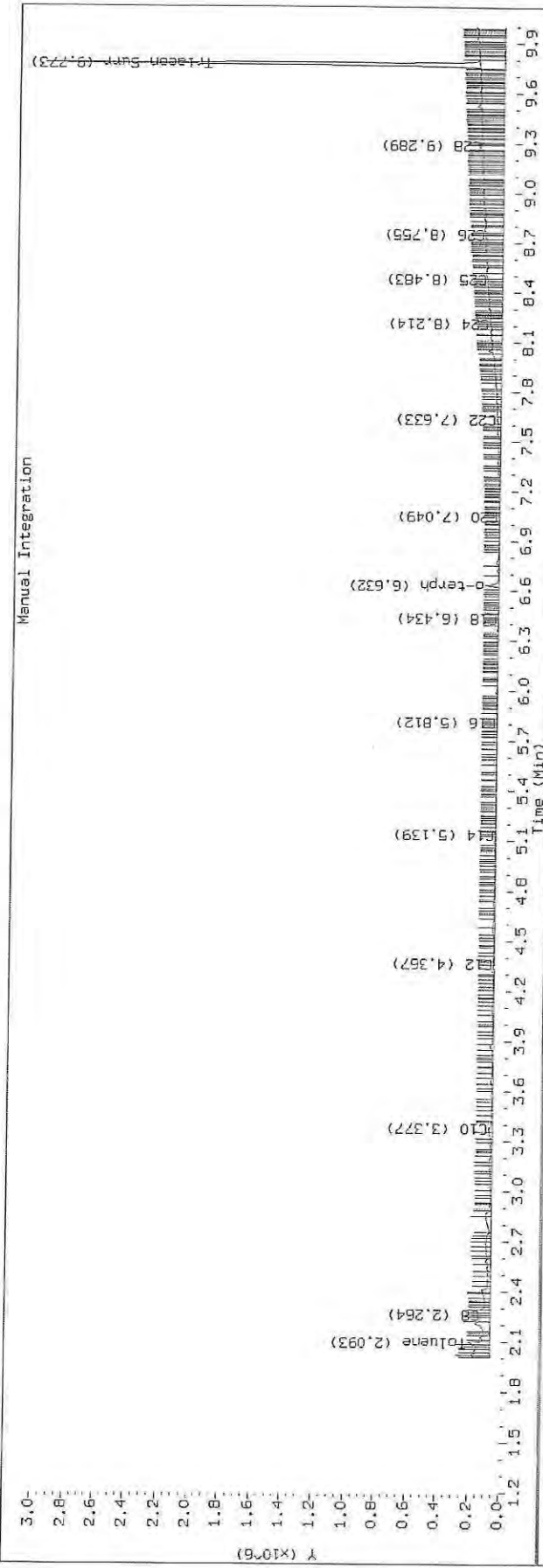
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

HP6890 GC Data, FID1A.CH

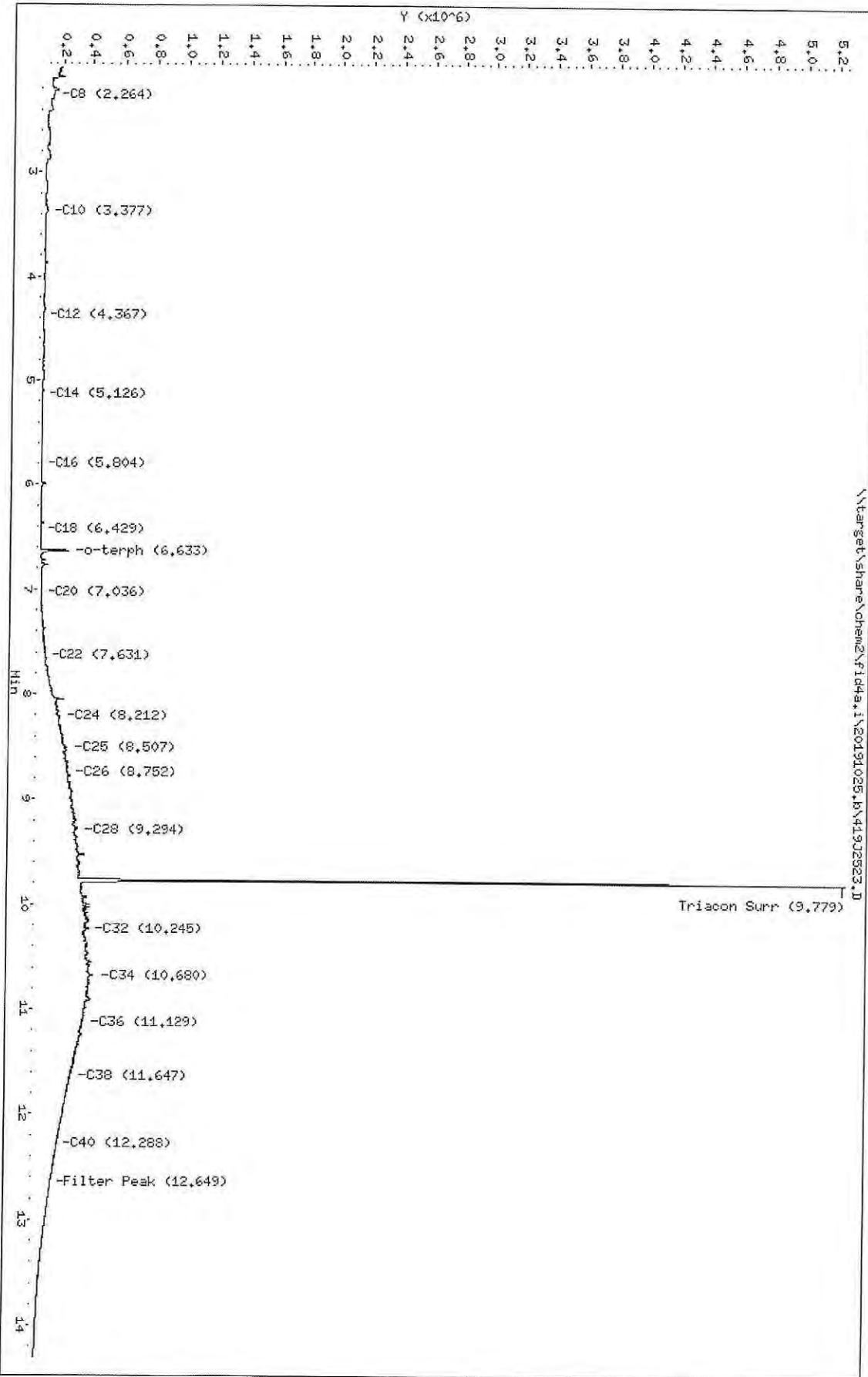


Datafile: FID4A, 20191025.b/419J2522.D Injection: 25-OCT-2019 18:55
 Lab ID: SHJ0406-CALE



Data File: \\target\share\chem2\fid4a.1\20191025.B\419J2523.D
 Date: 25-OCT-2019 19:15
 Client ID:
 Sample Info: SHJ0406-QALLF
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

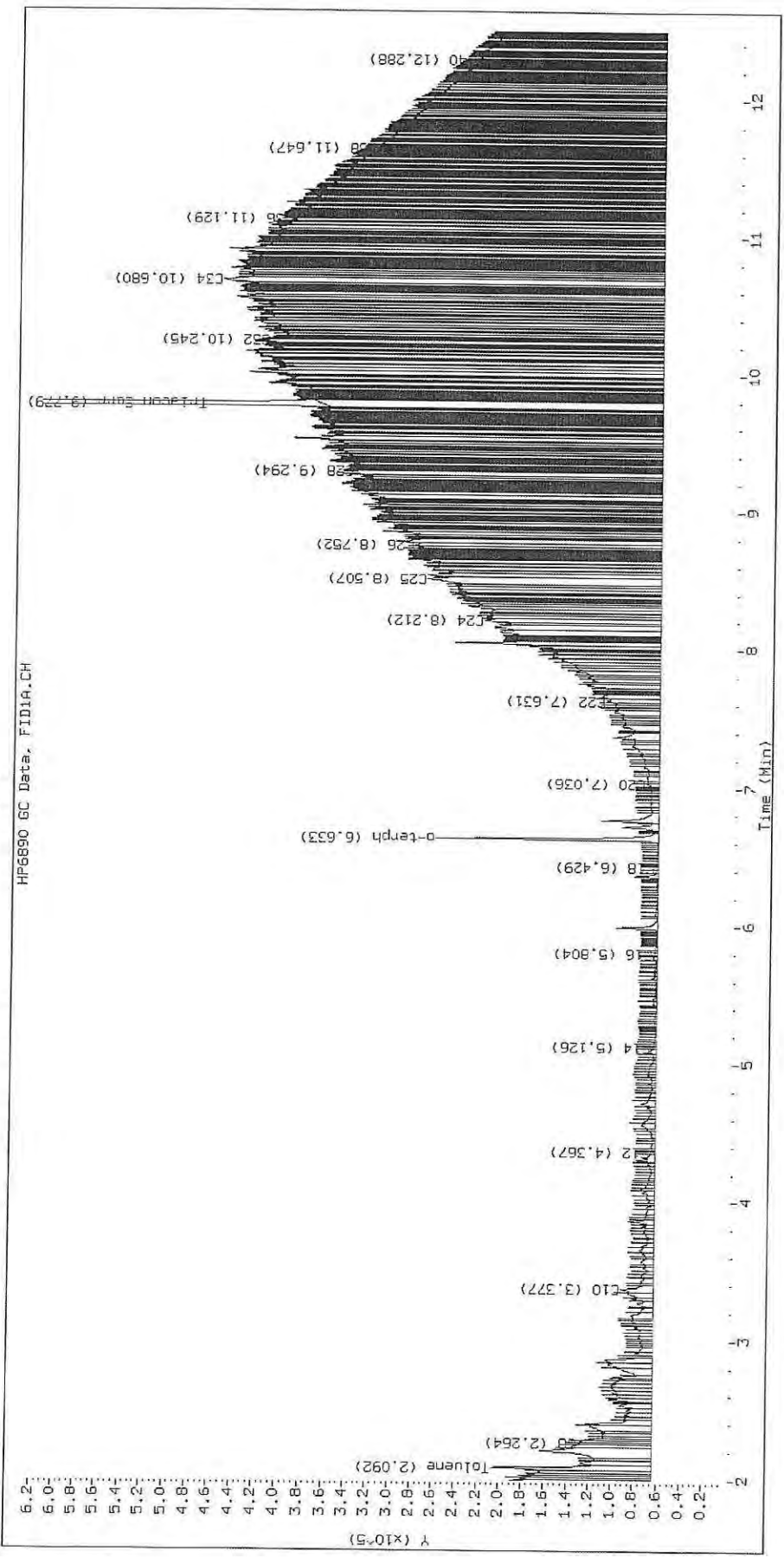
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

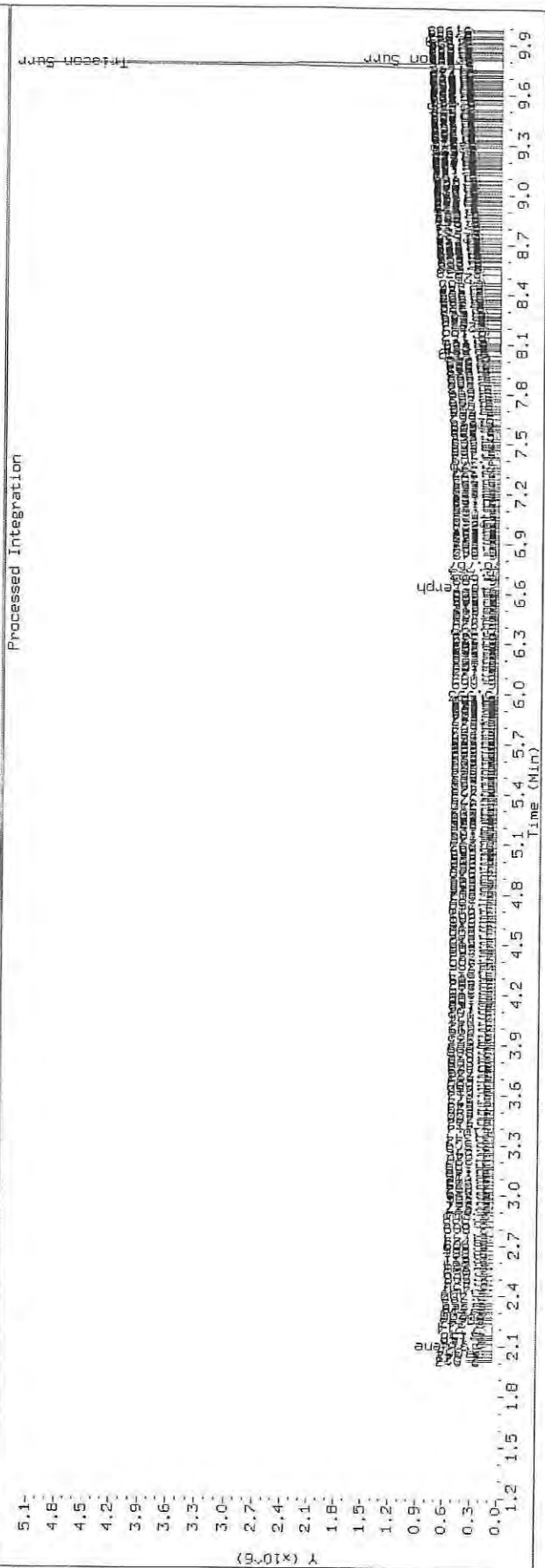
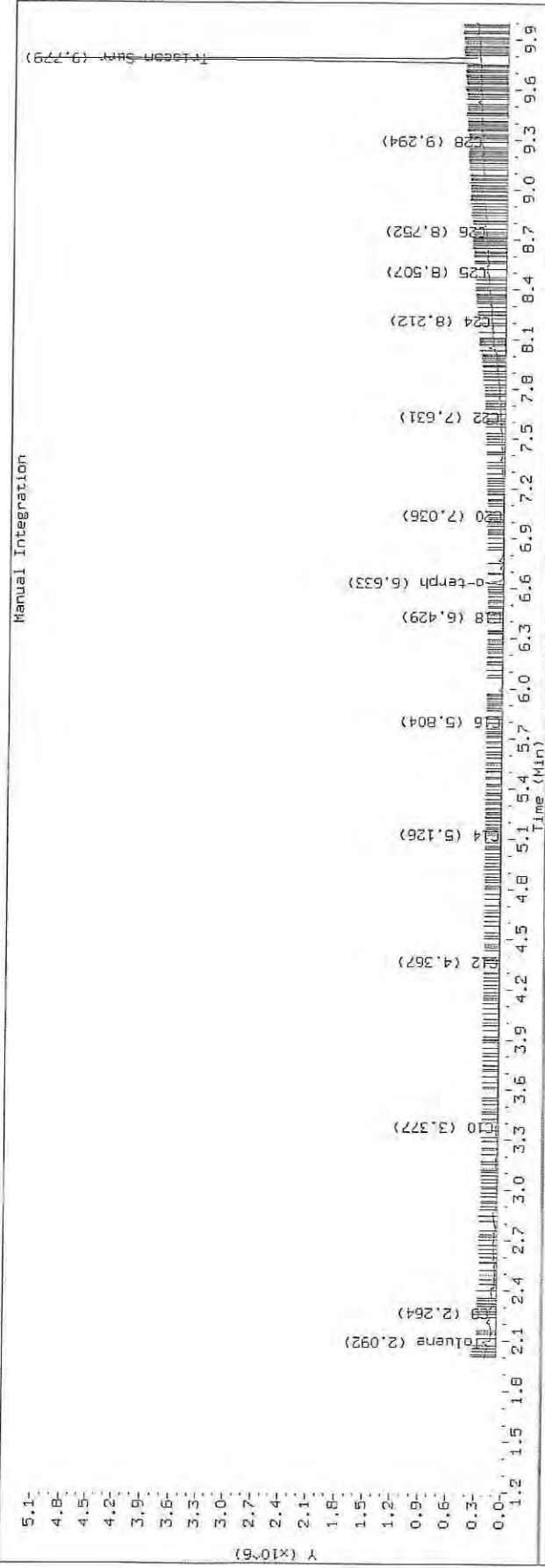
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacontane	3941895	22.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

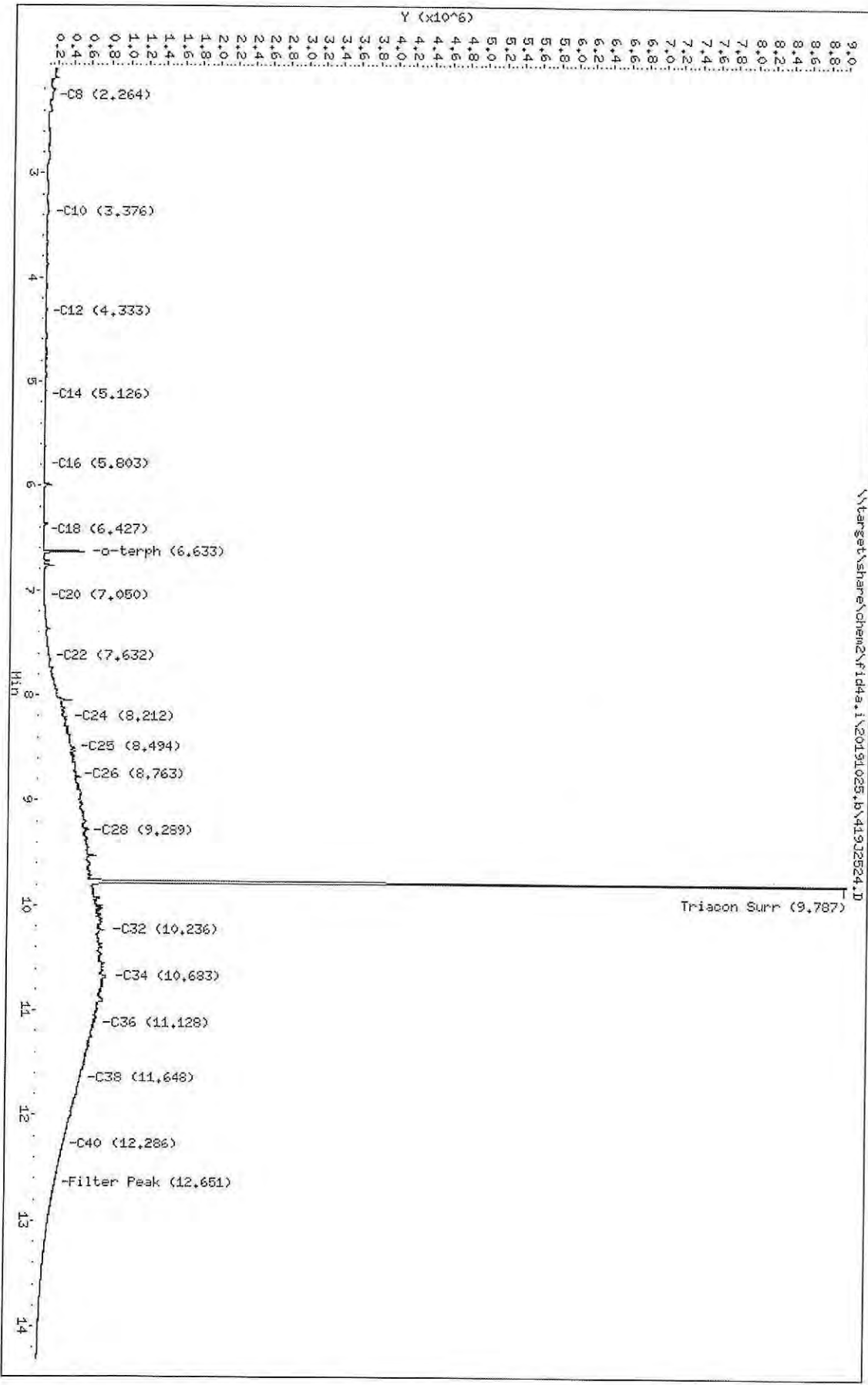
Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF





Data File: \\target\share\chem2\Fid4a.i\20191025_10\41932524.D
 Date: 25-OCT-2019 19:34
 Client ID:
 Sample Info: SHJ0406-CALLS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/YTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

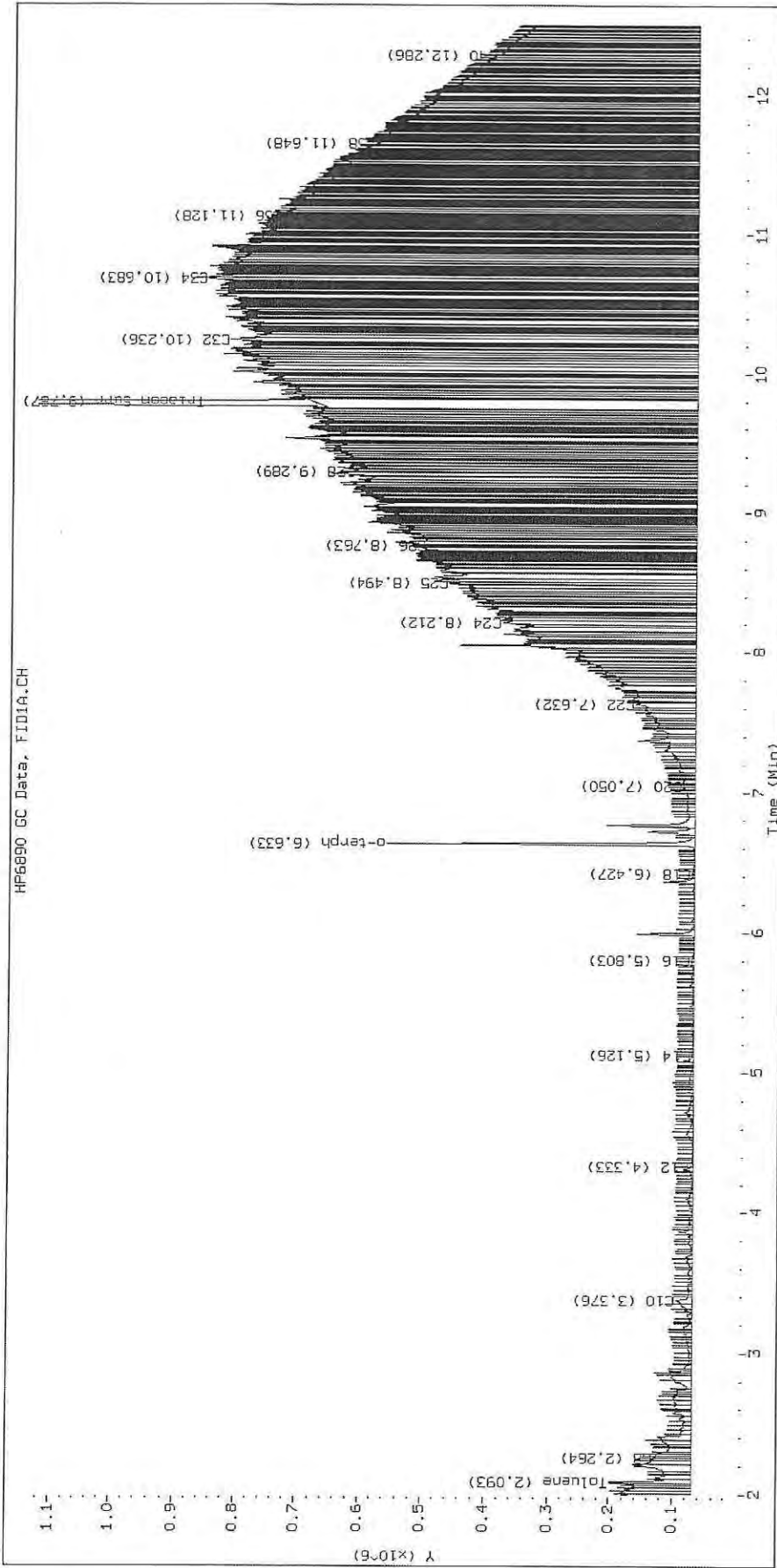
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

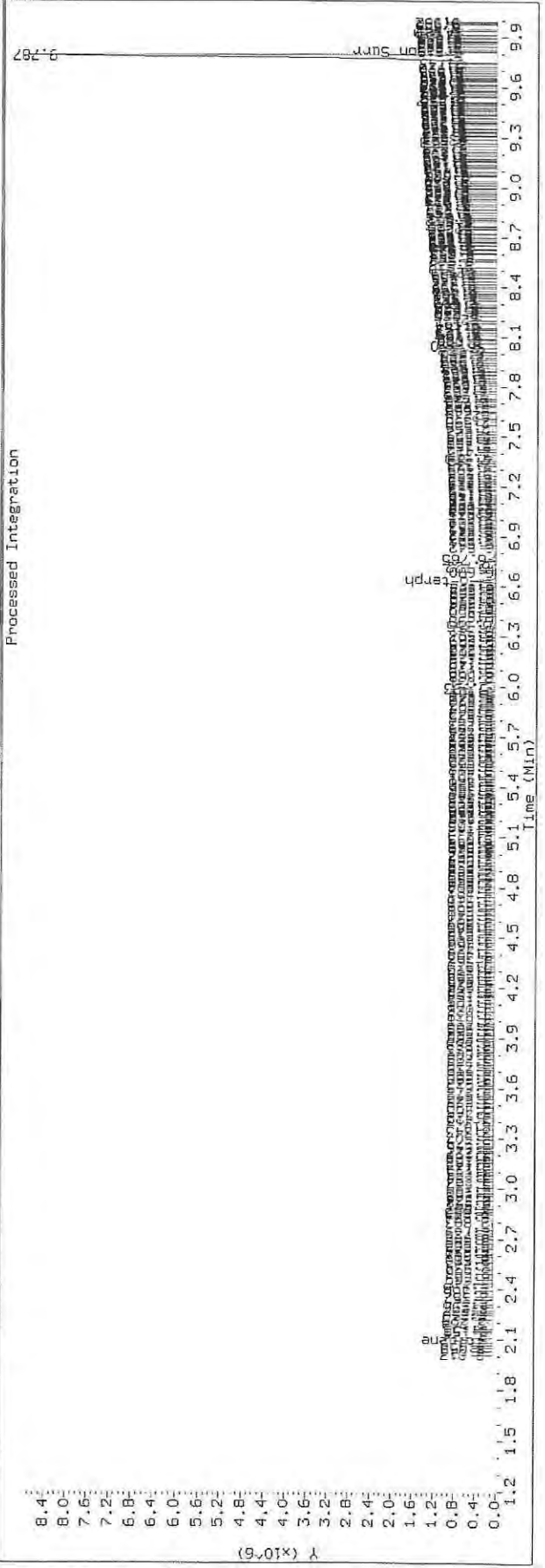
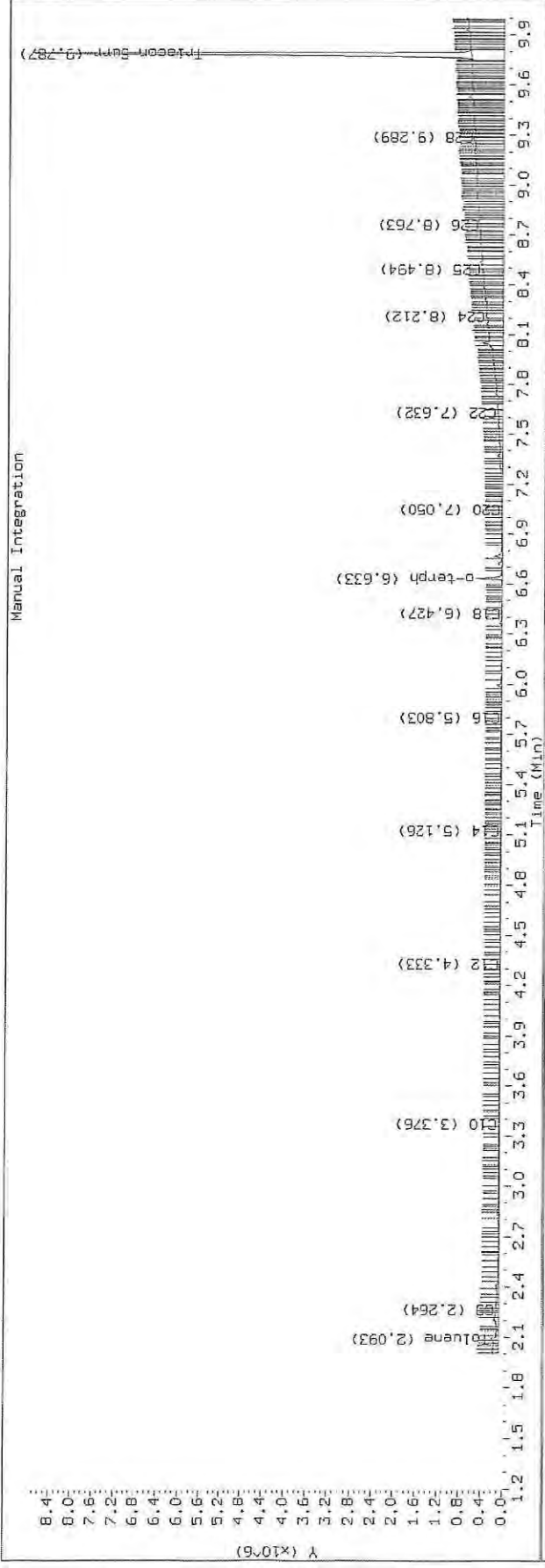
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacontane	7933666	44.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

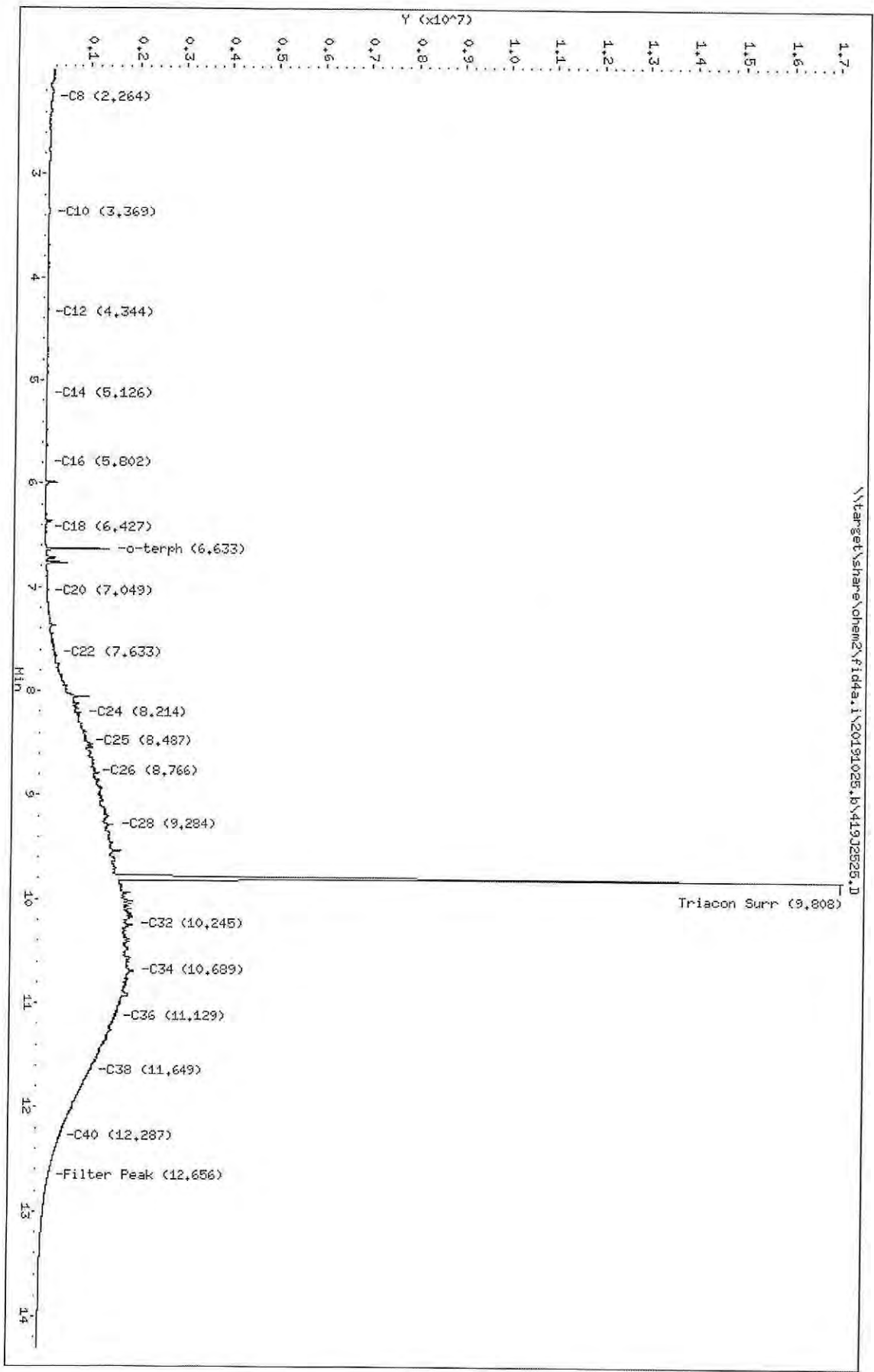
Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG





Data File: \\karger\share\chem2\fid4a.i\20191025.b\419J2525.D
Date: 25-OCT-2019 19:54
Client ID:
Sample Info: SHJ0406-CALH
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

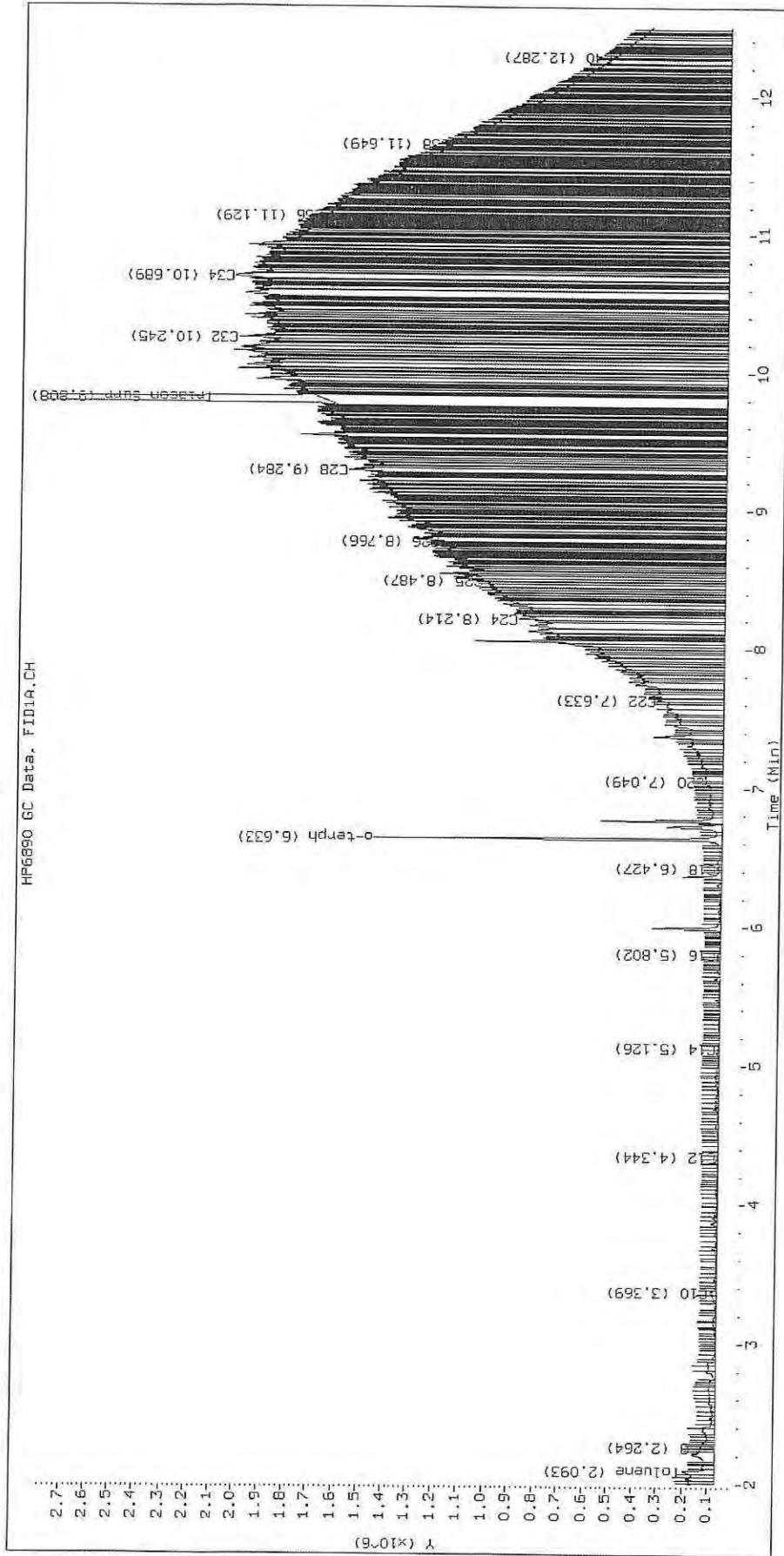
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacotane	20436973	114.8 M

M Indicates the peak was manually integrated

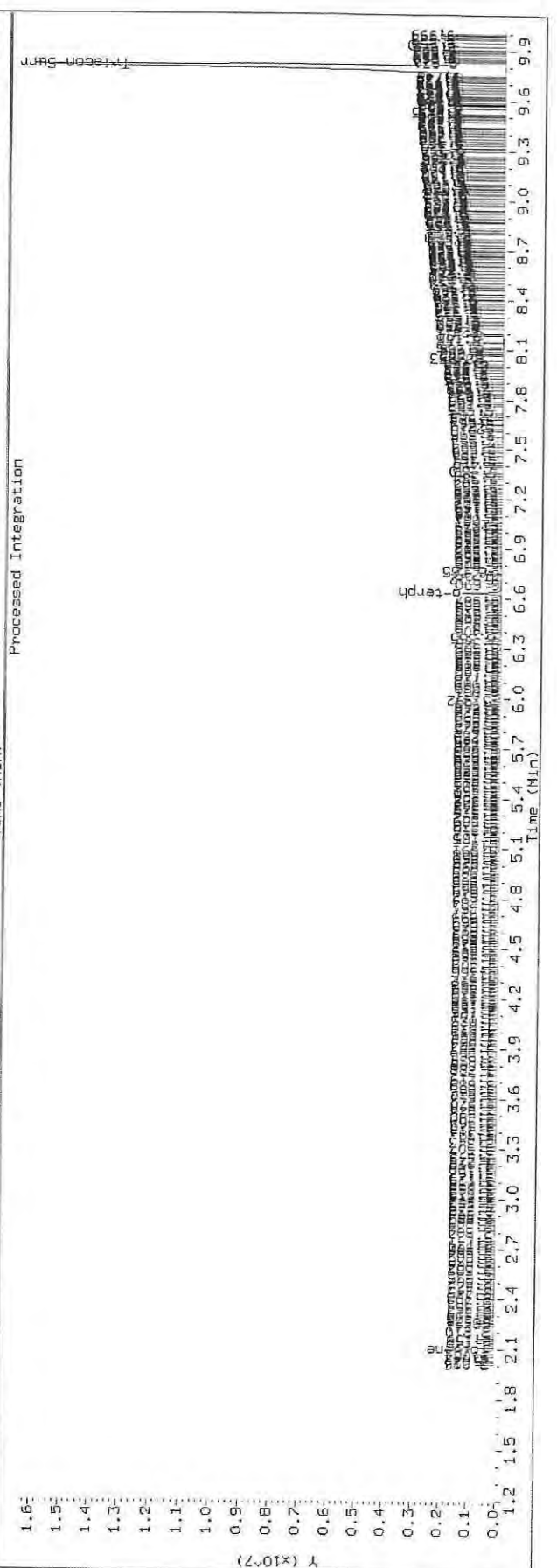
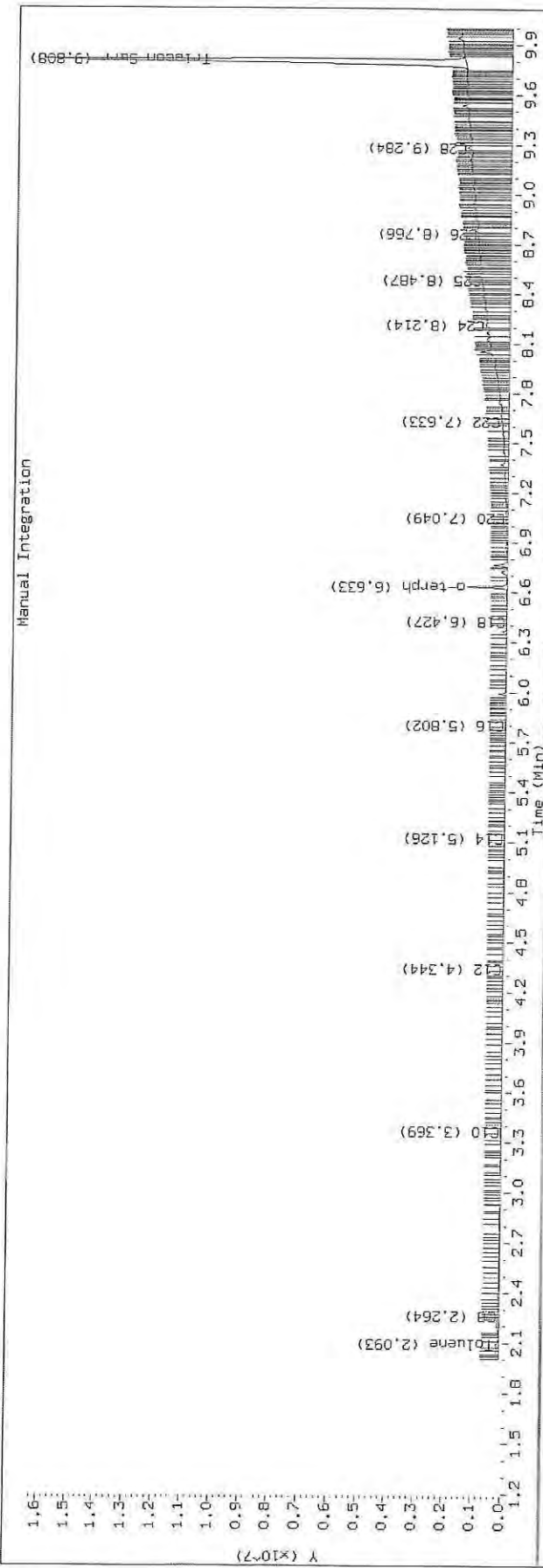
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



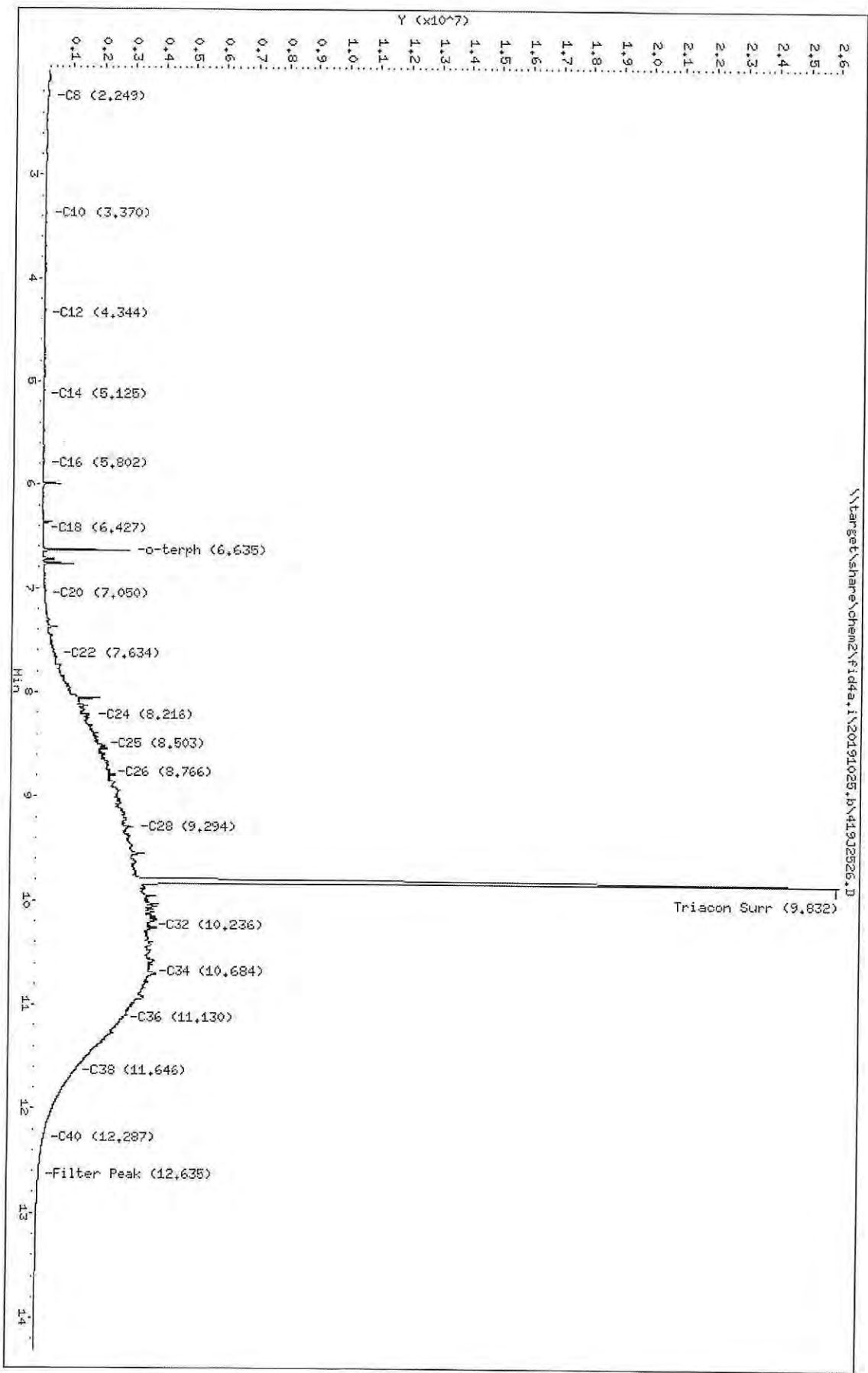
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/41972525.D Injection: 25-OCT-2019 19:54
 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2826.D
Date: 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JDR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

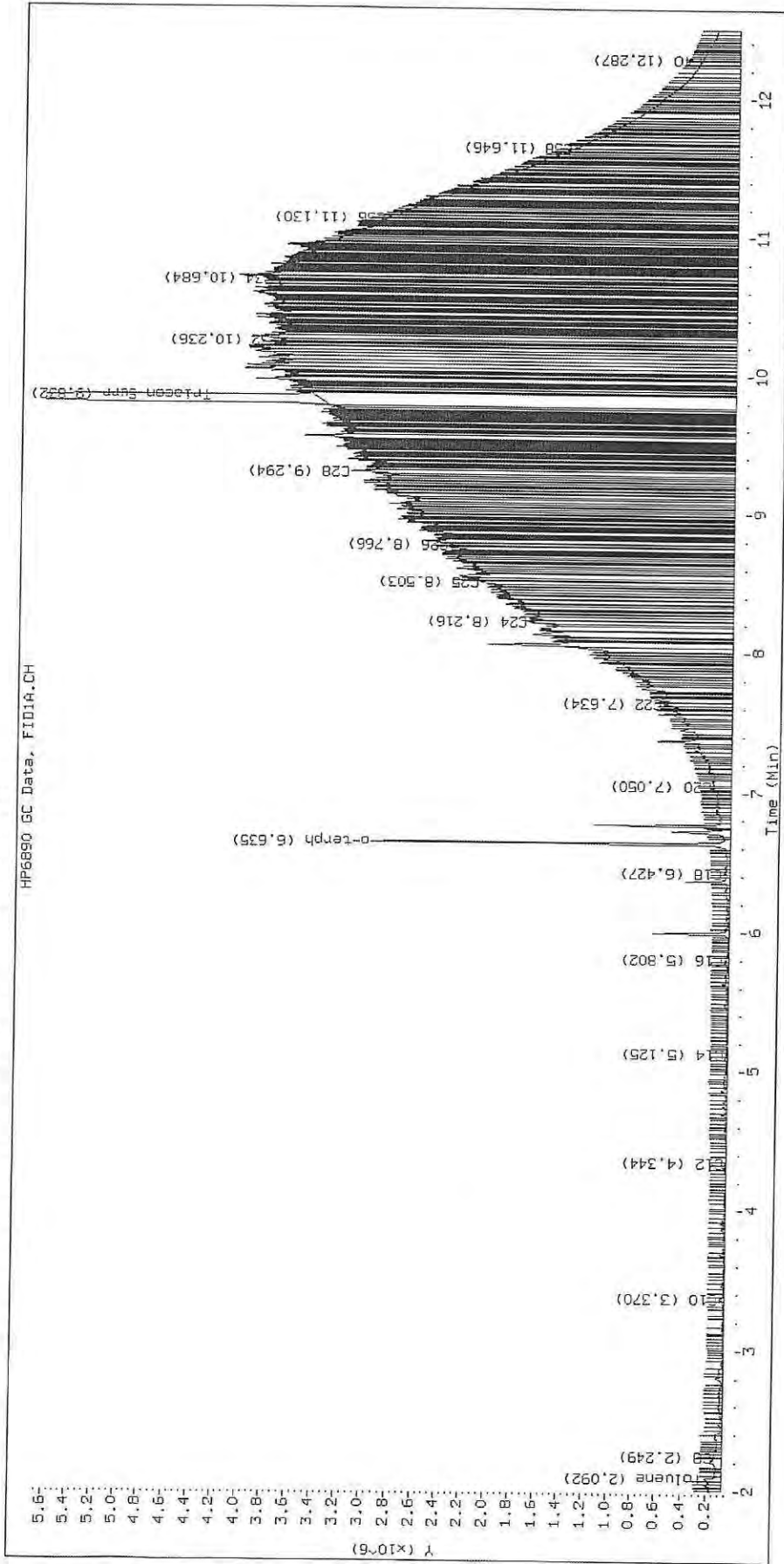
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

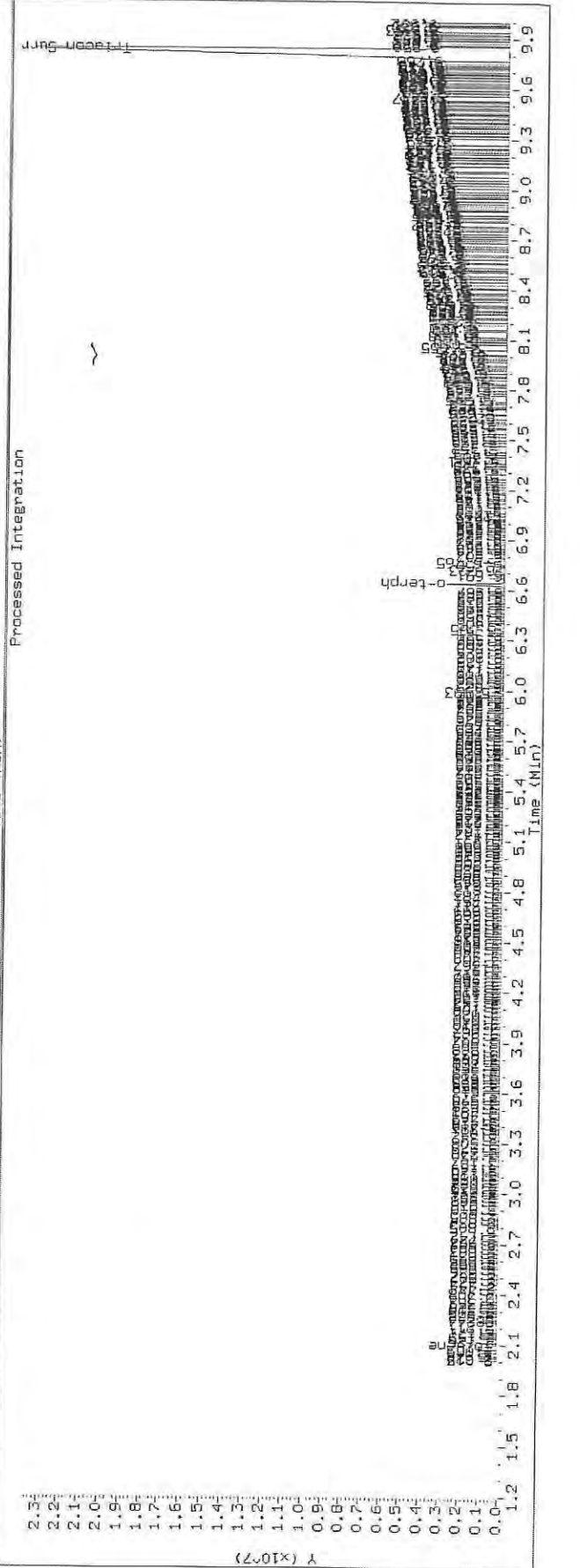
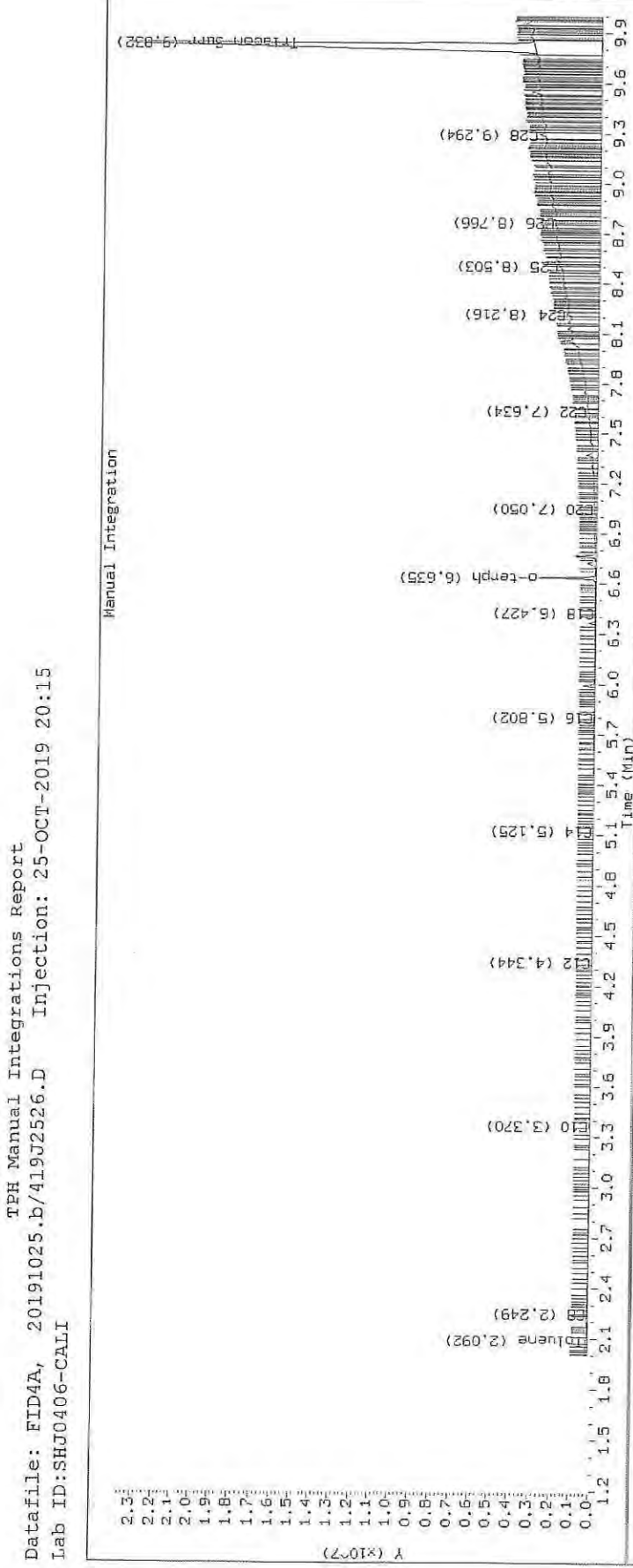
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH

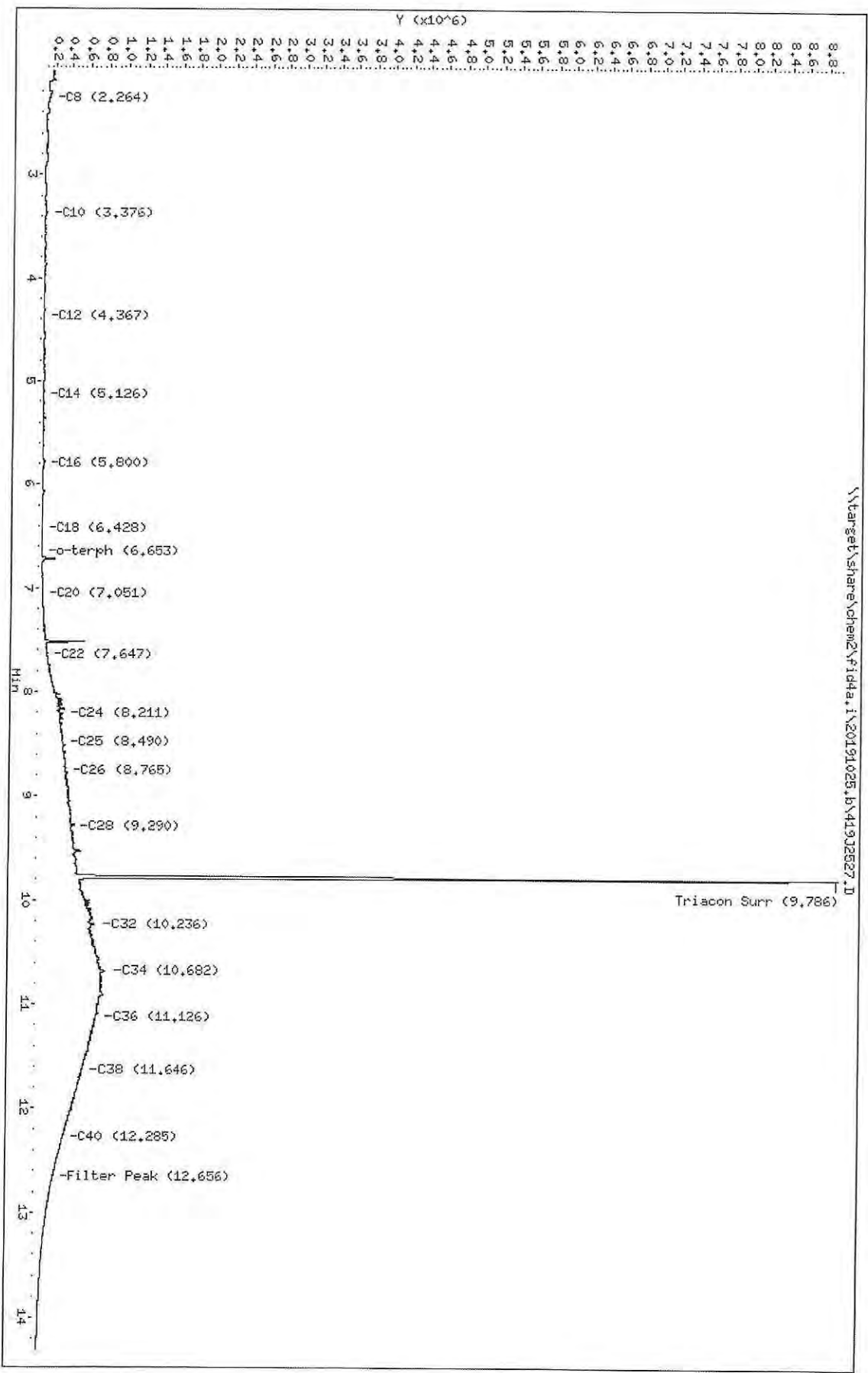


Datafile: FID4A, 20191025.b/419J2526.D Injection: 25-OCT-2019 20:15
 Lab ID: SHJ0406-CALI



Data File: \\farset\share\chem2\Fid4a.1\20191025.B\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3
 Column Phase: RTX-1

Instrument: fid4a.1
 Operator: CT0/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

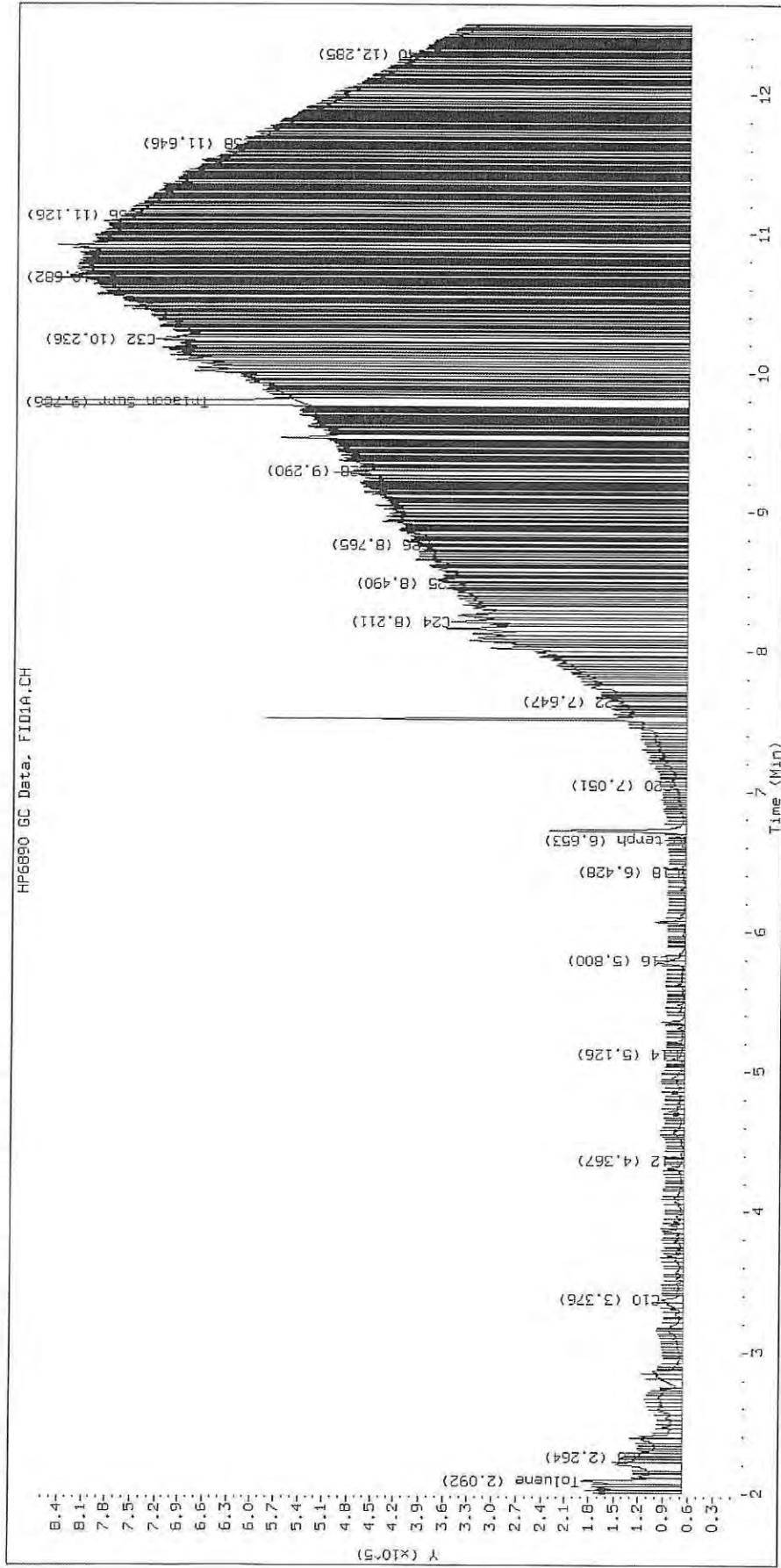
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

M Indicates the peak was manually integrated

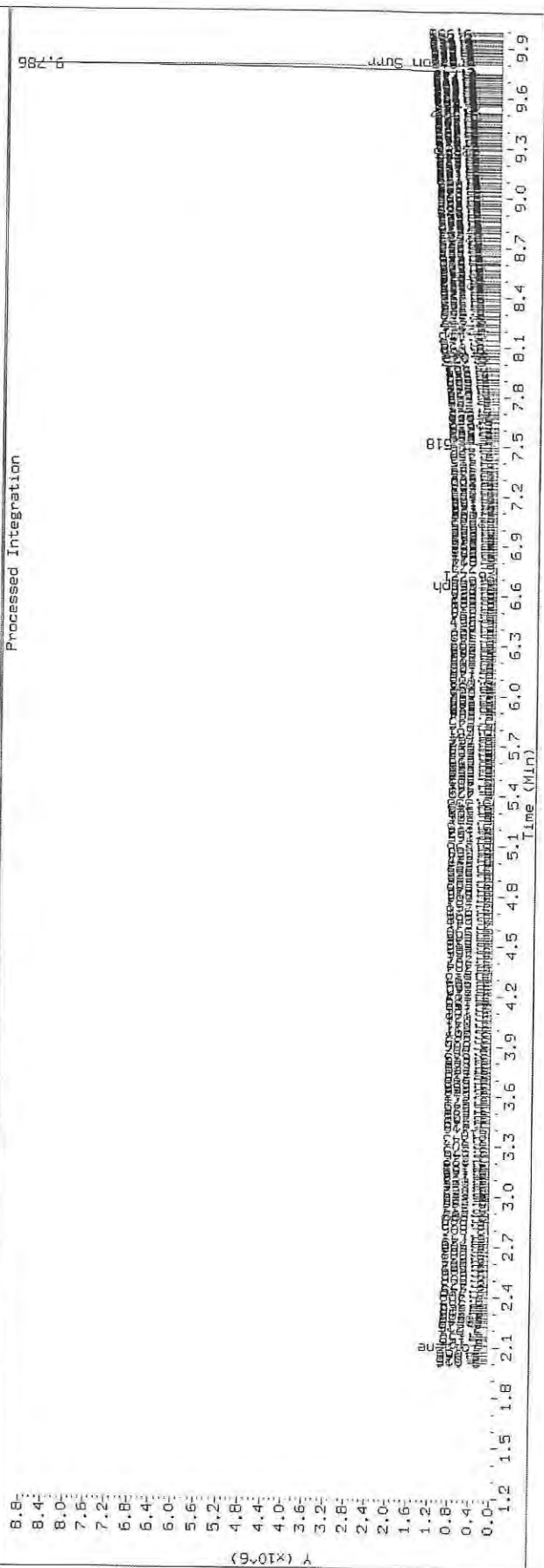
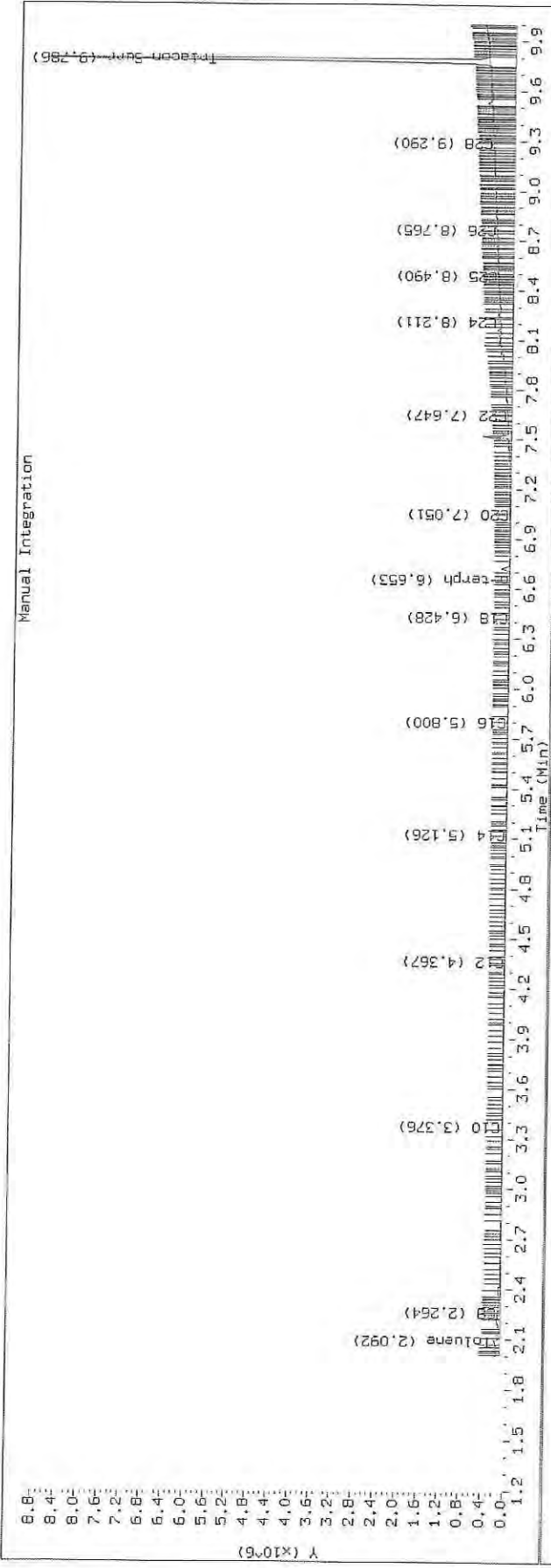
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/41902527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2527.D Injection: 25-OCT-2019 20:35
 Lab ID: SH00406-SCV3



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacotane	319	0.0

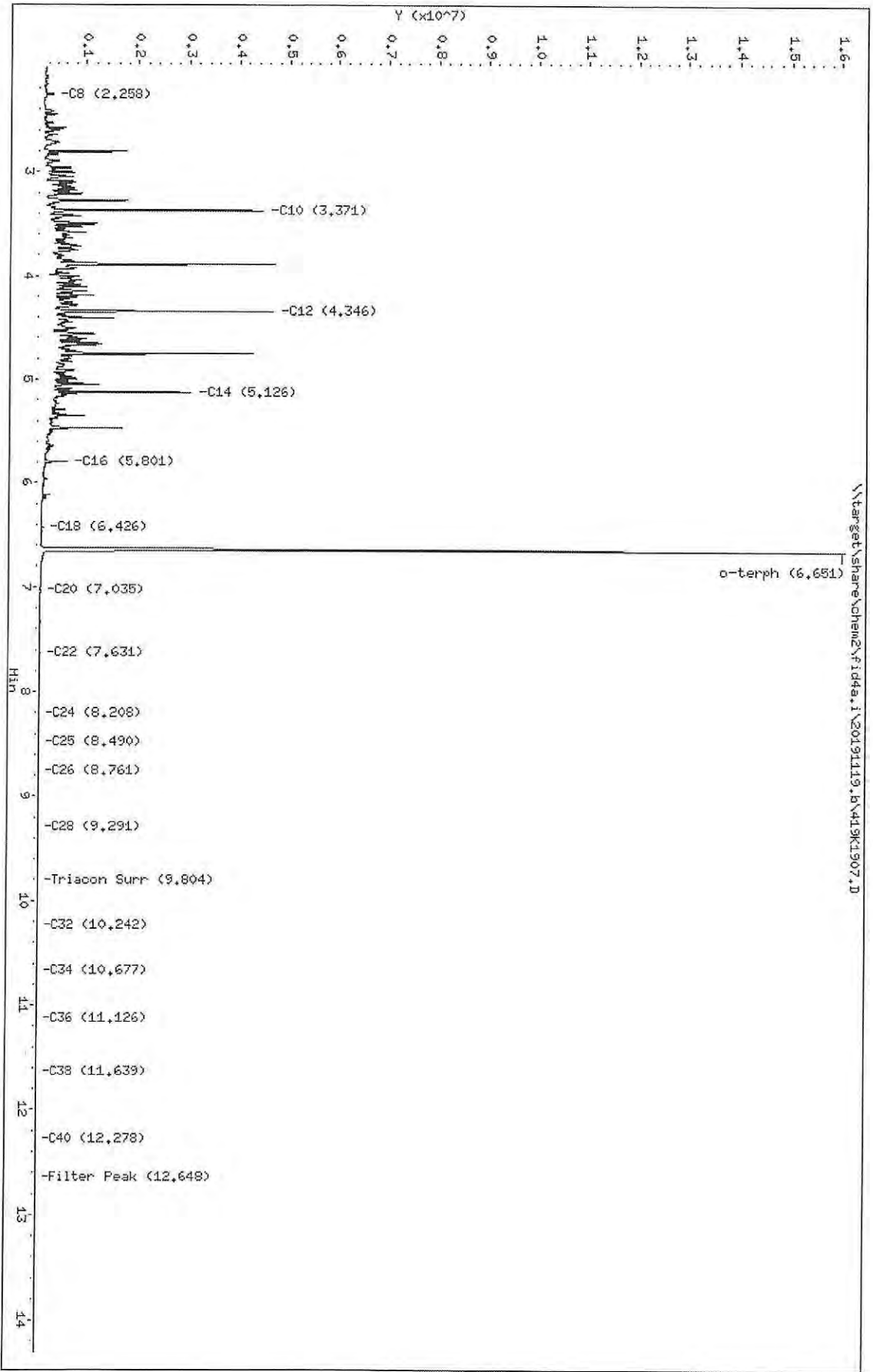
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

Data File: \\target\share\chem2\fid4a.i\20191119.B\419K1907.D
Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD
Column diameter: 0.25



Data File: \\target\share\chem2\fid4a,1\20200107_b\42040707.D

Date: 07-JAN-2020 10:42

Client ID:

Sample Info: SIR0065-ICV3

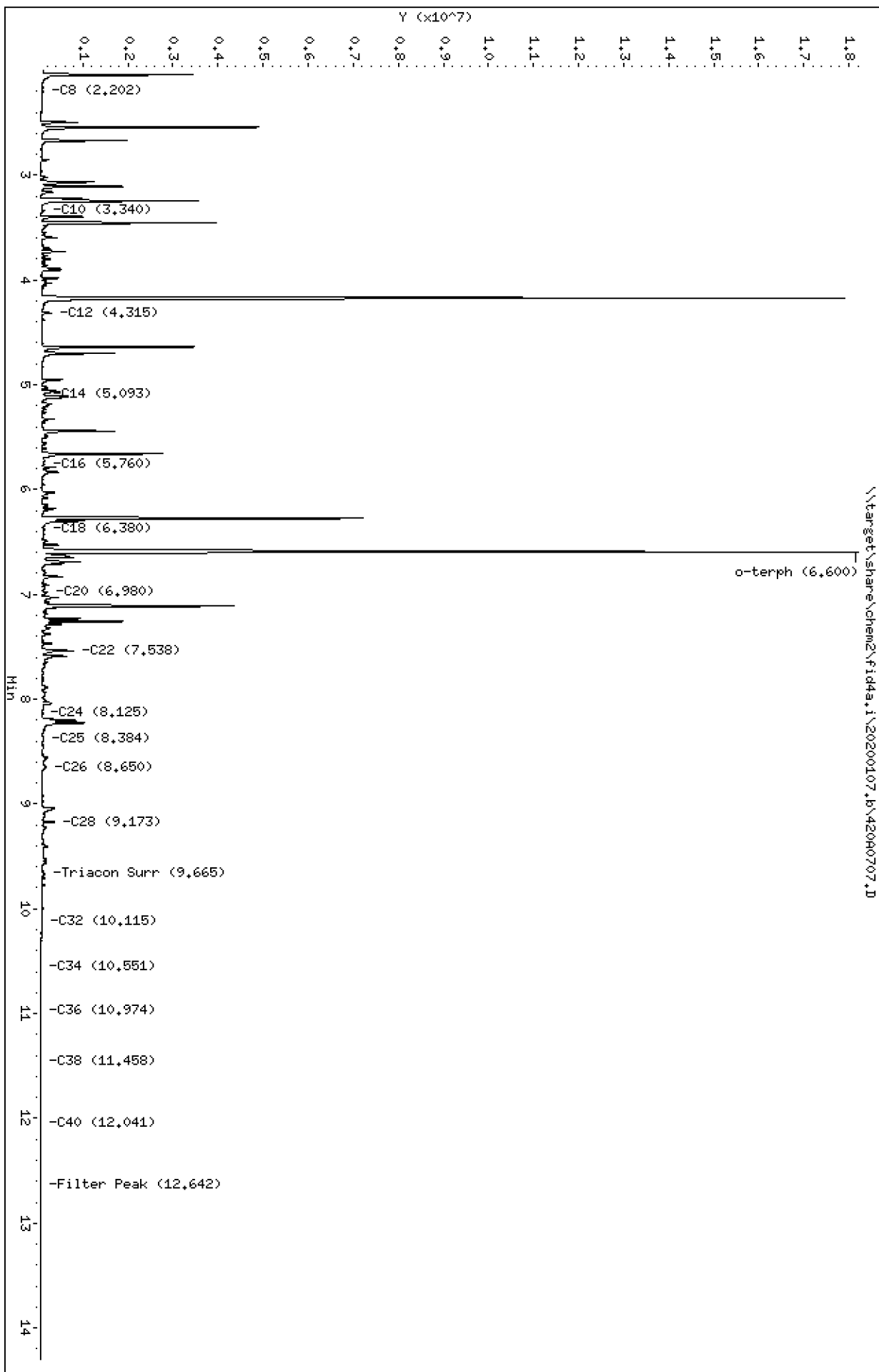
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200107.b/420A0707.D
Method: 20200107.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 01/08/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIA0065-ICV3
Client ID:
Injection: 07-JAN-2020 10:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

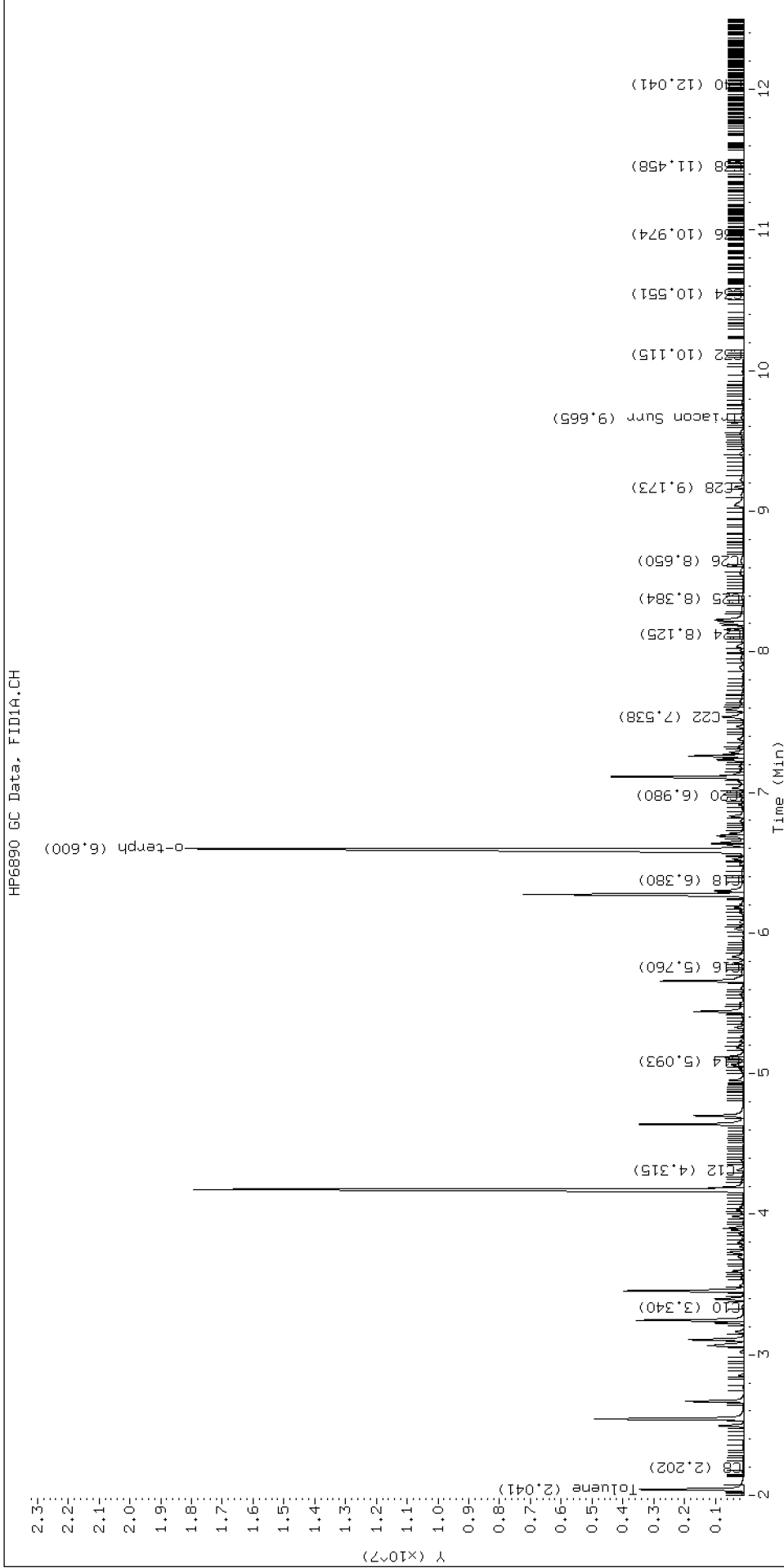
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.202	-0.016	48618	163148	WATPHD	(C12-C24)	39749068	249.5
C10	3.340	-0.003	90097	100393	WATPHM	(C24-C38)	8921905	67.3
C12	4.315	-0.003	247325	289347	AK102	(C10-C25)	67305313	344.3
C14	5.093	-0.003	88277	57691	AK103	(C25-C36)	6259973	62.6
C16	5.760	-0.005	76989	75637	OR.DIES	(C10-C28)	70713708	360.8
C18	6.380	-0.002	84390	113269				
C20	6.980	0.003	144985	120115	JET-A	(C10-C18)	47725210	293.7
C22	7.538	-0.024	728303	910269				
C24	8.125	-0.002	43865	44718				
C25	8.384	-0.017	65153	88015				
C26	8.650	-0.017	124266	355575				
C28	9.173	-0.007	310713	322767				
C32	10.115	-0.005	18488	10140				
C34	10.551	-0.003	12121	8350				
Filter Peak	12.642	-0.014	5310	3162	CREOSOT	(C12-C22)	37368560	1000.0
C36	10.974	-0.004	10765	7465				
C38	11.458	0.001	10672	2663				
C40	12.041	-0.000	6716	3626				
o-terph	6.600	0.002	18150486	20216219				
Triacon Surr	9.665	-0.021	100173	177367	NAS DIES	(C10-C24)	64884221	332.5

Range Times: NW Diesel(4.318 - 8.127) AK102(3.34 - 8.40) Jet A(3.34 - 6.38)
NW M.Oil(8.13 - 11.46) AK103(8.40 - 10.98) OR Diesel(3.34 - 9.18)

Surrogate	Area	Amount
o-Terphenyl	20216219	98.8
Triacontane	177367	1.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	37368.6	15-NOV-2019



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

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1	13-MAR-2020	13:19	420C1310.D	1	RINSE	
2	13-MAR-2020	13:38	420C1311.D	1	RINSE	
3	13-MAR-2020	13:58	420C1312.D	1	SEQ-IBL1	
4	13-MAR-2020	14:17	420C1313.D	1	SEQ-IBL2	
5	13-MAR-2020	14:37	420C1314.D	1	SEQ-CAL1	
6	13-MAR-2020	14:56	420C1315.D	1	SEQ-CAL2	
7	13-MAR-2020	15:15	420C1316.D	1	SEQ-CAL3	
8	13-MAR-2020	15:35	420C1317.D	1	SEQ-CAL4	
9	13-MAR-2020	15:54	420C1318.D	1	SEQ-CAL5	
10	13-MAR-2020	16:13	420C1319.D	1	SEQ-CAL6	
11	13-MAR-2020	16:33	420C1320.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

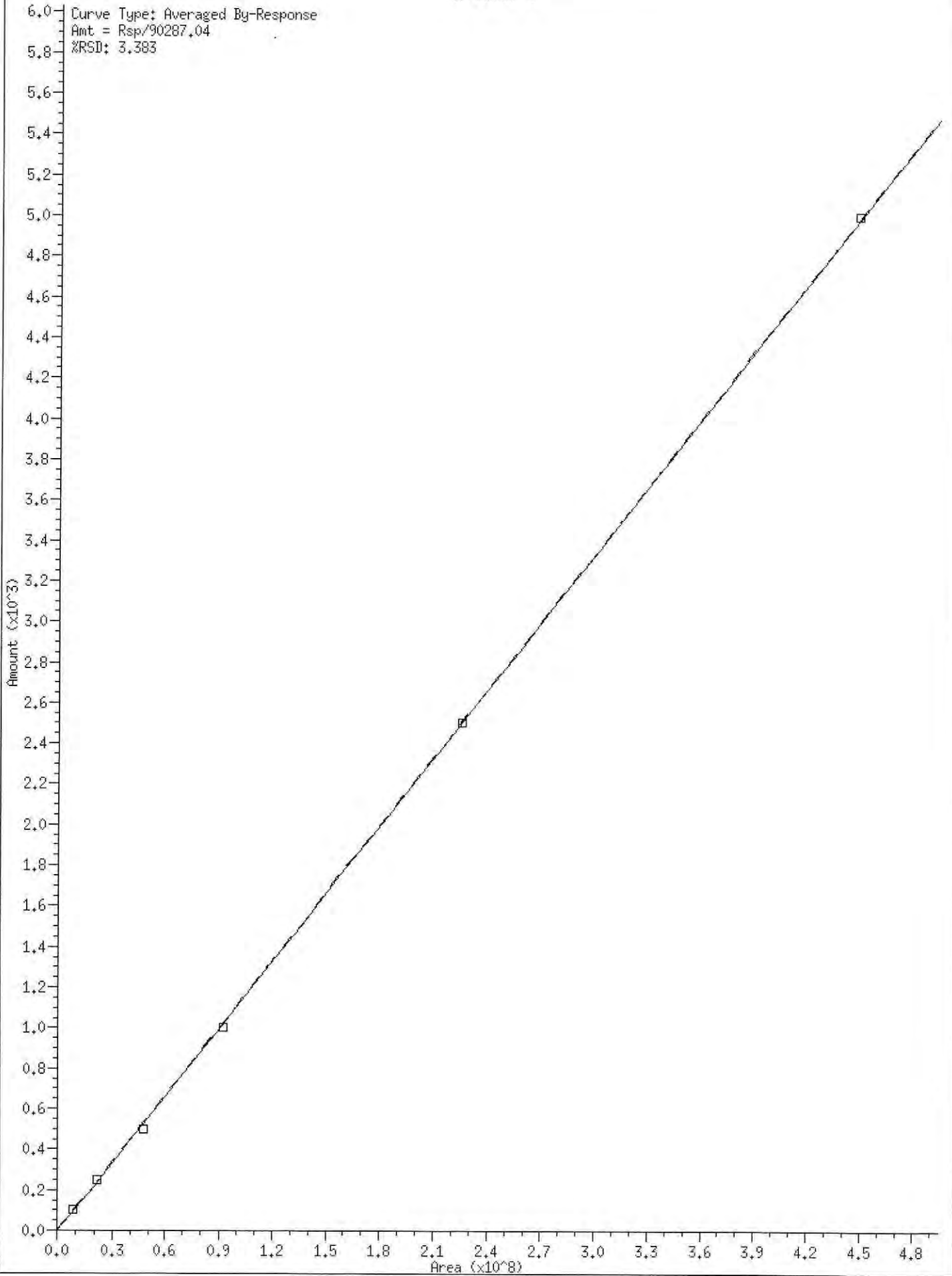
ARI Job No.: RINS Method: b\FID4TPH.m Instrument: fid4a.i Date: 13-MAR-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1319	420C1310.D	RINSE		1	NO MANUAL INTEGRATION
1338	420C1311.D	RINSE		1	NO MANUAL INTEGRATION
1358	420C1312.D	SEQ-IBL1		1	C14, C16, C40,
1417	420C1313.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1437	420C1314.D	SEQ-CAL1		1	C20, o-terph,
1456	420C1315.D	SEQ-CAL2		1	o-terph,
1515	420C1316.D	SEQ-CAL3		1	o-terph,
1535	420C1317.D	SEQ-CAL4		1	o-terph,
1554	420C1318.D	SEQ-CAL5		1	o-terph,
1613	420C1319.D	SEQ-CAL6		1	o-terph,
1633	420C1320.D	SEQ-SCV1		1	o-terph,

Security Status Report

Date: 16-Mar-2020 10:37

420C1310.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1311.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1312.D	Data Locked	christopher, 16-Mar-2020 10:37
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Data File: \\target\share\chem2\fid4a,1\20200313b,bv420C1312.D

Date: 13-MAR-2020 13:58

Client ID:

Sample Info: SEQ-IBL1

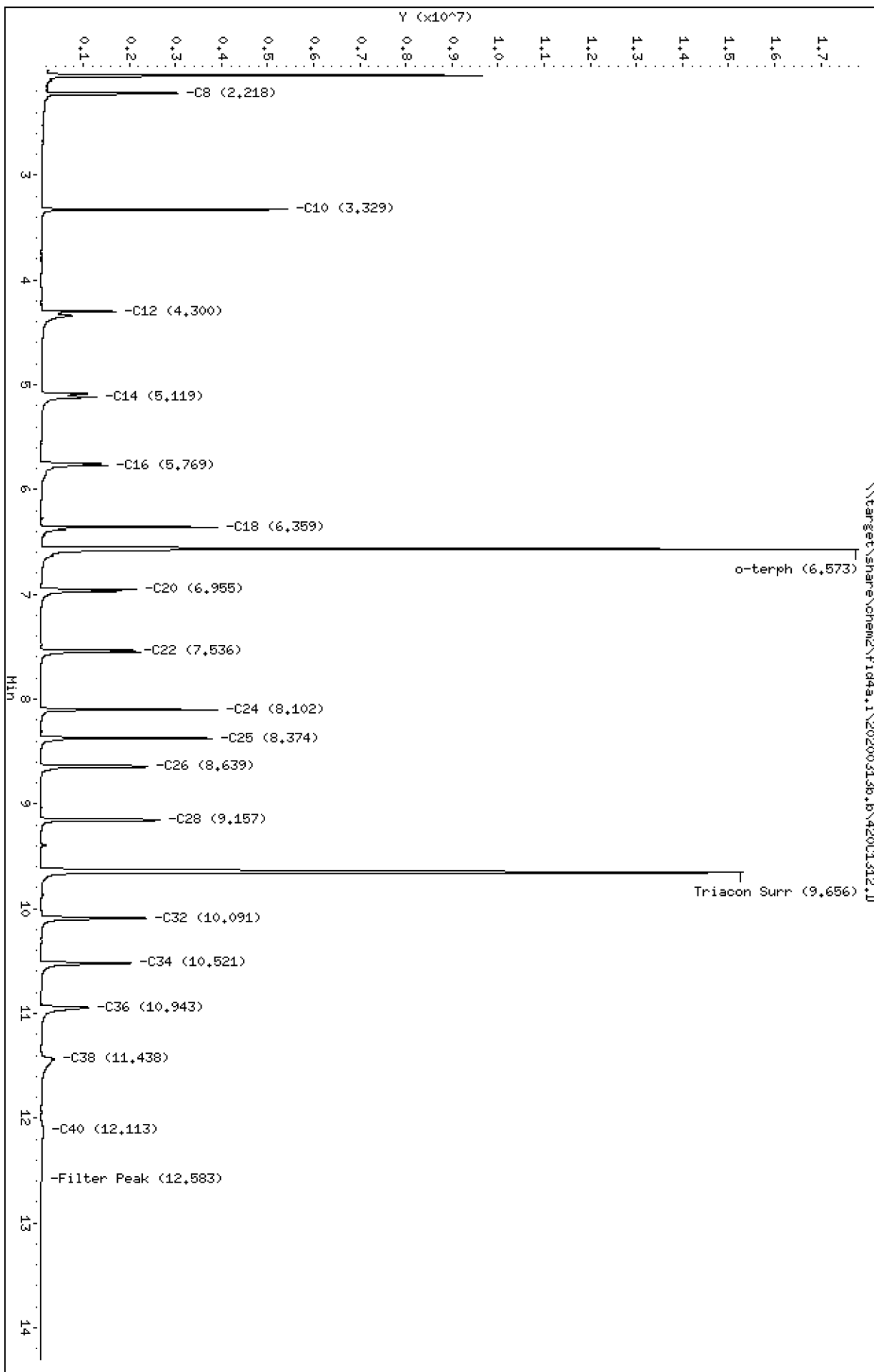
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1312.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 13-MAR-2020 13:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

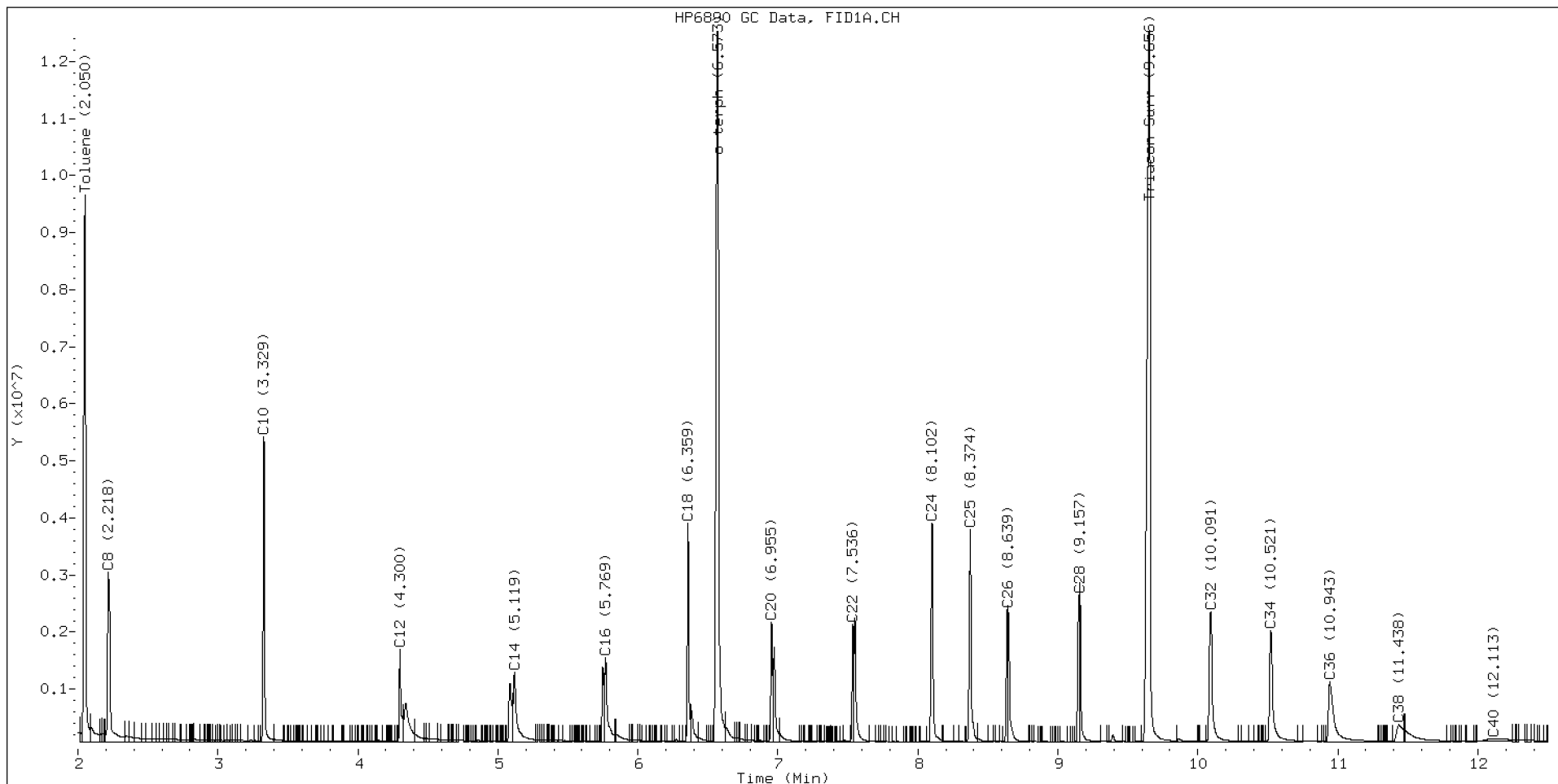
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.218	0.000	2976230	4258439	WATPHD	(C12-C24)	25653686	161.0
C10	3.329	0.000	5344126	3820334	WATPHM	(C24-C38)	24648964	185.8
C12	4.300	0.000	1627839	1465465	AK102	(C10-C25)	33671106	172.2
C14	5.119	0.000	1211179	2316863	AK103	(C25-C36)	22381765	223.9
C16	5.769	0.000	1467779	2055226	OR.DIES	(C10-C28)	45134921	230.3
C18	6.359	0.000	3826171	2734269				
C20	6.955	0.000	2088529	1719914	JET-A	(C10-C18)	20940040	128.8
C22	7.536	0.000	2056324	1623779				
C24	8.102	0.000	3838521	3671153				
C25	8.374	0.000	3714467	3687728				
C26	8.639	0.000	2319360	1780980				
C28	9.157	0.000	2575228	1984332				
C32	10.091	0.000	2278132	3706147				
C34	10.521	0.000	1957102	3424532				
Filter Peak	12.583	0.000	15498	11459	BUNKERC	(C10-C38)	58214945	644.8
C36	10.943	0.000	1054808	3160882				
C38	11.438	0.000	297596	868760				
C40	12.113	0.000	42933	427810				
o-terph	6.573	0.000	17734649	19762248				
Triacon Surr	9.656	0.000	15228657	21480068	NAS DIES	(C10-C24)	33565981	172.0

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	19762248	96.5
Triacontane	21480068	120.7

M Indicates the peak was manually integrated

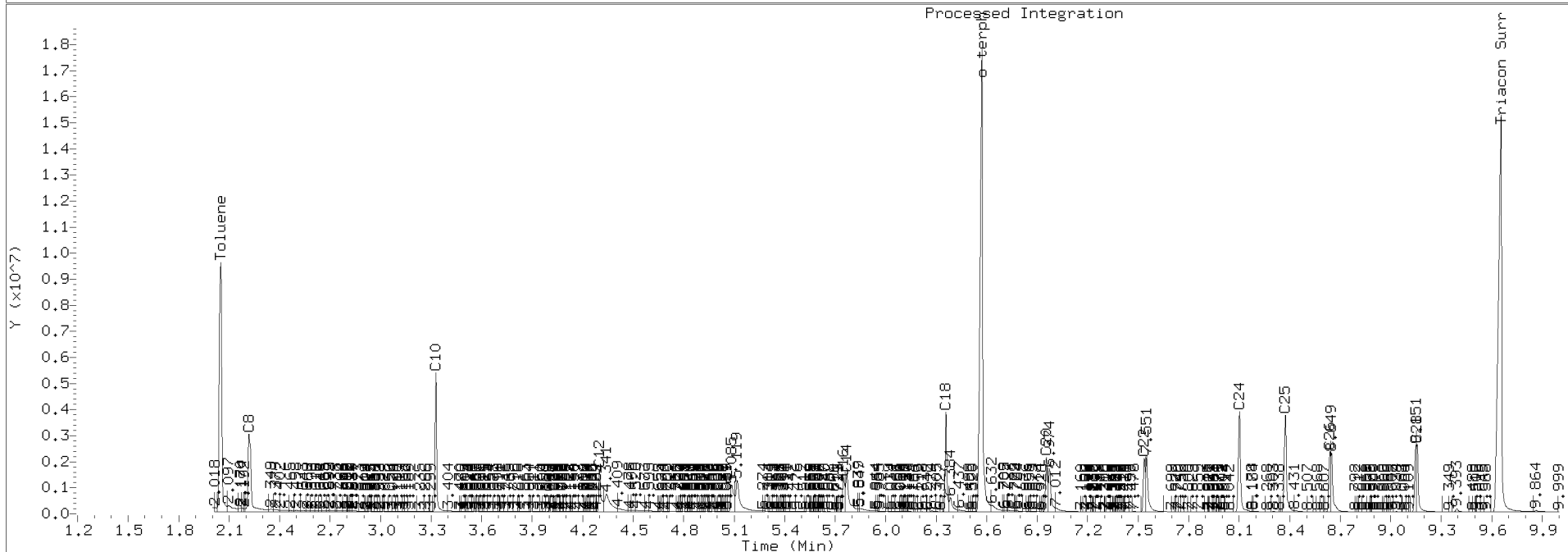
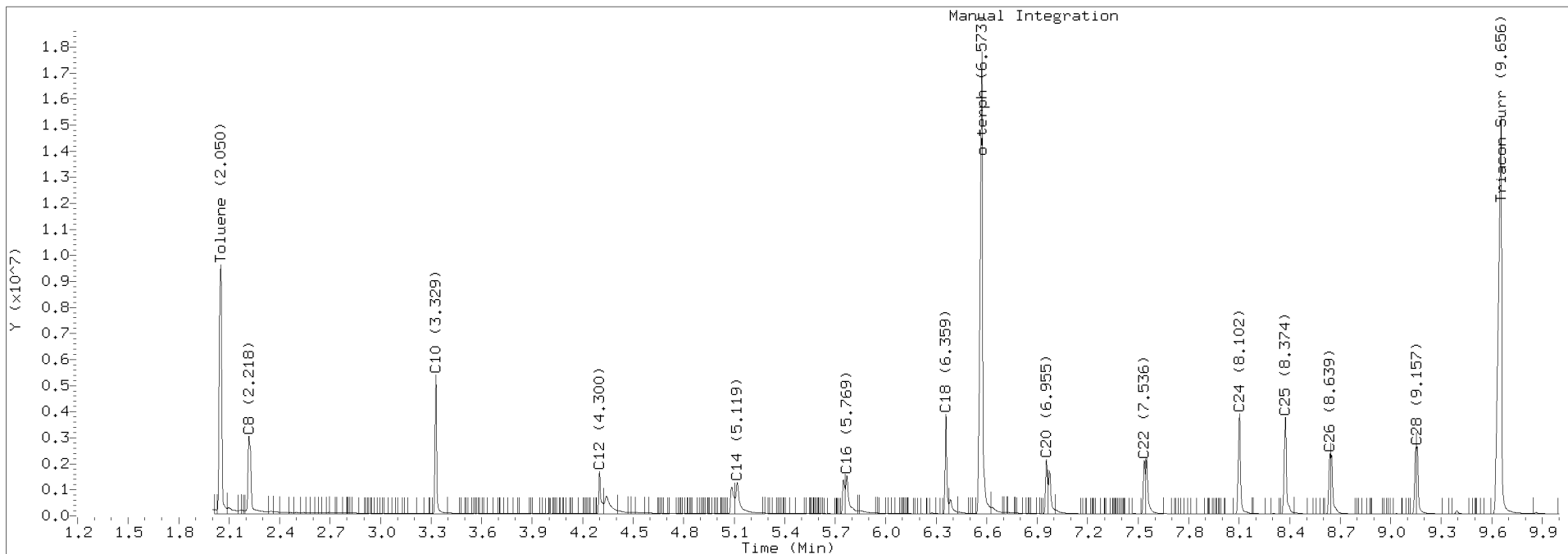
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200313b.b/420C1312.D Injection: 13-MAR-2020 13:58

Lab ID:SEQ-IBL1



Data File: \\target\share\chem2\fid4a,i\20200313b,b\420C1313.D
Date: 13-MAR-2020 14:17

Client ID:

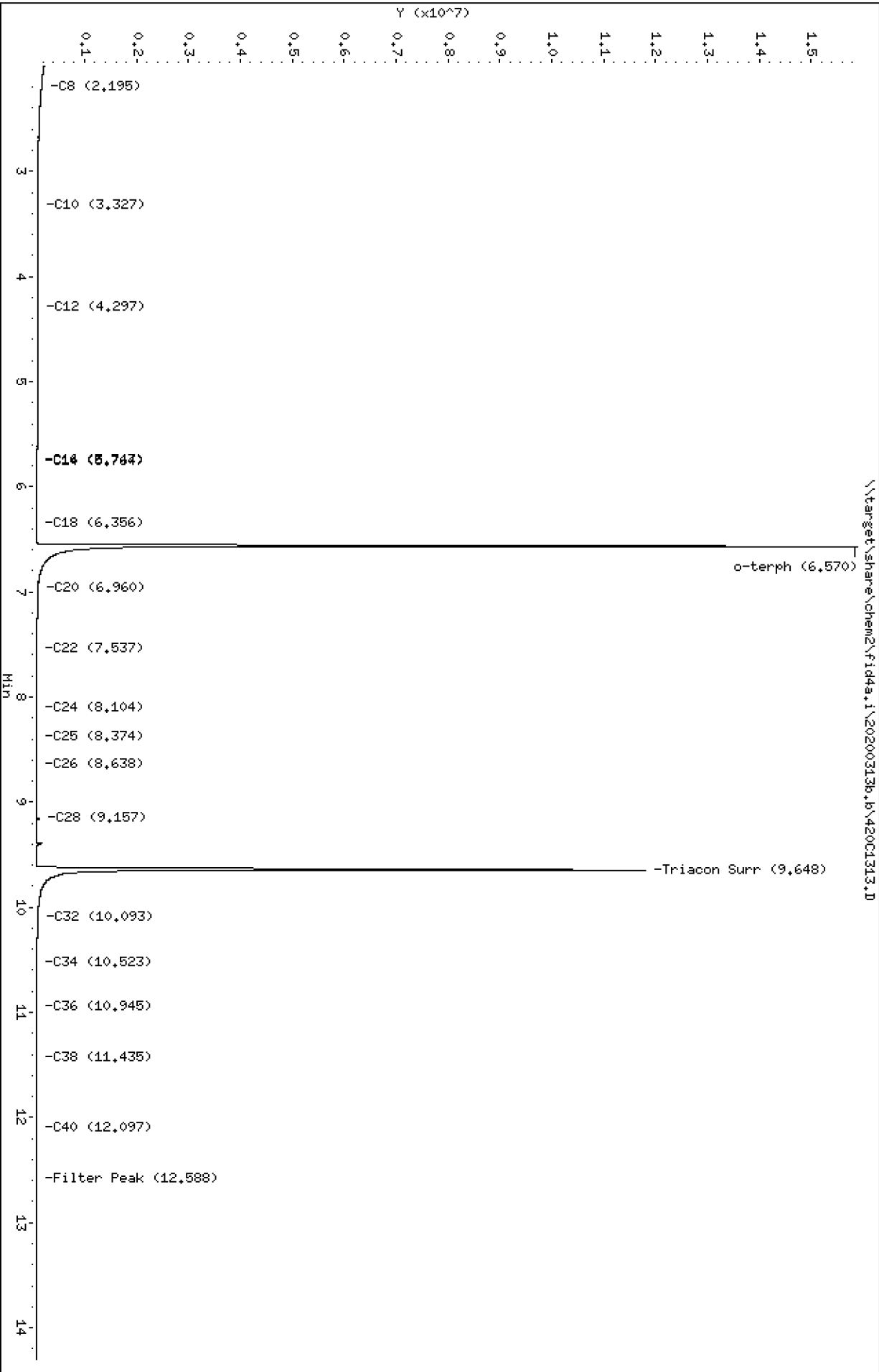
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,i

Operator: JGR/CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1313.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 13-MAR-2020 14:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

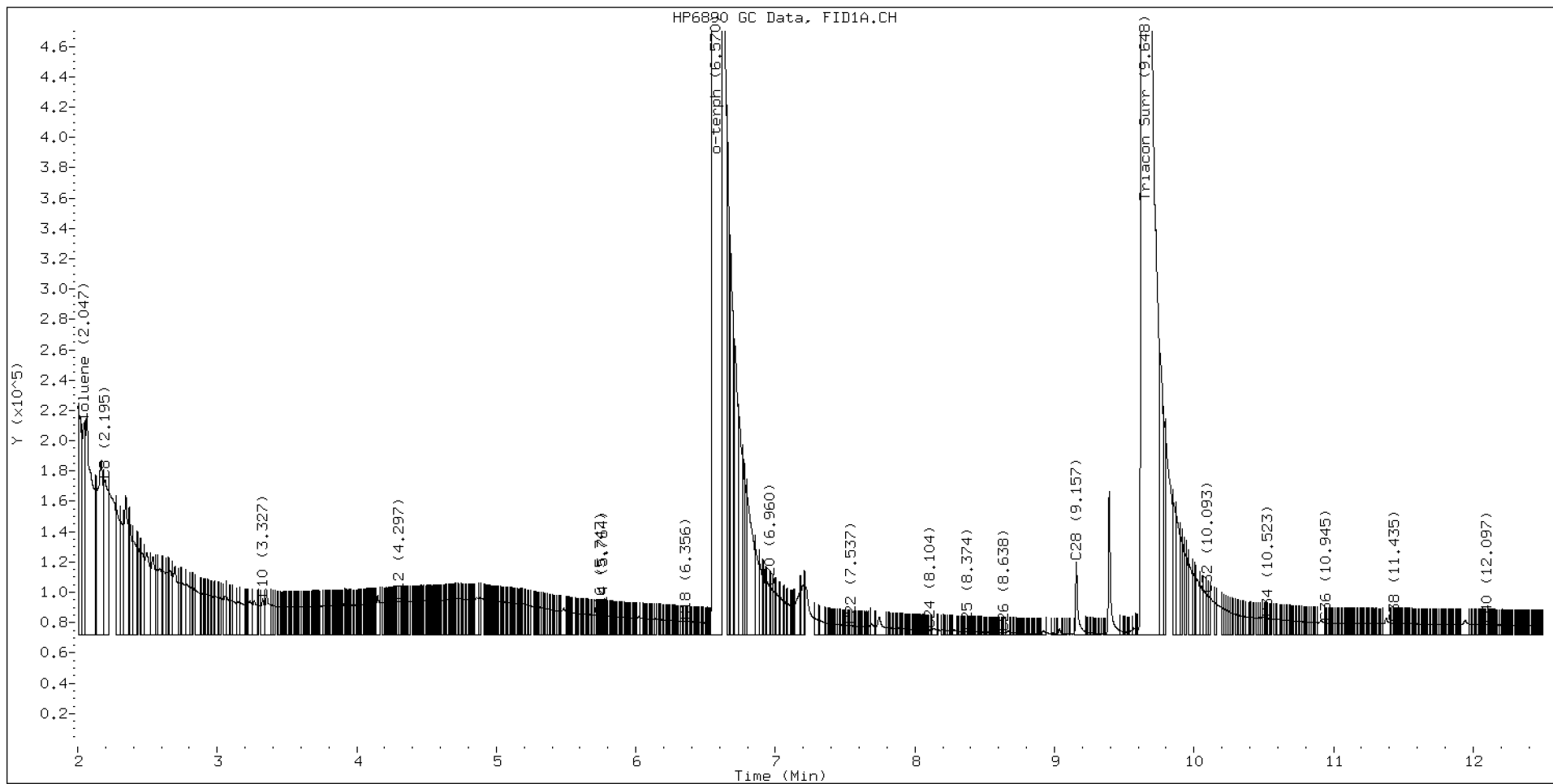
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.195	-0.023	101964	220885	WATPHD	(C12-C24)	4394210	27.6
C10	3.327	-0.002	23471	39087	WATPHM	(C24-C38)	1967673	14.8
C12	4.297	-0.003	21590	18255	AK102	(C10-C25)	5527366	28.3
C14	5.764	0.646	12422	5561	AK103	(C25-C36)	1745508	17.5
C16	5.747	-0.023	12369	2467	OR.DIES	(C10-C28)	5623934	28.7
C18	6.356	-0.003	8501	4208				
C20	6.960	0.005	31175	16901	JET-A	(C10-C18)	2939860	18.1
C22	7.537	0.001	5711	4529				
C24	8.104	0.002	2800	1652				
C25	8.374	-0.000	1751	510				
C26	8.638	-0.001	937	696				
C28	9.157	-0.000	47642	54613				
C32	10.093	0.002	26114	21739				
C34	10.523	0.002	10438	2073				
Filter Peak	12.588	0.006	5962	3842	BUNKERC	(C10-C38)	7477104	82.8
C36	10.945	0.002	7658	3422				
C38	11.435	-0.003	7168	3926				
C40	12.097	-0.015	6296	3463				
o-terph	6.570	-0.003	15826099	17209481				
Triacon Surr	9.648	-0.008	11725247	15722765	NAS DIES	(C10-C24)	5509432	28.2

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	17209481	84.1
Triacontane	15722765	88.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	08-APR-2020	08:18	420D0801.D	1	RINSE	
2	08-APR-2020	08:37	420D0802.D	1	RINSE	
3	08-APR-2020	08:56	420D0803.D	1	RINSE	
4	08-APR-2020	09:16	420D0804.D	1	RINSE	
5	08-APR-2020	09:35	420D0805.D	1	SEQ-IBL1	
6	08-APR-2020	09:54	420D0806.D	1	SEQ-IBL2	
7	08-APR-2020	10:14	420D0807.D	1	SEQ-CAL1	
8	08-APR-2020	10:33	420D0808.D	1	SEQ-CAL2	
9	08-APR-2020	10:53	420D0809.D	1	SEQ-CAL3	
10	08-APR-2020	11:12	420D0810.D	1	SEQ-CAL4	
11	08-APR-2020	11:32	420D0811.D	1	SEQ-CAL5	
12	08-APR-2020	11:51	420D0812.D	1	SEQ-CAL6	
13	08-APR-2020	12:11	420D0813.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 08-APR-2020

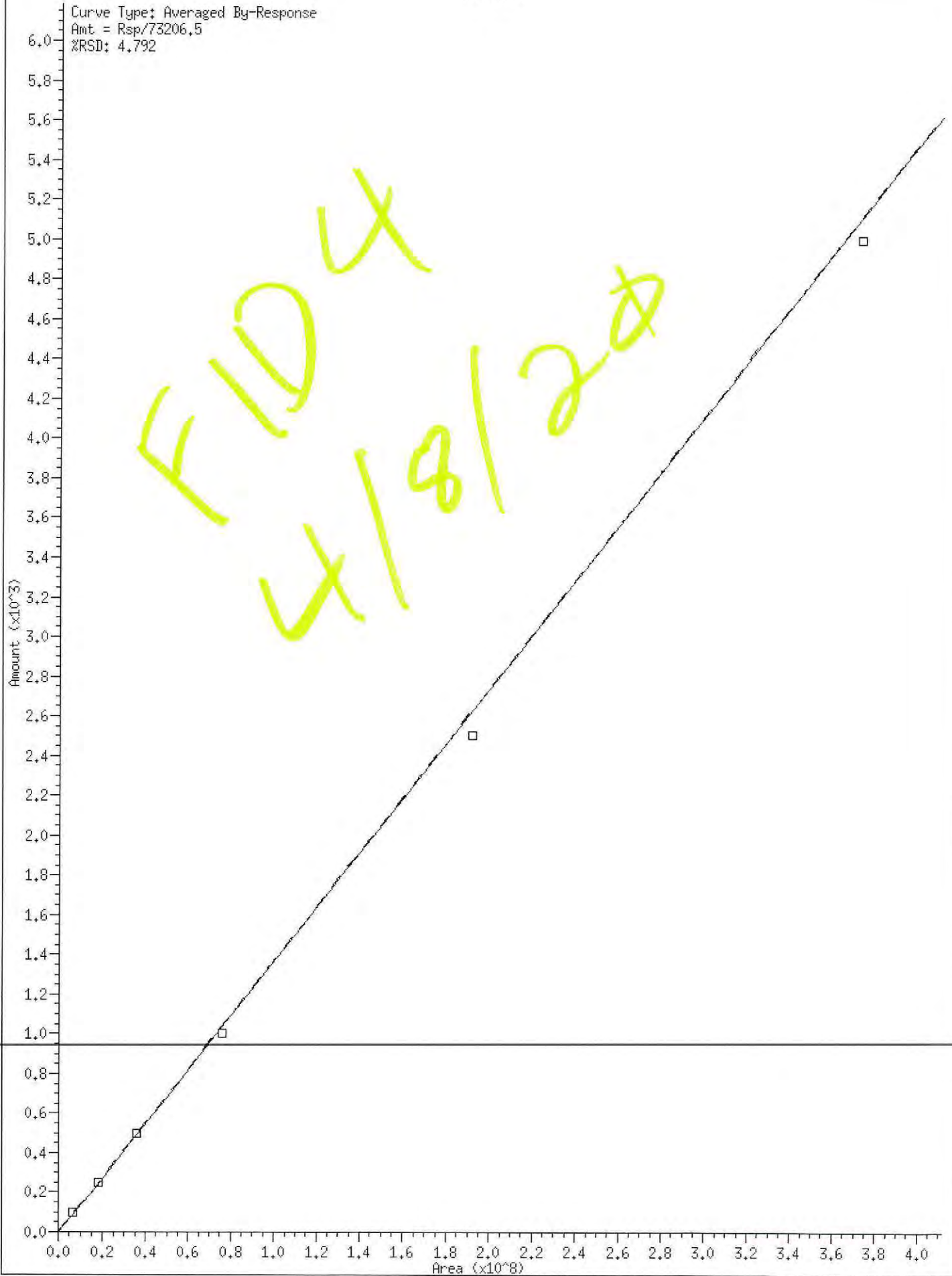
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0837	420D0802.D	RINSE		1	NO MANUAL INTEGRATION
0856	420D0803.D	RINSE		1	NO MANUAL INTEGRATION
0916	420D0804.D	RINSE		1	NO MANUAL INTEGRATION
0935	420D0805.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0954	420D0806.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1014	420D0807.D	SEQ-CAL1		1	Triacon Surr,
1033	420D0808.D	SEQ-CAL2		1	Triacon Surr,
1053	420D0809.D	SEQ-CAL3		1	Triacon Surr,
1112	420D0810.D	SEQ-CAL4		1	Triacon Surr,
1132	420D0811.D	SEQ-CAL5		1	Triacon Surr,
1151	420D0812.D	SEQ-CAL6		1	Triacon Surr,
1211	420D0813.D	SEQ-SCV1		1	Triacon Surr,

Security Status Report

Date: 20-Apr-2020 07:47

420D0801.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0802.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0803.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0804.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0805.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0806.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0807.D	Data Locked	christopher, 20-Apr-2020 07:45
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420D0809.D	Data Locked	christopher, 20-Apr-2020 07:45
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420D0811.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0812.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0813.D	Data Locked	christopher, 20-Apr-2020 07:45

Curve Type: Averaged By-Response
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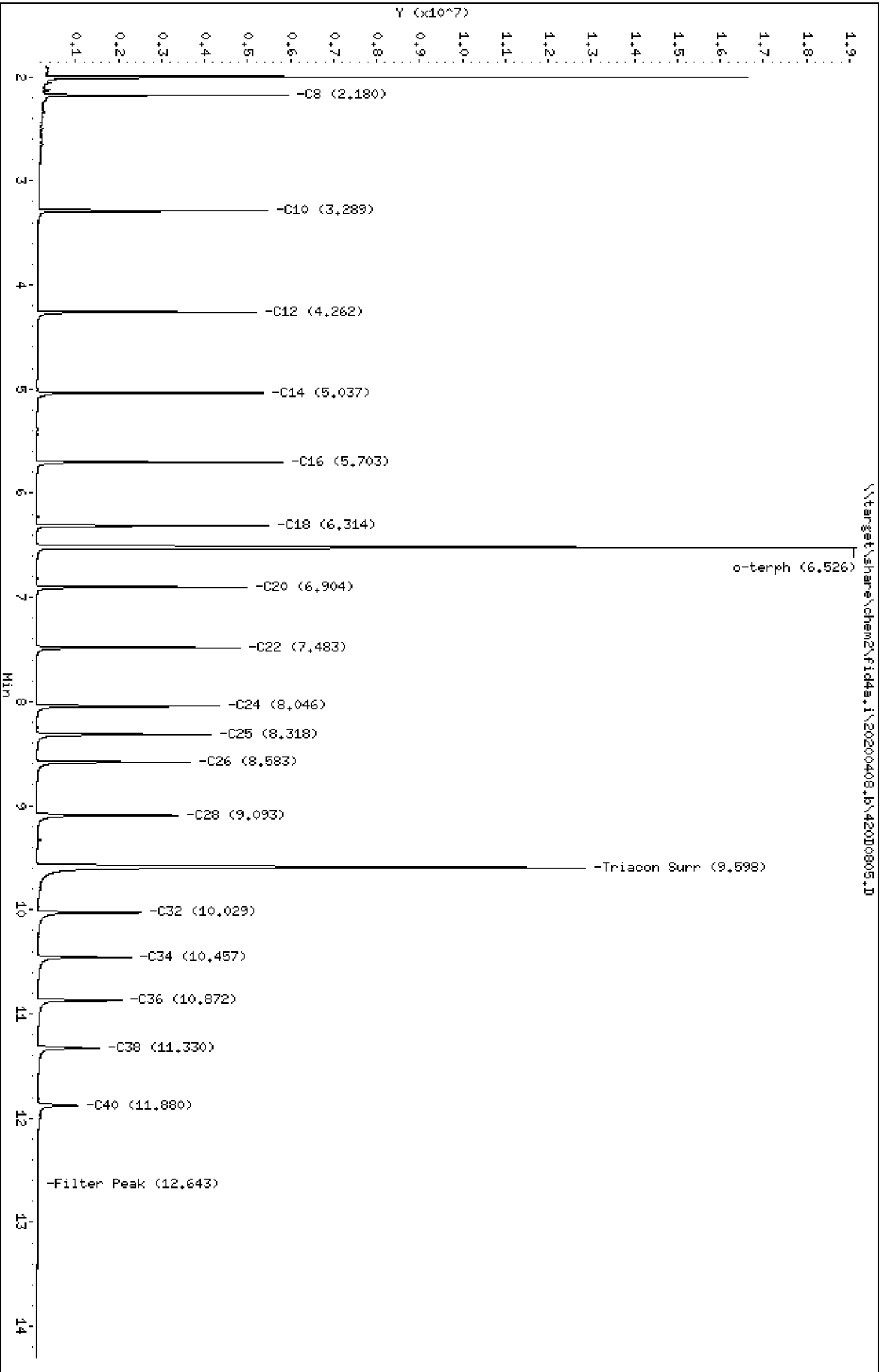


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Date: 08-APR-2020 09:35
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0805.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 08-APR-2020 09:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

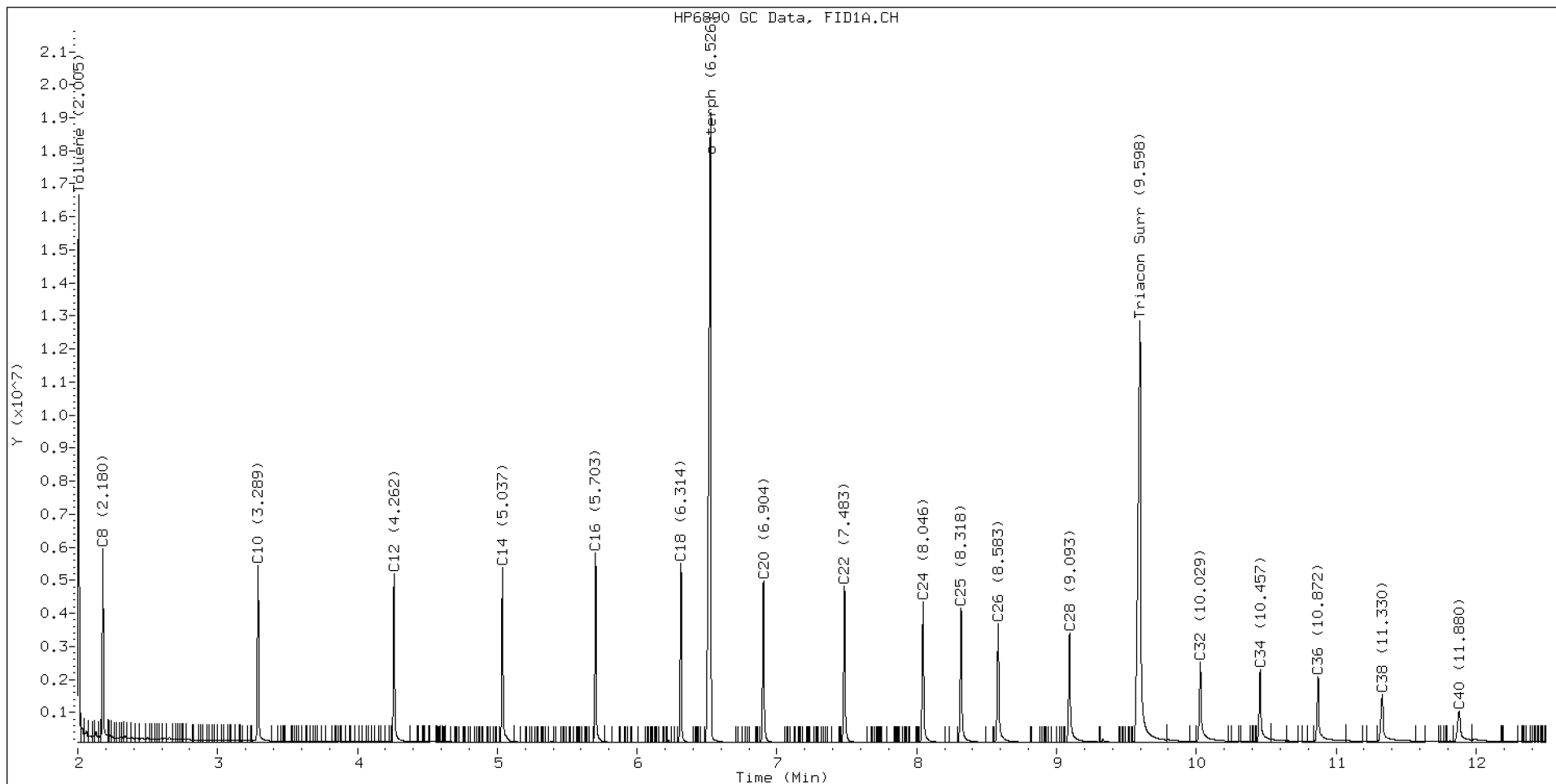
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.180	0.000	5854578	3880900	WATPHD	(C12-C24)	23844320	149.6
C10	3.289	0.000	5366559	4126403	WATPHM	(C24-C38)	25592918	193.0
C12	4.262	0.000	5124561	3862358	AK102	(C10-C25)	33609761	171.9
C14	5.037	0.000	5288886	3763422	AK103	(C25-C36)	22232777	303.7
C16	5.703	0.000	5732523	3728447	OR.DIES	(C10-C28)	44736298	228.2
C18	6.314	0.000	5411782	3657526				
C20	6.904	0.000	4900797	3740470	JET-A	(C10-C18)	22288154	137.1
C22	7.483	0.000	4744655	3709257				
C24	8.046	0.000	4260497	3629044				
C25	8.318	0.000	4069494	3709557				
C26	8.583	0.000	3584730	3671884				
C28	9.093	0.000	3305135	3592573				
C32	10.029	0.000	2427612	3418058				
C34	10.457	0.000	2206236	2535109				
Filter Peak	12.643	0.000	24370	14568	CREOSOT	(C12-C22)	20184280	489.5
C36	10.872	0.000	1991705	2941804				
C38	11.330	0.000	1466266	2825666				
C40	11.880	0.000	962855	1921380				
o-terph	6.526	0.000	19078927	20504006				
Triacon Surr	9.598	0.000	12764177	20099945	NAS DIES	(C10-C24)	33554764	171.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20504006	100.2
Triacontane	20099945	112.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0806.D

Date: 08-APR-2020 09:54

Client ID:

Sample Info: SEQ-IBL2

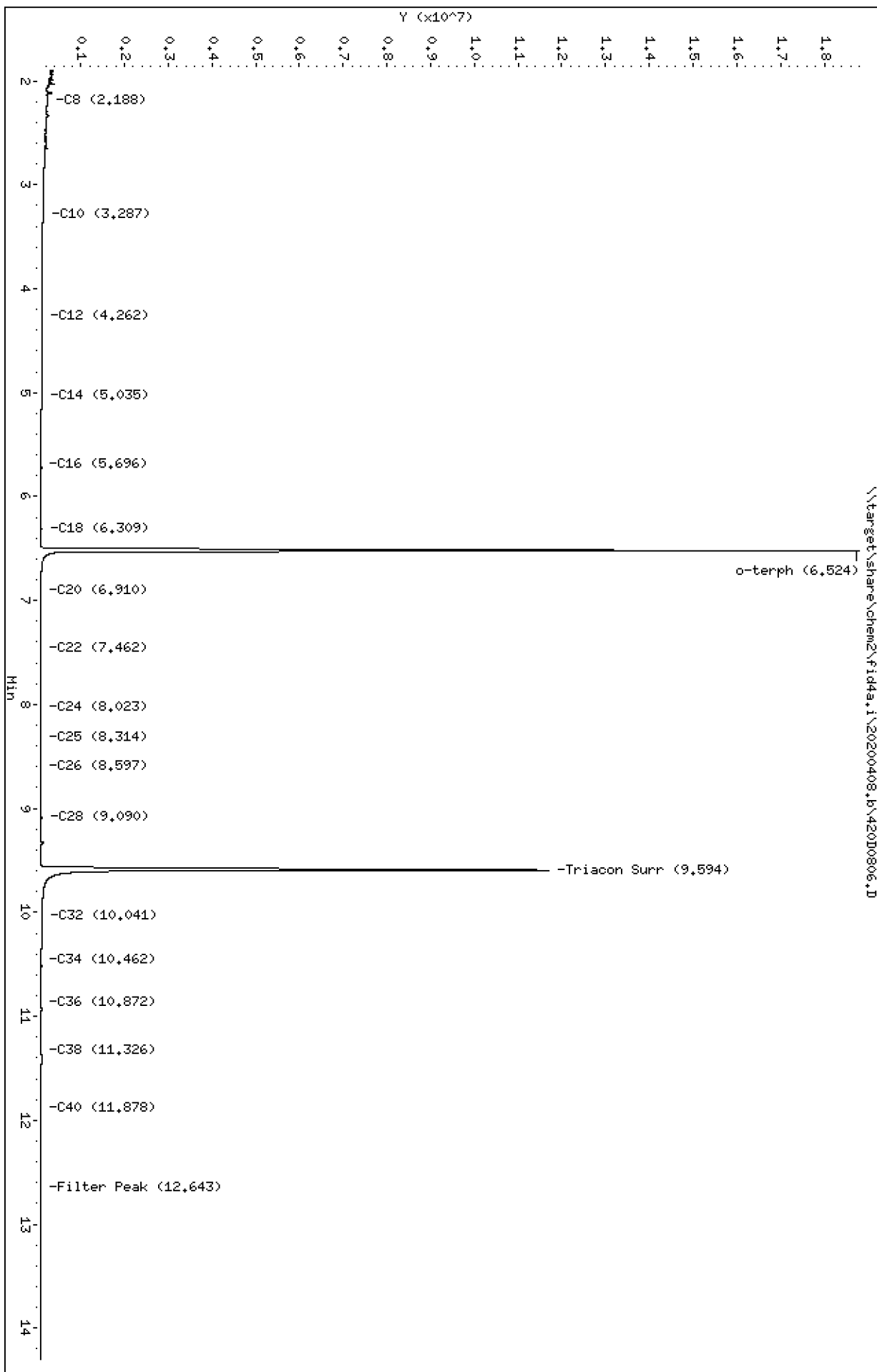
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0806.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 08-APR-2020 09:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

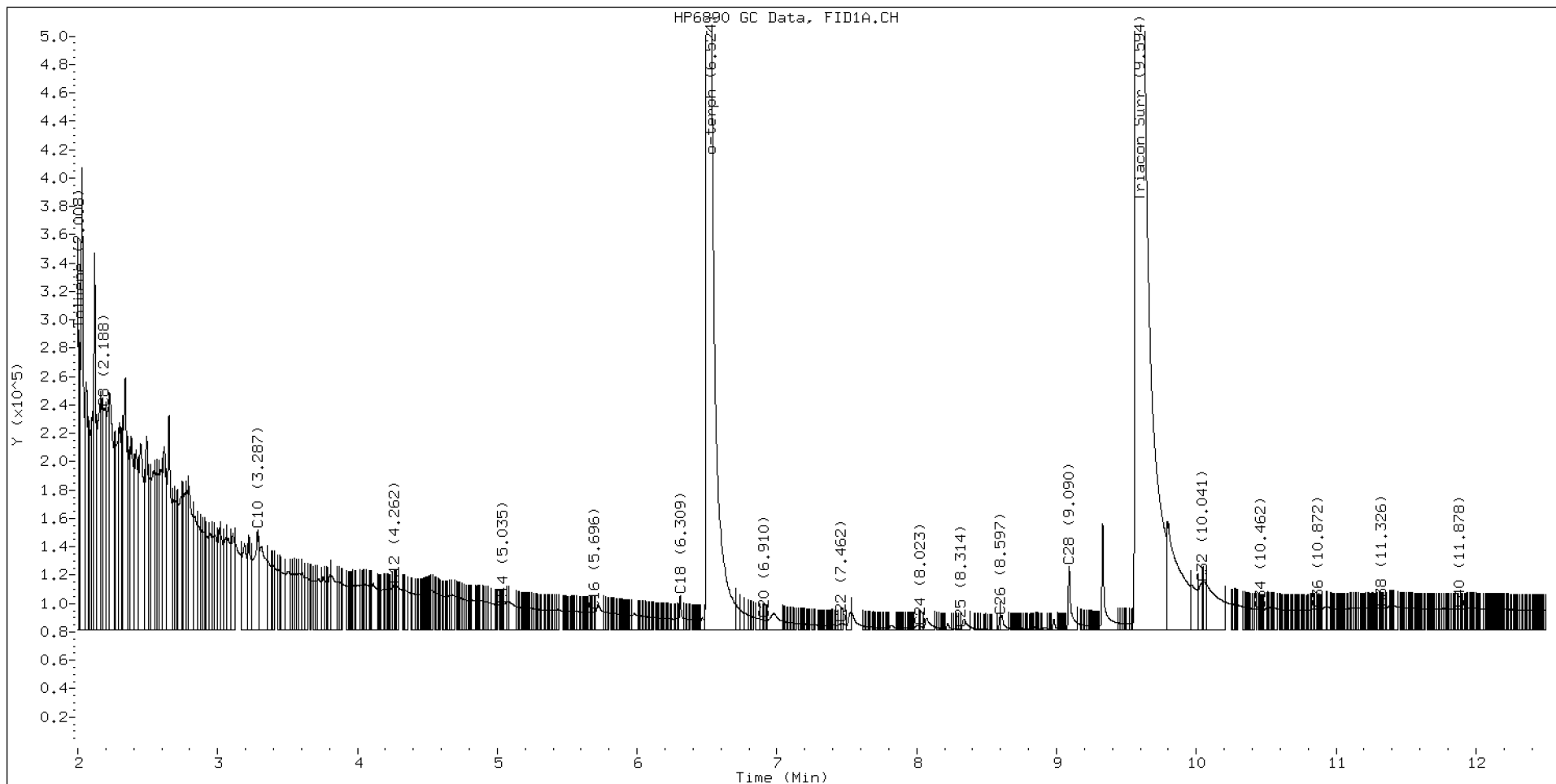
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.188	0.008	156546	216359	WATPHD	(C12-C24)	2059708	12.9
C10	3.287	-0.002	70586	177016	WATPHM	(C24-C38)	2023092	15.3
C12	4.262	-0.001	31694	27721	AK102	(C10-C25)	4136621	21.2
C14	5.035	-0.002	17658	7042	AK103	(C25-C36)	1615485	22.1
C16	5.696	-0.007	12809	8245	OR.DIES	(C10-C28)	4264948	21.8
C18	6.309	-0.005	24517	27940				
C20	6.910	0.006	6999	5164	JET-A	(C10-C18)	3753376	23.1
C22	7.462	-0.022	4699	4900				
C24	8.023	-0.022	2331	3320				
C25	8.314	-0.004	531	126				
C26	8.597	0.013	9349	6545				
C28	9.090	-0.003	44536	62849				
C32	10.041	0.012	33011	55502				
C34	10.462	0.005	14086	9836				
Filter Peak	12.643	0.000	14153	3524	CREOSOT	(C12-C22)	1999313	48.5
C36	10.872	0.000	14385	7864				
C38	11.326	-0.004	15213	8324				
C40	11.878	-0.002	14557	10126				
o-terph	6.524	-0.002	18718308	20250783				
Triacon Surr	9.594	-0.004	11617864	16294307	NAS DIES	(C10-C24)	4126955	21.1

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20250783	98.9
Triacontane	16294307	91.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010807.D
Date : 08-APR-2020 10:14
Client ID:
Sample Info: SEQ-CALL

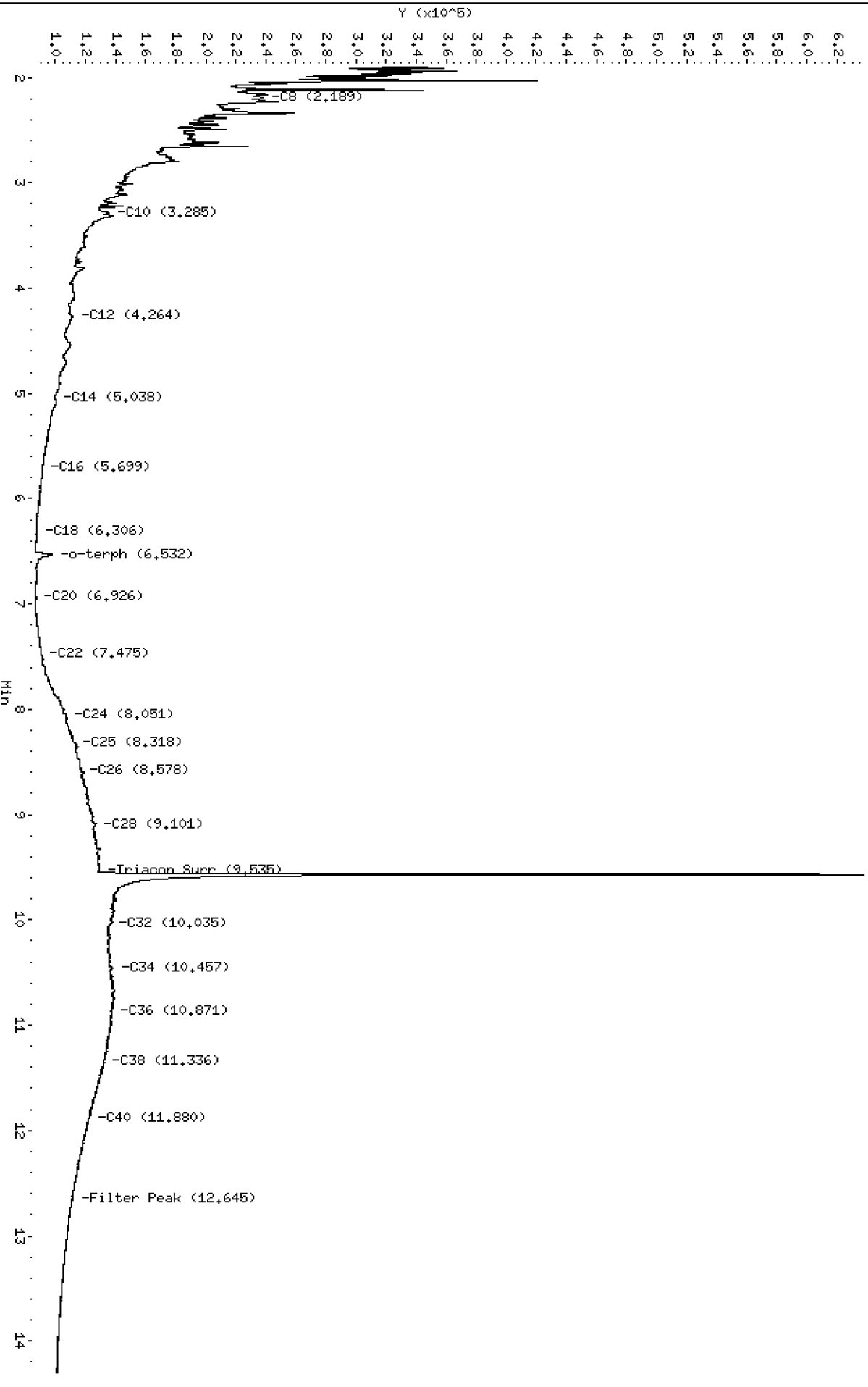
Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010807.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0807.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 08-APR-2020 10:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

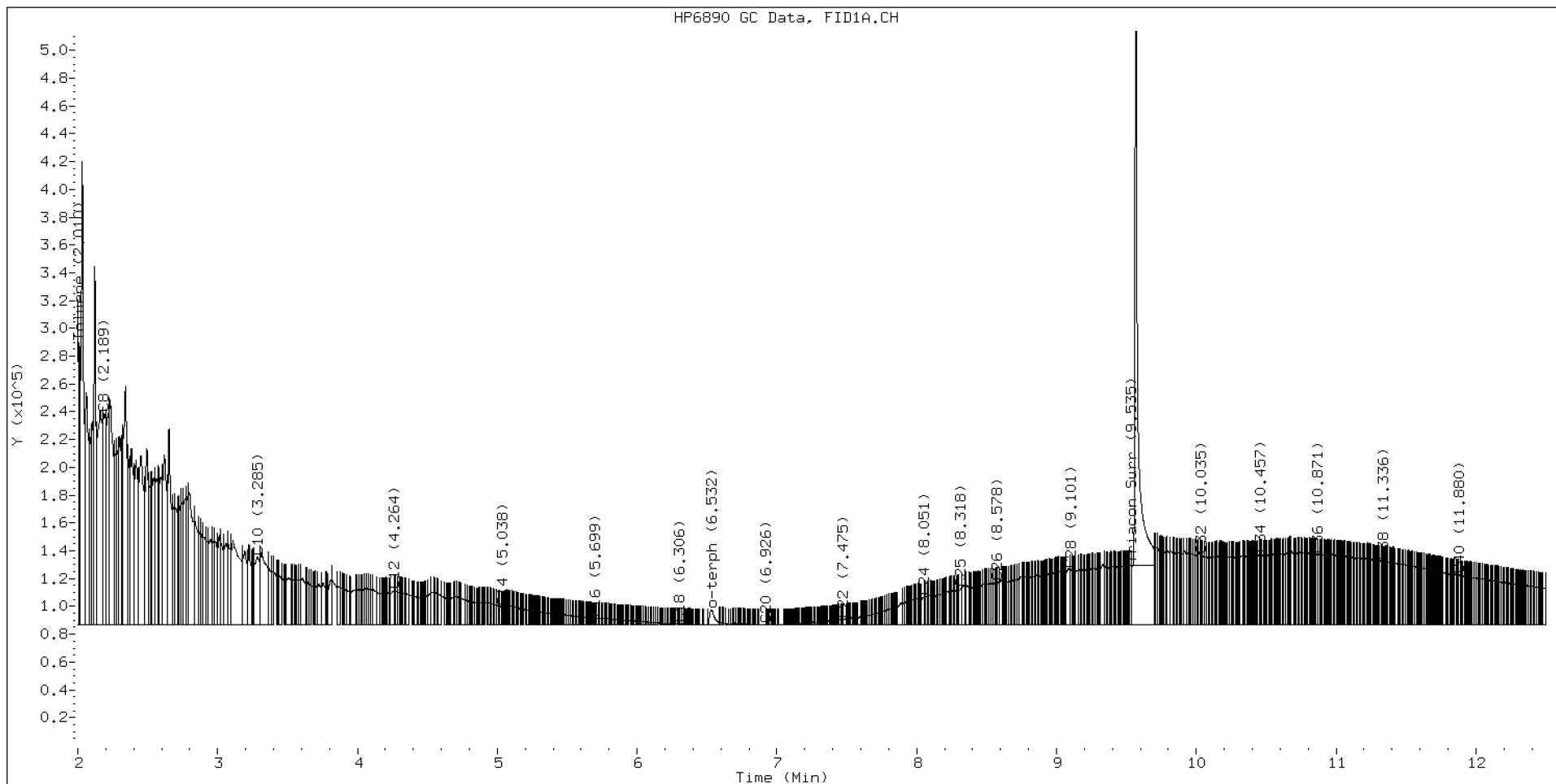
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.189	0.009	152083	238009	WATPHD	(C12-C24)	1535455	9.6
C10	3.285	-0.004	49113	104559	WATPHM	(C24-C38)	8187148	61.7
C12	4.264	0.002	24631	8600	AK102	(C10-C25)	3445901	17.6
C14	5.038	0.001	13117	3929	AK103	(C25-C36)	6705828	91.6
C16	5.699	-0.004	4845	2404	OR.DIES	(C10-C28)	5120557	26.1
C18	6.306	-0.008	853	562				
C20	6.926	0.022	403	144	JET-A	(C10-C18)	2755712	17.0
C22	7.475	-0.008	3796	753				
C24	8.051	0.006	20077	24027				
C25	8.318	-0.000	26103	25417				
C26	8.578	-0.005	30795	28994				
C28	9.101	0.007	39800	29577				
C32	10.035	0.006	50014	24947				
C34	10.457	-0.000	51363	30680				
Filter Peak	12.645	0.002	24706	12307	CREOSOT	(C12-C22)	1140595	27.7
C36	10.871	-0.000	50437	10078				
C38	11.336	0.007	45528	18190				
C40	11.880	-0.000	36310	26801				
o-terph	6.532	0.007	11031	27133				
Triacon Surr	9.568	-0.030	508463	647323	NAS DIES	(C10-C24)	3228669	16.5

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	27133	0.1
Triacontane	647323	3.6 M

M Indicates the peak was manually integrated

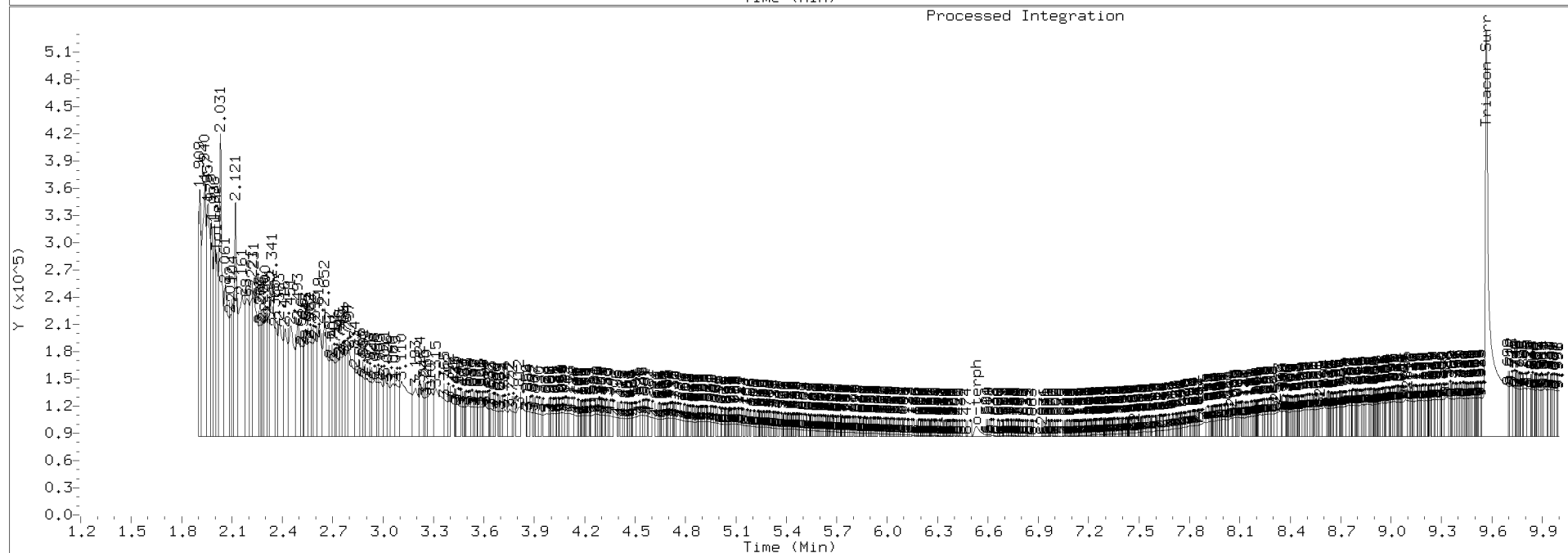
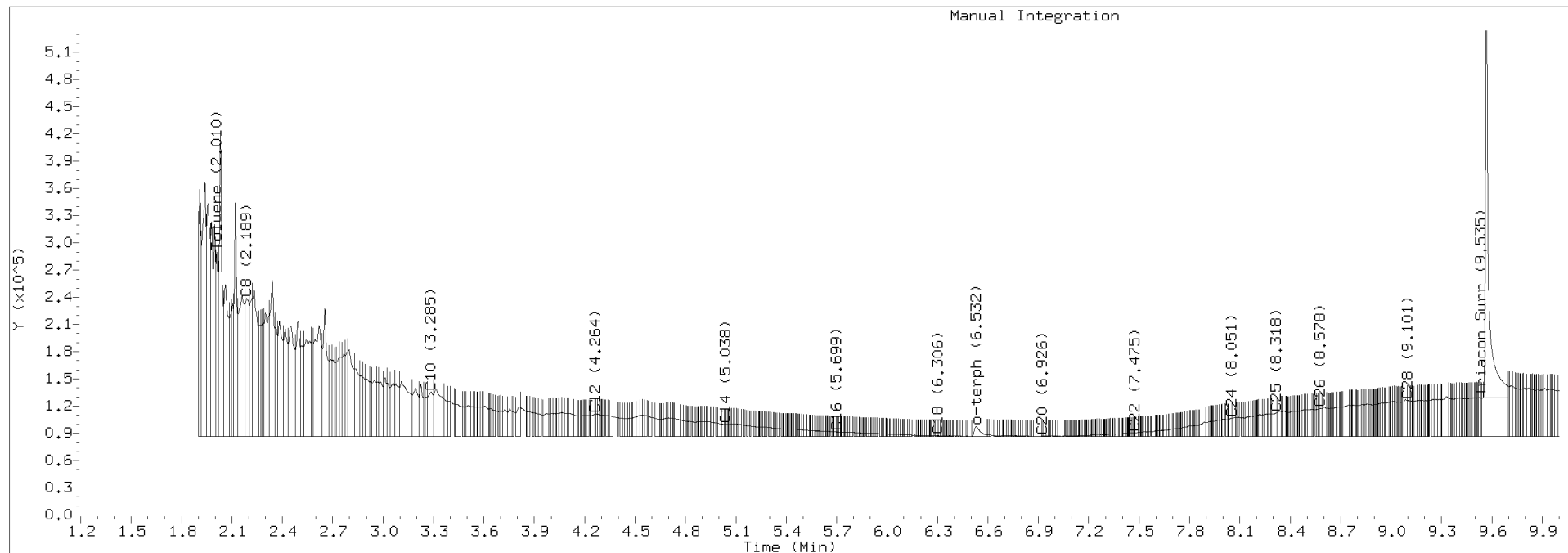
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0807.D Injection: 08-APR-2020 10:14

Lab ID:SEQ-CAL1

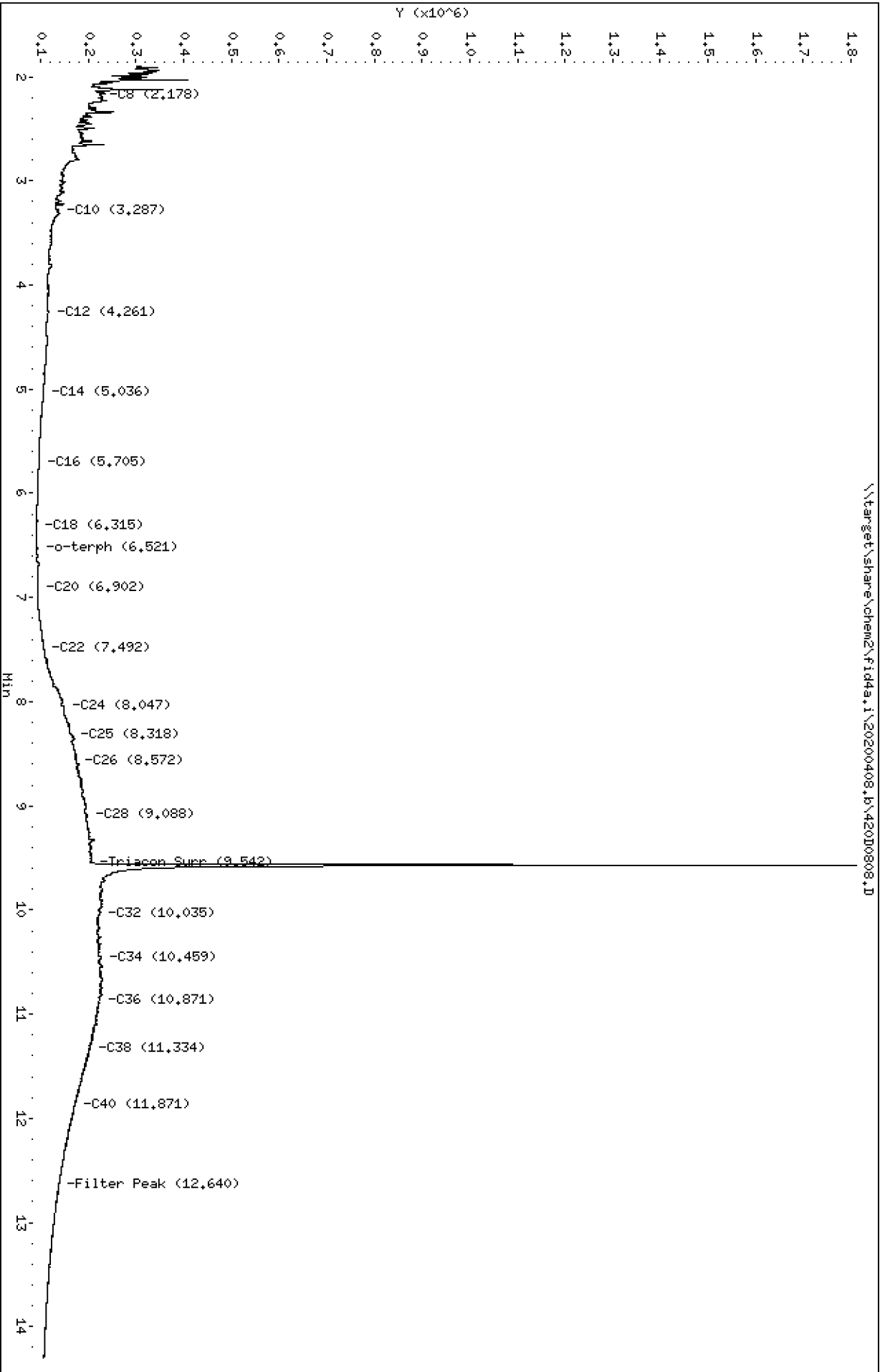


Data File: \\target\share\chem2\fid4a,1\20200408.b\42010808.D
Date: 08-APR-2020 10:33
Client ID:
Sample Info: SEQ-CAL2

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0808.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 08-APR-2020 10:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

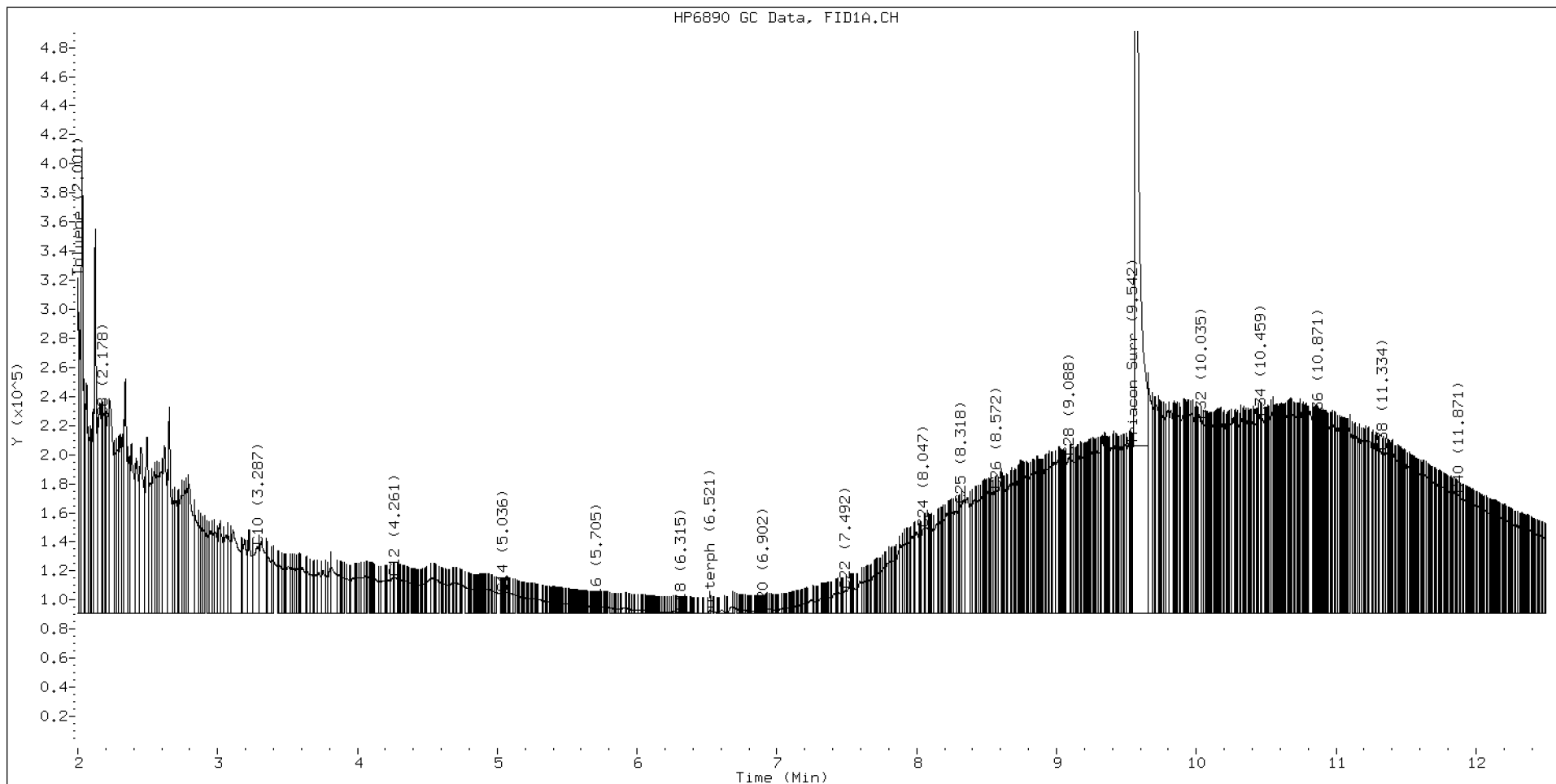
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.178	-0.002	134647	73580	WATPHD	(C12-C24)	2623184	16.5
C10	3.287	-0.002	46105	122146	WATPHM	(C24-C38)	21976708	165.7
C12	4.261	-0.002	24803	7411	AK102	(C10-C25)	4928461	25.2
C14	5.036	-0.002	13595	4064	AK103	(C25-C36)	18150509	247.9
C16	5.705	0.002	4392	1091	OR.DIES	(C10-C28)	9615128	49.1
C18	6.315	0.001	704	324				
C20	6.902	-0.002	1947	564	JET-A	(C10-C18)	2725859	16.8
C22	7.492	0.008	15580	19522				
C24	8.047	0.001	58155	84697				
C25	8.318	-0.001	74518	58671				
C26	8.572	-0.012	84650	75814				
C28	9.088	-0.006	107472	173683				
C32	10.035	0.006	132361	33044				
C34	10.459	0.002	134858	26944				
Filter Peak	12.640	-0.003	47344	30546	CREOSOT	(C12-C22)	1399069	33.9
C36	10.871	-0.001	131911	72256				
C38	11.334	0.004	111289	44355				
C40	11.871	-0.009	81830	69040				
o-terph	6.521	-0.005	2000	1847				
Triacon Surr	9.571	-0.027	1605783	1635426	NAS DIES	(C10-C24)	4280523	21.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1847	0.0
Triacontane	1635426	9.2 M

M Indicates the peak was manually integrated

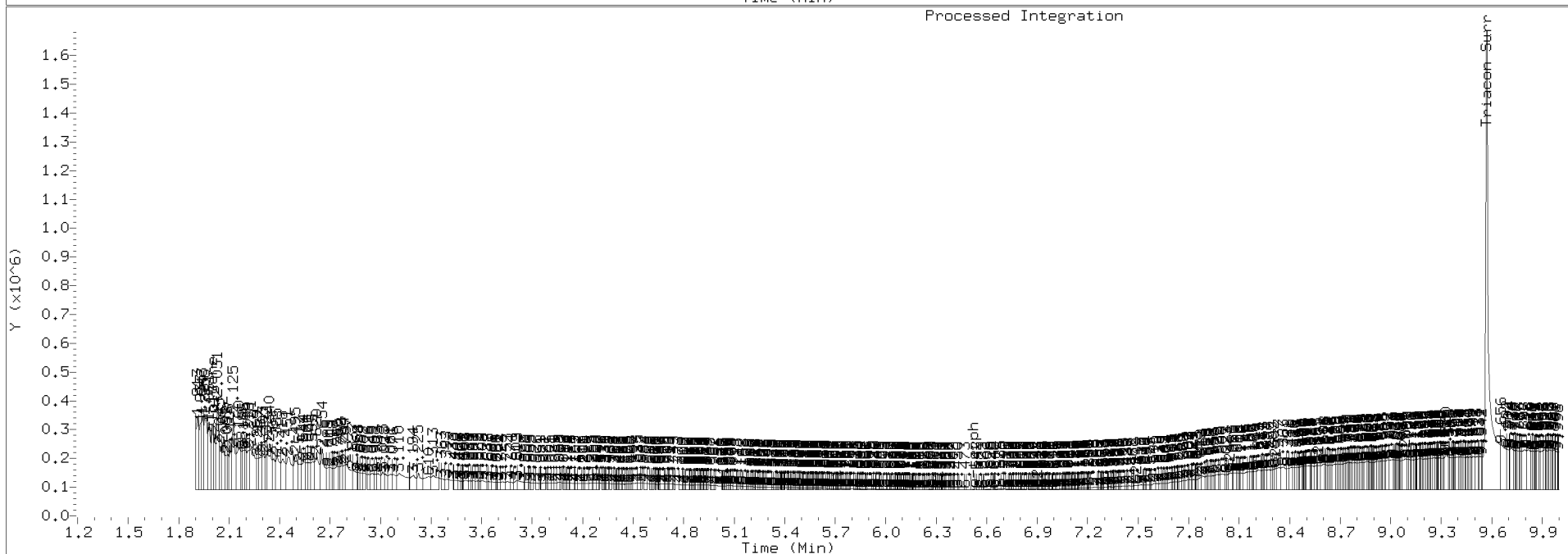
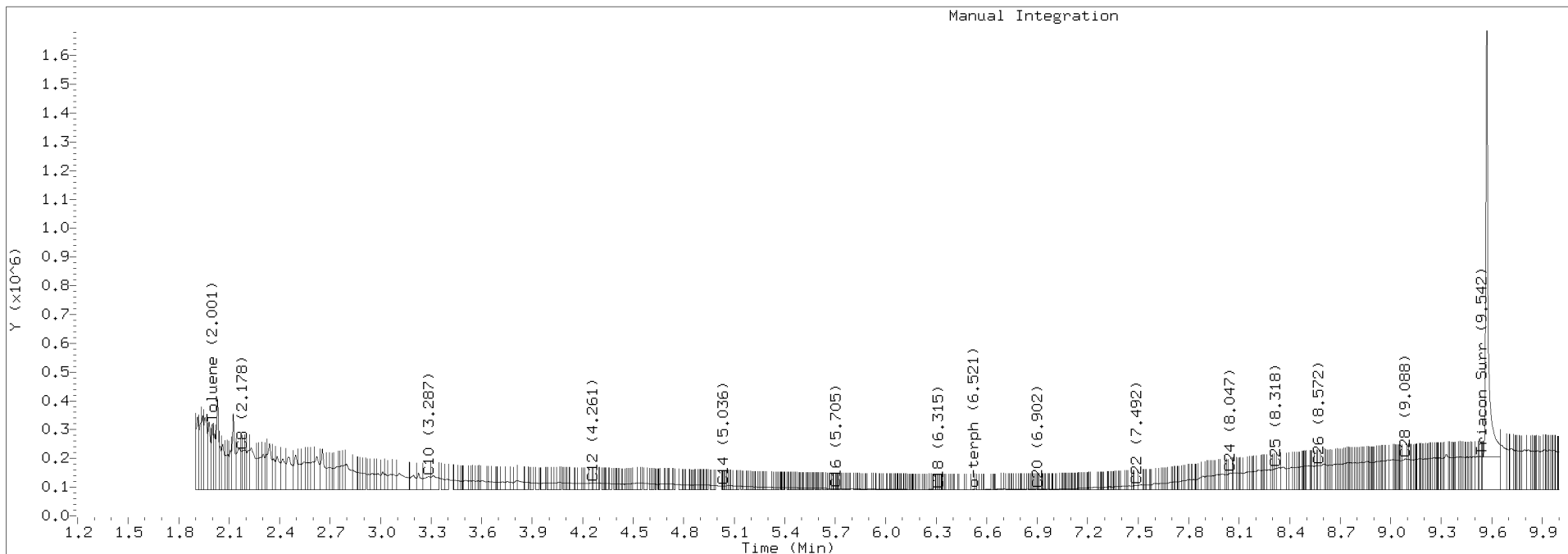
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0808.D Injection: 08-APR-2020 10:33

Lab ID:SEQ-CAL2



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0809.D

Date: 08-APR-2020 10:53

Client ID:

Sample Info: SEQ-CAL3

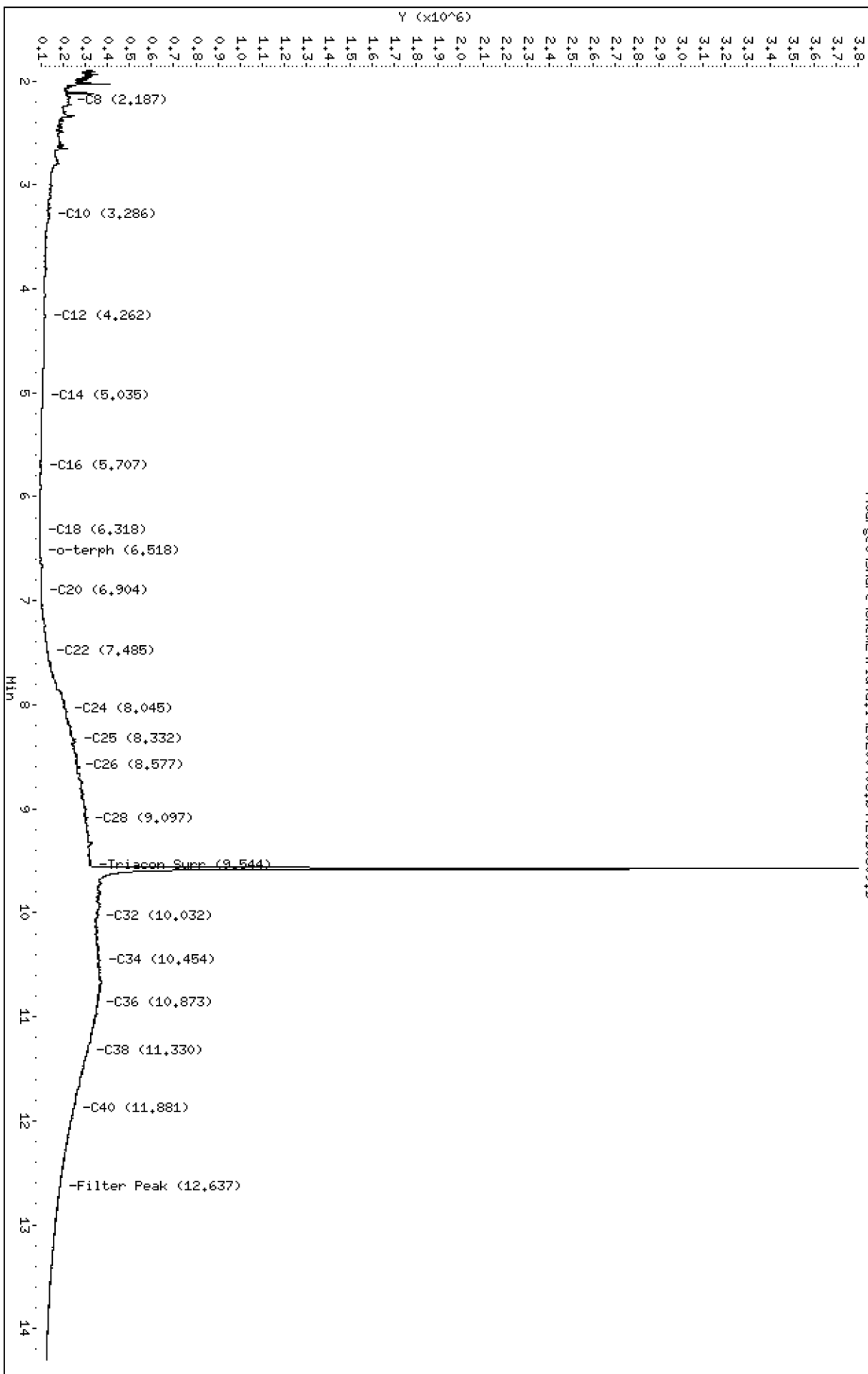
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\420D0809.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0809.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 08-APR-2020 10:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

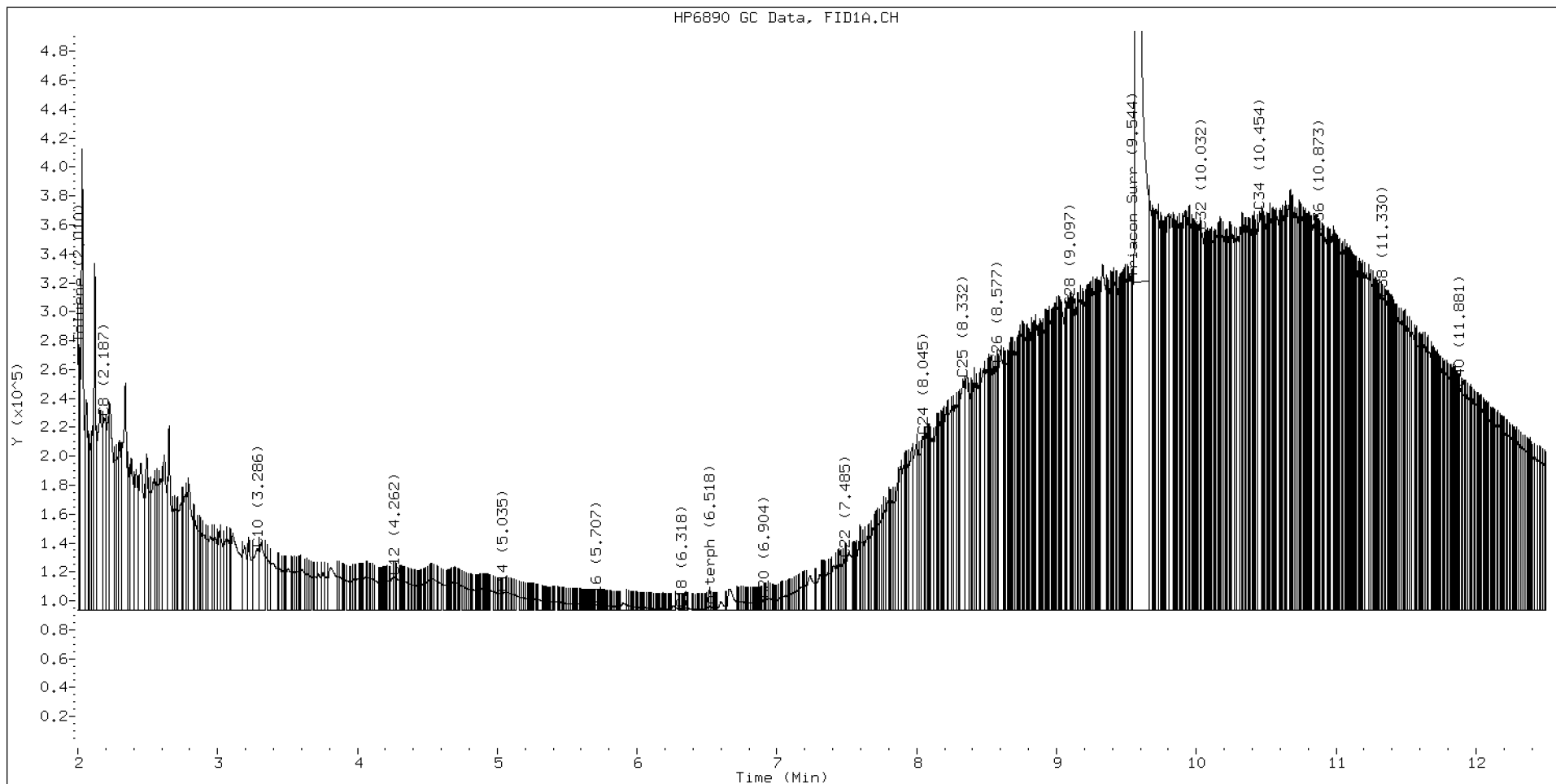
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.187	0.008	132882	207304	WATPHD	(C12-C24)	4342009	27.3
C10	3.286	-0.003	42399	113652	WATPHM	(C24-C38)	43844245	330.6
C12	4.262	-0.001	22449	12283	AK102	(C10-C25)	7087402	36.3
C14	5.035	-0.002	11190	3340	AK103	(C25-C36)	36073165	492.8
C16	5.707	0.004	3267	2527	OR.DIES	(C10-C28)	16362271	83.5
C18	6.318	0.004	681	133				
C20	6.904	0.000	6652	3976	JET-A	(C10-C18)	2369101	14.6
C22	7.485	0.002	34909	34936				
C24	8.045	-0.001	120276	161719				
C25	8.332	0.013	159437	386100				
C26	8.577	-0.007	169330	100501				
C28	9.097	0.003	209523	62632				
C32	10.032	0.003	261757	91098				
C34	10.454	-0.003	275210	390226				
Filter Peak	12.637	-0.006	90381	62764	CREOSOT	(C12-C22)	1706405	41.4
C36	10.873	0.002	261055	143153				
C38	11.330	0.000	214958	53639				
C40	11.881	0.001	152861	45740				
o-terph	6.518	-0.007	2459	1835				
Triacon Surr	9.577	-0.022	3480038	3443389	NAS DIES	(C10-C24)	5836700	29.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1835	0.0
Triacontane	3443389	19.3 M

M Indicates the peak was manually integrated

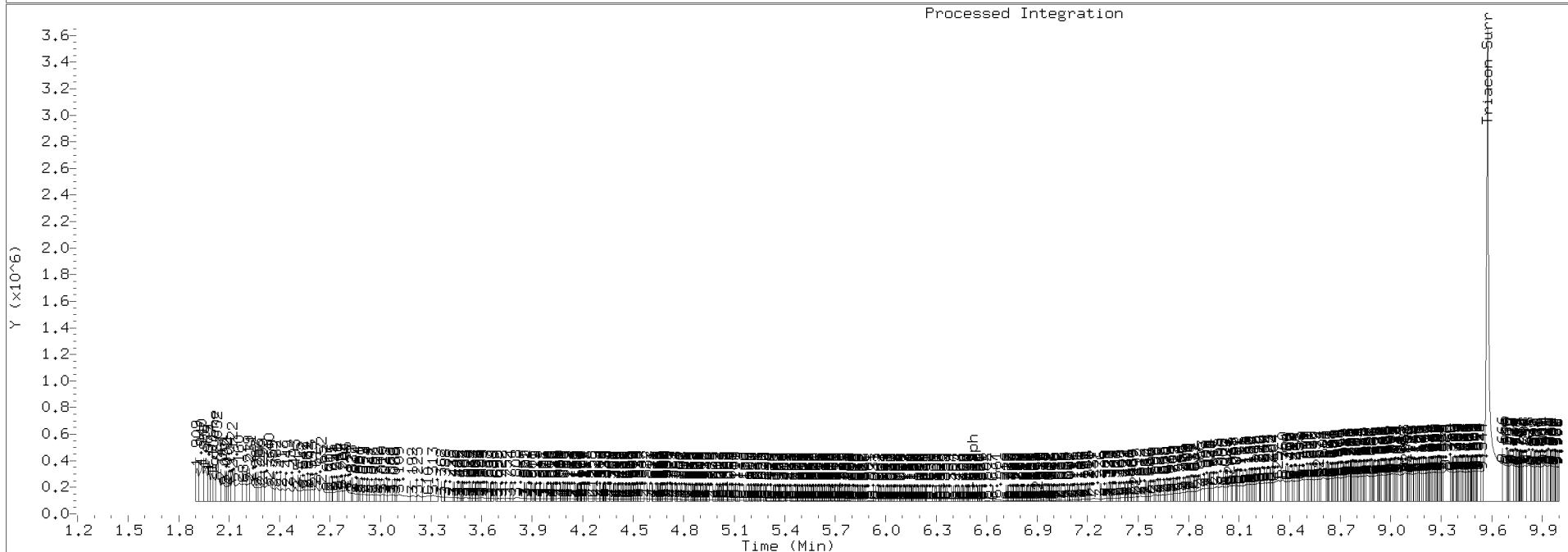
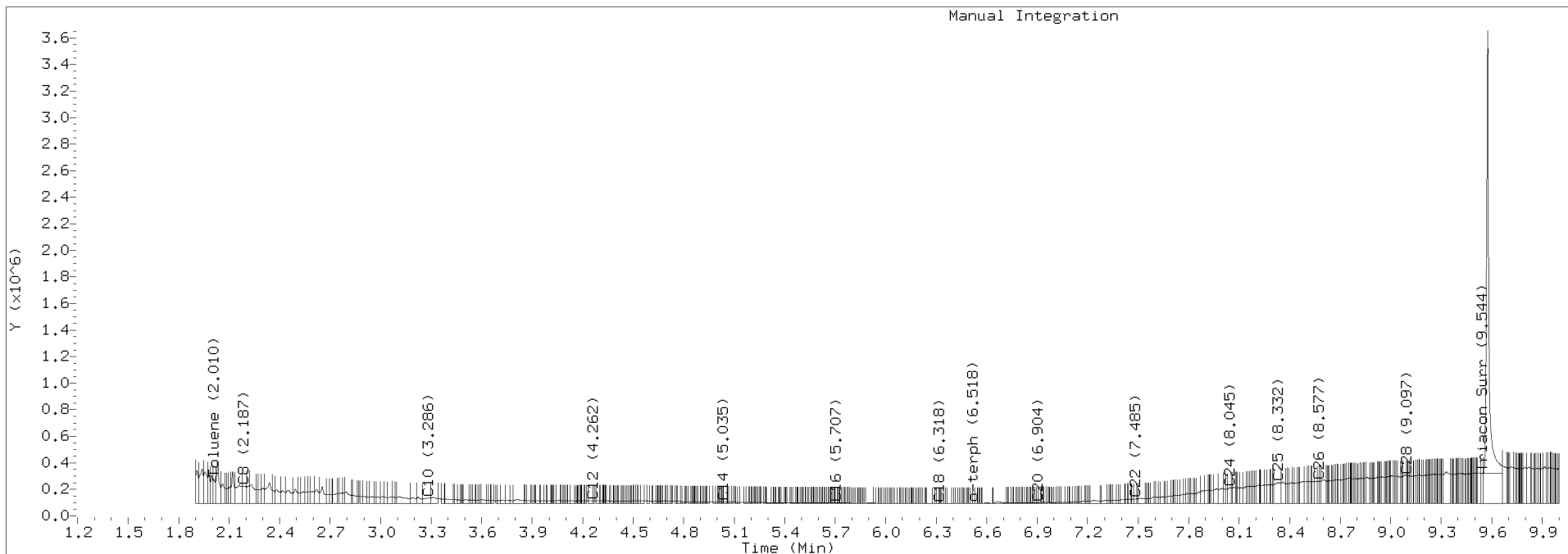
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0809.D Injection: 08-APR-2020 10:53

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010810.D
Date: 08-APR-2020 11:12

Client ID:

Sample Info: SEQ-CAL4

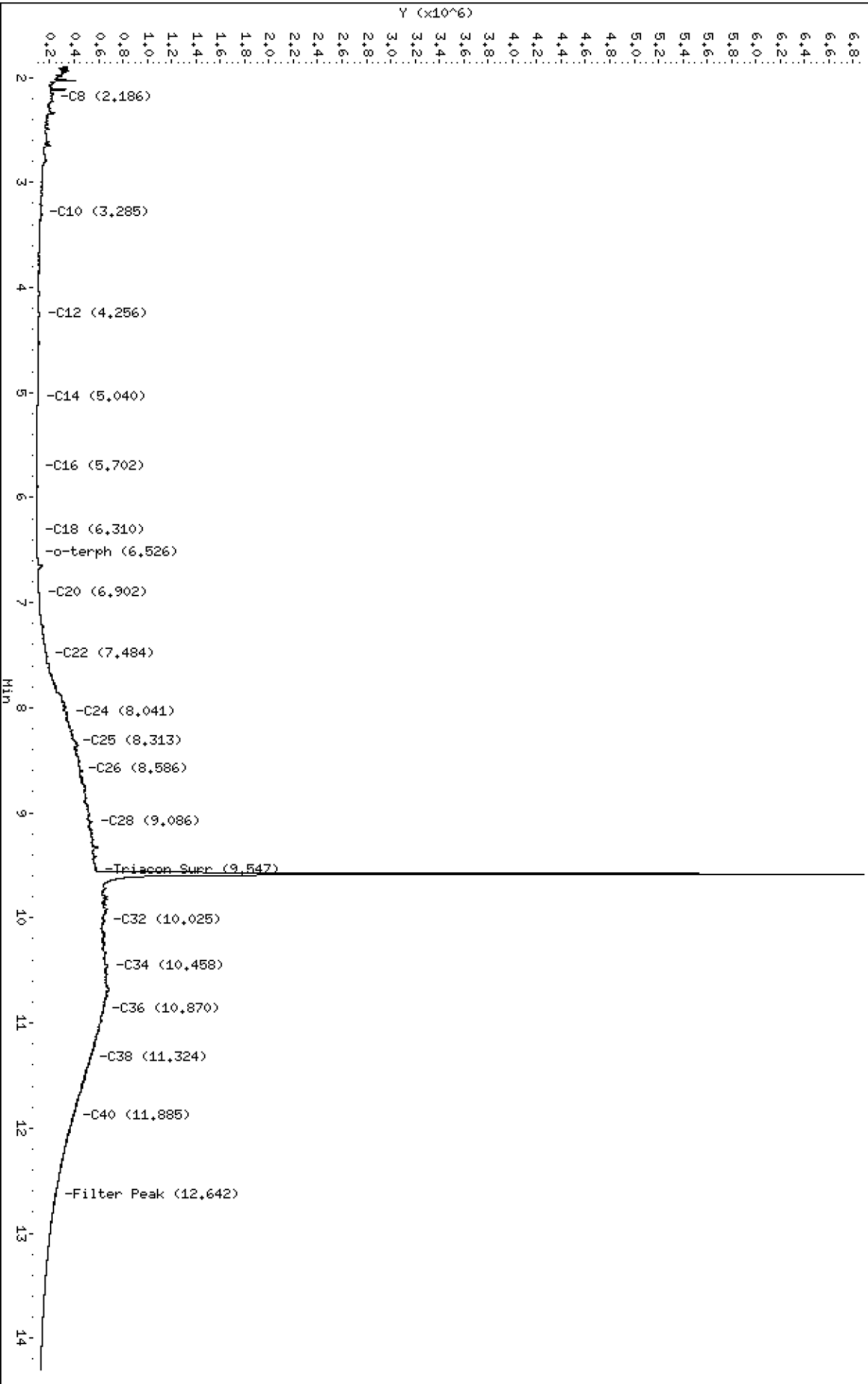
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010810.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0810.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 08-APR-2020 11:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

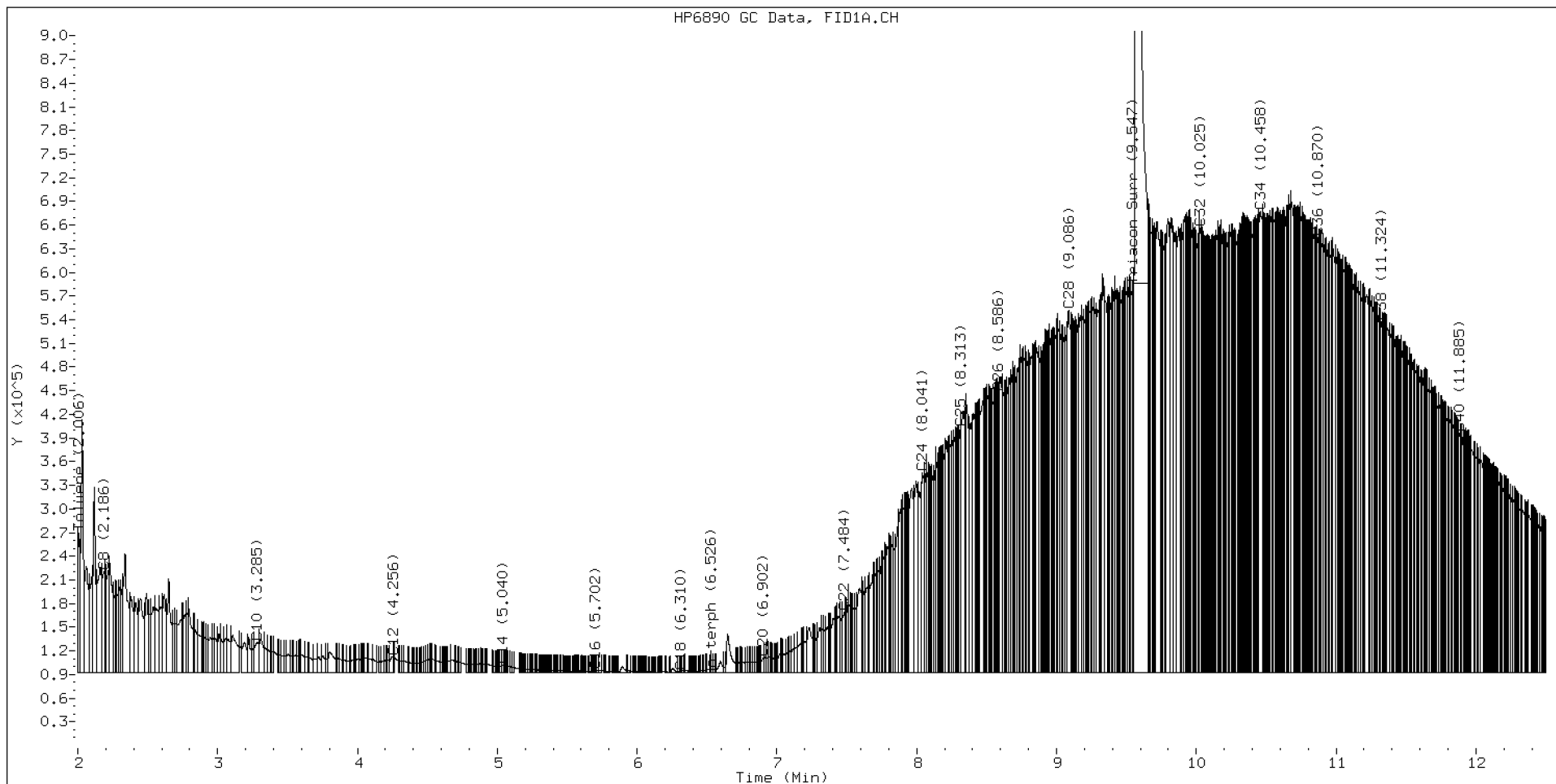
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	128234	148626	WATPHD	(C12-C24)	7988871	50.1
C10	3.285	-0.004	38172	74427	WATPHM	(C24-C38)	91762086	691.9
C12	4.256	-0.006	19290	11388	AK102	(C10-C25)	11765512	60.2
C14	5.040	0.003	8973	3968	AK103	(C25-C36)	75818758	1035.7
C16	5.702	-0.001	2111	1115	OR.DIES	(C10-C28)	31382092	160.1
C18	6.310	-0.004	1425	541				
C20	6.902	-0.002	17908	16066	JET-A	(C10-C18)	1797246	11.1
C22	7.484	0.001	76596	83679				
C24	8.041	-0.004	252638	326752				
C25	8.313	-0.005	310545	242222				
C26	8.586	0.003	355023	176377				
C28	9.086	-0.007	458742	774018				
C32	10.025	-0.004	563176	363288				
C34	10.458	0.001	584411	838839				
Filter Peak	12.642	-0.001	154787	92080	CREOSOT	(C12-C22)	2517795	61.1
C36	10.870	-0.001	551148	355915				
C38	11.324	-0.006	444543	374976				
C40	11.885	0.005	302889	255171				
o-terph	6.526	0.001	3457	1149				
Triacon Surr	9.585	-0.014	6299099	7009097	NAS DIES	(C10-C24)	9175138	47.0

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1149	0.0
Triacontane	7009097	39.4 M

M Indicates the peak was manually integrated

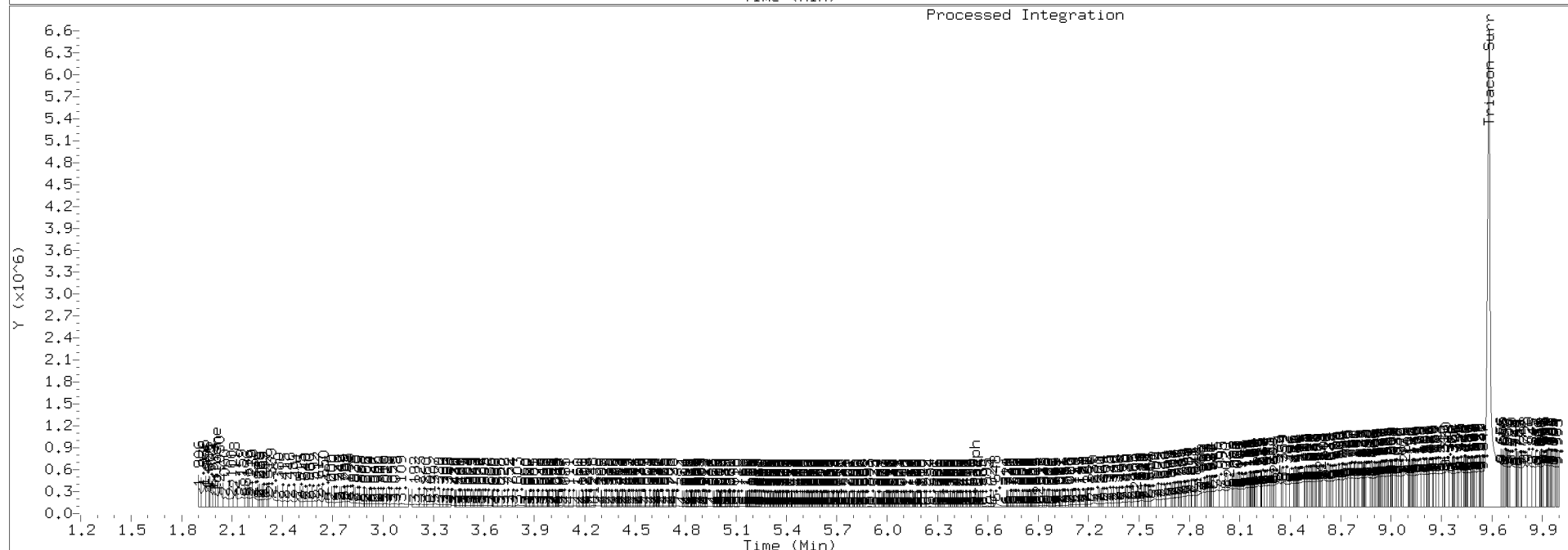
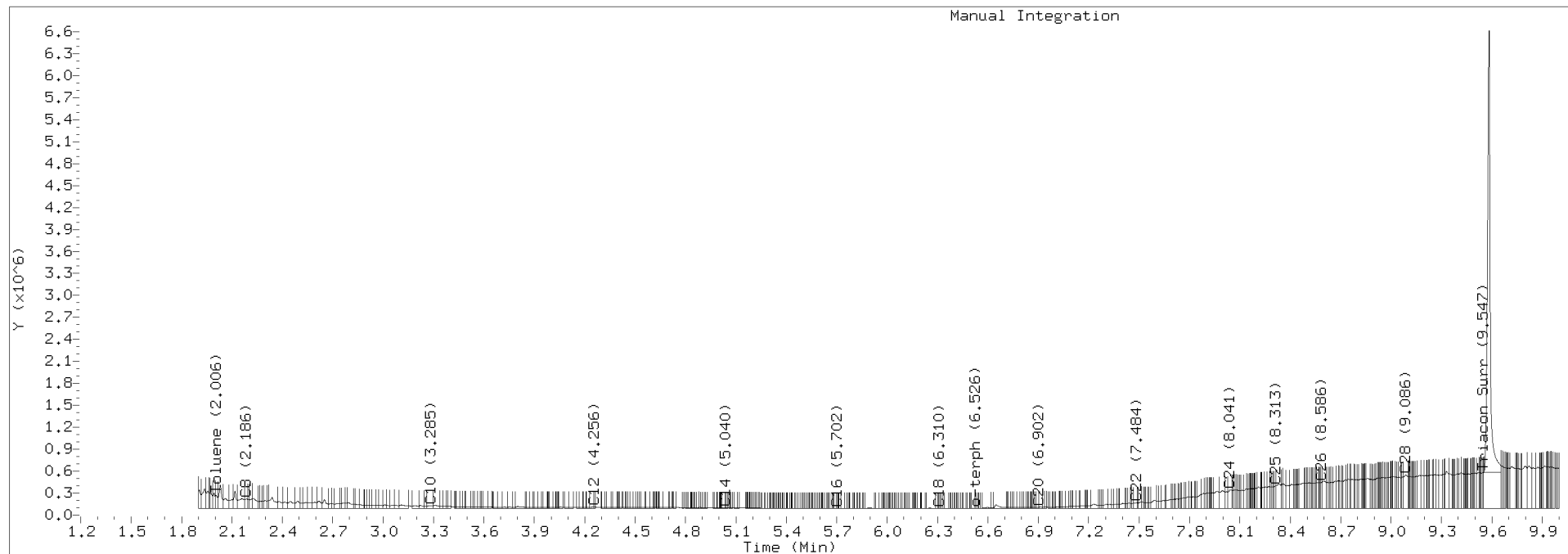
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0810.D Injection: 08-APR-2020 11:12

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200408.b\420D0811.D

Date : 08-APR-2020 11:32

Client ID:

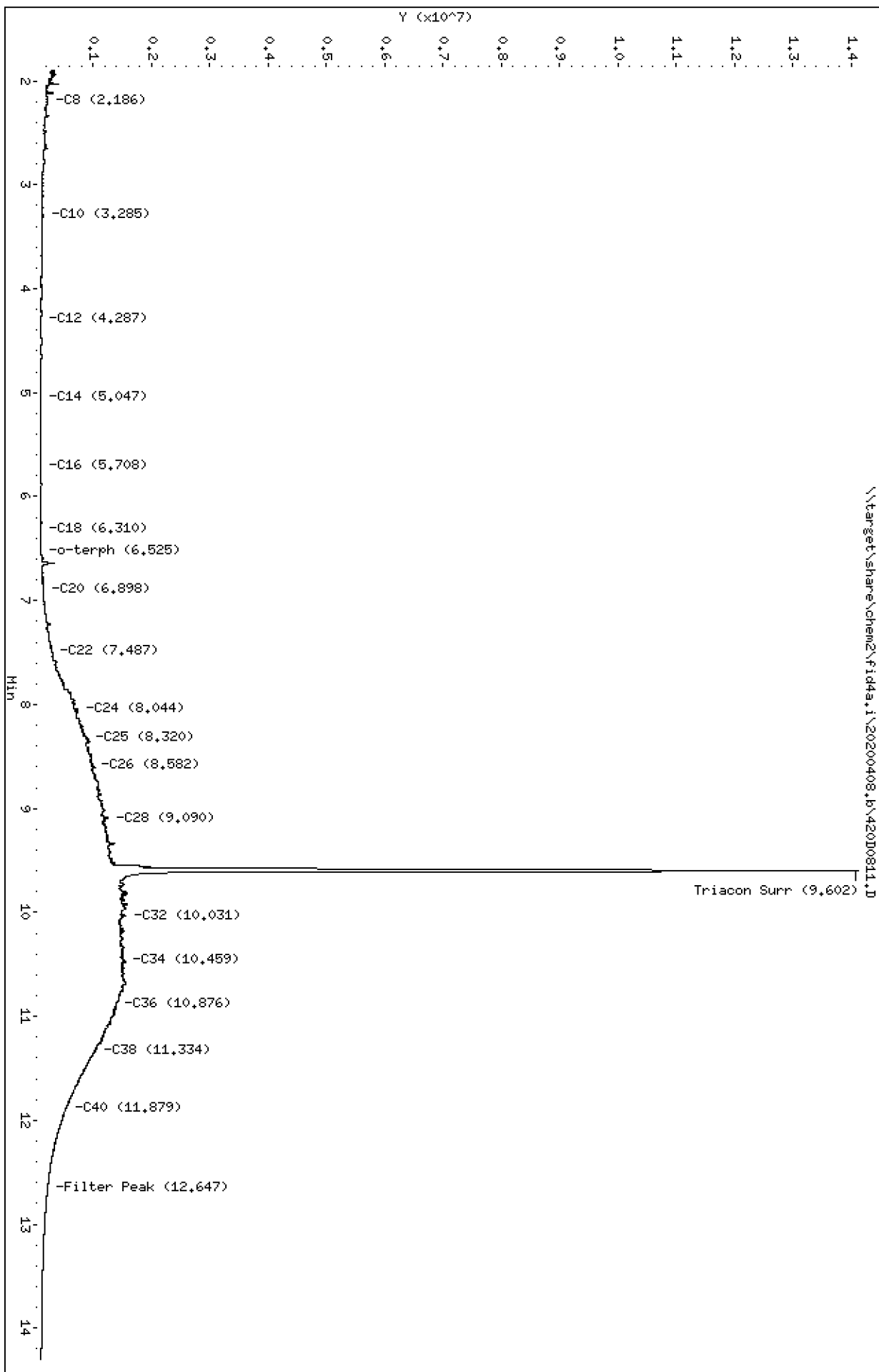
Sample Info: SEQ-CALS

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0811.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 08-APR-2020 11:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

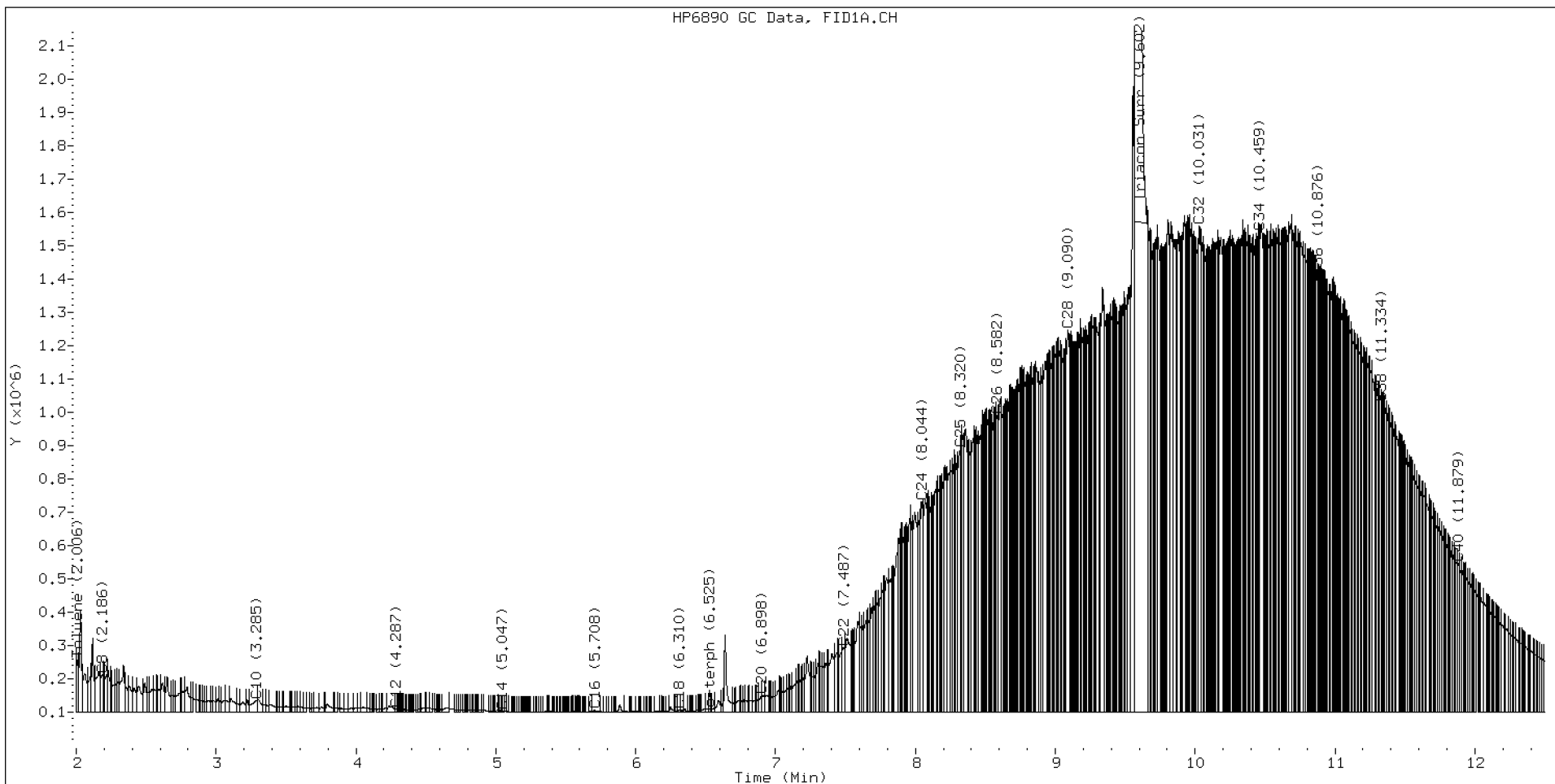
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	113560	125040	WATPHD	(C12-C24)	19771771	124.1
C10	3.285	-0.004	36541	95337	WATPHM	(C24-C38)	227849225	1717.9
C12	4.287	0.024	10394	7178	AK102	(C10-C25)	27372288	140.0
C14	5.047	0.009	4777	3830	AK103	(C25-C36)	191958289	2622.1
C16	5.708	0.004	6173	14774	OR.DIES	(C10-C28)	76383536	389.7
C18	6.310	-0.004	7574	8190				
C20	6.898	-0.006	50377	68943	JET-A	(C10-C18)	1465725	9.0
C22	7.487	0.004	195618	285006				
C24	8.044	-0.002	633495	967446				
C25	8.320	0.002	789714	921627				
C26	8.582	-0.001	892143	574635				
C28	9.090	-0.003	1146036	1667580				
C32	10.031	0.002	1460342	1849029				
C34	10.459	0.001	1442041	715490				
Filter Peak	12.647	0.004	121440	172075	CREOSOT	(C12-C22)	5678297	137.7
C36	10.876	0.004	1305970	520950				
C38	11.334	0.004	930225	554909				
C40	11.879	-0.001	446132	330870				
o-terph	6.525	-0.001	10861	10718				
Triacon Surr	9.602	0.004	12555669	16658090	NAS DIES	(C10-C24)	20733131	106.2

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	10718	0.1
Triacontane	16658090	93.6 M

M Indicates the peak was manually integrated

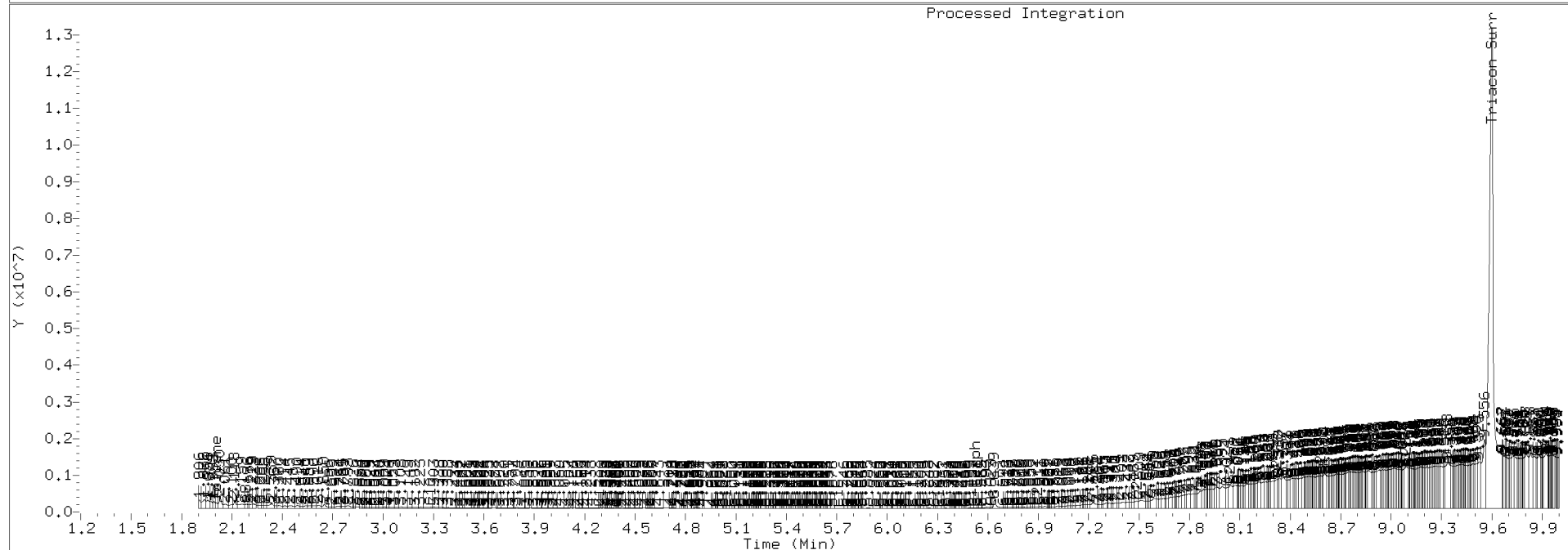
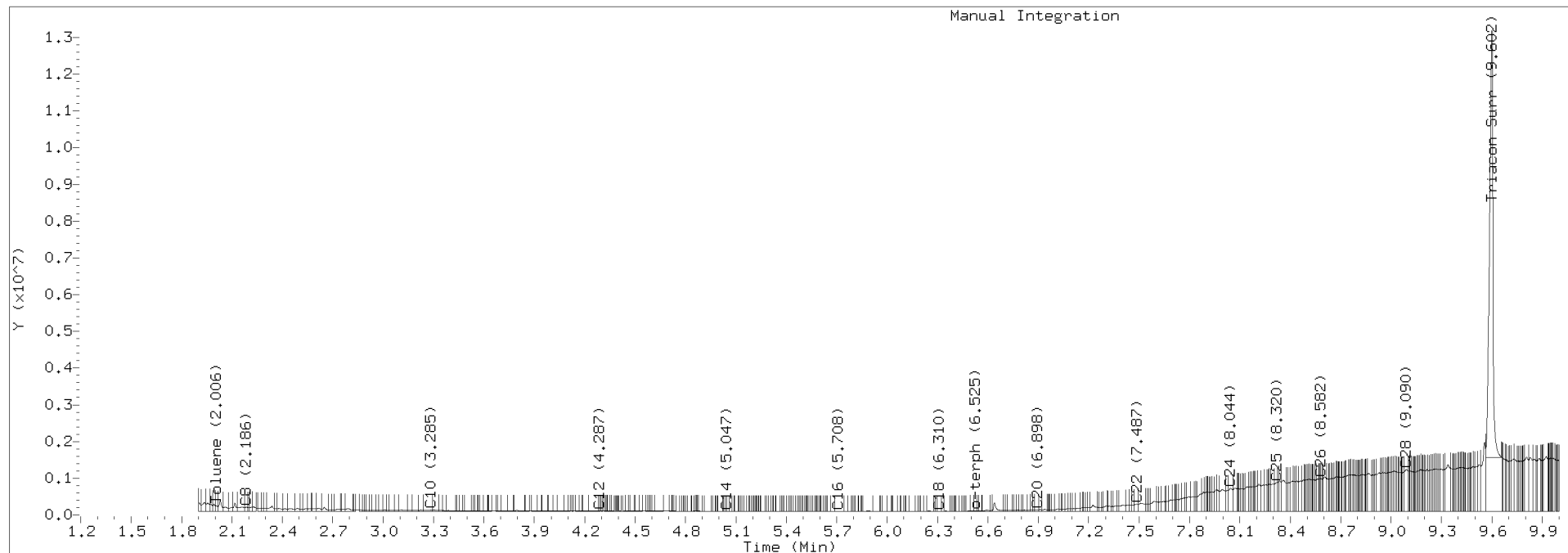
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0811.D Injection: 08-APR-2020 11:32

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010812.D

Date : 08-APR-2020 11:51

Client ID:

Sample Info: SED-CAL6

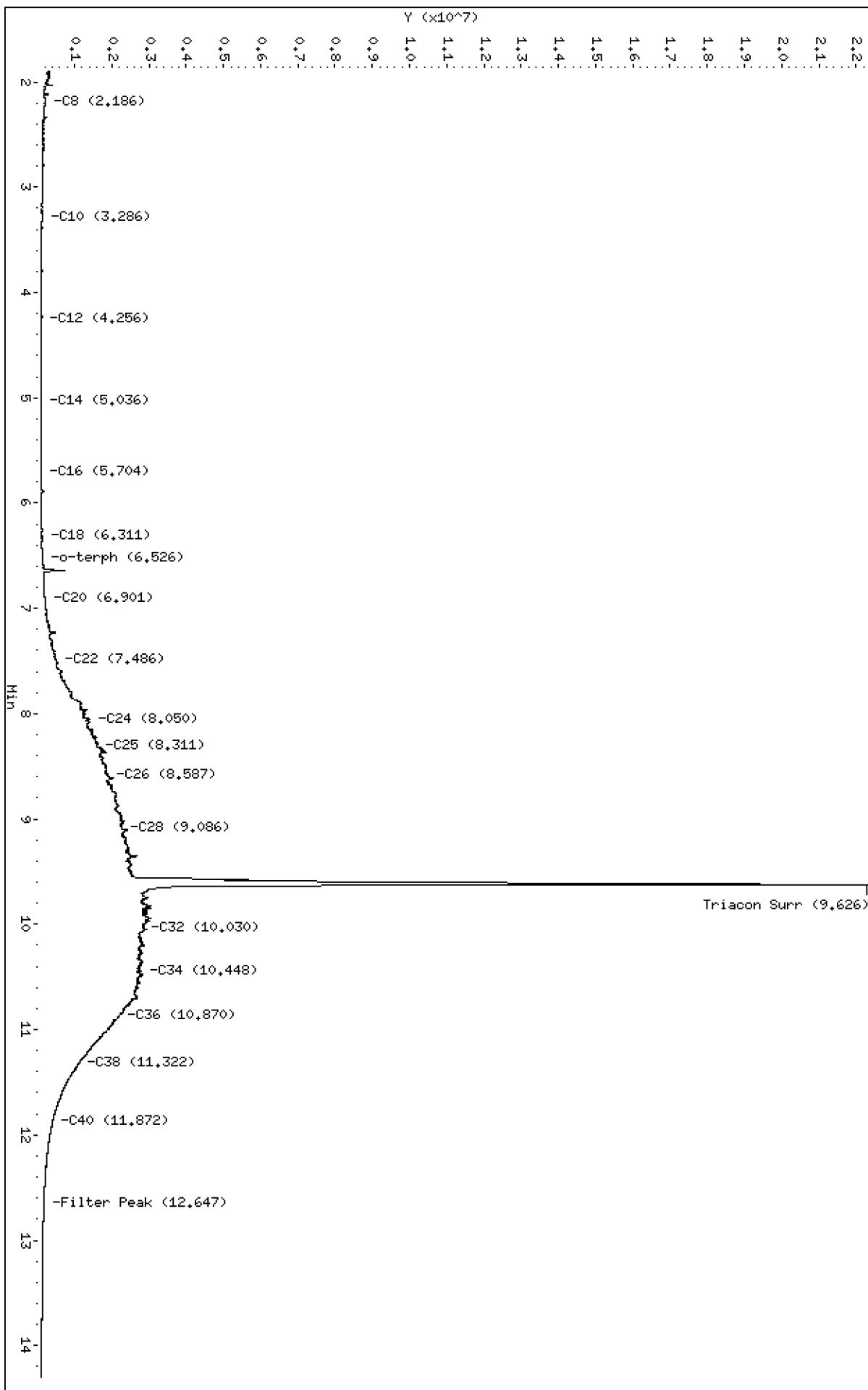
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010812.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0812.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 08-APR-2020 11:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

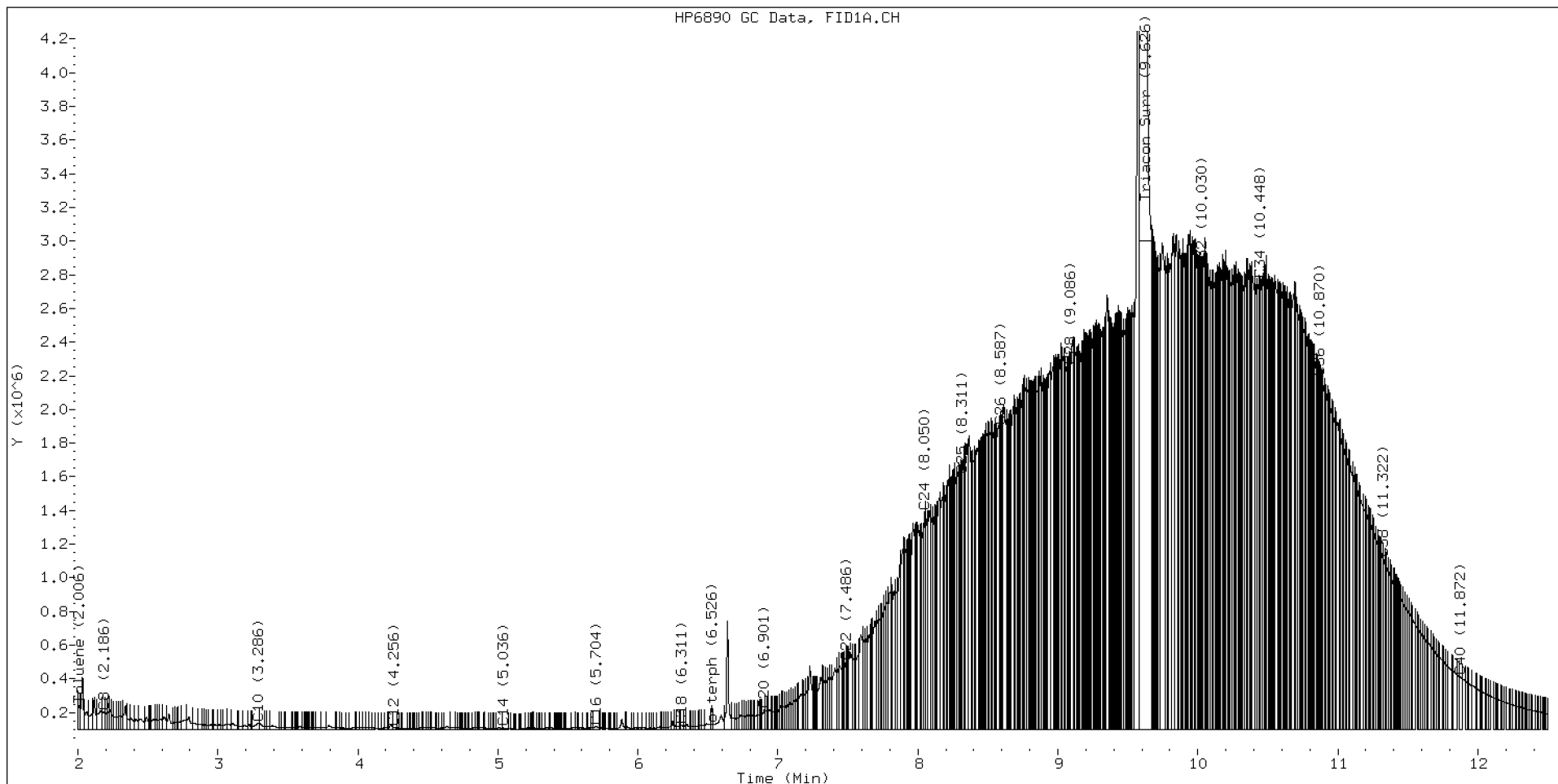
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	104064	109223	WATPHD	(C12-C24)	40416857	253.7
C10	3.286	-0.003	36956	80325	WATPHM	(C24-C38)	424850865	3203.2
C12	4.256	-0.007	12507	16346	AK102	(C10-C25)	54410917	278.3
C14	5.036	-0.001	8003	15931	AK103	(C25-C36)	374151503	5110.9
C16	5.704	0.001	16810	29811	OR.DIES	(C10-C28)	152172505	776.4
C18	6.311	-0.003	24372	26022				
C20	6.901	-0.003	112613	157357	JET-A	(C10-C18)	1722106	10.6
C22	7.486	0.002	399638	286806				
C24	8.050	0.004	1290743	1158755				
C25	8.311	-0.007	1510553	527958				
C26	8.587	0.004	1796919	714430				
C28	9.086	-0.007	2157837	862033				
C32	10.030	0.001	2725510	951638				
C34	10.448	-0.009	2673996	2899255				
Filter Peak	12.647	0.004	73309	79546	CREOSOT	(C12-C22)	11787364	285.8
C36	10.870	-0.002	2091703	1355589				
C38	11.322	-0.008	1014606	947975				
C40	11.872	-0.008	311238	395324				
o-terph	6.526	0.001	31009	30512				
Triacon Surr	9.626	0.028	19358318	32512150	NAS DIES	(C10-C24)	41151308	210.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	30512	0.1
Triacontane	32512150	182.7 M

M Indicates the peak was manually integrated

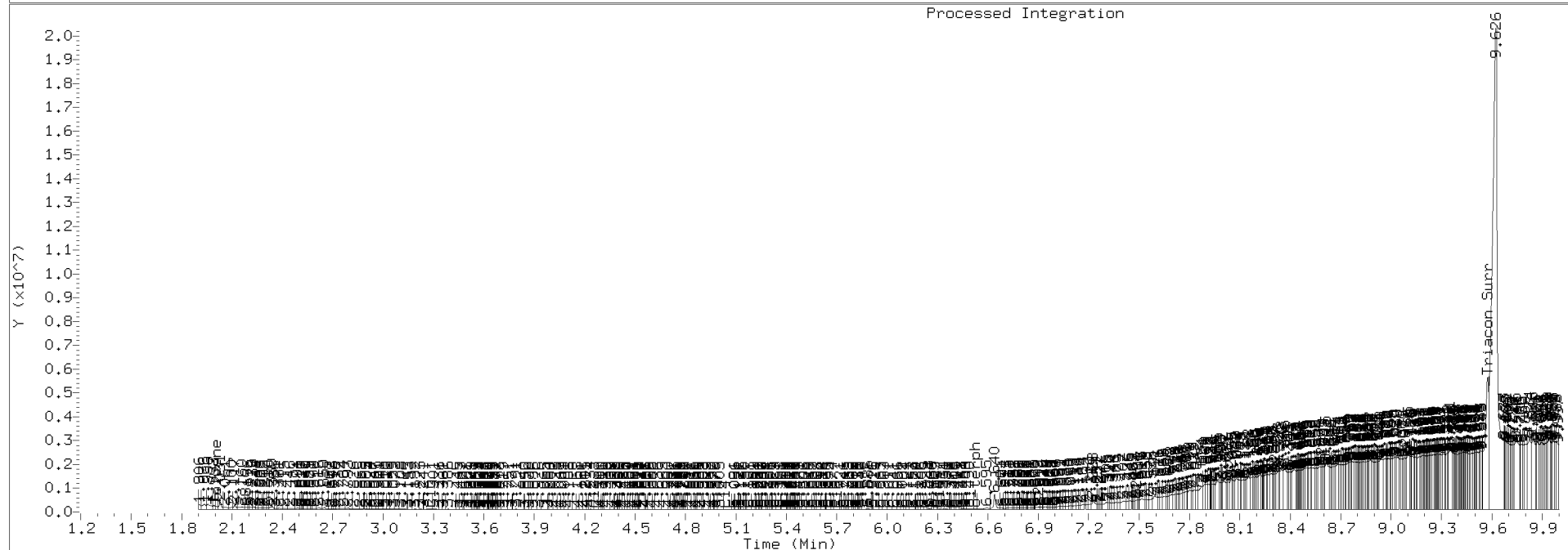
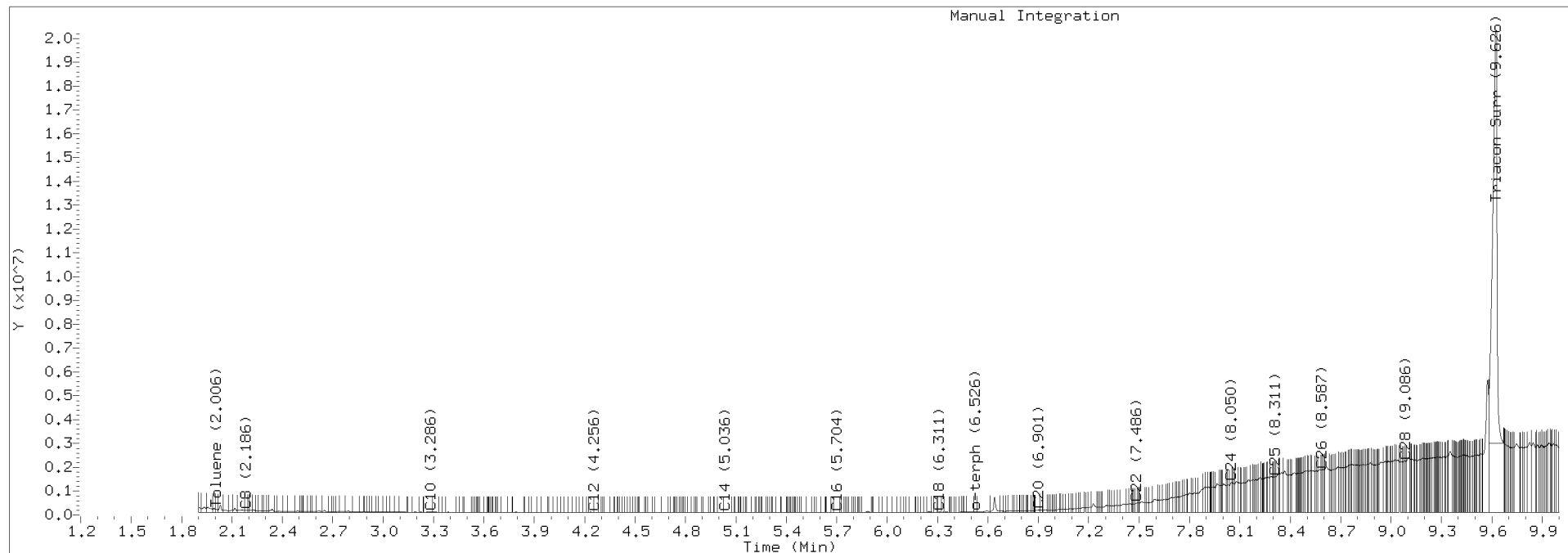
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0812.D Injection: 08-APR-2020 11:51

Lab ID:SEQ-CAL6





ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIE0162-IBL1	QC		1		H010802			
SIE0162-IBL2	QC		2		I000651			
SIE0162-ICV1	QC		3		I002687			
SIE0162-ICV2	QC		4		H010706			
BIE0305-BLK1	QC		5					
BIE0305-BS1	QC		6					
BIE0305-BSD1	QC		7					
20E0185-01	PH NW (Extractables) low lev	A 02	8				The Boeing Company [Auburn]	
SIE0162-CCV1	QC		9		I002687			
SIE0162-CCV2	QC		10		H010706			
SIE0162-CAL1	QC		11		H011231			
BIE0254-BLK1	QC		12					
BIE0254-BS1	QC		13					
BIE0254-BSD1	QC		14					
20E0096-02	PH NW (Extractables) low lev	A 01	15				The Boeing Company	
20E0096-04	PH NW (Extractables) low lev	A 01	16				The Boeing Company	
20E0096-06	PH NW (Extractables) low lev	A 01	17				The Boeing Company	
20E0096-08	PH NW (Extractables) low lev	A 01	18				The Boeing Company	
20E0096-10	PH NW (Extractables) low lev	A 01	19				The Boeing Company	
20E0096-12	PH NW (Extractables) low lev	A 01	20				The Boeing Company	
20E0096-14	PH NW (Extractables) low lev	A 01	21				The Boeing Company	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20E0096-16	PH NW (Extractables) low lev	A 01	22				The Boeing Company	
BIE0254-MS1	QC		23					
BIE0254-MSD1	QC		24					
SIE0162-CCV3	QC		25		I002687			
SIE0162-CCV4	QC		26		H010706			
SIE0162-CCV5	QC		27		H011231			
20E0096-18	PH NW (Extractables) low lev	A 01	28				The Boeing Company	
20E0096-20	PH NW (Extractables) low lev	A 01	29				The Boeing Company	
20E0096-22	PH NW (Extractables) low lev	A 01	30				The Boeing Company	
BIE0248-BLK1	QC		31					
BIE0248-BS1	QC		32					
BIE0248-BSD1	QC		33					
20E0096-01	PH NW (Extractables) low lev	A 01	34				The Boeing Company	
20E0096-03	PH NW (Extractables) low lev	A 01	35				The Boeing Company	
20E0096-05	PH NW (Extractables) low lev	A 01	36				The Boeing Company	
20E0096-07	PH NW (Extractables) low lev	A 01	37				The Boeing Company	
20E0096-09	PH NW (Extractables) low lev	A 01	38				The Boeing Company	
SIE0162-CCV6	QC		39		I002687			
SIE0162-CCV7	QC		40		H010706			
SIE0162-CCV8	QC		41		H011231			
20E0096-11	PH NW (Extractables) low lev	A 01	42				The Boeing Company	

Samples Loaded By

Date

Data Processed By

Date



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
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20E0096-15	PH NW (Extractables) low lev	A 01	44				The Boeing Company	
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BIE0248-MSD1	QC		46					
20E0096-17	PH NW (Extractables) low lev	B 01	47				The Boeing Company	
20E0096-19	PH NW (Extractables) low lev	A 01	48				The Boeing Company	
20E0096-21	PH NW (Extractables) low lev	A 01	49				The Boeing Company	
BIE0282-BLK1	QC		50					
BIE0282-BS1	QC		51					
BIE0282-BSD1	QC		52					
20E0151-01	PH NW (Extractables) low lev	F 01	53				The Boeing Company [North Boeing Field]	
20E0160-01	PH NW (Extractables) low lev	C 01	54				Davis Wire Corporation	
SIE0162-CCV9	QC		55		I002687			
SIE0162-CCVA	QC		56		H010706			
SIE0162-CCVB	QC		57		H011231			

Samples Loaded By

Date

Data Processed By

Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	19-MAY-2020	06:44	420E1901.D	1	RINSE	
2	19-MAY-2020	07:03	420E1902.D	1	RINSE	
3	19-MAY-2020	07:23	420E1903.D	1	SIE0162-IBL1	
4	19-MAY-2020	07:42	420E1904.D	1	SIE0162-IBL2	
5	19-MAY-2020	08:02	420E1905.D	1	SIE0162-ICV1	
6	19-MAY-2020	08:21	420E1906.D	1	SIE0162-ICV2	
7	19-MAY-2020	08:41	420E1907.D	1	BIE0305-BLK1	
8	19-MAY-2020	09:00	420E1908.D	1	BIE0305-BS1	
9	19-MAY-2020	09:20	420E1909.D	1	BIE0305-BSD1	
10	19-MAY-2020	09:39	420E1910.D	1	20E0185-01	
11	19-MAY-2020	09:59	420E1911.D	1	SIE0162-CCV1	
12	19-MAY-2020	10:19	420E1912.D	1	SIE0162-CCV2	
13	19-MAY-2020	11:05	420E1913.D	1	SIE0162-CAL1	
14	19-MAY-2020	11:24	420E1914.D	1	BIE0254-BLK1	
15	19-MAY-2020	11:44	420E1915.D	1	BIE0254-BS1	
16	19-MAY-2020	12:03	420E1916.D	1	BIE0254-BSD1	
17	19-MAY-2020	12:23	420E1917.D	1	20E0096-02	
18	19-MAY-2020	12:43	420E1918.D	1	20E0096-04	
19	19-MAY-2020	13:02	420E1919.D	1	20E0096-06	
20	19-MAY-2020	13:22	420E1920.D	1	20E0096-08	
21	19-MAY-2020	13:42	420E1921.D	1	20E0096-10	
22	19-MAY-2020	14:01	420E1922.D	1	20E0096-12	
23	19-MAY-2020	14:21	420E1923.D	1	20E0096-14	
24	19-MAY-2020	14:41	420E1924.D	1	20E0096-16	
25	19-MAY-2020	15:00	420E1925.D	1	BIE0254-MS1	
26	19-MAY-2020	15:20	420E1926.D	1	BIE0254-MSD1	
27	19-MAY-2020	15:40	420E1927.D	1	SIE0162-CCV3	
28	19-MAY-2020	15:59	420E1928.D	1	SIE0162-CCV4	
29	19-MAY-2020	16:19	420E1929.D	1	SIE0162-CCV5	
30	19-MAY-2020	16:39	420E1930.D	1	20E0096-18	
31	19-MAY-2020	16:58	420E1931.D	1	20E0096-20	
32	19-MAY-2020	17:18	420E1932.D	1	20E0096-22	
33	19-MAY-2020	17:37	420E1933.D	1	BIE0248-BLK1	
34	19-MAY-2020	17:57	420E1934.D	1	BIE0248-BS1	
35	19-MAY-2020	18:16	420E1935.D	1	BIE0248-BSD1	
36	19-MAY-2020	18:36	420E1936.D	1	20E0096-01	
37	19-MAY-2020	18:55	420E1937.D	1	20E0096-03	
38	19-MAY-2020	19:15	420E1938.D	1	20E0096-05	
39	19-MAY-2020	19:34	420E1939.D	1	20E0096-07	
40	19-MAY-2020	19:54	420E1940.D	1	20E0096-09	
41	19-MAY-2020	20:13	420E1941.D	1	SIE0162-CCV6	
42	19-MAY-2020	20:33	420E1942.D	1	SIE0162-CCV7	
43	19-MAY-2020	20:52	420E1943.D	1	SIE0162-CCV8	
44	19-MAY-2020	21:12	420E1944.D	1	20E0096-11	
45	19-MAY-2020	21:31	420E1945.D	1	20E0096-13	
46	19-MAY-2020	21:50	420E1946.D	1	20E0096-15	
47	19-MAY-2020	22:10	420E1947.D	1	BIE0248-MS1	
48	19-MAY-2020	22:29	420E1948.D	1	BIE0248-MSD1	
49	19-MAY-2020	22:49	420E1949.D	1	20E0096-17	
50	20-MAY-2020	23:08	420E1950.D	1	20E0096-19	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	20-MAY-2020	23:28	420E1951.D	1	20E0096-21	
52	20-MAY-2020	23:47	420E1952.D	1	BIE0282-BLK1	
53	20-MAY-2020	00:07	420E1953.D	1	BIE0282-BS1	
54	20-MAY-2020	00:26	420E1954.D	1	BIE0282-BSD1	
55	20-MAY-2020	00:46	420E1955.D	1	20E0151-01	
56	20-MAY-2020	01:05	420E1956.D	1	20E0160-01	
57	20-MAY-2020	01:25	420E1957.D	1	SIE0162-CCV9	
58	20-MAY-2020	01:44	420E1958.D	1	SIE0162-CCVA	
59	20-MAY-2020	02:03	420E1959.D	1	SIE0162-CCVB	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 19-MAY-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0644	420E1901.D	RINSE		1	o-terph,
0703	420E1902.D	RINSE		1	Triacon Surr,
0723	420E1903.D	SIE0162-IBL1		1	NO MANUAL INTEGRATION
0742	420E1904.D	SIE0162-IBL2		1	NO MANUAL INTEGRATION
0802	420E1905.D	SIE0162-ICV1		1	o-terph,
0821	420E1906.D	SIE0162-ICV2		1	Triacon Surr,
0841	420E1907.D	BIE0305-BLK1		1	NO MANUAL INTEGRATION
0900	420E1908.D	BIE0305-BS1		1	o-terph,
0920	420E1909.D	BIE0305-BSD1		1	o-terph,
0939	420E1910.D	20E0185-01		1	NO MANUAL INTEGRATION
0959	420E1911.D	SIE0162-CCV1		1	o-terph,
1019	420E1912.D	SIE0162-CCV2		1	Triacon Surr,
1105	420E1913.D	SIE0162-CAL1		1	NO MANUAL INTEGRATION
1124	420E1914.D	BIE0254-BLK1		1	NO MANUAL INTEGRATION
1144	420E1915.D	BIE0254-BS1		1	o-terph,
1203	420E1916.D	BIE0254-BSD1		1	o-terph,
1223	420E1917.D	20E0096-02		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1243	420E1918.D	20E0096-04	1		NO MANUAL INTEGRATION
1302	420E1919.D	20E0096-06	1		NO MANUAL INTEGRATION
1322	420E1920.D	20E0096-08	1		NO MANUAL INTEGRATION
1342	420E1921.D	20E0096-10	1		NO MANUAL INTEGRATION
1401	420E1922.D	20E0096-12	1		o-terph,
1421	420E1923.D	20E0096-14	1		NO MANUAL INTEGRATION
1441	420E1924.D	20E0096-16	1		NO MANUAL INTEGRATION
1500	420E1925.D	BIE0254-MS1	1		o-terph,
1520	420E1926.D	BIE0254-MSD1	1		o-terph,
1540	420E1927.D	SIE0162-CCV3	1		o-terph,
1559	420E1928.D	SIE0162-CCV4	1		Triacon Surr,
1619	420E1929.D	SIE0162-CCV5	1		NO MANUAL INTEGRATION
1639	420E1930.D	20E0096-18	1		NO MANUAL INTEGRATION
1658	420E1931.D	20E0096-20	1		NO MANUAL INTEGRATION
1718	420E1932.D	20E0096-22	1		NO MANUAL INTEGRATION
1737	420E1933.D	BIE0248-BLK1	1		NO MANUAL INTEGRATION
1757	420E1934.D	BIE0248-BS1	1		o-terph,
1816	420E1935.D	BIE0248-BSD1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1836	420E1936.D	20E0096-01	1		NO MANUAL INTEGRATION
1855	420E1937.D	20E0096-03	1		NO MANUAL INTEGRATION
1915	420E1938.D	20E0096-05	1		o-terph,
1934	420E1939.D	20E0096-07	1		NO MANUAL INTEGRATION
1954	420E1940.D	20E0096-09	1		NO MANUAL INTEGRATION
2013	420E1941.D	SIE0162-CCV6	1		o-terph,
2033	420E1942.D	SIE0162-CCV7	1		Triacon Surr,
2052	420E1943.D	SIE0162-CCV8	1		NO MANUAL INTEGRATION
2112	420E1944.D	20E0096-11	1		o-terph,
2131	420E1945.D	20E0096-13	1		NO MANUAL INTEGRATION
2150	420E1946.D	20E0096-15	1		NO MANUAL INTEGRATION
2210	420E1947.D	BIE0248-MS1	1		o-terph,
2229	420E1948.D	BIE0248-MSD1	1		o-terph,
2249	420E1949.D	20E0096-17	1		NO MANUAL INTEGRATION
2308	420E1950.D	20E0096-19	1		o-terph,
2328	420E1951.D	20E0096-21	1		NO MANUAL INTEGRATION
2347	420E1952.D	BIE0282-BLK1	1		NO MANUAL INTEGRATION
0007	420E1953.D	BIE0282-BS1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

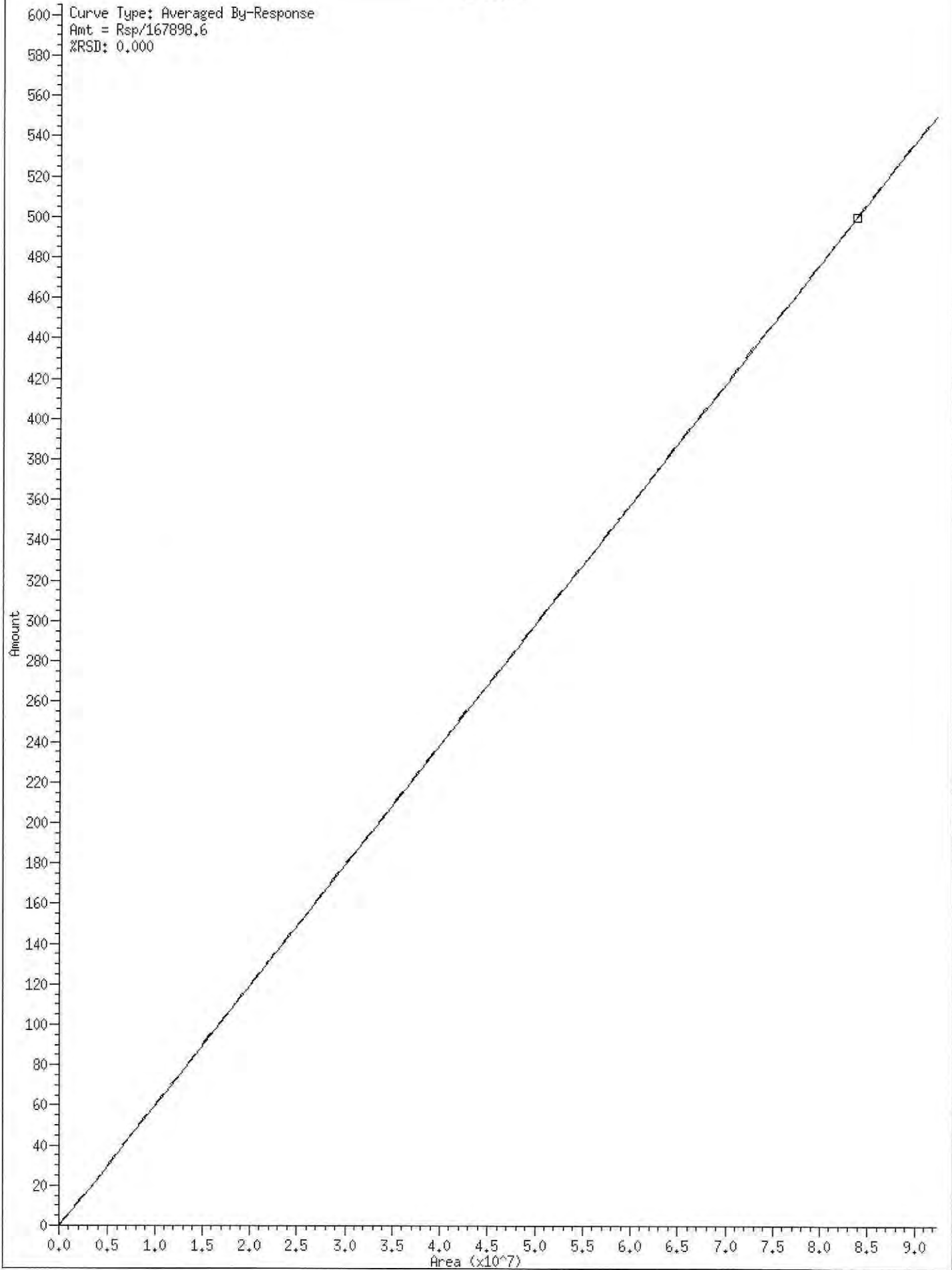
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0026	420E1954.D	BIE0282-BSD1		1	o-terph,
0046	420E1955.D	20E0151-01		1	NO MANUAL INTEGRATION
0105	420E1956.D	20E0160-01		1	o-terph,
0125	420E1957.D	SIE0162-CCV9		1	o-terph,
0144	420E1958.D	SIE0162-CCVA		1	Triacon Surr,
0203	420E1959.D	SIE0162-CCVB		1	NO MANUAL INTEGRATION

Security Status Report

Date: 20-May-2020 08:42

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420E1906.D	Data Locked	christopher,	19-May-2020	11:37
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420E1914.D	Data Locked	christopher,	20-May-2020	08:20
420E1915.D	Data Locked	christopher,	20-May-2020	08:20
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420E1918.D	Data Locked	christopher,	20-May-2020	08:20
420E1919.D	Data Locked	christopher,	20-May-2020	08:20
420E1920.D	Data Locked	christopher,	20-May-2020	08:20
420E1921.D	Data Locked	christopher,	20-May-2020	08:20
420E1922.D	Data Locked	christopher,	20-May-2020	08:20
420E1923.D	Data Locked	christopher,	20-May-2020	08:20
420E1924.D	Data Locked	christopher,	20-May-2020	08:20
420E1925.D	Data Locked	christopher,	20-May-2020	08:20
420E1926.D	Data Locked	christopher,	20-May-2020	08:20
420E1927.D	Data Locked	christopher,	20-May-2020	08:20
420E1928.D	Data Locked	christopher,	20-May-2020	08:20
420E1929.D	Data Locked	christopher,	20-May-2020	08:20
420E1930.D	Data Locked	christopher,	20-May-2020	08:20
420E1931.D	Data Locked	christopher,	20-May-2020	08:20
420E1932.D	Data Locked	christopher,	20-May-2020	08:20
420E1933.D	Data Locked	christopher,	20-May-2020	08:20
420E1934.D	Data Locked	christopher,	20-May-2020	08:20
420E1935.D	Data Locked	christopher,	20-May-2020	08:20
420E1936.D	Data Locked	christopher,	20-May-2020	08:20
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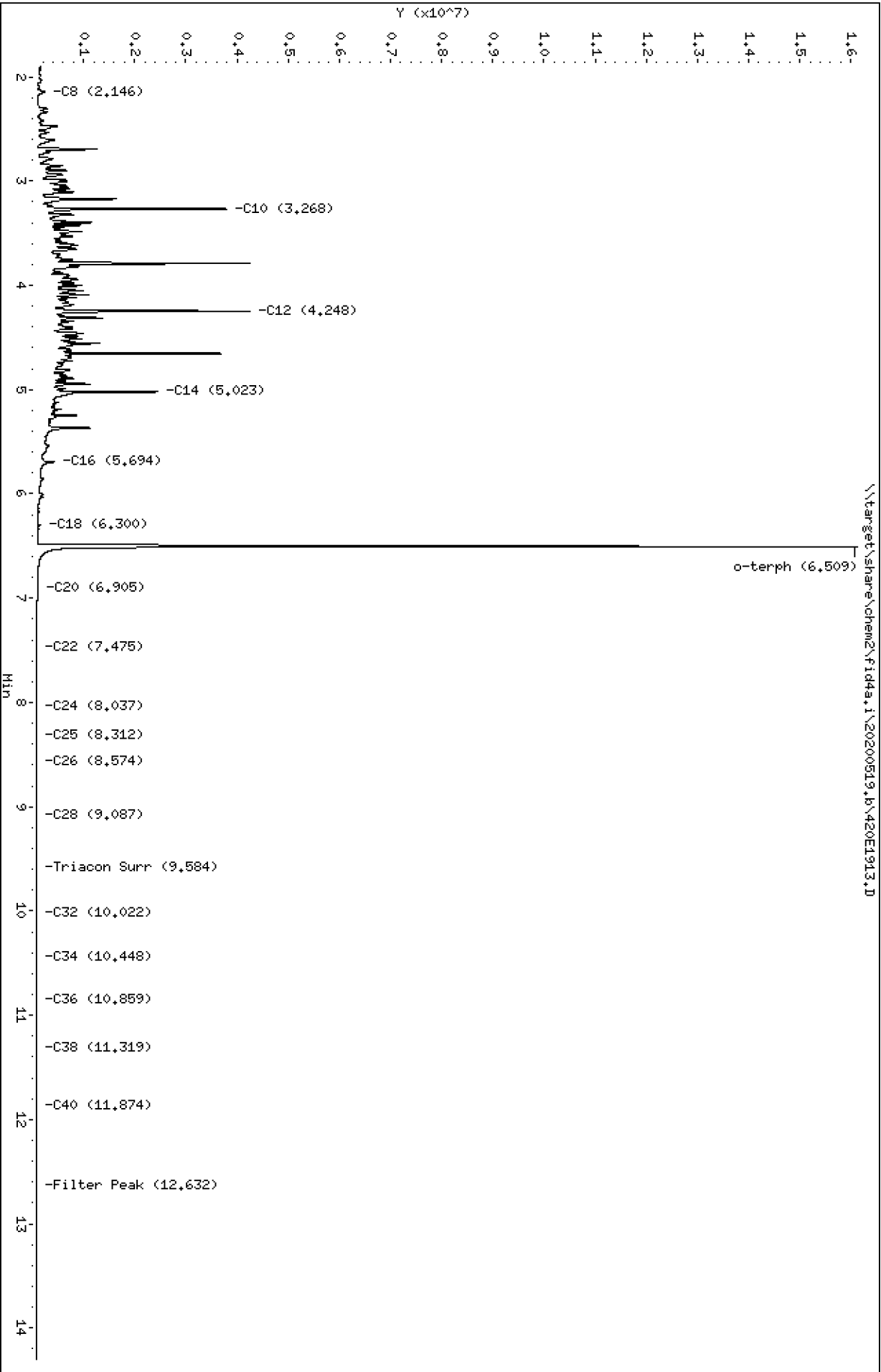
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Data File: \\target\share\chem2\fid4a,1\20200519_b\420E1913.D
Date: 19-May-2020 11:05
Client ID:
Sample Info: SIE0162-CAL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200519.b/420E1913.D
Method: 20200519.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 05/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIE0162-CAL1
Client ID:
Injection: 19-MAY-2020 11:05
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

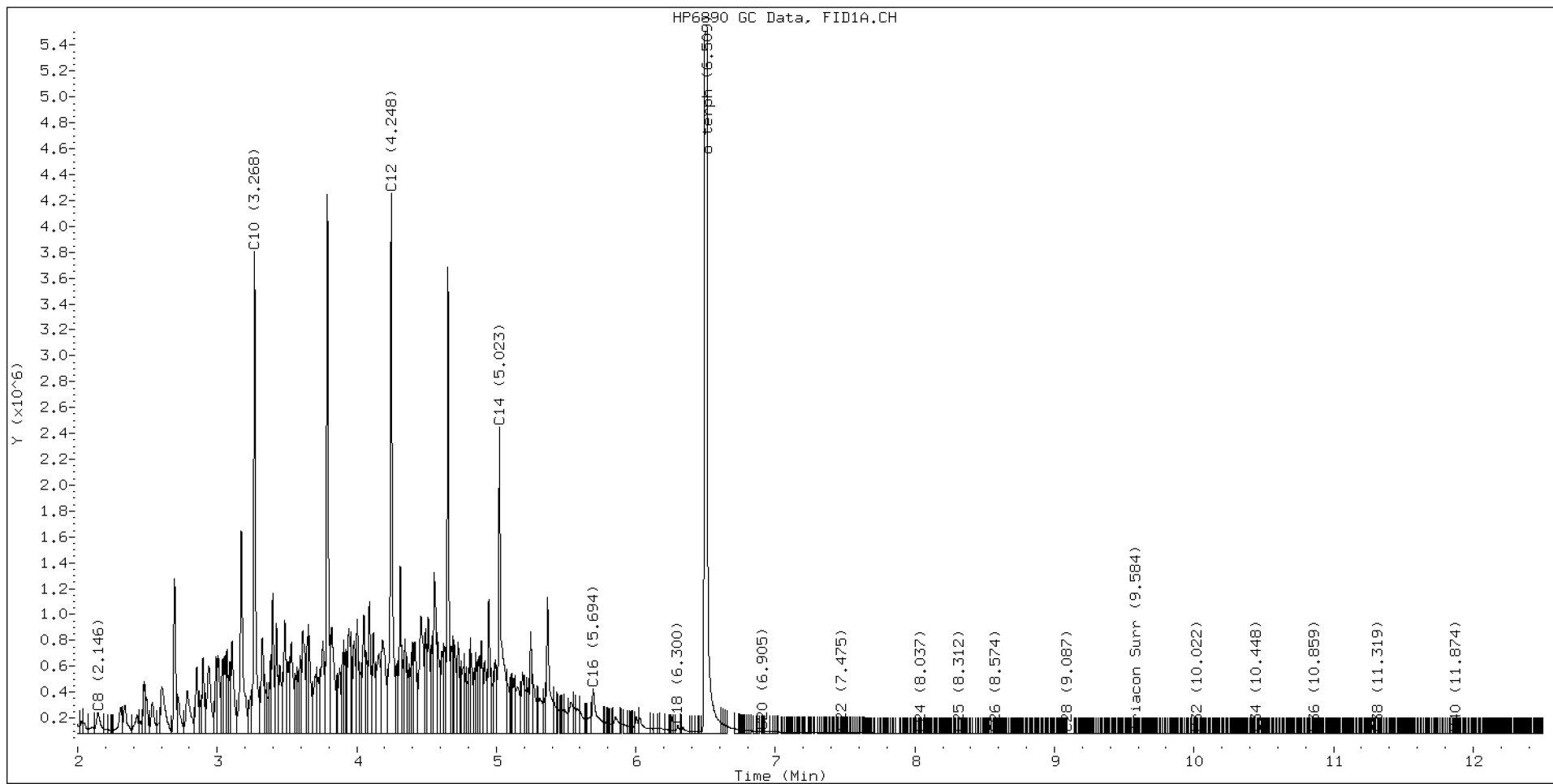
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.146	-0.014	162537	351667	WATPHD	(C12-C24)	43793314	274.8
C10	3.268	-0.006	3727060	3670074	WATPHM	(C24-C38)	298844	2.3
C12	4.248	-0.001	4175422	4596909	AK102	(C10-C25)	84977552	434.7
C14	5.023	-0.002	2366943	3478731	AK103	(C25-C36)	181563	2.5
C16	5.694	0.002	346661	872220	OR.DIES	(C10-C28)	85015601	433.8
C18	6.300	-0.002	67502	81701				
C20	6.905	0.012	18076	12457	JET-A	(C10-C18)	83949325	500.0
C22	7.475	0.003	7015	3124				
C24	8.037	0.002	2567	632				
C25	8.312	0.005	1720	641				
C26	8.574	0.002	577	179				
C28	9.087	0.004	278	137				
C32	10.022	0.002	985	413				
C34	10.448	-0.000	2249	1187				
Filter Peak	12.632	0.002	3646	2855	CREOSOT	(C12-C22)	43649163	1058.5
C36	10.859	-0.001	3434	1815				
C38	11.319	0.004	4203	2291				
C40	11.874	0.007	4118	1219				
o-terph	6.509	-0.003	16049011	17223619				
Triacon Surr	9.584	-0.003	924	375	NAS DIES	(C10-C24)	84956580	435.3

Range Times: NW Diesel(4.249 - 8.035) AK102(3.27 - 8.31) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.32) AK103(8.31 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17223619	84.1
Triacontane	375	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

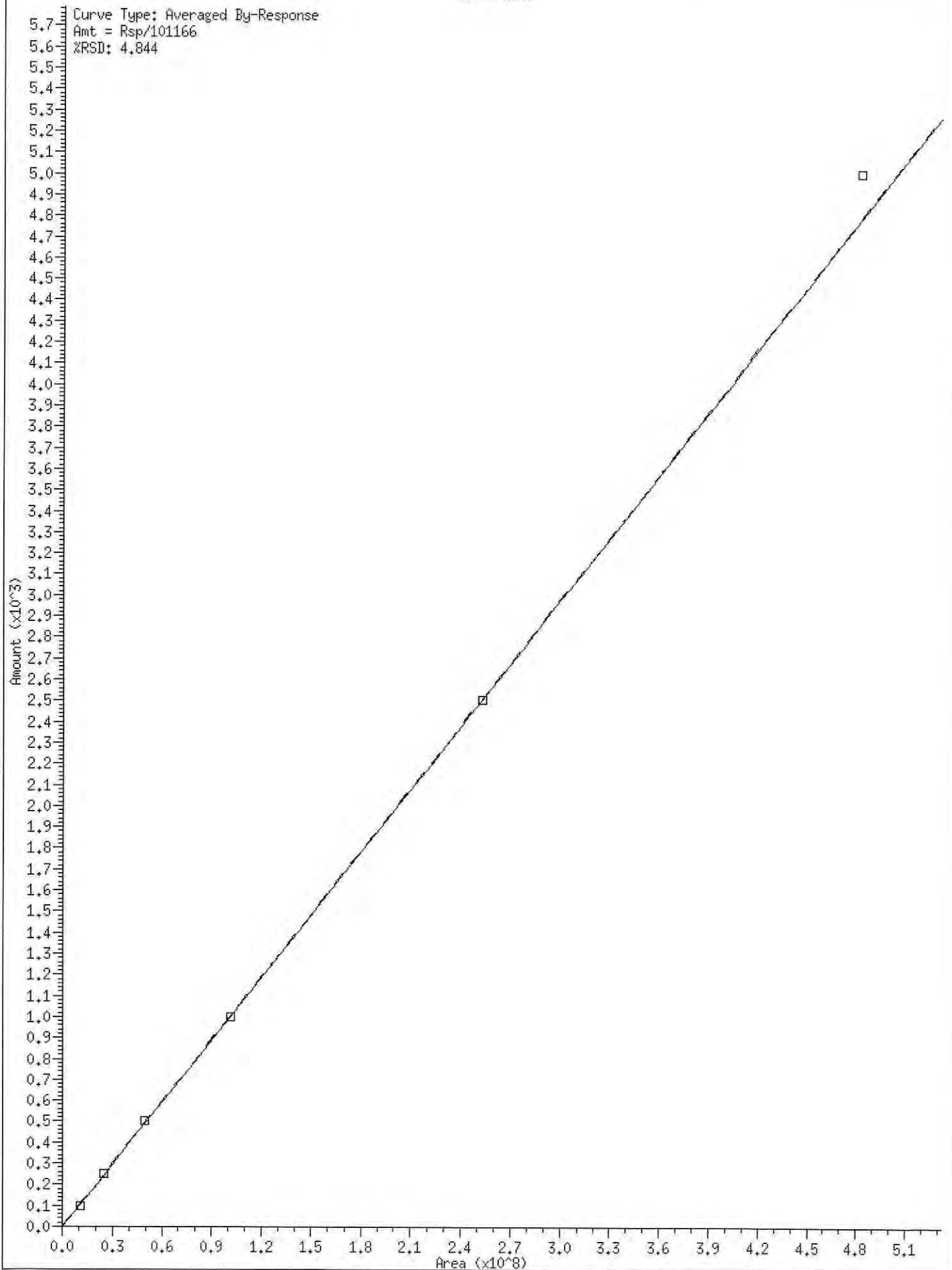
ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

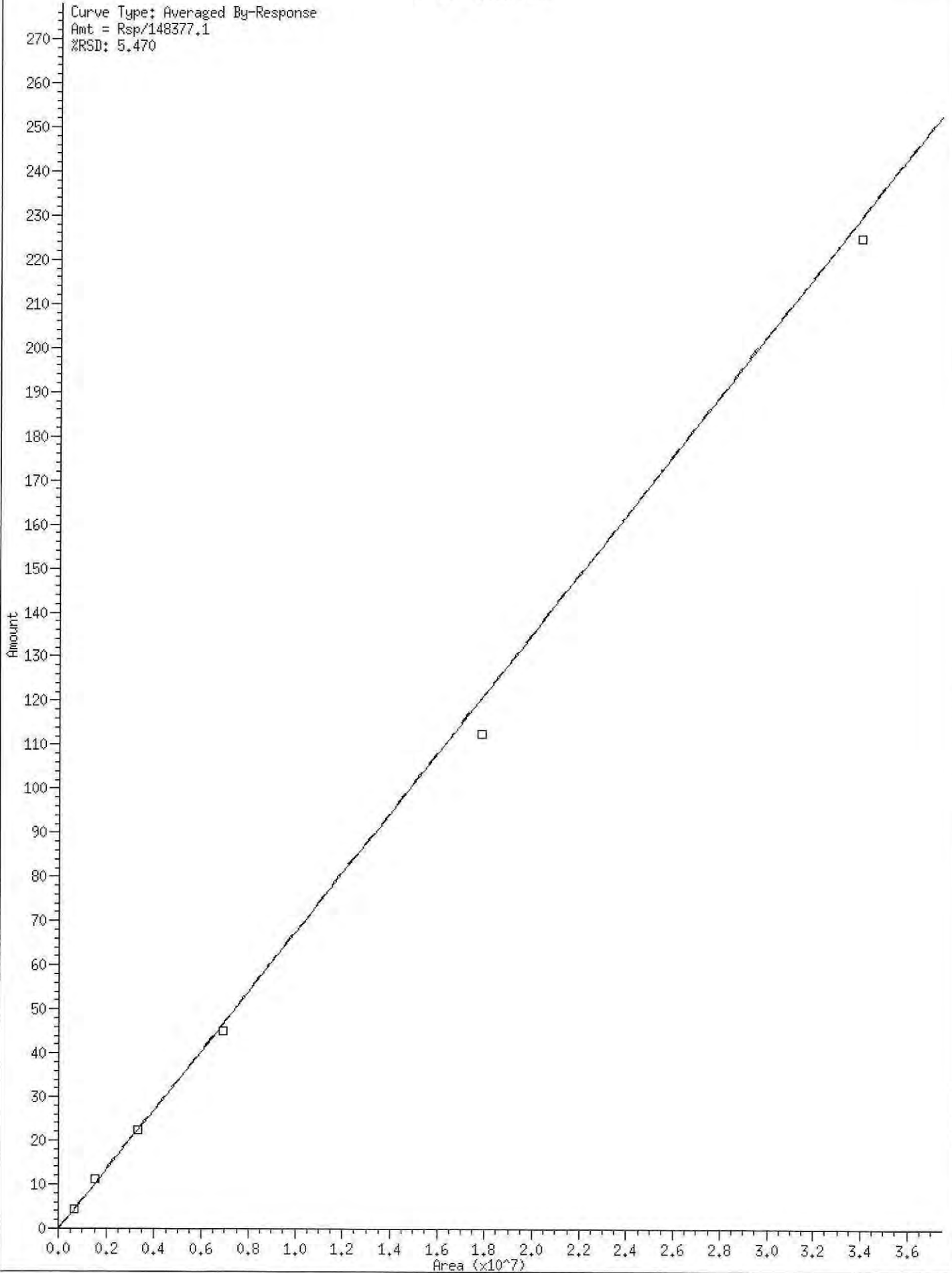
Date: 02-Jun-2020 12:52

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420F0209.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51



* 15 Triacon Surr

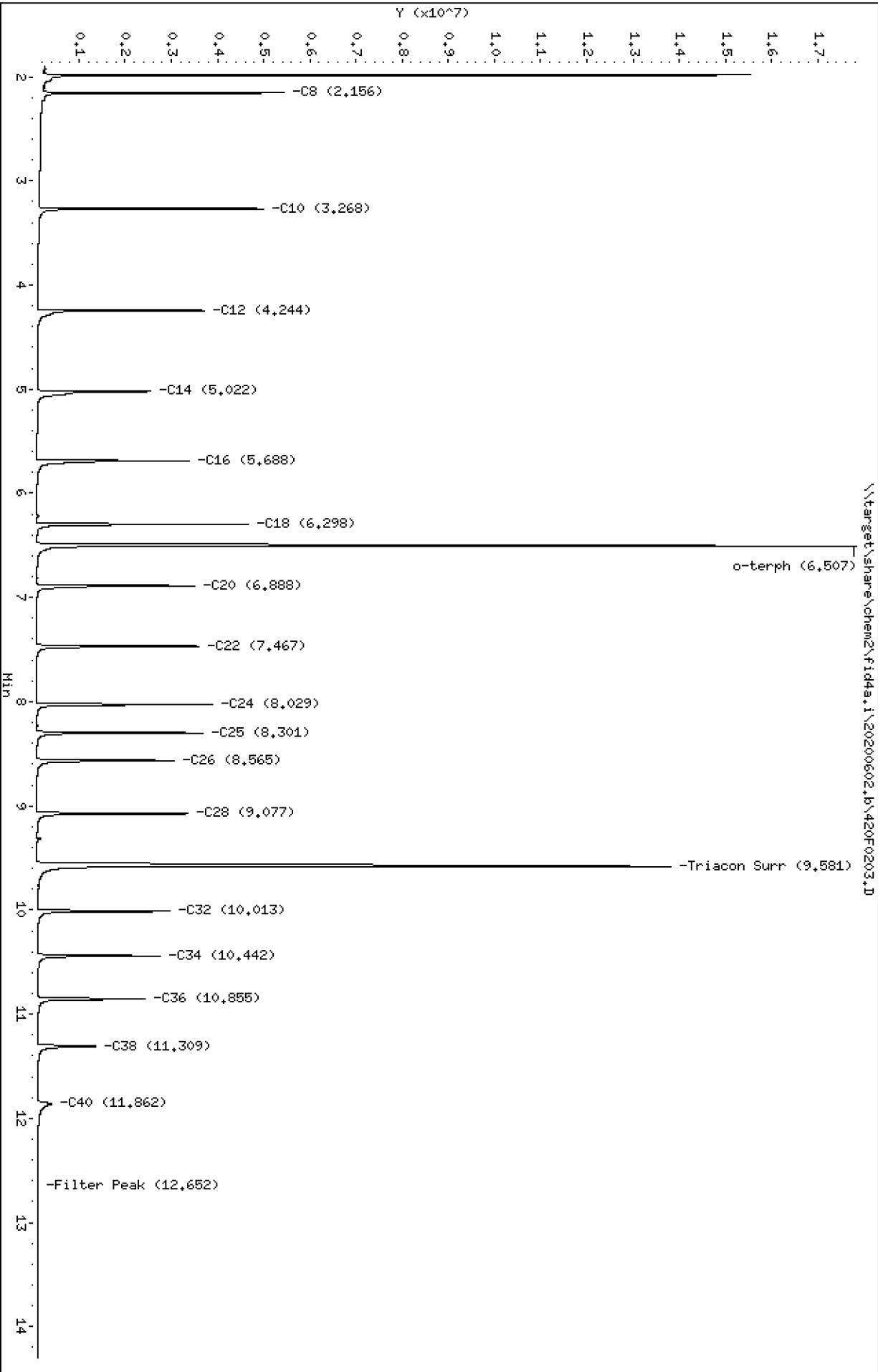
Curve Type: Averaged By-Response
Amt = Rsp/148377,1
%RSD: 5,470



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0203.D
Date : 02-JUN-2020 08:19
Client ID:
Sample Info: SIF0018-IBL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0203.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL1
Client ID:
Injection: 02-JUN-2020 08:19
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

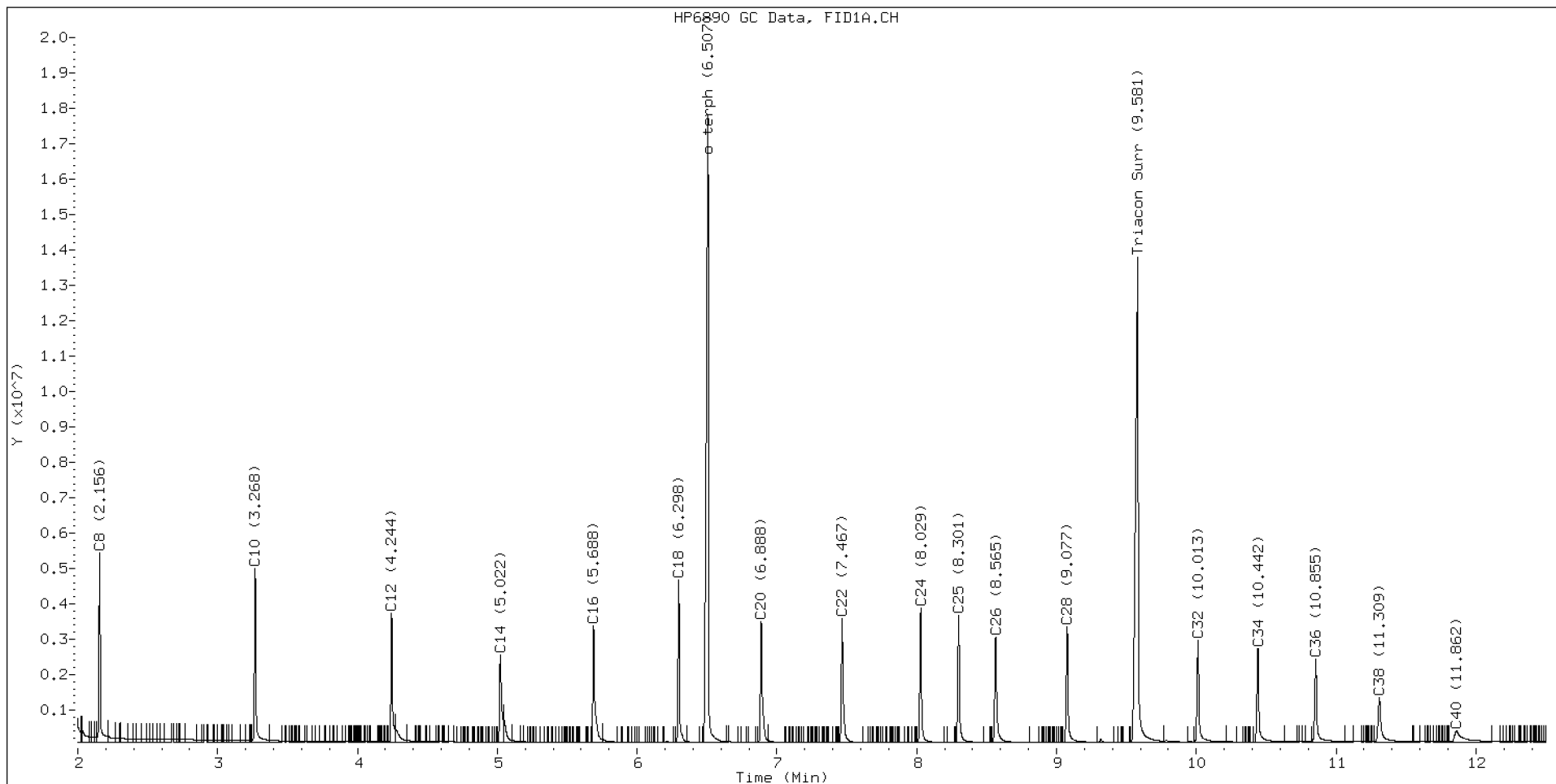
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.156	0.000	5355192	4028421	WATPHD	(C12-C24)	22818714	143.2
C10	3.268	0.000	4929332	4012342	WATPHM	(C24-C38)	23499770	232.3
C12	4.244	0.000	3648375	2898492	AK102	(C10-C25)	32299571	165.2
C14	5.022	0.000	2469047	2611753	AK103	(C25-C36)	20714599	283.0
C16	5.688	0.000	3293885	3376329	OR.DIES	(C10-C28)	42576768	217.2
C18	6.298	0.000	4585796	3403299				
C20	6.888	0.000	3419868	3390012	JET-A	(C10-C18)	21587777	128.6
C22	7.467	0.000	3501351	3461600				
C24	8.029	0.000	3816488	3373518				
C25	8.301	0.000	3598800	3438765				
C26	8.565	0.000	2983968	3399421				
C28	9.077	0.000	3266476	3362299				
C32	10.013	0.000	2880768	3301828				
C34	10.442	0.000	2669792	3096709				
Filter Peak	12.652	0.000	21186	7385	CREOSOT	(C12-C22)	19416290	470.8
C36	10.855	0.000	2366492	3017794				
C38	11.309	0.000	1282280	2537029				
C40	11.862	0.000	332084	1739109				
o-terph	6.507	0.000	17759087	19250772				
Triacon Surr	9.581	0.000	13722128	19528338	NAS DIES	(C10-C24)	32267307	165.3

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	19250772	94.0
Triacontane	19528338	131.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0204.D

Date : 02-JUN-2020 08:38

Client ID:

Sample Info: SIF0018-IBL2

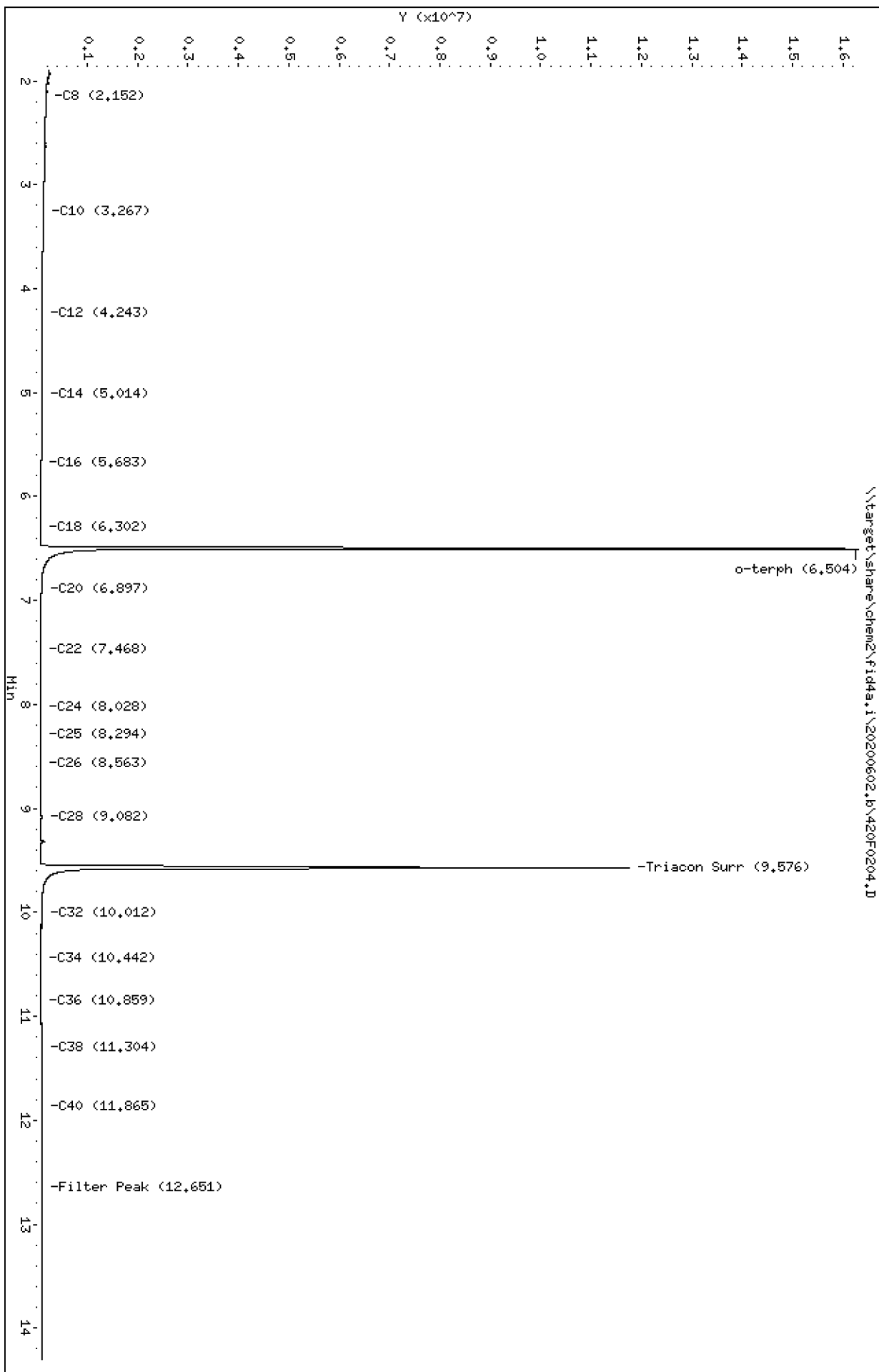
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0204.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL2
Client ID:
Injection: 02-JUN-2020 08:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

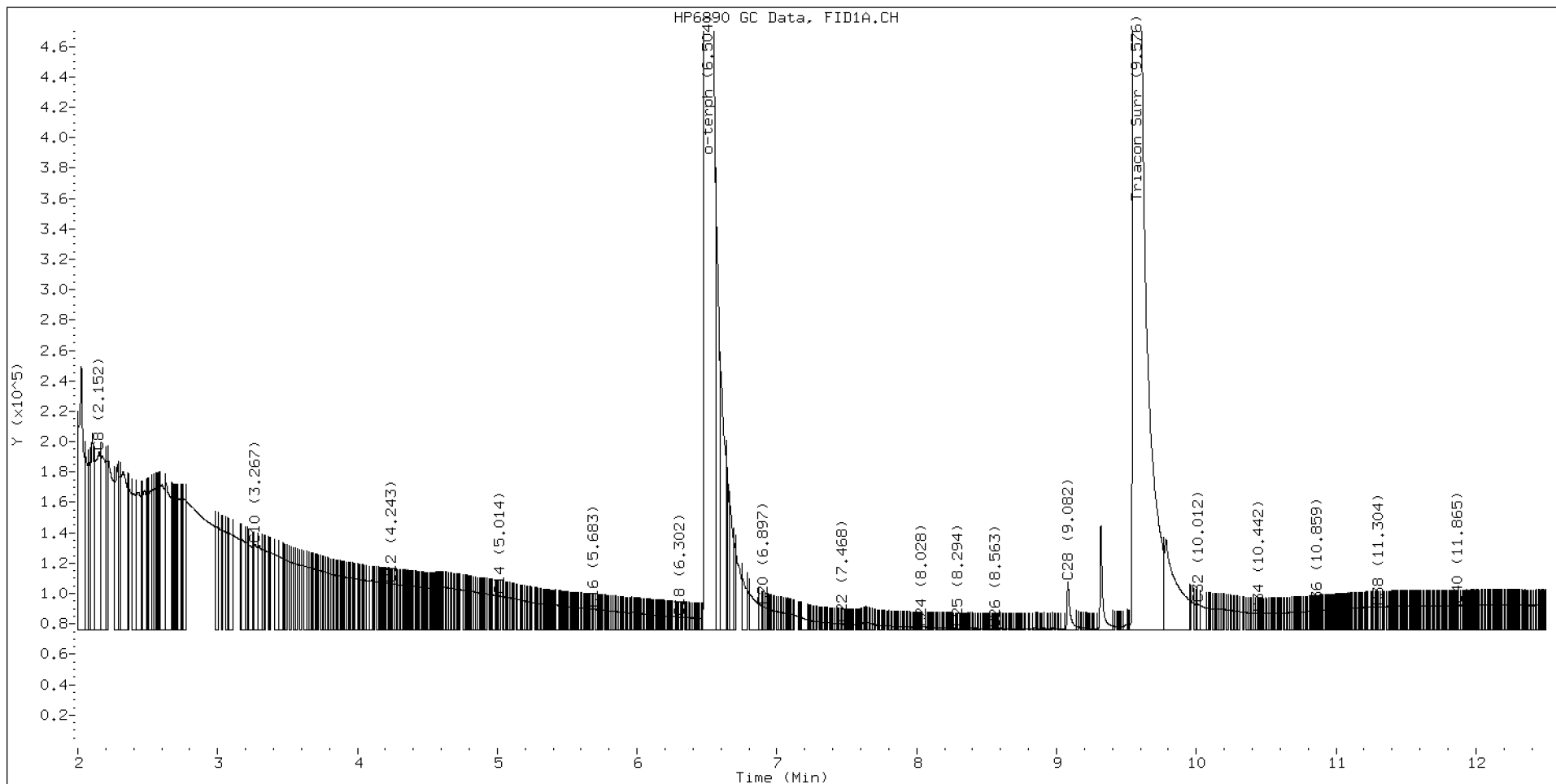
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.003	116720	322381	WATPHD	(C12-C24)	3533716	22.2
C10	3.267	-0.001	56124	109426	WATPHM	(C24-C38)	1474603	14.6
C12	4.243	-0.001	30150	13517	AK102	(C10-C25)	5497571	28.1
C14	5.014	-0.008	22108	20838	AK103	(C25-C36)	1111901	15.2
C16	5.683	-0.005	13417	7376	OR.DIES	(C10-C28)	5561088	28.4
C18	6.302	0.004	8282	6554				
C20	6.897	0.008	15268	9037	JET-A	(C10-C18)	3852356	22.9
C22	7.468	0.002	3677	2659				
C24	8.028	-0.001	1288	376				
C25	8.294	-0.007	805	727				
C26	8.563	-0.002	378	139				
C28	9.082	0.005	31186	44237				
C32	10.012	-0.001	16600	15536				
C34	10.442	-0.000	10597	4224				
Filter Peak	12.651	-0.001	16079	8841	CREOSOT	(C12-C22)	3469521	84.1
C36	10.859	0.004	12136	4837				
C38	11.304	-0.005	14999	9721				
C40	11.865	0.003	15845	9483				
o-terph	6.504	-0.003	16231603	17734069				
Triacon Surr	9.576	-0.005	11669958	15560412	NAS DIES	(C10-C24)	5488260	28.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17734069	86.6
Triacontane	15560412	104.9

M Indicates the peak was manually integrated

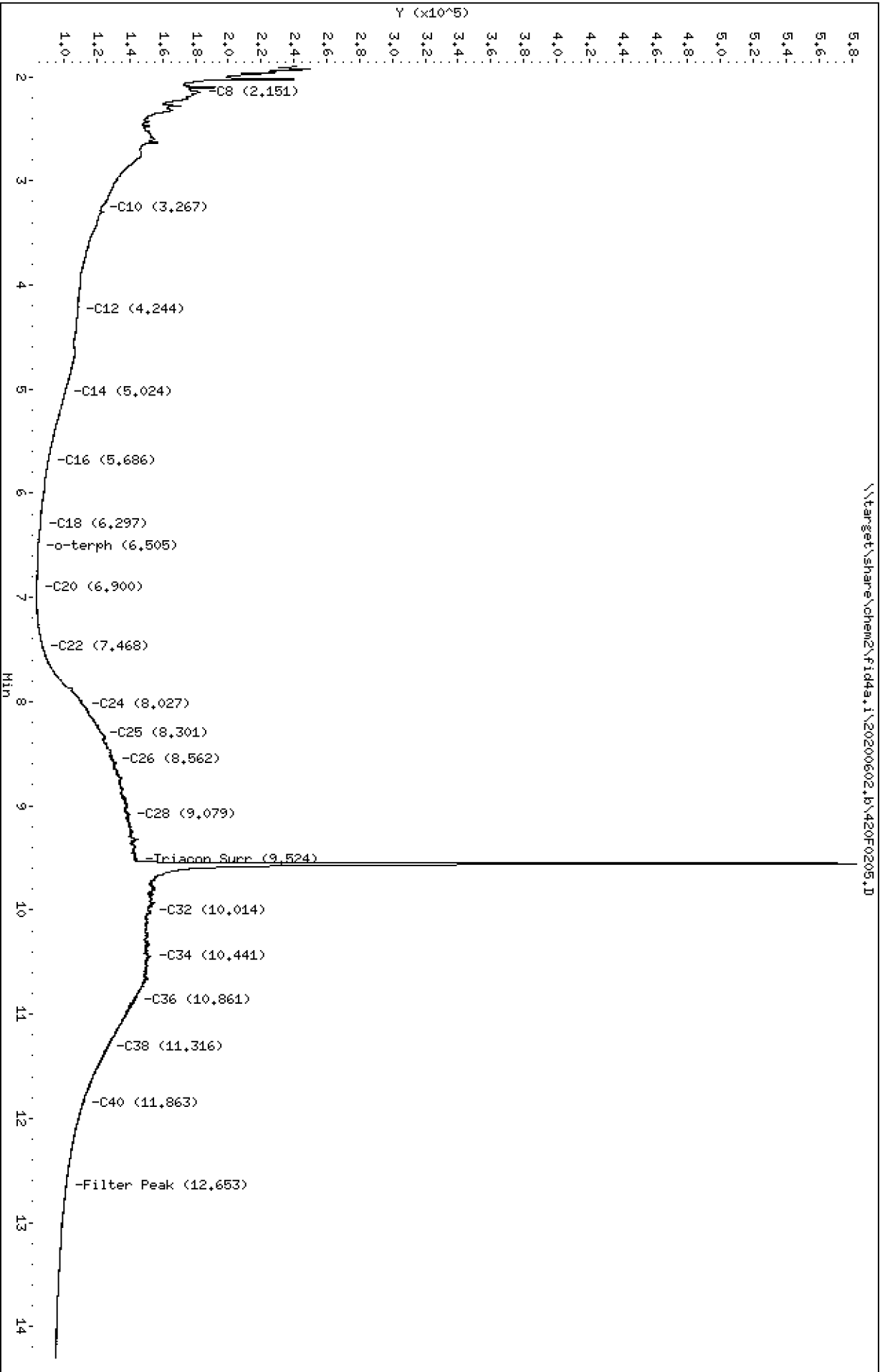
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0205.D
Date: 02-JUN-2020 08:58
Client ID:
Sample Info: SIF0018-CALL

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0205.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL1
Client ID:
Injection: 02-JUN-2020 08:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

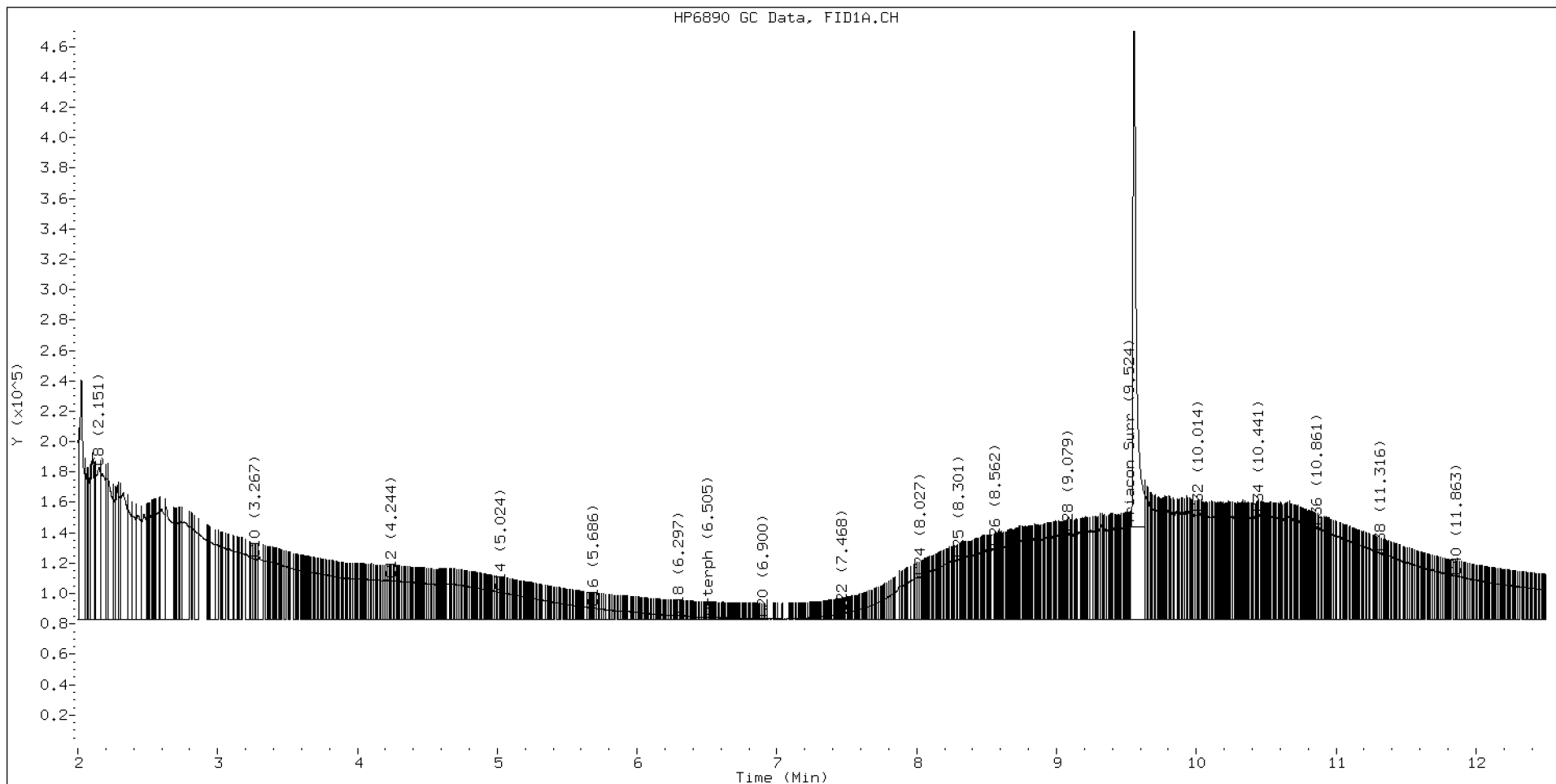
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	99980	217759	WATPHD	(C12-C24)	2058424	12.9
C10	3.267	-0.001	39589	29601	WATPHM	(C24-C38)	11047515	109.2
C12	4.244	-0.001	25508	17793	AK102	(C10-C25)	4072327	20.8
C14	5.024	0.003	17563	10459	AK103	(C25-C36)	9356465	127.8
C16	5.686	-0.002	7220	3247	OR.DIES	(C10-C28)	6554980	33.4
C18	6.297	-0.001	2600	2106				
C20	6.900	0.012	302	196	JET-A	(C10-C18)	3118295	18.6
C22	7.468	0.001	3759	1459				
C24	8.027	-0.002	28105	24801				
C25	8.301	0.000	39391	25449				
C26	8.562	-0.003	47032	11725				
C28	9.079	0.003	56481	28105				
C32	10.014	0.002	69879	38102				
C34	10.441	-0.001	69476	34247				
Filter Peak	12.653	0.001	18229	12666	CREOSOT	(C12-C22)	1520804	36.9
C36	10.861	0.006	60542	41919				
C38	11.316	0.007	43480	28015				
C40	11.863	0.001	28191	8434				
o-terph	6.505	-0.001	1238	750				
Triacon Surr	9.554	-0.026	438731	632528	NAS DIES	(C10-C24)	3725496	19.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	750	0.0
Triacontane	632528	4.3 M

M Indicates the peak was manually integrated

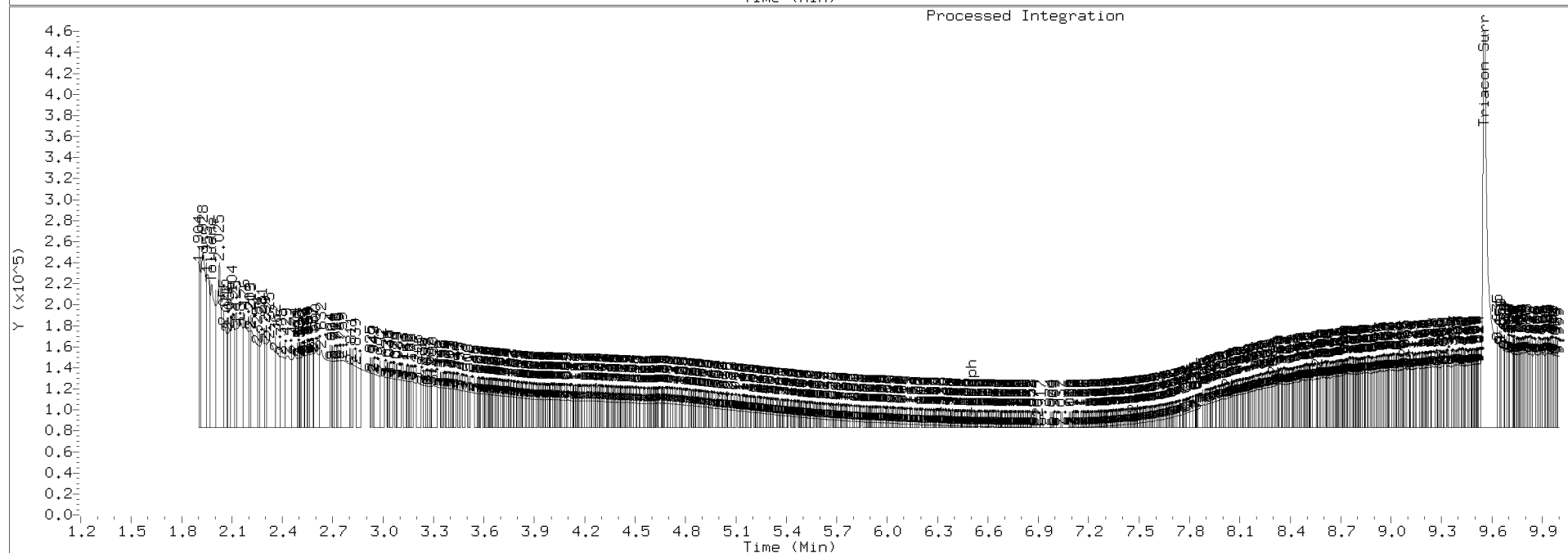
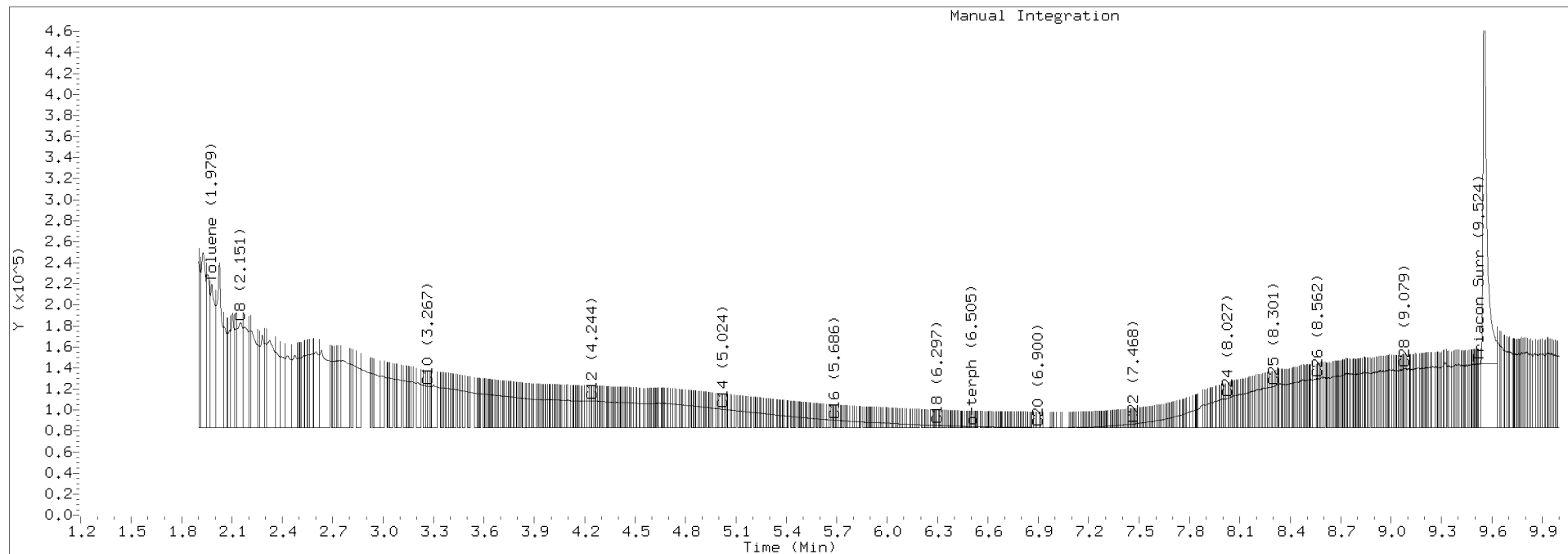
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0205.D Injection: 02-JUN-2020 08:58

Lab ID:SIF0018-CAL1

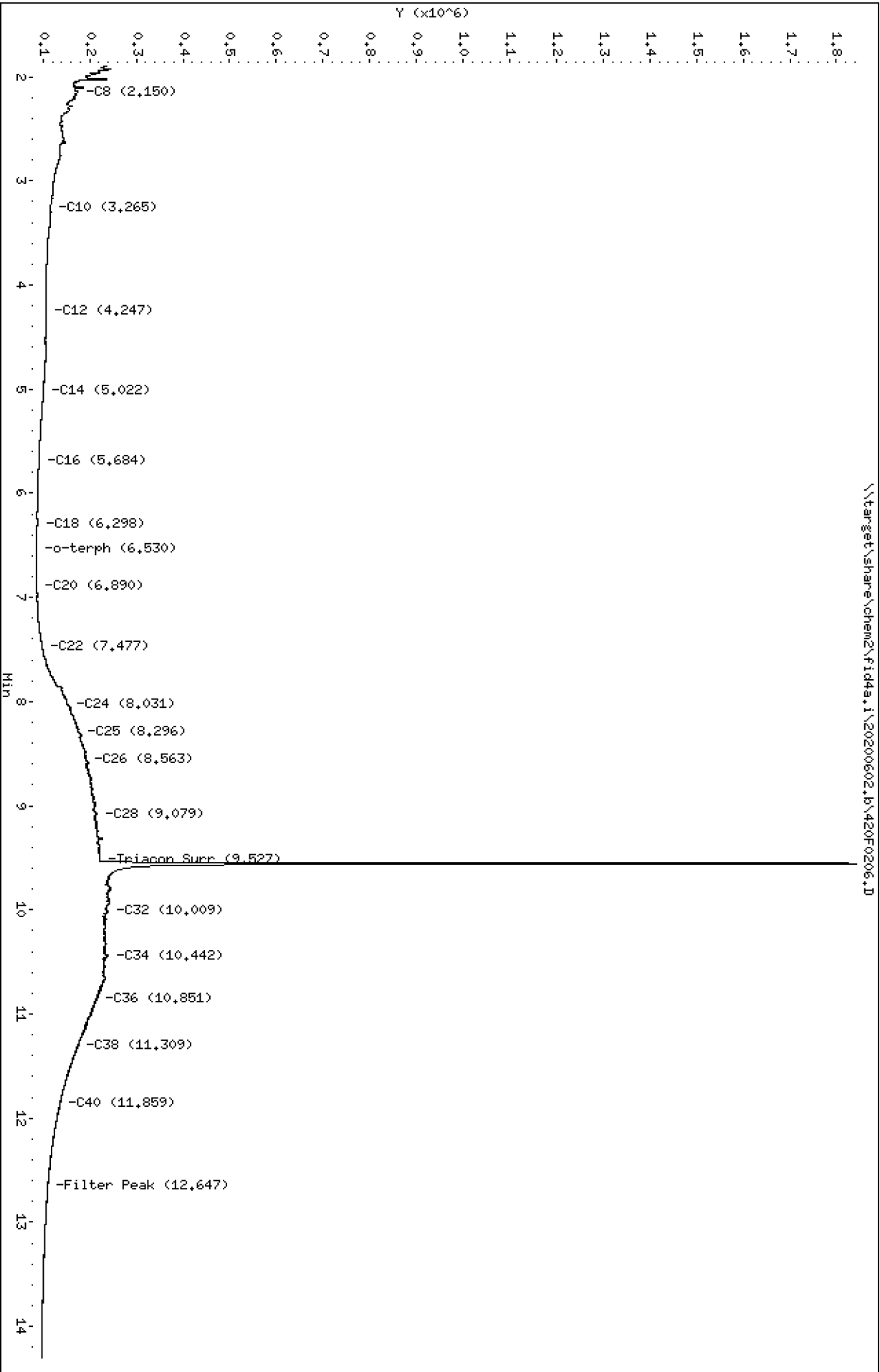


Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0206.D
Date : 02-JUN-2020 09:17
Client ID:
Sample Info: SIF0018-CAL2

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0206.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL2
Client ID:
Injection: 02-JUN-2020 09:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

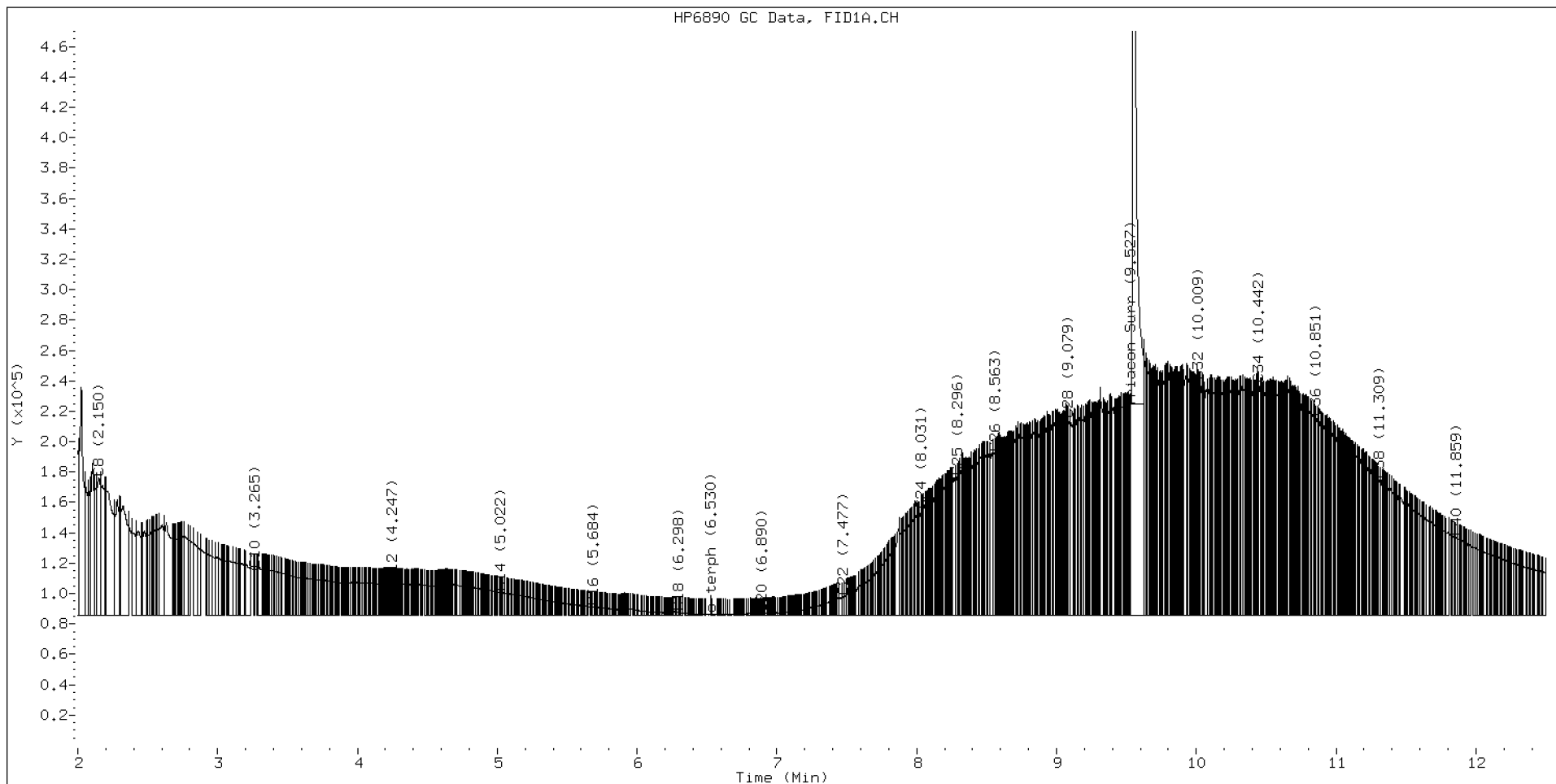
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	89858	185422	WATPHD	(C12-C24)	2712070	17.0
C10	3.265	-0.003	30146	13534	WATPHM	(C24-C38)	24525710	242.4
C12	4.247	0.002	20913	5217	AK102	(C10-C25)	4830477	24.7
C14	5.022	0.000	14927	5202	AK103	(C25-C36)	21012310	287.0
C16	5.684	-0.004	5316	3160	OR.DIES	(C10-C28)	10587317	54.0
C18	6.298	-0.001	1804	867				
C20	6.890	0.002	868	325	JET-A	(C10-C18)	2431354	14.5
C22	7.477	0.010	11963	10299				
C24	8.031	0.002	68912	56553				
C25	8.296	-0.005	90908	49681				
C26	8.563	-0.002	106529	37089				
C28	9.079	0.002	128296	51107				
C32	10.009	-0.003	153736	84024				
C34	10.442	0.000	152153	67959				
Filter Peak	12.647	-0.005	24724	15926	CREOSOT	(C12-C22)	1339051	32.5
C36	10.851	-0.004	129949	77218				
C38	11.309	0.000	88878	57220				
C40	11.859	-0.002	51003	42869				
o-terph	6.530	0.023	286	110				
Triacon Surr	9.553	-0.027	1618248	1548362	NAS DIES	(C10-C24)	4003518	20.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	110	0.0
Triacontane	1548362	10.4 M

M Indicates the peak was manually integrated

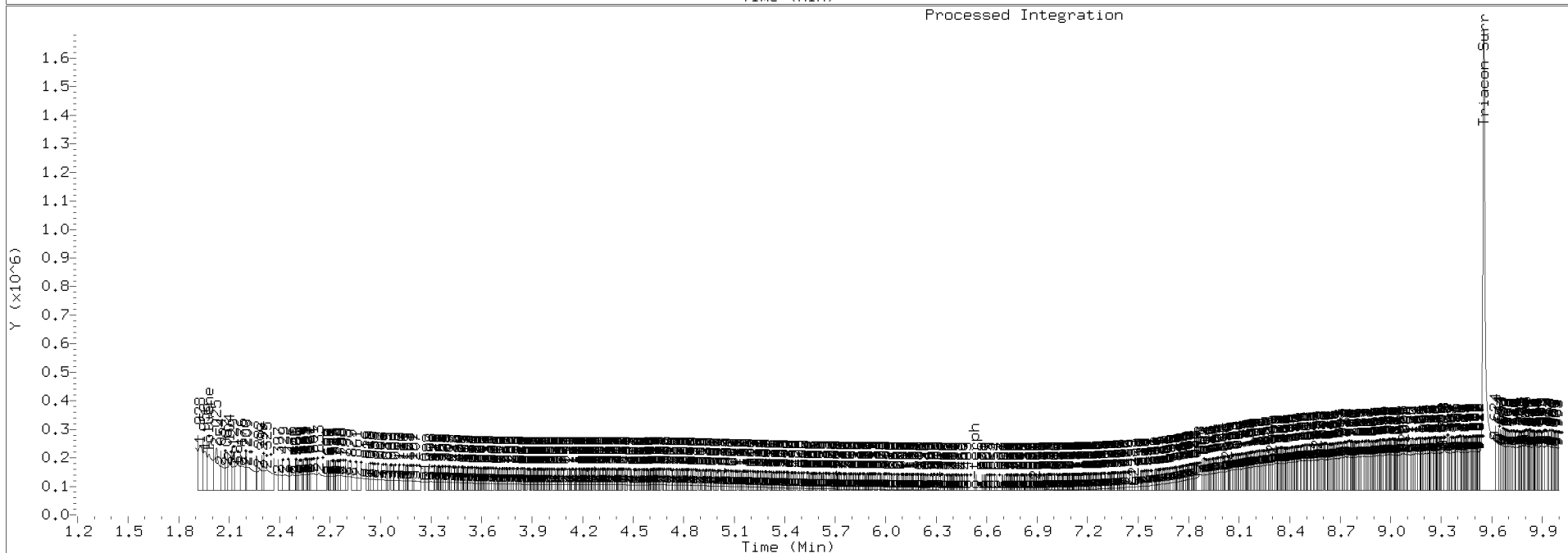
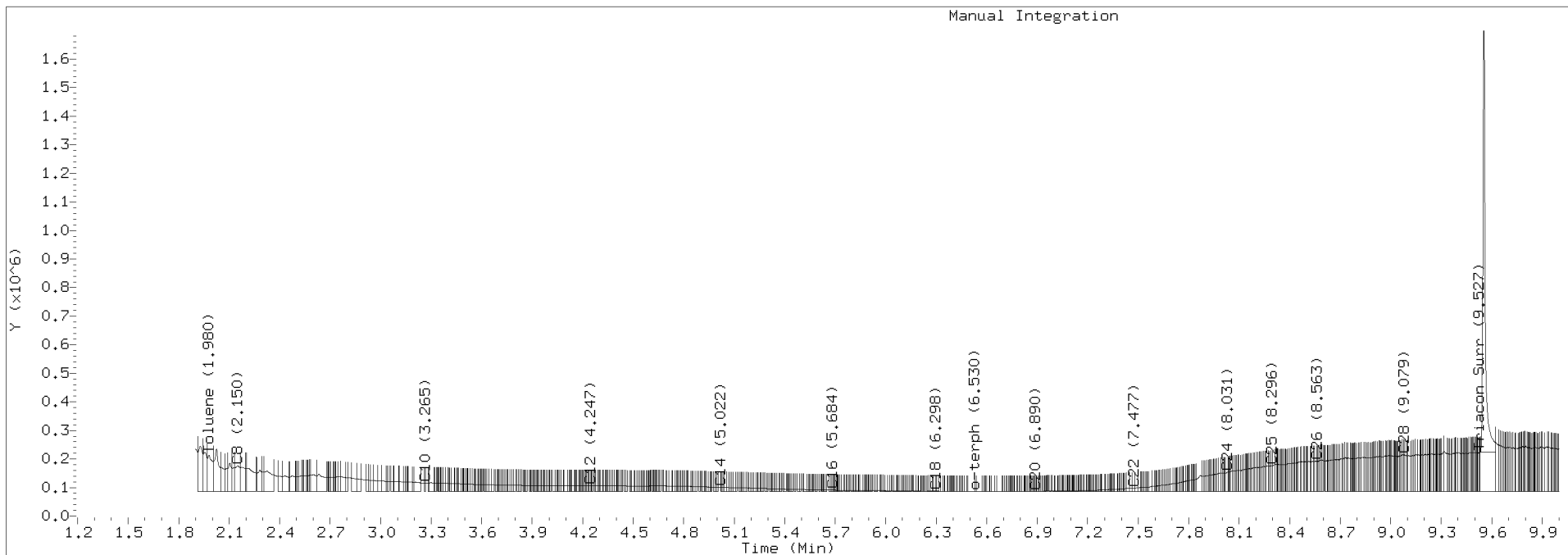
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0206.D Injection: 02-JUN-2020 09:17

Lab ID:SIF0018-CAL2



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0207.D

Date : 02-JUN-2020 09:37

Client ID:

Sample Info: SIF0018-CAL3

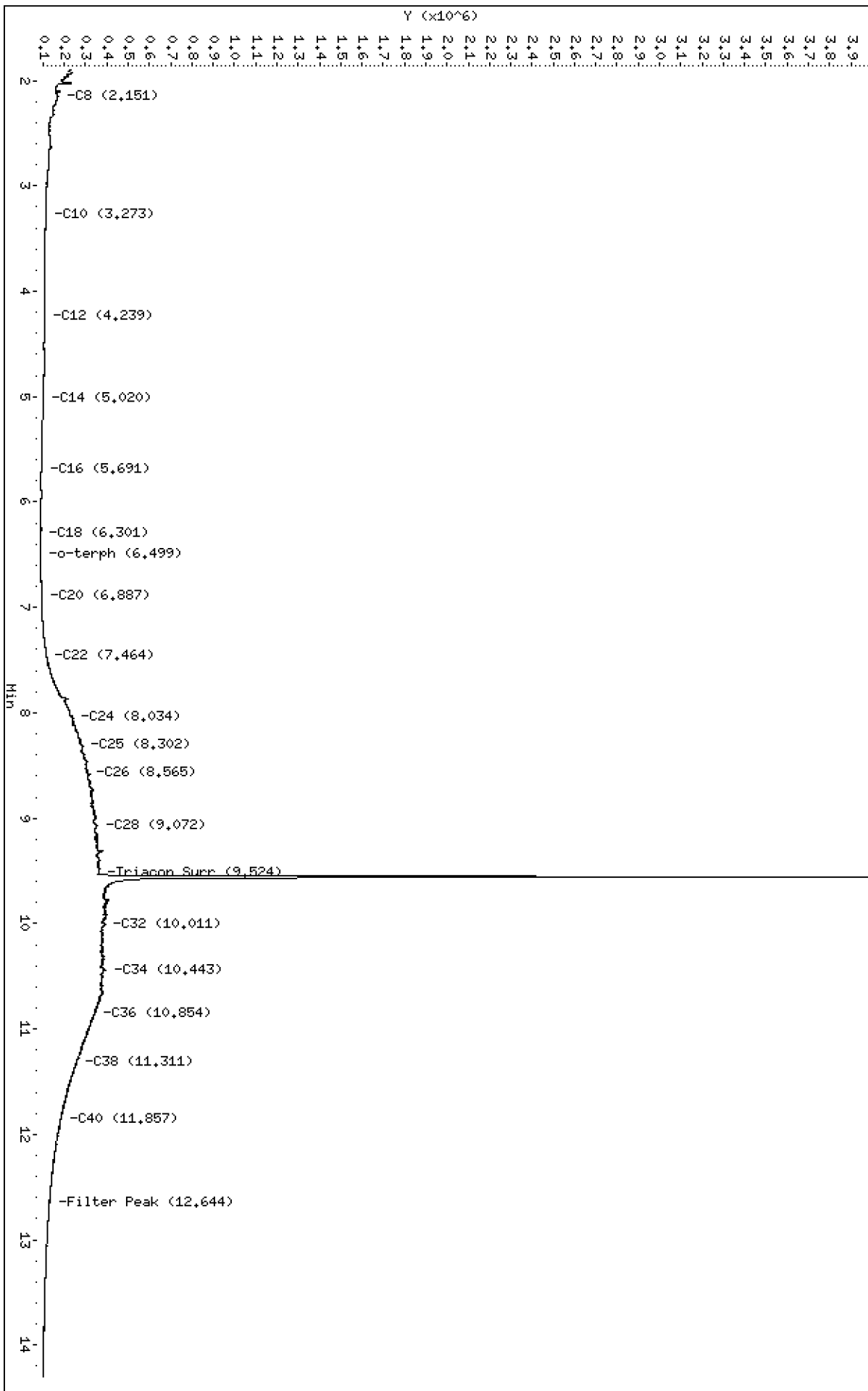
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0207.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0207.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL3
Client ID:
Injection: 02-JUN-2020 09:37
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

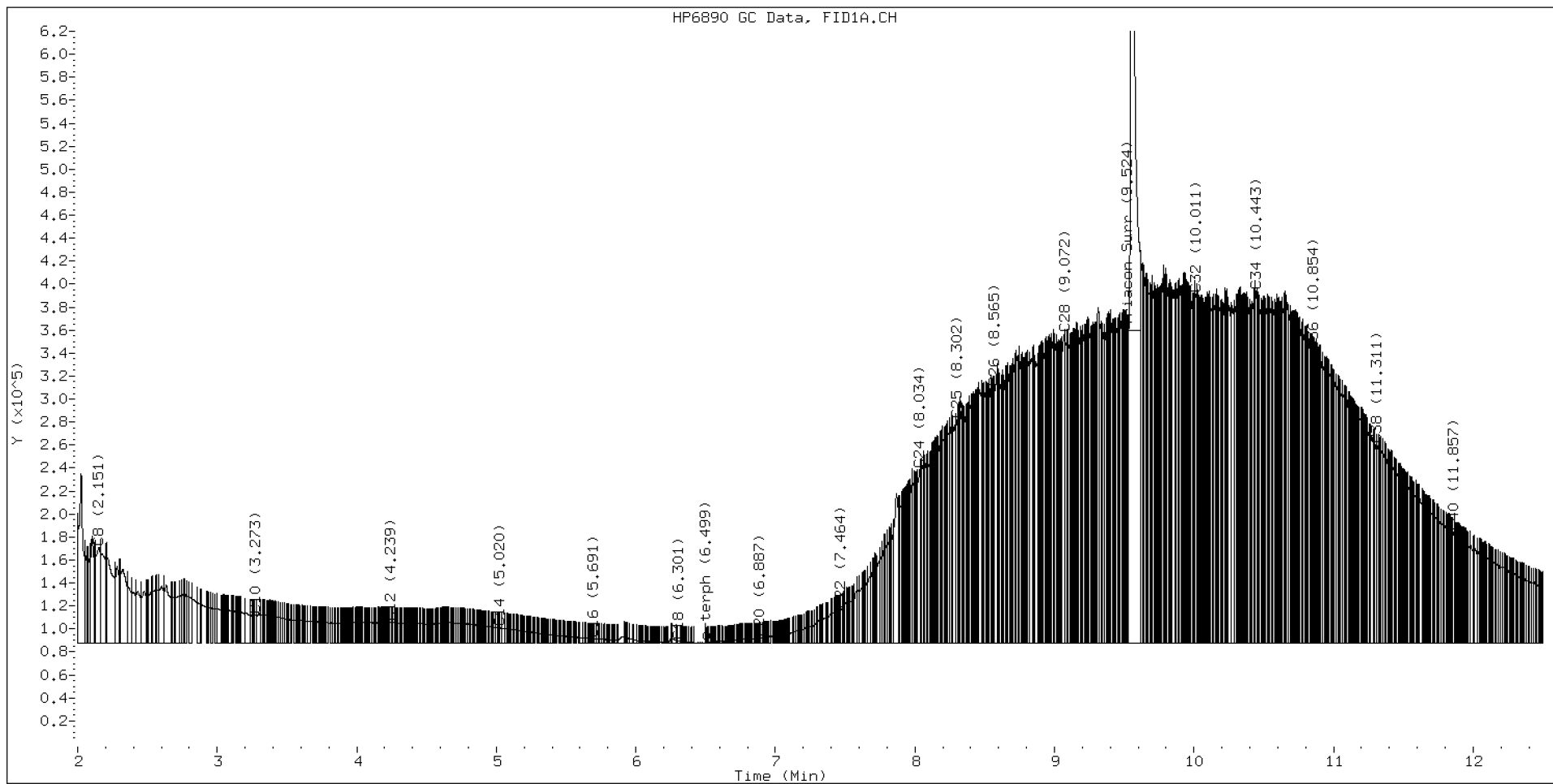
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	83340	181737	WATPHD	(C12-C24)	4669475	29.3
C10	3.273	0.004	24124	29803	WATPHM	(C24-C38)	49486995	489.2
C12	4.239	-0.005	17851	9766	AK102	(C10-C25)	7430681	38.0
C14	5.020	-0.001	13143	9087	AK103	(C25-C36)	42295515	577.8
C16	5.691	0.003	3577	1419	OR.DIES	(C10-C28)	19434570	99.2
C18	6.301	0.003	1747	1733				
C20	6.887	-0.001	3928	772	JET-A	(C10-C18)	2089833	12.4
C22	7.464	-0.003	28742	14145				
C24	8.034	0.005	150683	195060				
C25	8.302	0.001	193725	142733				
C26	8.565	0.000	222104	154233				
C28	9.072	-0.005	269216	379539				
C32	10.011	-0.001	303243	166080				
C34	10.443	0.001	305814	210777				
Filter Peak	12.644	-0.008	43077	59185	CREOSOT	(C12-C22)	1595428	38.7
C36	10.854	-0.001	253799	113868				
C38	11.311	0.002	172045	186385				
C40	11.857	-0.005	96077	71008				
o-terph	6.499	-0.008	250	102				
Triacon Surr	9.559	-0.022	3627992	3323417	NAS DIES	(C10-C24)	5759449	29.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	102	0.0
Triacontane	3323417	22.4 M

M Indicates the peak was manually integrated

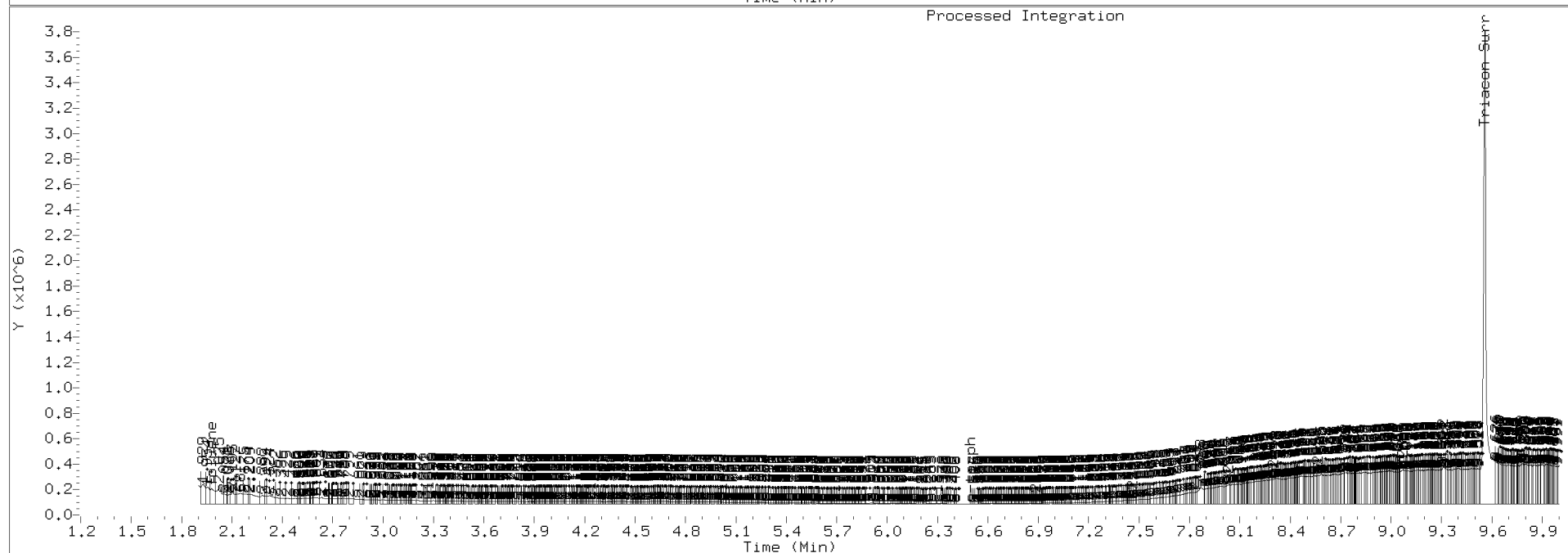
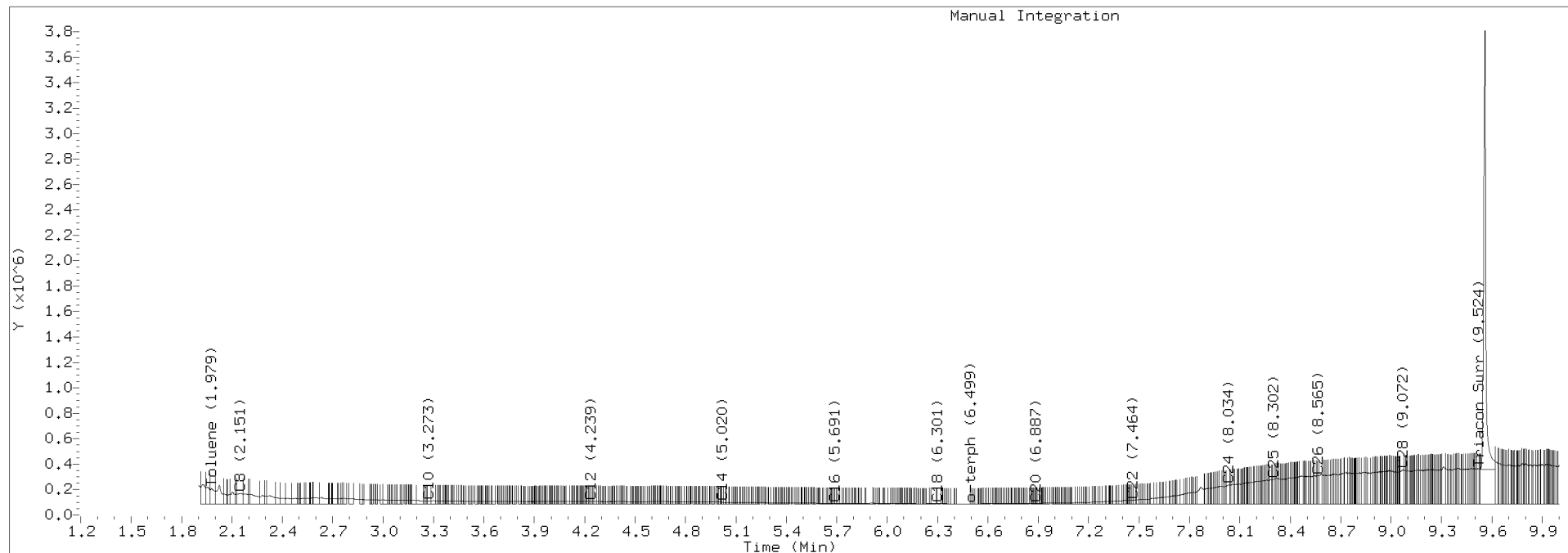
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0207.D Injection: 02-JUN-2020 09:37

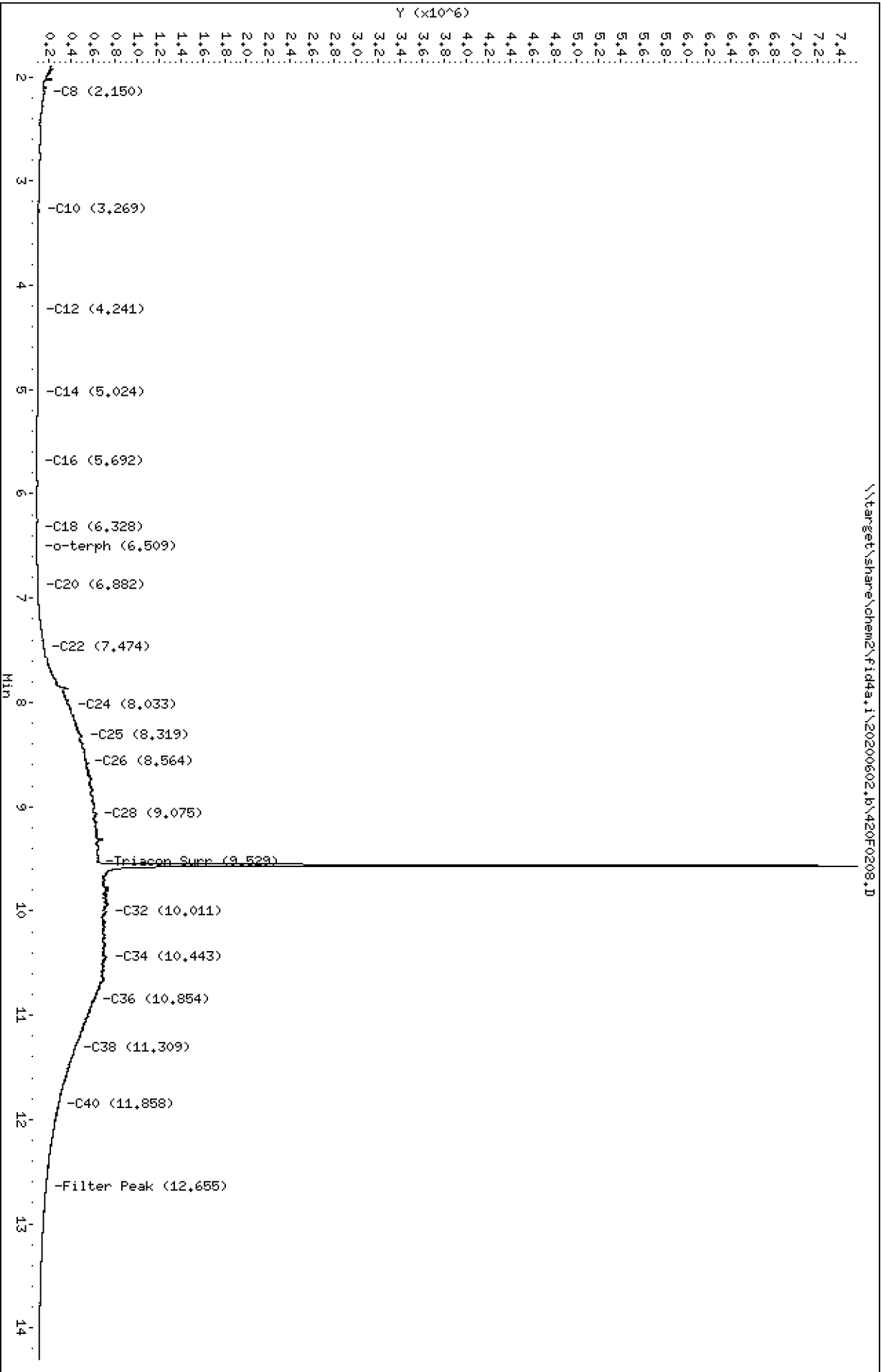
Lab ID:SIF0018-CAL3



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0208.D
Date : 02-JUN-2020 09:56
Client ID:
Sample Info: SIF0018-CAL4

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0208.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL4
Client ID:
Injection: 02-JUN-2020 09:56
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

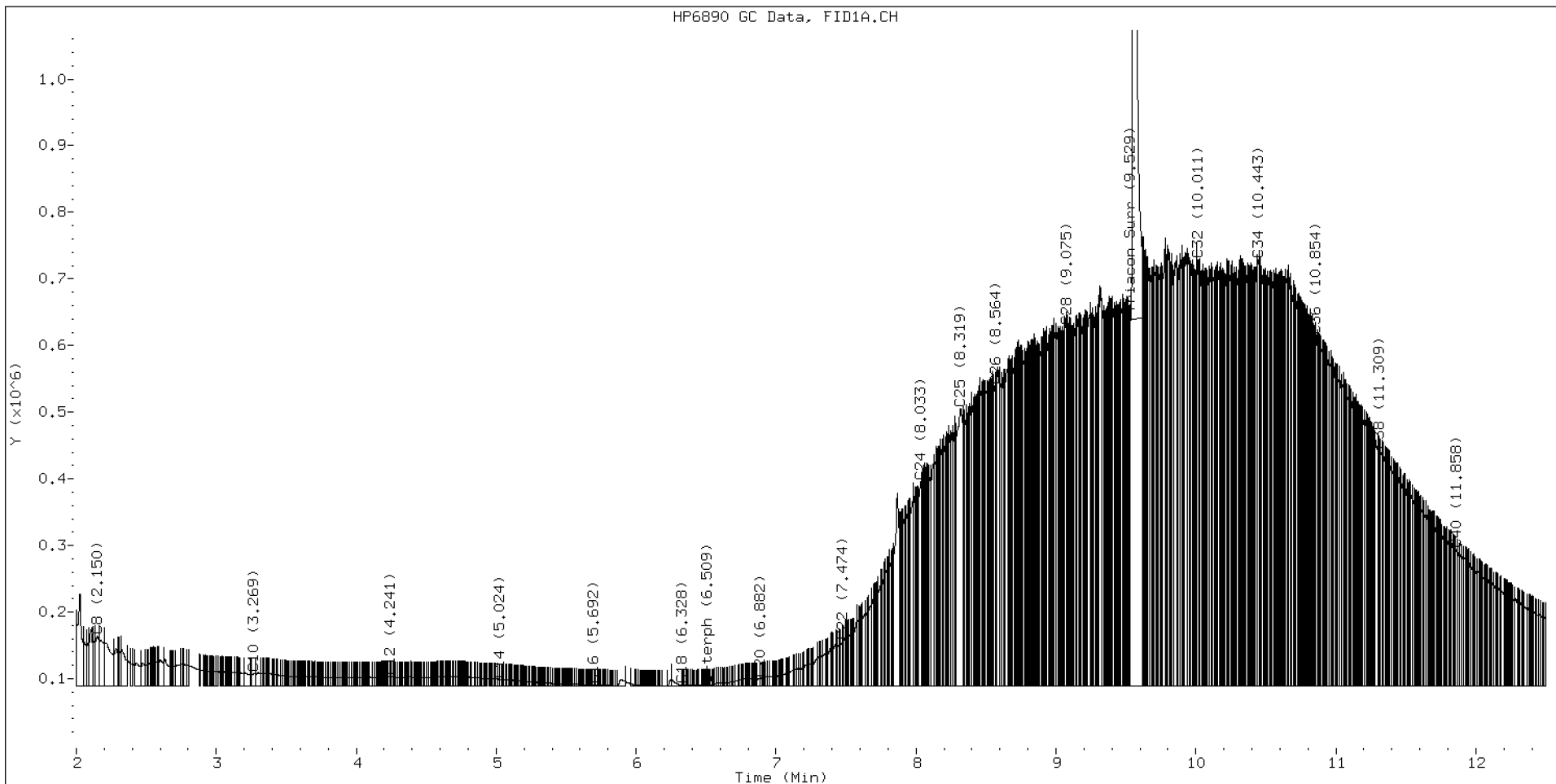
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	74771	134338	WATPHD	(C12-C24)	8555448	53.7
C10	3.269	0.001	18936	30862	WATPHM	(C24-C38)	101521093	1003.5
C12	4.241	-0.003	13823	8198	AK102	(C10-C25)	12841862	65.7
C14	5.024	0.002	10299	9083	AK103	(C25-C36)	86804393	1185.7
C16	5.692	0.004	1790	930	OR.DIES	(C10-C28)	37125765	189.4
C18	6.328	0.029	1582	935				
C20	6.882	-0.006	11147	11817	JET-A	(C10-C18)	1615268	9.6
C22	7.474	0.008	67672	77092				
C24	8.033	0.004	306185	439125				
C25	8.319	0.018	416111	1127058				
C26	8.564	-0.001	451269	313667				
C28	9.075	-0.001	539909	295930				
C32	10.011	-0.001	639854	440607				
C34	10.443	0.001	639844	540147				
Filter Peak	12.655	0.004	86624	68681	CREOSOT	(C12-C22)	2251661	54.6
C36	10.854	-0.001	524868	130805				
C38	11.309	-0.001	353422	105615				
C40	11.858	-0.004	204852	161643				
o-terph	6.509	0.002	1937	664				
Triacon Surr	9.567	-0.014	6918042	6925867	NAS DIES	(C10-C24)	9387862	48.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	664	0.0
Triacontane	6925867	46.7 M

M Indicates the peak was manually integrated

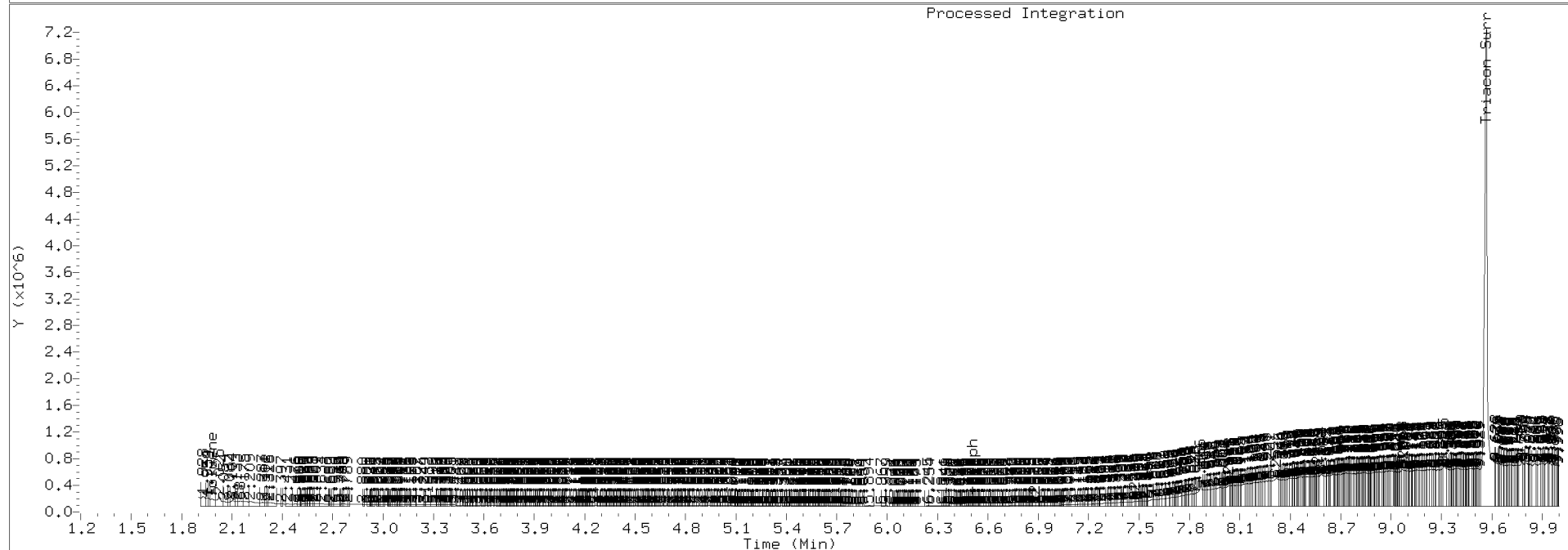
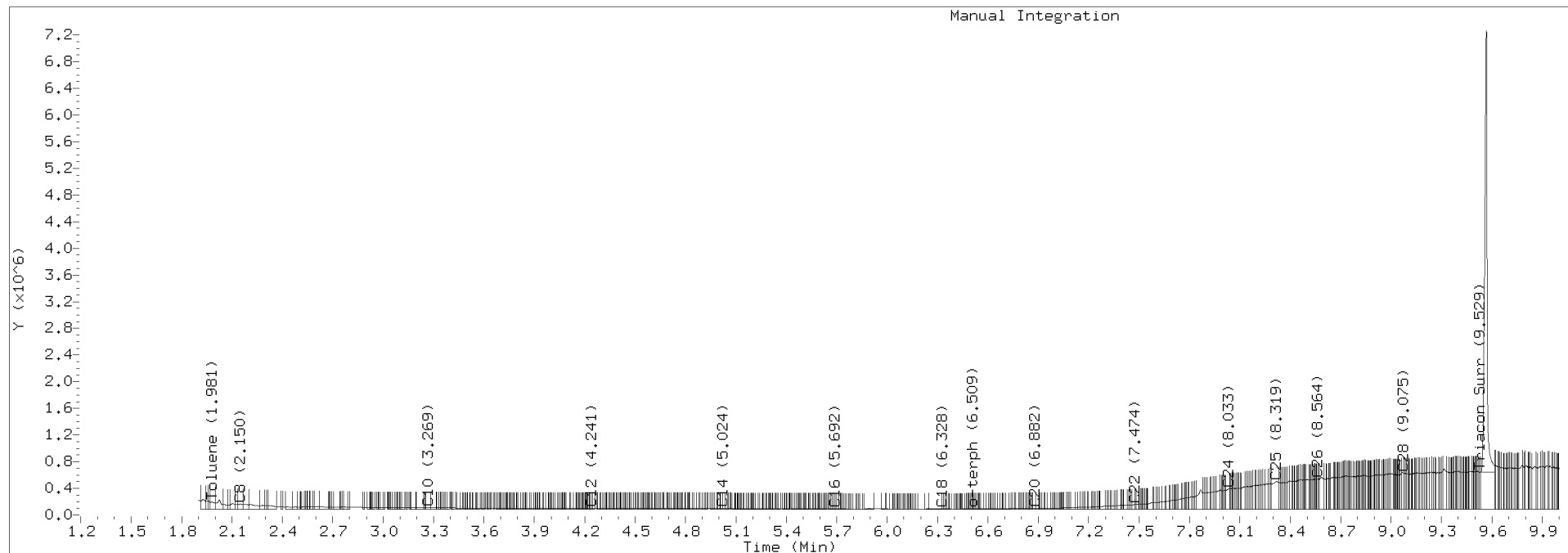
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0208.D Injection: 02-JUN-2020 09:56

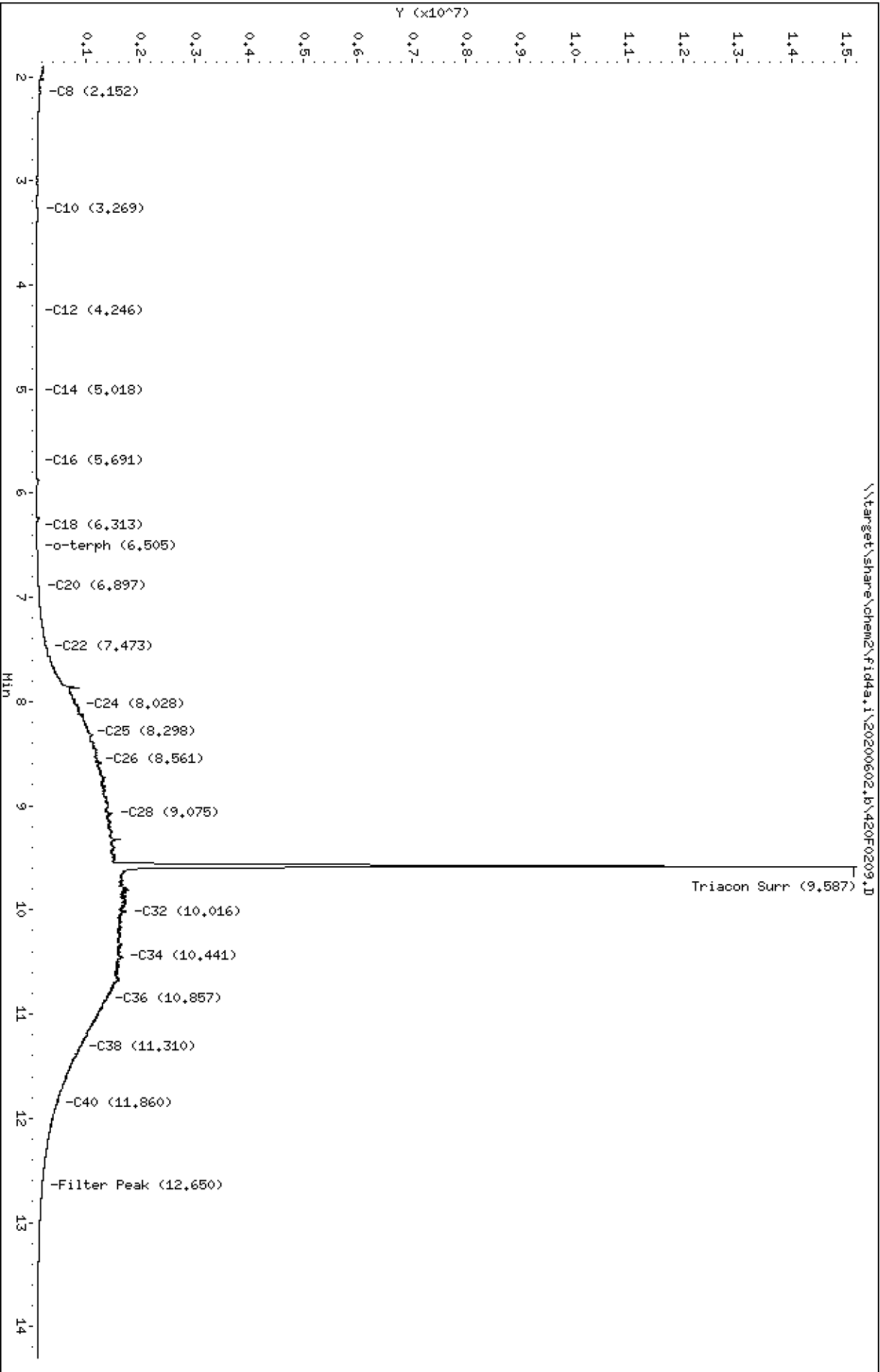
Lab ID:SIF0018-CAL4



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0209.D
Date: 02-JUN-2020 10:16
Client ID:
Sample Info: SIF0018-CAL5

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0209.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL5
Client ID:
Injection: 02-JUN-2020 10:16
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

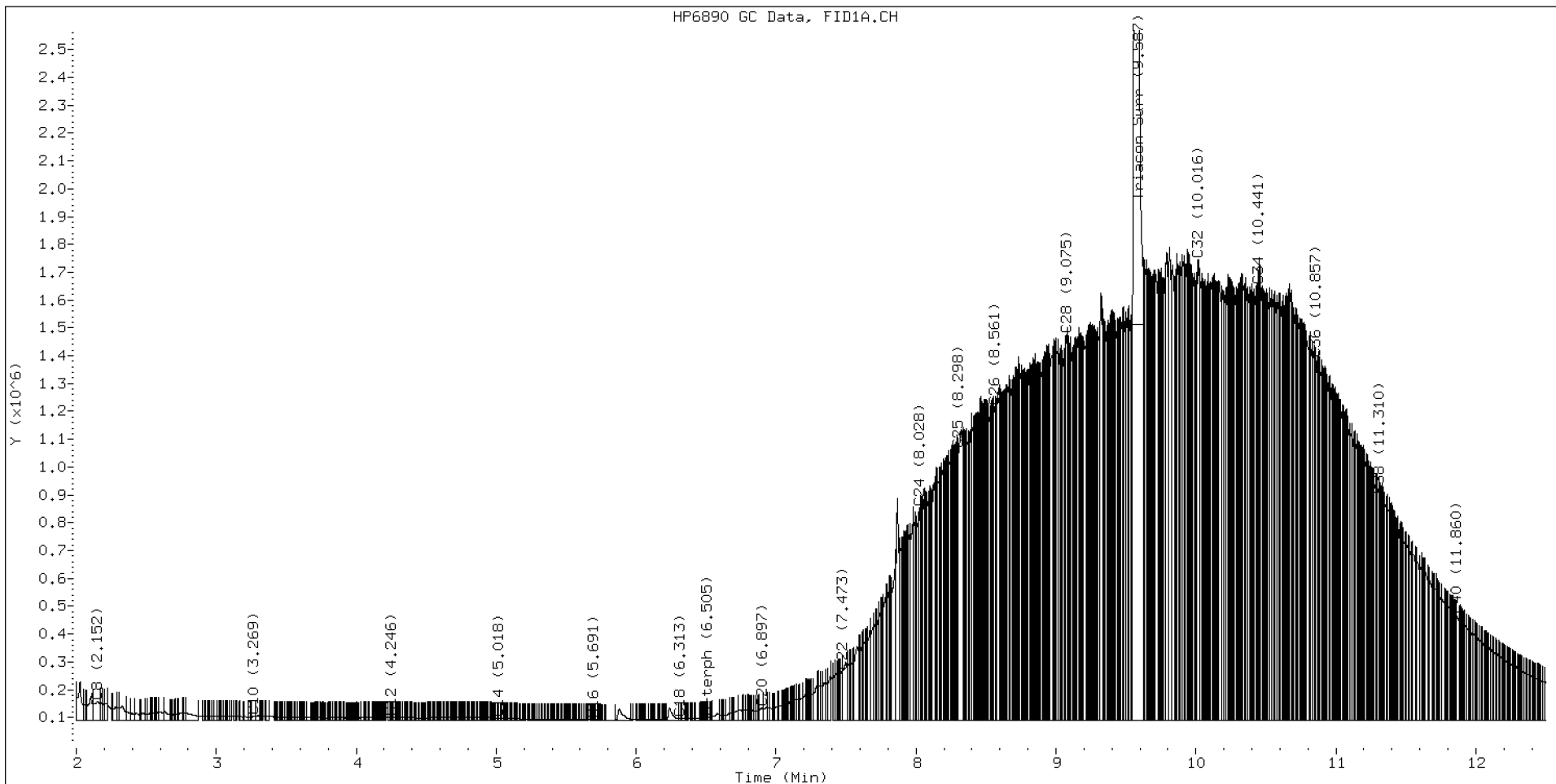
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	67731	187221	WATPHD	(C12-C24)	20822485	130.7
C10	3.269	0.000	15304	22992	WATPHM	(C24-C38)	252817754	2499.0
C12	4.246	0.002	8746	2596	AK102	(C10-C25)	30167989	154.3
C14	5.018	-0.004	7386	6763	AK103	(C25-C36)	216864710	2962.4
C16	5.691	0.003	1016	400	OR.DIES	(C10-C28)	91347766	466.1
C18	6.313	0.015	5888	3404				
C20	6.897	0.009	42706	72168	JET-A	(C10-C18)	1226841	7.3
C22	7.473	0.006	175100	153872				
C24	8.028	-0.001	763007	660412				
C25	8.298	-0.003	971912	386849				
C26	8.561	-0.004	1127303	613889				
C28	9.075	-0.002	1382437	951882				
C32	10.016	0.004	1653735	2165722				
C34	10.441	-0.000	1559614	615531				
Filter Peak	12.650	-0.001	105709	42002	CREOSOT	(C12-C22)	4802696	116.5
C36	10.857	0.002	1298073	1024006				
C38	11.310	0.001	808749	281747				
C40	11.860	-0.001	376098	494366				
o-terph	6.505	-0.001	10128	3504				
Triacon Surr	9.587	0.006	13686611	17883640	NAS DIES	(C10-C24)	21349343	109.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	3504	0.0
Triacontane	17883640	120.5 M

M Indicates the peak was manually integrated

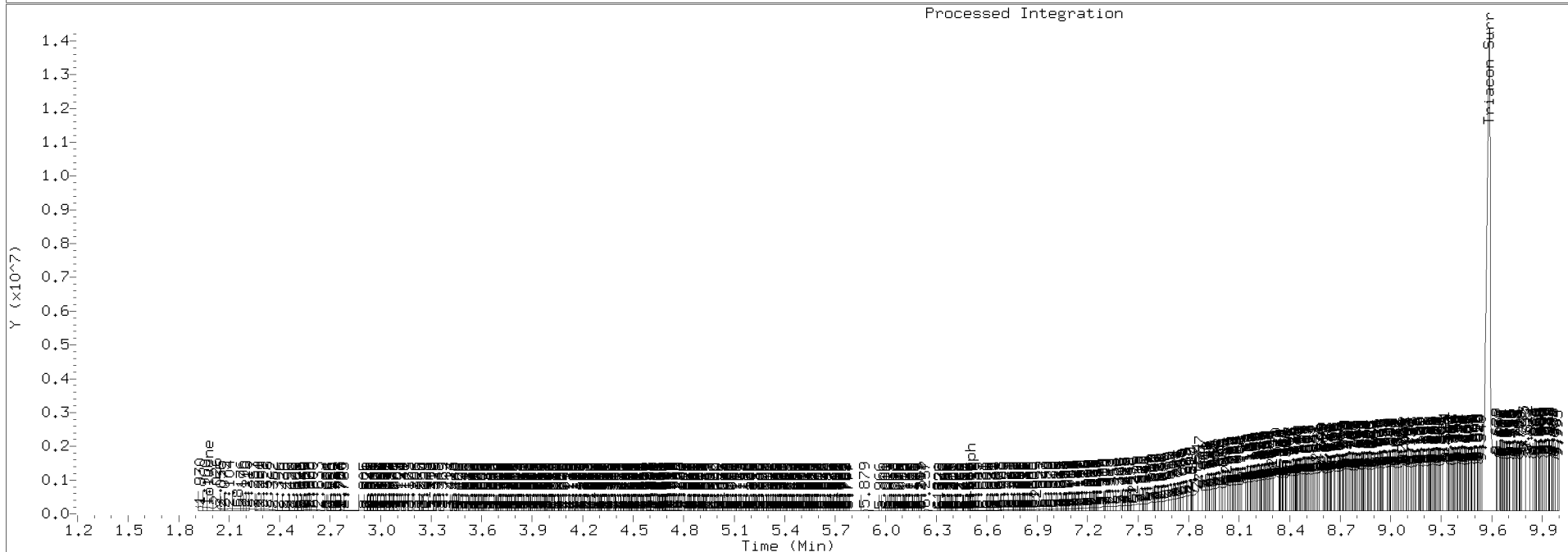
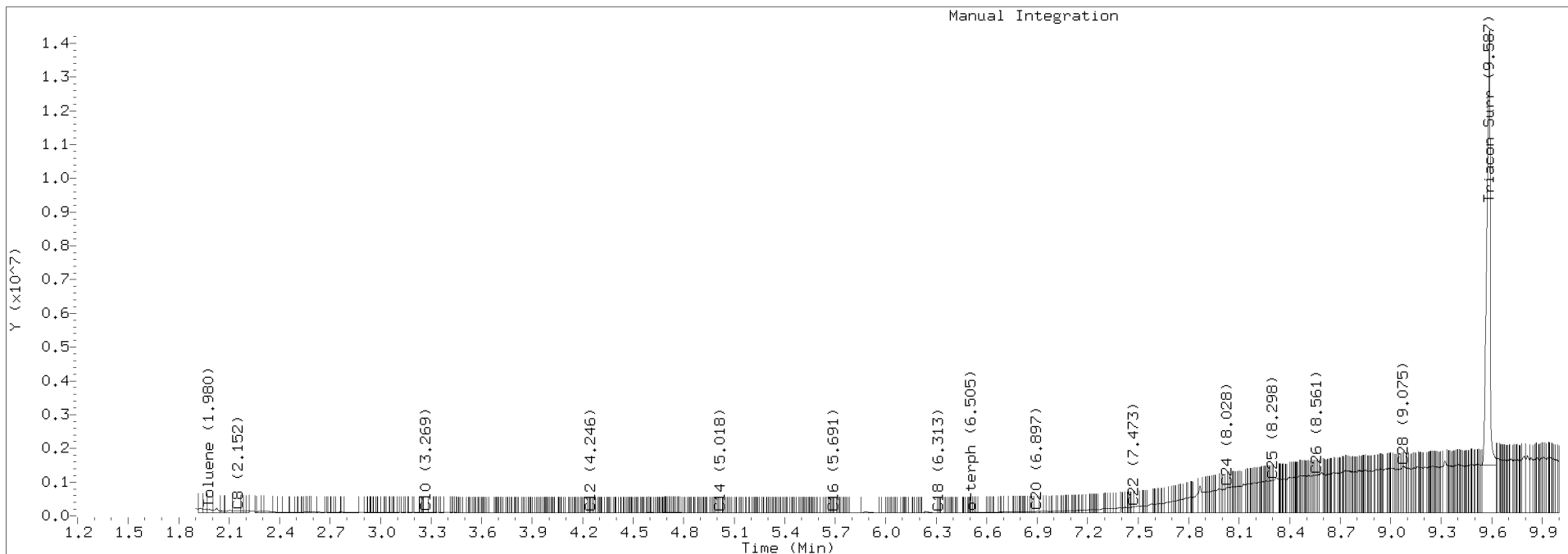
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0209.D Injection: 02-JUN-2020 10:16

Lab ID:SIF0018-CAL5



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0210.D

Date : 02-JUN-2020 10:36

Client ID:

Sample Info: SIF0018-CAL6

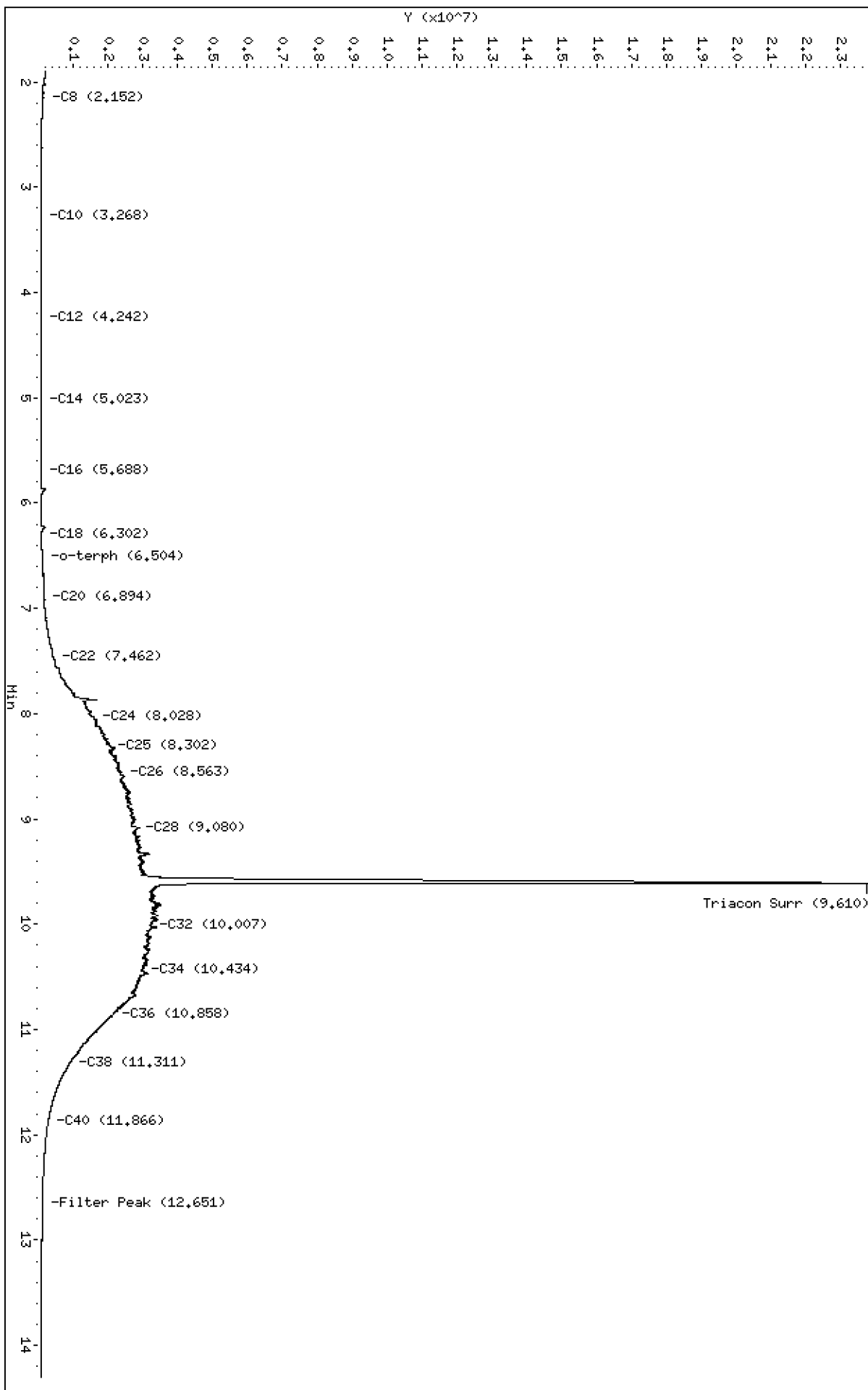
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0210.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0210.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL6
Client ID:
Injection: 02-JUN-2020 10:36
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

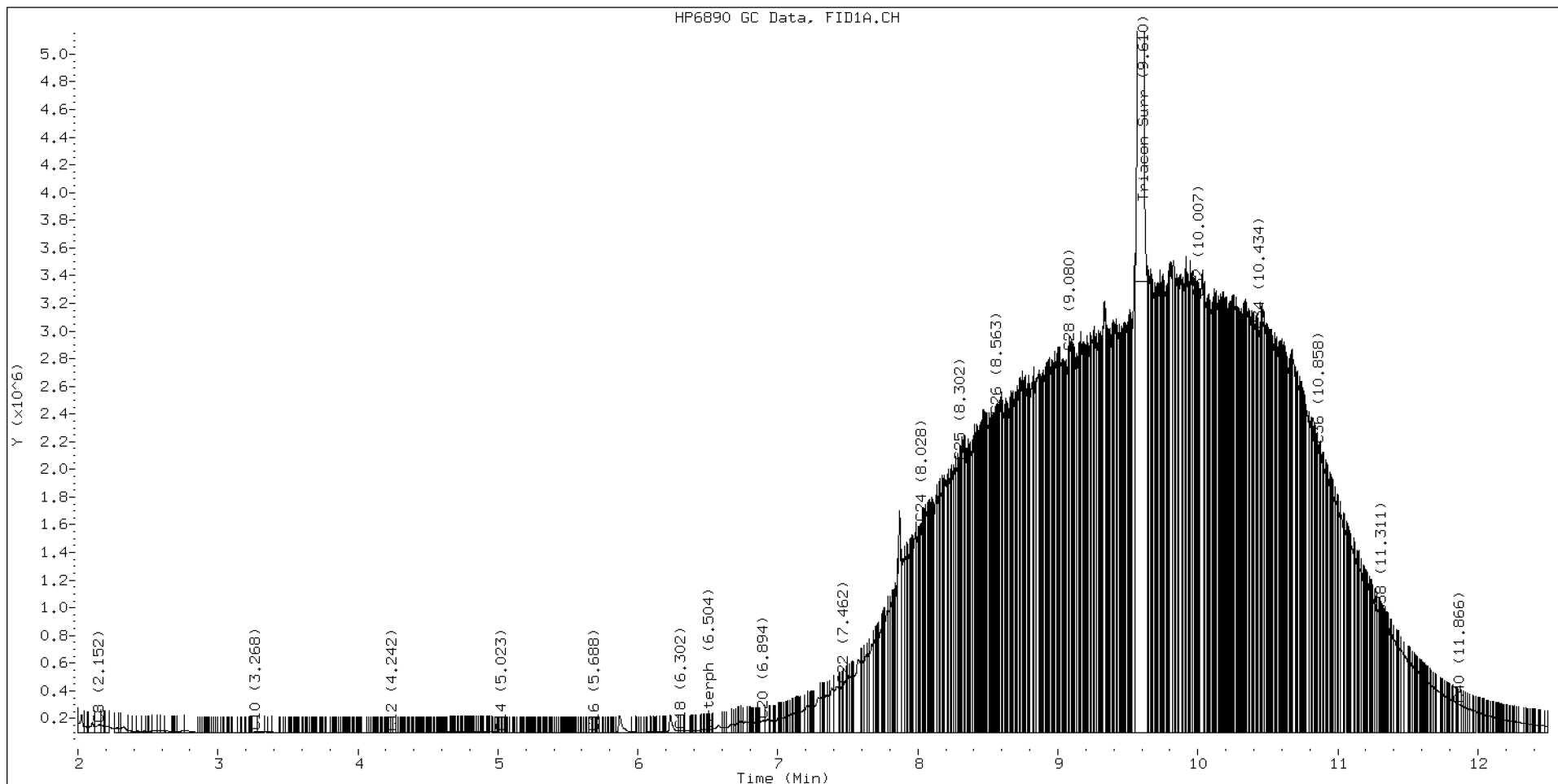
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	59759	152130	WATPHD	(C12-C24)	42097067	264.2
C10	3.268	-0.000	10906	13309	WATPHM	(C24-C38)	483979490	4784.0
C12	4.242	-0.002	3837	2144	AK102	(C10-C25)	60128324	307.6
C14	5.023	0.001	5263	2575	AK103	(C25-C36)	432878704	5913.1
C16	5.688	-0.000	5016	3894	OR.DIES	(C10-C28)	184154148	939.6
C18	6.302	0.004	14889	15133				
C20	6.894	0.006	90358	170510	JET-A	(C10-C18)	1118951	6.7
C22	7.462	-0.004	348837	170286				
C24	8.028	-0.001	1514675	949832				
C25	8.302	0.001	1962082	1344009				
C26	8.563	-0.002	2289043	1251416				
C28	9.080	0.003	2750480	953261				
C32	10.007	-0.005	3143736	1251600				
C34	10.434	-0.008	2911308	1732712				
Filter Peak	12.651	-0.000	36927	34124	CREOSOT	(C12-C22)	10157950	246.3
C36	10.858	0.003	2076086	2039708				
C38	11.311	0.001	852892	501049				
C40	11.866	0.004	208322	233733				
o-terph	6.504	-0.003	25014	7430				
Triacon Surr	9.610	0.029	20463550	34084629	NAS DIES	(C10-C24)	42231077	216.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	7430	0.0
Triacontane	34084629	229.7 M

M Indicates the peak was manually integrated

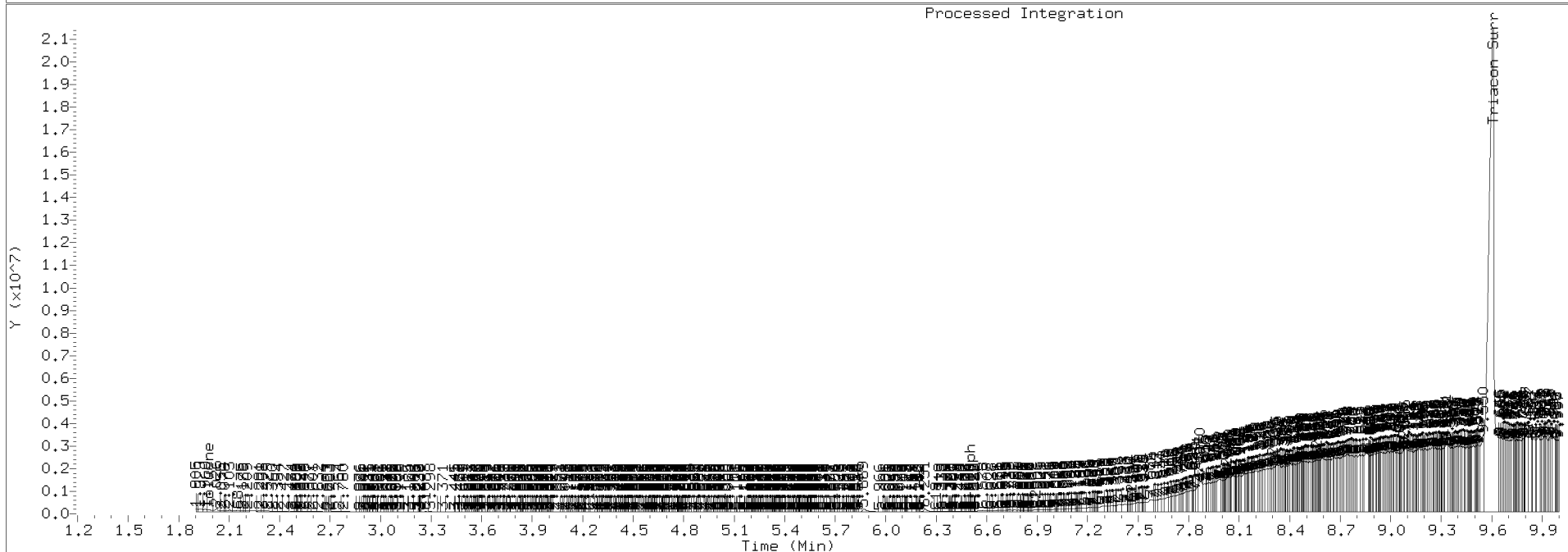
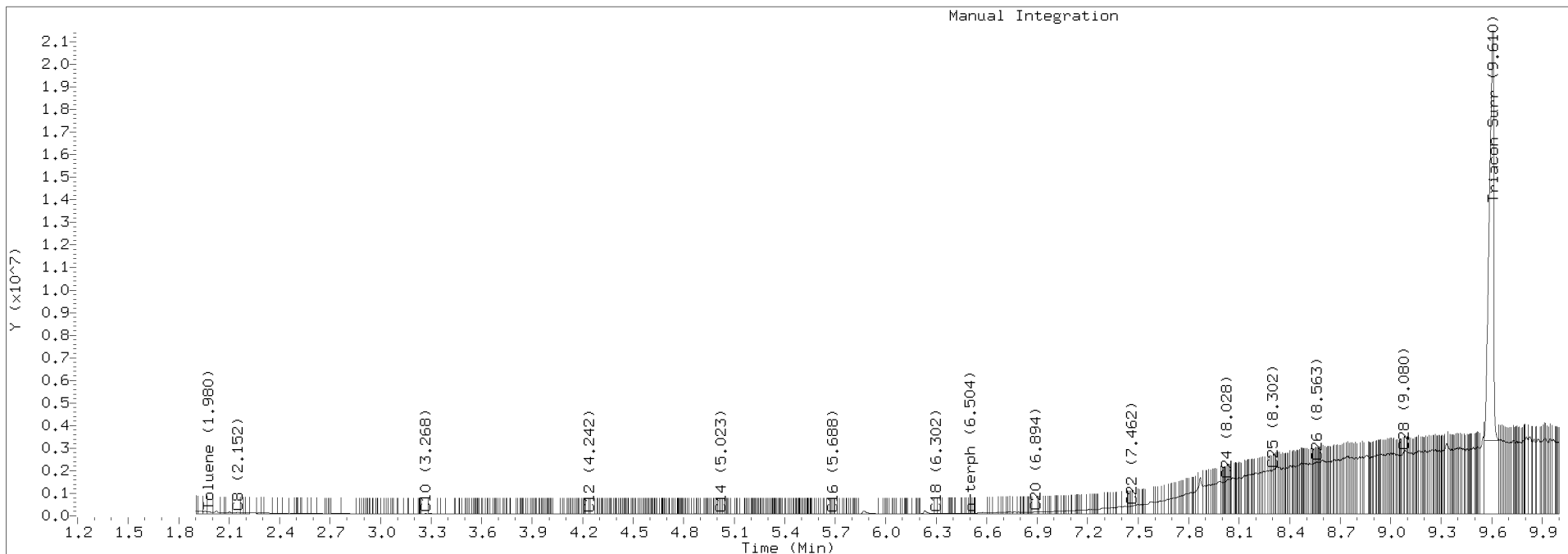
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0210.D Injection: 02-JUN-2020 10:36

Lab ID:SIF0018-CAL6



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

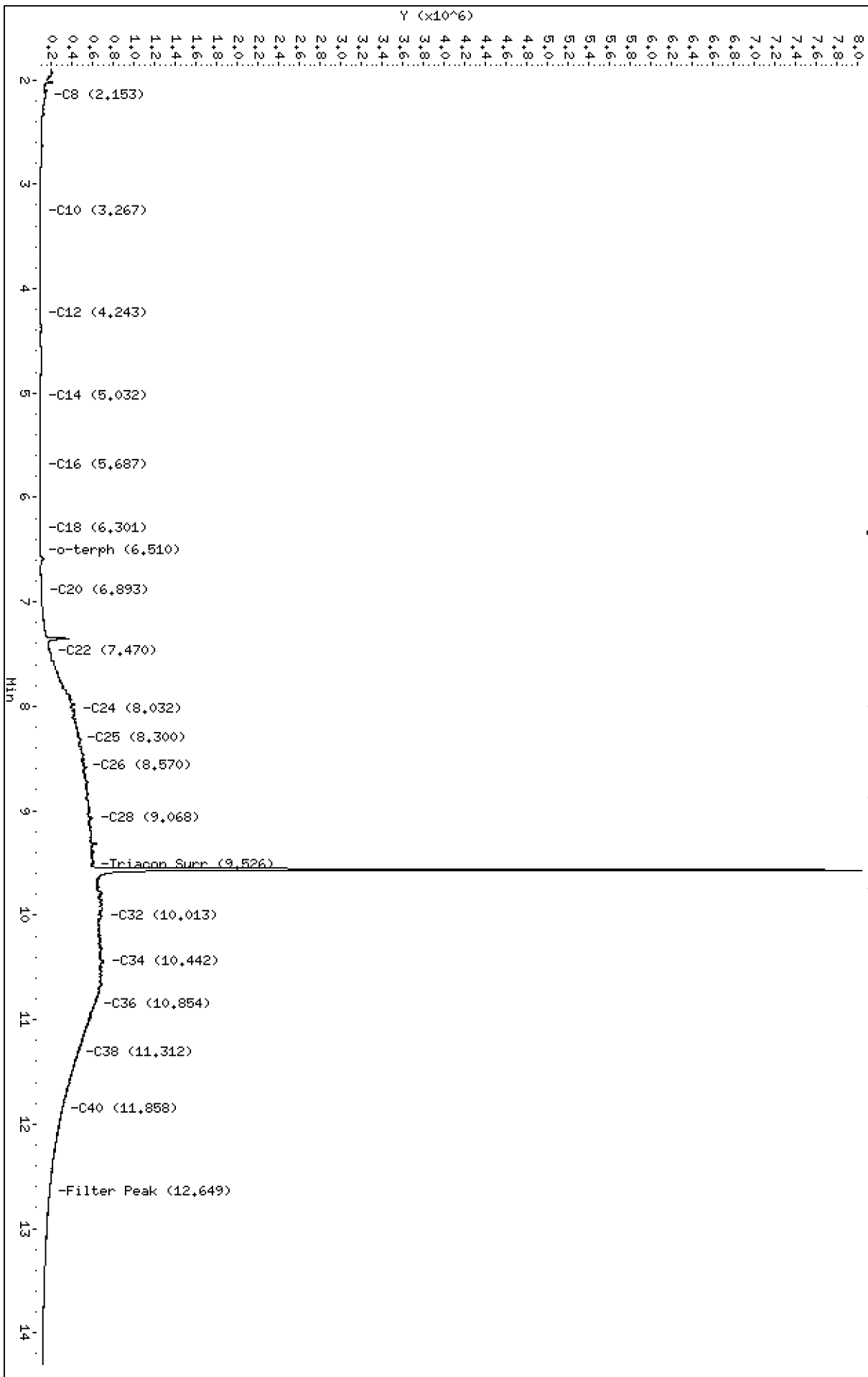
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

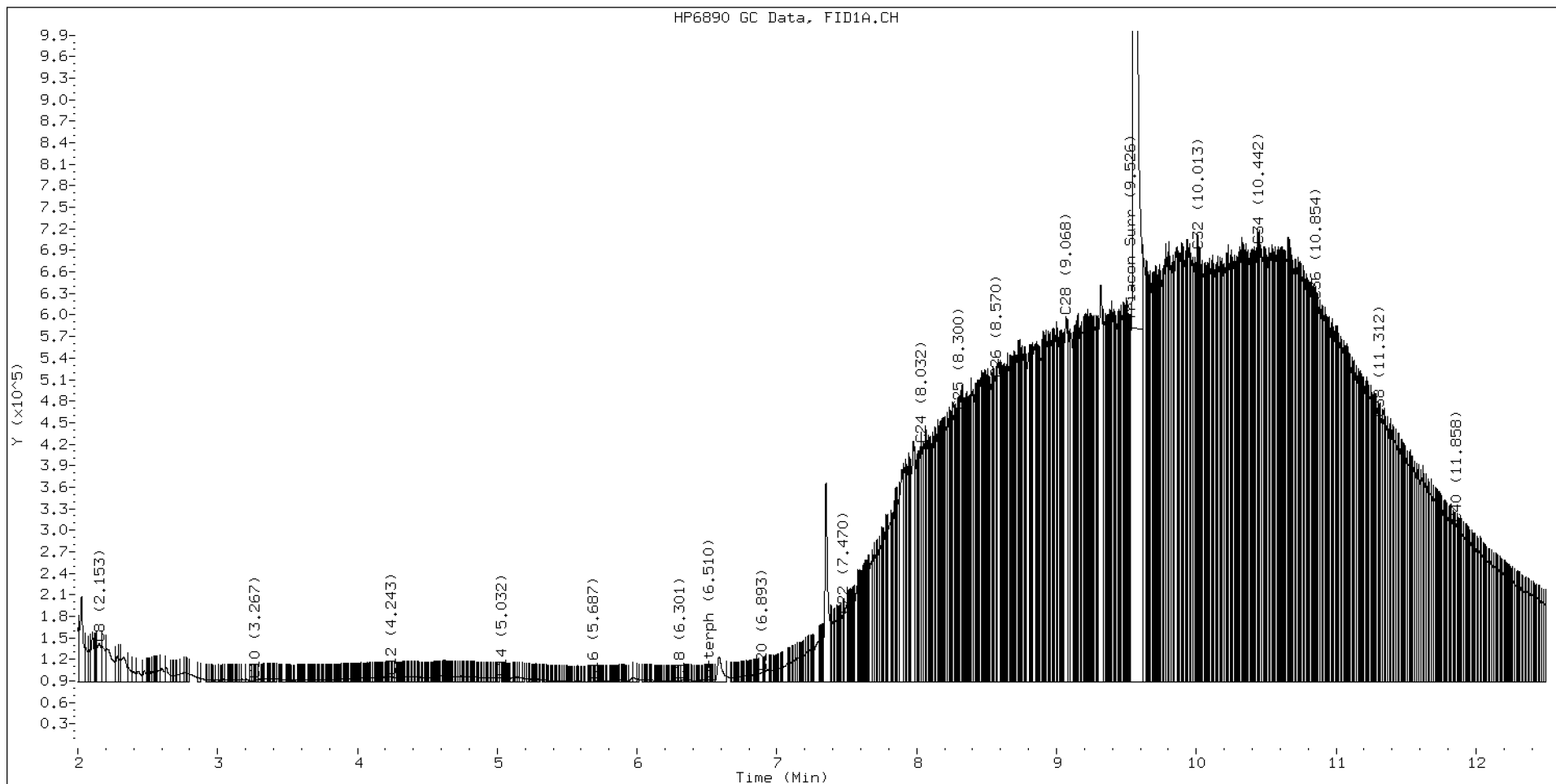
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

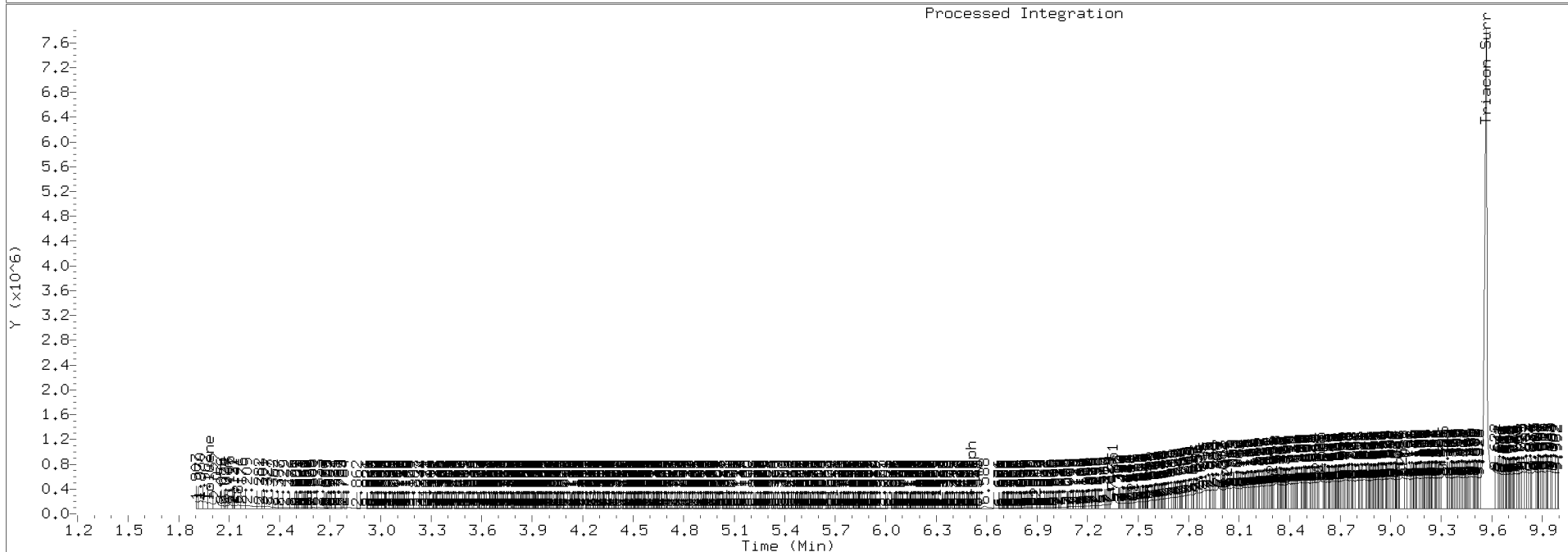
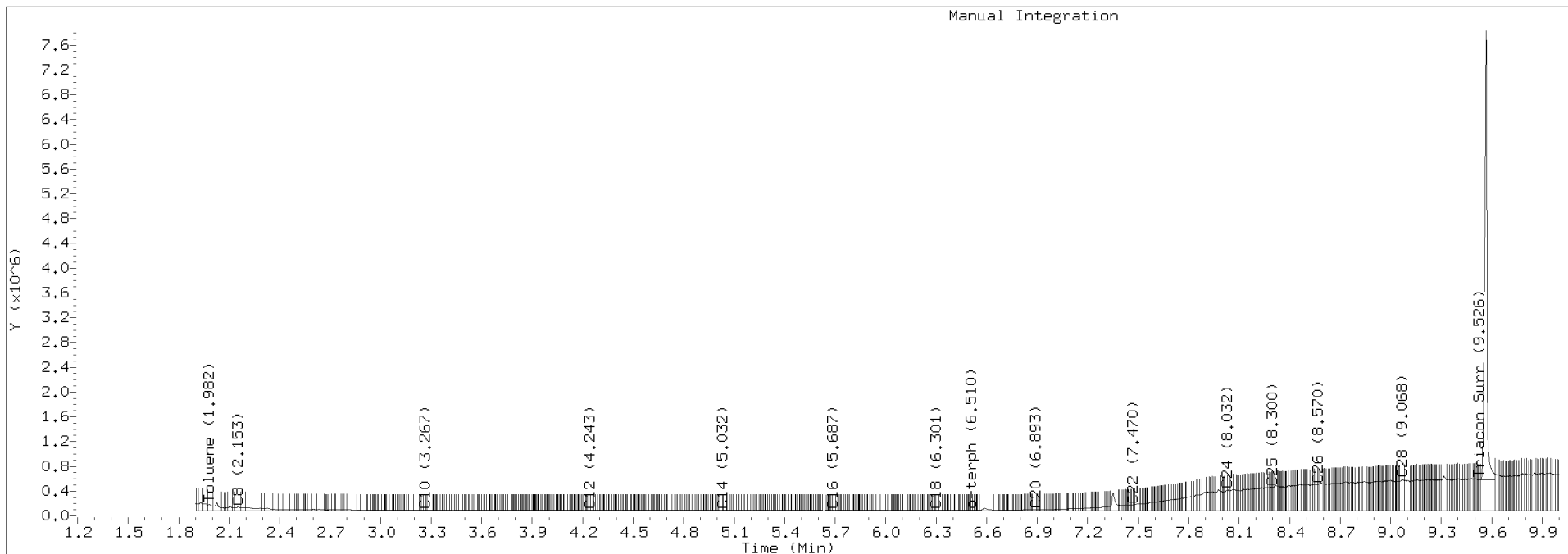
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

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2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
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47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
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GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
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53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

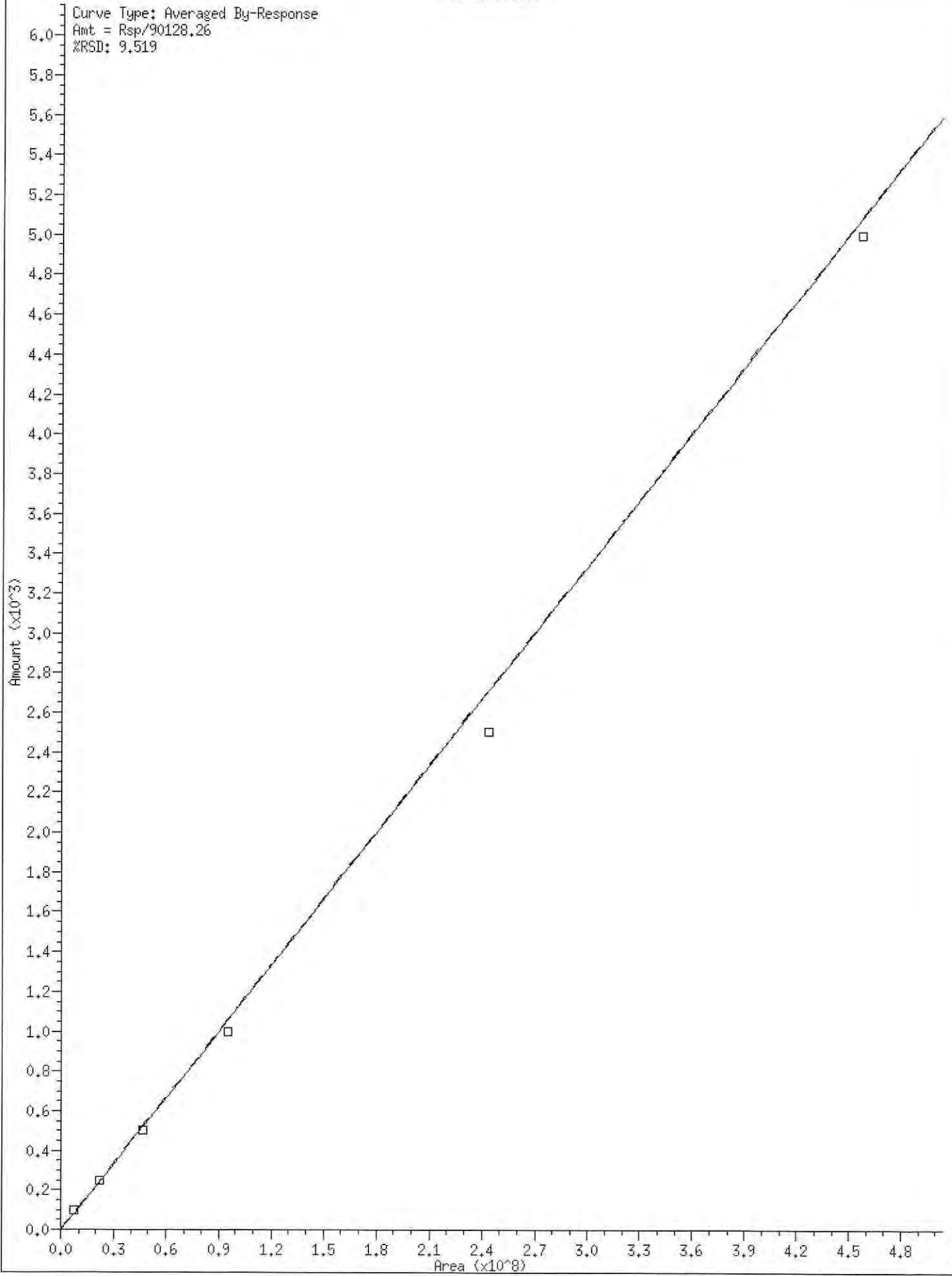
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1003.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1004.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1006.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38

Curve Type: Averaged By-Response
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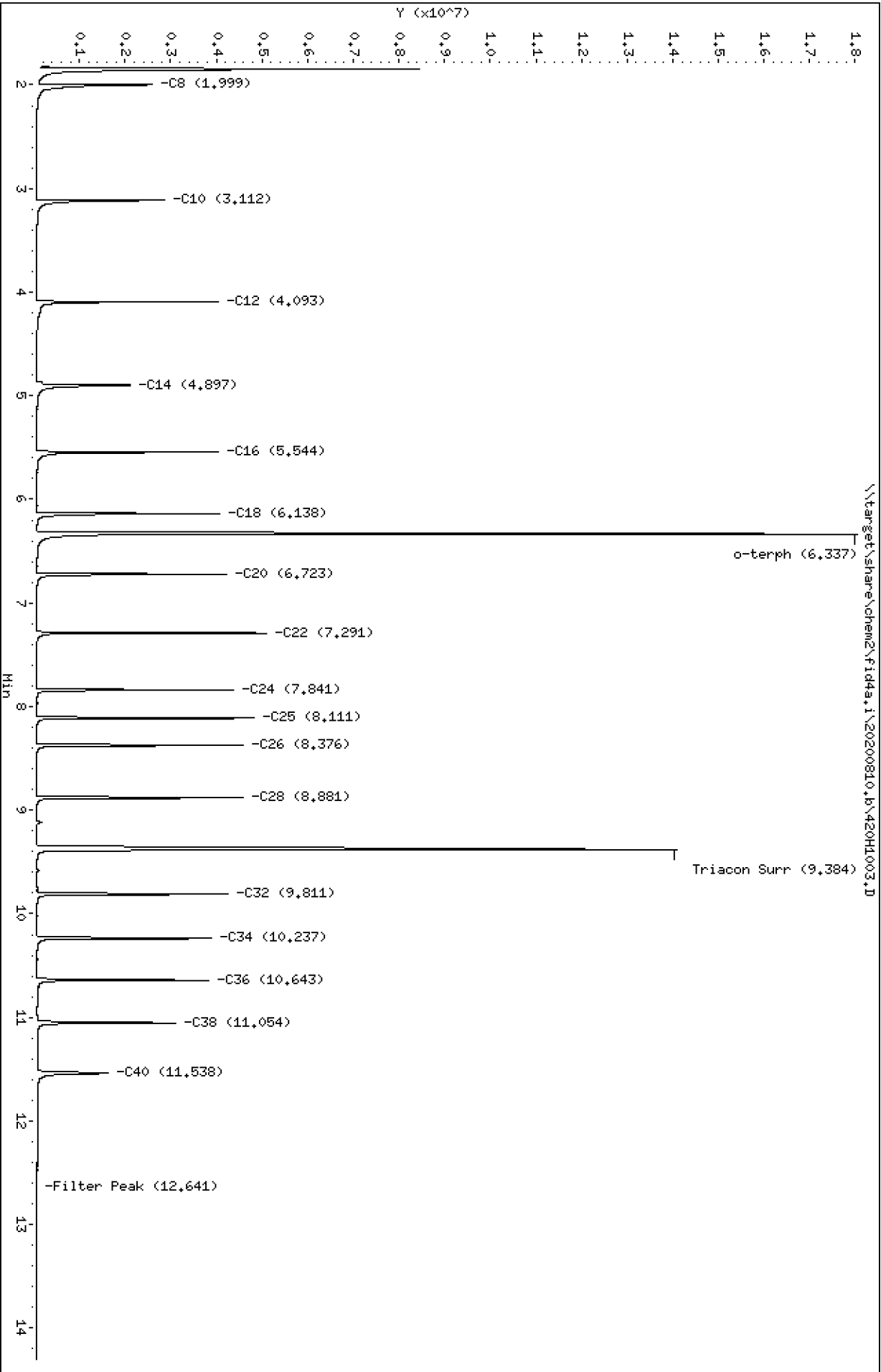
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Date: 10-AUG-2020 08:50
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1003.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 10-AUG-2020 08:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

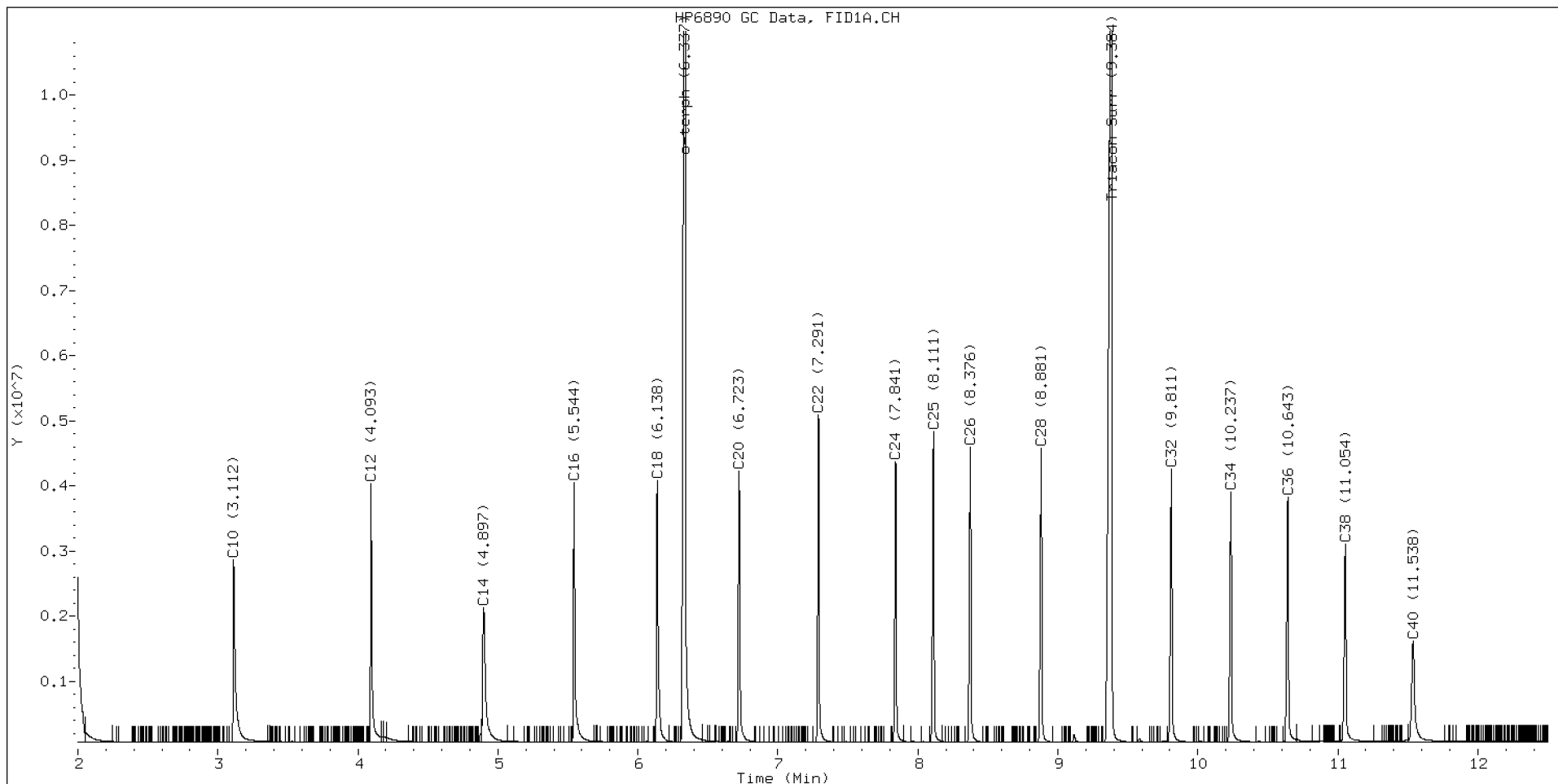
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.999	0.000	2540721	3264726	WATPHD	(C12-C24)	22306304	140.0
C10	3.112	0.000	2810194	3442755	WATPHM	(C24-C38)	26298631	260.0
C12	4.093	0.000	3978222	2976186	AK102	(C10-C25)	29087658	148.8
C14	4.897	0.000	2063035	3357028	AK103	(C25-C36)	22563075	308.2
C16	5.544	0.000	3983822	3466435	OR.DIES	(C10-C28)	40321674	205.7
C18	6.138	0.000	4016286	3502383				
C20	6.723	0.000	4164481	3619197	JET-A	(C10-C18)	18085569	107.7
C22	7.291	0.000	5031917	3645250				
C24	7.841	0.000	4315294	3204971				
C25	8.111	0.000	4771856	3679162				
C26	8.376	0.000	4526404	3716371				
C28	8.881	0.000	4514102	3764243				
C32	9.811	0.000	4195592	3775835				
C34	10.237	0.000	3847931	3544071				
Filter Peak	12.641	0.000	14794	6644	CREOSOT	(C12-C22)	19024422	211.1
C36	10.643	0.000	3772310	3456667				
C38	11.054	0.000	3044407	3312686				
C40	11.538	0.000	1563052	2782086				
o-terph	6.337	0.000	17989088	19759793				
Triacon Surr	9.384	0.000	14032526	21215524	NAS DIES	(C10-C24)	28998485	148.6

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	19759793	96.5
Triacontane	21215524	143.0

M Indicates the peak was manually integrated

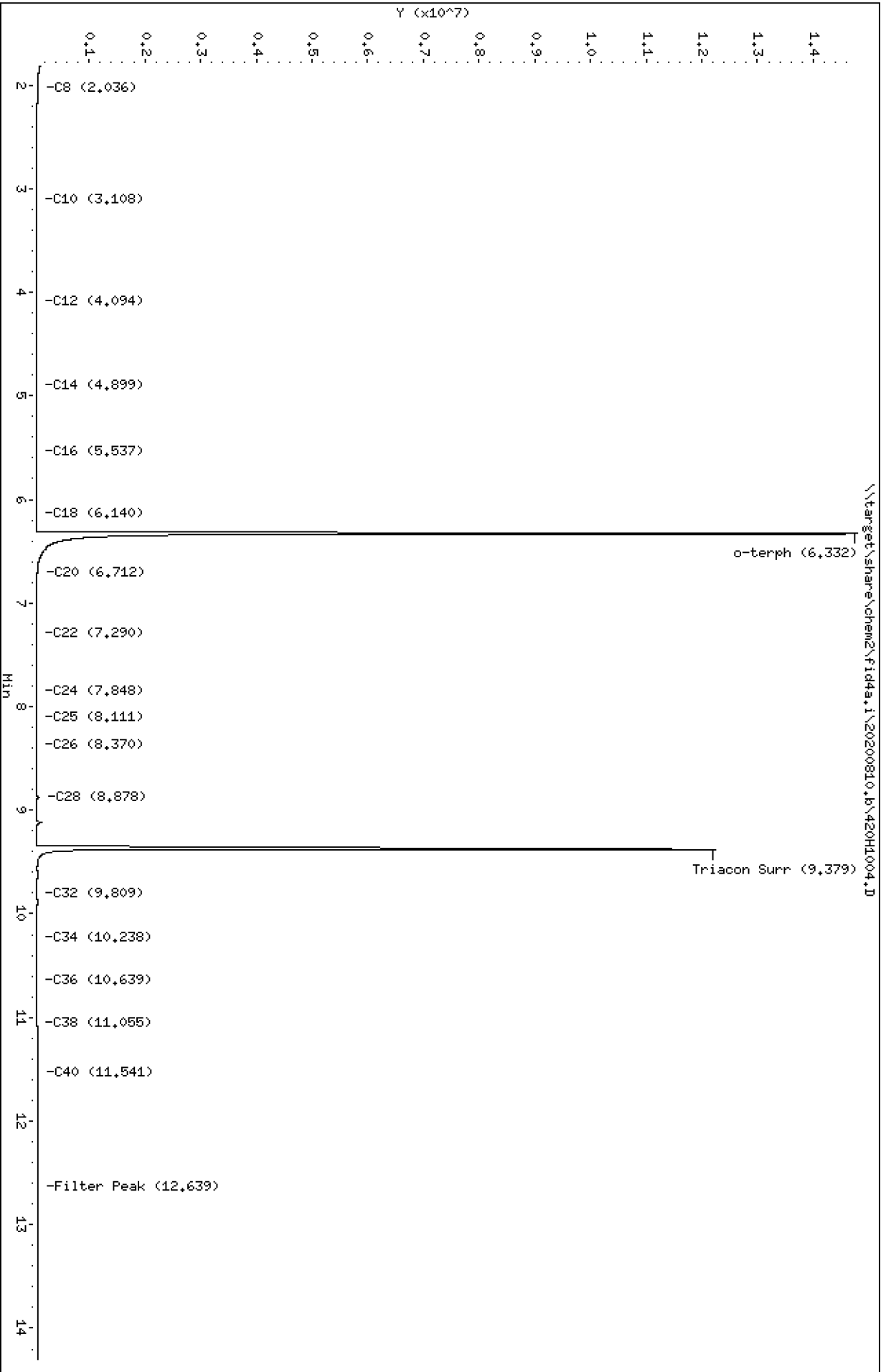
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1004.D
Date: 10-AUG-2020 09:10
Client ID:
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1004.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 10-AUG-2020 09:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

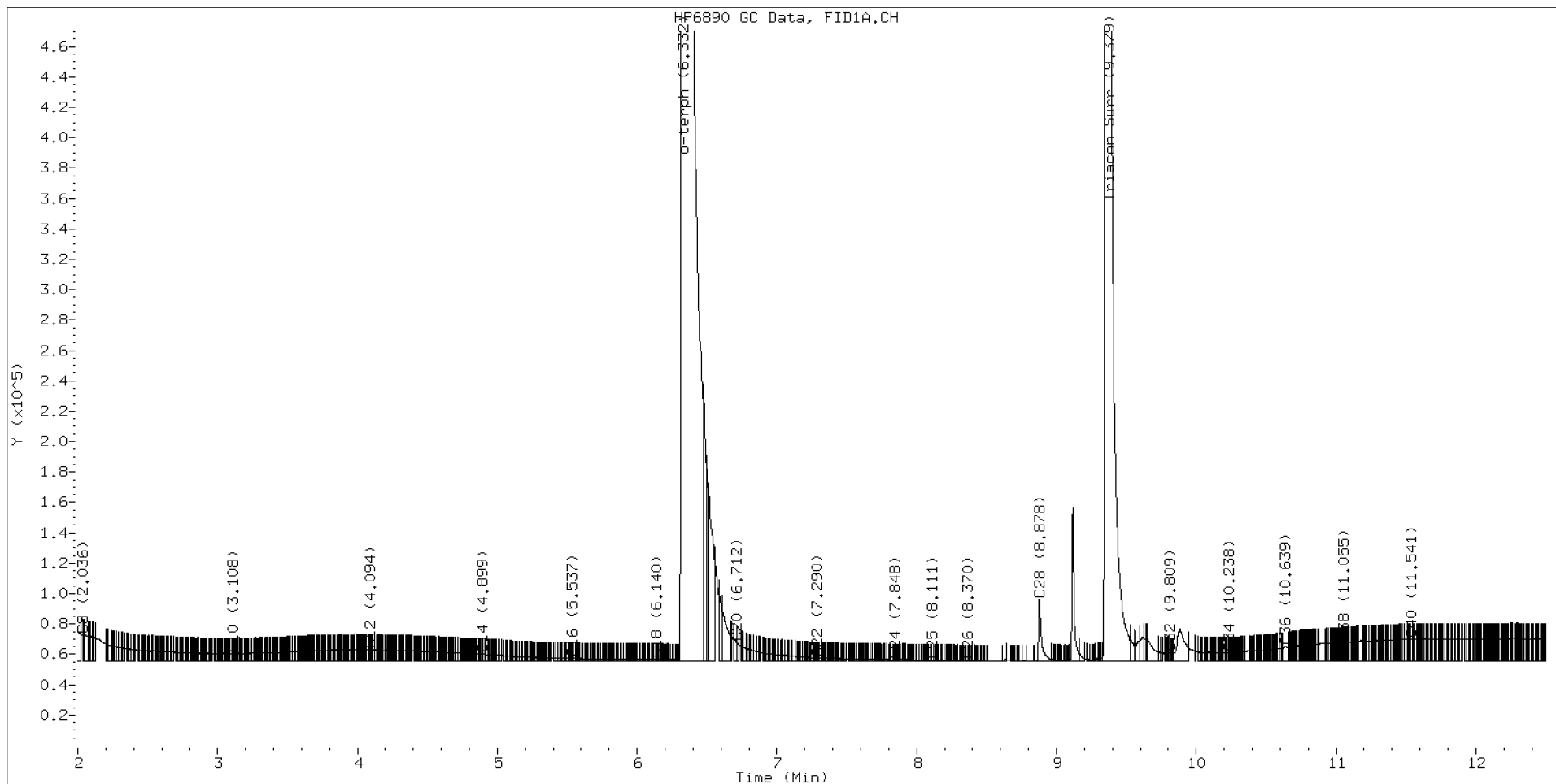
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.036	0.037	17008	10175	WATPHD	(C12-C24)	1331558	8.4
C10	3.108	-0.005	5021	2233	WATPHM	(C24-C38)	996053	9.8
C12	4.094	0.001	7426	3680	AK102	(C10-C25)	1724501	8.8
C14	4.899	0.001	4565	910	AK103	(C25-C36)	714743	9.8
C16	5.537	-0.007	2052	1468	OR.DIES	(C10-C28)	1799717	9.2
C18	6.140	0.002	1105	606				
C20	6.712	-0.011	12436	11107	JET-A	(C10-C18)	777990	4.6
C22	7.290	-0.000	2229	1416				
C24	7.848	0.006	1012	430				
C25	8.111	-0.000	658	573				
C26	8.370	-0.005	358	107				
C28	8.878	-0.004	40640	60459				
C32	9.809	-0.001	5465	5260				
C34	10.238	0.000	5599	2503				
Filter Peak	12.639	-0.001	14778	9572	CREOSOT	(C12-C22)	1289747	14.3
C36	10.639	-0.005	9656	22858				
C38	11.055	0.001	12241	5462				
C40	11.541	0.003	14617	10157				
o-terph	6.332	-0.005	14738078	18875440				
Triacon Surr	9.379	-0.005	12182512	16667134	NAS DIES	(C10-C24)	1715942	8.8

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18875440	92.2
Triacontane	16667134	112.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810,b\420H1008.D
Date: 10-AUG-2020 11:44

Client ID:

Sample Info: SEQ-CALL

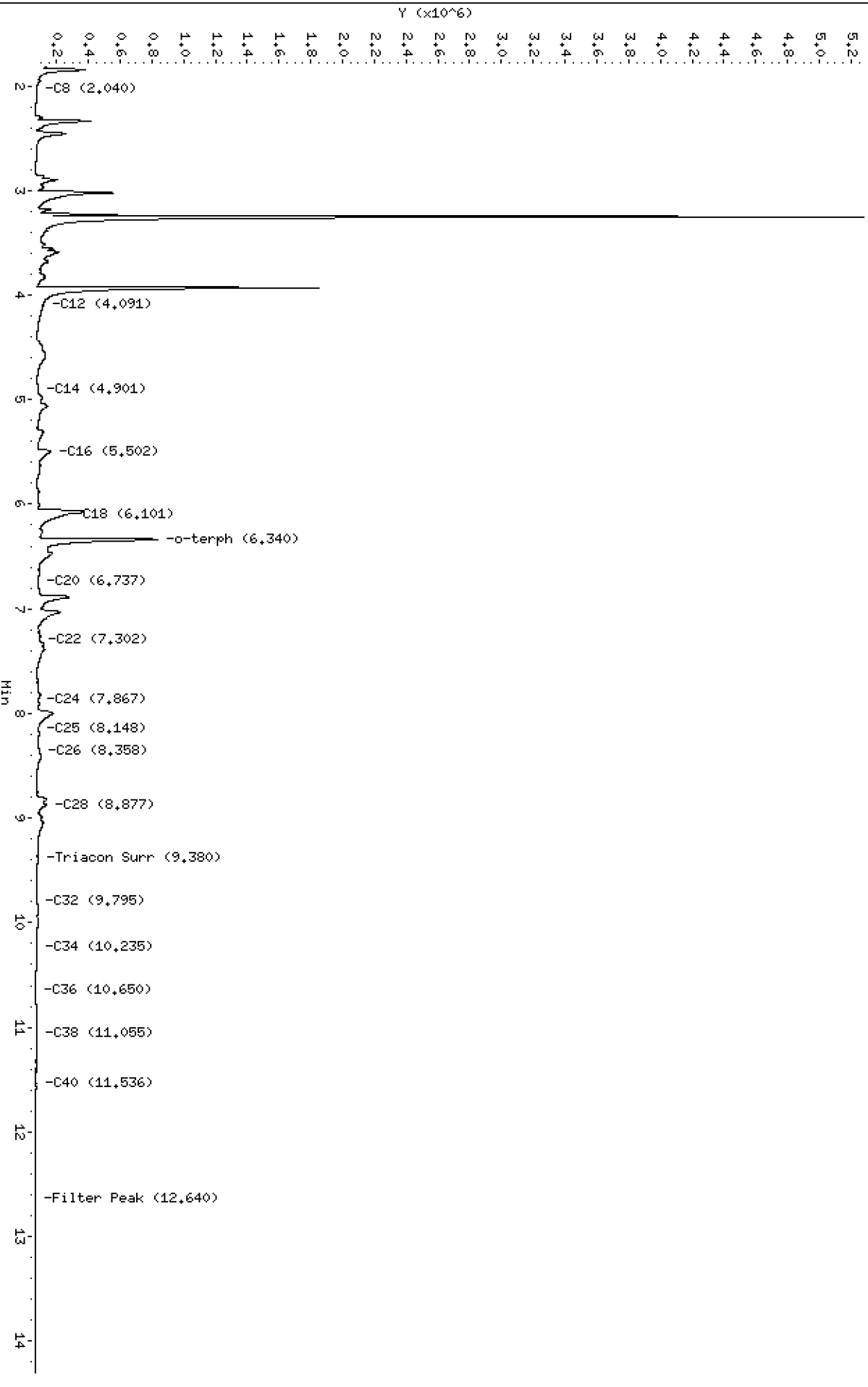
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810,b\420H1008.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1008.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 10-AUG-2020 11:44
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

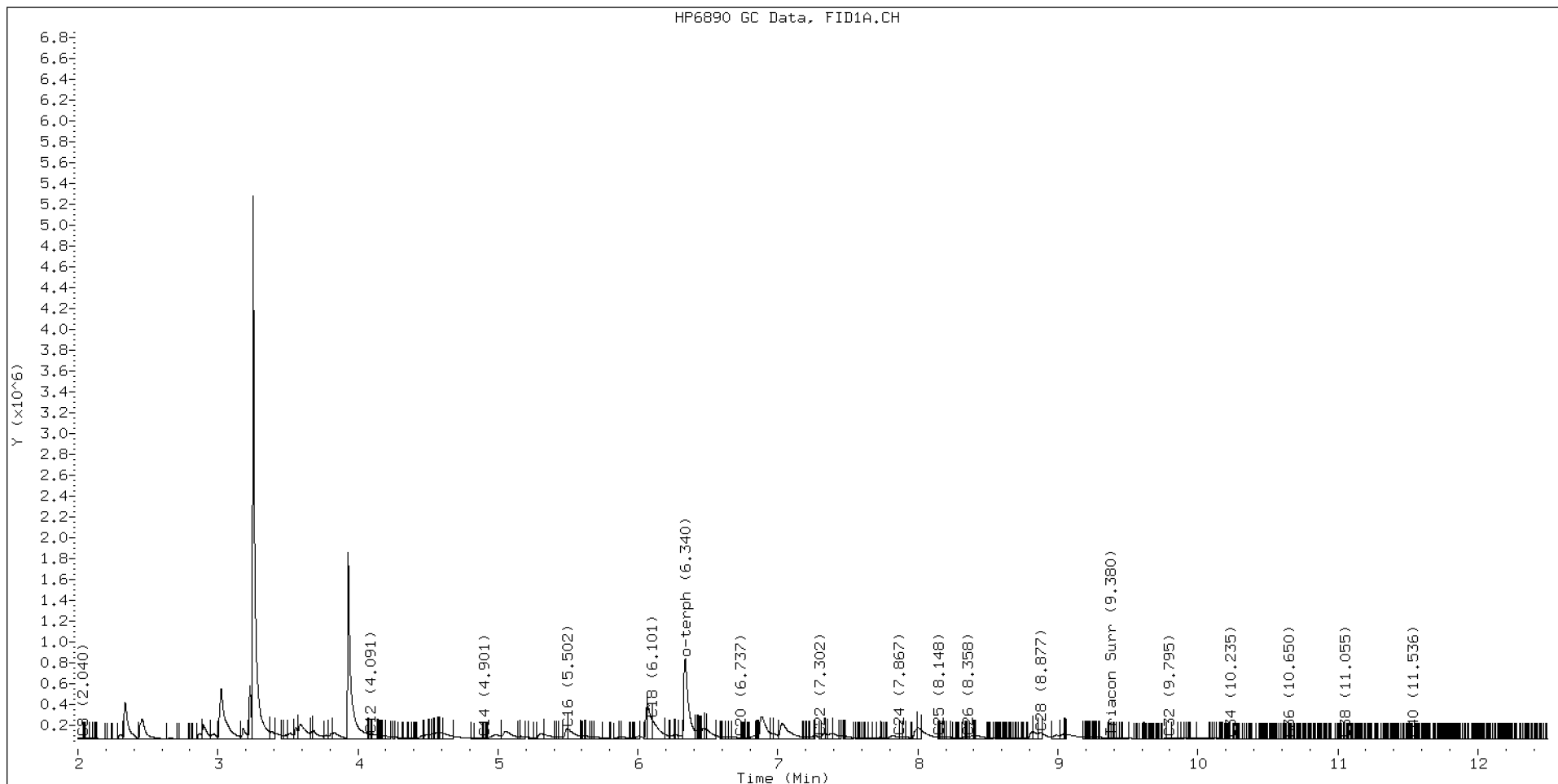
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.040	0.041	9503	2838	WATPHD	(C12-C24)	8080791	50.7
C10	----				WATPHM	(C24-C38)	2579077	25.5
C12	4.091	-0.003	48194	23669	AK102	(C10-C25)	19525938	99.9
C14	4.901	0.004	17148	14774	AK103	(C25-C36)	2056688	28.1
C16	5.502	-0.042	98467	314876	OR.DIES	(C10-C28)	20511038	104.6
C18	6.101	-0.037	189826	593277				
C20	6.737	0.014	14982	5936	JET-A	(C10-C18)	15329343	91.3
C22	7.302	0.012	27302	26565				
C24	7.867	0.026	21147	7324				
C25	8.148	0.037	19796	7876				
C26	8.358	-0.018	27281	17420				
C28	8.877	-0.004	67902	107454				
C32	9.795	-0.016	12040	22767				
C34	10.235	-0.003	7524	8634				
Filter Peak	12.640	-0.001	3106	1077	CREOSOT	(C12-C22)	7382186	81.9
C36	10.650	0.007	3324	1958				
C38	11.055	0.001	5084	2761				
C40	11.536	-0.002	4406	4074				
o-terph	6.340	0.002	772053	1761409				
Triacon Surr	9.380	-0.004	14077	10247	NAS DIES	(C10-C24)	19109345	97.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	1761409	8.6
Triacontane	10247	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1009.D
Date: 10-AUG-2020 12:03

Client ID:

Sample Info: SEQ-CAL2

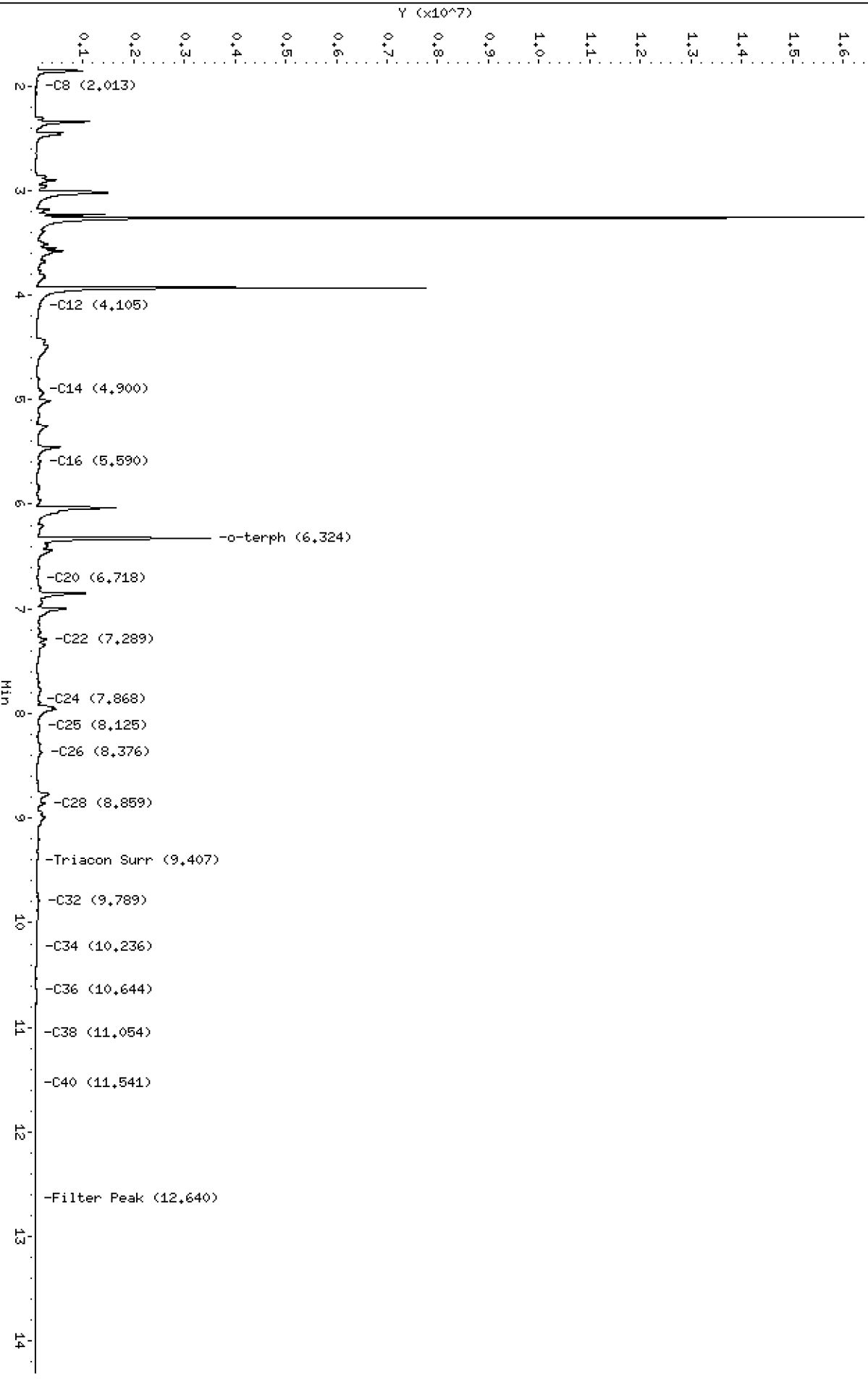
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1009.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1009.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 10-AUG-2020 12:03
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

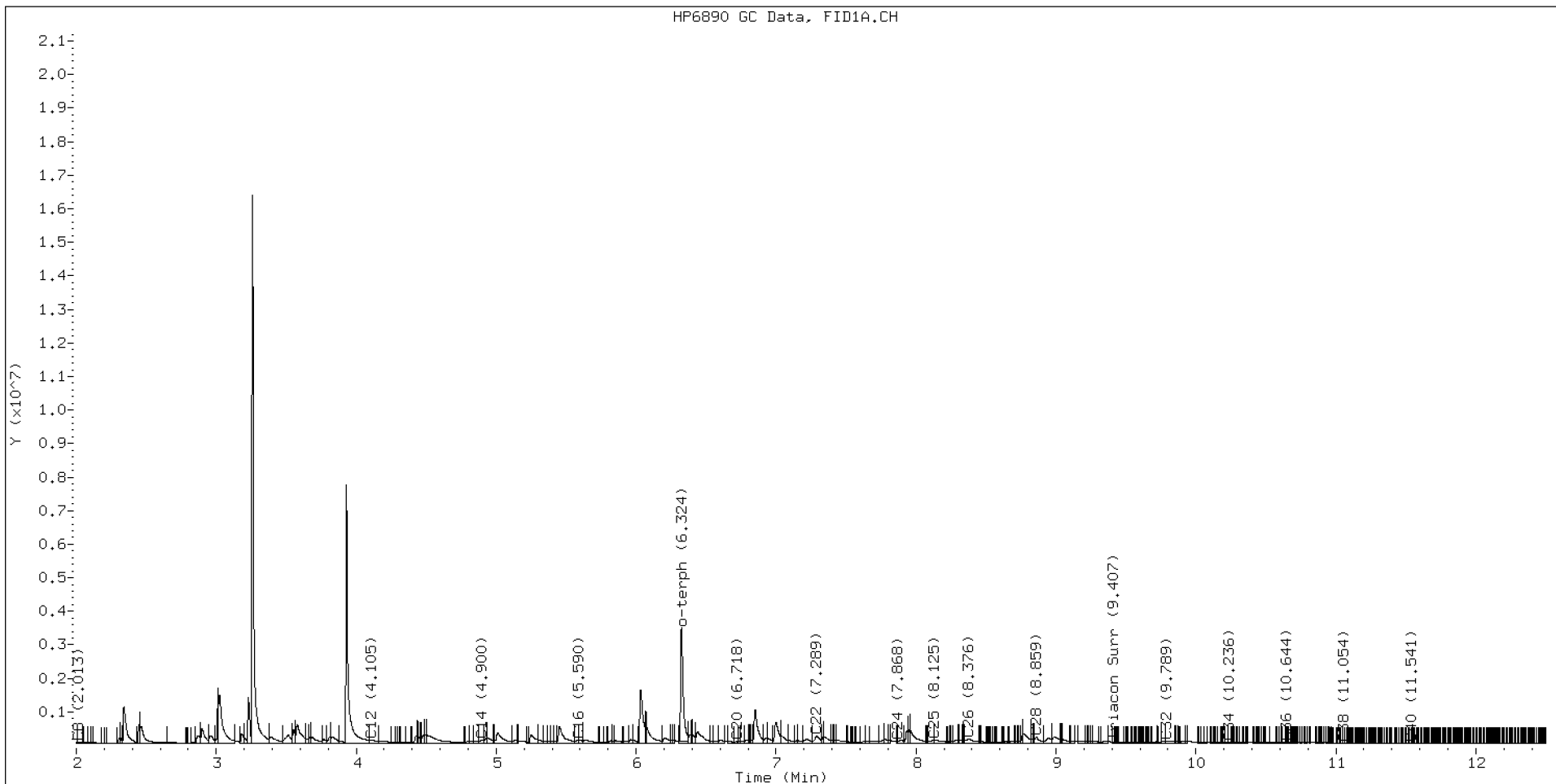
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.013	0.014	13752	23396	WATPHD	(C12-C24)	24094230	151.2
C10	----				WATPHM	(C24-C38)	9822291	97.1
C12	4.105	0.012	97213	295971	AK102	(C10-C25)	55662092	284.7
C14	4.900	0.003	96654	172578	AK103	(C25-C36)	7689863	105.0
C16	5.590	0.046	100512	127761	OR.DIES	(C10-C28)	59384249	303.0
C18	----							
C20	6.718	-0.005	43007	69493	JET-A	(C10-C18)	42803912	254.9
C22	7.289	-0.001	213953	504363				
C24	7.868	0.026	51518	25580				
C25	8.125	0.014	87057	179953				
C26	8.376	0.000	125029	524631				
C28	8.859	-0.023	181002	435693				
C32	9.789	-0.022	68586	223761				
C34	10.236	-0.001	21356	24080				
Filter Peak	12.640	-0.000	3549	1227	CREOSOT	(C12-C22)	22100398	245.2
C36	10.644	0.001	13989	3478				
C38	11.054	-0.000	9429	6073				
C40	11.541	0.003	5623	1672				
o-terph	6.324	-0.013	3394533	4330623				
Triacon Surr	9.407	0.023	36620	30128	NAS DIES	(C10-C24)	53743053	275.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	4330623	21.2 M
Triacontane	30128	0.2

M Indicates the peak was manually integrated

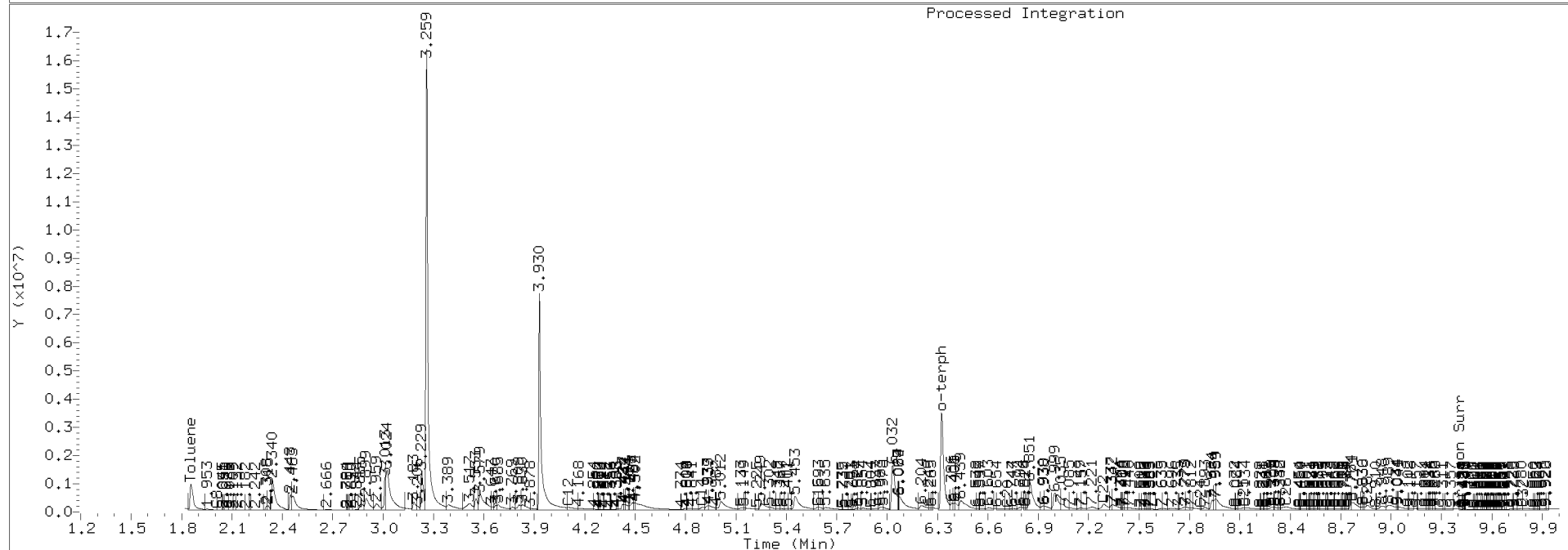
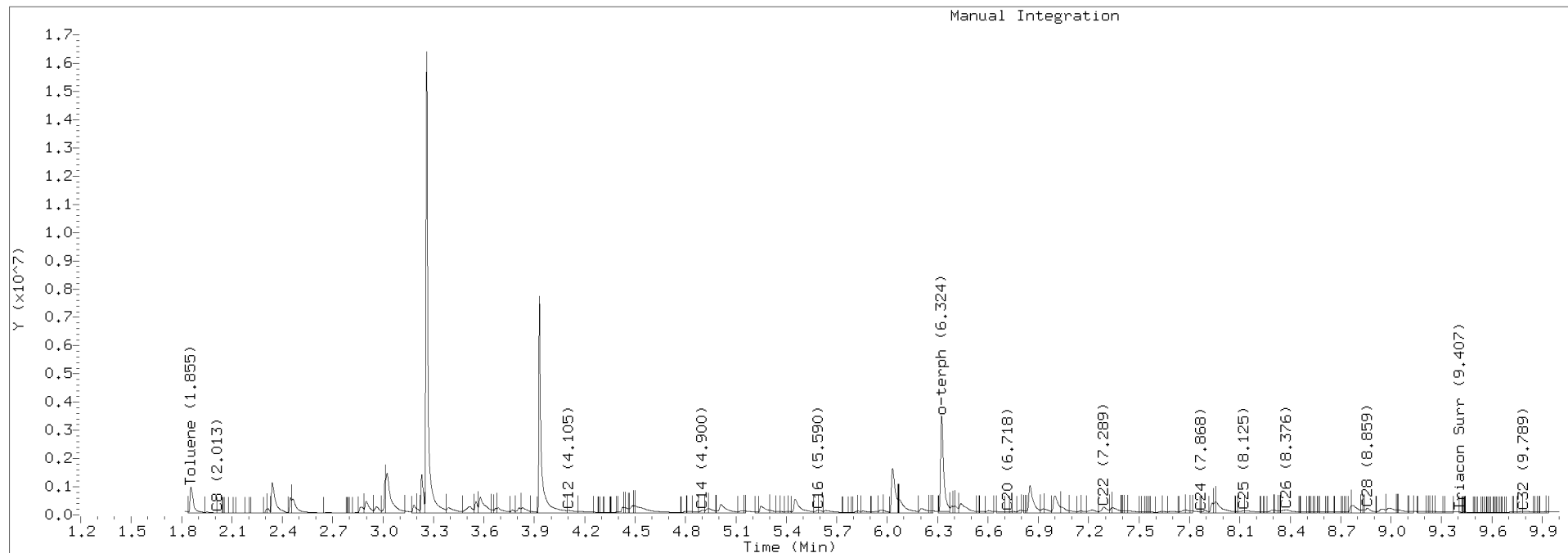
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1009.D Injection: 10-AUG-2020 12:03

Lab ID:SEQ-CAL2



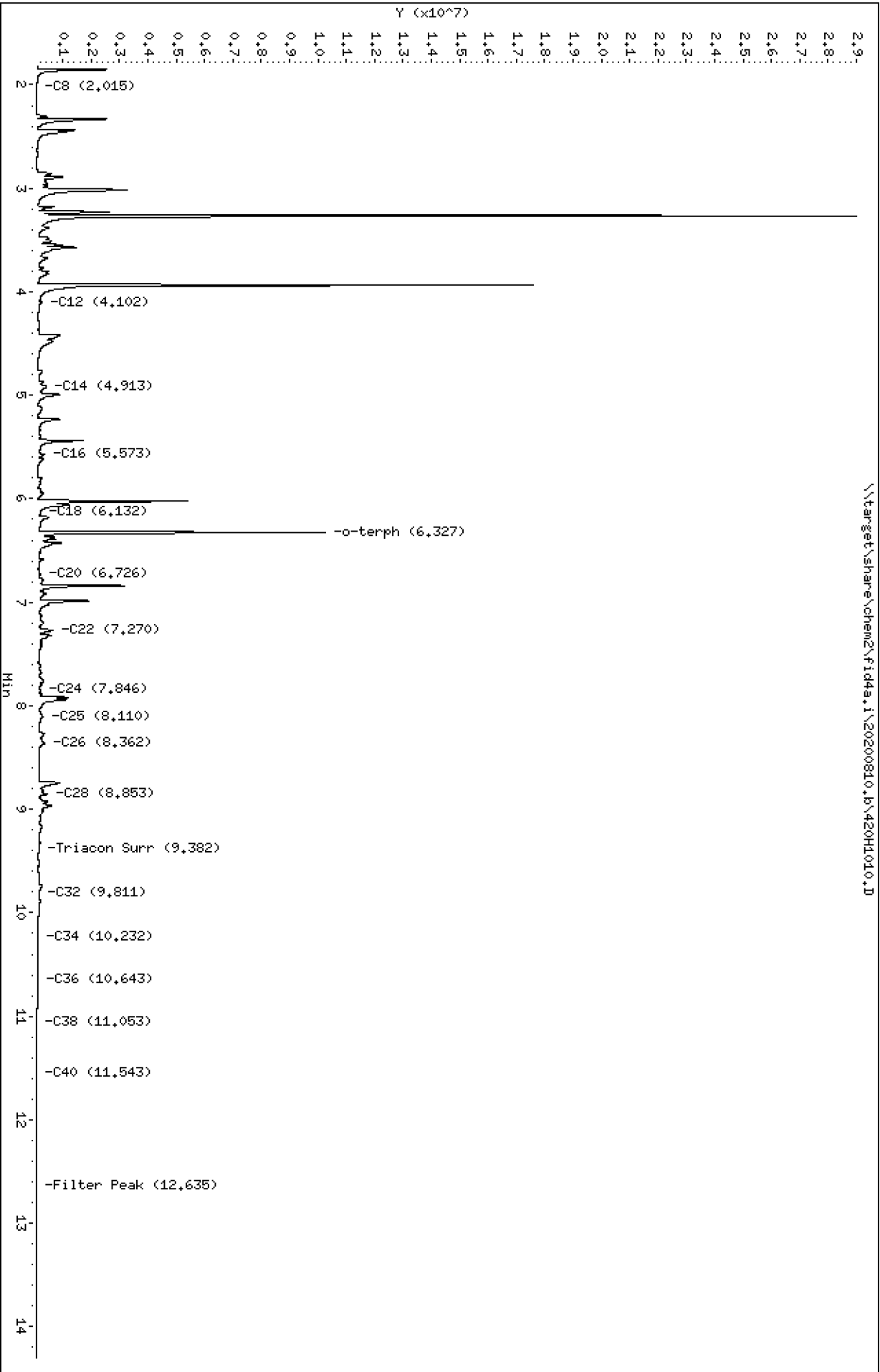
Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1010.D
Date: 10-AUG-2020 12:23
Client ID:
Sample Info: SEQ-CAL3

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1010.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 10-AUG-2020 12:23
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

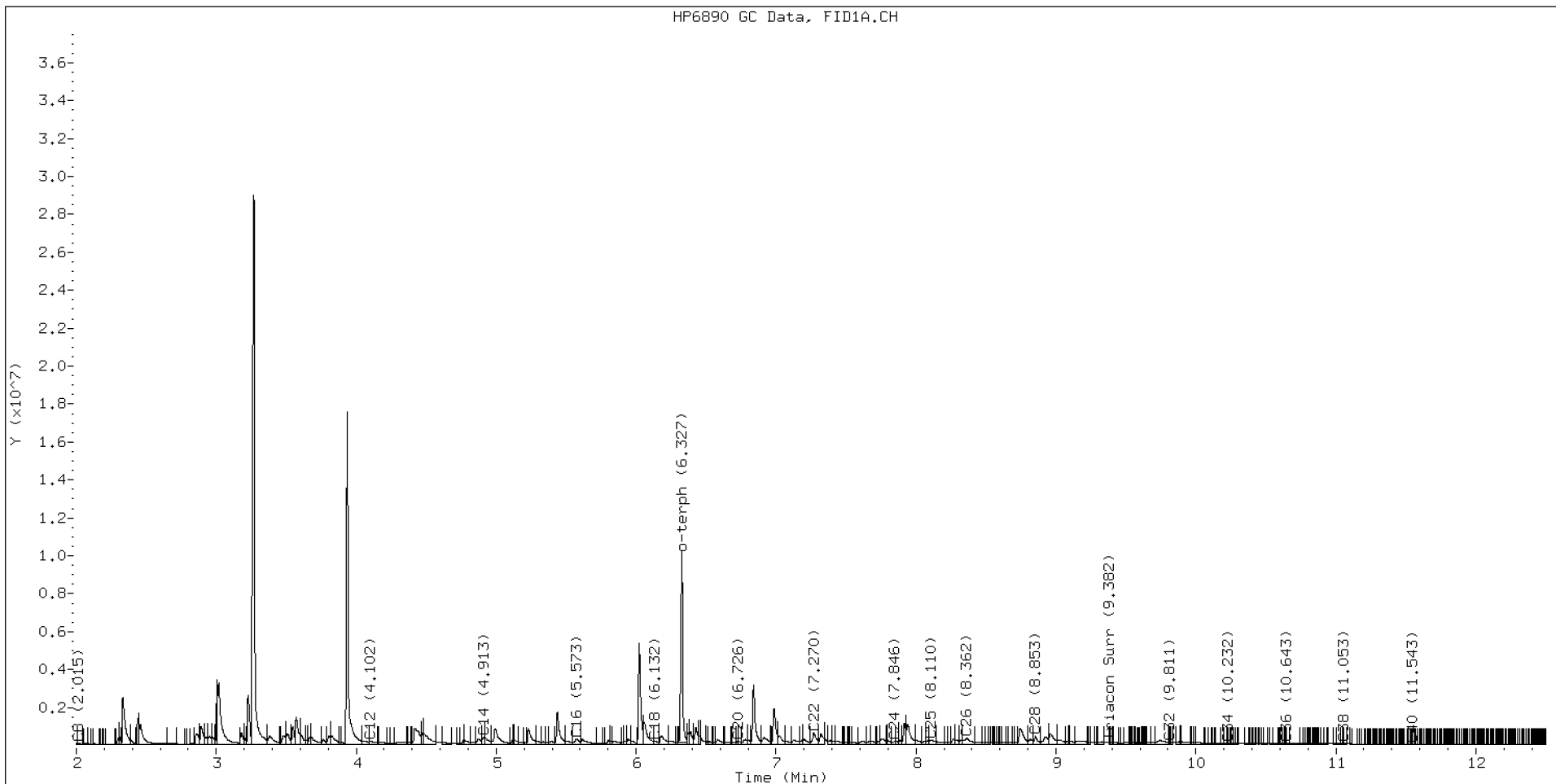
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.015	0.016	17846	36273	WATPHD	(C12-C24)	51259340	321.7
C10	----				WATPHM	(C24-C38)	22066522	218.1
C12	4.102	0.009	179685	448519	AK102	(C10-C25)	116587134	596.4
C14	4.913	0.016	356259	456272	AK103	(C25-C36)	17746552	242.4
C16	5.573	0.029	271020	584987	OR.DIES	(C10-C28)	125538937	640.5
C18	6.132	-0.006	140882	269530				
C20	6.726	0.003	136775	134046	JET-A	(C10-C18)	90127540	536.8
C22	7.270	-0.021	606173	1140185				
C24	7.846	0.004	128041	176452				
C25	8.110	-0.001	221035	545483				
C26	8.362	-0.014	297442	1027684				
C28	8.853	-0.028	403064	641655				
C32	9.811	0.000	99788	29846				
C34	10.232	-0.006	46152	43534				
Filter Peak	12.635	-0.006	3882	1909	CREOSOT	(C12-C22)	47014203	521.6
C36	10.643	0.000	38763	9675				
C38	11.053	-0.001	17467	8707				
C40	11.543	0.005	8291	3696				
o-terph	6.327	-0.010	10095175	9317090				
Triacon Surr	9.382	-0.002	75592	22548	NAS DIES	(C10-C24)	112694191	577.5

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	9317090	45.5 M
Triacontane	22548	0.2

M Indicates the peak was manually integrated

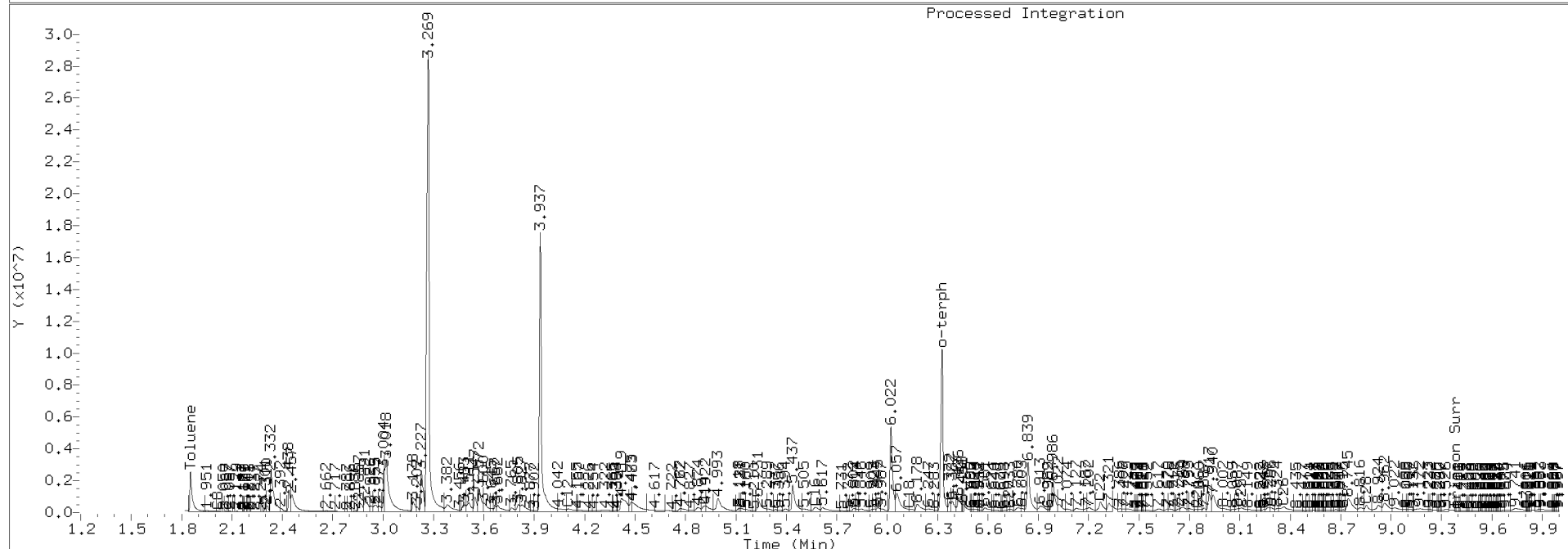
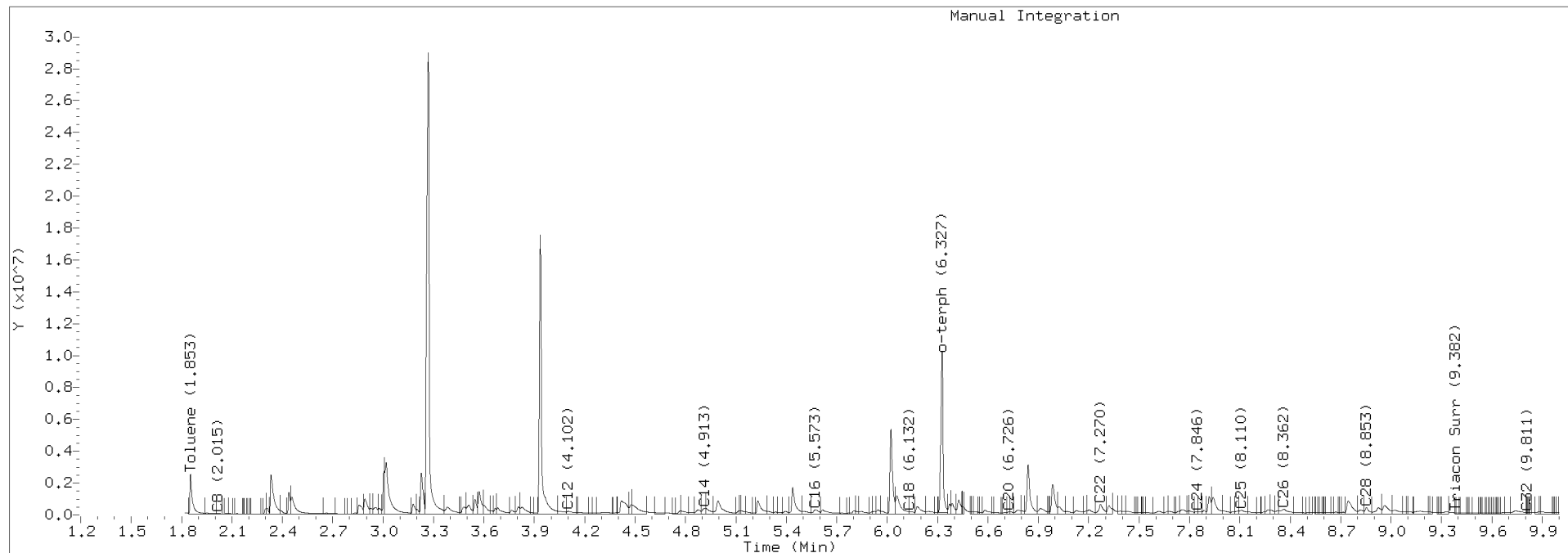
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1010.D Injection: 10-AUG-2020 12:23

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1011.D
Date: 10-AUG-2020 12:43

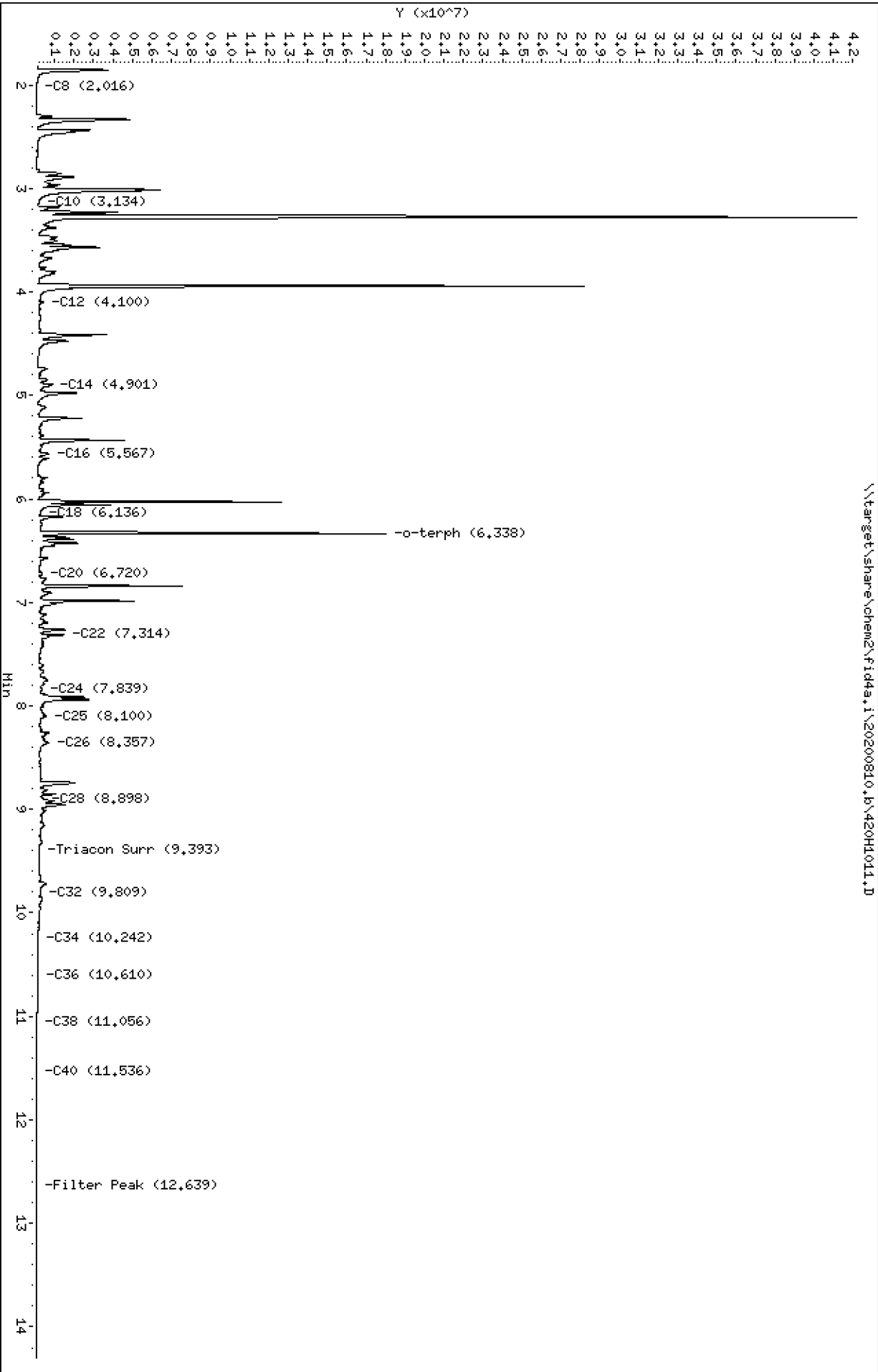
Client ID:
Sample Info: SEQ-CAL4

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1011.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 10-AUG-2020 12:43
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

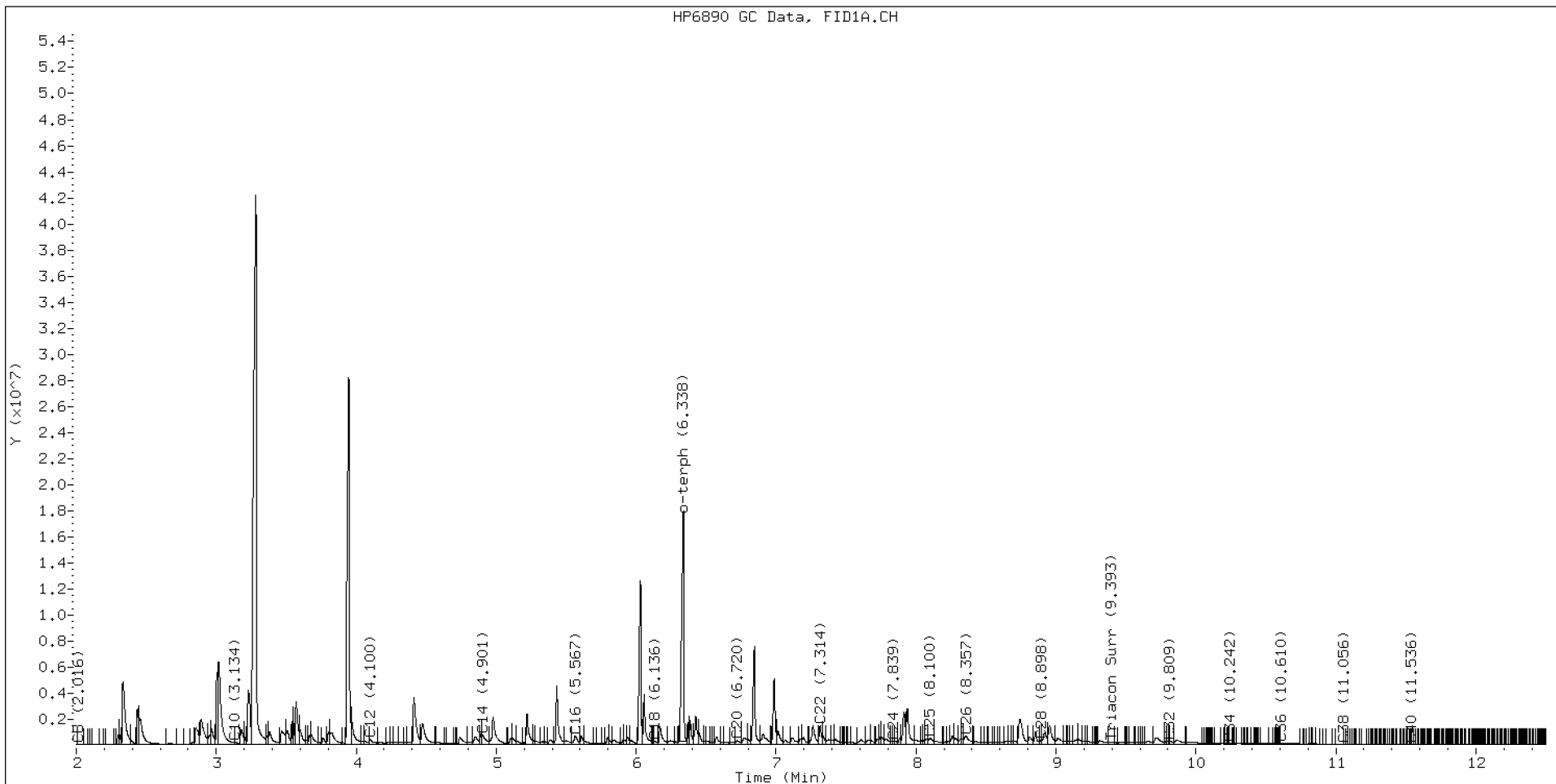
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.016	0.017	24926	59167	WATPHD	(C12-C24)	103926698	652.2
C10	3.134	0.022	150444	235035	WATPHM	(C24-C38)	45820283	452.9
C12	4.100	0.007	374328	737397	AK102	(C10-C25)	235546622	1204.9
C14	4.901	0.004	751227	1307415	AK103	(C25-C36)	37291444	509.4
C16	5.567	0.023	643749	1189010	OR.DIES	(C10-C28)	254051179	1296.2
C18	6.136	-0.002	231616	350832				
C20	6.720	-0.003	299567	566605	JET-A	(C10-C18)	181572311	1081.4
C22	7.314	0.023	1420953	1498483				
C24	7.839	-0.003	259197	166369				
C25	8.100	-0.011	495518	989810				
C26	8.357	-0.019	638808	1623602				
C28	8.898	0.016	333560	331673				
C32	9.809	-0.002	229023	124533				
C34	10.242	0.005	88773	91037				
Filter Peak	12.639	-0.001	2788	1651	CREOSOT	(C12-C22)	95404139	1058.5
C36	10.610	-0.033	86162	550400				
C38	11.056	0.002	27157	25166				
C40	11.536	-0.002	10651	4226				
o-terph	6.338	0.001	17707002	18789469				
Triacon Surr	9.393	0.009	169162	447494	NAS DIES	(C10-C24)	227630229	1166.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18789469	91.8 M
Triacontane	447494	3.0

M Indicates the peak was manually integrated

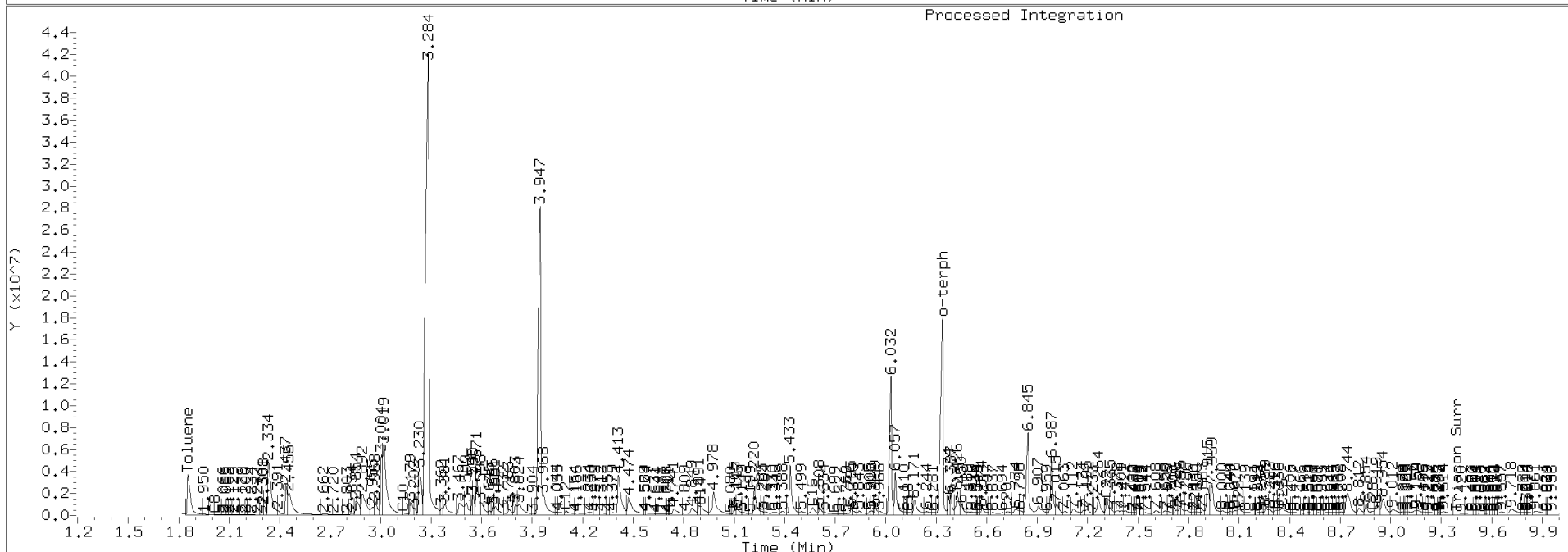
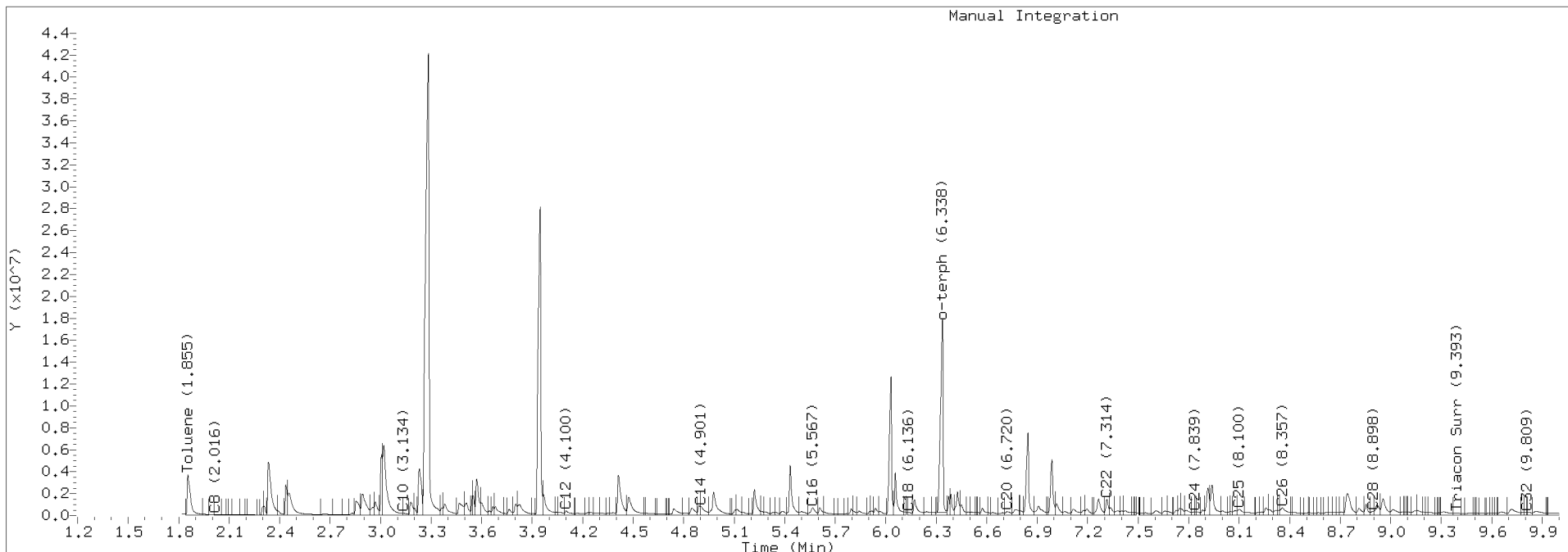
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1011.D Injection: 10-AUG-2020 12:43

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1012.D
Date: 10-AUG-2020 13:02

Client ID:

Sample Info: SEQ-CALS

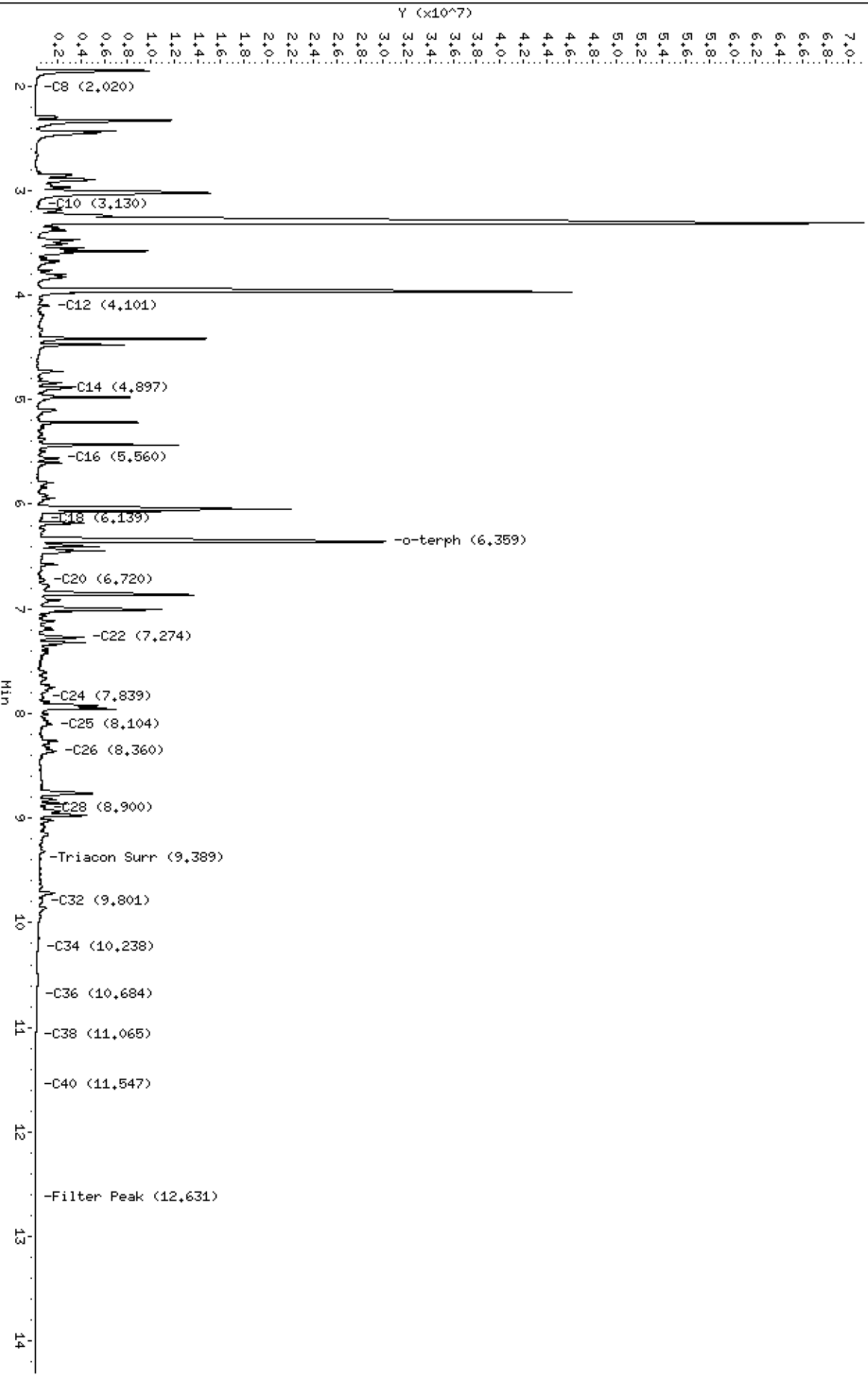
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1012.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1012.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 10-AUG-2020 13:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

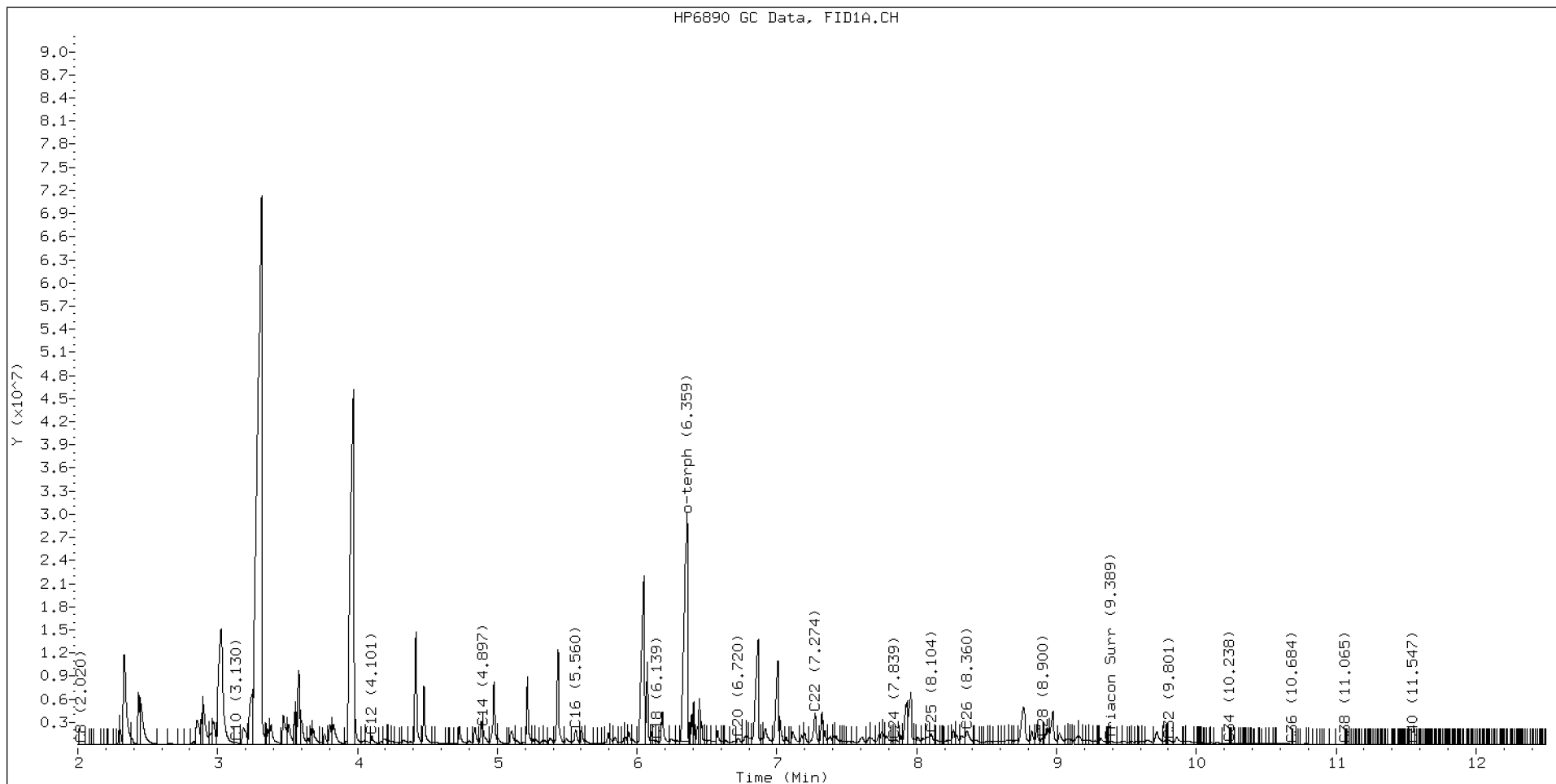
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.020	0.021	52370	125836	WATPHD	(C12-C24)	268023483	1682.1
C10	3.130	0.018	317129	695453	WATPHM	(C24-C38)	117269407	1159.2
C12	4.101	0.008	1186747	1663447	AK102	(C10-C25)	600790147	3073.2
C14	4.897	-0.000	2168738	2784429	AK103	(C25-C36)	95264608	1301.3
C16	5.560	0.016	1984017	3122013	OR.DIES	(C10-C28)	644811716	3289.9
C18	6.139	0.001	562391	706347				
C20	6.720	-0.003	826278	1411340	JET-A	(C10-C18)	461462580	2748.5
C22	7.274	-0.017	4123124	6213742				
C24	7.839	-0.003	669495	624603				
C25	8.104	-0.008	1393399	2367433				
C26	8.360	-0.016	1824142	4074782				
C28	8.900	0.018	833163	754960				
C32	9.801	-0.009	606450	1103529				
C34	10.238	0.001	193616	76806				
Filter Peak	12.631	-0.009	7657	6760	CREOSOT	(C12-C22)	243658159	2703.5
C36	10.684	0.041	121011	48208				
C38	11.065	0.011	57098	25623				
C40	11.547	0.009	26888	36992				
o-terph	6.359	0.021	29618277	48519579				
Triacon Surr	9.389	0.005	451742	414470	NAS DIES	(C10-C24)	580343650	2973.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	48519579	237.0 M
Triacontane	414470	2.8

M Indicates the peak was manually integrated

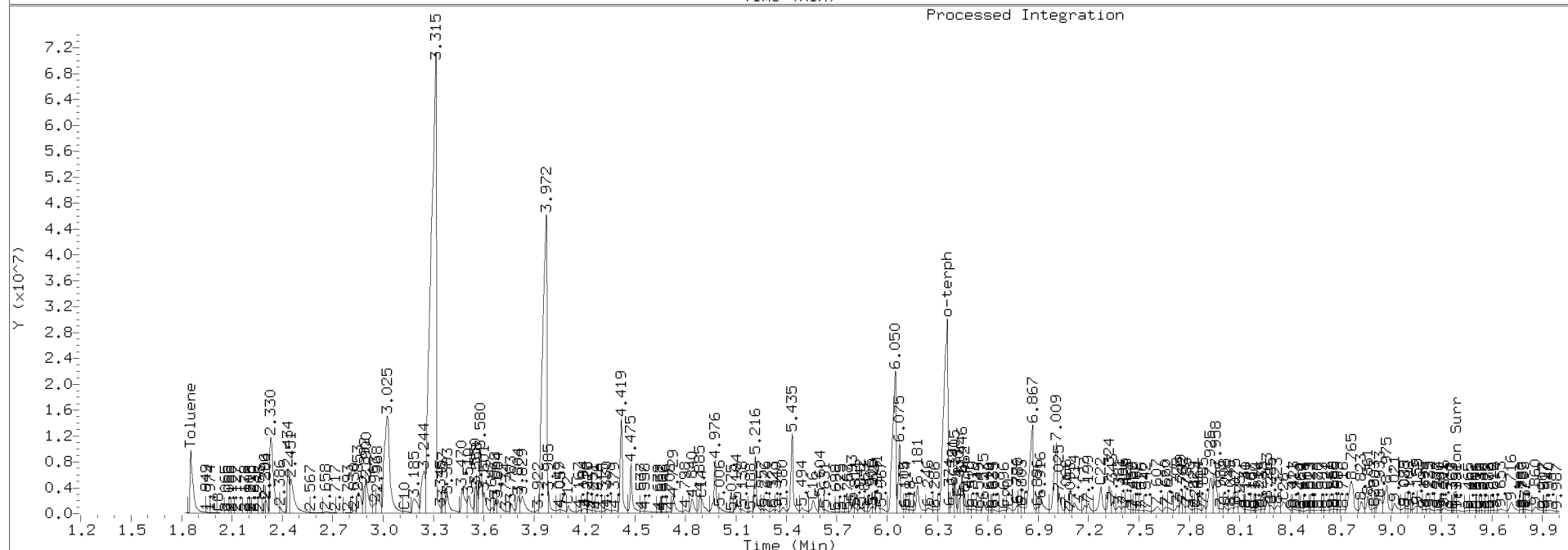
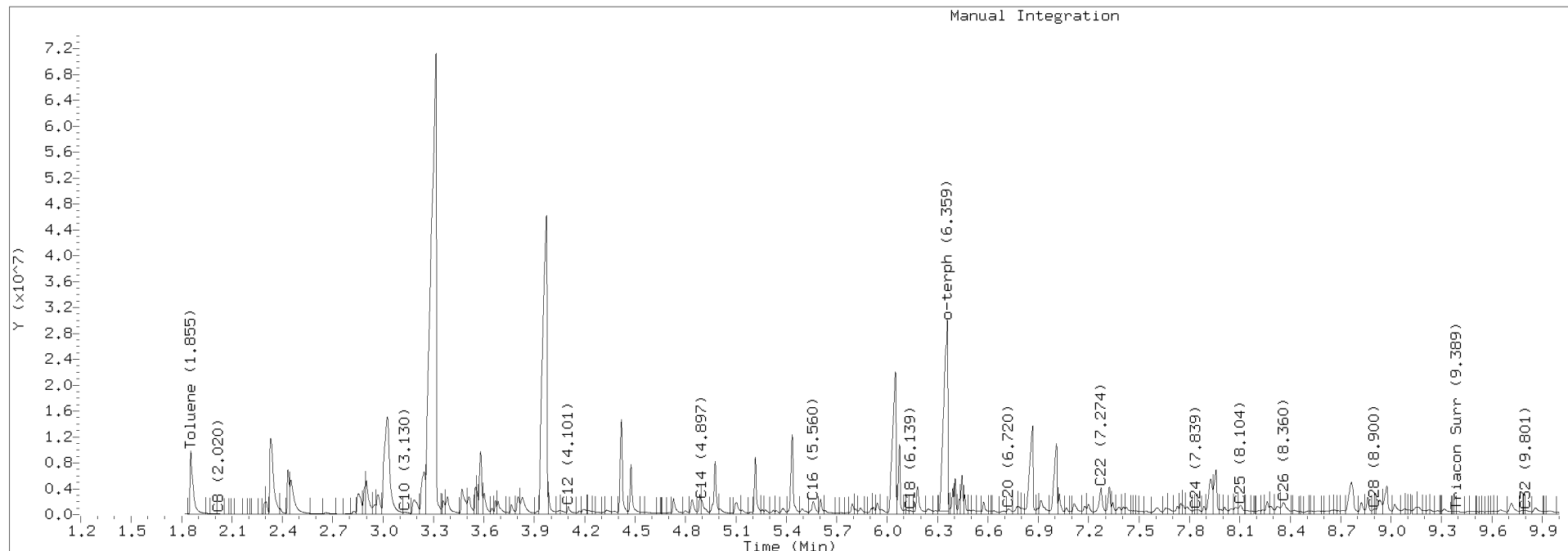
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1012.D Injection: 10-AUG-2020 13:02

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1013.D
Date: 10-AUG-2020 13:22

Client ID:

Sample Info: SEQ-CAL6

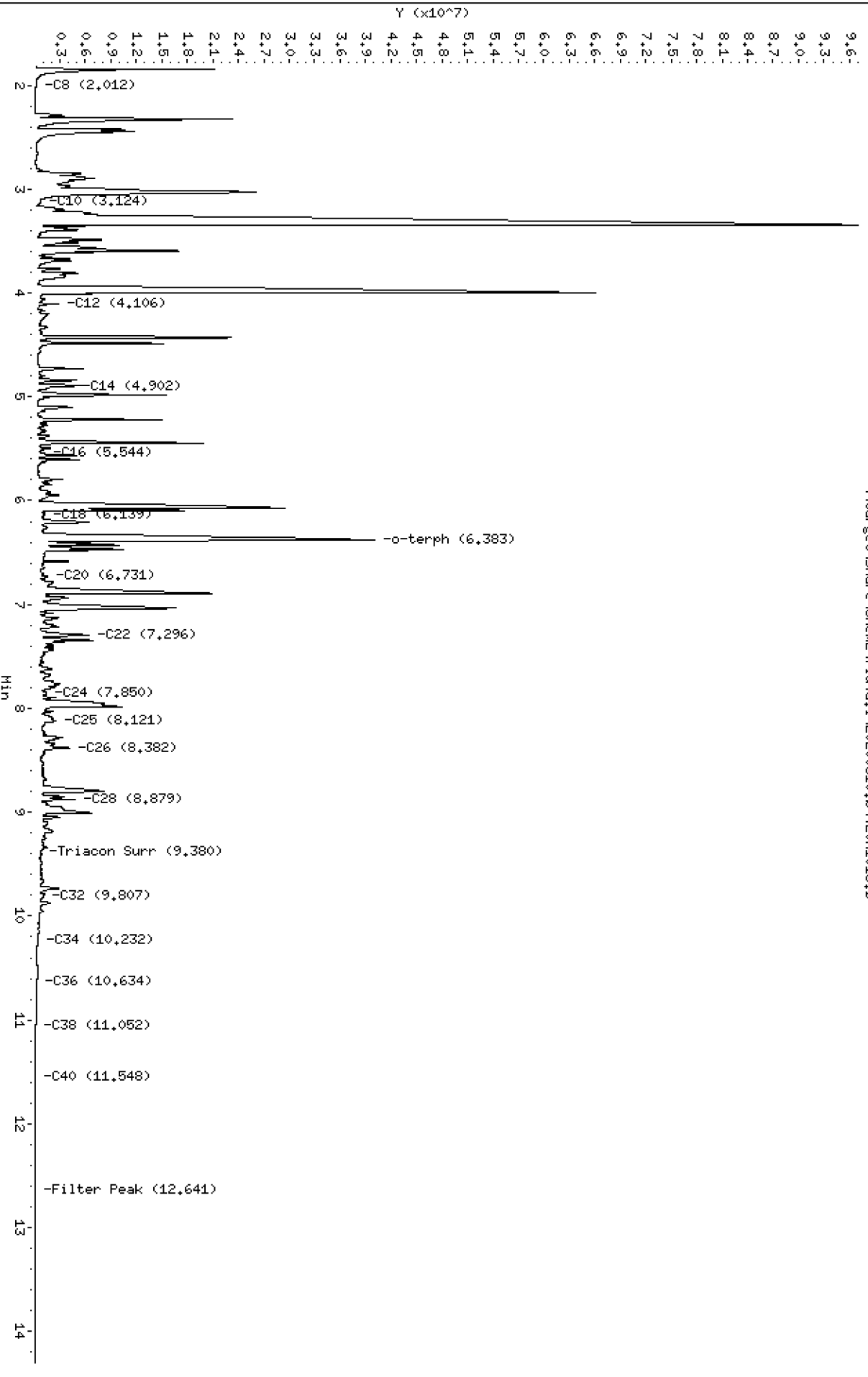
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1013.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1013.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 10-AUG-2020 13:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

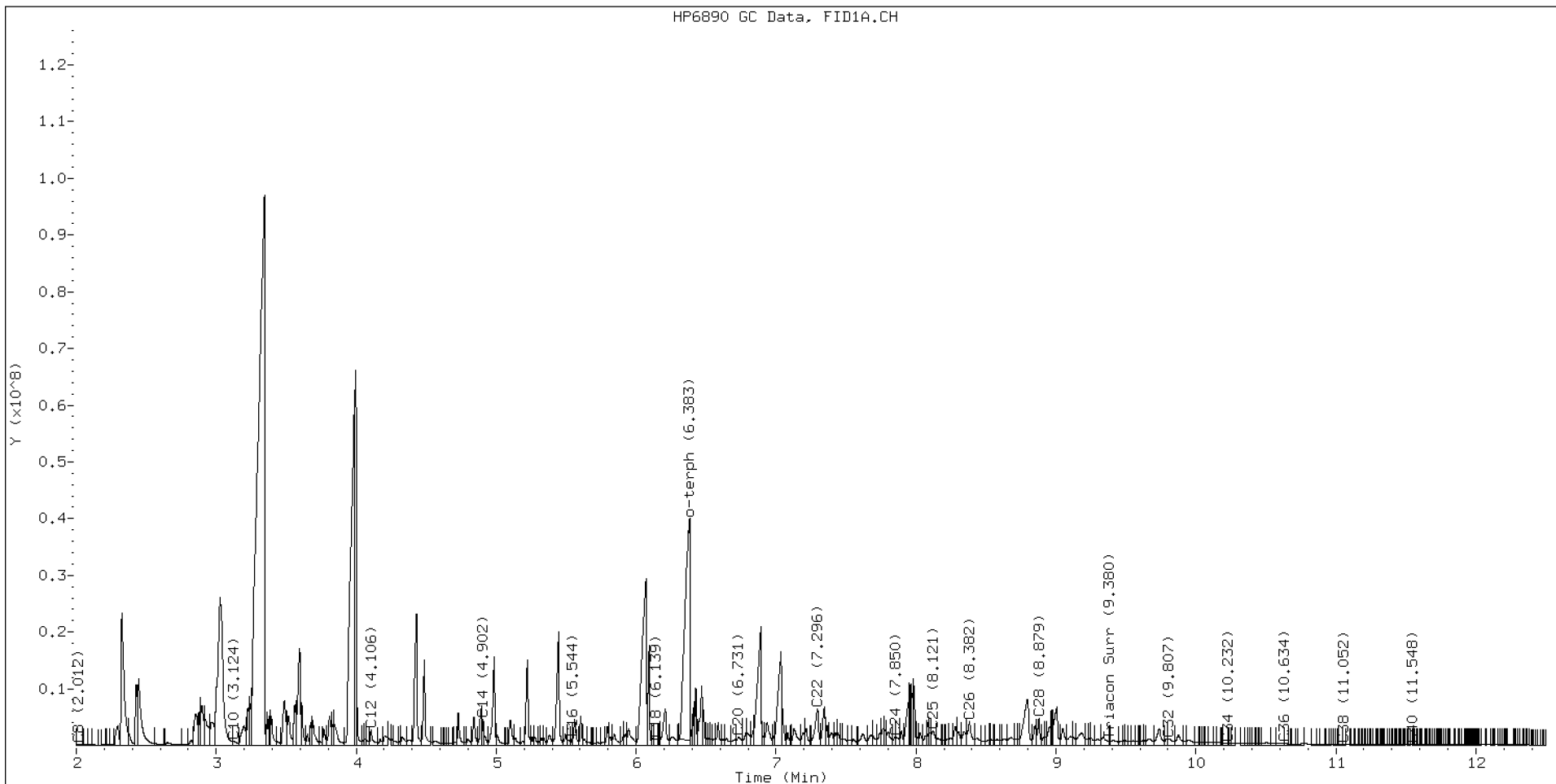
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.012	0.013	95463	213698	WATPHD	(C12-C24)	510718478	3205.3
C10	3.124	0.012	658048	1310273	WATPHM	(C24-C38)	217018558	2145.2
C12	4.106	0.013	2689100	3210487	AK102	(C10-C25)	1154977604	5908.1
C14	4.902	0.005	4529096	3169210	AK103	(C25-C36)	174815307	2388.0
C16	5.544	0.000	1186254	882489	OR.DIES	(C10-C28)	1241149517	6332.4
C18	6.139	0.000	1097209	1614733				
C20	6.731	0.008	1395502	2758564	JET-A	(C10-C18)	878617104	5233.0
C22	7.296	0.005	6358775	11740148				
C24	7.850	0.009	1319296	1273820				
C25	8.121	0.010	2507724	4067646				
C26	8.382	0.006	4064229	7597038				
C28	8.879	-0.003	4657449	5361411				
C32	9.807	-0.004	1046694	2394813				
C34	10.232	-0.005	290793	72598				
Filter Peak	12.641	0.000	7890	3140	CREOSOT	(C12-C22)	458251561	5084.4
C36	10.634	-0.009	213530	321534				
C38	11.052	-0.002	80686	94358				
C40	11.548	0.010	35419	22895				
o-terph	6.383	0.045	38995622	94112864				
Triacon Surr	9.380	-0.004	670067	426371	NAS DIES	(C10-C24)	1115021496	5713.7

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	94112864	459.8 M
Triacontane	426371	2.9

M Indicates the peak was manually integrated

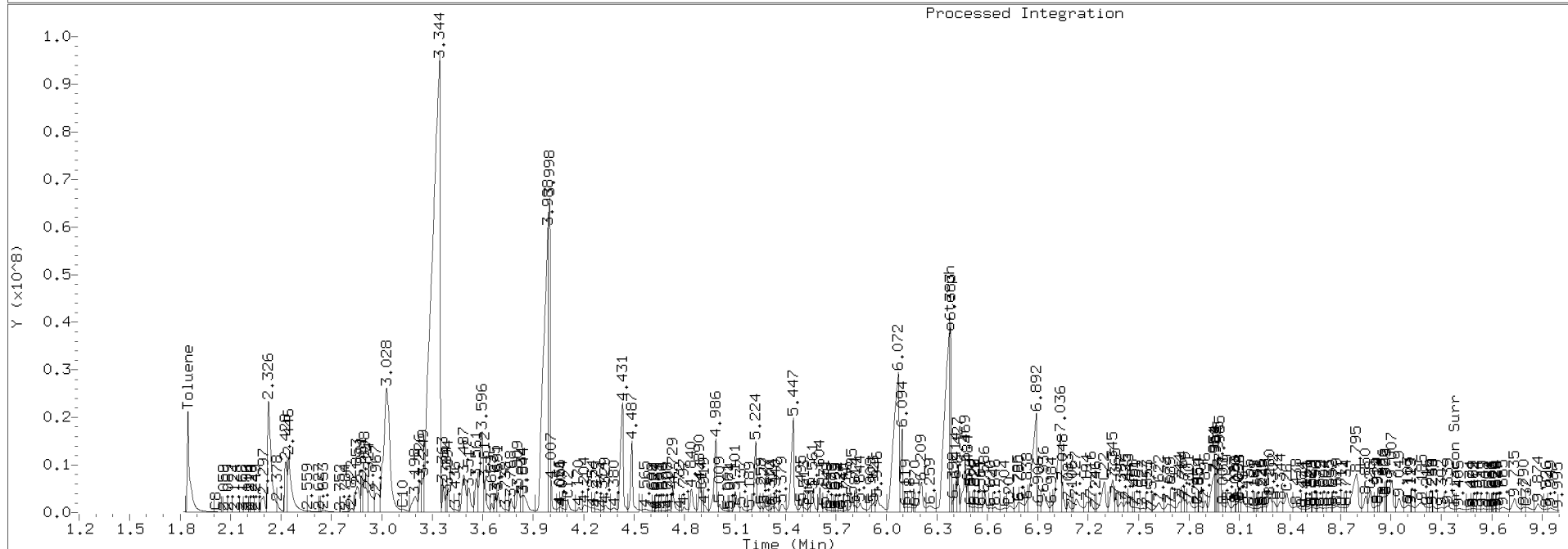
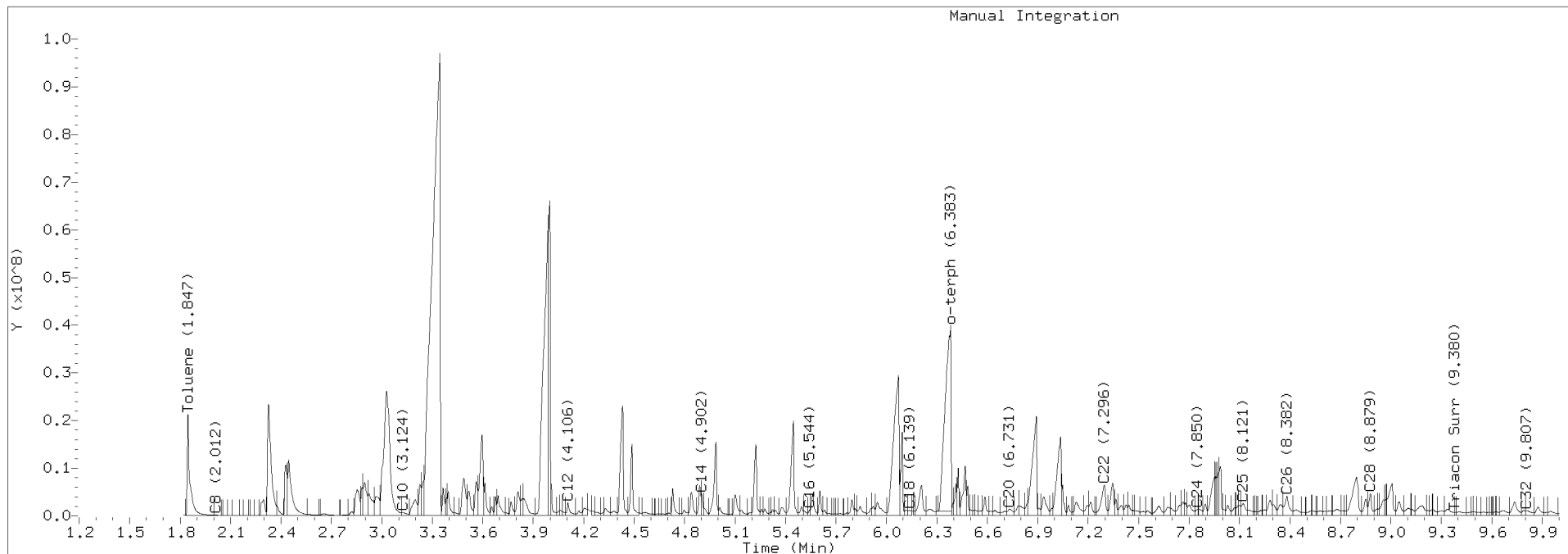
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



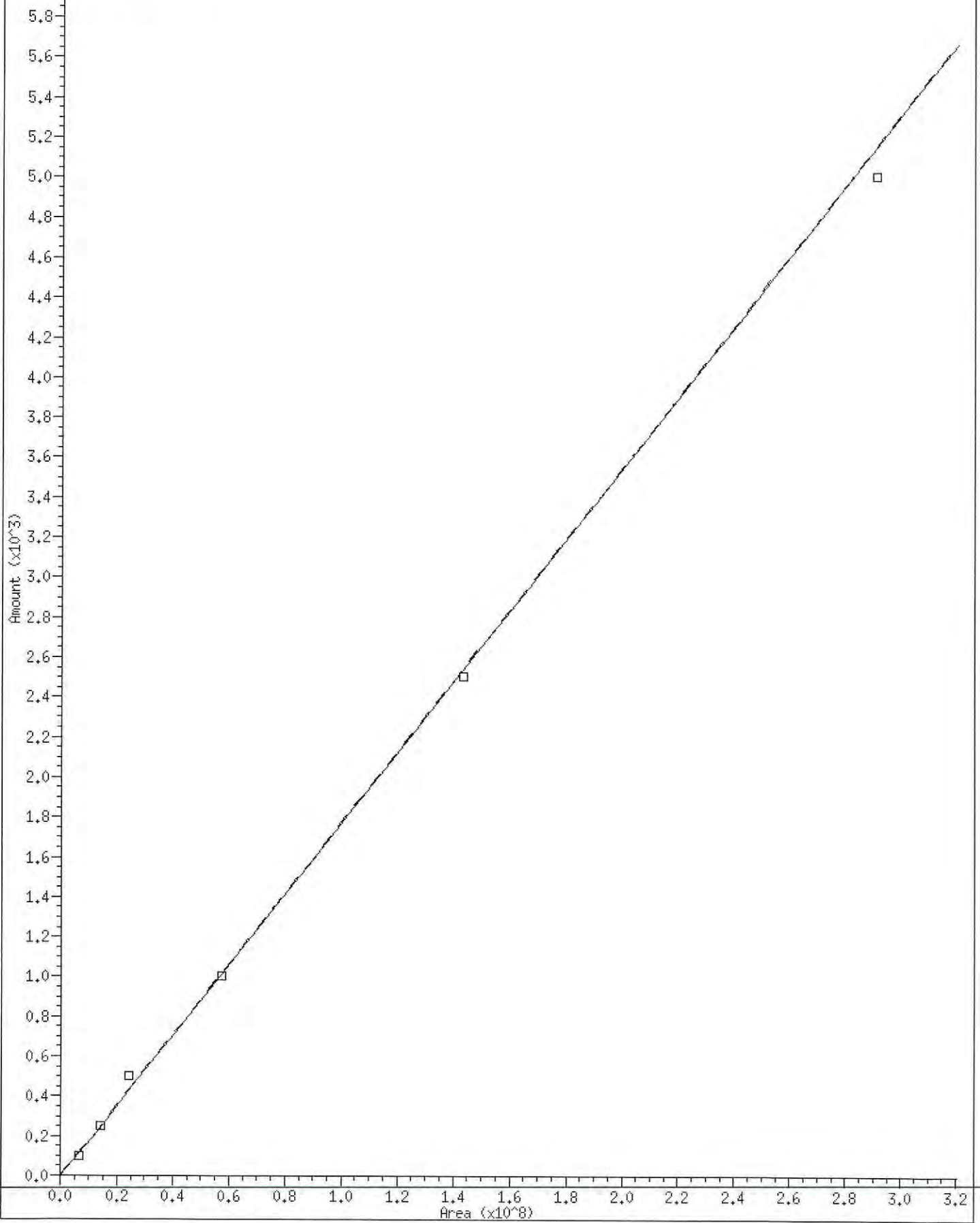
TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1013.D Injection: 10-AUG-2020 13:22

Lab ID:SEQ-CAL6



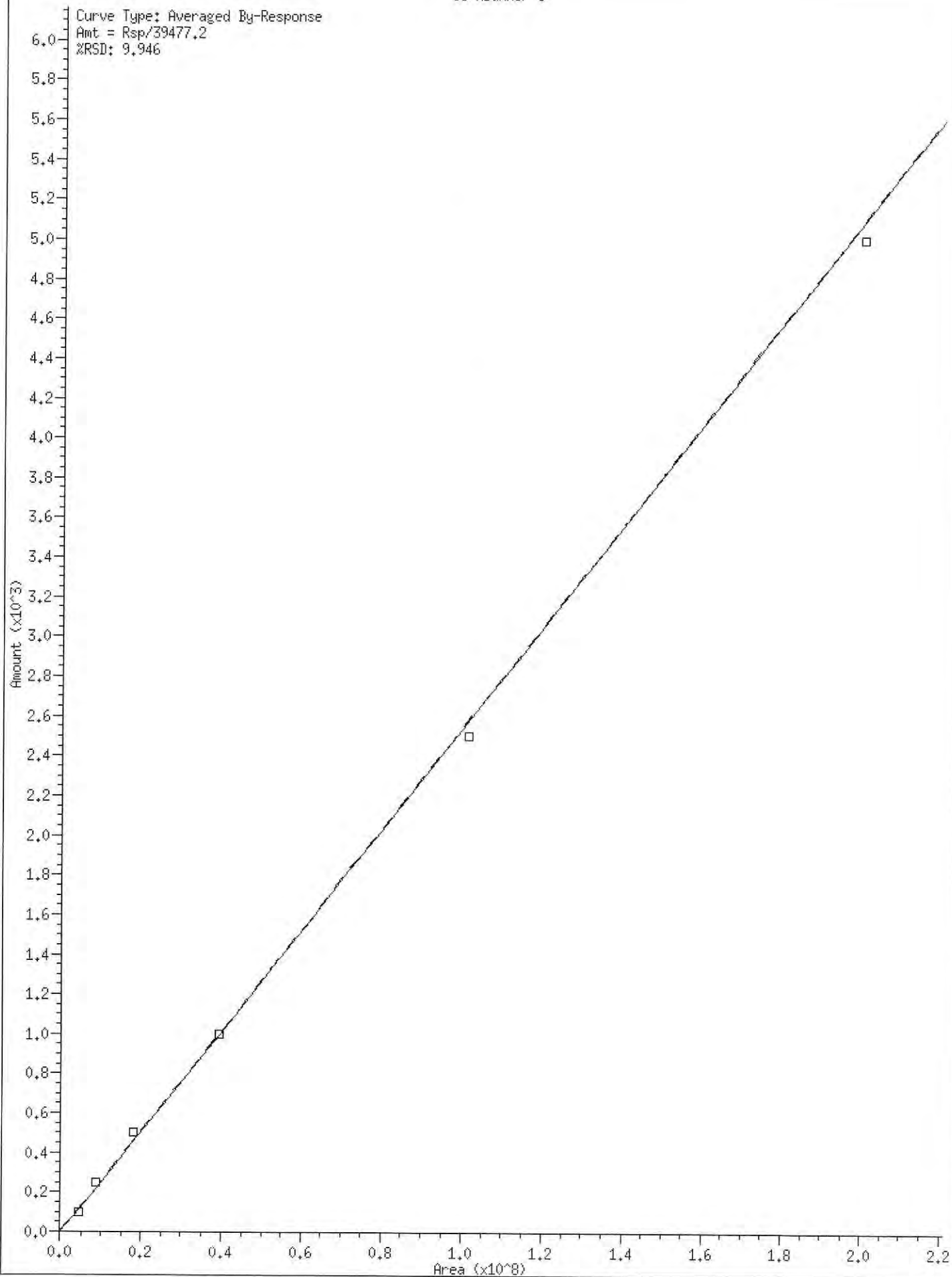
Curve Type: Averaged By-Response
Amt = Rsp/56572.1
%RSD: 8.647



Curve Type: Averaged By-Response

Amt = Rsp/39477.2

%RSD: 9.946





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV1

Sequence: SHJ0406

Sequence Name: DIESEL SCV

Standard ID: H008294

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	511	2.2	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025_b\419J2513.D

Date: 25-OCT-2019 15:52

Client ID:

Sample Info: SHJ0406-SCV1

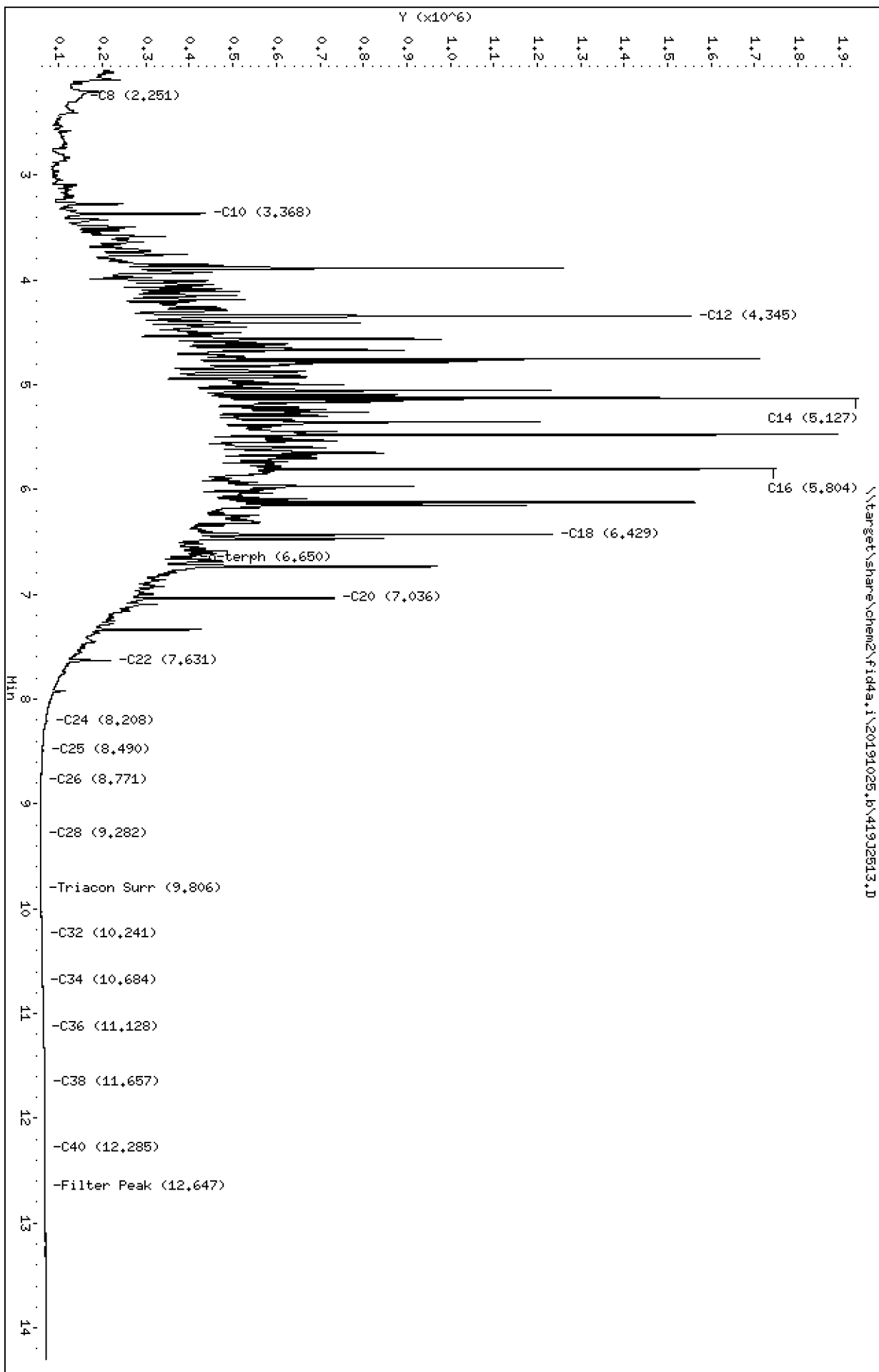
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D

ARI ID: SHJ0406-SCV1

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 15:52

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

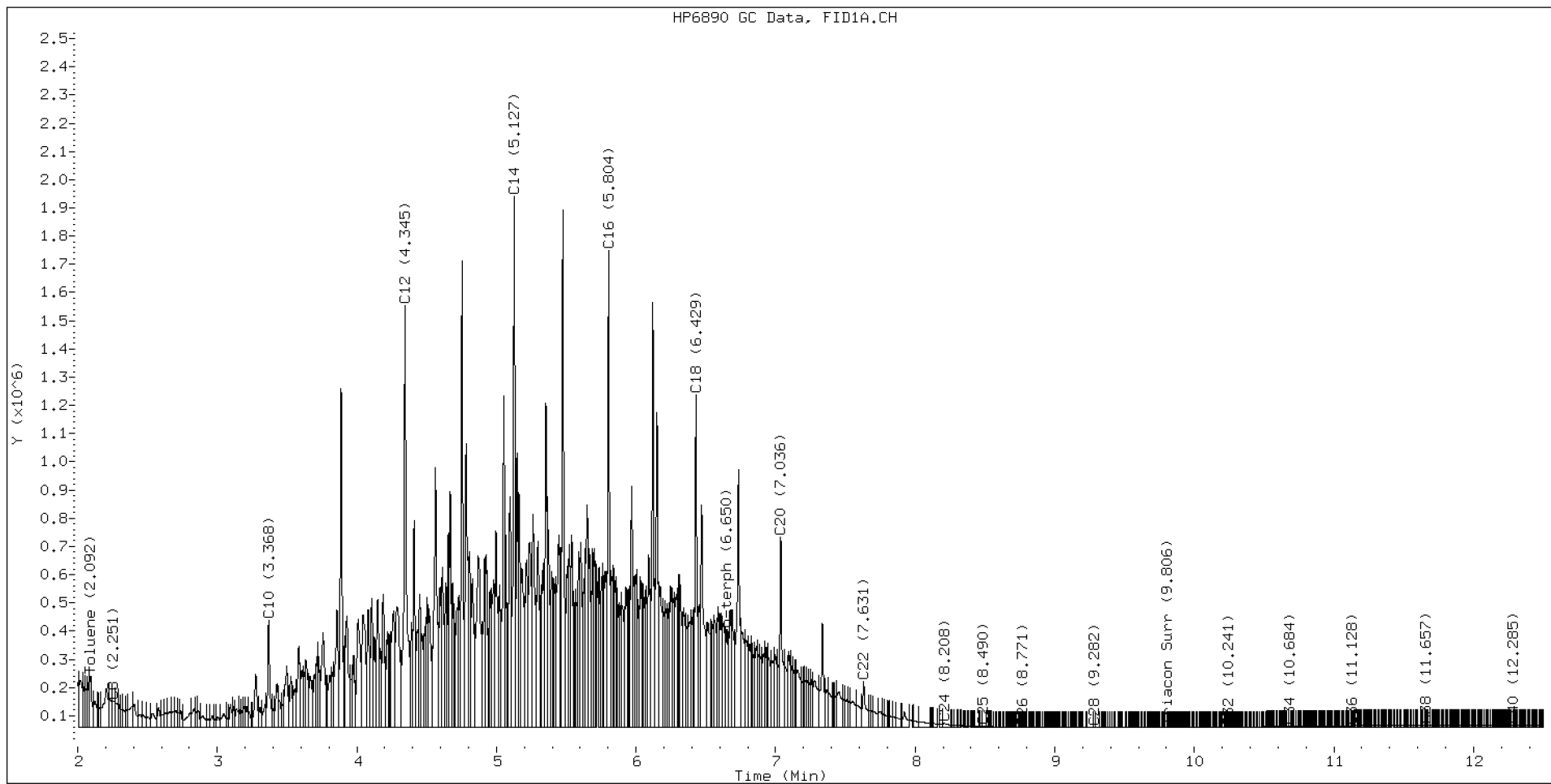
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacontane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV2

Sequence: SHJ0406

Sequence Name: MOIL SCV

Standard ID: H008399

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	1020	1.9	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025,6\419J2520.D

Date: 25-OCT-2019 18:14

Client ID:

Sample Info: SHJ0406-SCV2

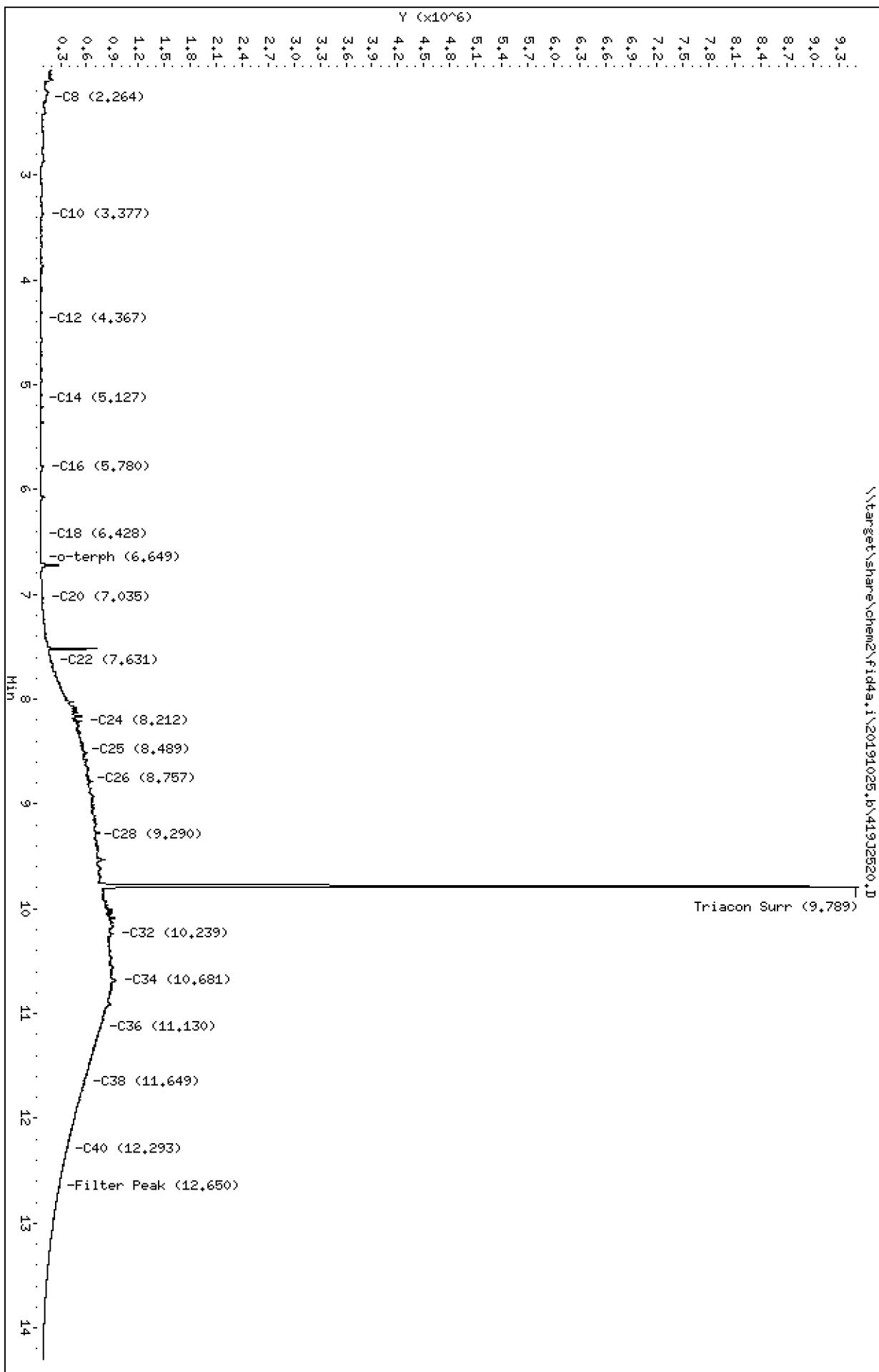
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D

ARI ID: SHJ0406-SCV2

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 18:14

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

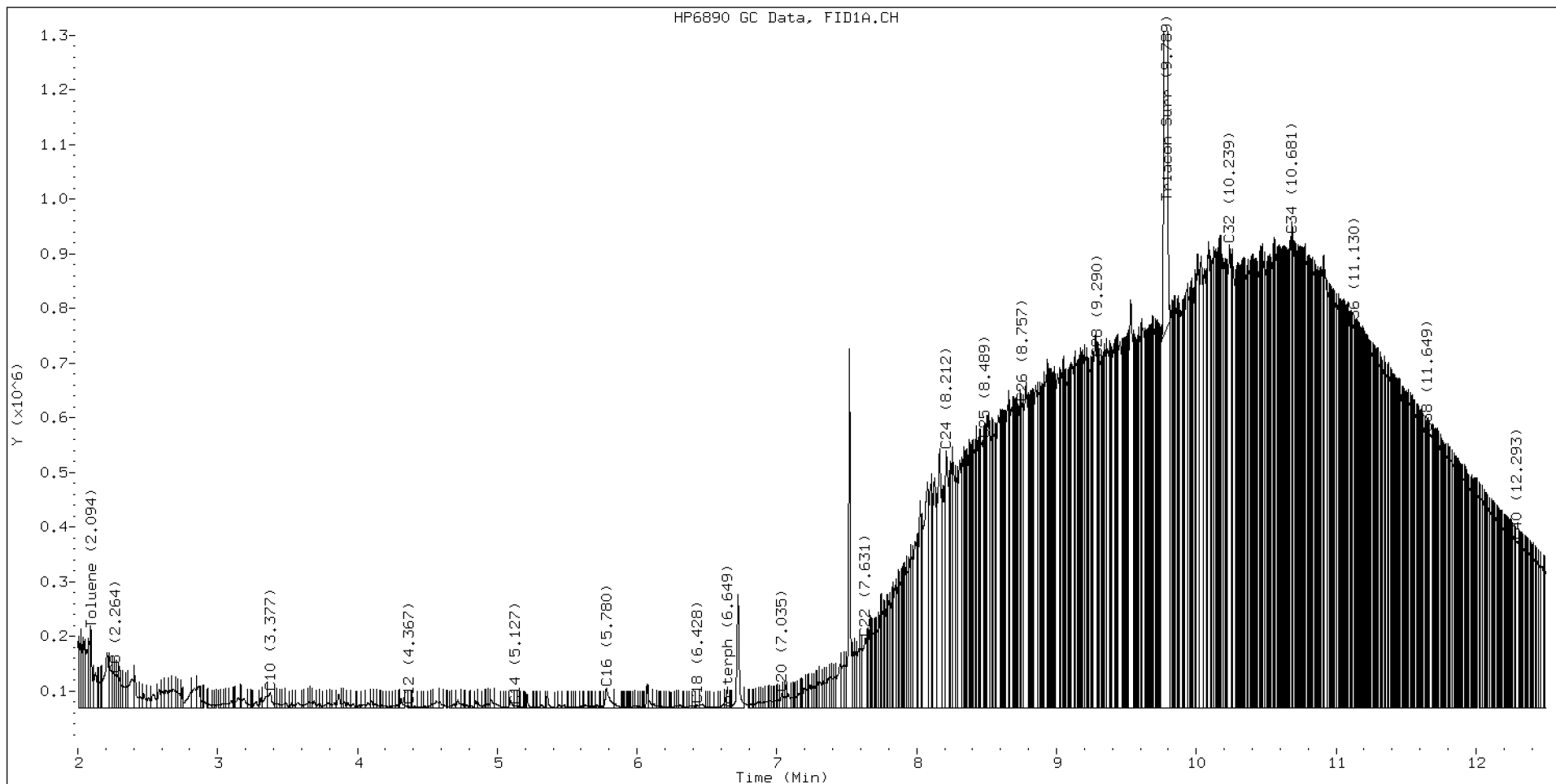
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

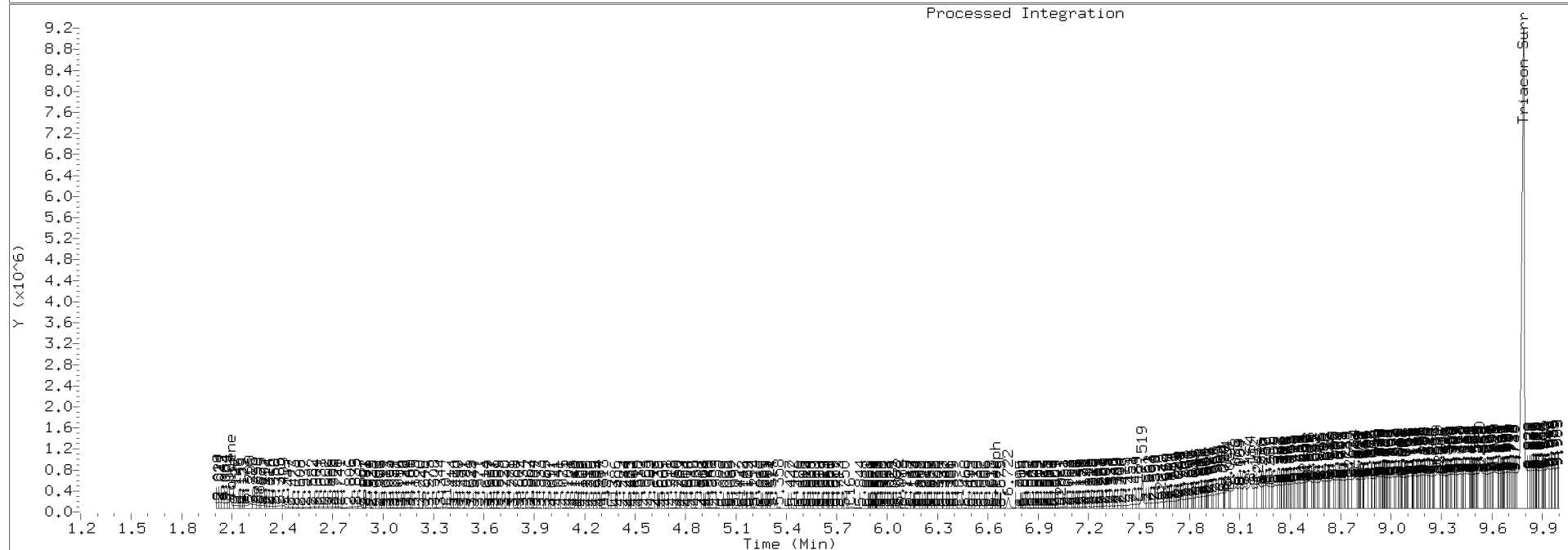
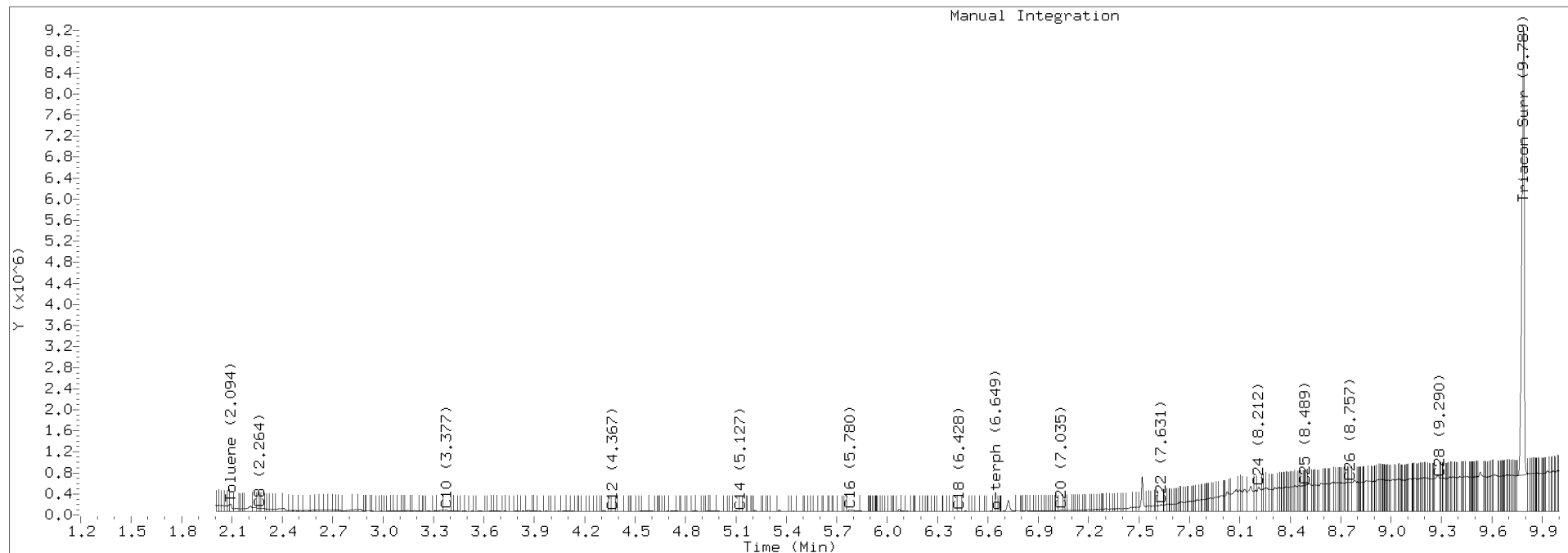
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019



TPH Manual Integrations Report

Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14

Lab ID:SHJ0406-SCV2





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DA00022

Laboratory ID: SIF0018-SCV1

Sequence: SIF0018

Sequence Name: MOIL SCV

Standard ID: I004757

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	952	-4.8	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

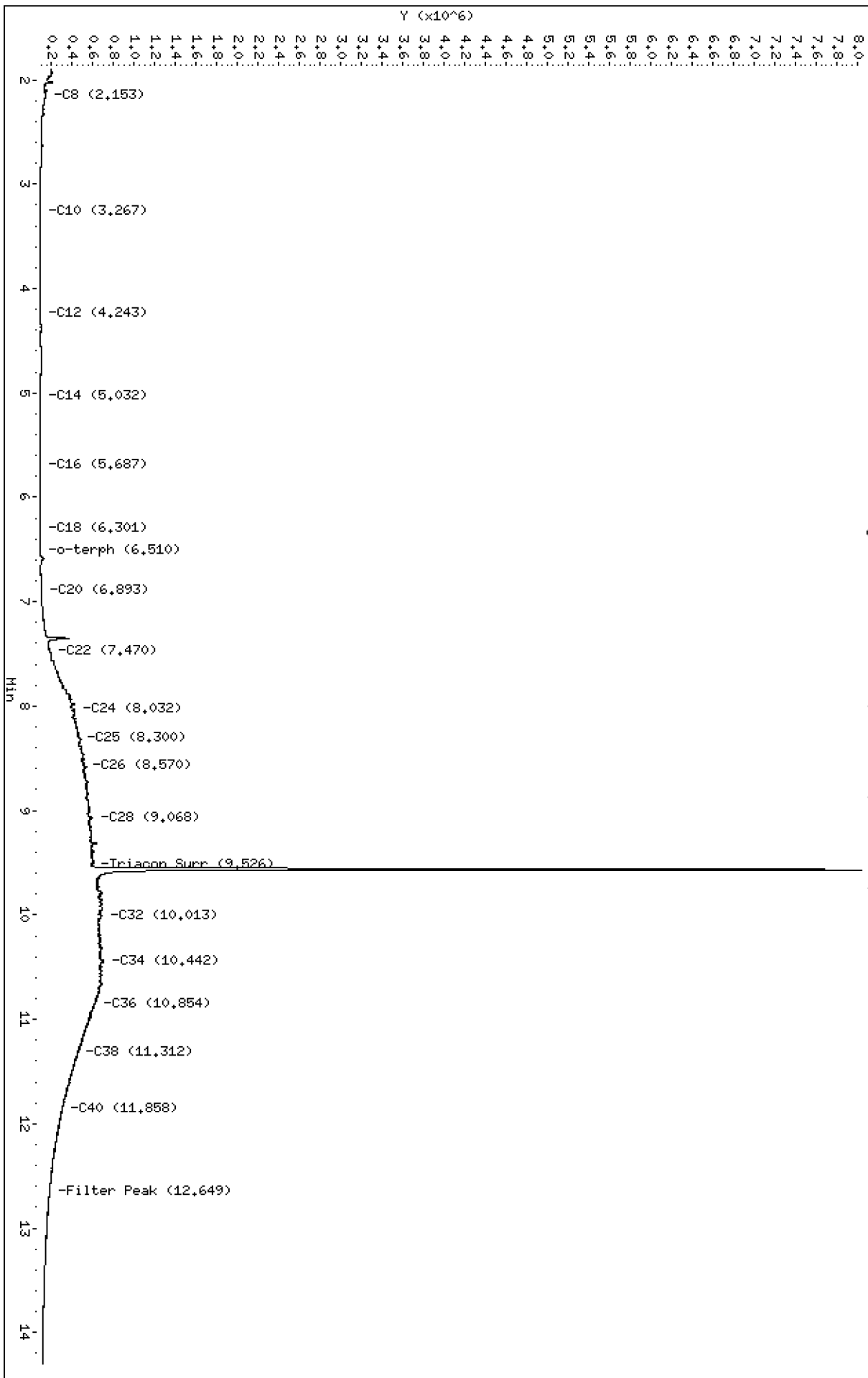
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

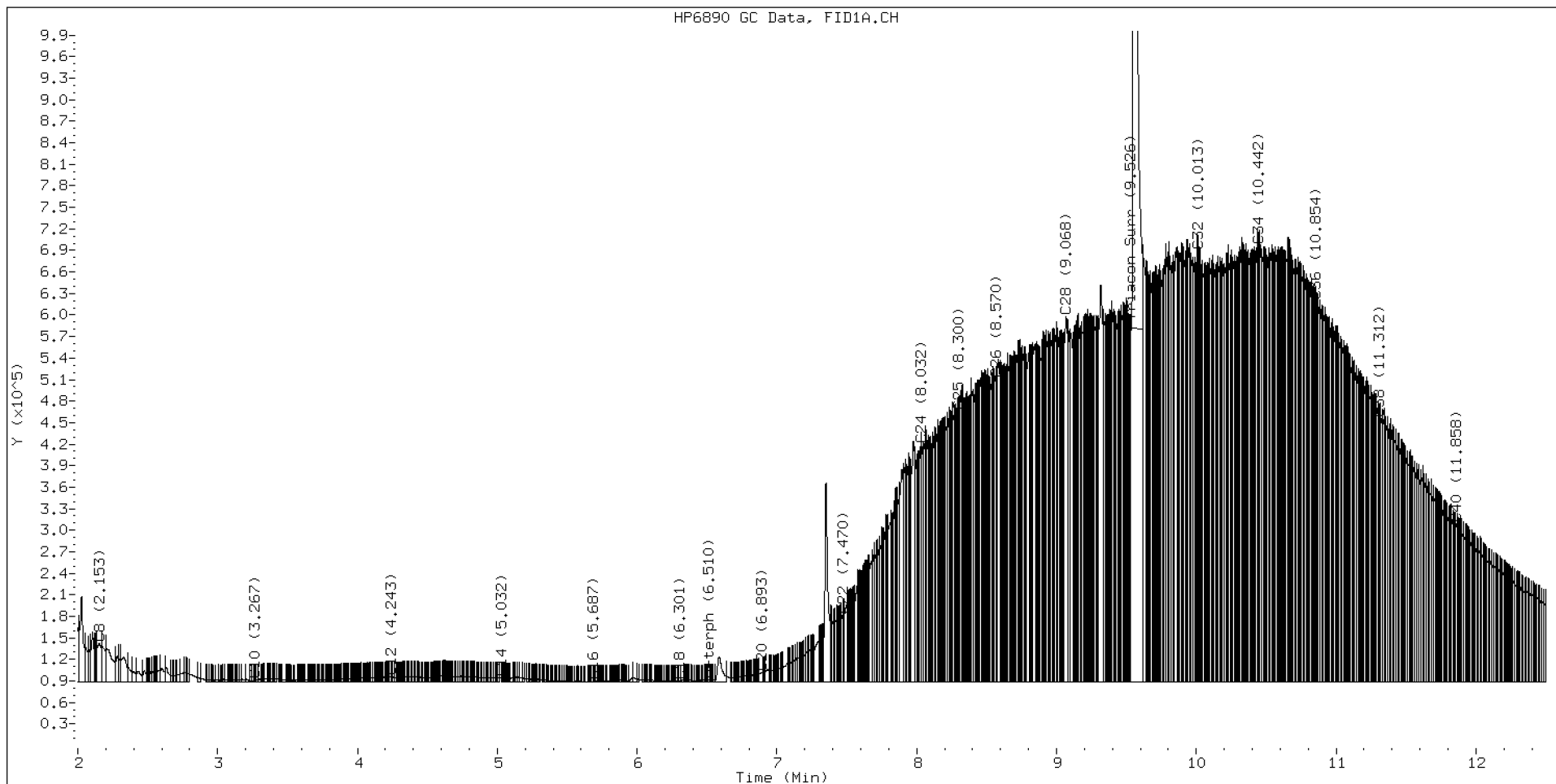
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

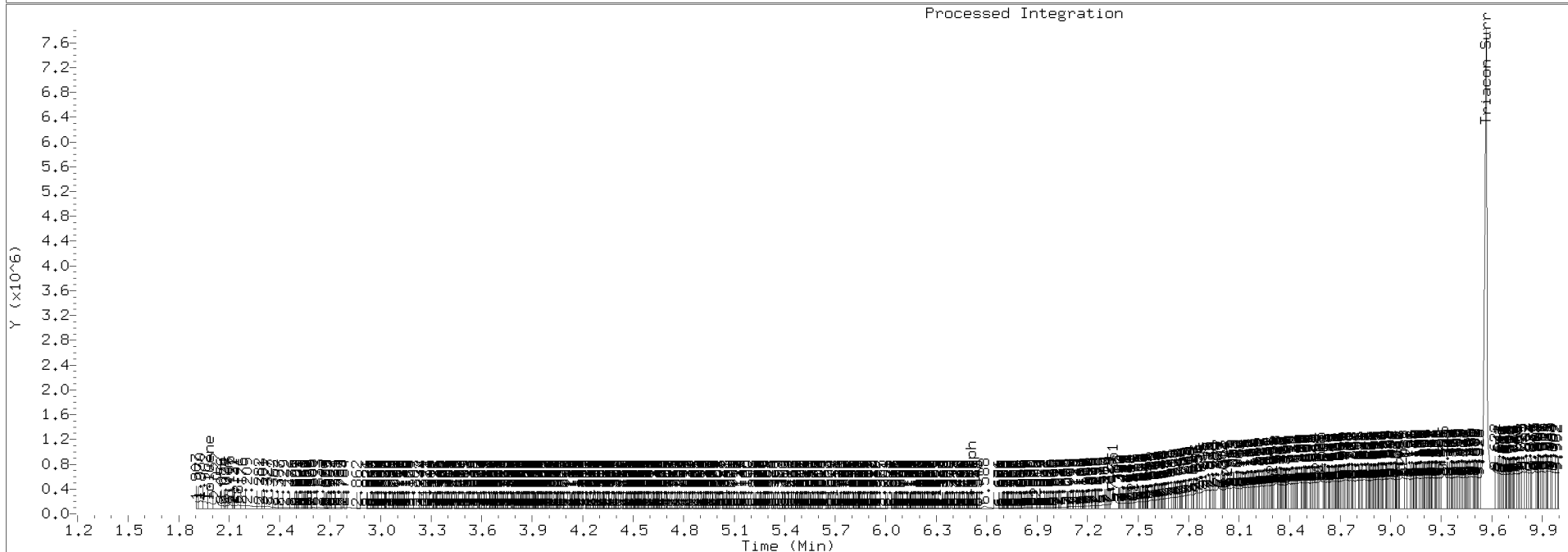
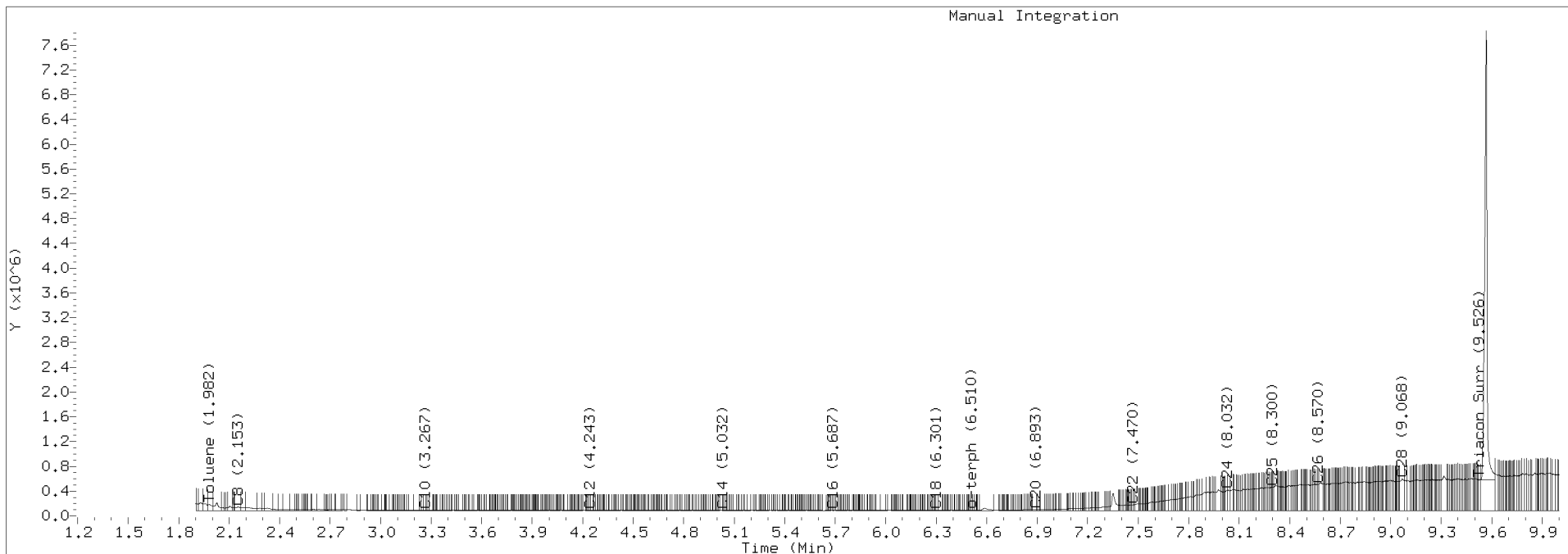
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0205.D
Date : 02-OCT-2020 10:02

Client ID:

Sample Info: SEQ-ICV1

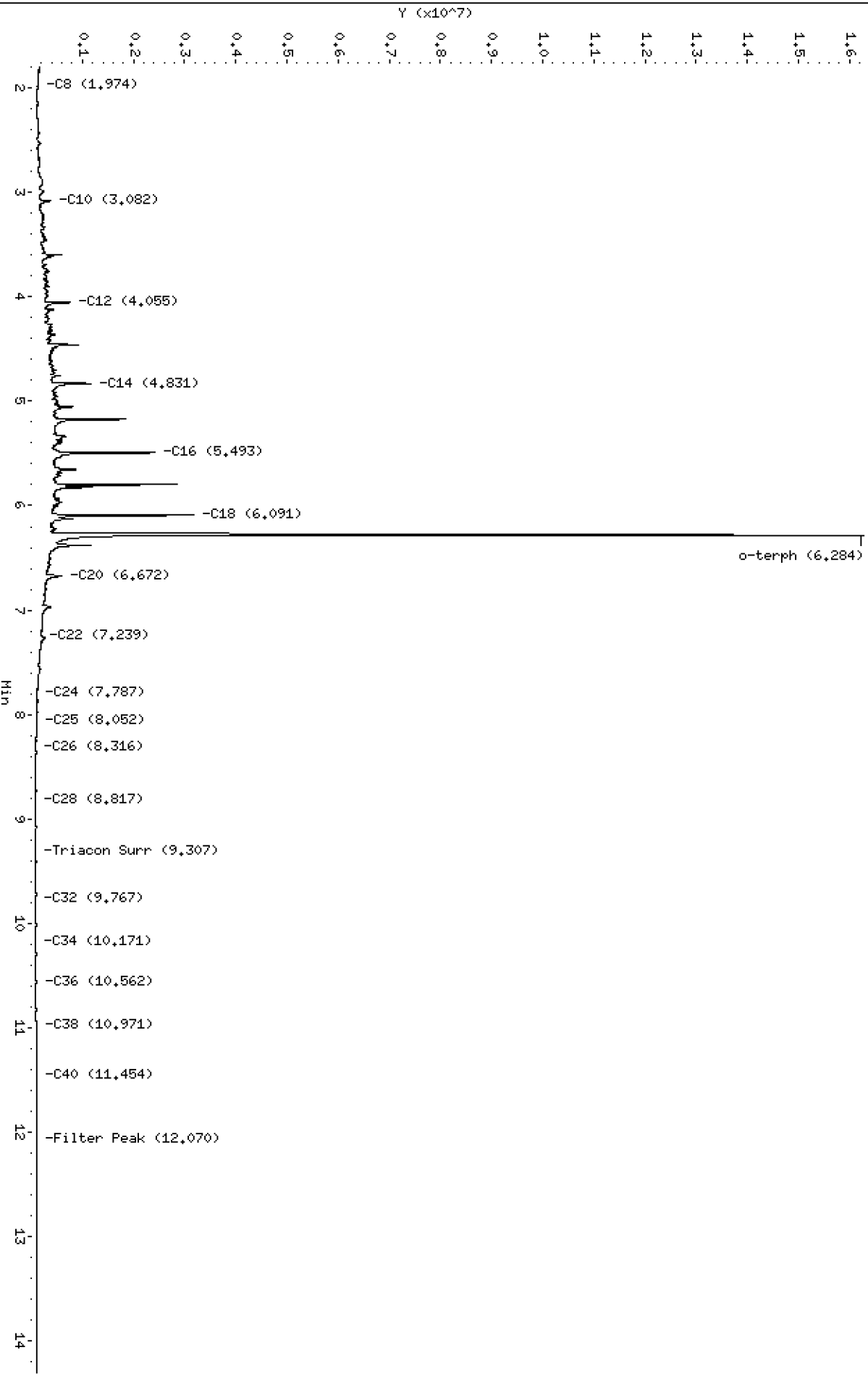
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201002,b\420J0205.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0205.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-OCT-2020 10:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

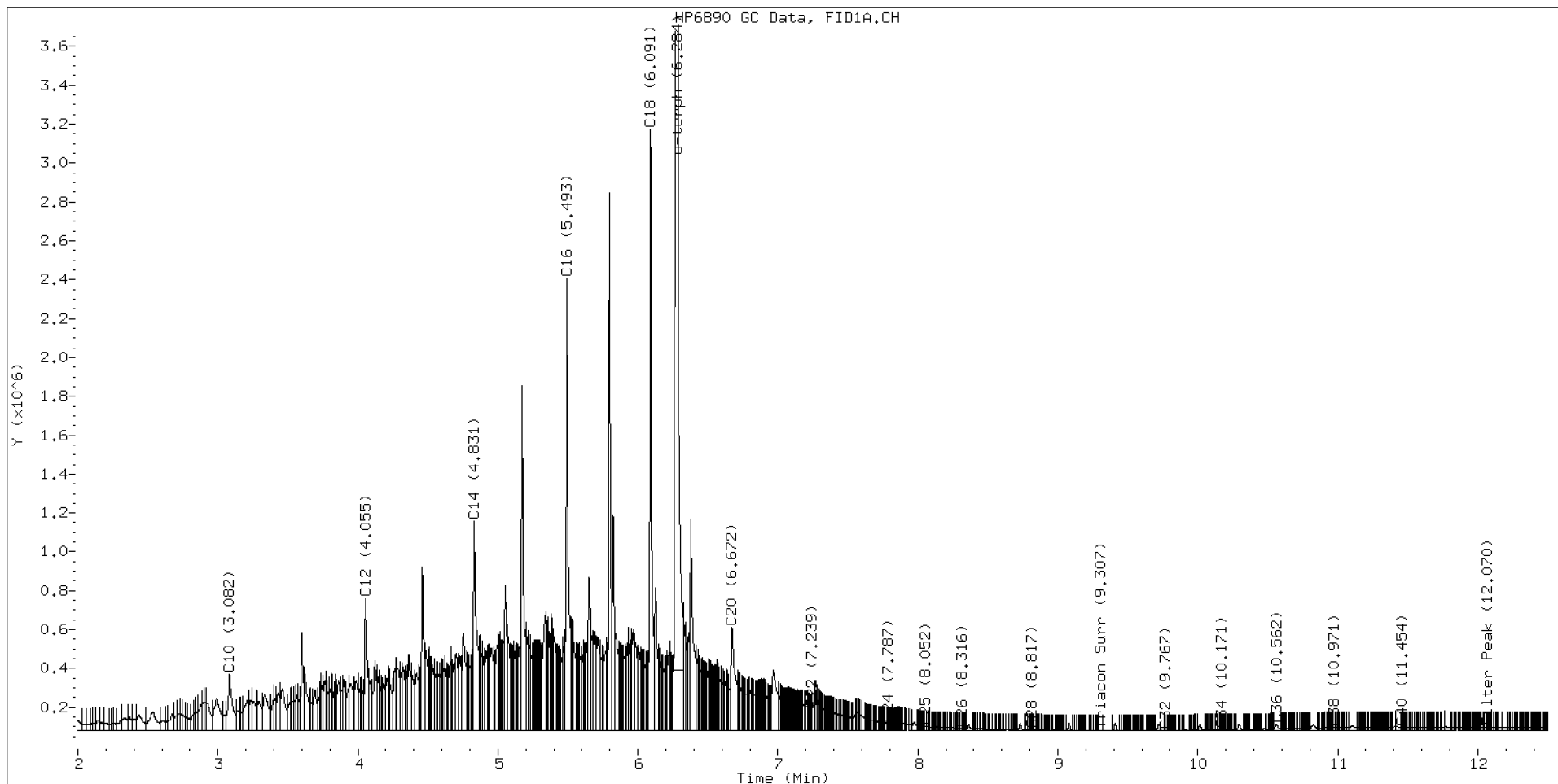
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.974	-0.011	44420	46374	WATPHD	(C12-C24)	72069347	452.3
C10	3.082	0.011	287360	631242	WATPHM	(C24-C38)	1617994	16.0
C12	4.055	0.003	678900	874723	AK102	(C10-C25)	83740998	428.4
C14	4.831	-0.020	1078112	1629048	AK103	(C25-C36)	975808	13.3
C16	5.493	-0.006	2325149	2519576	OR.DIES	(C10-C28)	84261604	429.9
C18	6.091	-0.001	3094596	2776409				
C20	6.672	-0.001	528691	1137793	JET-A	(C10-C18)	64134578	386.7
C22	7.239	0.003	112746	27707				
C24	7.787	0.003	38433	13199				
C25	8.052	-0.003	20425	12966				
C26	8.316	-0.001	10545	4130				
C28	8.817	-0.003	2938	1249				
C32	9.767	0.014	1384	800				
C34	10.171	-0.006	4006	1588				
Filter Peak	12.070	0.001	15527	5422	CREOSOT	(C12-C22)	69884769	1235.9
C36	10.562	-0.015	33354	51203				
C38	10.971	-0.009	14233	16927				
C40	11.454	-0.001	16193	4850				
o-terph	6.284	-0.001	15887466	16497934				
Triacon Surr	9.307	-0.012	1737	1458	NAS DIES	(C10-C24)	83398872	427.4

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16497934	80.6 M
Triacontane	1458	0.0

M Indicates the peak was manually integrated

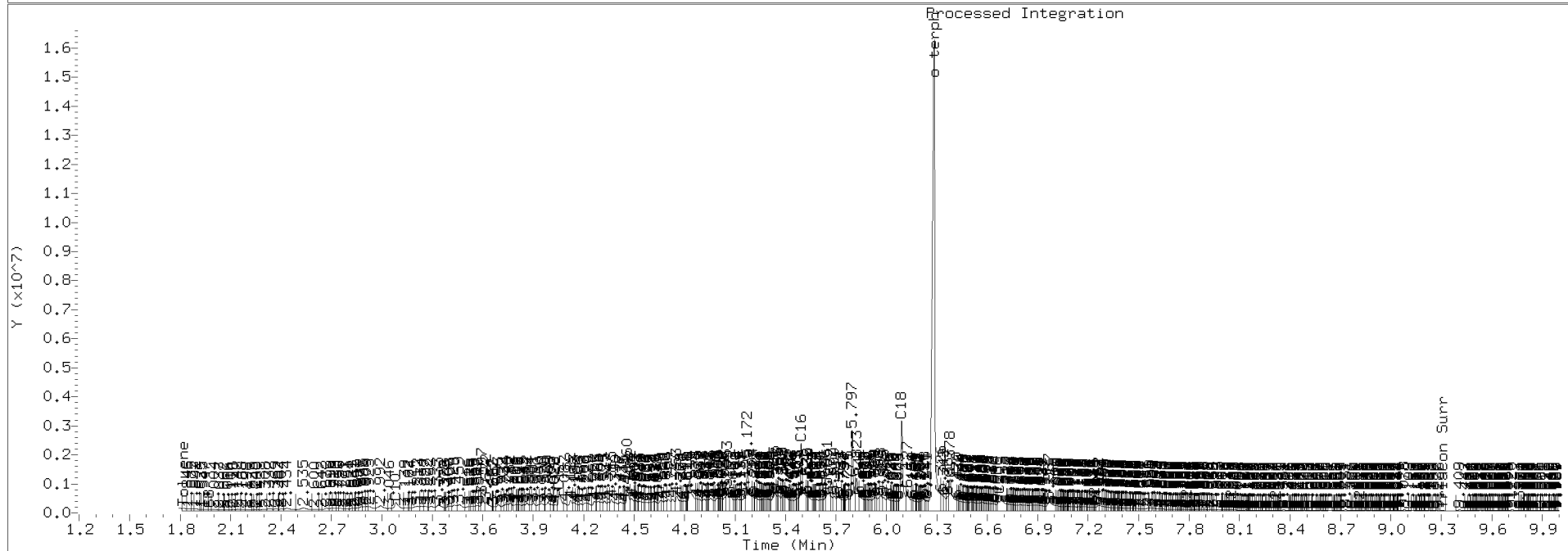
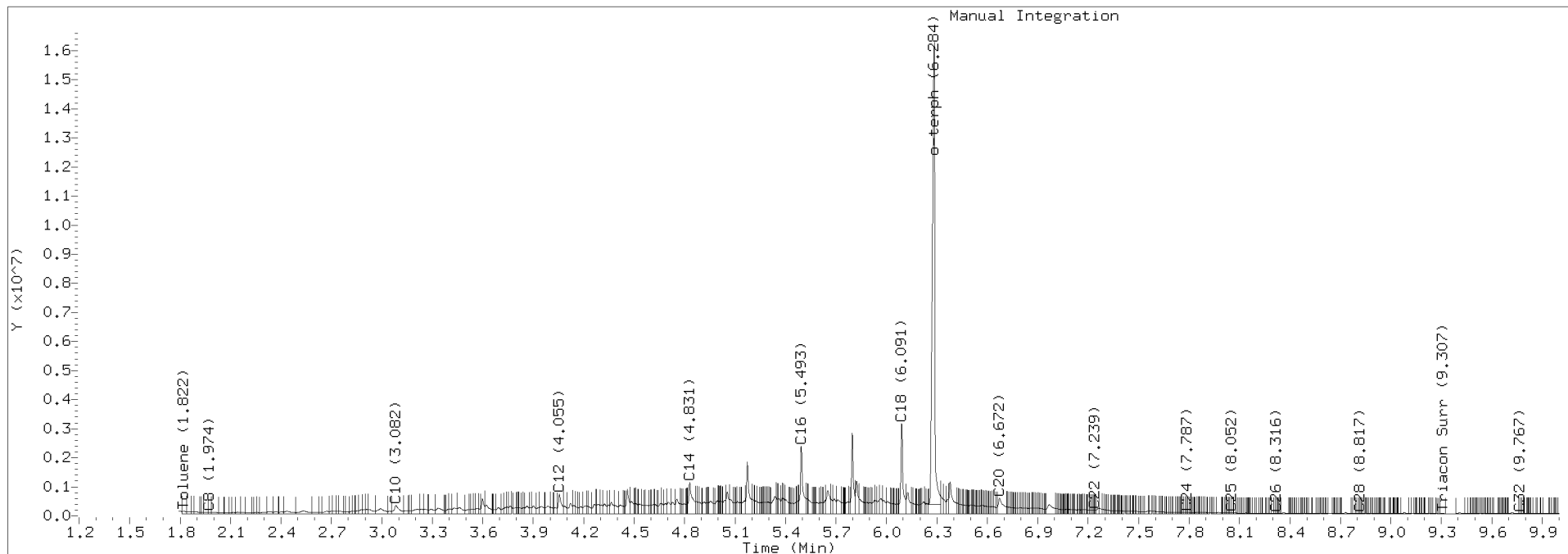
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0205.D Injection: 02-OCT-2020 10:02

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0206.D

Date : 02-OCT-2020 10:22

Client ID:

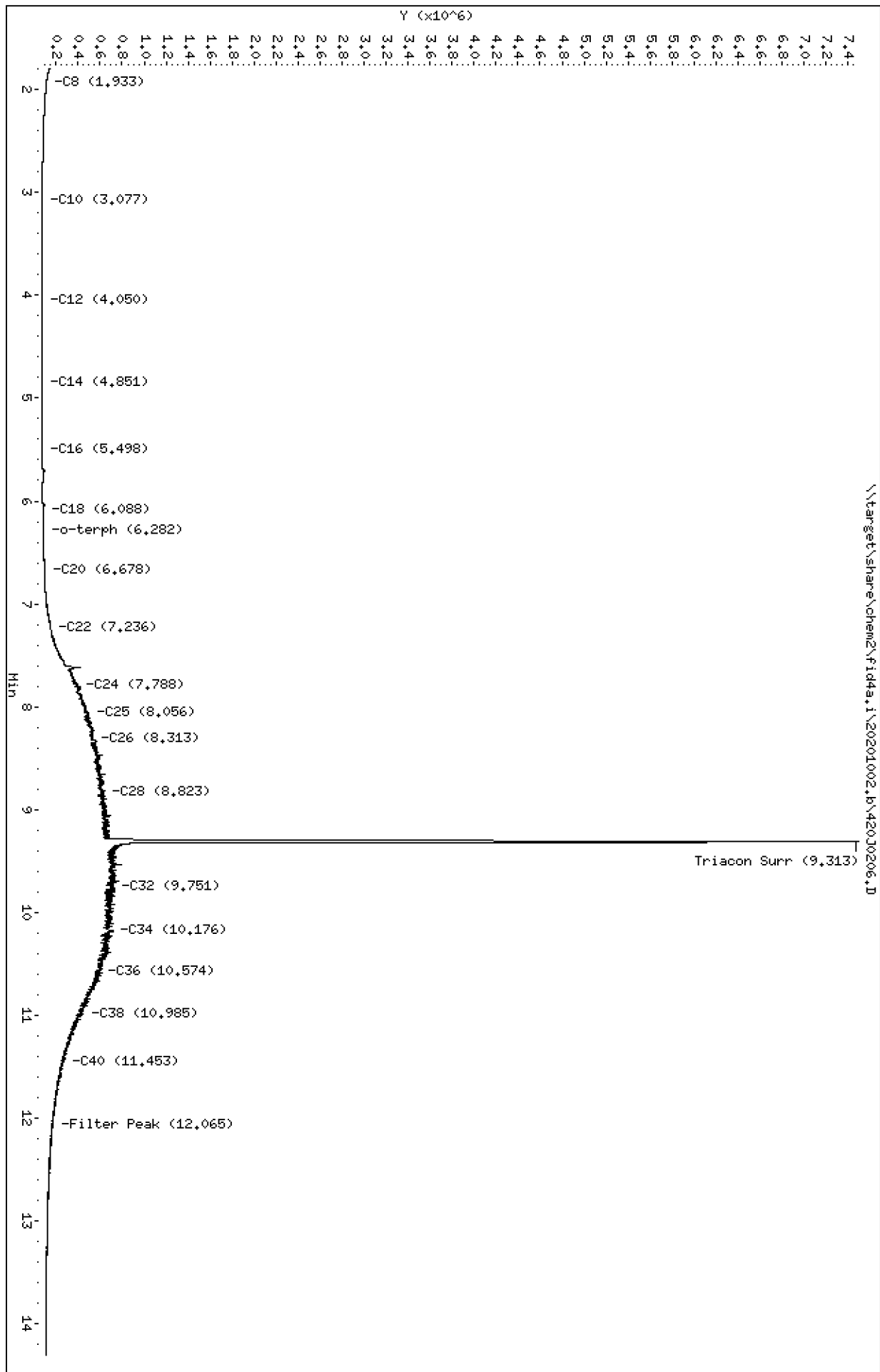
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0206.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-OCT-2020 10:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

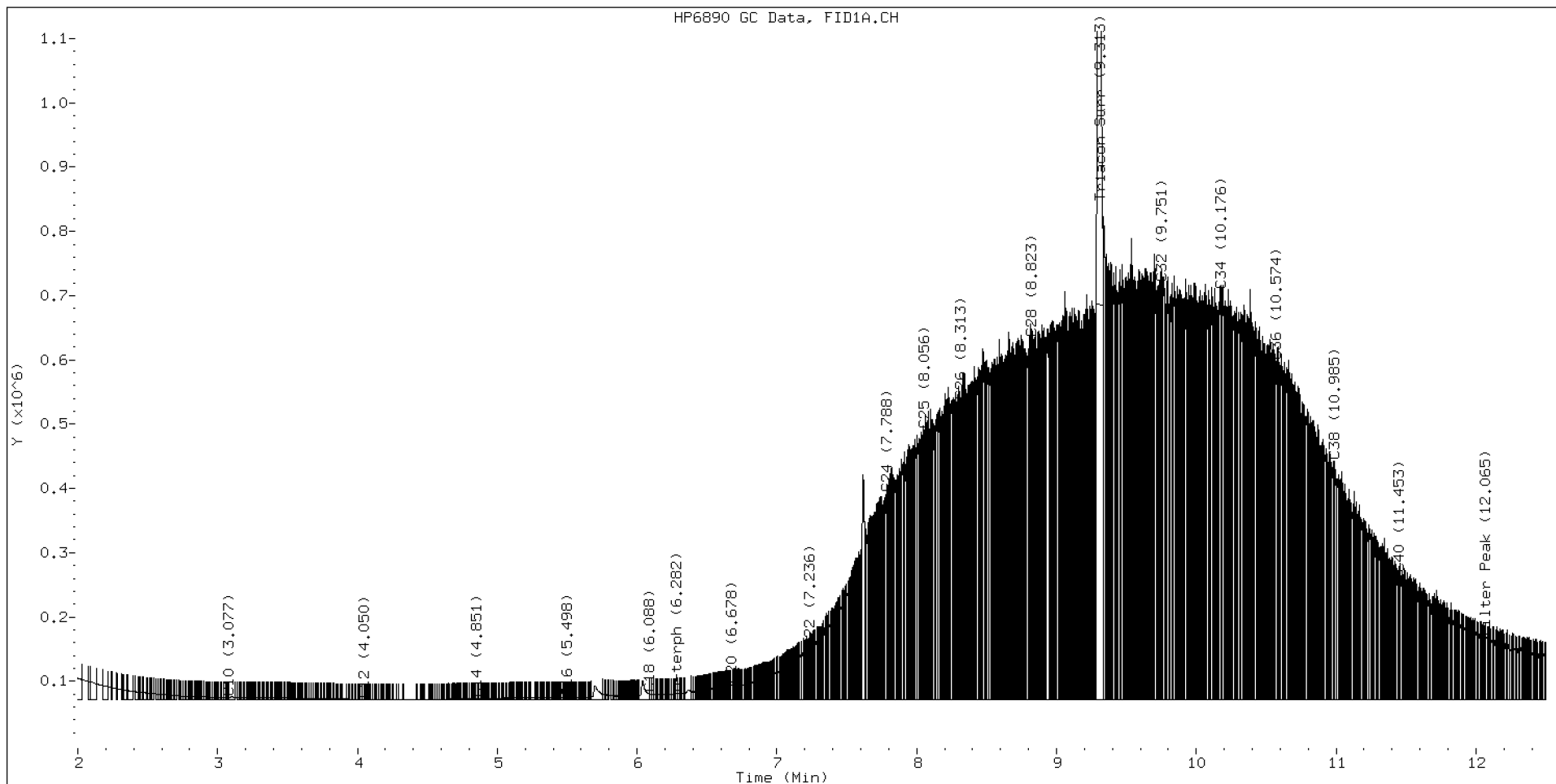
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.933	-0.053	40170	217629	WATPHD	(C12-C24)	9338175	58.6
C10	3.077	0.005	3116	1235	WATPHM	(C24-C38)	101326864	1001.6
C12	4.050	-0.002	739	300	AK102	(C10-C25)	12980414	66.4
C14	4.851	0.000	1691	875	AK103	(C25-C36)	87854436	1200.1
C16	5.498	-0.001	3965	1775	OR.DIES	(C10-C28)	38104832	194.4
C18	6.088	-0.004	9124	7454				
C20	6.678	0.004	23587	21755	JET-A	(C10-C18)	531068	3.2
C22	7.236	-0.000	78929	19568				
C24	7.788	0.003	320203	157142				
C25	8.056	0.001	419327	203040				
C26	8.313	-0.003	465120	205807				
C28	8.823	0.002	561848	139100				
C32	9.751	-0.002	648448	161534				
C34	10.176	-0.000	636189	188508				
Filter Peak	12.065	-0.004	95356	47076	CREOSOT	(C12-C22)	2490372	44.0
C36	10.574	-0.003	526198	280237				
C38	10.985	0.005	371706	208774				
C40	11.453	-0.002	195991	143228				
o-terph	6.282	-0.003	9393	6016				
Triacon Surr	9.313	-0.007	6811245	6463450	NAS DIES	(C10-C24)	9467683	48.5

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	6016	0.0
Triacontane	6463450	43.6 M

M Indicates the peak was manually integrated

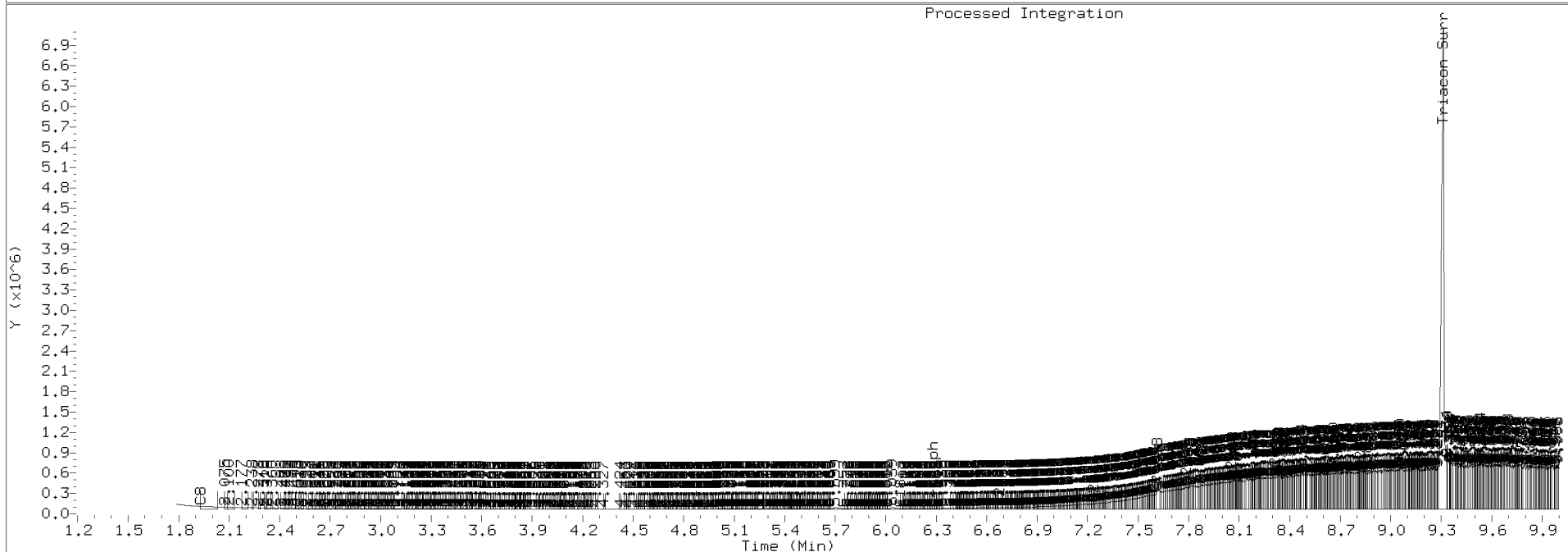
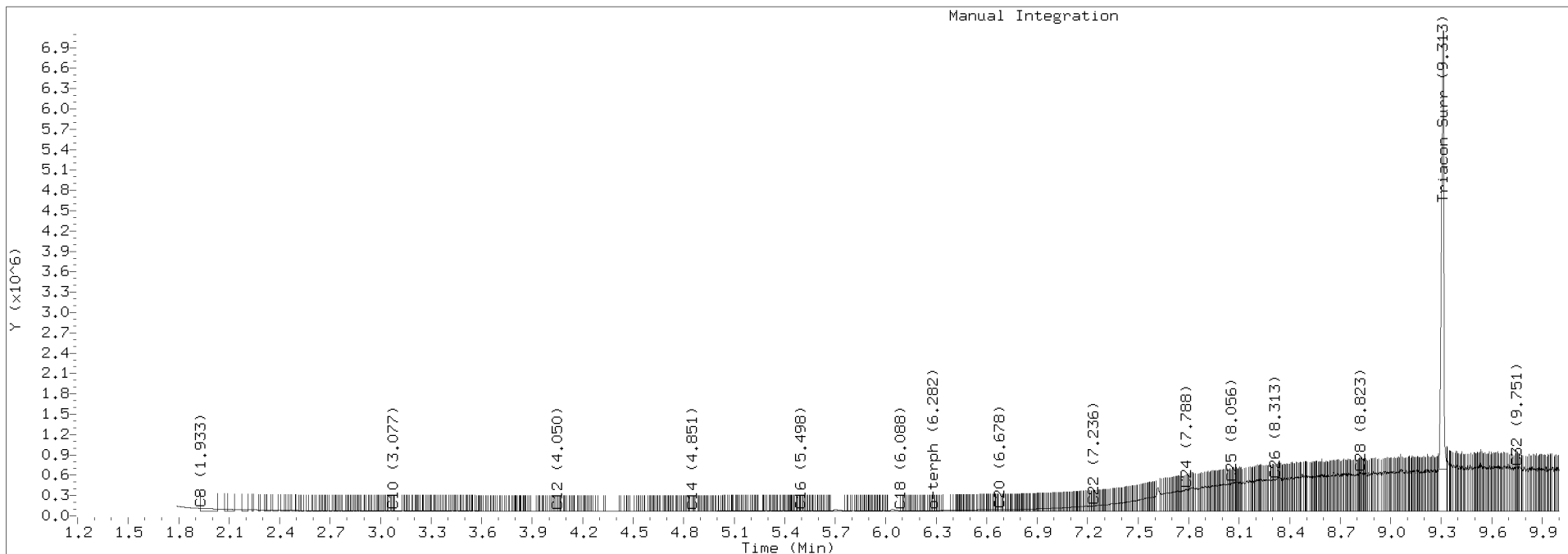
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0206.D Injection: 02-OCT-2020 10:22

Lab ID:SEQ-ICV2



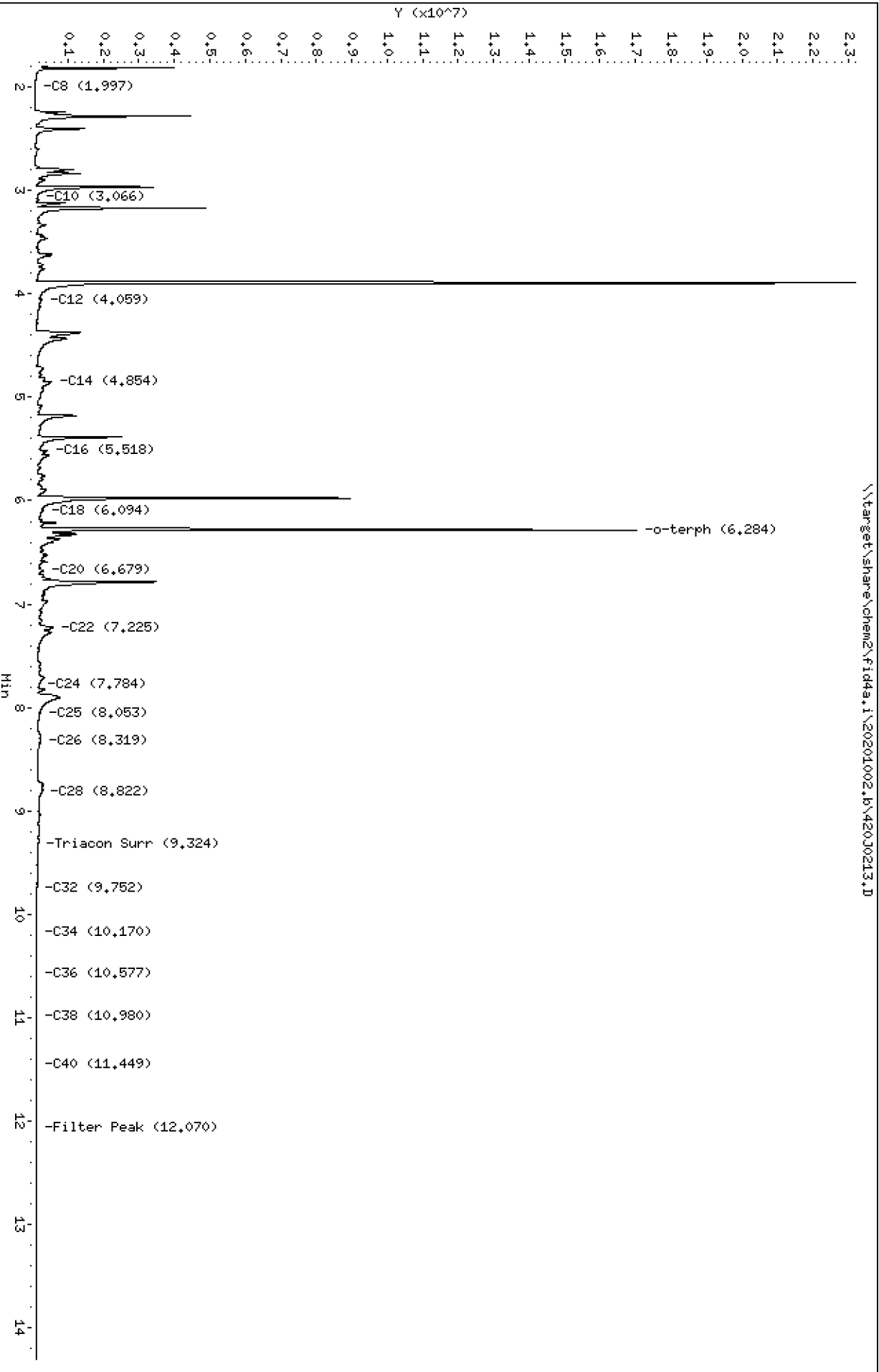
Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0213.D
Date : 02-OCT-2020 12:46
Client ID:
Sample Info: SEQ-ICV3

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0213.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-OCT-2020 12:46
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

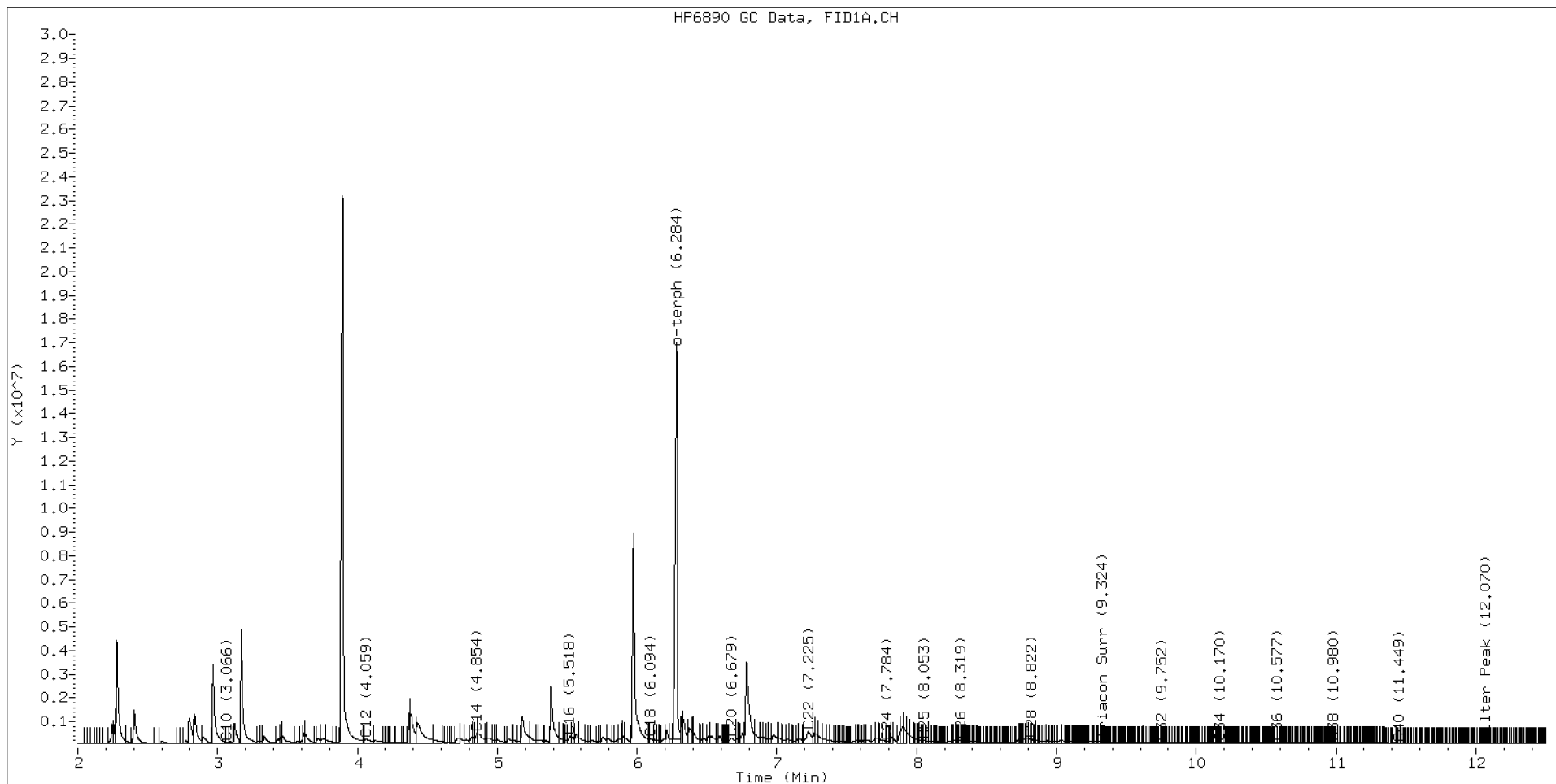
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.011	15231	44107	WATPHD	(C12-C24)	64142858	402.6
C10	3.066	-0.005	73828	66824	WATPHM	(C24-C38)	16752657	165.6
C12	4.059	0.007	208812	562762	AK102	(C10-C25)	104140417	532.7
C14	4.854	0.004	450395	458484	AK103	(C25-C36)	12683259	173.3
C16	5.518	0.018	336617	450507	OR.DIES	(C10-C28)	109859015	560.5
C18	6.094	0.002	214777	260250				
C20	6.679	0.005	247699	513028	JET-A	(C10-C18)	73860659	445.3
C22	7.225	-0.011	522649	1309051				
C24	7.784	-0.001	107515	42595				
C25	8.053	-0.002	136950	93608				
C26	8.319	0.002	144951	78122				
C28	8.822	0.001	186420	197034				
C32	9.752	-0.001	56122	19503				
C34	10.170	-0.006	43643	36590				
Filter Peak	12.070	0.001	32538	21116	CREOSOT	(C12-C22)	59740201	1056.5
C36	10.577	-0.000	42223	44767				
C38	10.980	0.001	44736	15566				
C40	11.449	-0.006	37967	30195				
o-terph	6.284	-0.000	16761119	17435581				
Triacon Surr	9.324	0.005	92969	45458	NAS DIES	(C10-C24)	101124086	518.2

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	17435581	85.2 M
Triacontane	45458	0.3

M Indicates the peak was manually integrated

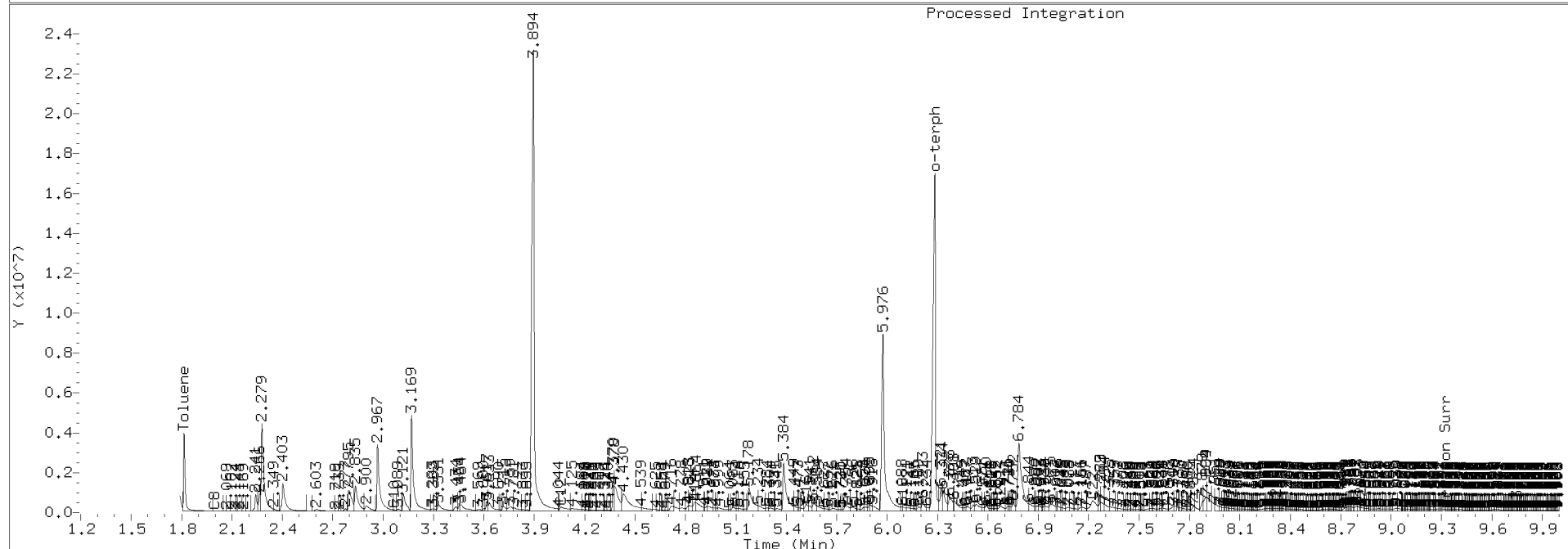
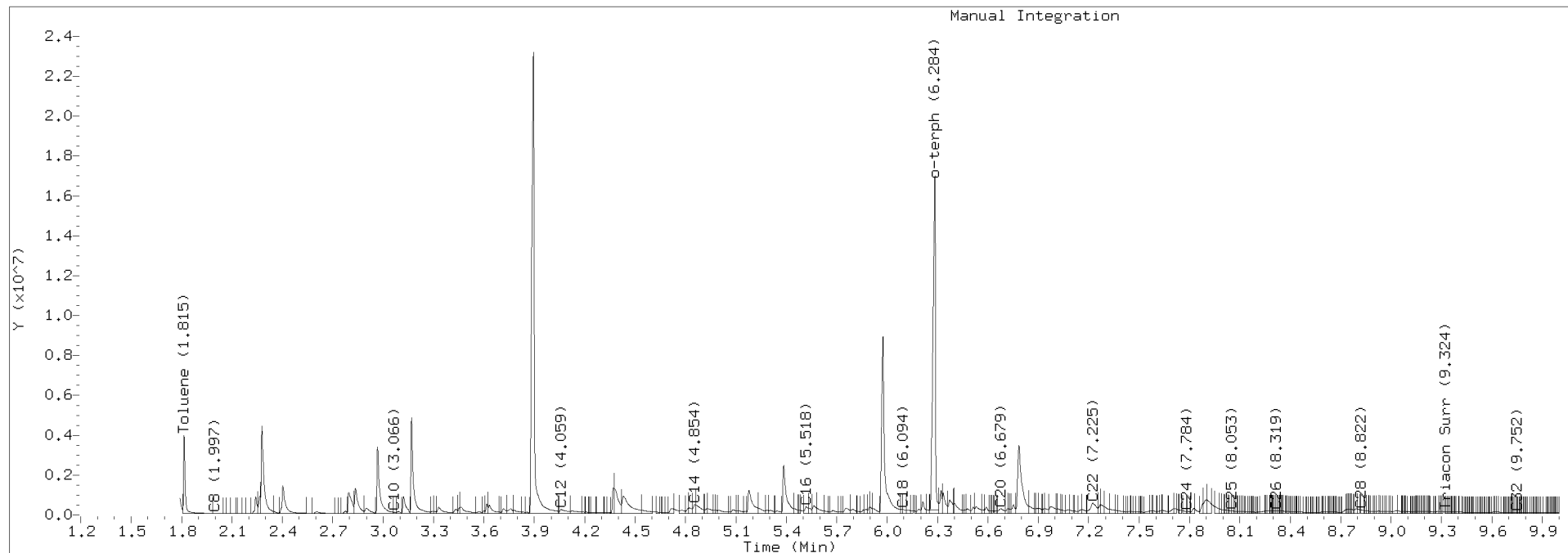
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0213.D Injection: 02-OCT-2020 12:46

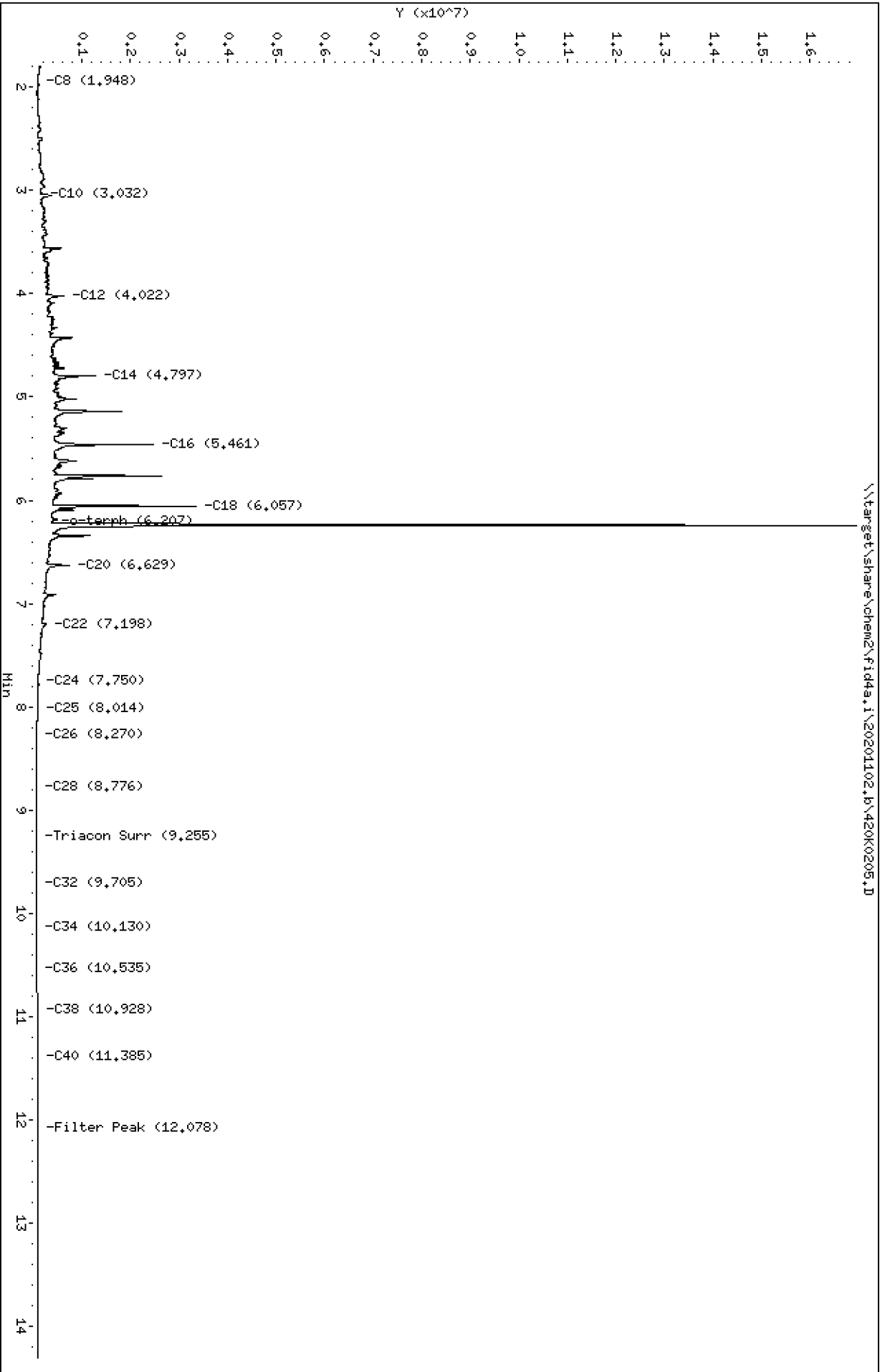
Lab ID:SEQ-ICV3



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0205.D
Date : 02-NOV-2020 09:50
Client ID:
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0205.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-NOV-2020 09:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

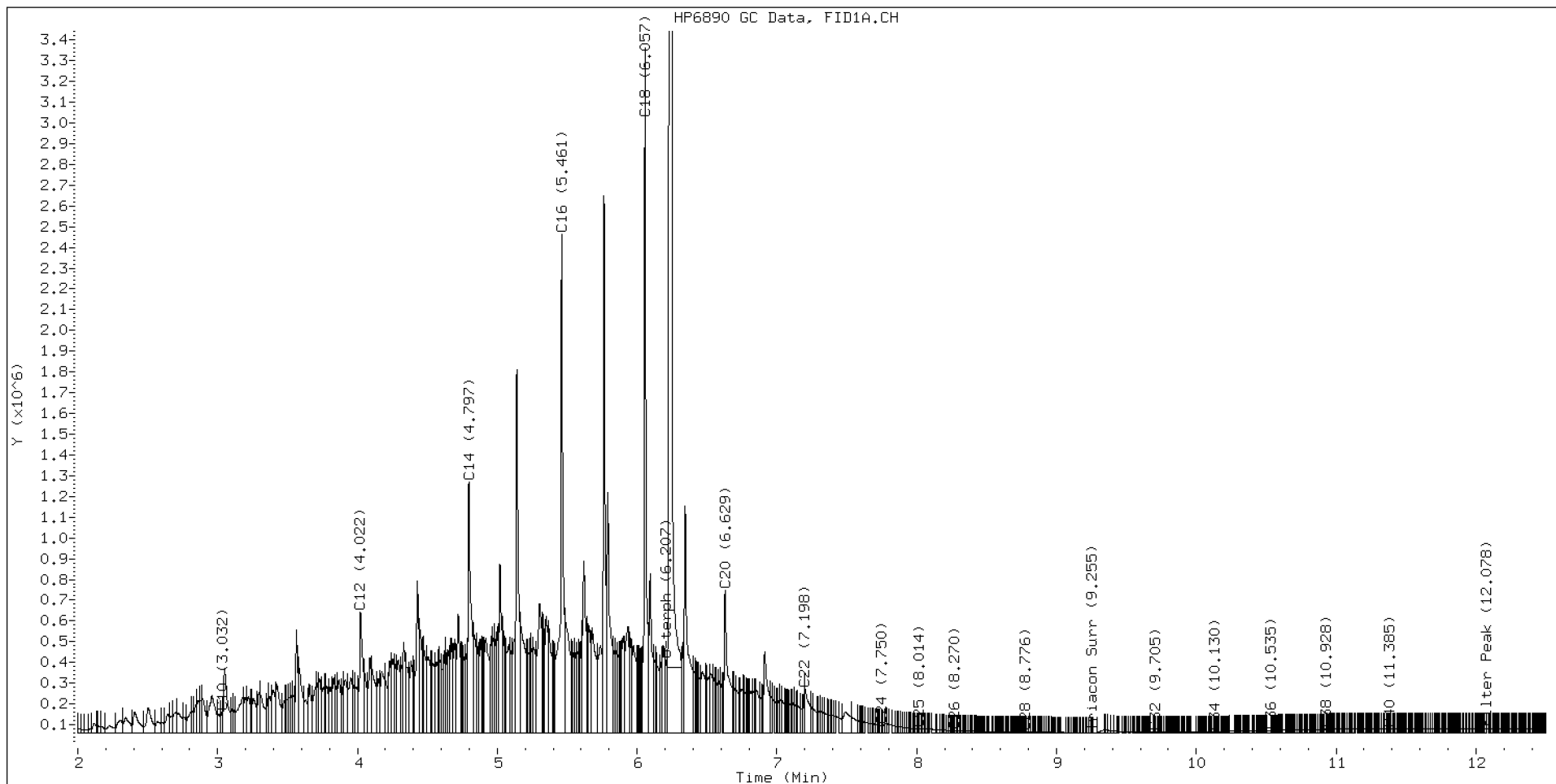
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.948	-0.005	27722	25305	WATPHD	(C12-C24)	73609123	462.0
C10	3.032	-0.000	100254	101191	WATPHM	(C24-C38)	1318446	13.0
C12	4.022	0.005	578386	910528	AK102	(C10-C25)	85995695	439.9
C14	4.797	-0.000	1205590	1792087	AK103	(C25-C36)	768399	10.5
C16	5.461	-0.003	2401105	3334464	OR.DIES	(C10-C28)	86376174	440.7
C18	6.057	0.000	3296857	2927279				
C20	6.629	0.000	687131	1352522	JET-A	(C10-C18)	67842897	409.1
C22	7.198	0.005	211338	187473				
C24	7.750	0.007	34186	5119				
C25	8.014	0.003	17661	6138				
C26	8.270	-0.002	8903	10303				
C28	8.776	-0.001	1579	700				
C32	9.705	-0.000	1846	457				
C34	10.130	-0.000	4665	1620				
Filter Peak	12.078	0.002	18811	4691	BUNKERC	(C10-C38)	87100489	2206.3
C36	10.535	0.001	10583	3159				
C38	10.928	-0.003	15959	3185				
C40	11.385	-0.001	18877	6577				
o-terph	6.247	-0.000	16578751	17511064				
Triacon Surr	9.255	-0.024	288	111	NAS DIES	(C10-C24)	85782044	439.6

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17511064	85.5 M
Triacontane	111	0.0

M Indicates the peak was manually integrated

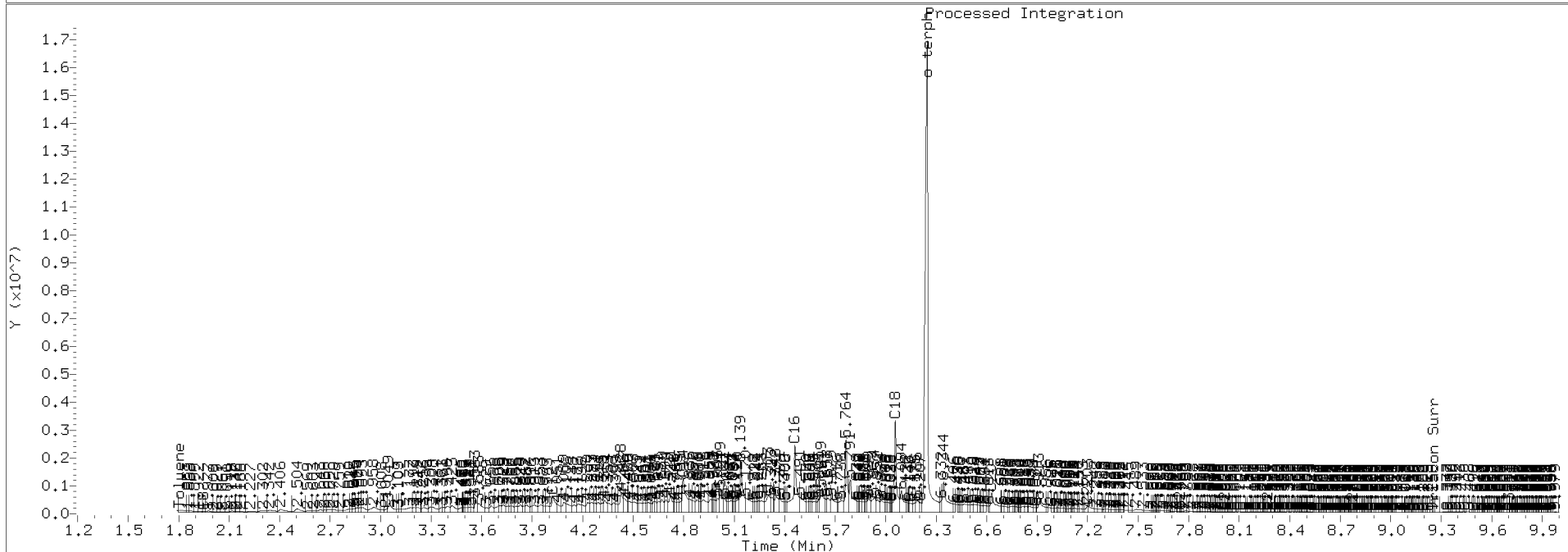
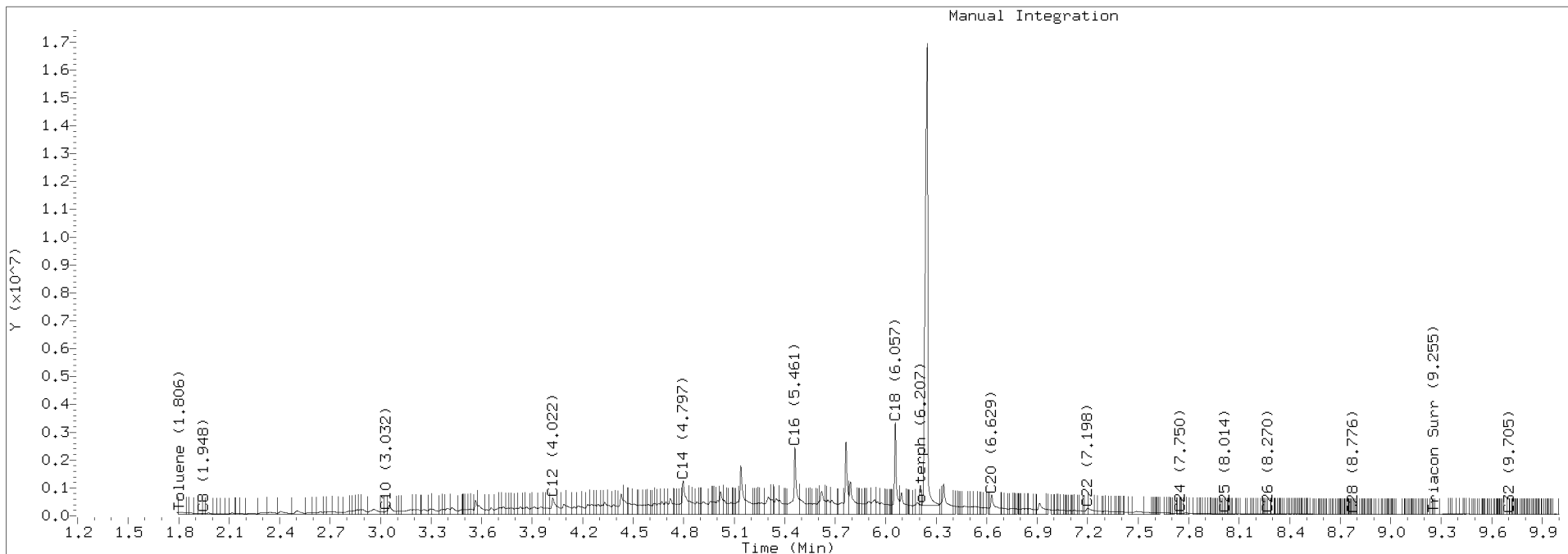
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0205.D Injection: 02-NOV-2020 09:50

Lab ID:SEQ-ICV1

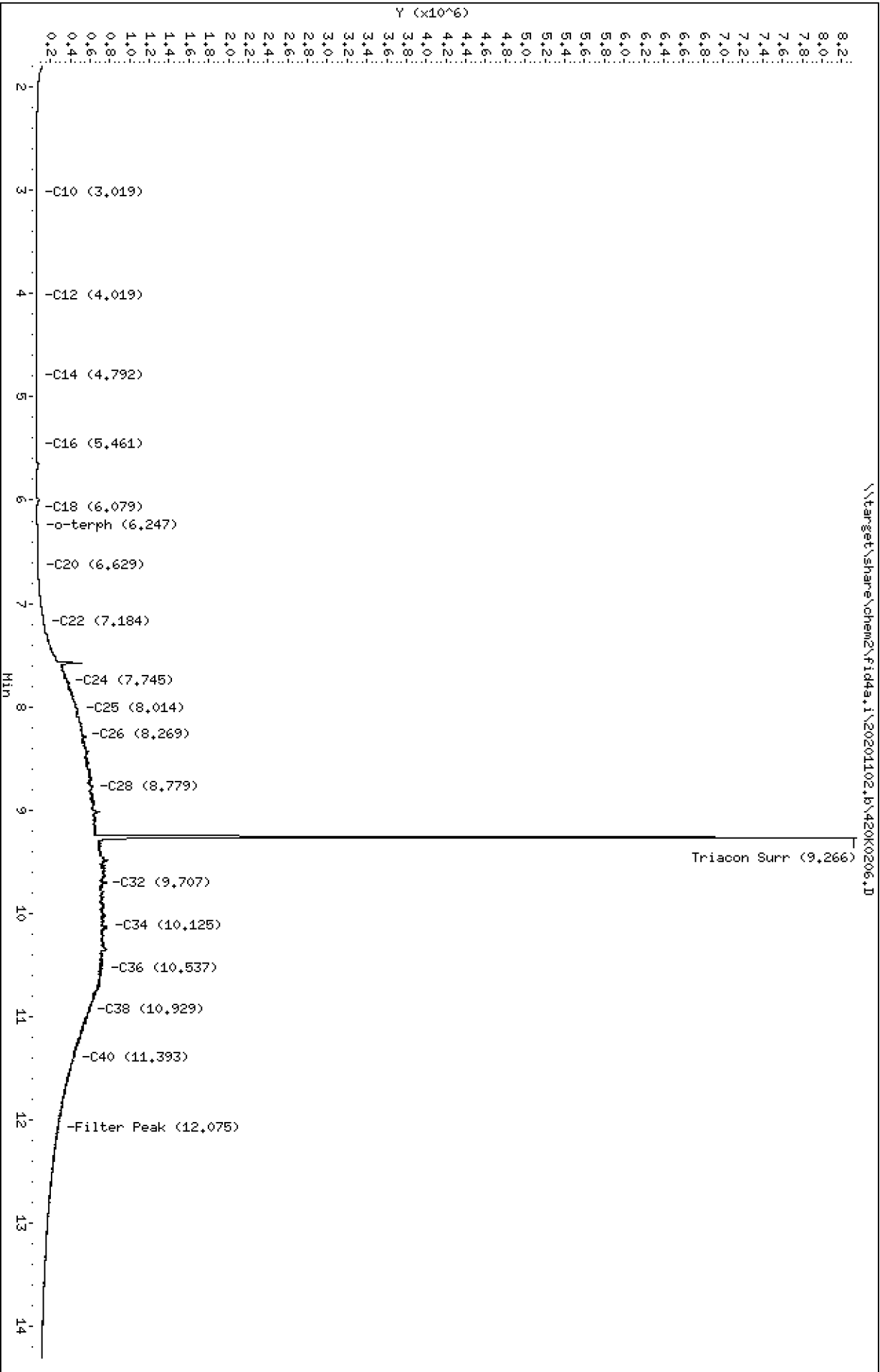


Data File: \\target\share\chem2\fid4a,1\20201102.b\420K0206.D
Date : 02-NOV-2020 10:10
Client ID:
Sample Info: SEQ-ICV2

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0206.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-NOV-2020 10:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

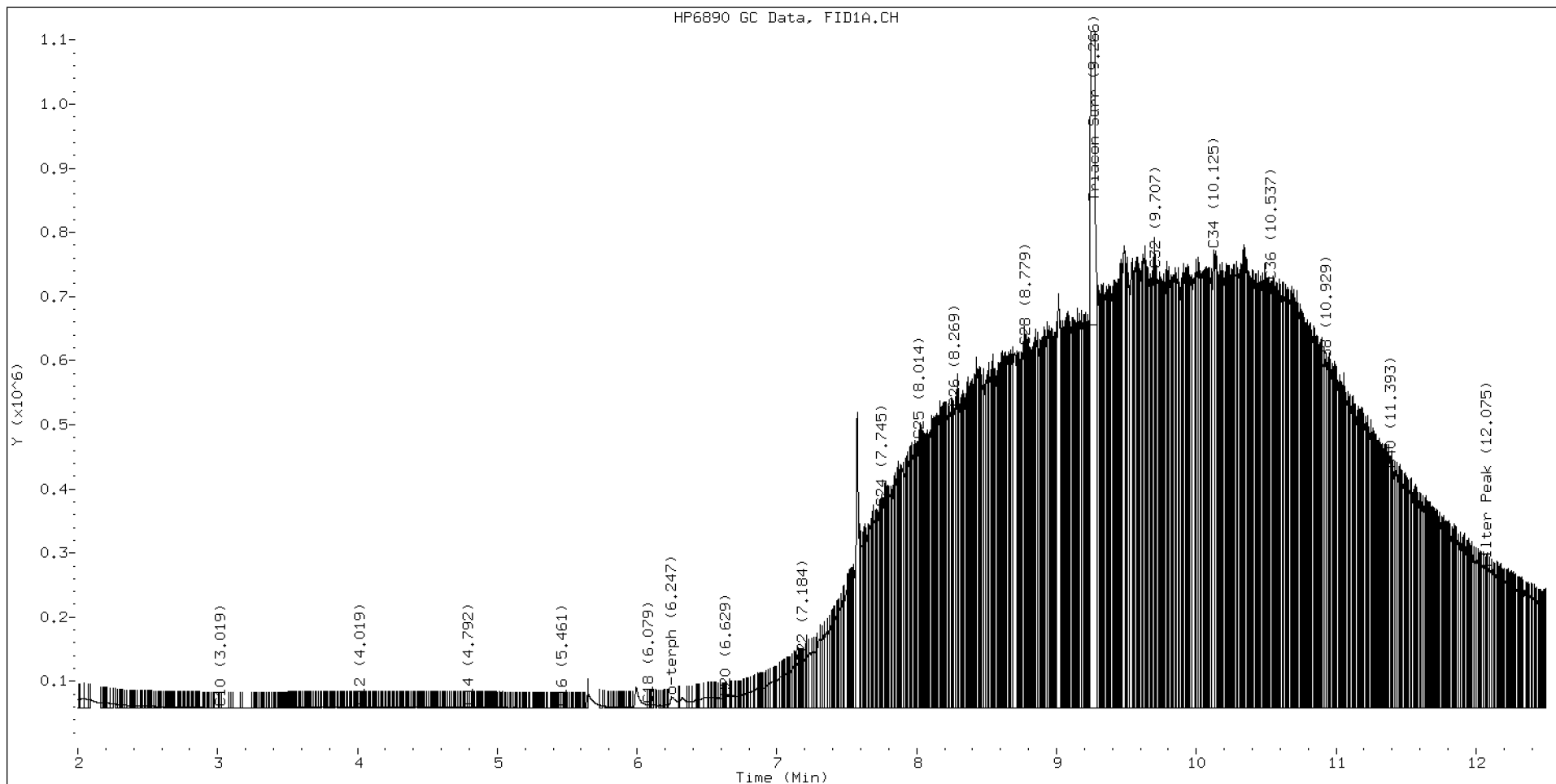
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.904	-0.050	31372	153084	WATPHD	(C12-C24)	8630664	54.2
C10	3.019	-0.013	378	194	WATPHM	(C24-C38)	109814018	1085.5
C12	4.019	0.003	1699	579	AK102	(C10-C25)	12272418	62.8
C14	4.792	-0.005	1288	918	AK103	(C25-C36)	92392635	1262.1
C16	5.461	-0.003	665	372	OR.DIES	(C10-C28)	37432985	191.0
C18	6.079	0.023	4466	3942				
C20	6.629	0.001	15807	7032	JET-A	(C10-C18)	251326	1.5
C22	7.184	-0.009	69530	27586				
C24	7.745	0.002	311043	168835				
C25	8.014	0.002	417193	362937				
C26	8.269	-0.003	467663	346796				
C28	8.779	0.002	562711	224336				
C32	9.707	0.001	683502	371053				
C34	10.125	-0.005	713842	924625				
Filter Peak	12.075	-0.000	216088	85492	BUNKERC	(C10-C38)	118490676	3001.5
C36	10.537	0.003	664921	523533				
C38	10.929	-0.001	529835	132064				
C40	11.393	0.006	371203	129552				
o-terph	6.247	-0.000	17150	49096				
Triacon Surr	9.266	-0.013	7693311	7418519	NAS DIES	(C10-C24)	8676658	44.5

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	49096	0.2
Triacontane	7418519	50.0 M

M Indicates the peak was manually integrated

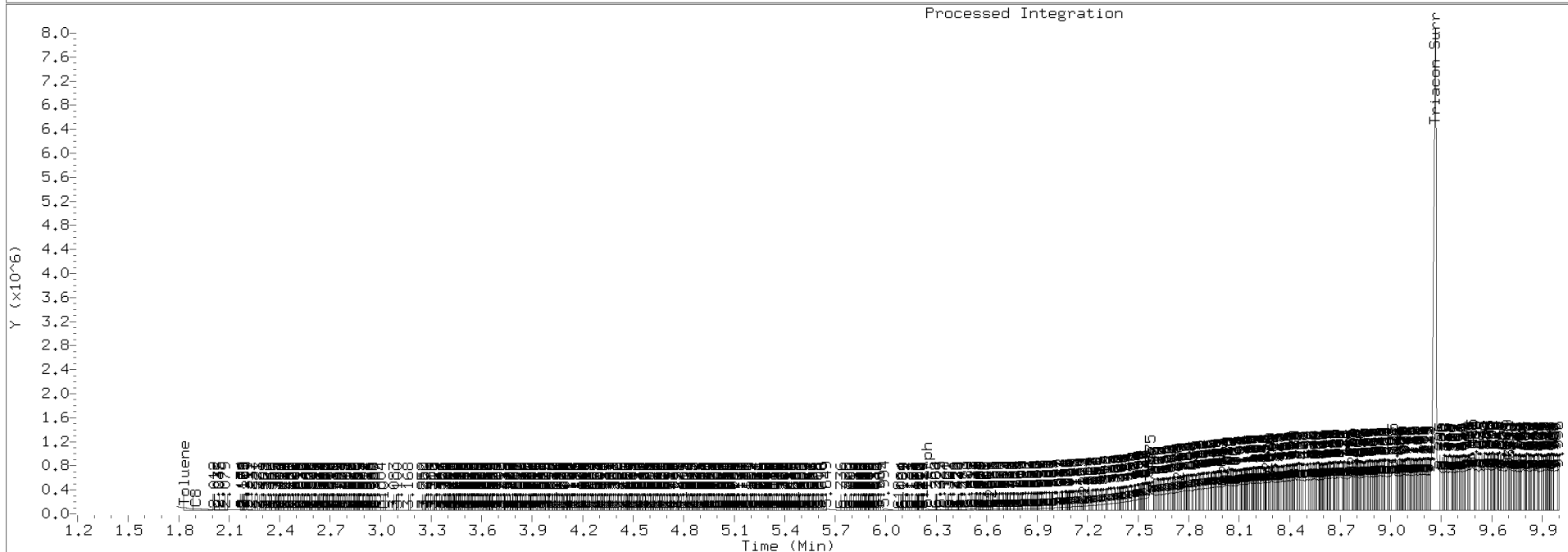
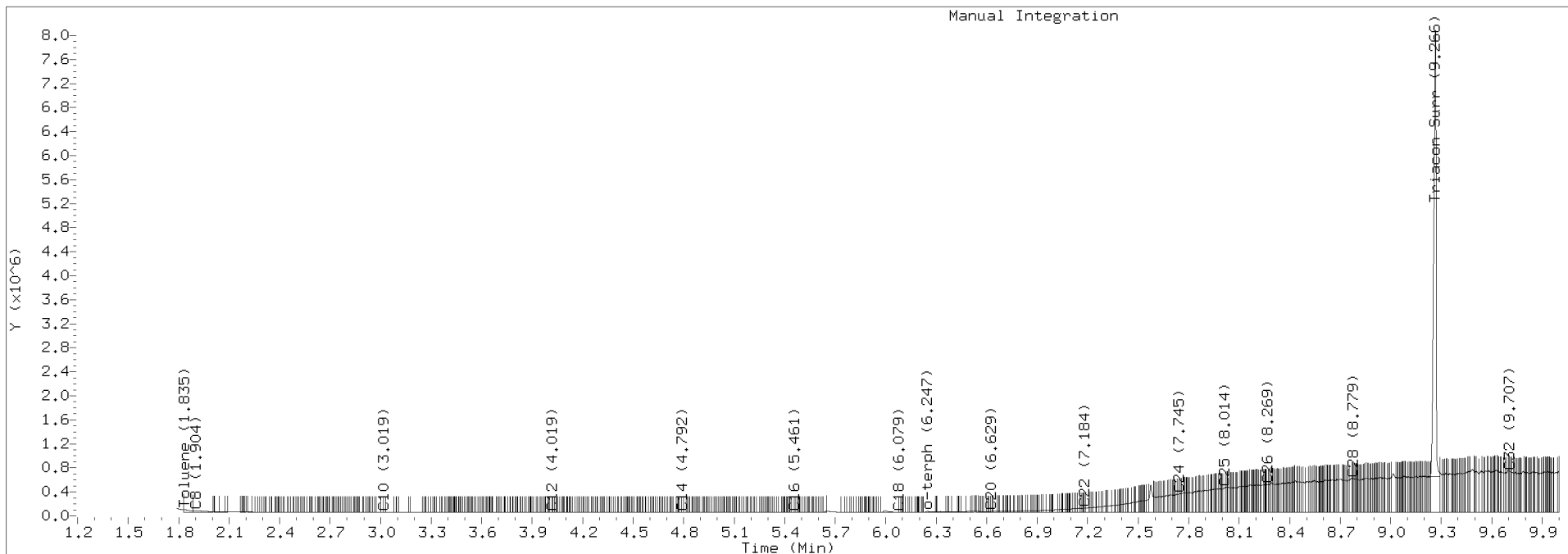
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0206.D Injection: 02-NOV-2020 10:10

Lab ID:SEQ-ICV2





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K0213.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0016</u>	Injection Date:	<u>11/02/20</u>
Lab Sample ID:	<u>SIK0016-ICV3</u>	Injection Time:	<u>12:33</u>
Sequence Name:	<u>A/S LANDAU BUNKER C</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
o-Terphenyl	A	22.500	22.7	204701.9000	206237.7000		0.9	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201102,6\420K0213.D
Date : 02-NOV-2020 12:33

Client ID:

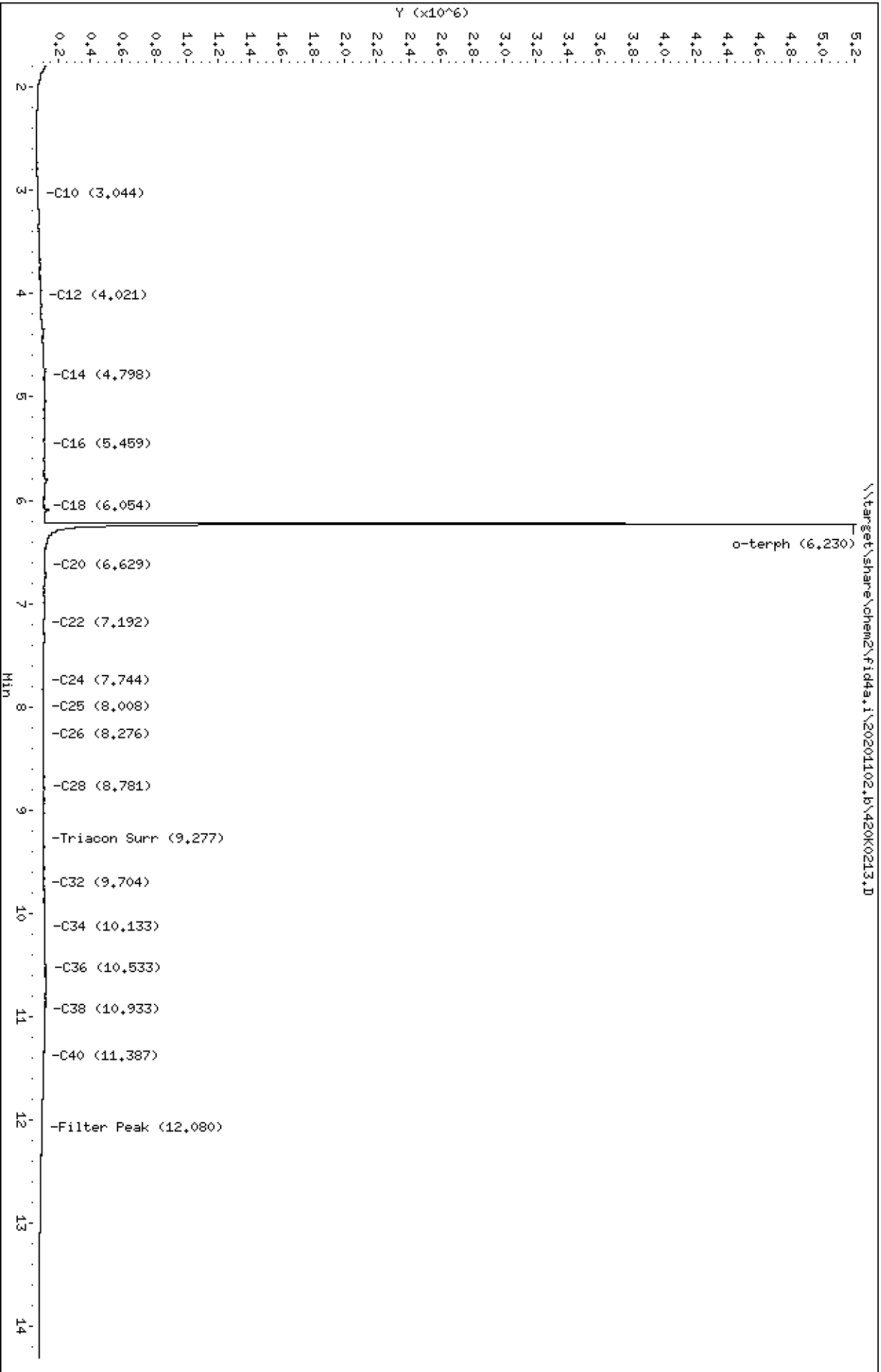
Sample Info: SEQ-ICV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0213.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-NOV-2020 12:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

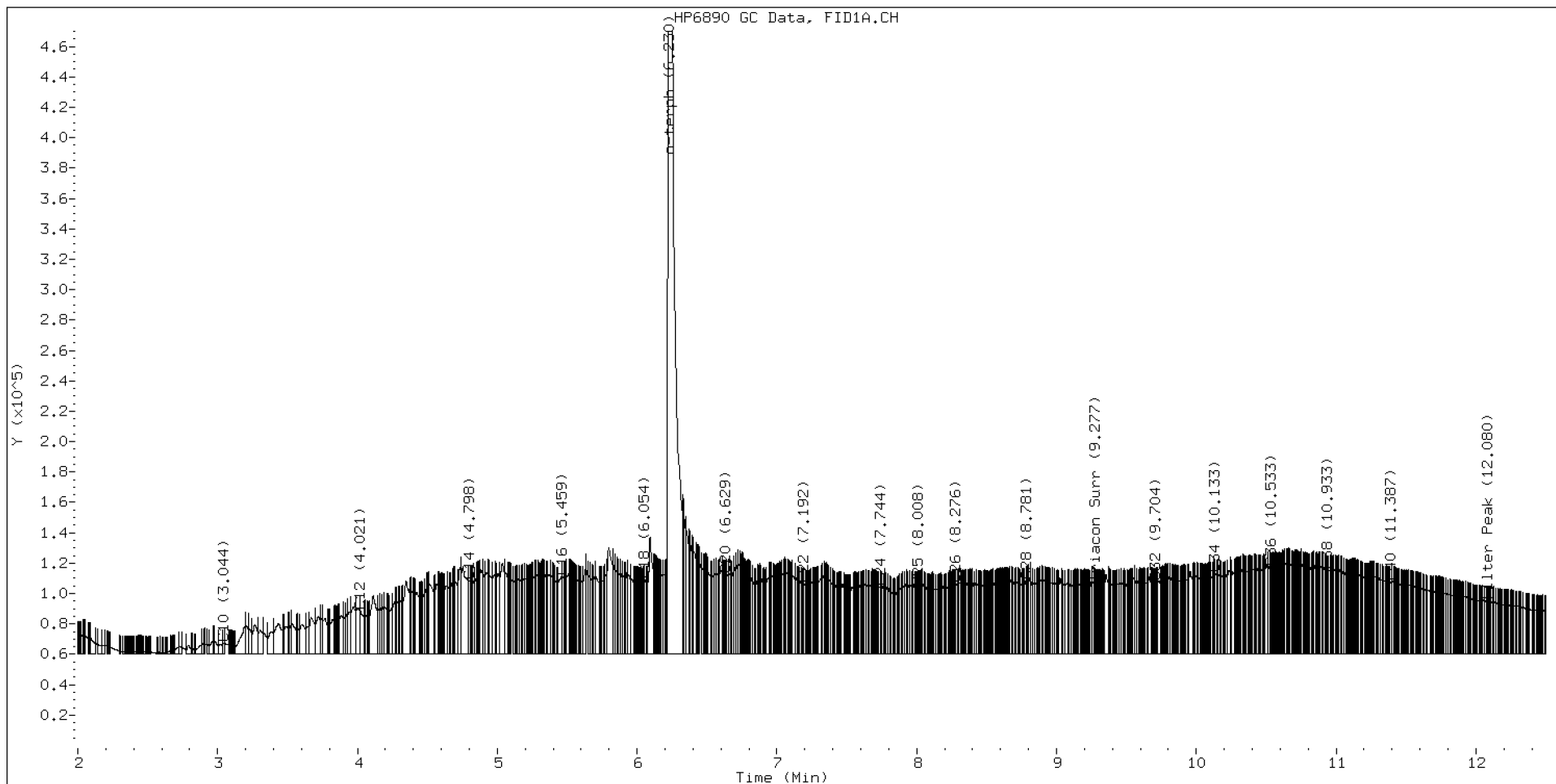
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.905	-0.049	29425	121927	WATPHD	(C12-C24)	10141433	63.6
C10	3.044	0.012	6803	6901	WATPHM	(C24-C38)	9120025	90.1
C12	4.021	0.005	27733	40280	AK102	(C10-C25)	11635353	59.5
C14	4.798	0.001	47843	38122	AK103	(C25-C36)	7369602	100.7
C16	5.459	-0.005	50282	92824	OR.DIES	(C10-C28)	13926769	71.1
C18	6.054	-0.002	48195	33149				
C20	6.629	0.000	51938	23197	JET-A	(C10-C18)	6617909	39.9
C22	7.192	-0.001	45794	36257				
C24	7.744	0.001	43476	10837				
C25	8.008	-0.003	43651	13061				
C26	8.276	0.004	45572	31655				
C28	8.781	0.004	47716	32741				
C32	9.704	-0.001	46788	30190				
C34	10.133	0.002	52271	15603				
Filter Peak	12.080	0.005	33980	18653	BUNKERC	(C10-C38)	20329330	515.0
C36	10.533	-0.000	56464	22507				
C38	10.933	0.002	54392	16254				
C40	11.387	0.000	47293	35175				
o-terph	6.230	-0.017	5152254	4640349				
Triacon Surr	9.277	-0.002	45837	24942	NAS DIES	(C10-C24)	11209305	57.4

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	4640349	22.7
Triacontane	24942	0.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2505.D
Date: 25-NOV-2020 17:47

Client ID:

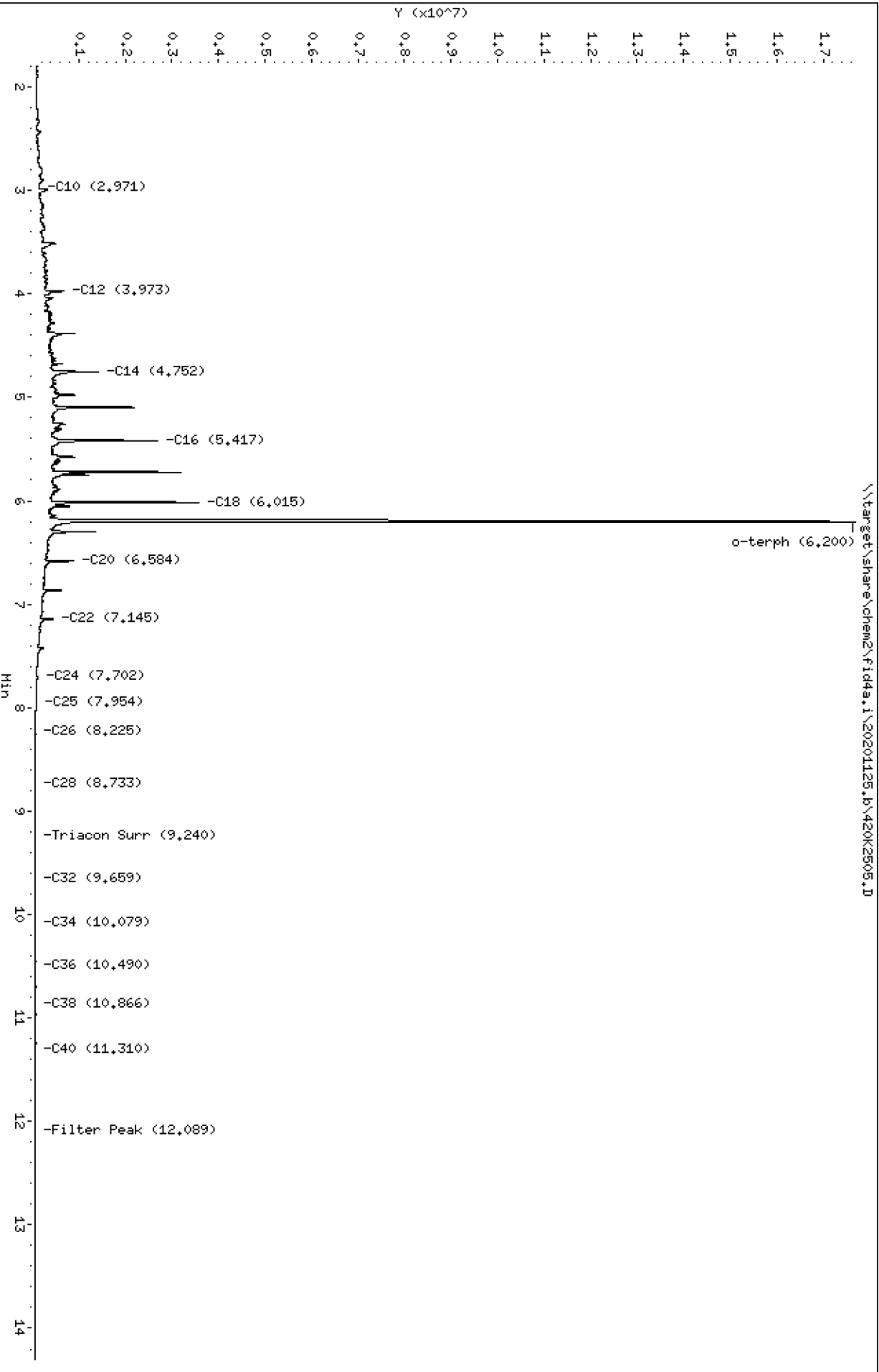
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2505.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 25-NOV-2020 17:47
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

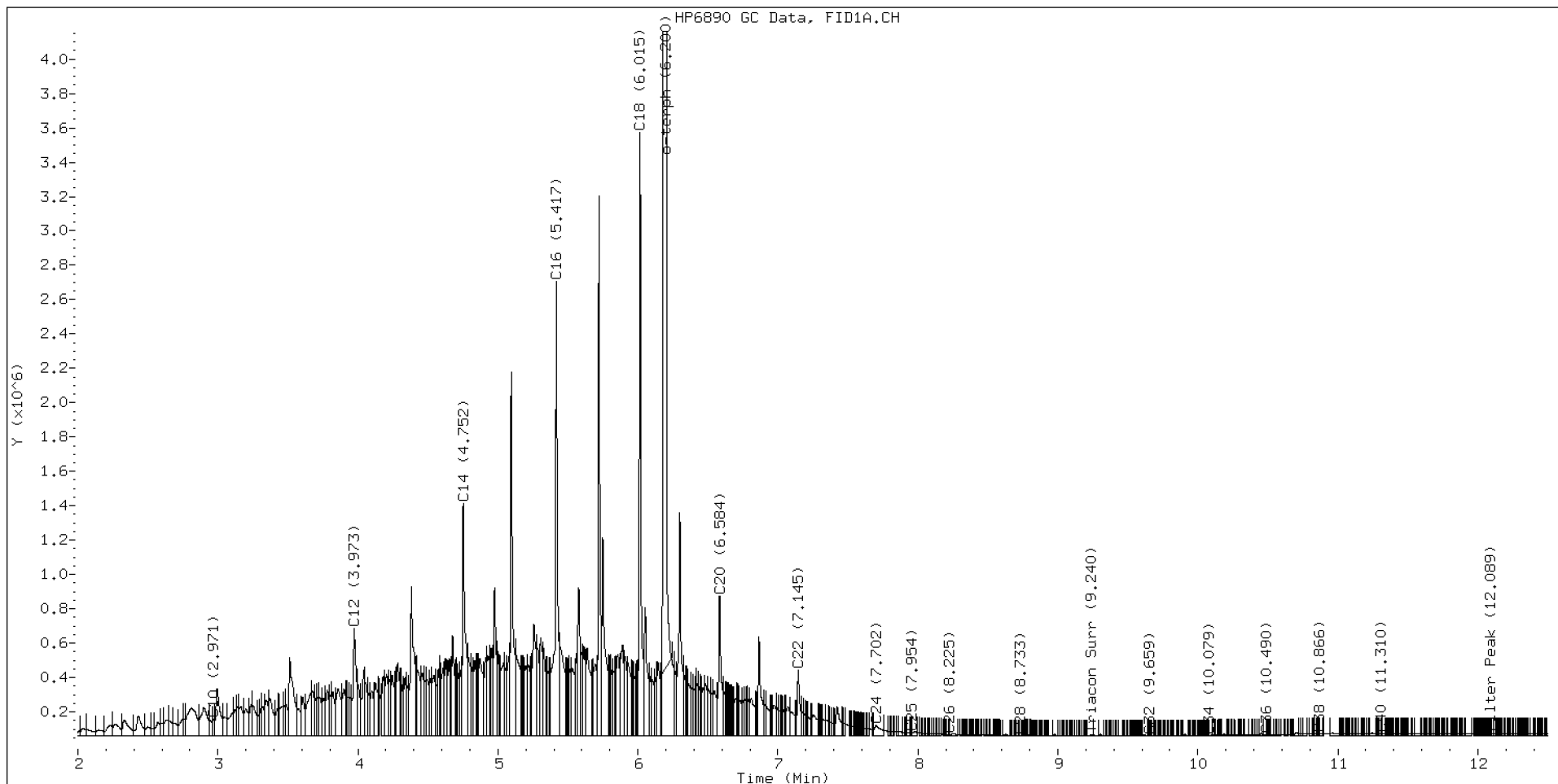
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.866	-0.011	39446	36358	WATPHD	(C12-C24)	75664756	474.9
C10	2.971	-0.005	94848	103155	WATPHM	(C24-C38)	920964	9.1
C12	3.973	0.004	622487	955249	AK102	(C10-C25)	88145768	450.9
C14	4.752	0.000	1354944	1859178	AK103	(C25-C36)	582371	8.0
C16	5.417	-0.001	2645328	3225172	OR.DIES	(C10-C28)	88479500	451.4
C18	6.015	-0.001	3511597	3030599				
C20	6.584	-0.003	814892	1124043	JET-A	(C10-C18)	68139654	410.9
C22	7.145	-0.004	380353	482125				
C24	7.702	0.005	61655	192921				
C25	7.954	-0.011	15813	3152				
C26	8.225	-0.001	7536	3357				
C28	8.733	0.004	2461	1302				
C32	9.659	0.001	502	319				
C34	10.079	-0.001	2197	724				
Filter Peak	12.089	-0.004	9605	4310	BUNKERC	(C10-C38)	88921272	2252.5
C36	10.490	0.007	8315	10457				
C38	10.866	-0.006	10320	2057				
C40	11.310	-0.004	10249	4579				
o-terph	6.200	-0.001	17229370	17520452				
Triacon Surr	9.240	0.008	4164	6722	NAS DIES	(C10-C24)	88000308	450.9

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17520452	85.6 M
Triacontane	6722	0.0

M Indicates the peak was manually integrated

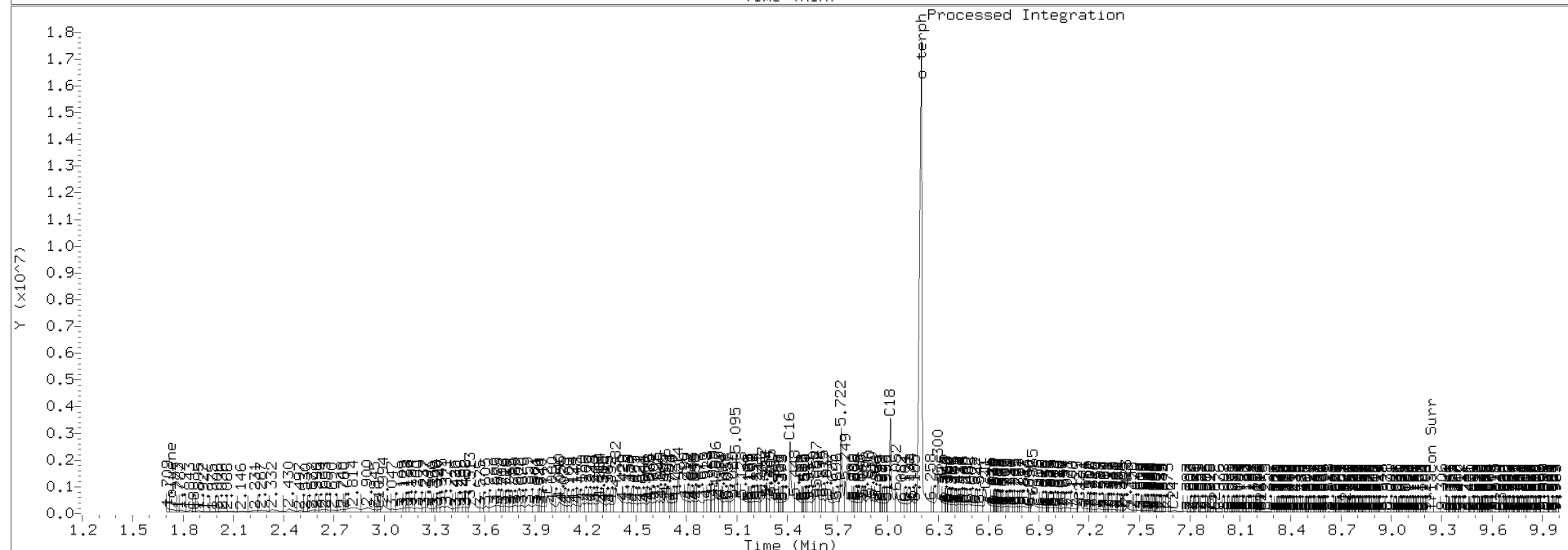
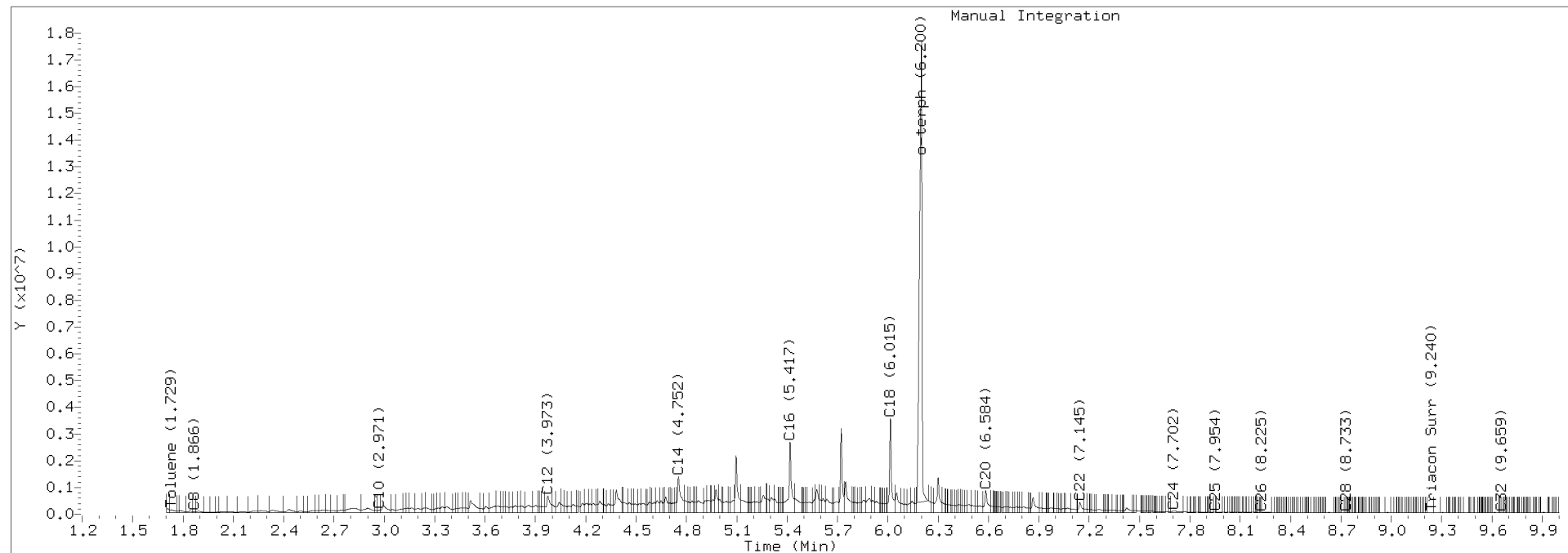
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2505.D Injection: 25-NOV-2020 17:47

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2506.D
Date: 25-NOV-2020 18:08

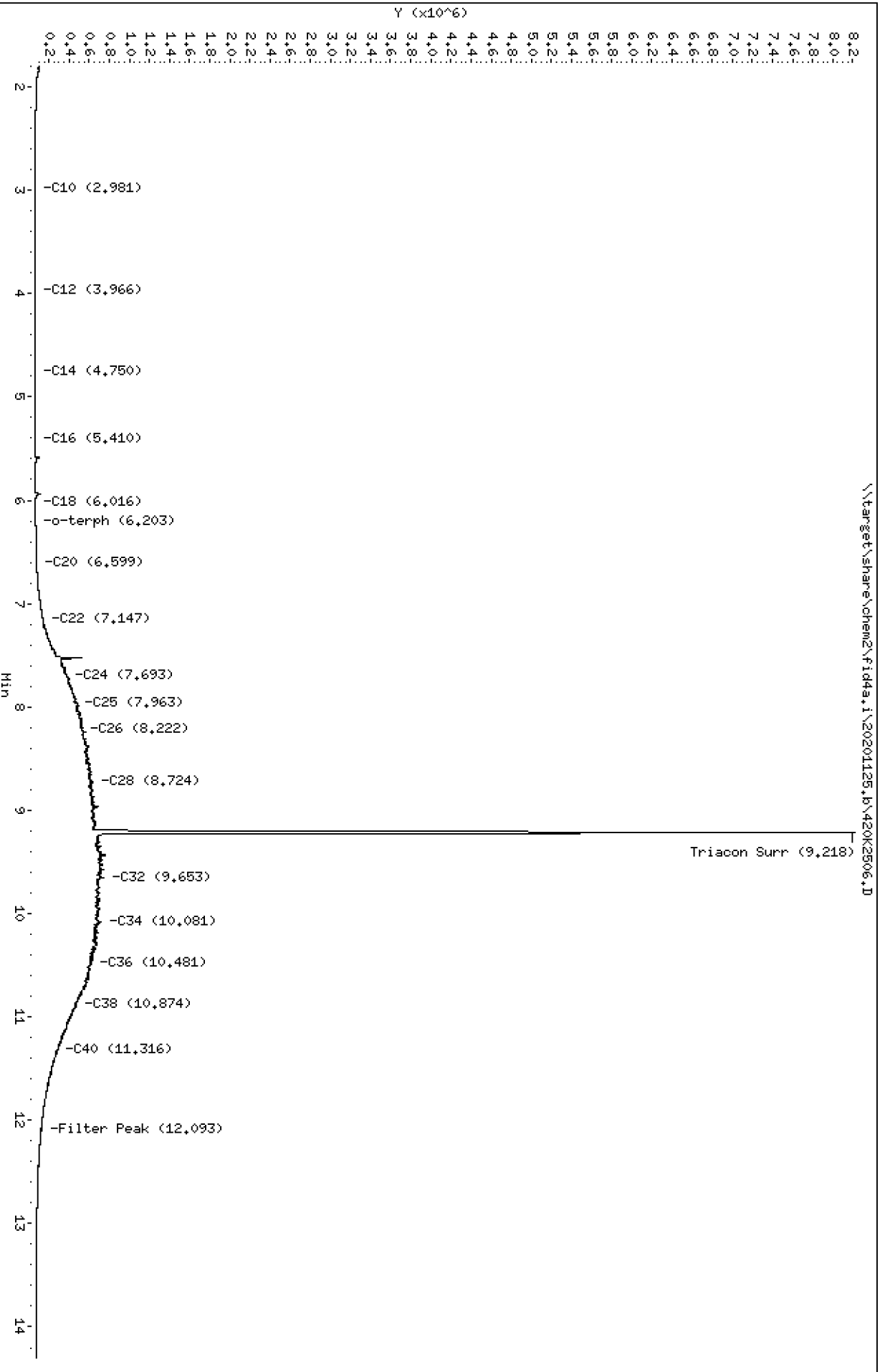
Client ID:
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2506.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 25-NOV-2020 18:08
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

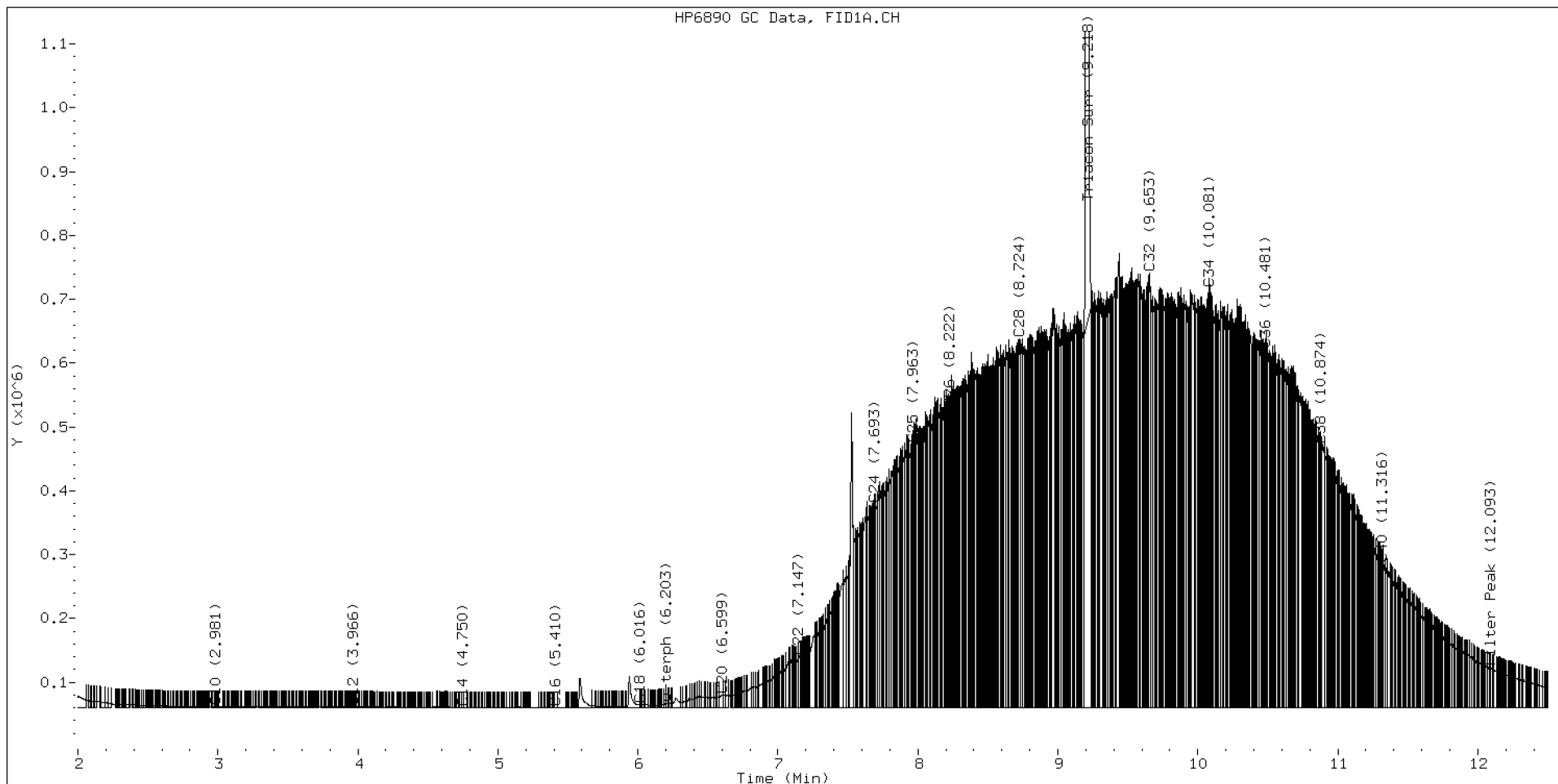
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.845	-0.033	41650	193104	WATPHD	(C12-C24)	9003816	56.5
C10	2.981	0.005	1618	623	WATPHM	(C24-C38)	103028078	1018.4
C12	3.966	-0.002	1166	451	AK102	(C10-C25)	12363216	63.2
C14	4.750	-0.002	600	462	AK103	(C25-C36)	88752329	1212.4
C16	5.410	-0.009	332	169	OR.DIES	(C10-C28)	37678274	192.2
C18	6.016	-0.001	4028	1957				
C20	6.599	0.012	19671	40032	JET-A	(C10-C18)	306992	1.9
C22	7.147	-0.001	79127	67699				
C24	7.693	-0.004	318382	204231				
C25	7.963	-0.001	413336	143410				
C26	8.222	-0.004	469007	186821				
C28	8.724	-0.005	577581	395690				
C32	9.653	-0.005	679928	724919				
C34	10.081	0.001	655669	357406				
Filter Peak	12.093	0.000	62236	64094	BUNKERC	(C10-C38)	112118087	2840.1
C36	10.481	-0.002	561879	249903				
C38	10.874	0.001	410906	163350				
C40	11.316	0.001	225802	67367				
o-terph	6.203	0.001	6143	4245				
Triacon Surr	9.218	-0.014	7553354	7190405	NAS DIES	(C10-C24)	9090009	46.6

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	4245	0.0
Triacontane	7190405	48.5 M

M Indicates the peak was manually integrated

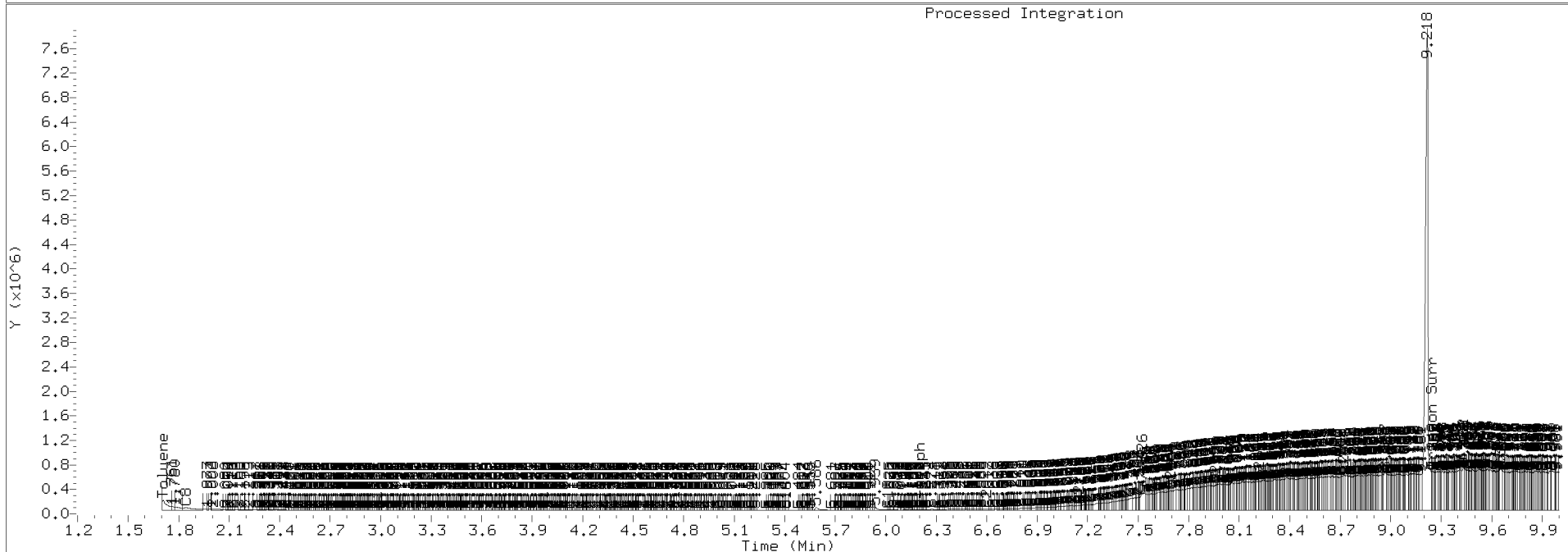
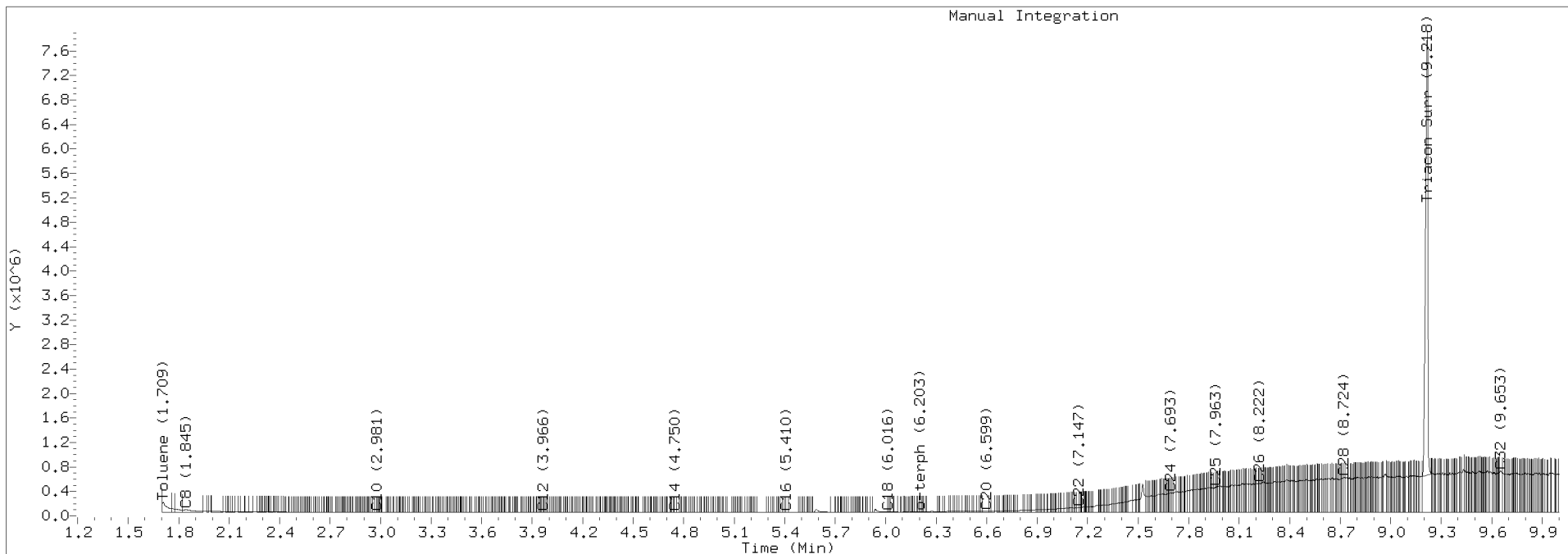
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2506.D Injection: 25-NOV-2020 18:08

Lab ID:SEQ-ICV2





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2905.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0411</u>	Injection Date:	<u>11/29/20</u>
Lab Sample ID:	<u>SIK0411-ICV1</u>	Injection Time:	<u>16:25</u>
Sequence Name:	<u>DIESEL ICV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	459	159336.7000	146332.9000		-8.2	+/-15
o-Terphenyl	A	90.000	81.4	204701.9000	185047.8000		-9.6	+/-15

* Values outside of QC limits

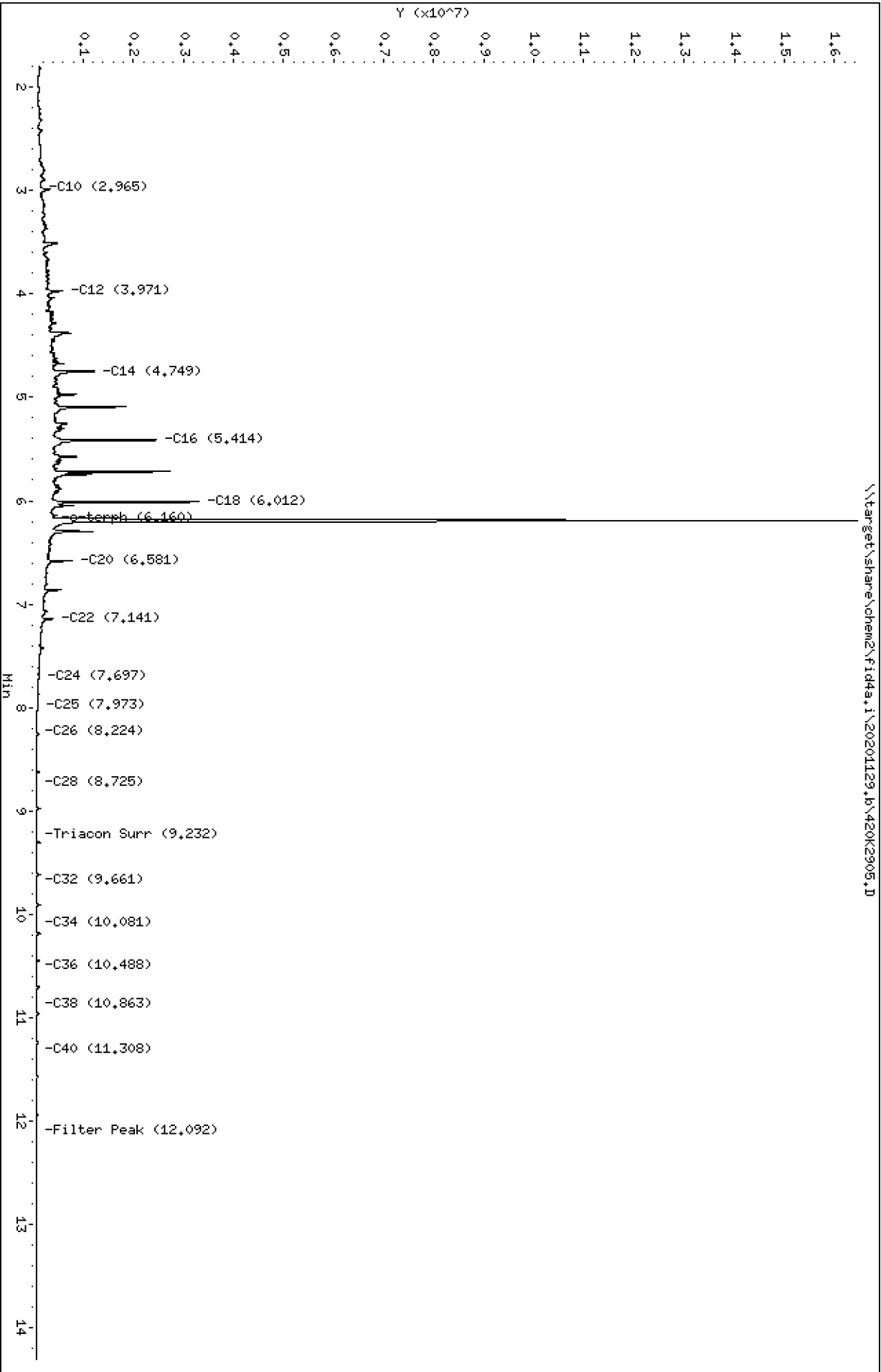
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Date: 29-NOV-2020 16:25
Client ID:
Sample Info: SEQ-ICV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2905.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 29-NOV-2020 16:25
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

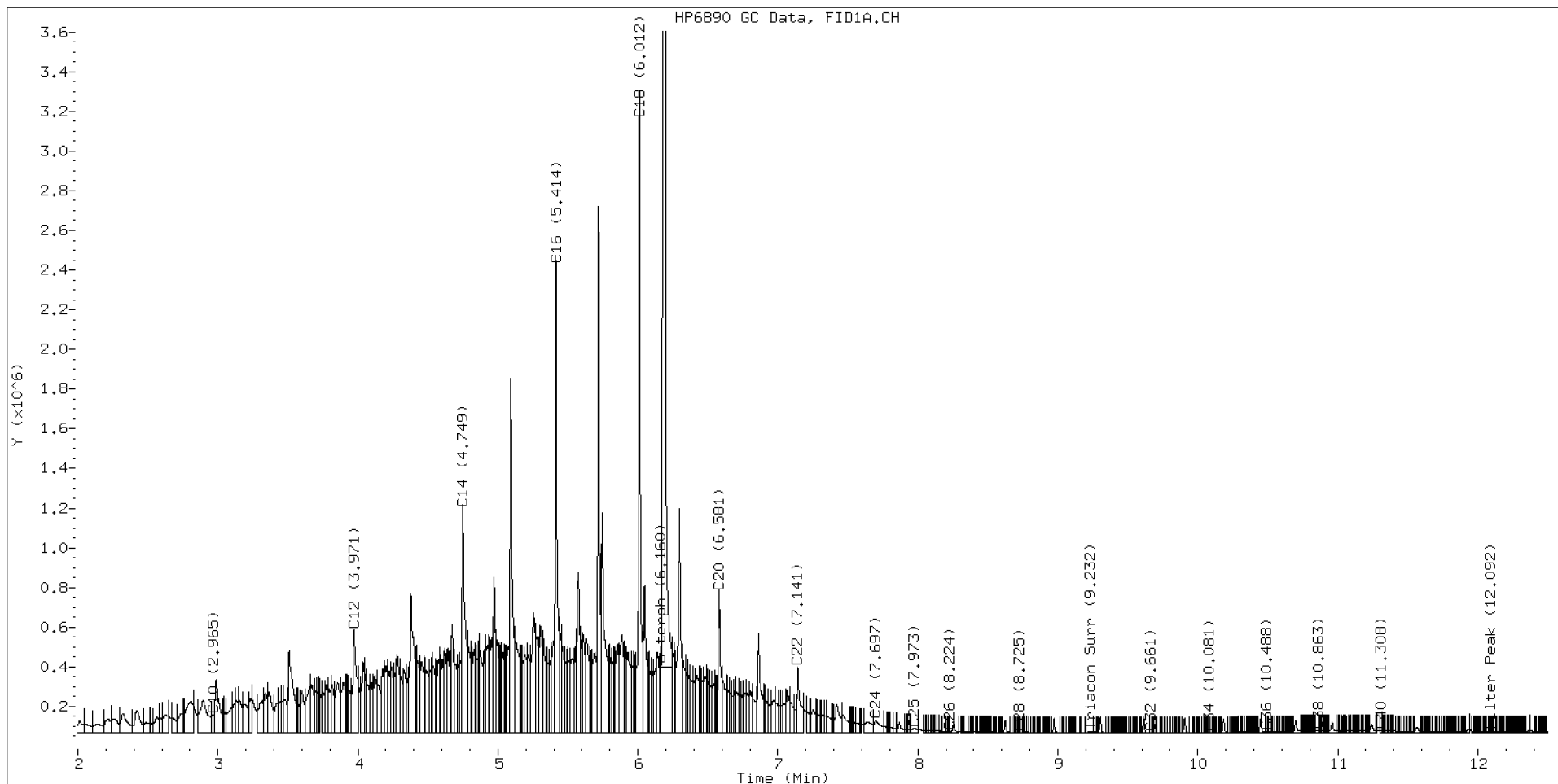
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.877	0.005	48399	168226	WATPHD	(C12-C24)	73166468	459.2
C10	2.965	-0.005	87109	107823	WATPHM	(C24-C38)	1254259	12.4
C12	3.971	0.007	560104	986189	AK102	(C10-C25)	84372203	431.6
C14	4.749	0.001	1221255	1740263	AK103	(C25-C36)	824881	11.3
C16	5.414	0.000	2422069	2319105	OR.DIES	(C10-C28)	84769742	432.5
C18	6.012	-0.000	3330794	2946388				
C20	6.581	-0.002	752910	948813	JET-A	(C10-C18)	65085282	392.4
C22	7.141	-0.003	338070	578521				
C24	7.697	0.004	65013	211368				
C25	7.973	0.012	22403	56036				
C26	8.224	0.001	7889	1958				
C28	8.725	-0.002	1724	679				
C32	9.661	0.005	677	376				
C34	10.081	0.002	1661	1108				
Filter Peak	12.092	-0.006	9875	5888	BUNKERC	(C10-C38)	85370771	2162.5
C36	10.488	0.006	4495	2876				
C38	10.863	-0.010	7735	2299				
C40	11.308	-0.005	9767	5330				
o-terph	6.196	-0.002	16061238	16654300				
Triacon Surr	9.232	0.001	4817	10693	NAS DIES	(C10-C24)	84116513	431.0

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	16654300	81.4 M
Triacontane	10693	0.1

M Indicates the peak was manually integrated

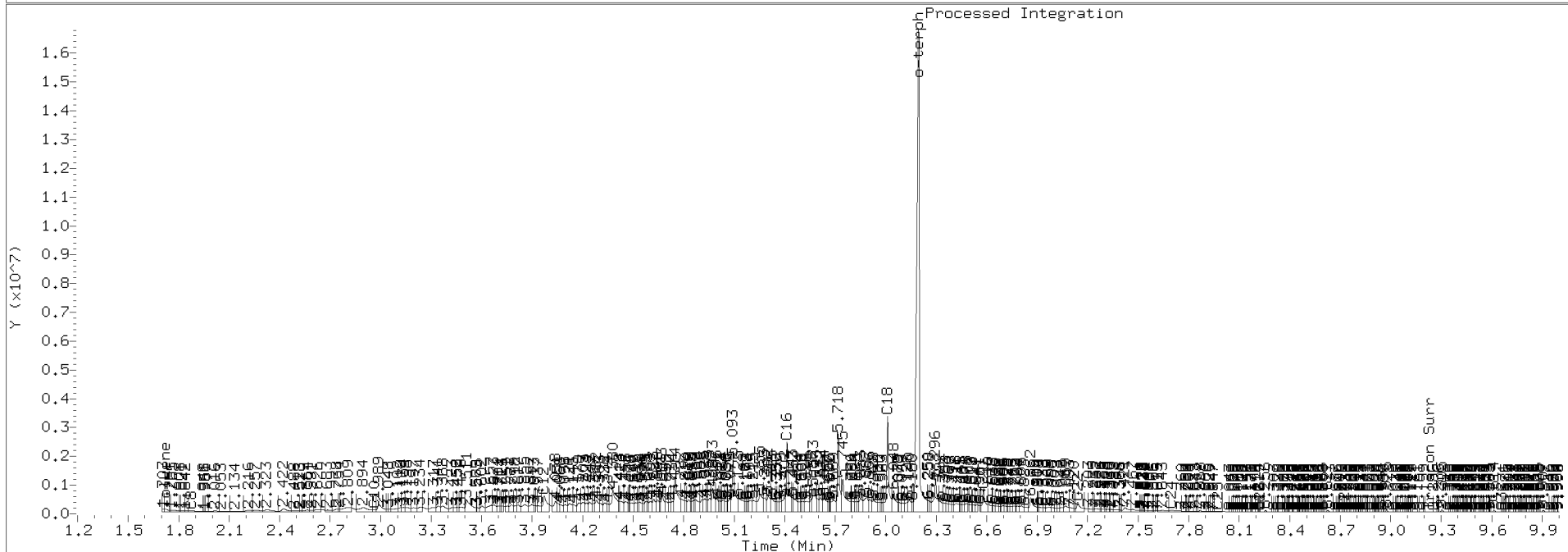
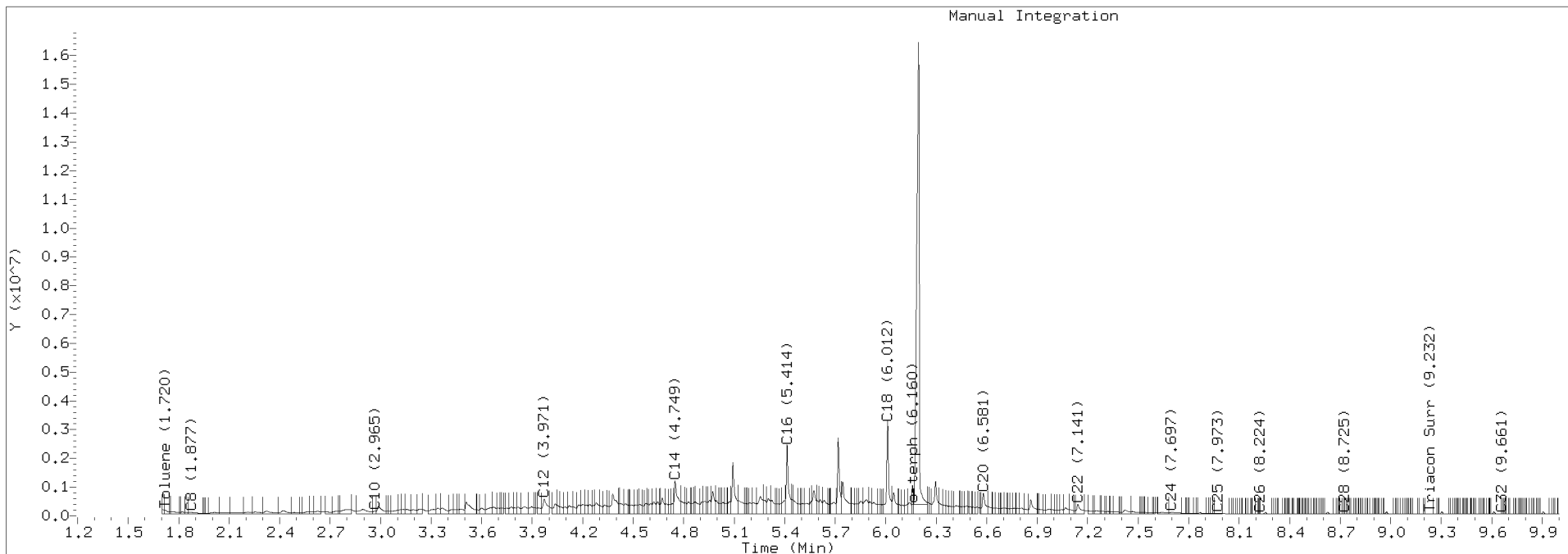
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2905.D Injection: 29-NOV-2020 16:25

Lab ID:SEQ-ICV1

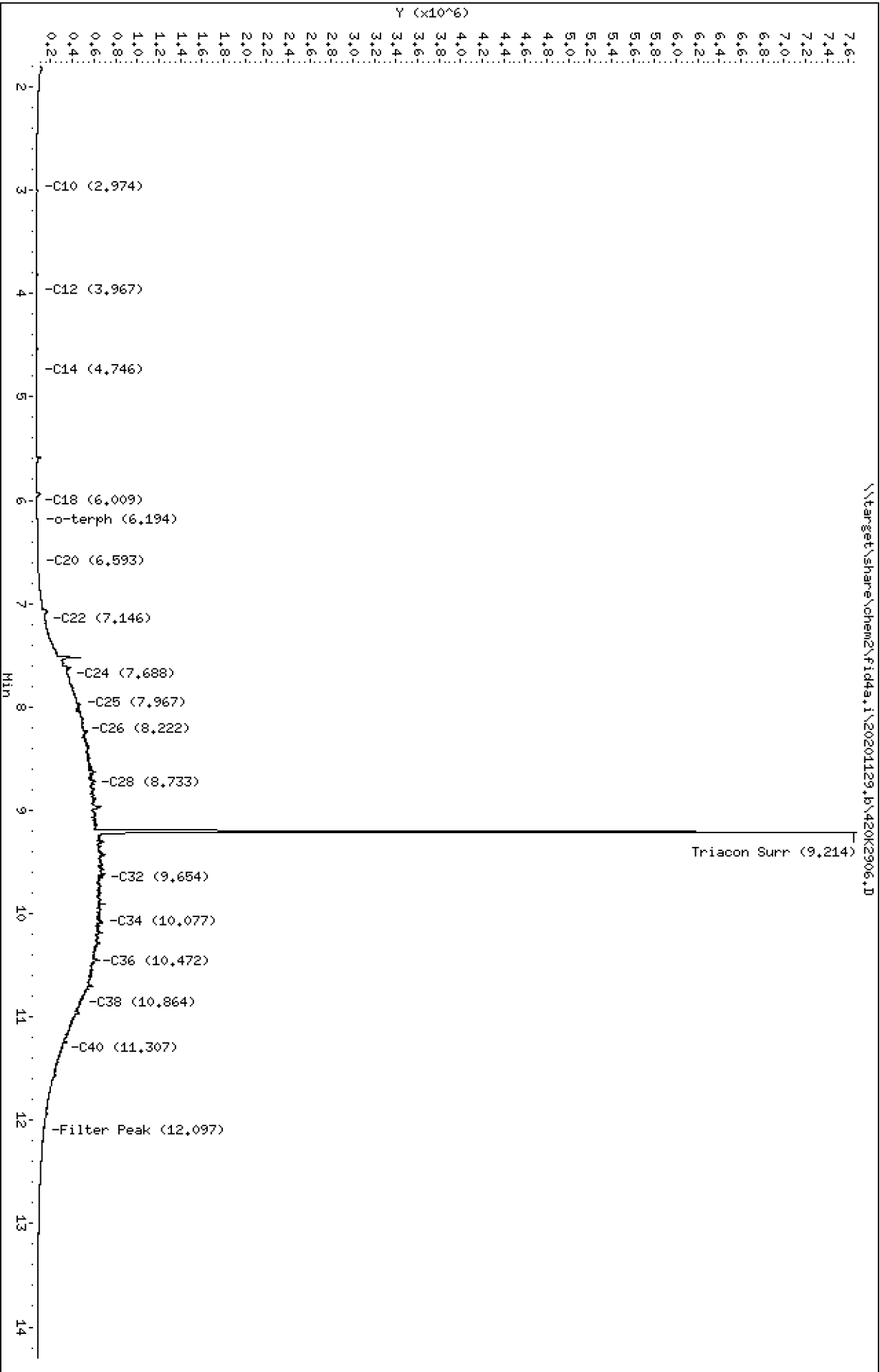


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Date: 29-NOV-2020 19:25
Client ID:
Sample Info: SEQ-ICV2

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2906.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 29-NOV-2020 19:25
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

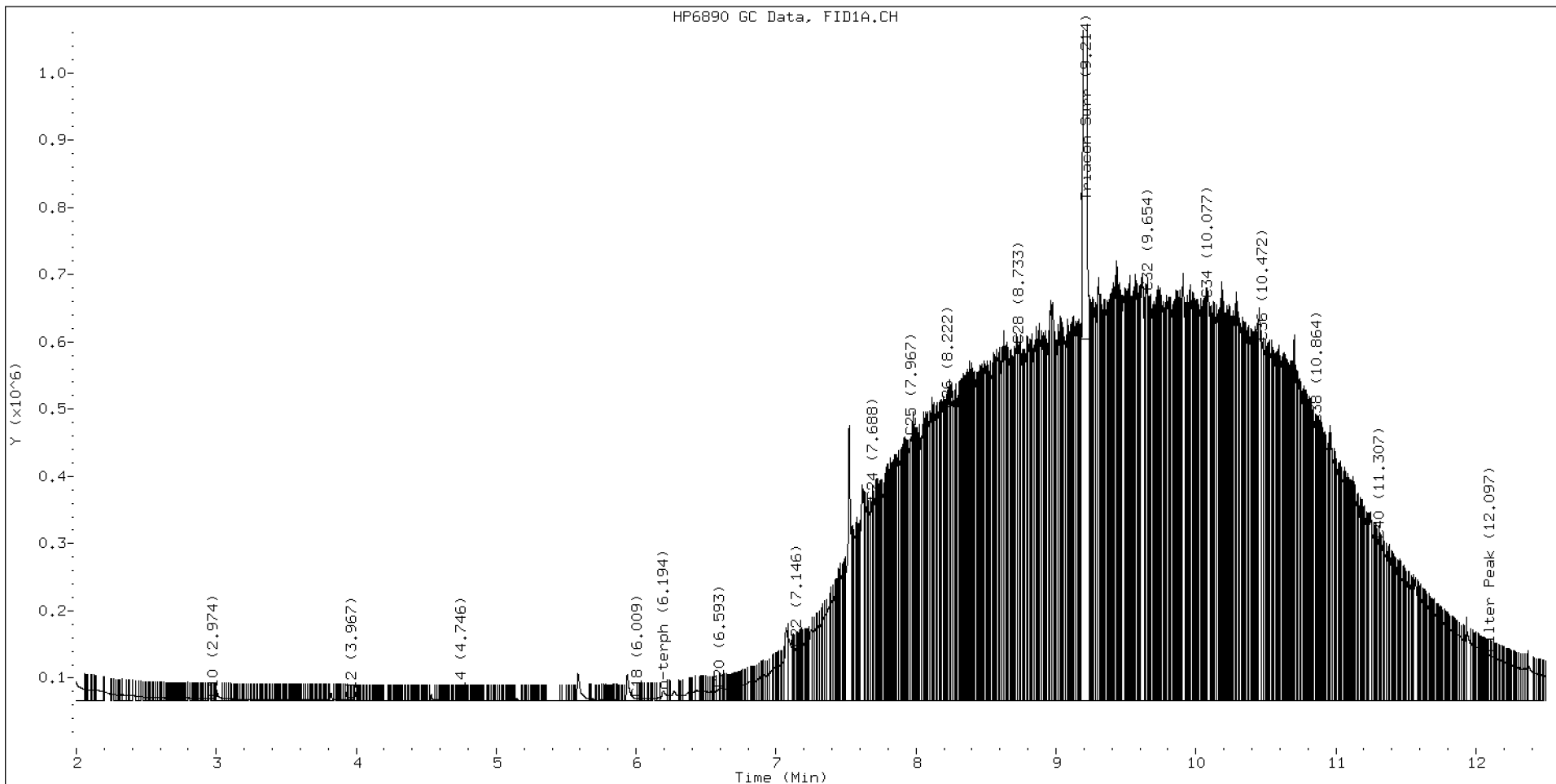
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.824	-0.047	56481	269118	WATPHD	(C12-C24)	8443152	53.0
C10	2.974	0.005	3712	3614	WATPHM	(C24-C38)	96995745	958.8
C12	3.967	0.003	1202	237	AK102	(C10-C25)	11954613	61.2
C14	4.746	-0.002	845	282	AK103	(C25-C36)	82747857	1130.3
C16	----				OR.DIES	(C10-C28)	35413186	180.7
C18	6.009	-0.003	3238	2671				
C20	6.593	0.010	17724	20684	JET-A	(C10-C18)	369533	2.2
C22	7.146	0.002	78699	15705				
C24	7.688	-0.005	296306	146422				
C25	7.967	0.006	392042	326542				
C26	8.222	-0.001	432138	64723				
C28	8.733	0.006	529289	338483				
C32	9.654	-0.001	607422	327063				
C34	10.077	-0.002	597394	267503				
Filter Peak	12.097	-0.001	69367	47658	BUNKERC	(C10-C38)	105587687	2674.6
C36	10.472	-0.010	534086	552924				
C38	10.864	-0.008	411631	162223				
C40	11.307	-0.007	239508	117282				
o-terph	6.194	-0.004	14571	31694				
Triacon Surr	9.214	-0.017	7068342	6614830	NAS DIES	(C10-C24)	8591942	44.0

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	31694	0.2
Triacontane	6614830	44.6 M

M Indicates the peak was manually integrated

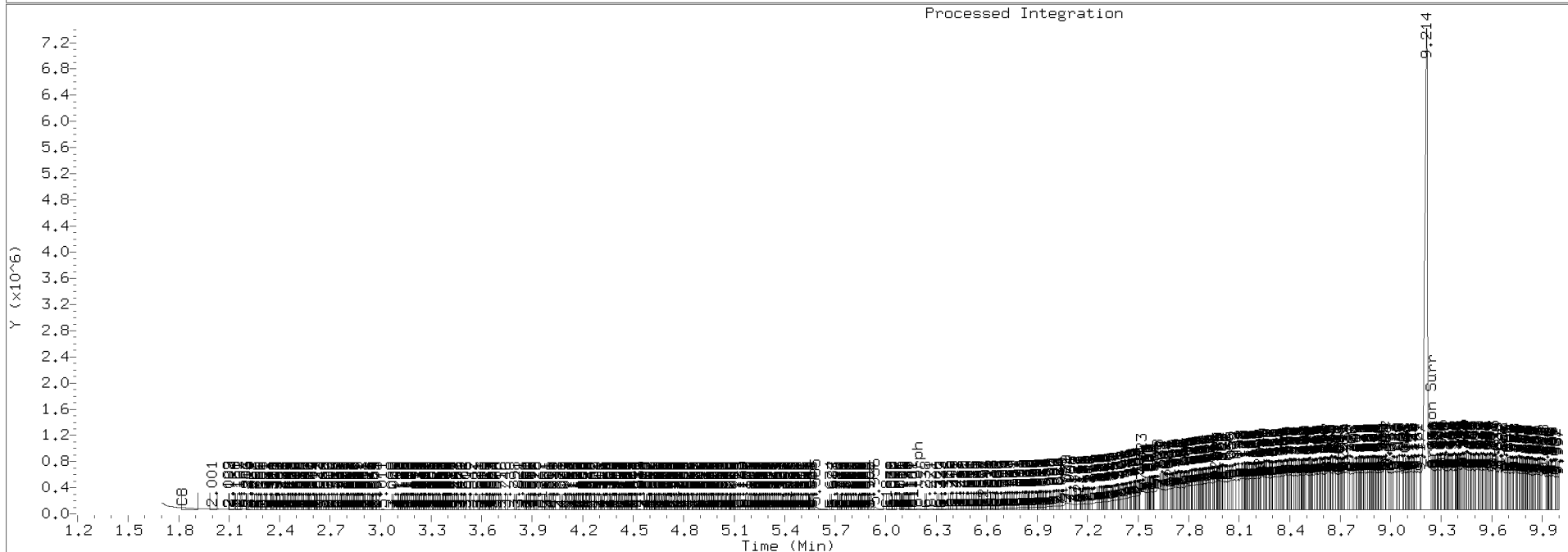
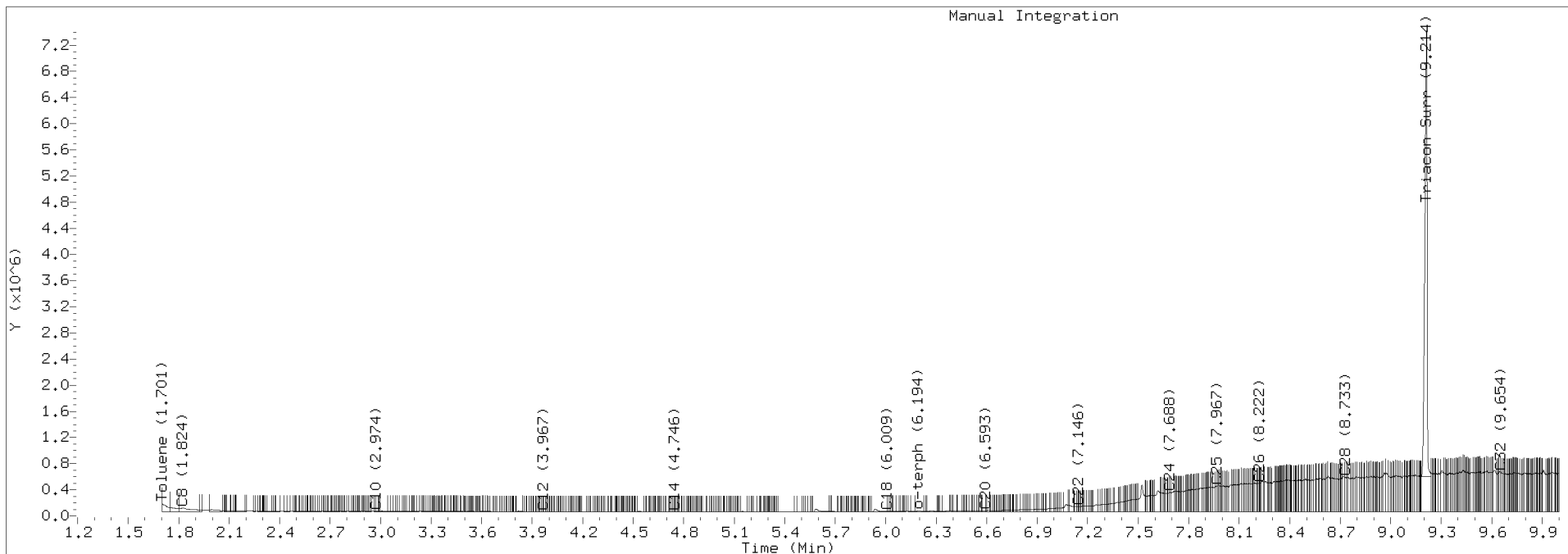
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2906.D Injection: 29-NOV-2020 19:25

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

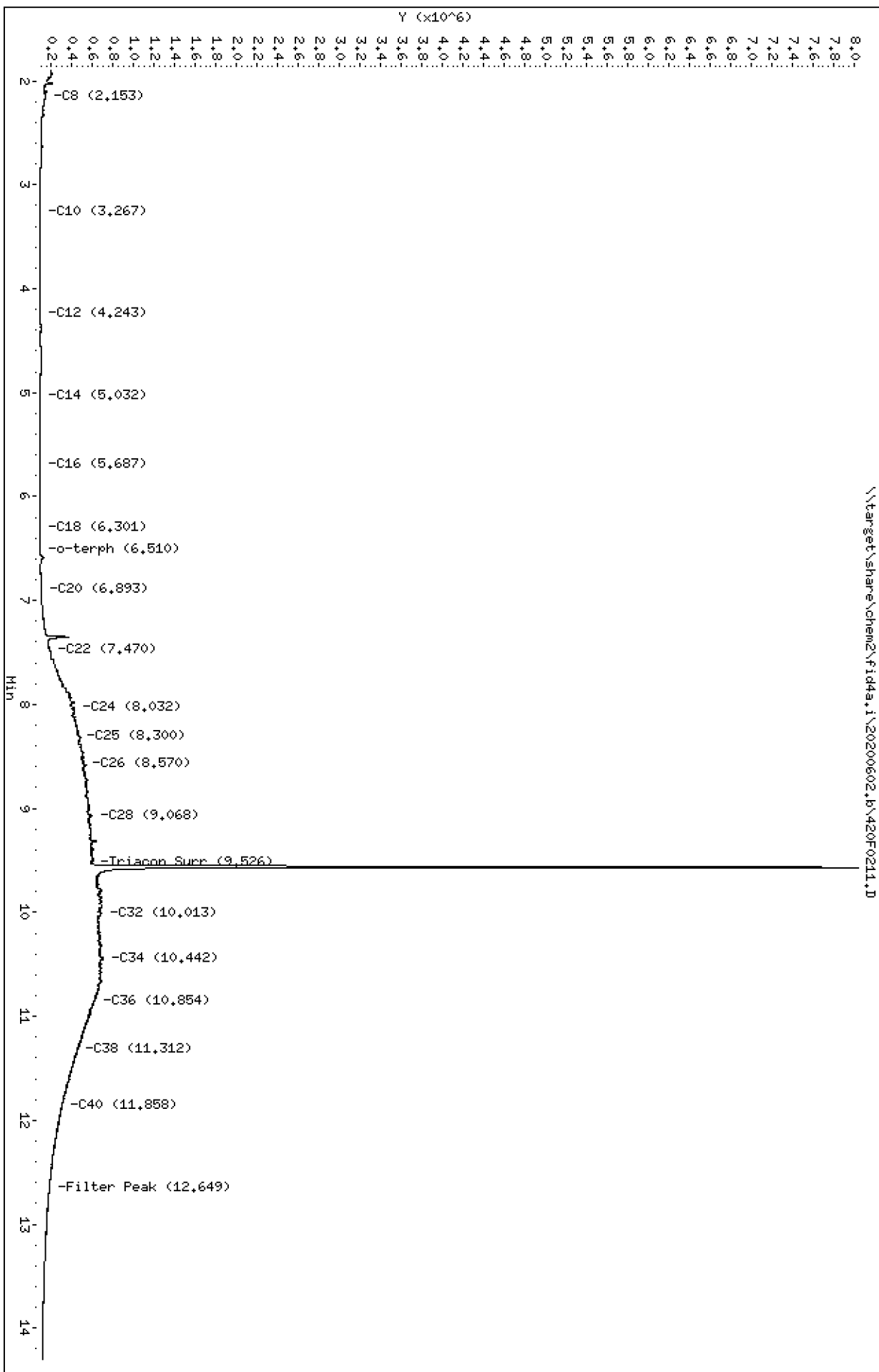
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

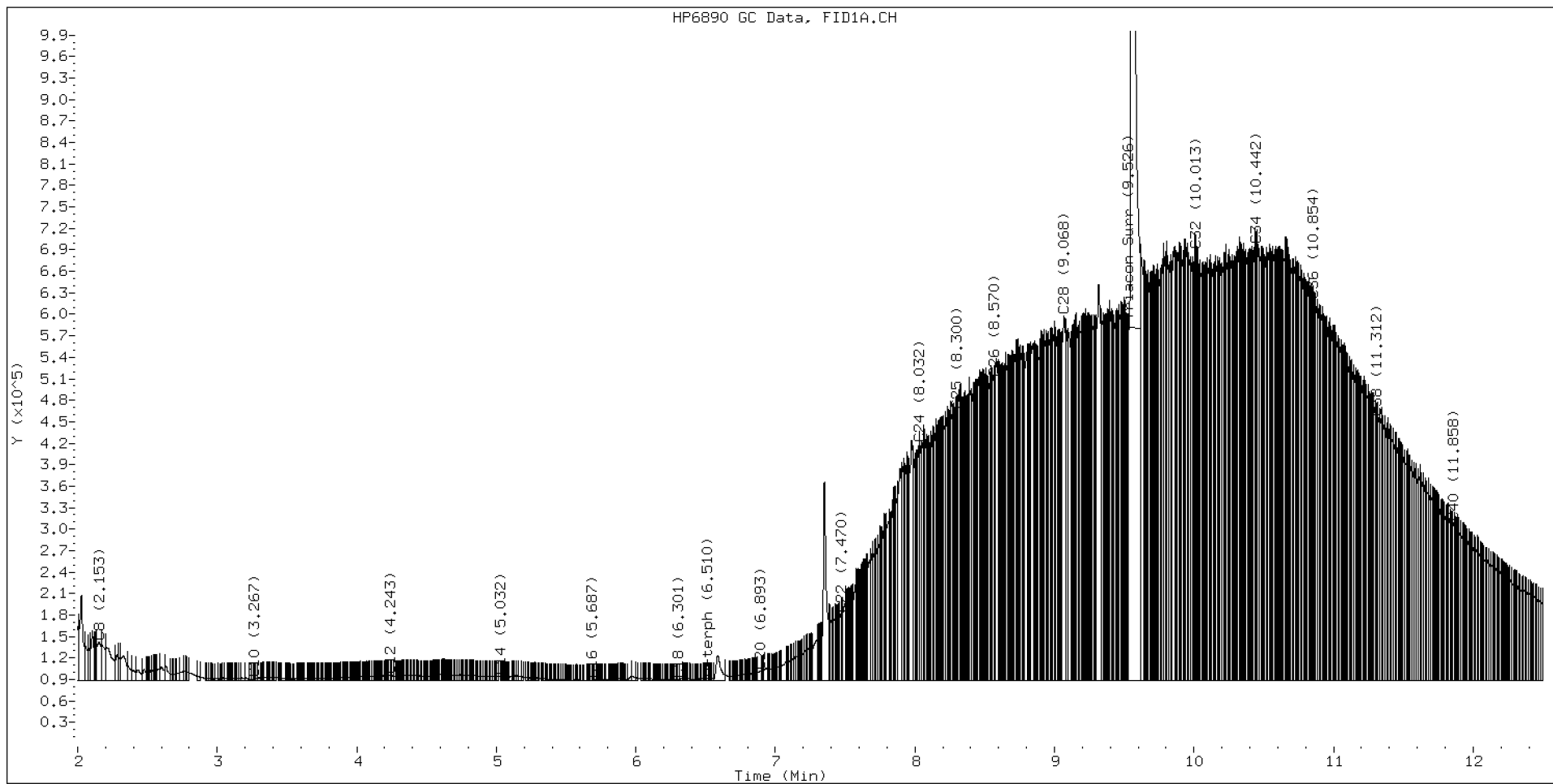
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

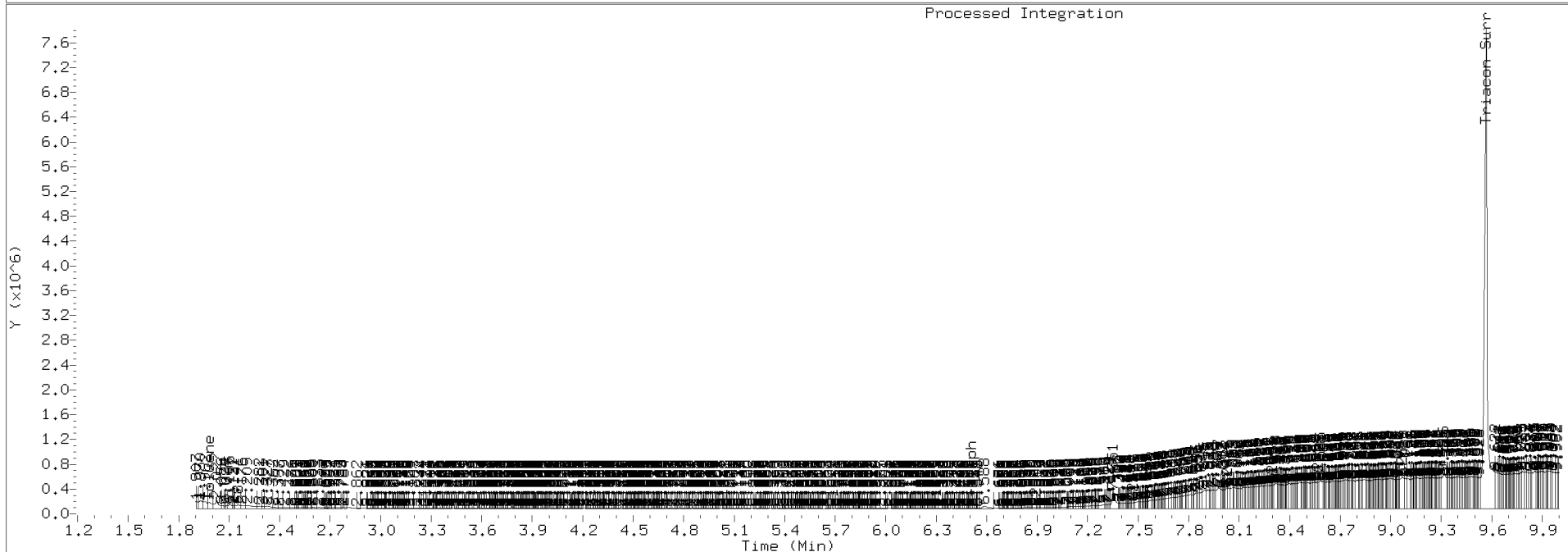
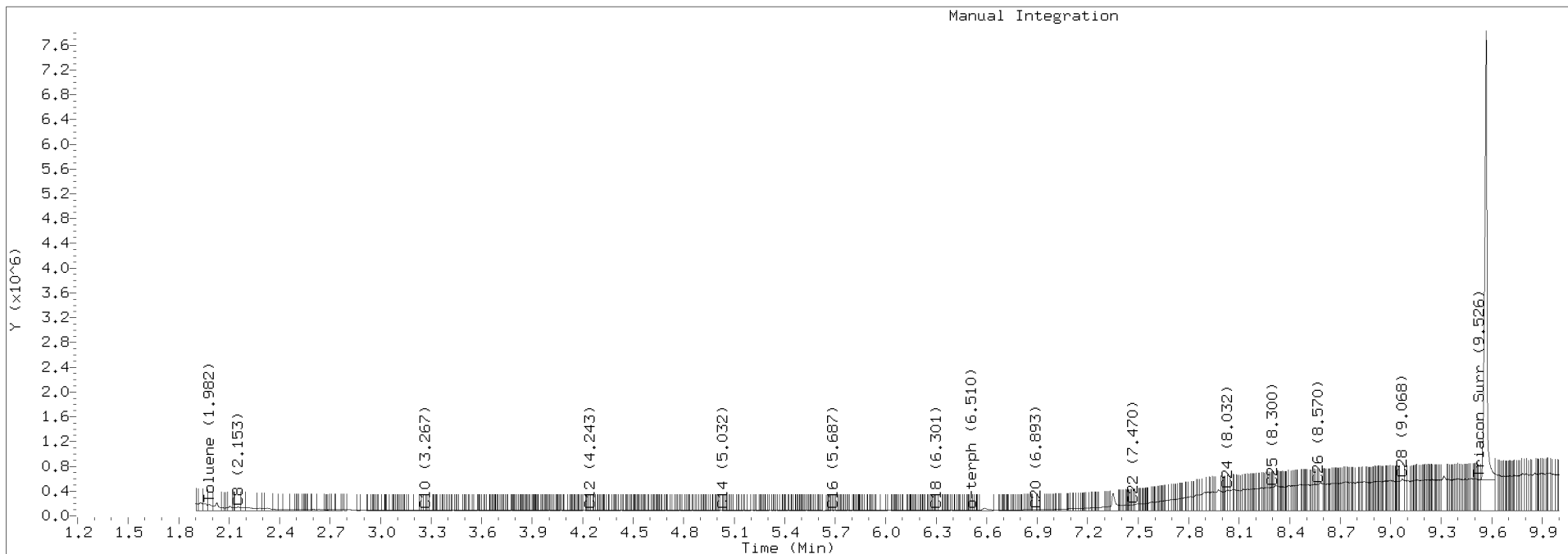
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

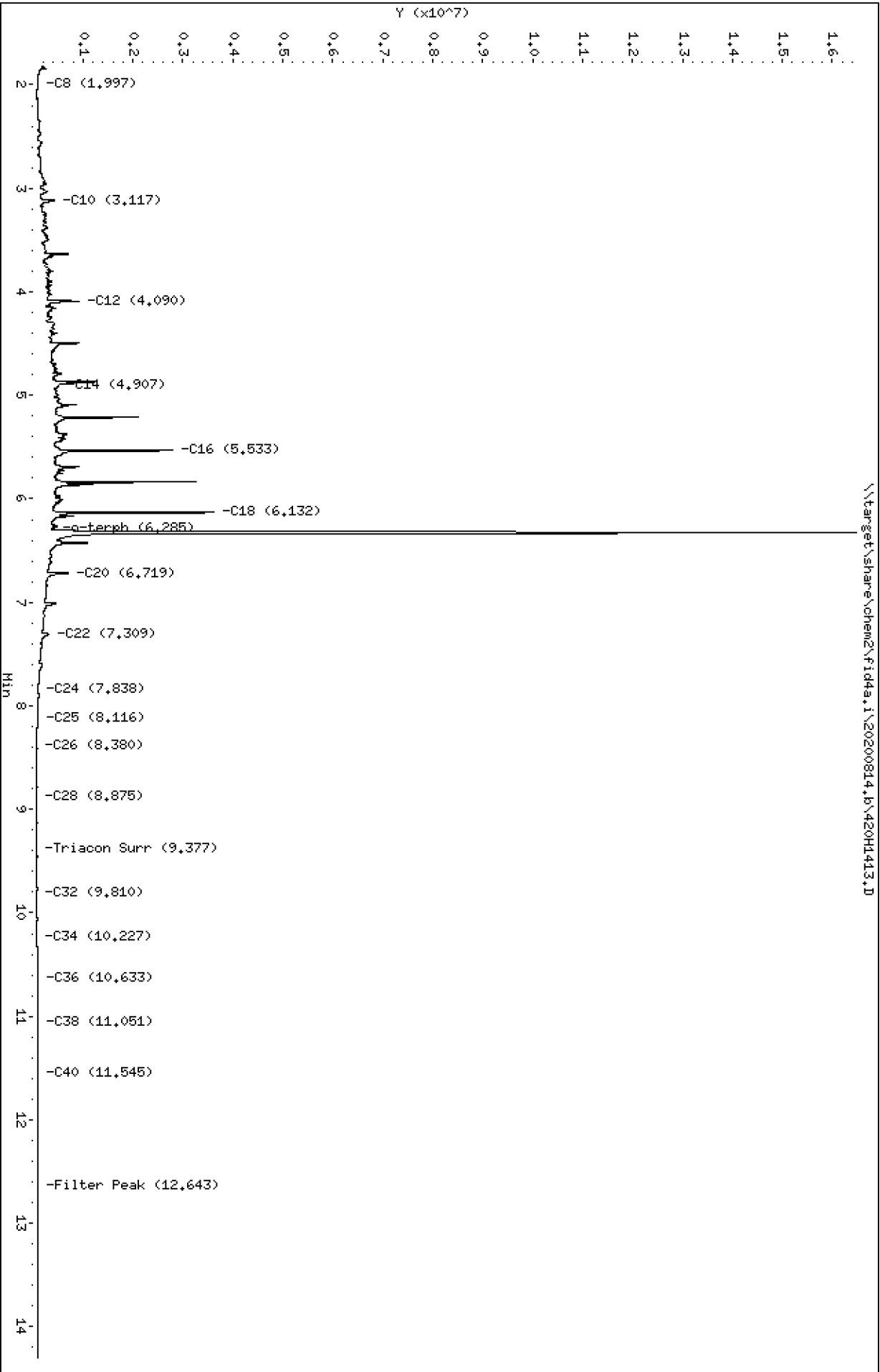
Lab ID:SIF0018-SCV1



Data File: \\target\share\chem2\fid4a,1\20200814,b\420H1413.D
Date: 14-AUG-2020 11:59
Client ID:
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200814.b/420H1413.D
Method: 20200814.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/24/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 14-AUG-2020 11:59
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

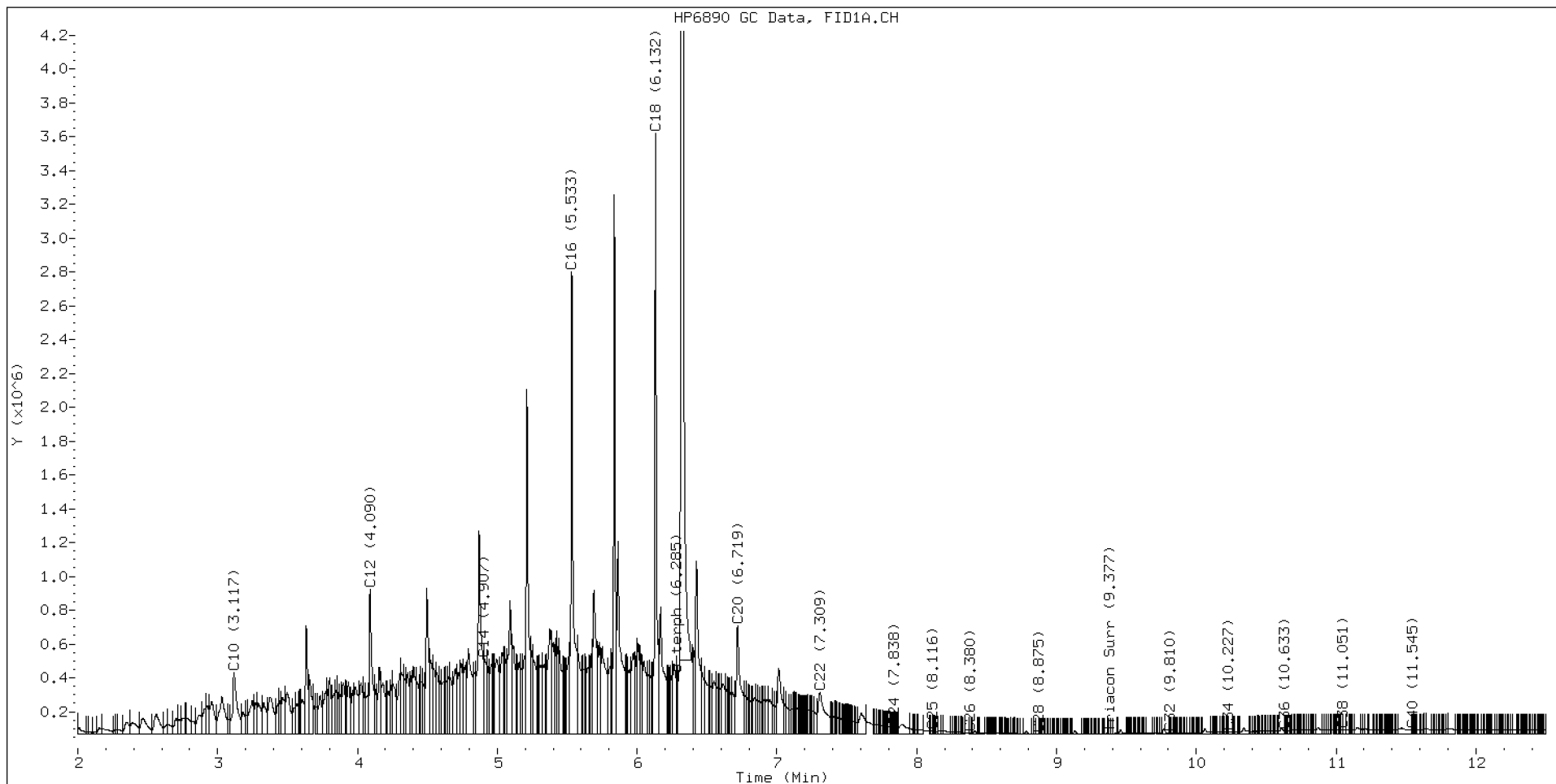
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.005	33555	26527	WATPHD	(C12-C24)	76604959	480.8
C10	3.117	0.011	360980	800884	WATPHM	(C24-C38)	2087736	20.6
C12	4.090	0.003	858002	1109180	AK102	(C10-C25)	90098220	460.9
C14	4.907	0.011	444696	641926	AK103	(C25-C36)	1192714	16.3
C16	5.533	-0.006	2733195	3097613	OR.DIES	(C10-C28)	90414159	461.3
C18	6.132	-0.001	3552120	3129904				
C20	6.719	-0.001	636483	1325665	JET-A	(C10-C18)	69968294	421.9
C22	7.309	0.022	248019	872467				
C24	7.838	0.001	39892	19883				
C25	8.116	0.009	16354	7274				
C26	8.380	0.009	7066	4723				
C28	8.875	-0.001	410	108				
C32	9.810	0.003	6271	1564				
C34	10.227	-0.005	10941	7550				
Filter Peak	12.643	0.007	25373	20242	CREOSOT	(C12-C22)	74914962	831.2
C36	10.633	-0.004	19294	9569				
C38	11.051	-0.001	25145	5023				
C40	11.545	-0.002	23988	7180				
o-terph	6.330	0.000	15978088	16235384				
Triacon Surr	9.377	-0.001	1405	784	NAS DIES	(C10-C24)	89766551	460.0

Range Times: NW Diesel(4.087 - 7.837) AK102(3.11 - 8.11) Jet A(3.11 - 6.13)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	16235384	79.3 M
Triacontane	784	0.0

M Indicates the peak was manually integrated

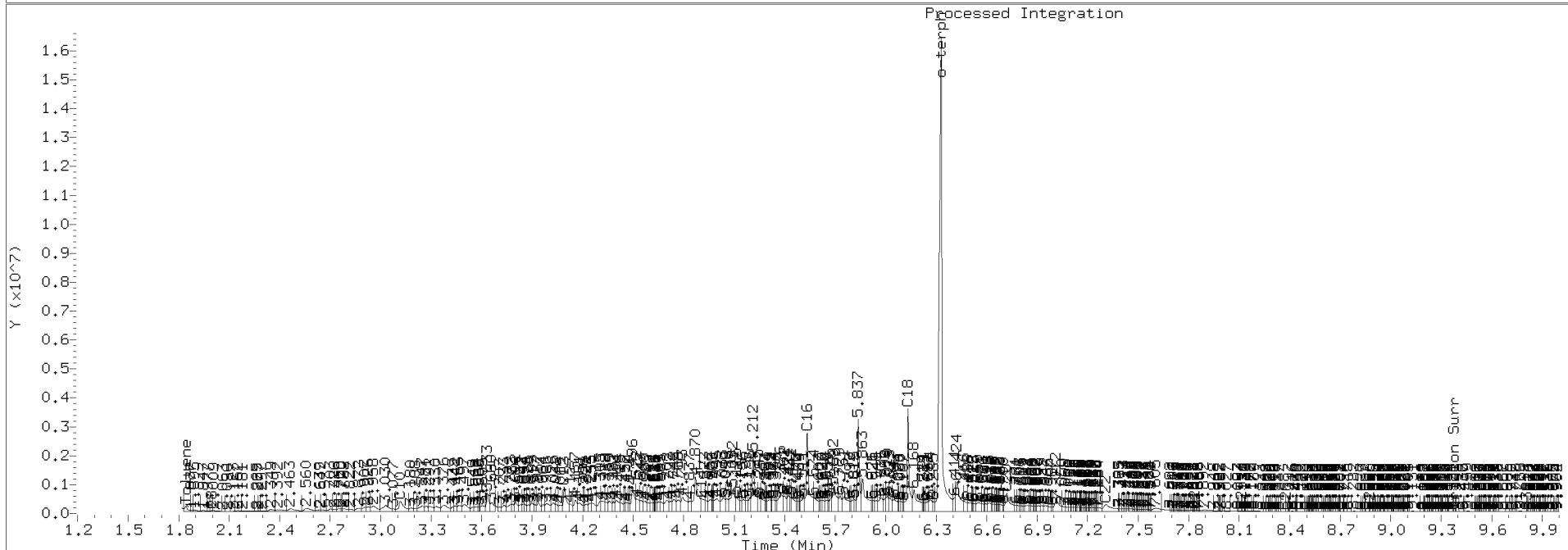
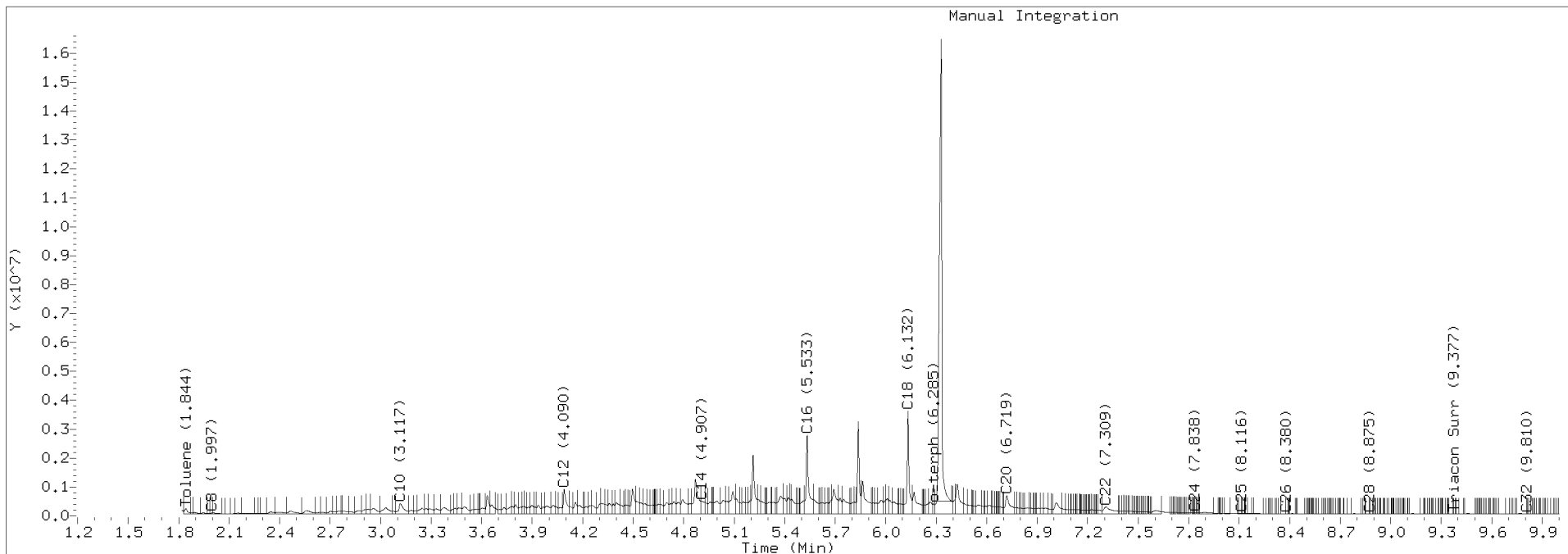
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200814.b/420H1413.D Injection: 14-AUG-2020 11:59

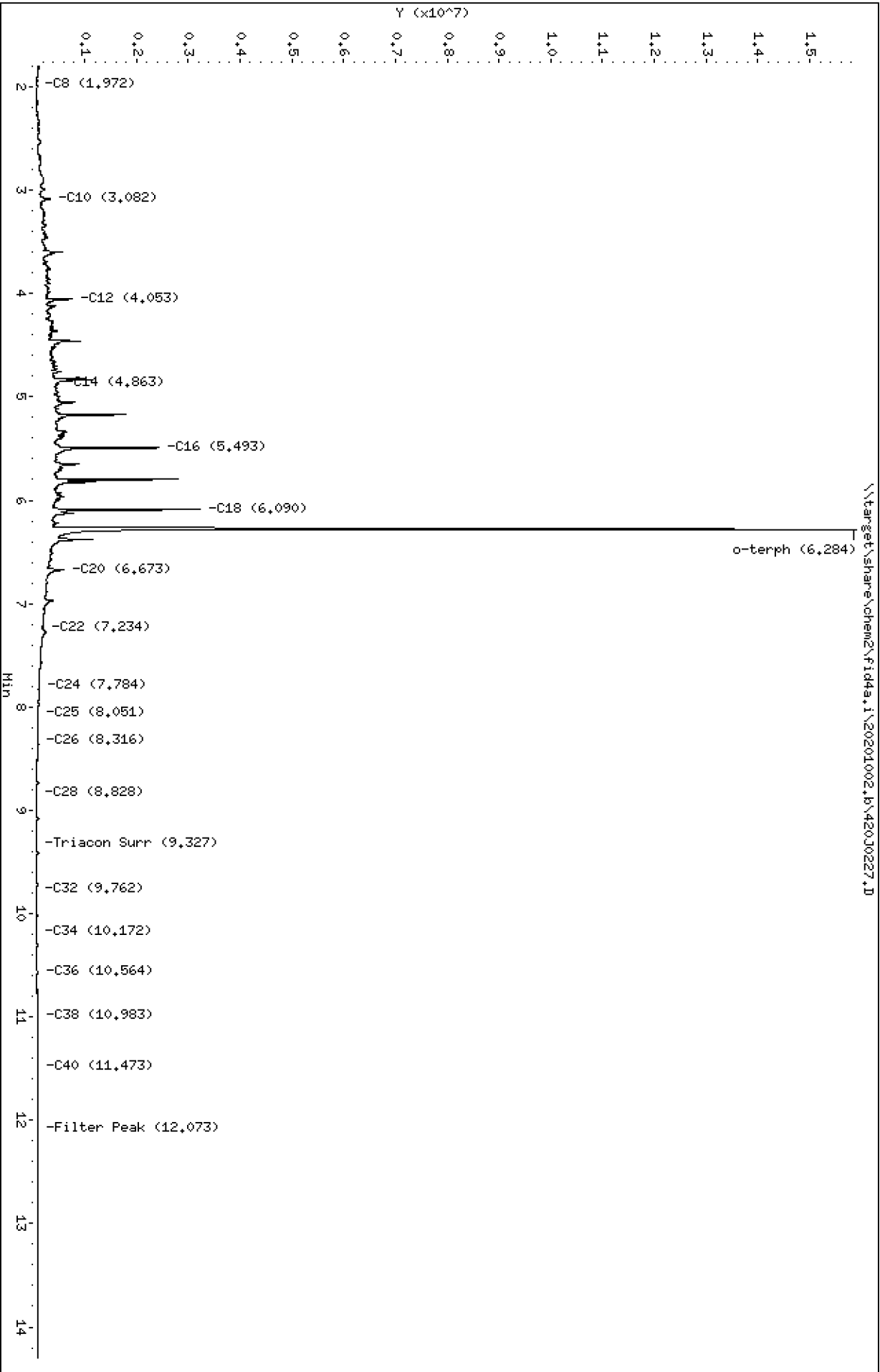
Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201002_b\42030227.D
Date : 02-OCT-2020 17:33
Client ID:
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0227.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-OCT-2020 17:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

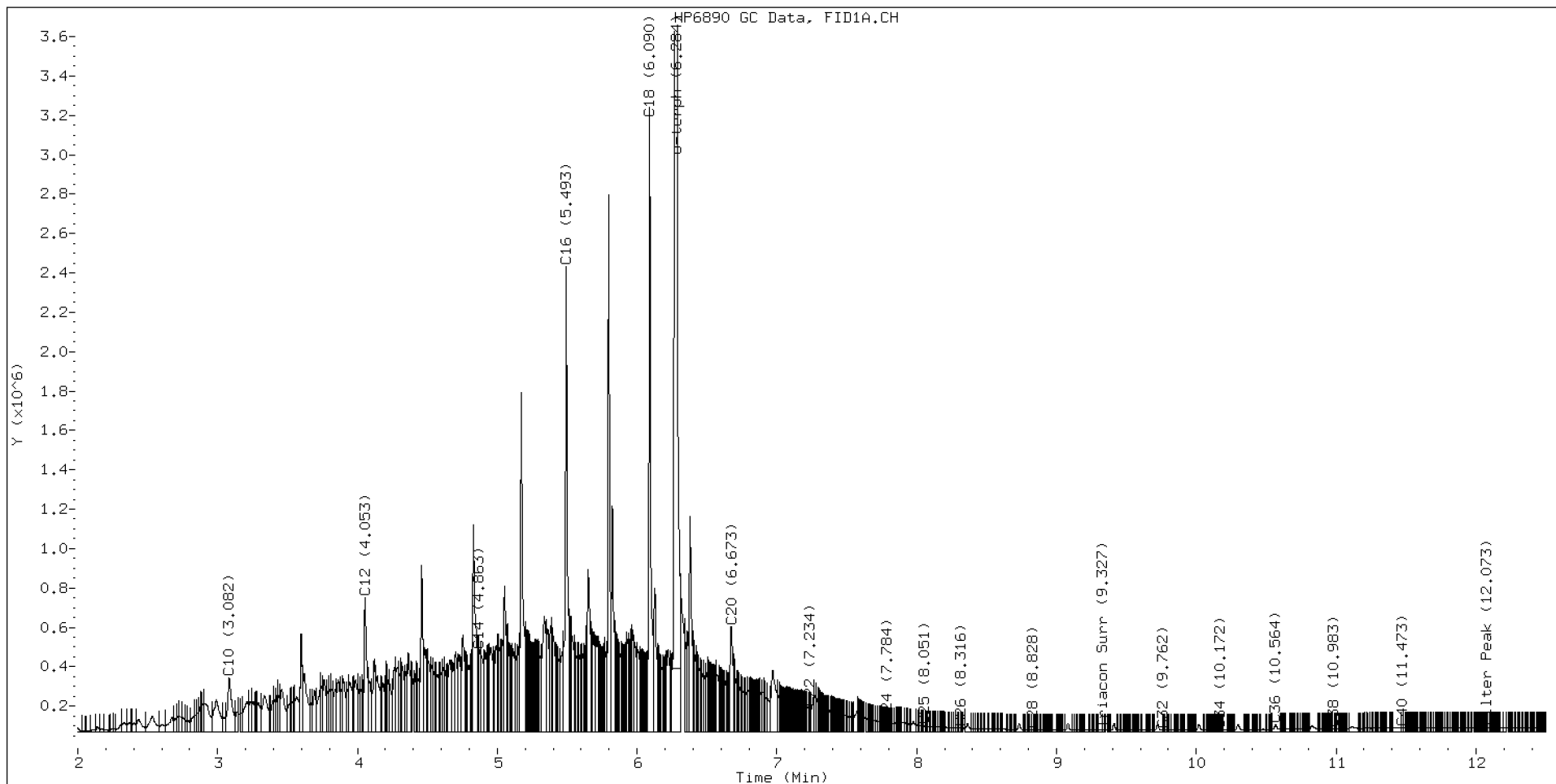
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.972	-0.014	9352	8051	WATPHD	(C12-C24)	71278543	447.3
C10	3.082	0.010	275290	604499	WATPHM	(C24-C38)	2595002	25.7
C12	4.053	0.001	678847	919302	AK102	(C10-C25)	83170245	425.4
C14	4.863	0.013	409591	81784	AK103	(C25-C36)	1818352	24.8
C16	5.493	-0.006	2358669	2412149	OR.DIES	(C10-C28)	84001487	428.6
C18	6.090	-0.002	3170614	2857622				
C20	6.673	-0.000	533120	754522	JET-A	(C10-C18)	63484632	382.8
C22	7.234	-0.002	119695	46935				
C24	7.784	-0.000	45383	13433				
C25	8.051	-0.004	27468	20294				
C26	8.316	-0.000	17075	9319				
C28	8.828	0.007	9161	4968				
C32	9.762	0.009	6982	2433				
C34	10.172	-0.005	7930	2763				
Filter Peak	12.073	0.004	16575	6608	CREOSOT	(C12-C22)	68914152	1218.7
C36	10.564	-0.013	34401	64674				
C38	10.983	0.003	15510	9262				
C40	11.473	0.018	17169	9419				
o-terph	6.284	-0.000	15509175	16279578				
Triacon Surr	9.327	0.007	6503	1296	NAS DIES	(C10-C24)	82734184	424.0

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16279578	79.5 M
Triacontane	1296	0.0

M Indicates the peak was manually integrated

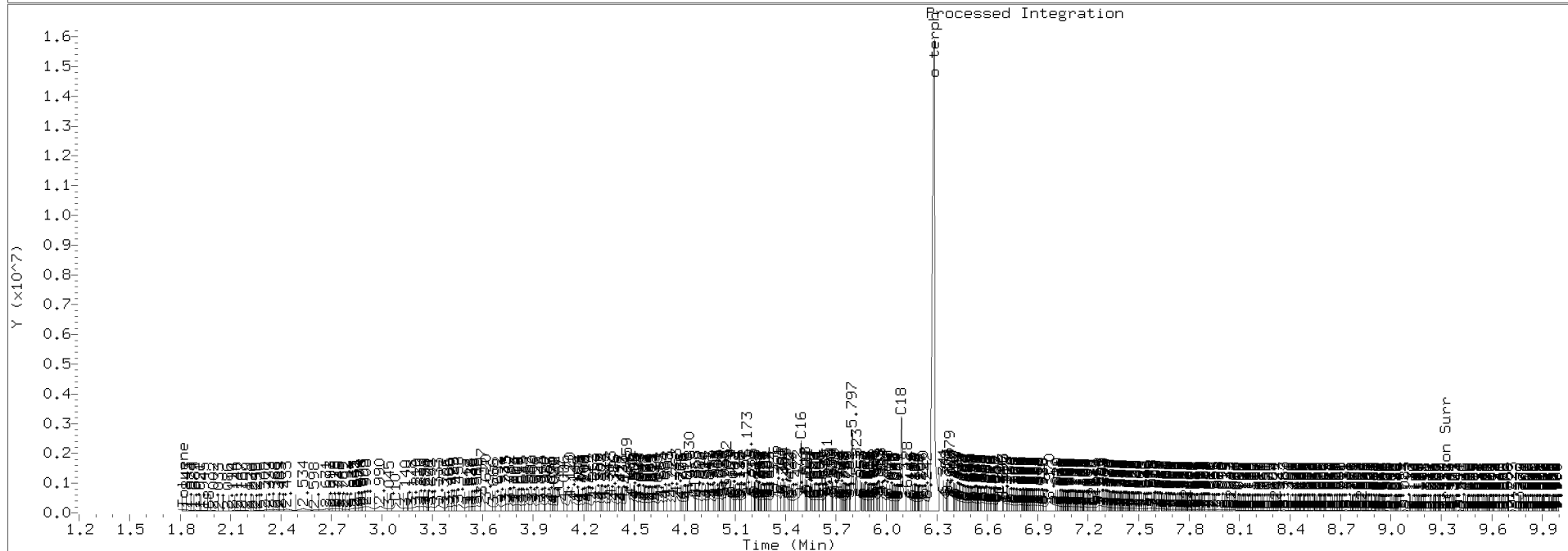
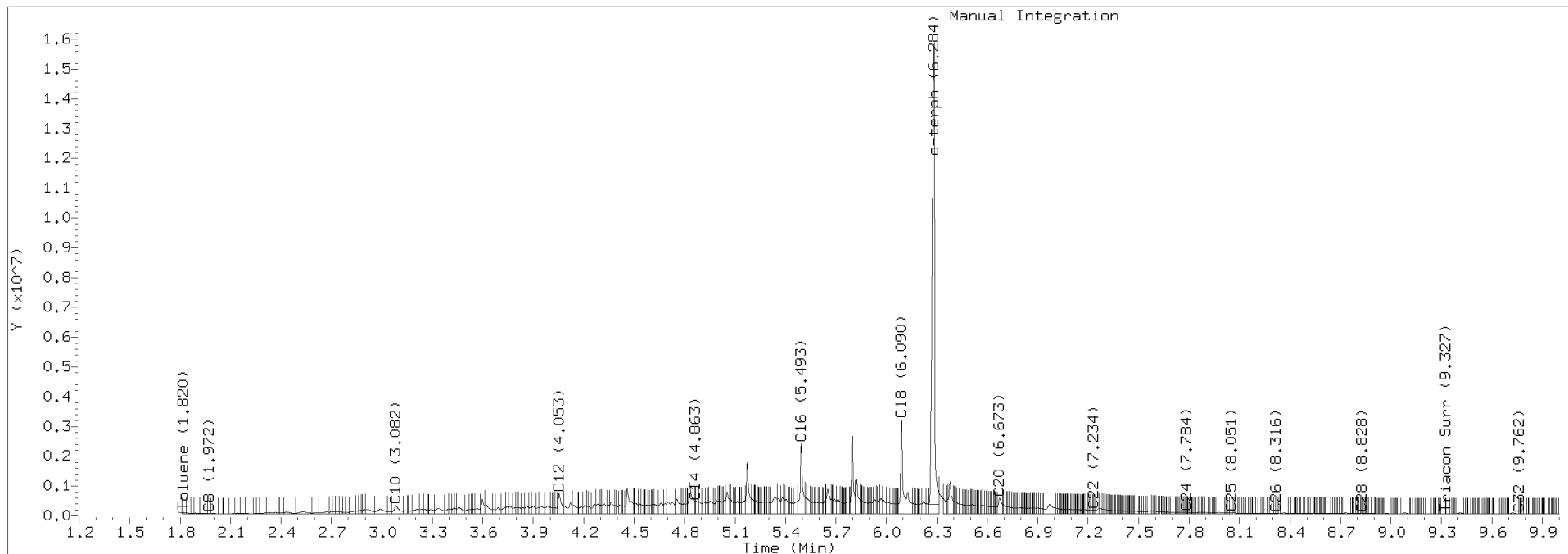
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0227.D Injection: 02-OCT-2020 17:33

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0216.D

Date: 02-NOV-2020 13:34

Client ID:

Sample Info: SEQ-CCV1

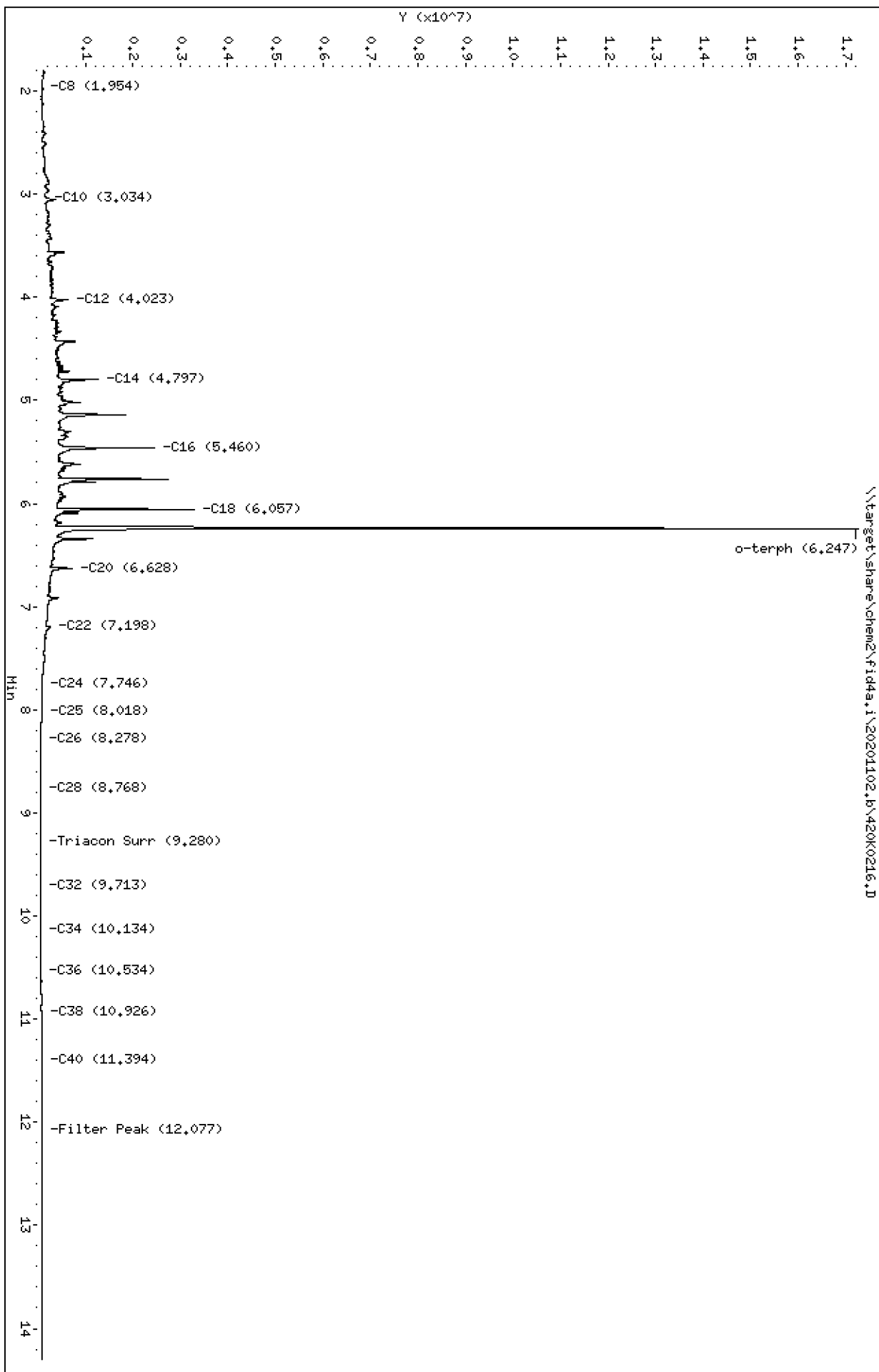
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0216.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-NOV-2020 13:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

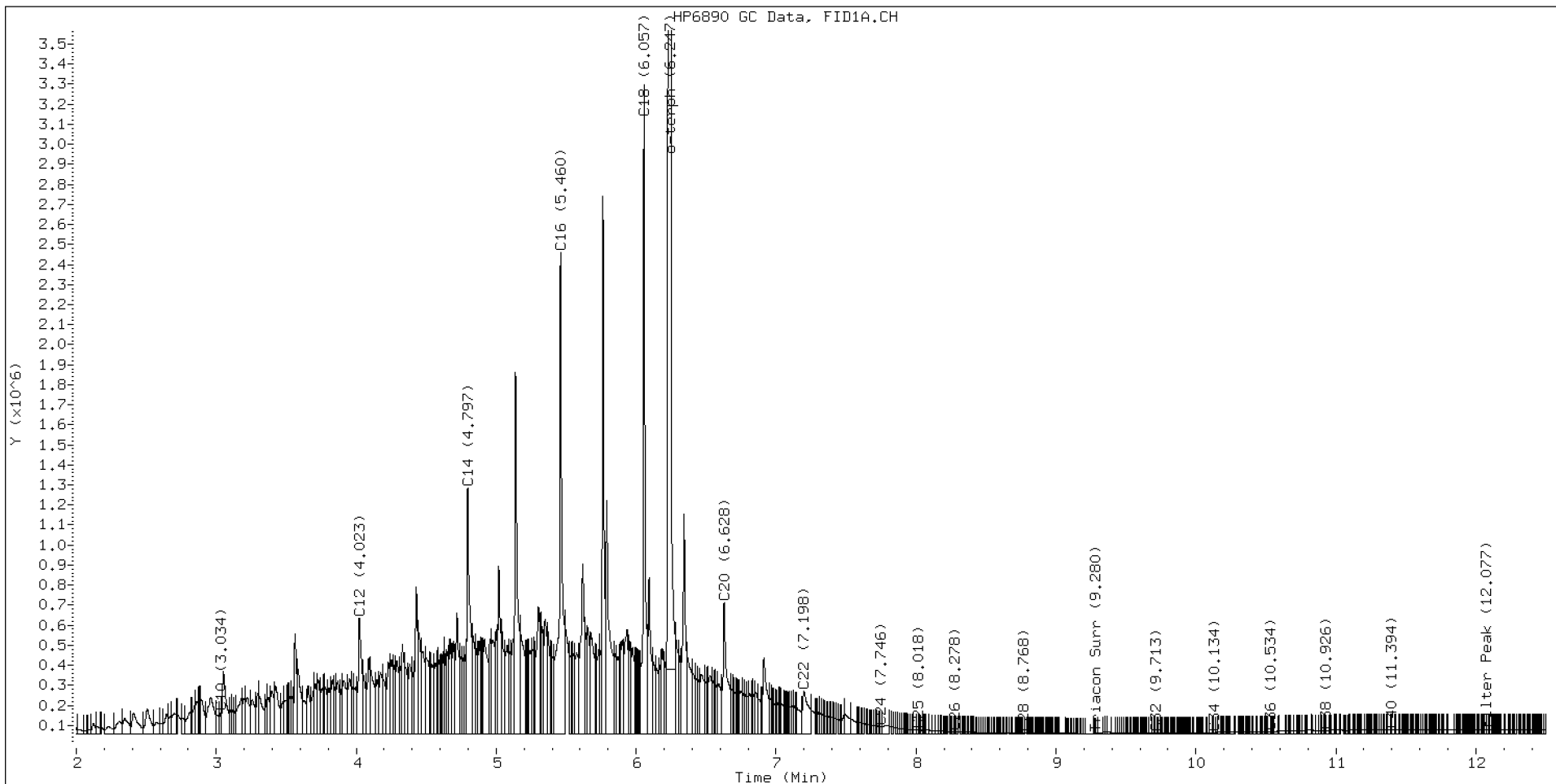
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.954	0.000	24971	20616	WATPHD	(C12-C24)	74763315	469.2
C10	3.034	0.002	105321	101464	WATPHM	(C24-C38)	1209447	12.0
C12	4.023	0.006	575267	930536	AK102	(C10-C25)	87571211	448.0
C14	4.797	-0.000	1223737	1816061	AK103	(C25-C36)	715520	9.8
C16	5.460	-0.004	2401544	3561647	OR.DIES	(C10-C28)	87913199	448.5
C18	6.057	0.000	3237914	3091821				
C20	6.628	-0.000	653899	1248522	JET-A	(C10-C18)	68713755	414.3
C22	7.198	0.005	208605	636302				
C24	7.746	0.003	33322	18203				
C25	8.018	0.006	16614	6601				
C26	8.278	0.006	7987	4343				
C28	8.768	-0.009	1583	1127				
C32	9.713	0.007	2142	1257				
C34	10.134	0.004	5373	3976				
Filter Peak	12.077	0.001	17799	13225	BUNKERC	(C10-C38)	88597423	2244.3
C36	10.534	0.000	10027	7461				
C38	10.926	-0.005	14614	5814				
C40	11.394	0.008	18404	11939				
o-terph	6.247	-0.000	16886621	17349107				
Triacon Surr	9.280	0.001	254	113	NAS DIES	(C10-C24)	87387977	447.8

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17349107	84.8 M
Triacontane	113	0.0

M Indicates the peak was manually integrated

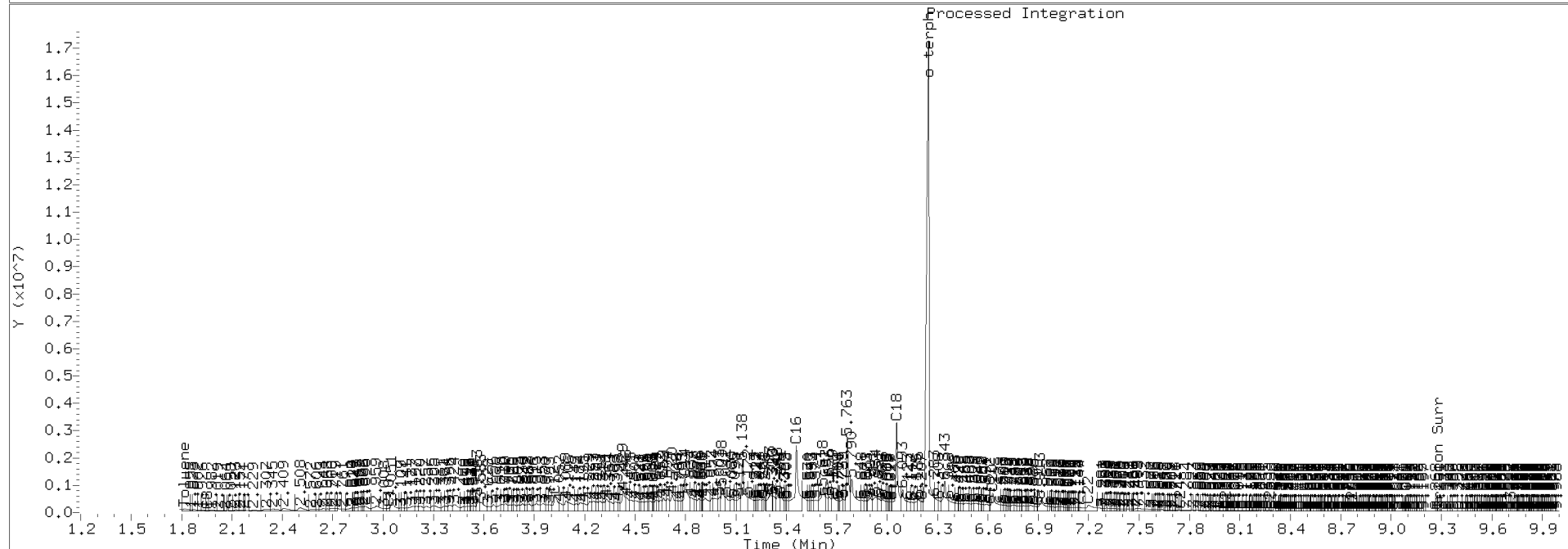
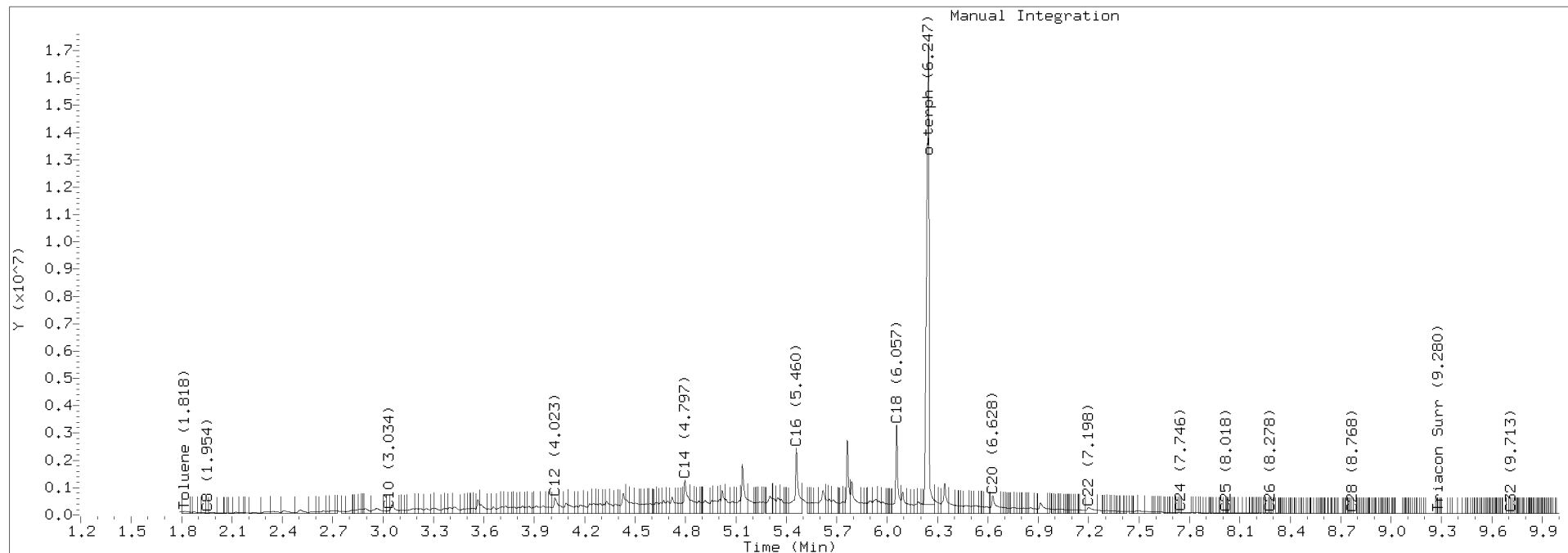
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0216.D Injection: 02-NOV-2020 13:34

Lab ID:SEQ-CCV1



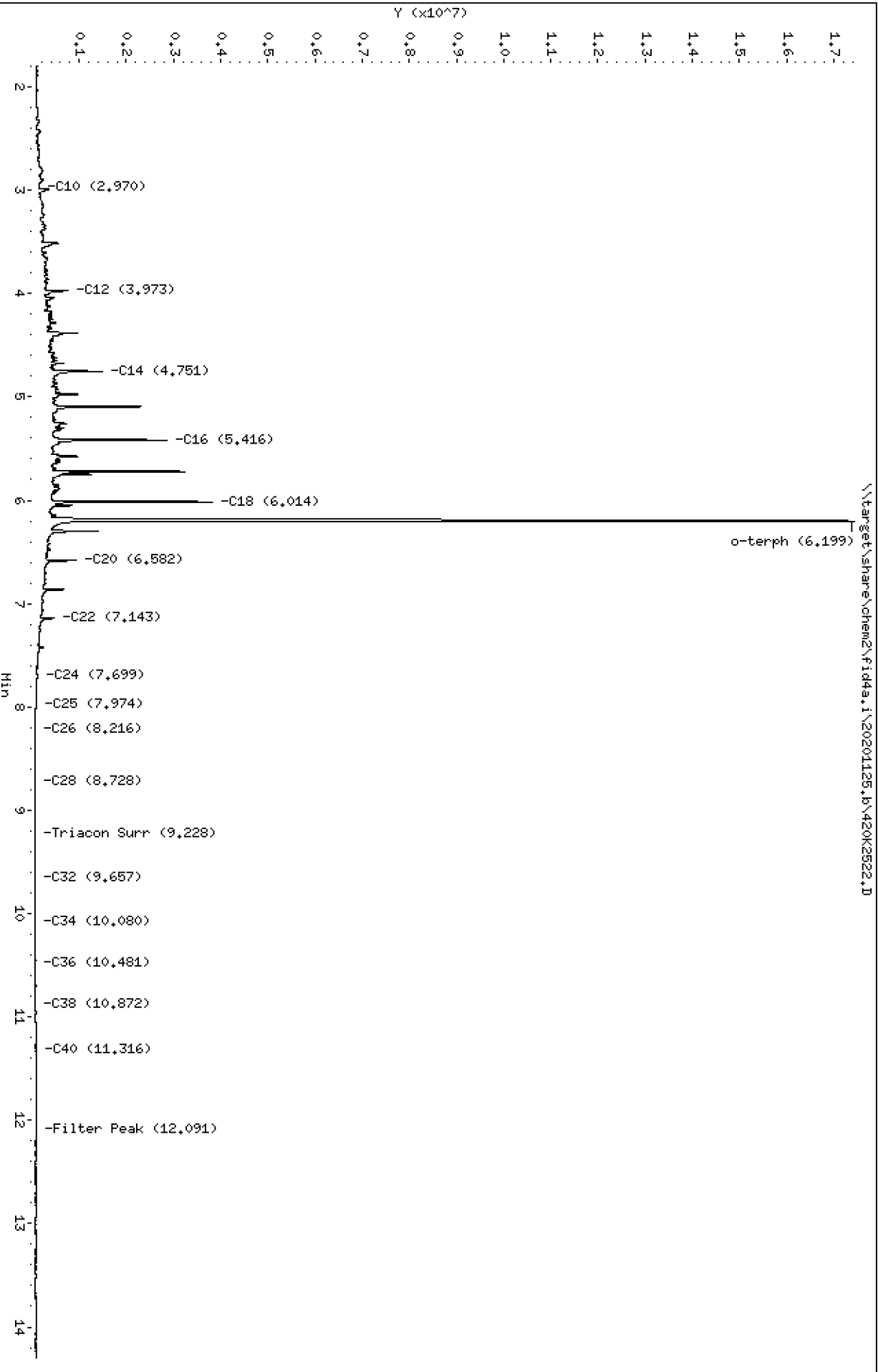
Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2522.D
Date: 26-NOV-2020 01:39
Client ID:
Sample Info: SEQ-CCV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2522.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 26-NOV-2020 01:39
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

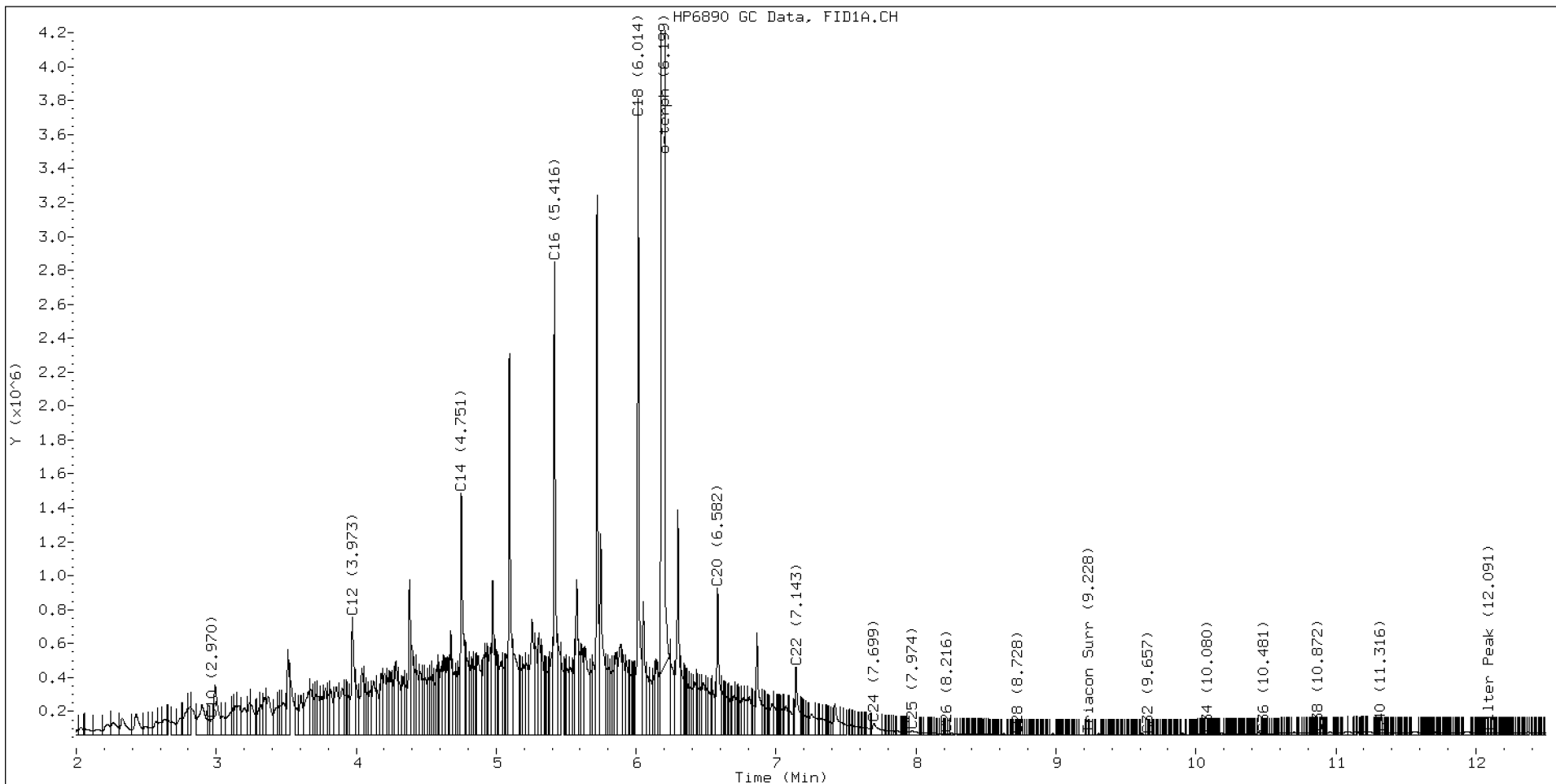
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.865	-0.012	37600	34278	WATPHD	(C12-C24)	77028854	483.4
C10	2.970	-0.006	94183	107357	WATPHM	(C24-C38)	1045342	10.3
C12	3.973	0.004	691935	1036020	AK102	(C10-C25)	89349914	457.1
C14	4.751	-0.001	1423913	1760478	AK103	(C25-C36)	569182	7.8
C16	5.416	-0.002	2786947	2602812	OR.DIES	(C10-C28)	89658391	457.4
C18	6.014	-0.002	3754833	3210704				
C20	6.582	-0.005	864030	1110512	JET-A	(C10-C18)	68986585	416.0
C22	7.143	-0.006	400799	551123				
C24	7.699	0.002	66425	195128				
C25	7.974	0.009	23208	79072				
C26	8.216	-0.010	6893	4006				
C28	8.728	-0.002	895	251				
C32	9.657	-0.001	1097	474				
C34	10.080	0.000	3389	2146				
Filter Peak	12.091	-0.002	14791	13985	BUNKERC	(C10-C38)	90180835	2284.4
C36	10.481	-0.002	7411	3288				
C38	10.872	-0.001	13535	3373				
C40	11.316	0.002	14706	5127				
o-terph	6.199	-0.002	16973456	17911668				
Triacon Surr	9.228	-0.004	936	480	NAS DIES	(C10-C24)	89135494	456.8

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17911668	87.5 M
Triacontane	480	0.0

M Indicates the peak was manually integrated

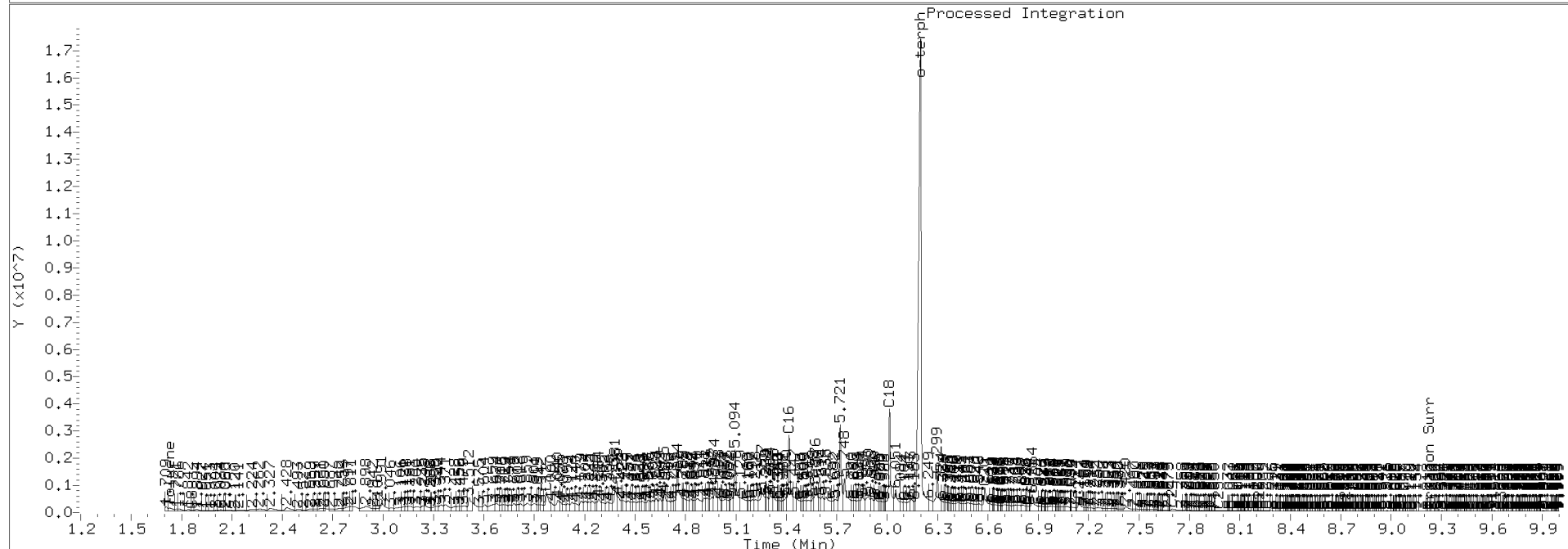
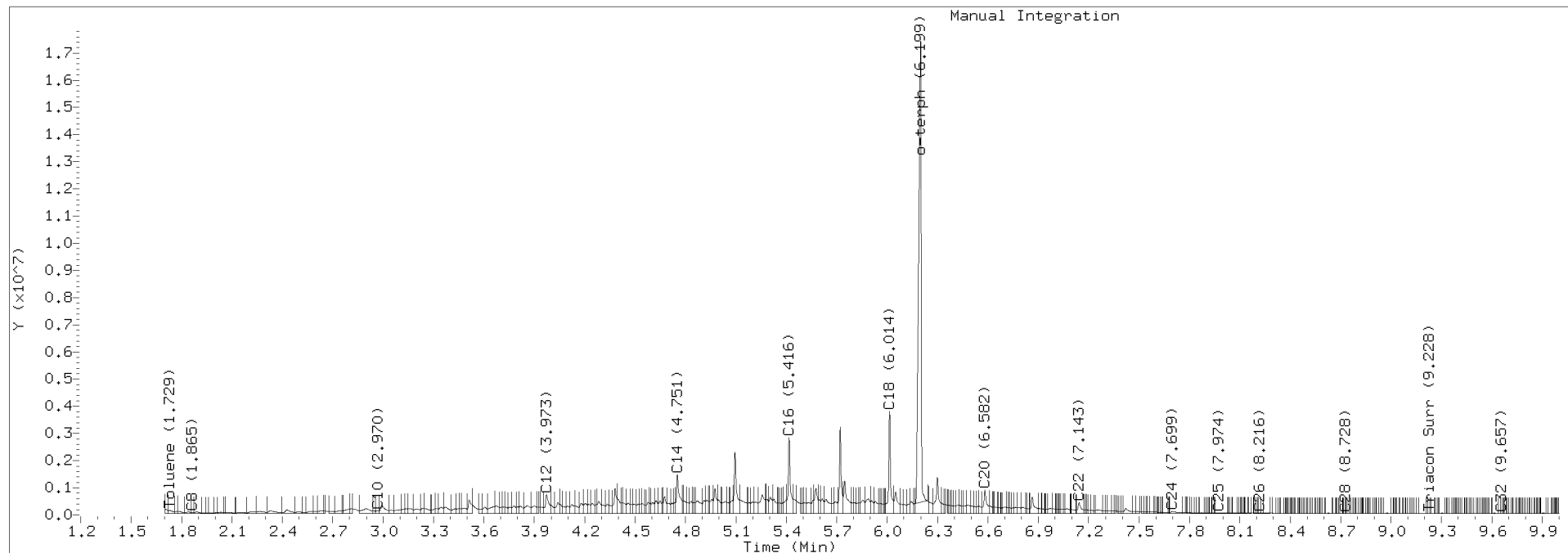
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2522.D Injection: 26-NOV-2020 01:39

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2523.D

Date: 26-NOV-2020 01:59

Client ID:

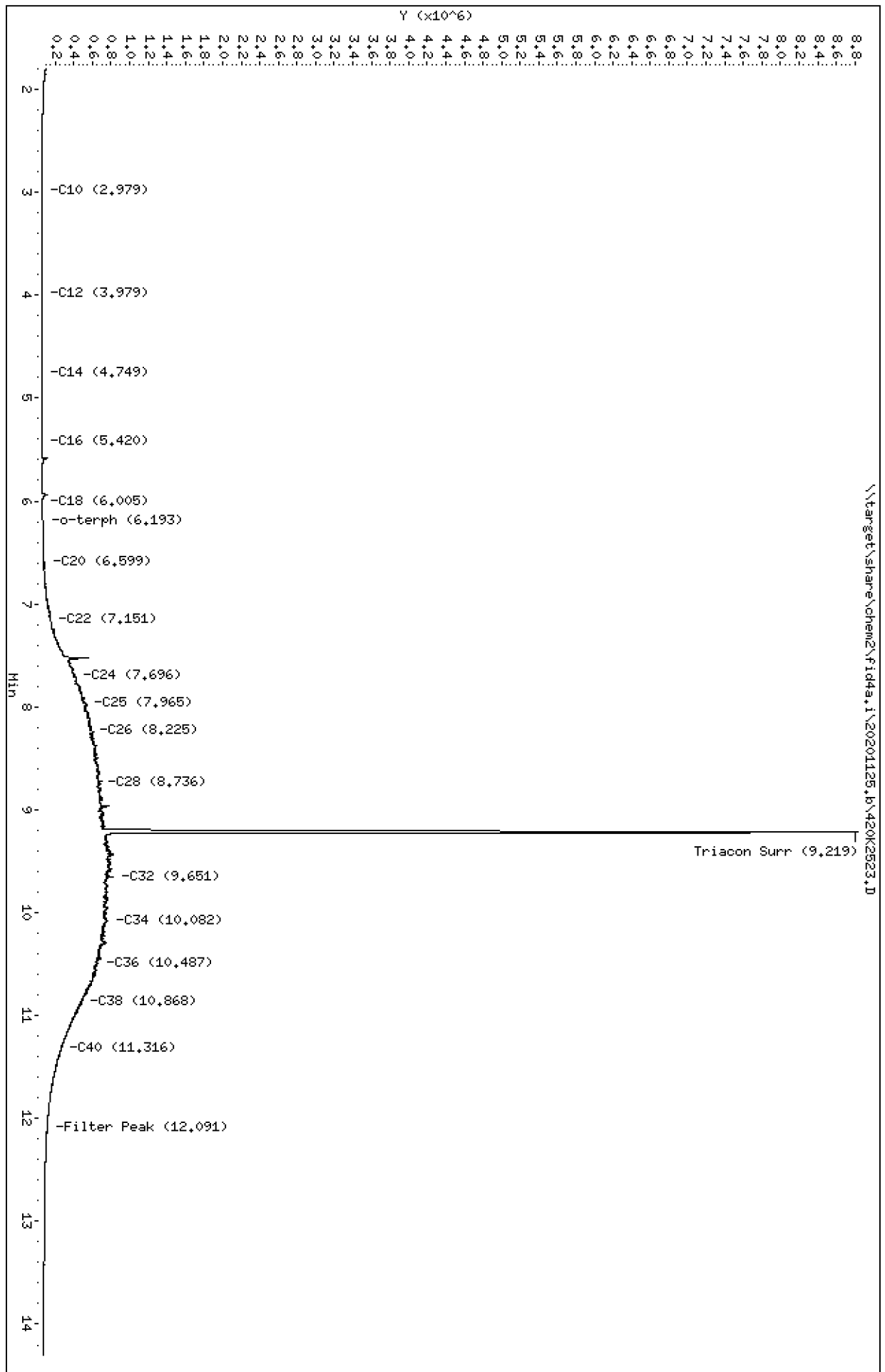
Sample Info: SEQ-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2523.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 26-NOV-2020 01:59
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

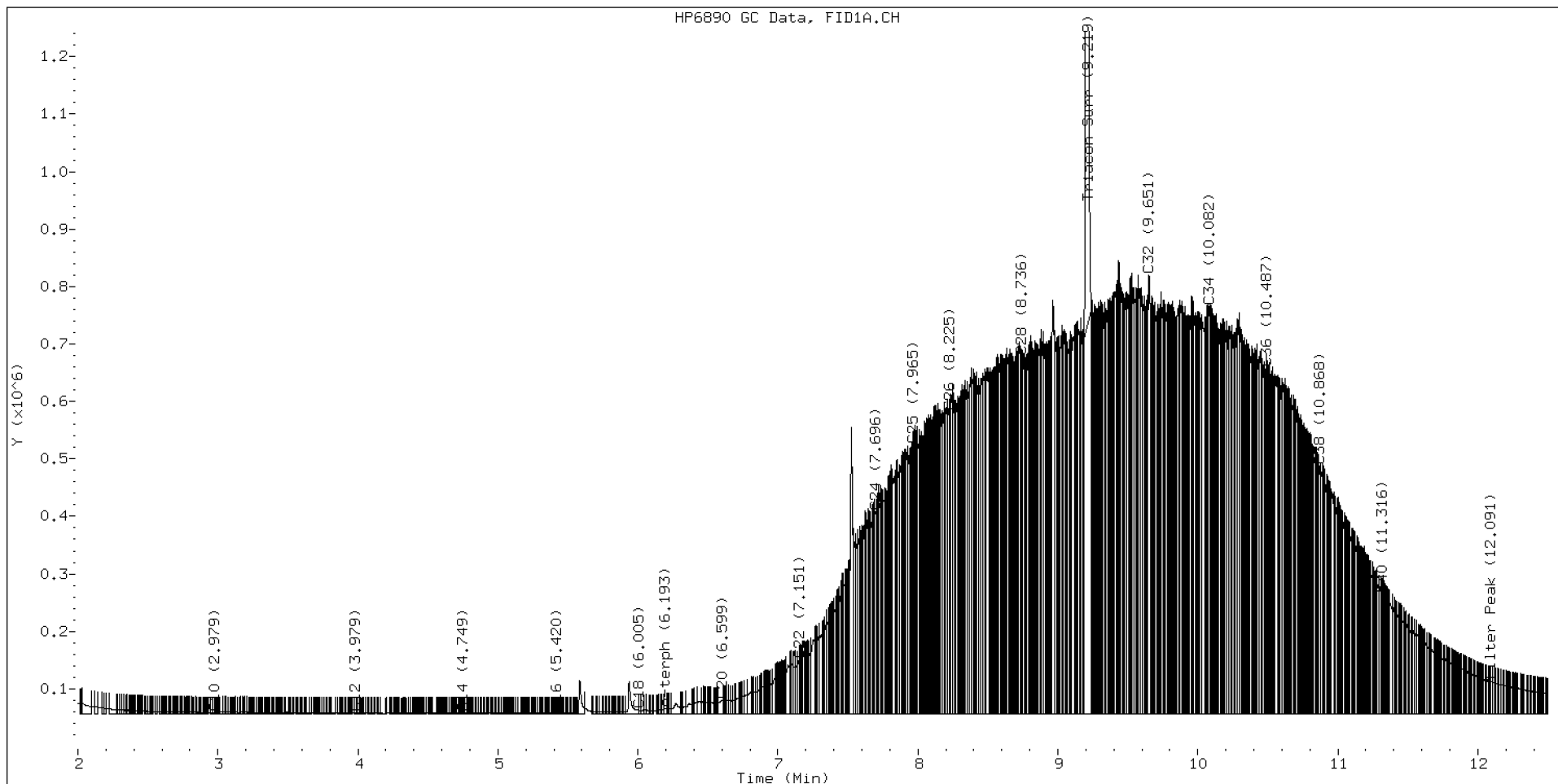
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.870	-0.007	35406	116178	WATPHD	(C12-C24)	10168593	63.8
C10	2.979	0.003	1732	832	WATPHM	(C24-C38)	114052812	1127.4
C12	3.979	0.010	445	291	AK102	(C10-C25)	14225249	72.8
C14	4.749	-0.003	846	410	AK103	(C25-C36)	98483622	1345.3
C16	5.420	0.002	1138	319	OR.DIES	(C10-C28)	42550225	217.1
C18	6.005	-0.011	5697	5266				
C20	6.599	0.012	23143	43940	JET-A	(C10-C18)	350095	2.1
C22	7.151	0.003	92776	96407				
C24	7.696	-0.001	351486	192296				
C25	7.965	0.000	466529	251247				
C26	8.225	-0.001	524755	156287				
C28	8.736	0.007	621854	246448				
C32	9.651	-0.006	762897	769213				
C34	10.082	0.002	707949	696005				
Filter Peak	12.091	-0.001	55760	24834	BUNKERC	(C10-C38)	124296601	3148.6
C36	10.487	0.004	602190	265282				
C38	10.868	-0.005	430643	293433				
C40	11.316	0.002	208100	92618				
o-terph	6.193	-0.009	7978	10393				
Triacon Surr	9.219	-0.013	8094545	7907853	NAS DIES	(C10-C24)	10243789	52.5

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	10393	0.1
Triacontane	7907853	53.3 M

M Indicates the peak was manually integrated

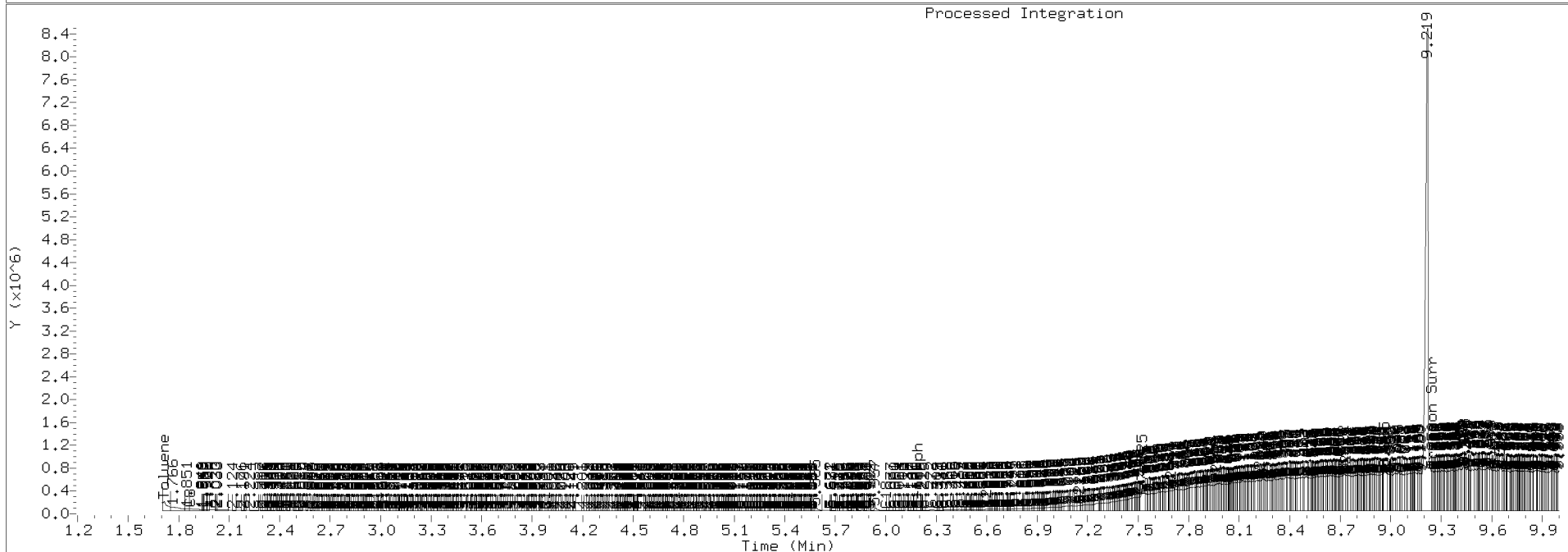
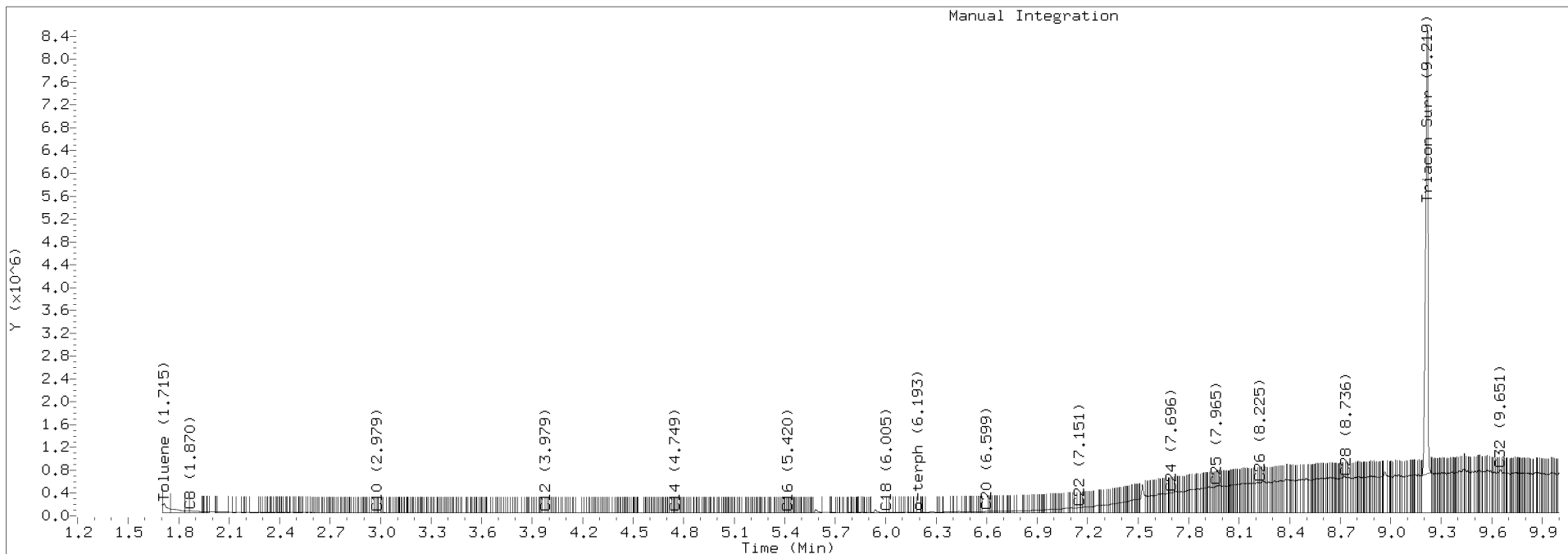
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2523.D Injection: 26-NOV-2020 01:59

Lab ID:SEQ-CCV2





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2537.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0402</u>	Injection Date:	<u>11/26/20</u>
Lab Sample ID:	<u>SIK0402-CCV3</u>	Injection Time:	<u>06:41</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	485	159336.7	154531.5		-3.0	+/-15
o-Terphenyl	A	90.000	85.8	204701.9	195160.4		-4.7	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201125,b\420K2537.D
Date: 26-NOV-2020 06:41

Client ID:

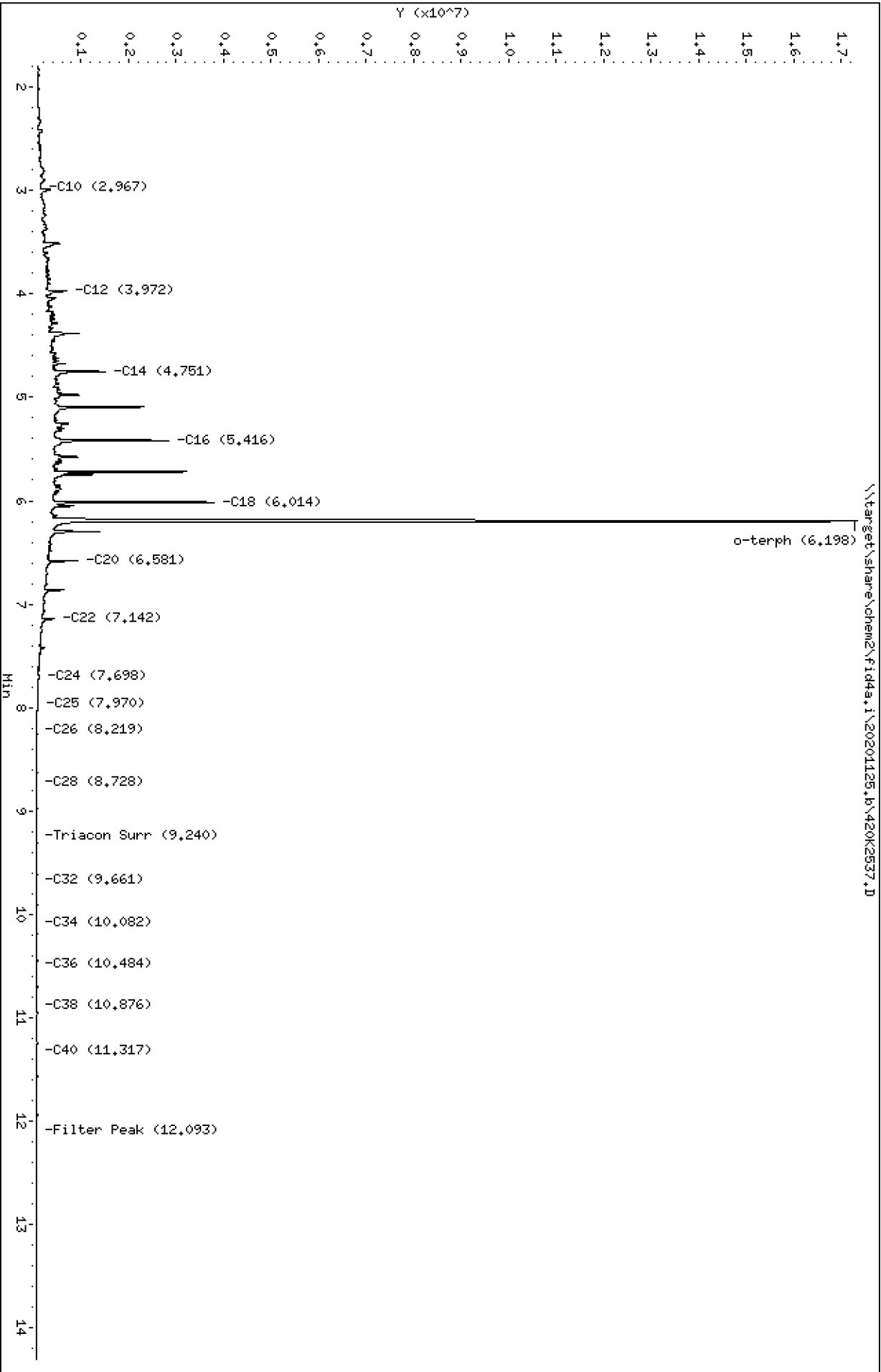
Sample Info: SEQ-CCV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2537.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV3
Client ID:
Injection: 26-NOV-2020 06:41
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

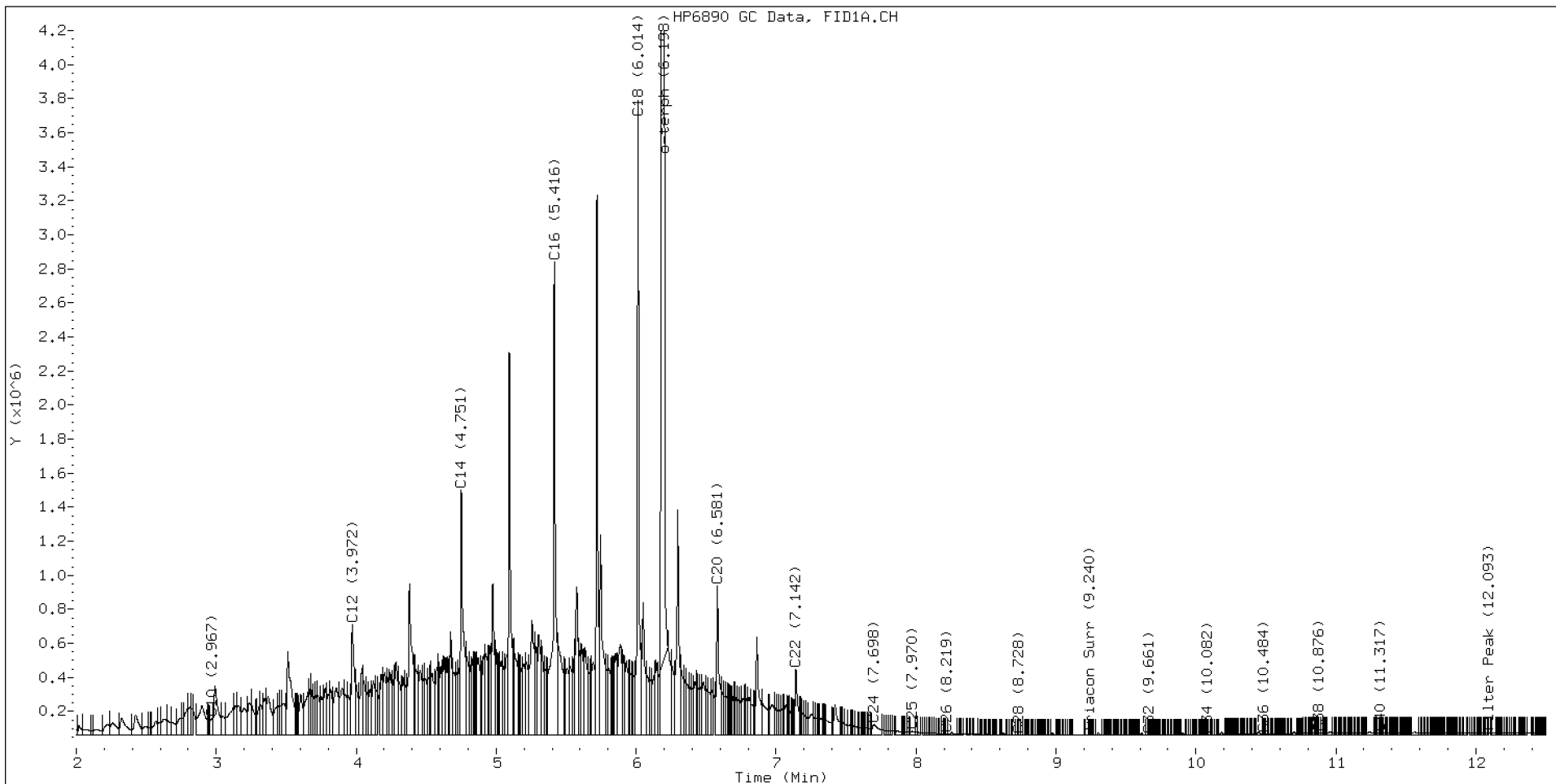
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.888	0.010	52725	102086	WATPHD	(C12-C24)	77265751	484.9
C10	2.967	-0.009	96281	118953	WATPHM	(C24-C38)	975595	9.6
C12	3.972	0.003	650480	977890	AK102	(C10-C25)	90086558	460.8
C14	4.751	-0.001	1440132	1953889	AK103	(C25-C36)	577930	7.9
C16	5.416	-0.003	2779764	3401477	OR.DIES	(C10-C28)	90408768	461.3
C18	6.014	-0.003	3726756	3196507				
C20	6.581	-0.006	877877	1134641	JET-A	(C10-C18)	69664631	420.0
C22	7.142	-0.007	386580	513902				
C24	7.698	0.002	62832	194222				
C25	7.970	0.006	21961	42849				
C26	8.219	-0.007	7487	4797				
C28	8.728	-0.001	1458	496				
C32	9.661	0.003	936	316				
C34	10.082	0.002	2848	834				
Filter Peak	12.093	-0.000	13292	2648	BUNKERC	(C10-C38)	90882536	2302.2
C36	10.484	0.001	6447	2244				
C38	10.876	0.003	10663	3707				
C40	11.317	0.002	13069	1957				
o-terph	6.198	-0.003	16829879	17564441				
Triacon Surr	9.240	0.008	354	135	NAS DIES	(C10-C24)	89906941	460.7

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17564441	85.8 M
Triacontane	135	0.0

M Indicates the peak was manually integrated

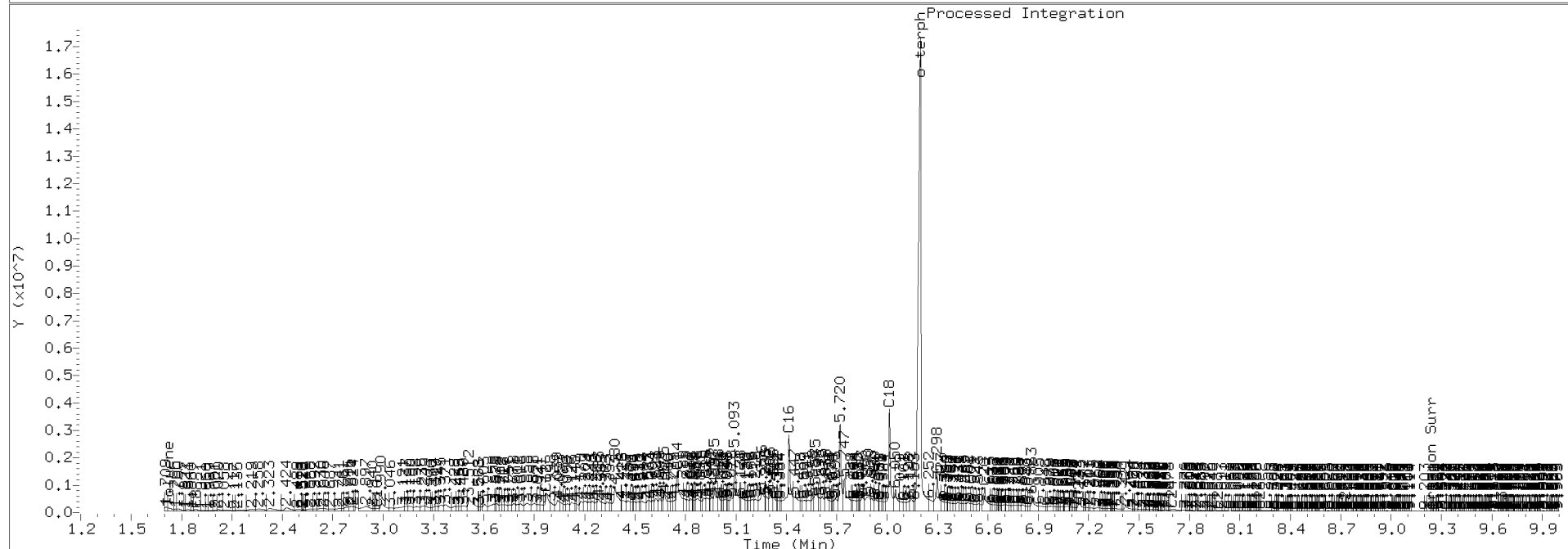
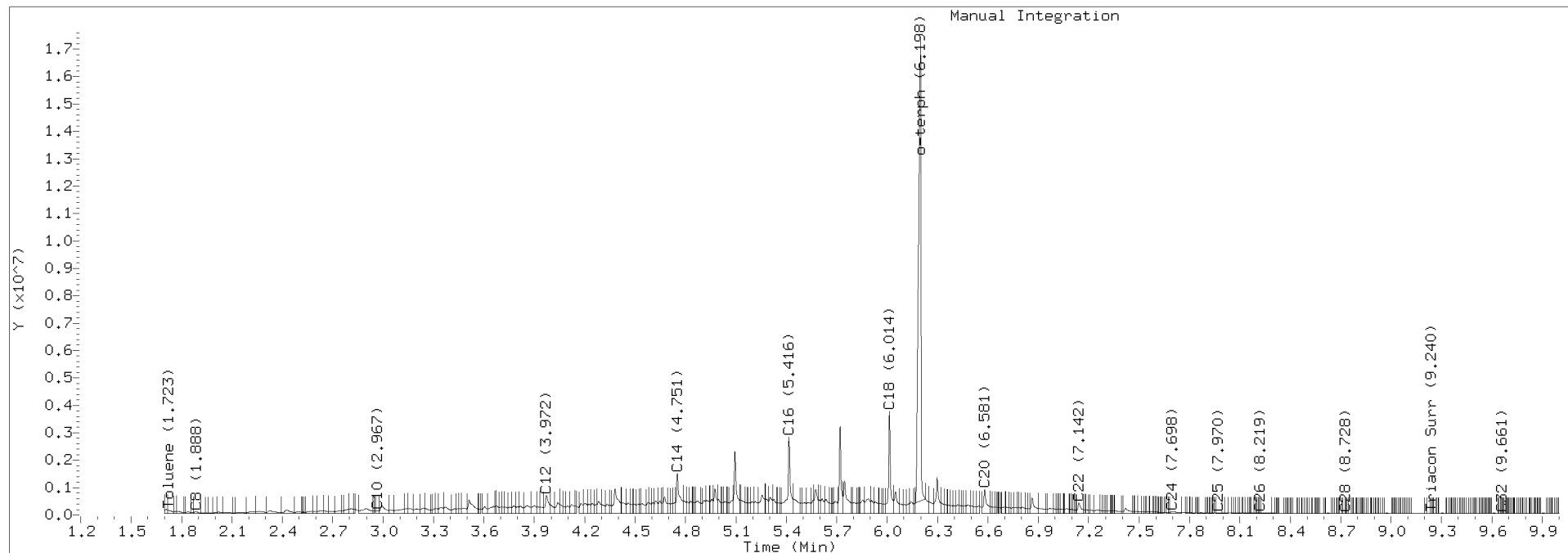
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2537.D Injection: 26-NOV-2020 06:41

Lab ID:SEQ-CCV3



Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2538.D
Date: 26-NOV-2020 07:02

Client ID:

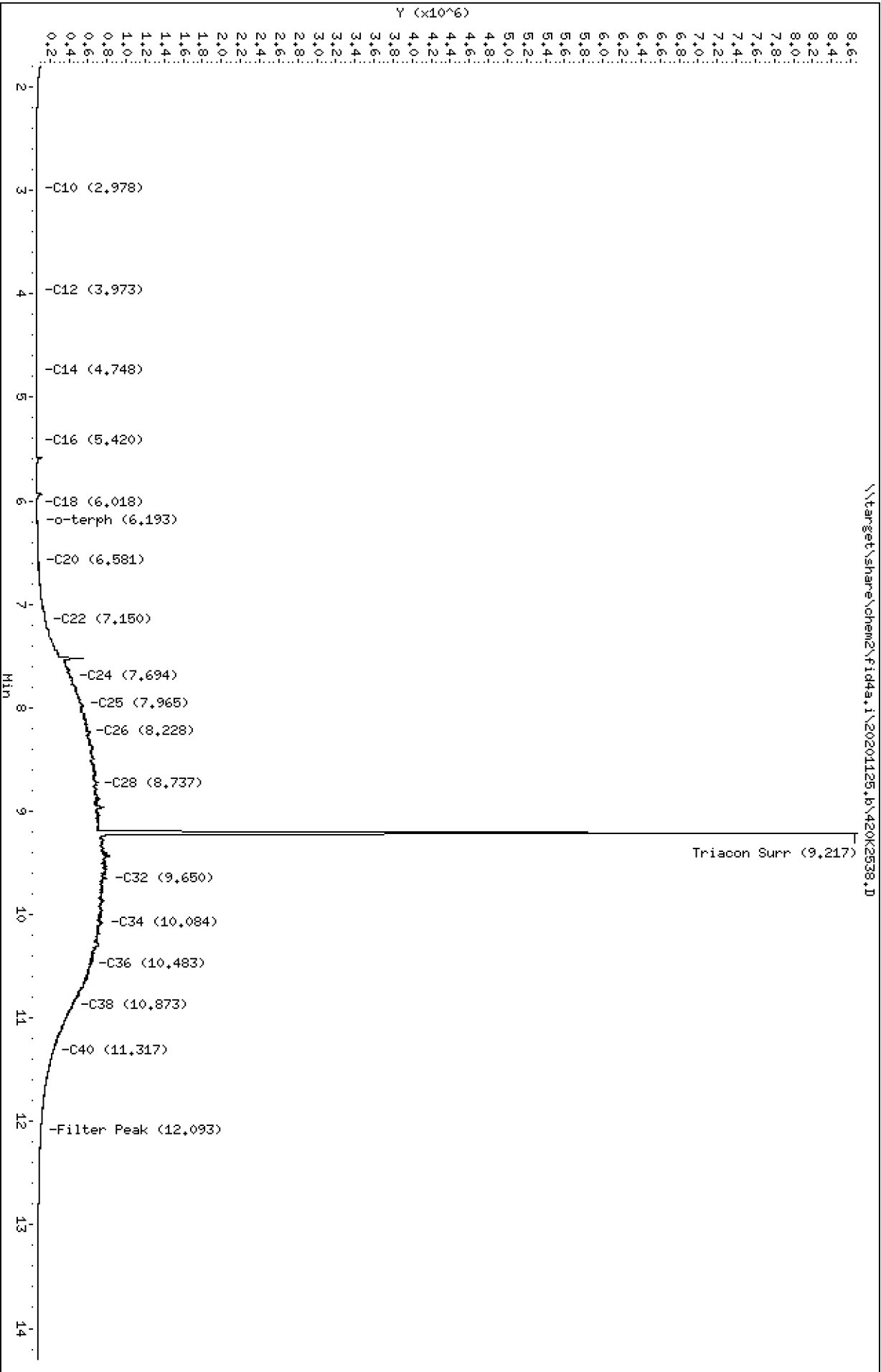
Sample Info: SEQ-CCV4

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2538.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV4
Client ID:
Injection: 26-NOV-2020 07:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

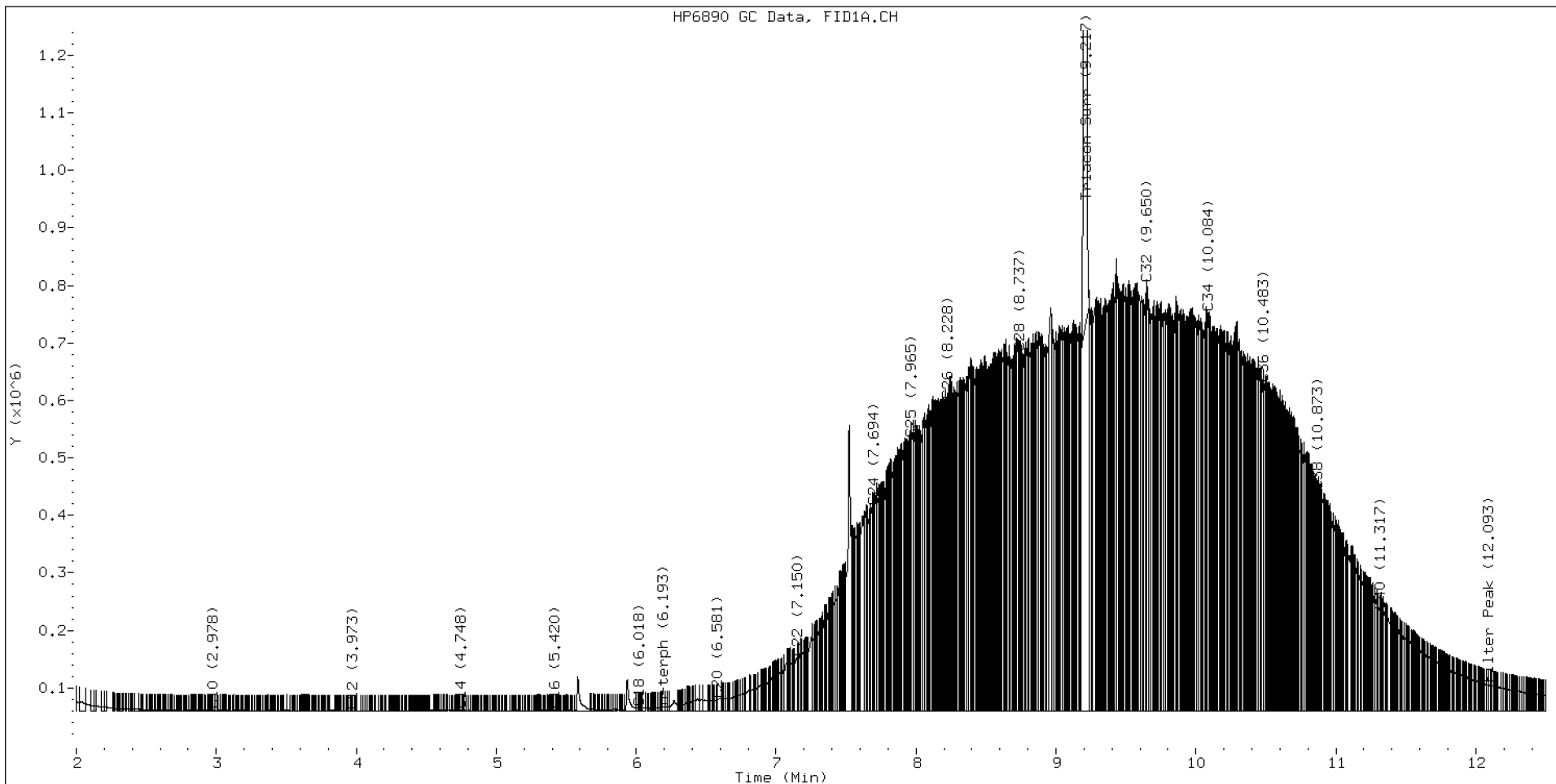
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.874	-0.003	32504	110059	WATPHD	(C12-C24)	10365676	65.1
C10	2.978	0.002	1176	1118	WATPHM	(C24-C38)	111915434	1106.3
C12	3.973	0.004	343	127	AK102	(C10-C25)	14398449	73.7
C14	4.748	-0.004	1071	720	AK103	(C25-C36)	97435412	1331.0
C16	5.420	0.002	1107	865	OR.DIES	(C10-C28)	42950873	219.1
C18	6.018	0.001	4841	2845				
C20	6.581	-0.006	19626	9427	JET-A	(C10-C18)	336522	2.0
C22	7.150	0.002	92419	120146				
C24	7.694	-0.003	355741	88581				
C25	7.965	0.001	473991	141745				
C26	8.228	0.002	540100	239779				
C28	8.737	0.007	623005	278863				
C32	9.650	-0.008	742392	613995				
C34	10.084	0.004	692609	678093				
Filter Peak	12.093	0.001	45884	33724	BUNKERC	(C10-C38)	122333274	3098.8
C36	10.483	-0.001	568738	197183				
C38	10.873	-0.000	381791	189631				
C40	11.317	0.002	174796	69331				
o-terph	6.193	-0.009	7490	11571				
Triacon Surr	9.217	-0.015	7930184	7978988	NAS DIES	(C10-C24)	10417840	53.4

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	11571	0.1
Triacontane	7978988	53.8 M

M Indicates the peak was manually integrated

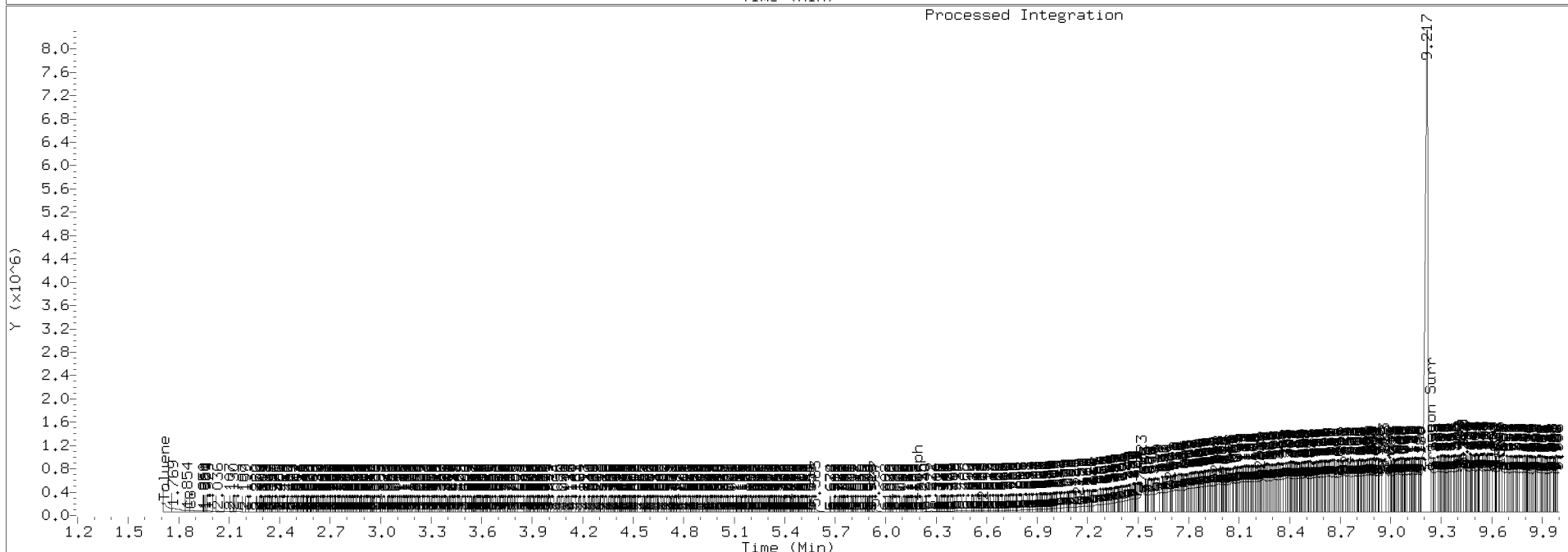
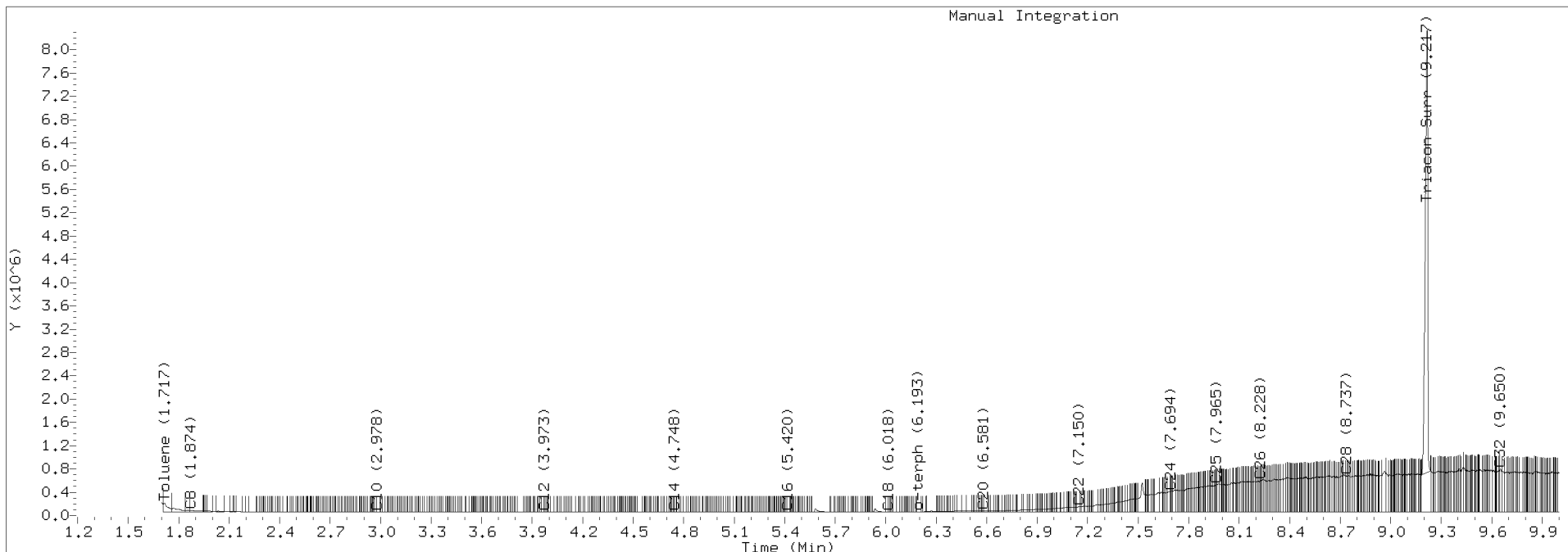
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2538.D Injection: 26-NOV-2020 07:02

Lab ID:SEQ-CCV4



Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2549.D

Date: 26-NOV-2020 10:44

Client ID:

Sample Info: SEQ-CV5

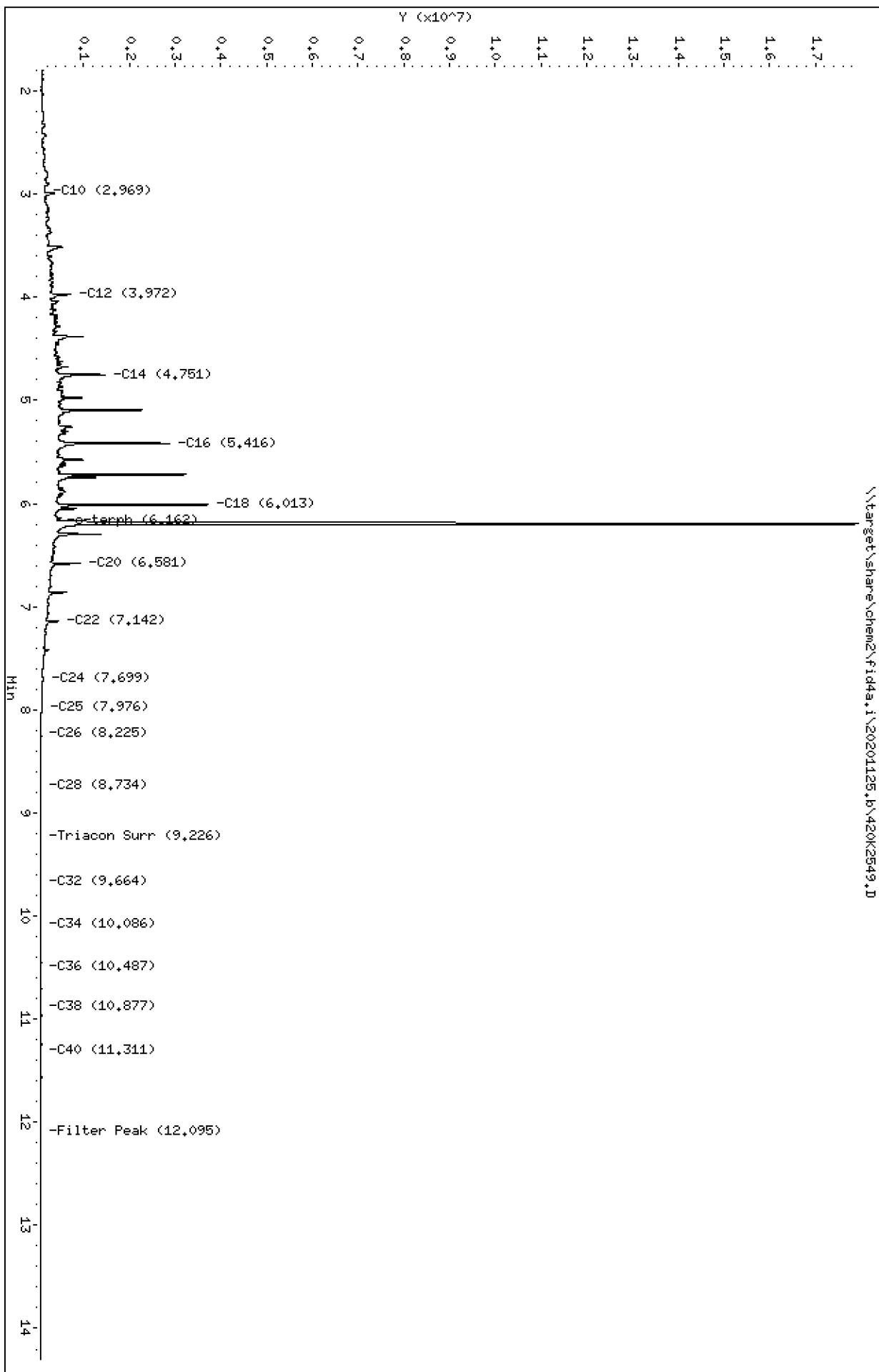
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2549.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV5
Client ID:
Injection: 26-NOV-2020 10:44
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

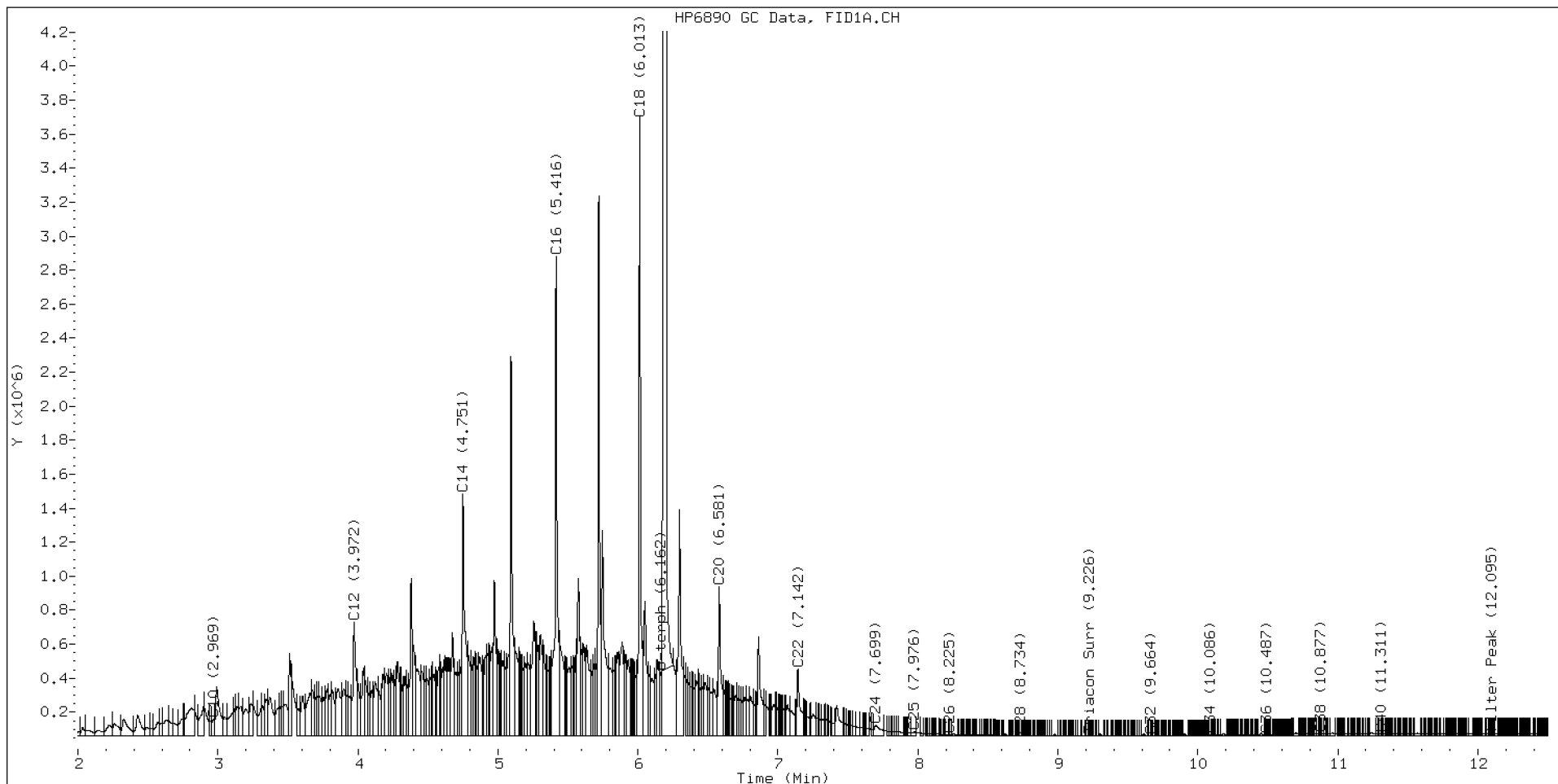
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.867	-0.010	33349	31156	WATPHD	(C12-C24)	77835246	488.5
C10	2.969	-0.007	95066	112083	WATPHM	(C24-C38)	955877	9.4
C12	3.972	0.004	667890	1004258	AK102	(C10-C25)	90005618	460.4
C14	4.751	-0.001	1422159	1845641	AK103	(C25-C36)	542561	7.4
C16	5.416	-0.003	2818199	3114515	OR.DIES	(C10-C28)	90305295	460.7
C18	6.013	-0.004	3645954	3257813				
C20	6.581	-0.006	873392	1138976	JET-A	(C10-C18)	69992971	422.0
C22	7.142	-0.006	392866	659340				
C24	7.699	0.002	62819	196145				
C25	7.976	0.011	22131	38194				
C26	8.225	-0.001	7217	1788				
C28	8.734	0.005	1510	1139				
C32	9.664	0.006	1128	272				
C34	10.086	0.005	3057	2396				
Filter Peak	12.095	0.002	13523	8064	BUNKERC	(C10-C38)	90775328	2299.4
C36	10.487	0.004	6957	2756				
C38	10.877	0.005	11269	5014				
C40	11.311	-0.004	13665	4776				
o-terph	6.199	-0.003	17482239	18313570				
Triacon Surr	9.226	-0.005	316	105	NAS DIES	(C10-C24)	89819451	460.3

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18313570	89.5 M
Triacontane	105	0.0

M Indicates the peak was manually integrated

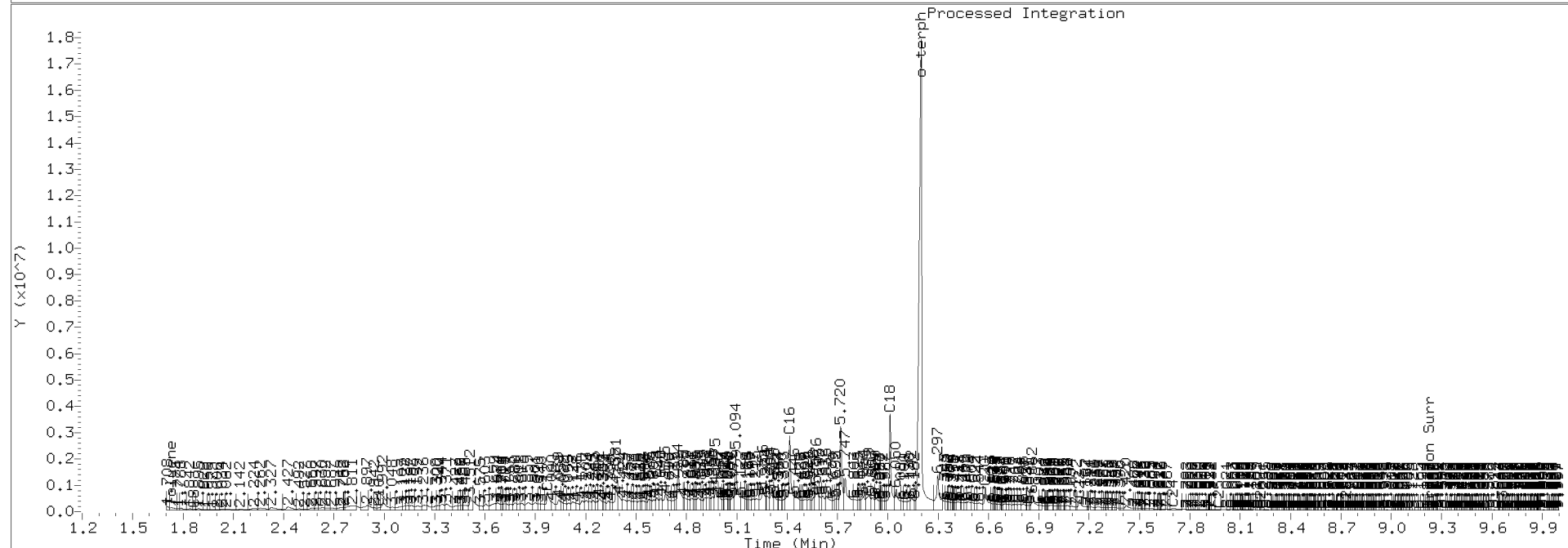
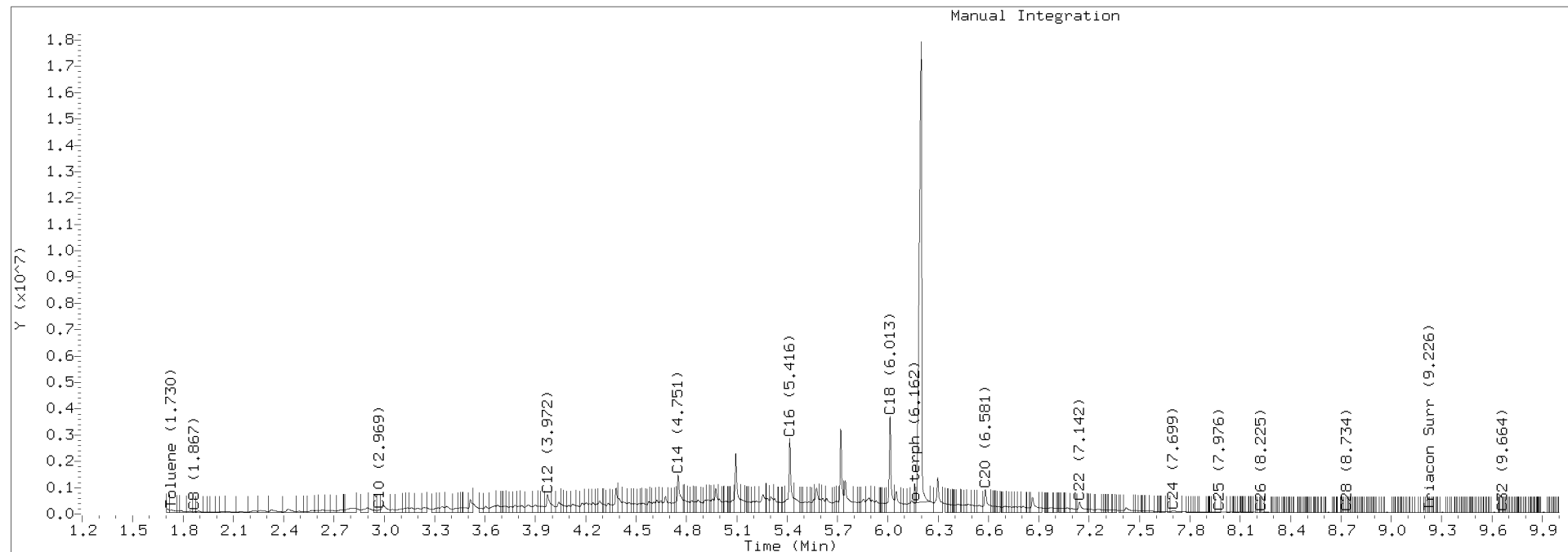
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2549.D Injection: 26-NOV-2020 10:44

Lab ID:SEQ-CCV5





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420K2550.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIK0402</u>	Injection Date: <u>11/26/20</u>
Lab Sample ID: <u>SIK0402-CCV6</u>	Injection Time: <u>11:04</u>
Sequence Name: <u>MOIL CCV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1110	101166	112092.5		10.8	+/-15

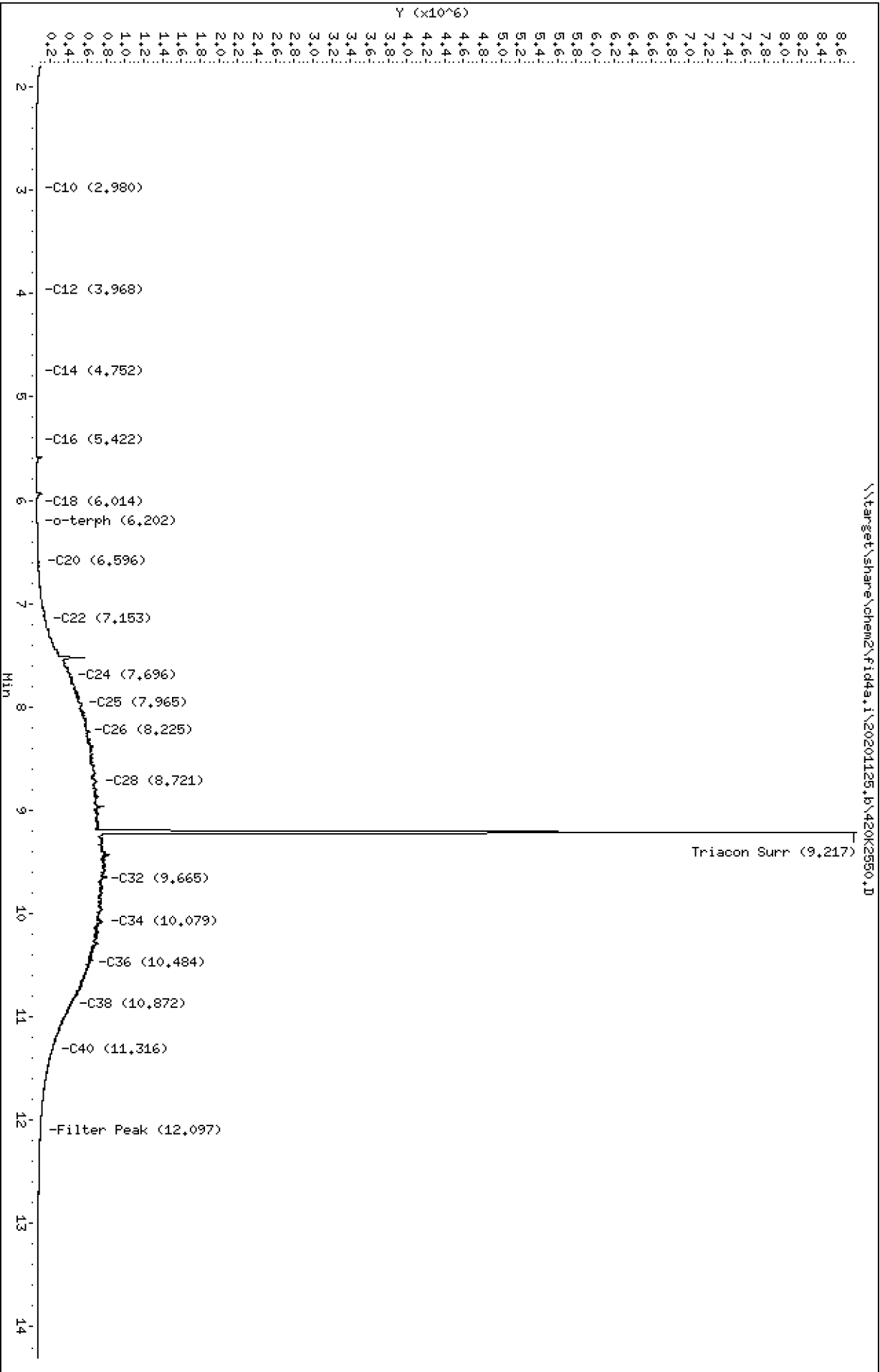
* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2550.D
Date: 26-NOV-2020 11:04
Client ID:
Sample Info: SEQ-CCW6

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2550.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV6
Client ID:
Injection: 26-NOV-2020 11:04
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

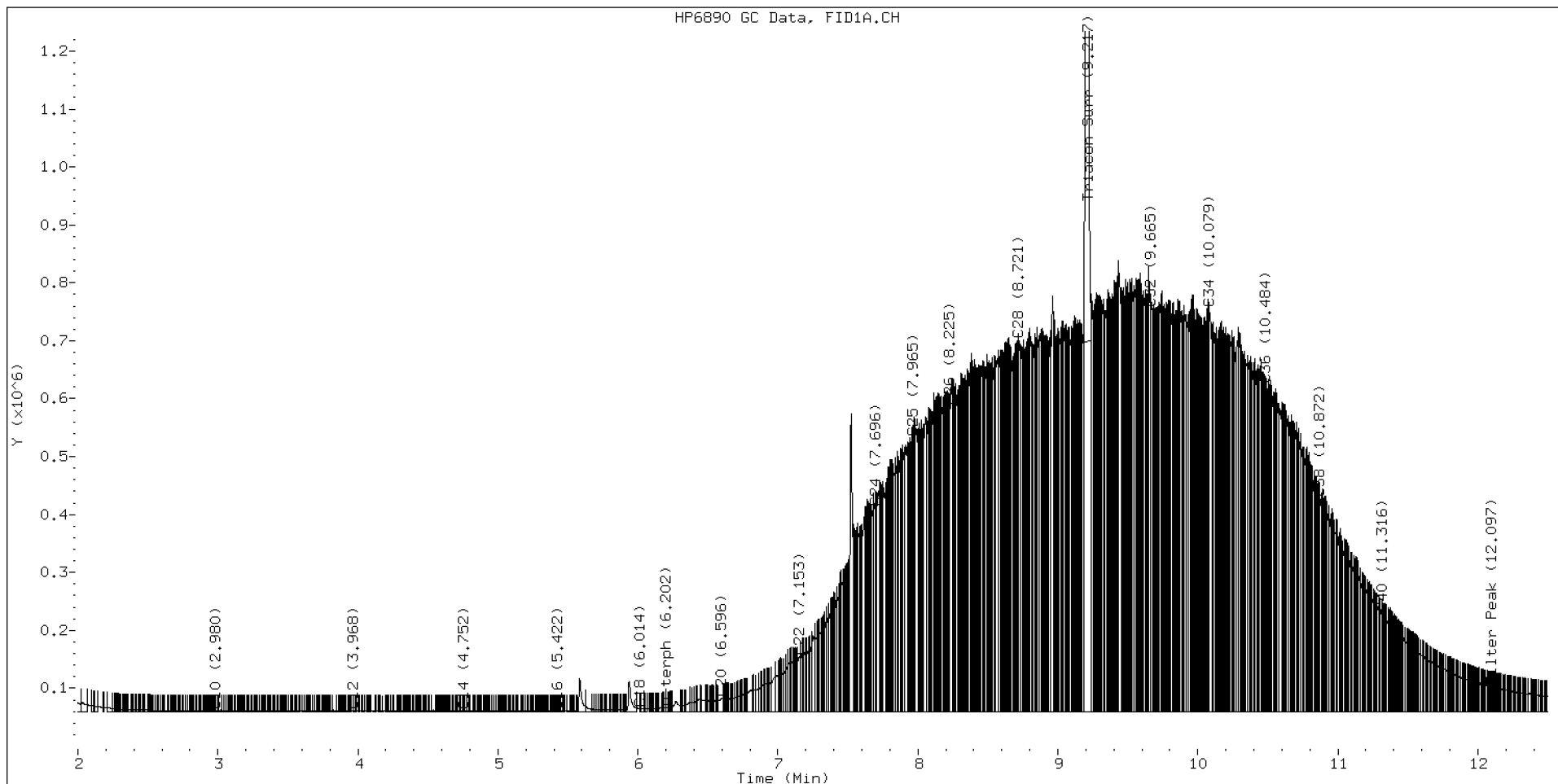
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.872	-0.005	31259	98864	WATPHD	(C12-C24)	10228625	64.2
C10	2.980	0.004	815	200	WATPHM	(C24-C38)	112092479	1108.0
C12	3.968	-0.000	440	253	AK102	(C10-C25)	14210120	72.7
C14	4.752	0.000	634	393	AK103	(C25-C36)	97891786	1337.2
C16	5.422	0.004	904	177	OR.DIES	(C10-C28)	42942521	219.1
C18	6.014	-0.003	4956	2647				
C20	6.596	0.010	22835	40572	JET-A	(C10-C18)	312382	1.9
C22	7.153	0.005	93866	134822				
C24	7.696	-0.000	351593	69996				
C25	7.965	0.000	472523	187250				
C26	8.225	-0.001	526045	261865				
C28	8.721	-0.009	641181	628165				
C32	9.665	0.007	695581	104230				
C34	10.079	-0.001	695345	379101				
Filter Peak	12.097	0.005	41999	20909	BUNKERC	(C10-C38)	122367591	3099.7
C36	10.484	0.000	564492	278456				
C38	10.872	-0.000	368050	269034				
C40	11.316	0.001	169319	116156				
o-terph	6.202	0.000	7128	5237				
Triacon Surr	9.217	-0.015	8082717	8059007	NAS DIES	(C10-C24)	10275113	52.7

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	5237	0.0
Triacontane	8059007	54.3 M

M Indicates the peak was manually integrated

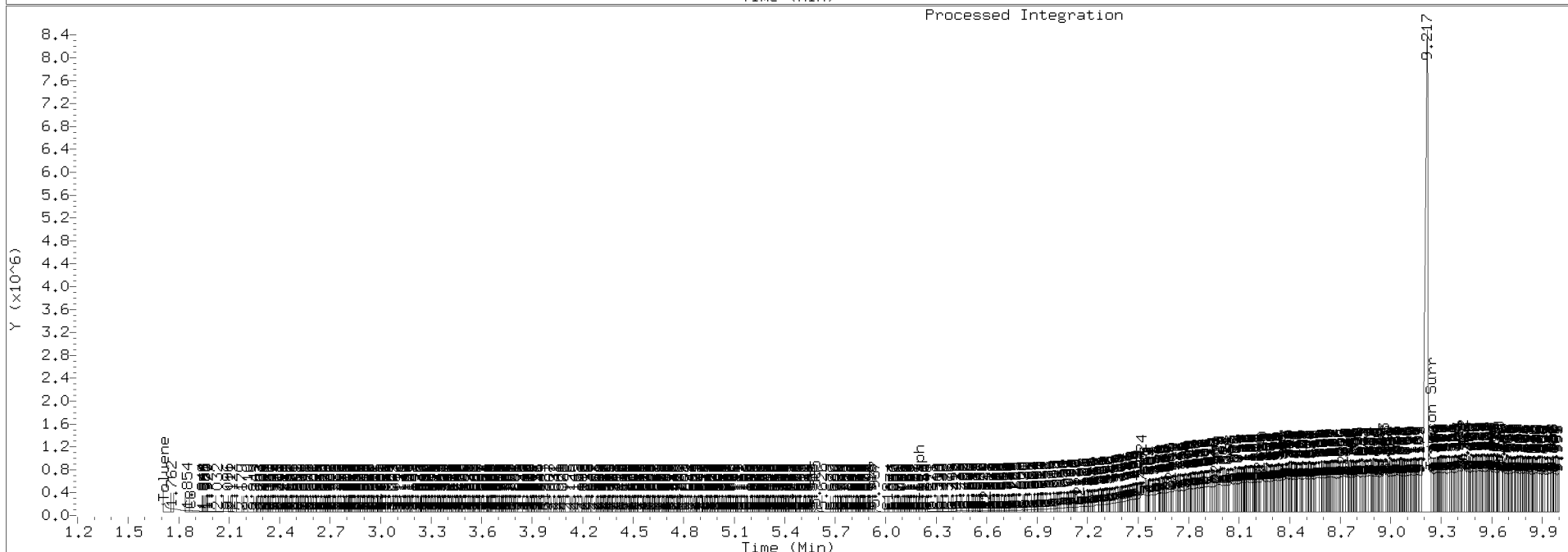
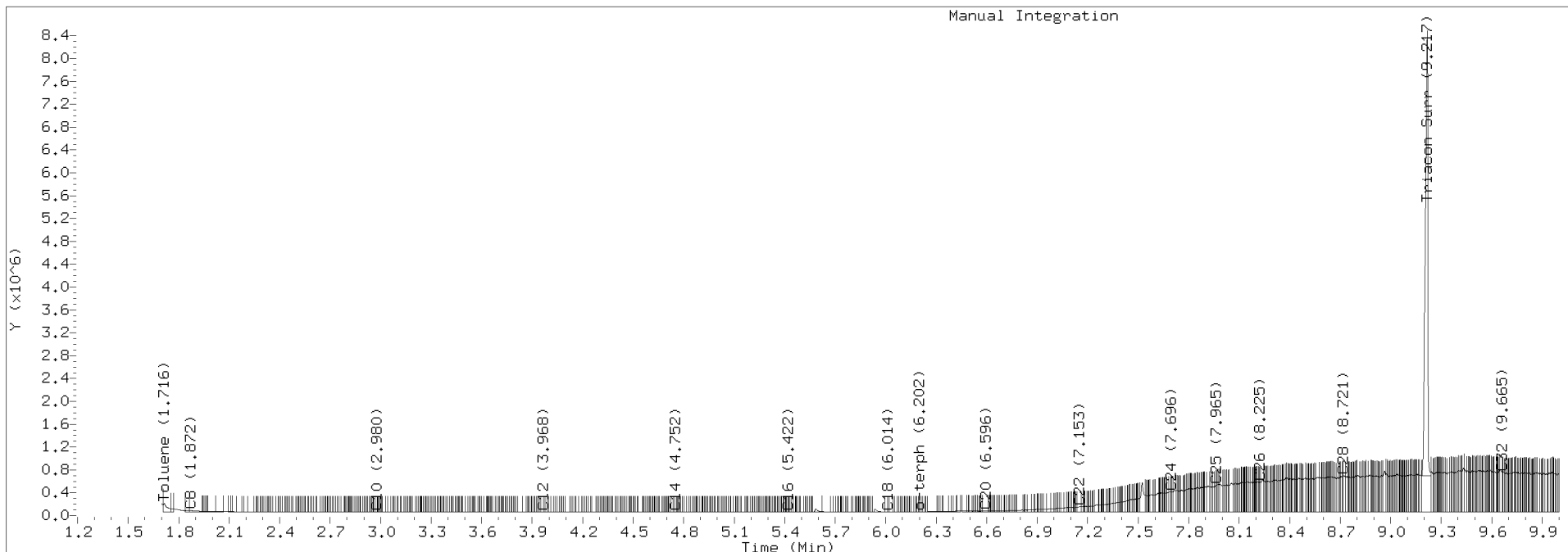
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2550.D Injection: 26-NOV-2020 11:04

Lab ID:SEQ-CCV6



Data File: \\target\share\chem2\fid4a,1\20201125,8\420K2562.D
Date: 26-NOV-2020 15:06

Client ID:

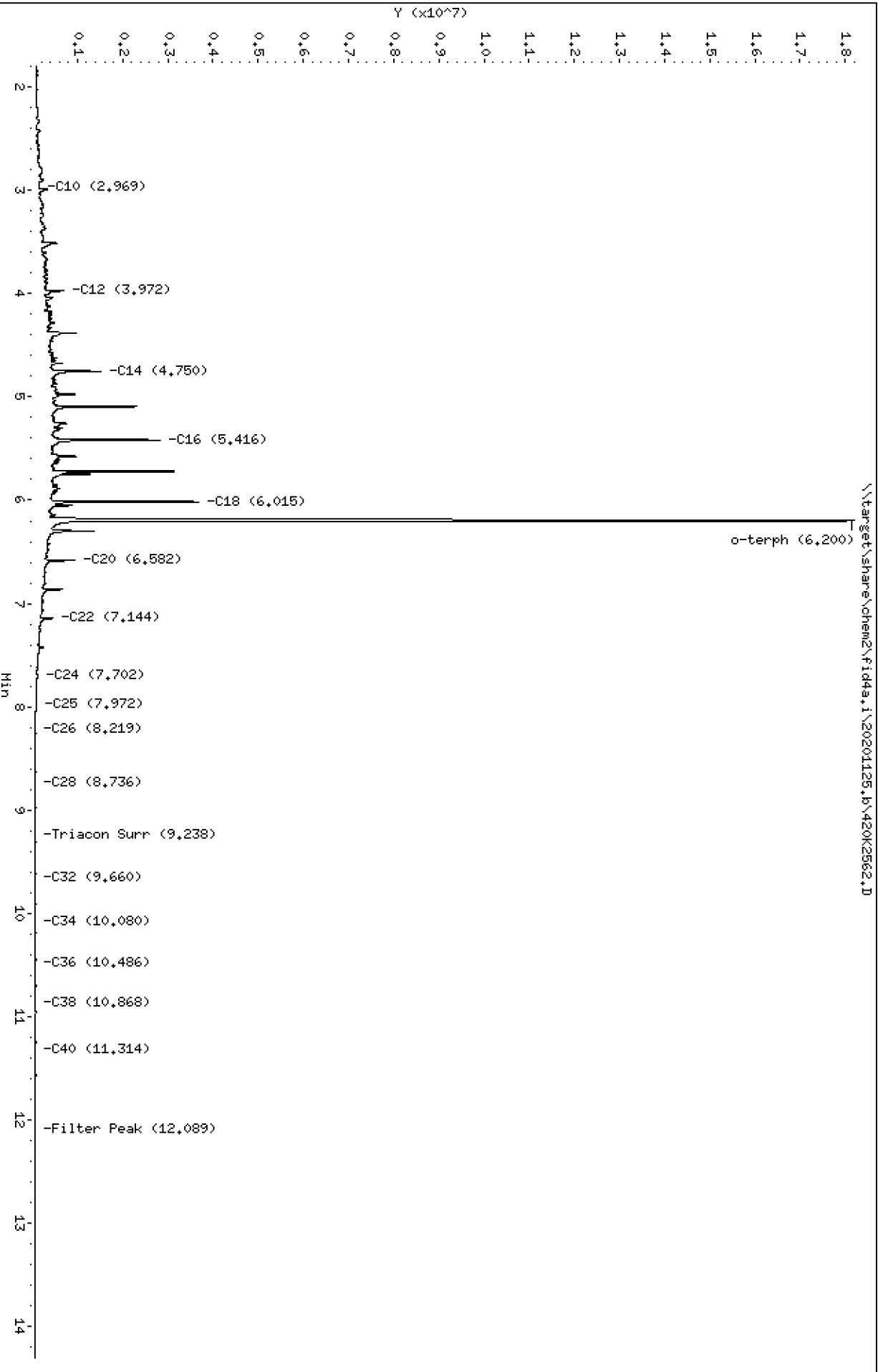
Sample Info: SEQ-CCV7

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2562.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV7
Client ID:
Injection: 26-NOV-2020 15:06
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

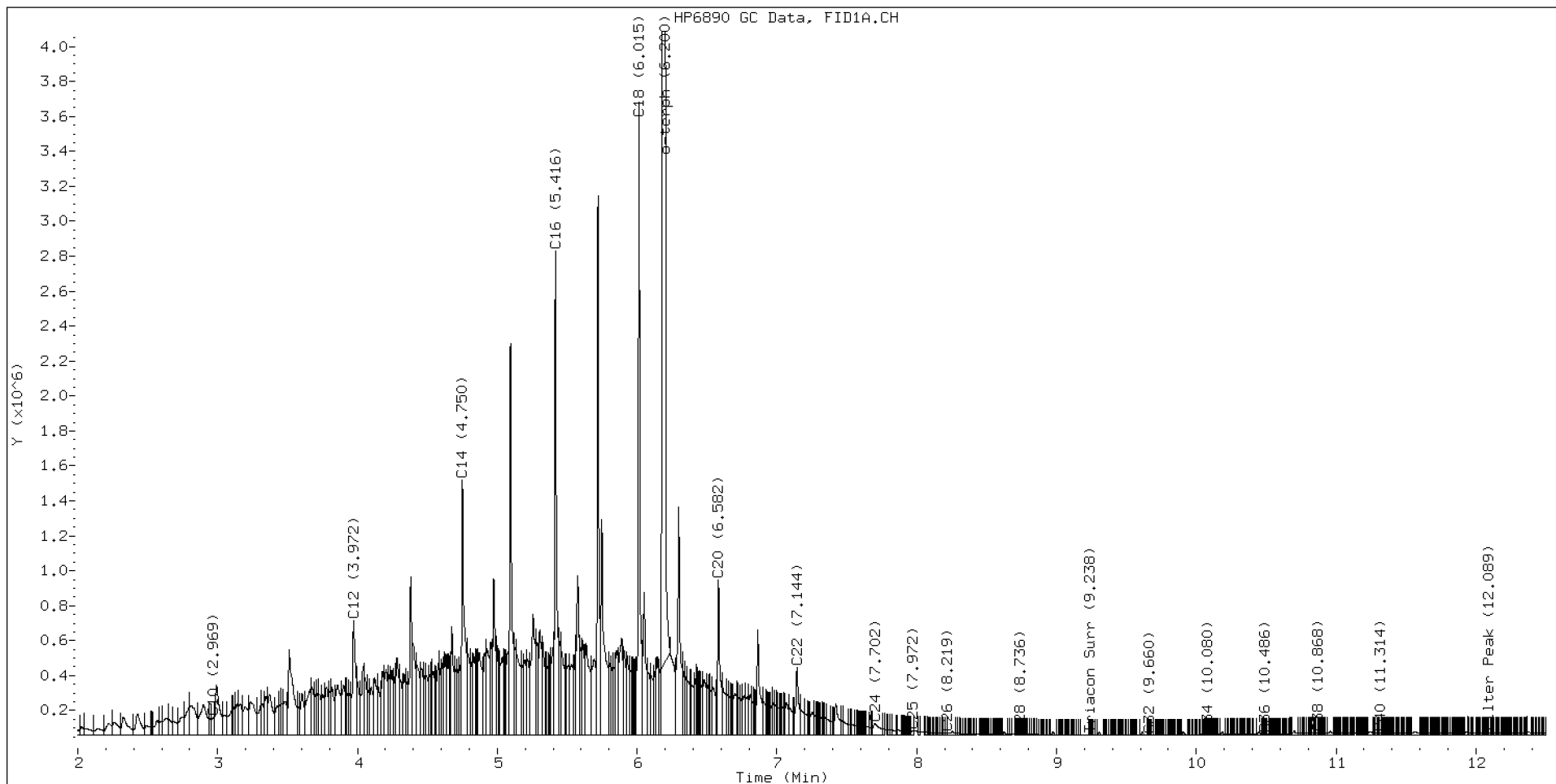
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.865	-0.013	36397	33198	WATPHD	(C12-C24)	79231397	497.3
C10	2.969	-0.007	97890	107456	WATPHM	(C24-C38)	999816	9.9
C12	3.972	0.004	652528	1006494	AK102	(C10-C25)	92335008	472.3
C14	4.750	-0.001	1456020	1889797	AK103	(C25-C36)	579455	7.9
C16	5.416	-0.002	2769651	2614612	OR.DIES	(C10-C28)	92687598	472.9
C18	6.015	-0.002	3618652	3199489				
C20	6.582	-0.005	883633	1044543	JET-A	(C10-C18)	71123711	428.8
C22	7.144	-0.005	385893	527764				
C24	7.702	0.005	62834	200945				
C25	7.972	0.008	23794	28872				
C26	8.219	-0.007	8871	2638				
C28	8.736	0.007	2406	810				
C32	9.660	0.002	646	238				
C34	10.080	-0.001	1848	362				
Filter Peak	12.089	-0.004	12896	3216	BUNKERC	(C10-C38)	93108208	2358.5
C36	10.486	0.003	5458	2423				
C38	10.868	-0.005	9926	4443				
C40	11.314	-0.001	12183	7307				
o-terph	6.200	-0.002	17723798	18016759				
Triacon Surr	9.238	0.006	533	259	NAS DIES	(C10-C24)	92108392	472.0

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18016759	88.0
Triacontane	259	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20201125_b\420K2563.D
Date: 26-NOV-2020 15:27

Client ID:

Sample Info: SEQ-OCV8

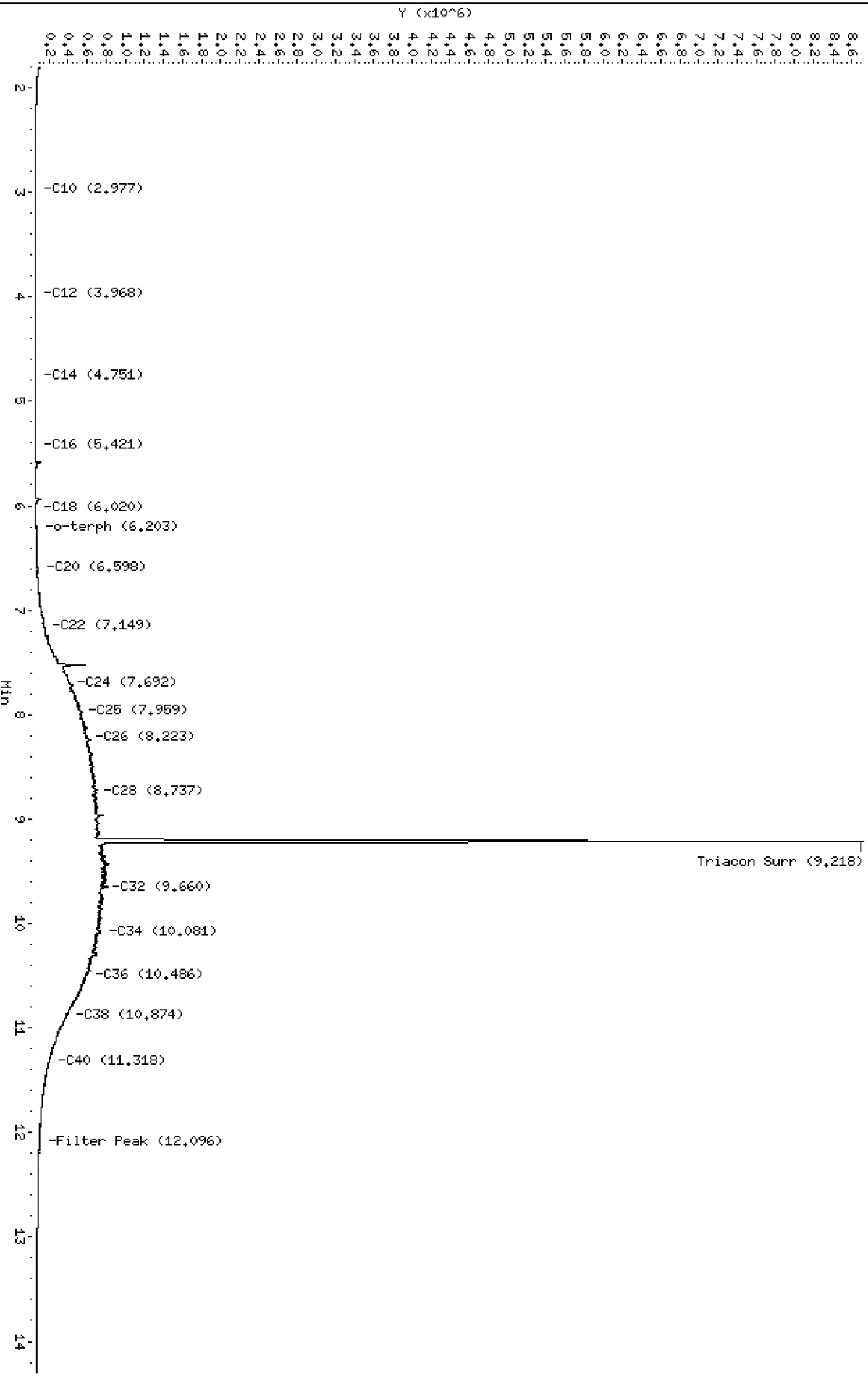
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201125_b\420K2563.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201125.b/420K2563.D
Method: 20201125.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV8
Client ID:
Injection: 26-NOV-2020 15:27
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

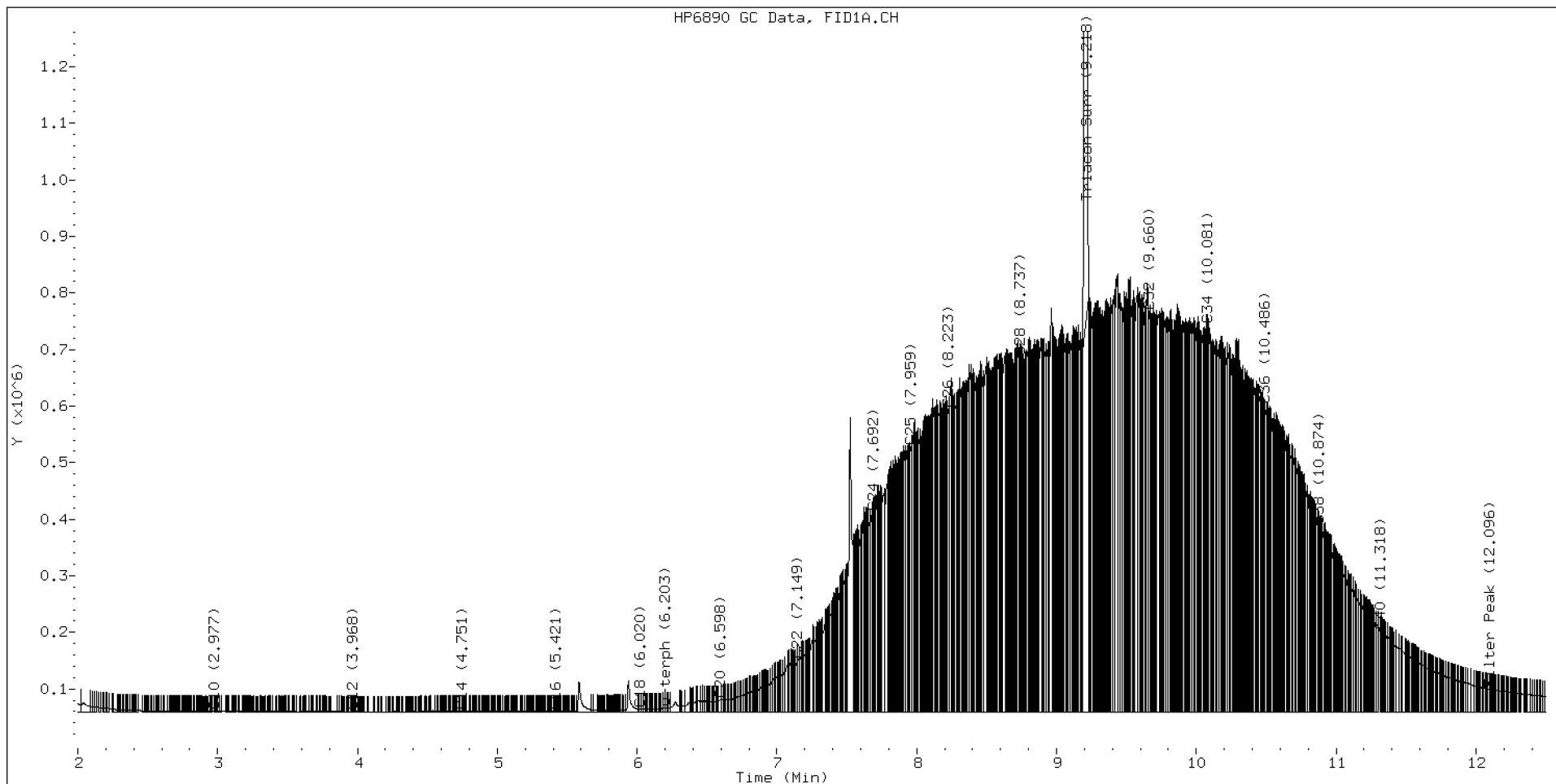
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.879	0.002	28598	94728	WATPHD	(C12-C24)	10198336	64.0
C10	2.977	0.001	651	335	WATPHM	(C24-C38)	111061166	1097.8
C12	3.968	-0.001	482	196	AK102	(C10-C25)	14249324	72.9
C14	4.751	-0.001	844	482	AK103	(C25-C36)	97272786	1328.7
C16	5.421	0.002	982	189	OR.DIES	(C10-C28)	43050680	219.6
C18	6.020	0.003	4900	2614				
C20	6.598	0.011	22191	33237	JET-A	(C10-C18)	310401	1.9
C22	7.149	0.000	91145	78141				
C24	7.692	-0.005	352384	105235				
C25	7.959	-0.006	468450	345924				
C26	8.223	-0.003	534211	344811				
C28	8.737	0.008	626928	280147				
C32	9.660	0.003	708384	384799				
C34	10.081	0.001	683878	437980				
Filter Peak	12.096	0.003	40561	10089	BUNKERC	(C10-C38)	121464604	3076.8
C36	10.486	0.003	543139	266346				
C38	10.874	0.001	328103	65468				
C40	11.318	0.003	143346	85032				
o-terph	6.203	0.001	7507	5474				
Triacon Surr	9.218	-0.014	7962853	7972094	NAS DIES	(C10-C24)	10234001	52.4

Range Times: NW Diesel(3.969 - 7.697) AK102(2.98 - 7.96) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	5474	0.0
Triacontane	7972094	53.7 M

M Indicates the peak was manually integrated

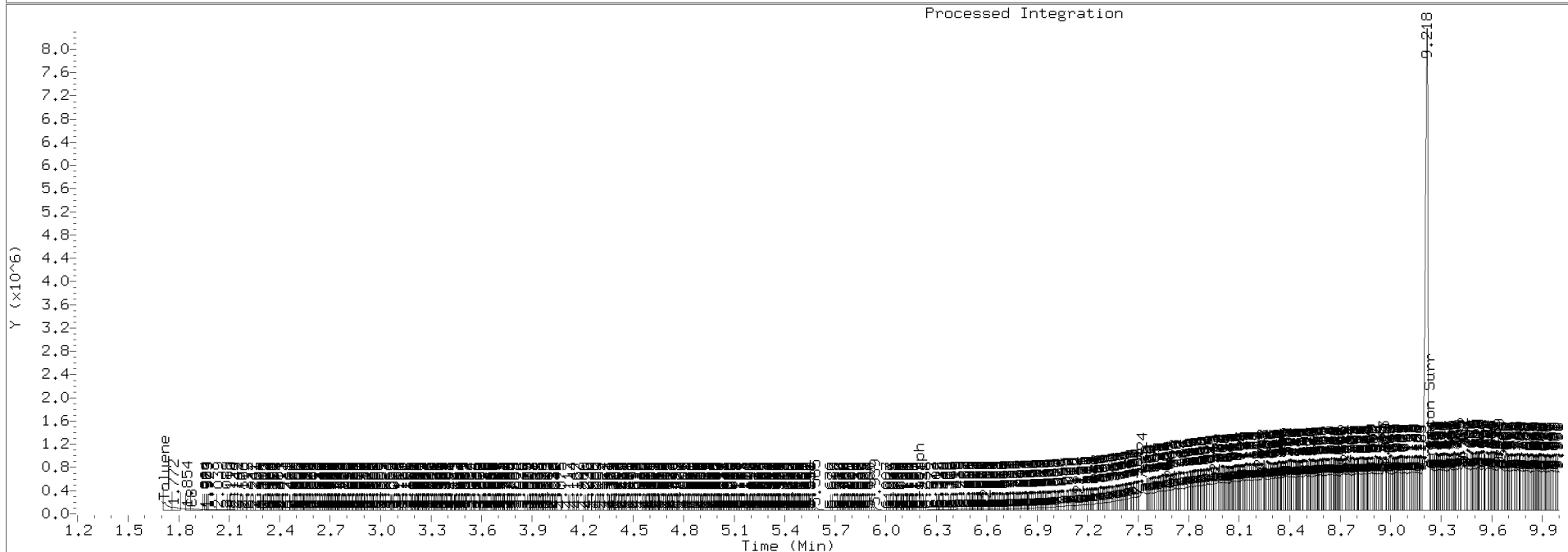
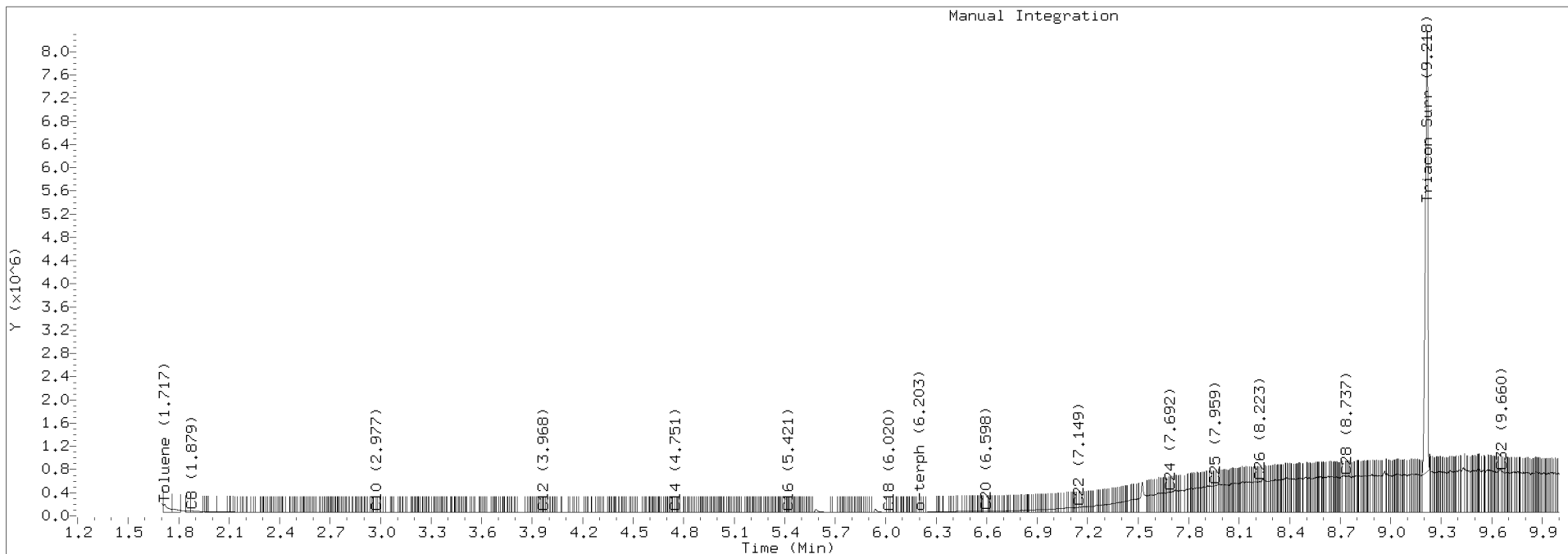
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201125.b/420K2563.D Injection: 26-NOV-2020 15:27

Lab ID:SEQ-CCV8

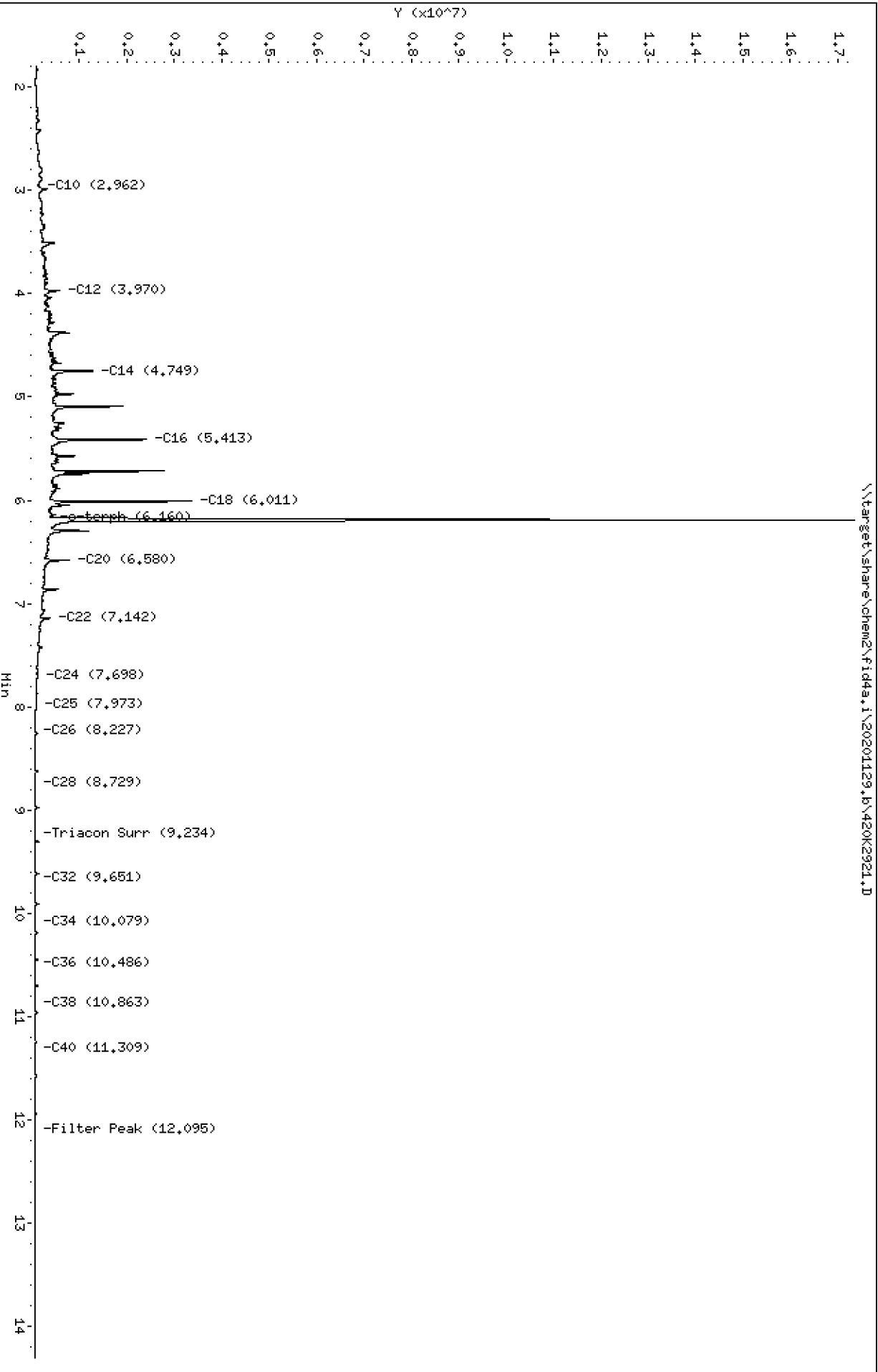


Data File: \\target\share\chem2\fid4a,1\20201129,b\420K2921.D
Date: 30-NOV-2020 00:27
Client ID:
Sample Info: SEQ-CCV1

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2921.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 30-NOV-2020 00:27
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

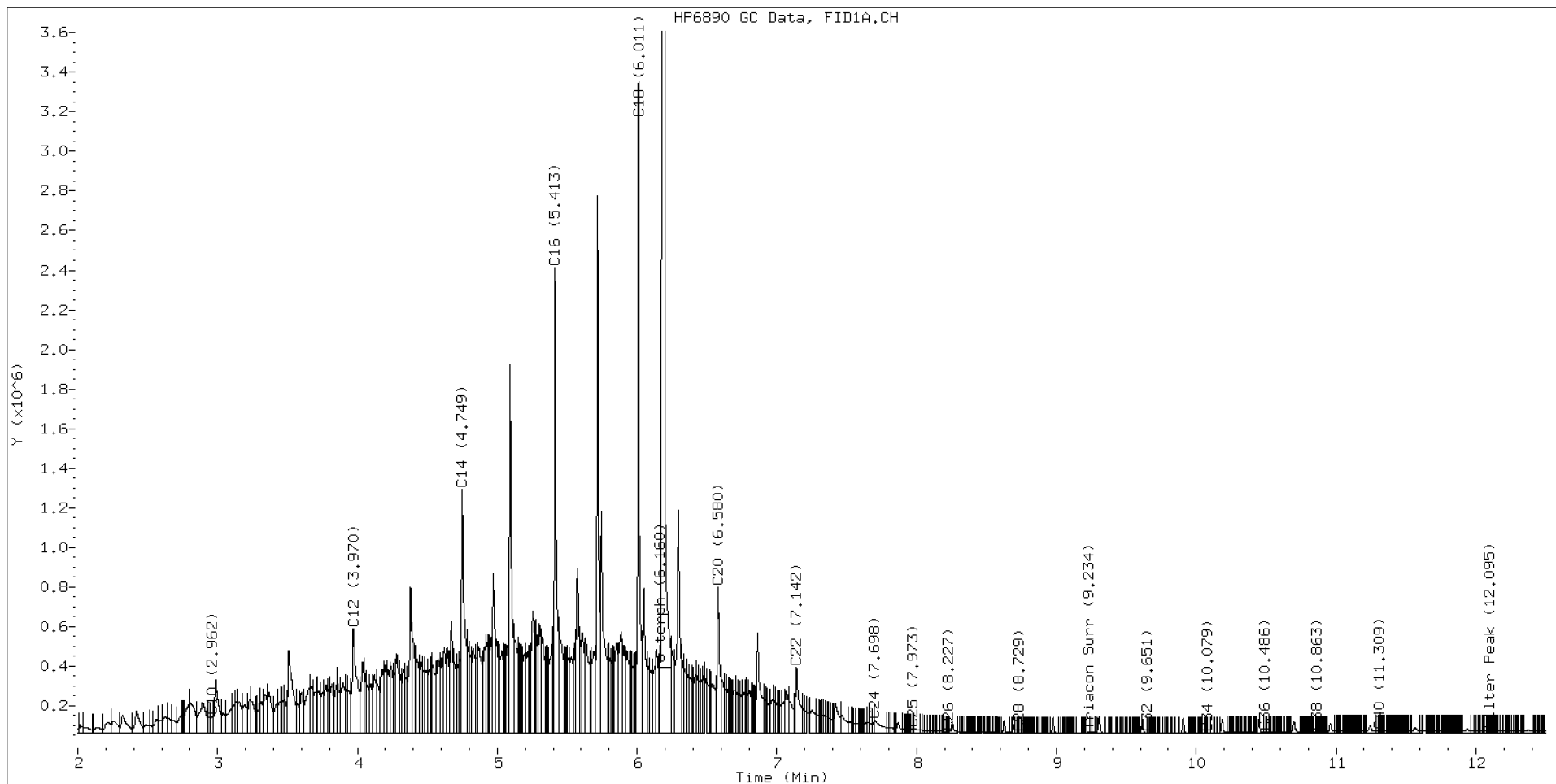
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.884	0.013	42732	78842	WATPHD	(C12-C24)	73188080	459.3
C10	2.962	-0.007	83680	95441	WATPHM	(C24-C38)	1315151	13.0
C12	3.970	0.006	527200	1228780	AK102	(C10-C25)	84939647	434.5
C14	4.749	0.001	1229802	1719809	AK103	(C25-C36)	924801	12.6
C16	5.413	-0.001	2348486	2372057	OR.DIES	(C10-C28)	85359444	435.5
C18	6.011	-0.001	3293816	2904071				
C20	6.580	-0.003	738126	972189	JET-A	(C10-C18)	65750625	396.4
C22	7.142	-0.002	332840	607899				
C24	7.698	0.005	61387	50076				
C25	7.973	0.012	20683	20133				
C26	8.227	0.004	7327	3248				
C28	8.729	0.002	1695	409				
C32	9.651	-0.005	1155	753				
C34	10.079	0.000	1776	673				
Filter Peak	12.095	-0.003	8637	1726	BUNKERC	(C10-C38)	86055846	2179.9
C36	10.486	0.004	5097	3520				
C38	10.863	-0.009	7622	4178				
C40	11.309	-0.005	9092	4983				
o-terph	6.195	-0.003	16954351	16911058				
Triacon Surr	9.234	0.004	5205	5348	NAS DIES	(C10-C24)	84740695	434.2

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	16911058	82.6 M
Triacontane	5348	0.0

M Indicates the peak was manually integrated

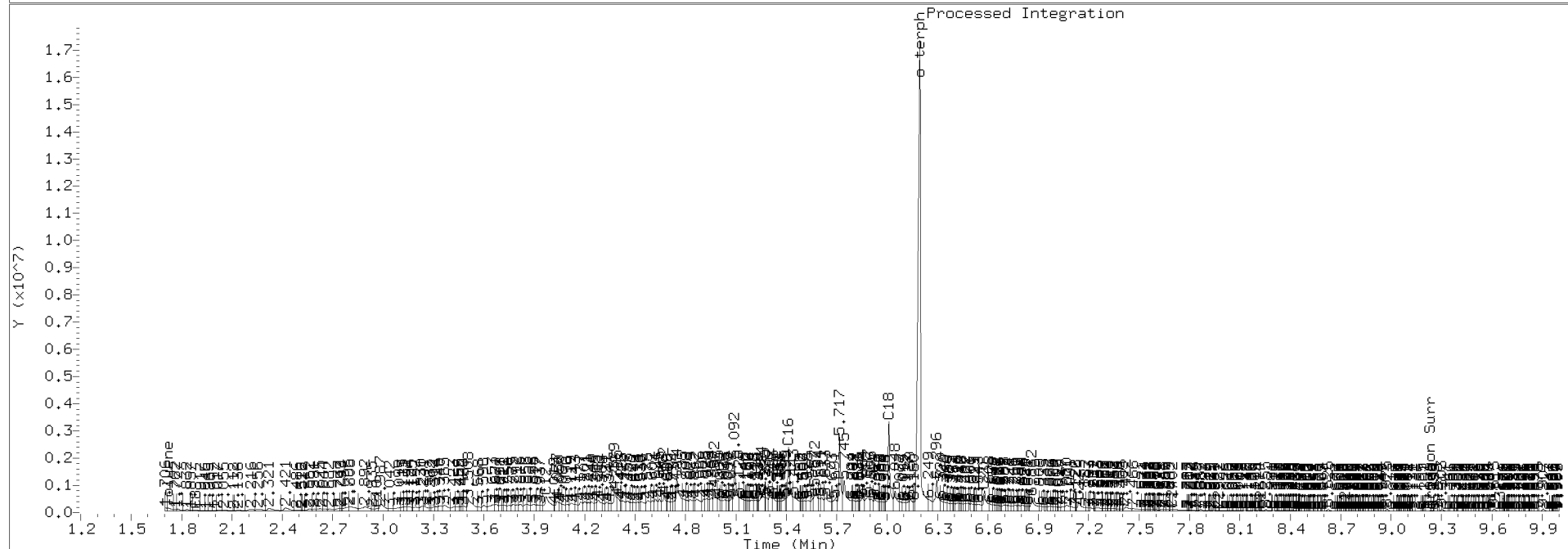
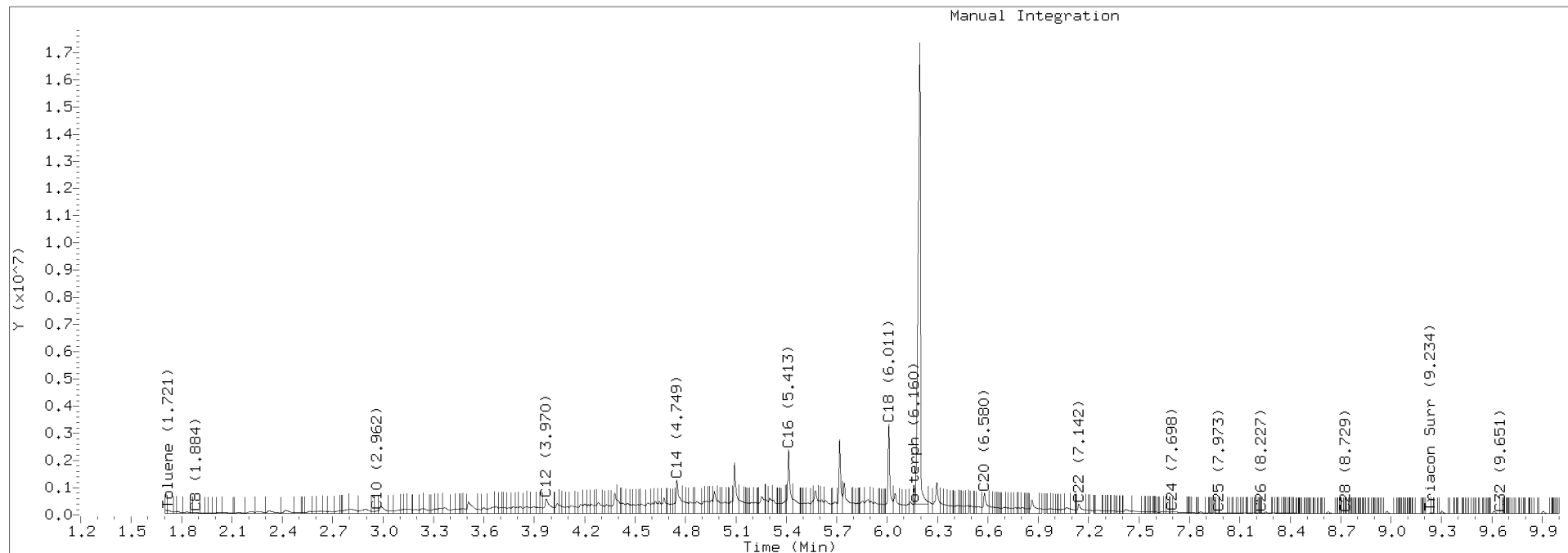
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2921.D Injection: 30-NOV-2020 00:27

Lab ID:SEQ-CCV1





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2922.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0411</u>	Injection Date:	<u>11/30/20</u>
Lab Sample ID:	<u>SIK0411-CCV2</u>	Injection Time:	<u>00:47</u>
Sequence Name:	<u>MOIL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1060	101166	107641.3		6.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201129,b\420K2922.D
Date : 30-NOV-2020 00:47

Client ID:

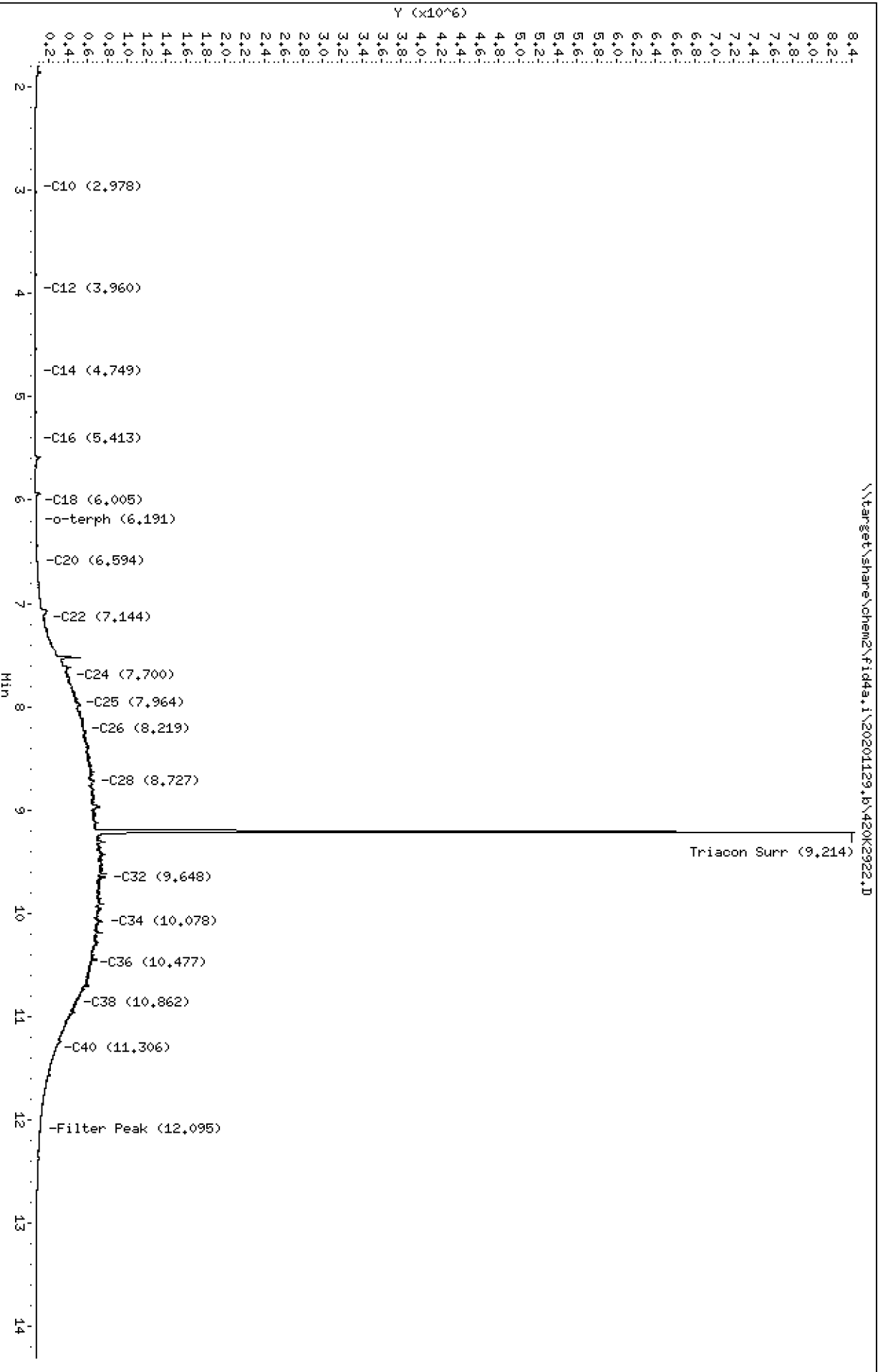
Sample Info: SEQ-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2922.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 30-NOV-2020 00:47
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

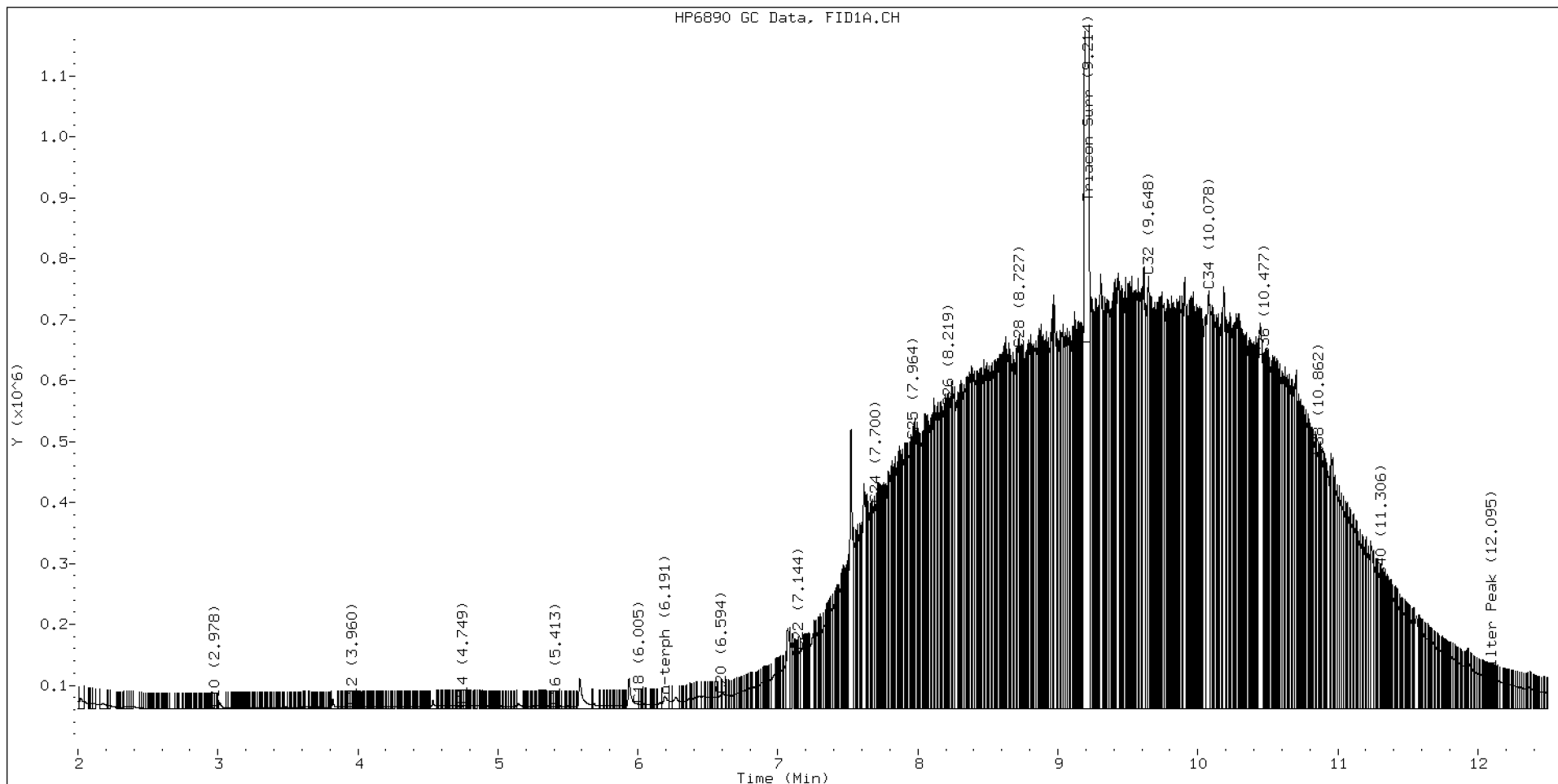
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.859	-0.012	50983	107057	WATPHD	(C12-C24)	10295676	64.6
C10	2.978	0.008	1422	1196	WATPHM	(C24-C38)	107641286	1064.0
C12	3.960	-0.004	3473	2218	AK102	(C10-C25)	14334362	73.3
C14	4.749	0.001	5061	3497	AK103	(C25-C36)	92529218	1263.9
C16	5.413	-0.001	4884	1692	OR.DIES	(C10-C28)	40717615	207.7
C18	6.005	-0.007	8104	7385				
C20	6.594	0.011	23625	33437	JET-A	(C10-C18)	880485	5.3
C22	7.144	-0.000	94873	73885				
C24	7.700	0.007	335341	248010				
C25	7.964	0.003	440038	216467				
C26	8.219	-0.004	495653	295300				
C28	8.727	-0.000	591087	204415				
C32	9.648	-0.008	710202	881609				
C34	10.078	-0.001	687064	1176406				
Filter Peak	12.095	-0.003	49371	12325	BUNKERC	(C10-C38)	118116698	2992.0
C36	10.477	-0.005	576704	398603				
C38	10.862	-0.010	413804	82462				
C40	11.306	-0.008	215572	74801				
o-terph	6.191	-0.007	20533	49517				
Triacon Surr	9.214	-0.017	7768177	7363708	NAS DIES	(C10-C24)	10475412	53.7

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	49517	0.2
Triacontane	7363708	49.6 M

M Indicates the peak was manually integrated

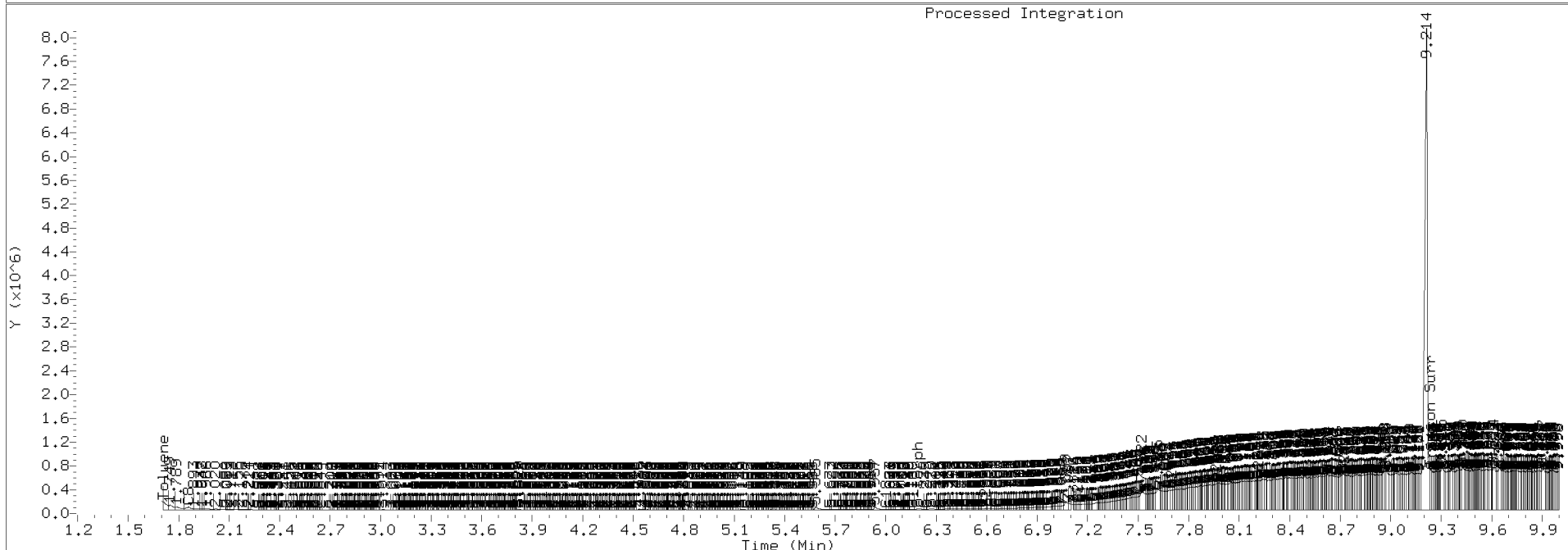
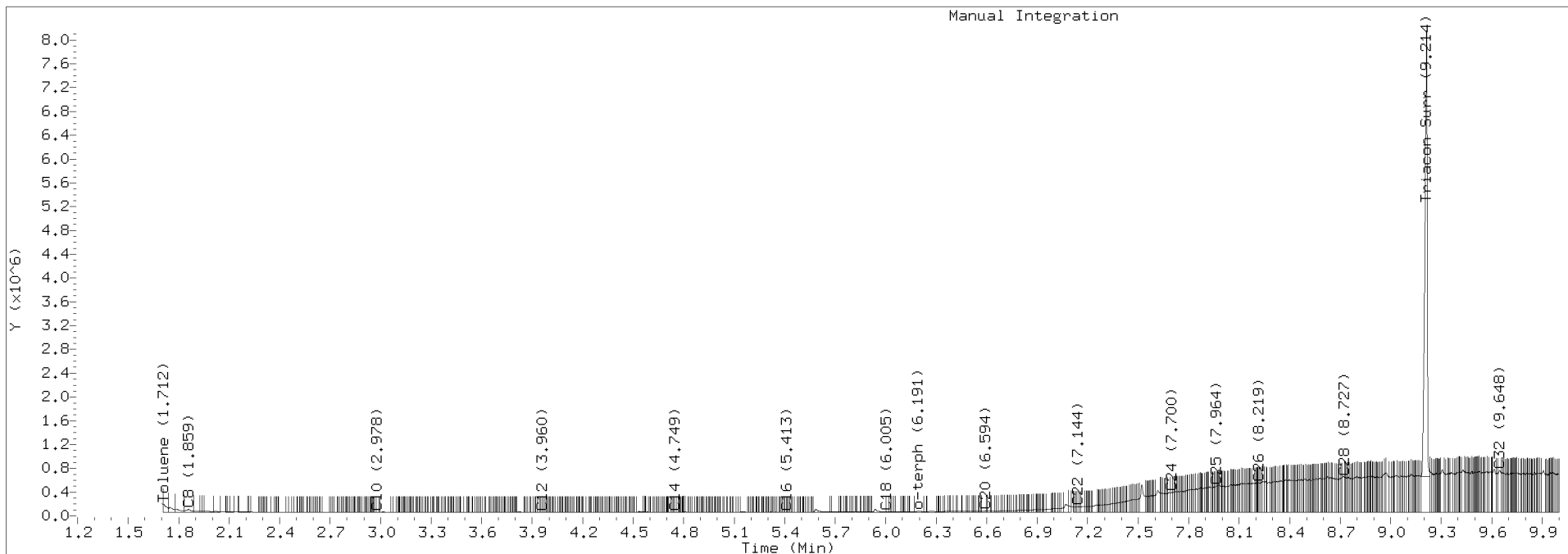
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2922.D Injection: 30-NOV-2020 00:47

Lab ID:SEQ-CCV2





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2933.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0411</u>	Injection Date:	<u>11/30/20</u>
Lab Sample ID:	<u>SIK0411-CCV3</u>	Injection Time:	<u>04:29</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	462	159336.7	147052.4		-7.7	+/-15
o-Terphenyl	A	90.000	84.4	204701.9	191956.2		-6.2	+/-15

* Values outside of QC limits

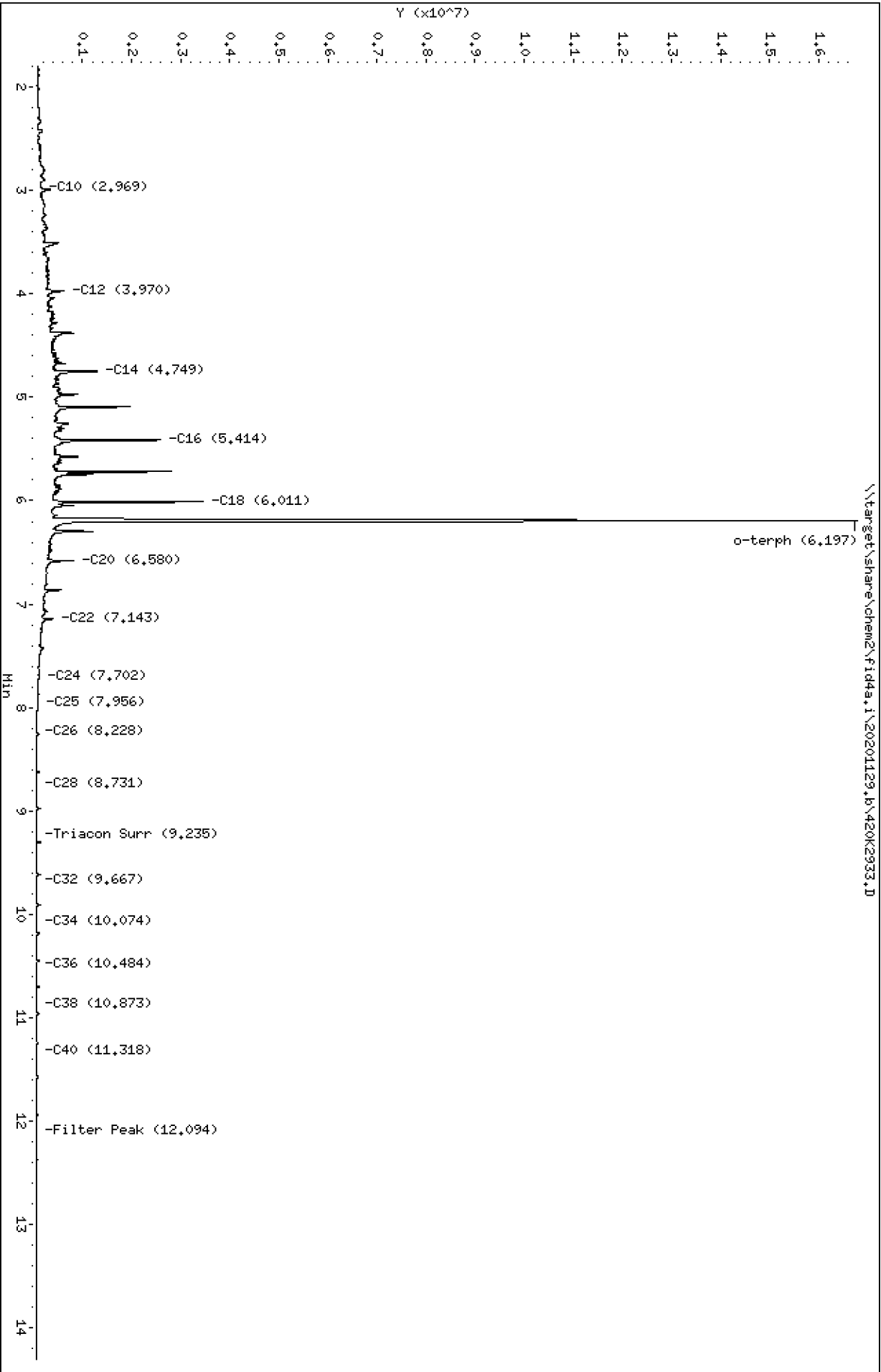
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Date: 30-NOV-2020 04:29
Client ID:
Sample Info: SEQ-CCV3

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2933.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV3
Client ID:
Injection: 30-NOV-2020 04:29
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

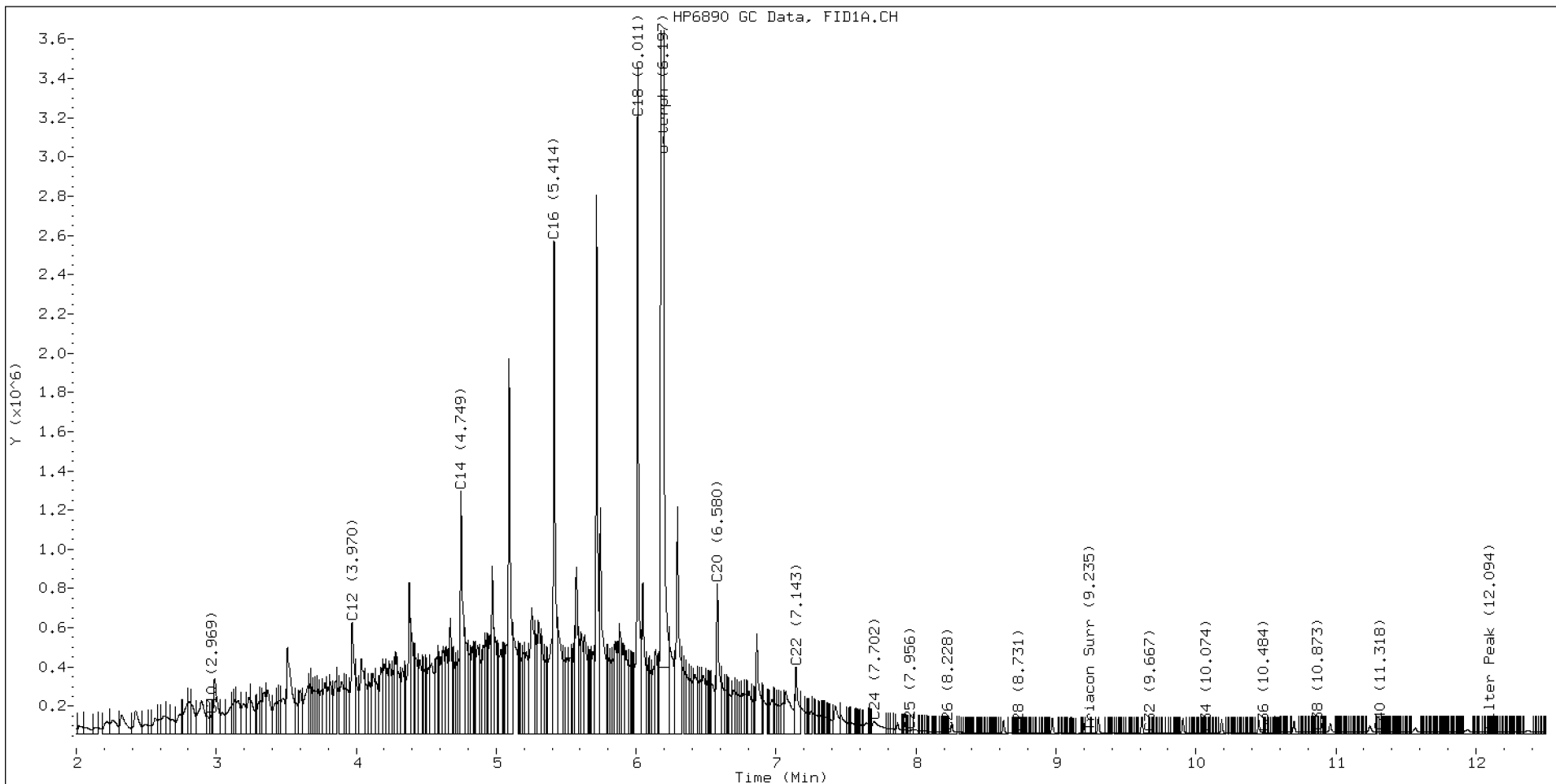
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.859	-0.012	31901	28298	WATPHD	(C12-C24)	73526193	461.5
C10	2.969	-0.001	91544	31904	WATPHM	(C24-C38)	1283411	12.7
C12	3.970	0.006	567511	919160	AK102	(C10-C25)	85790170	438.8
C14	4.749	0.001	1233929	1781117	AK103	(C25-C36)	906294	12.4
C16	5.414	-0.000	2513072	2450791	OR.DIES	(C10-C28)	86189906	439.7
C18	6.011	-0.001	3393410	3106068				
C20	6.580	-0.003	762658	1014901	JET-A	(C10-C18)	66737557	402.4
C22	7.143	-0.001	339876	522783				
C24	7.702	0.009	60356	257767				
C25	7.956	-0.005	15001	9648				
C26	8.228	0.005	6633	1964				
C28	8.731	0.004	1497	492				
C32	9.667	0.011	797	338				
C34	10.074	-0.005	1763	432				
Filter Peak	12.094	-0.004	8742	3487	BUNKERC	(C10-C38)	86887237	2200.9
C36	10.484	0.002	5112	3253				
C38	10.873	0.001	7767	5394				
C40	11.318	0.004	9258	7309				
o-terph	6.197	-0.001	16389199	17276065				
Triacon Surr	9.235	0.005	5266	7234	NAS DIES	(C10-C24)	85603826	438.7

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17276065	84.4 M
Triacontane	7234	0.0

M Indicates the peak was manually integrated

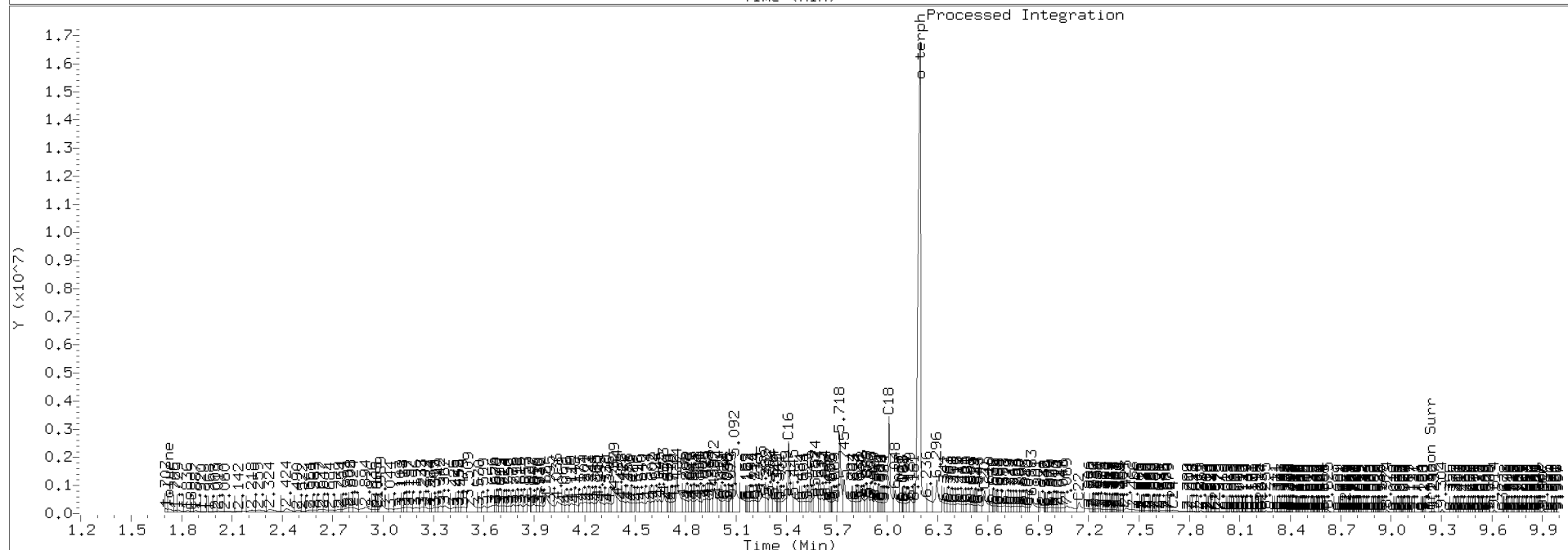
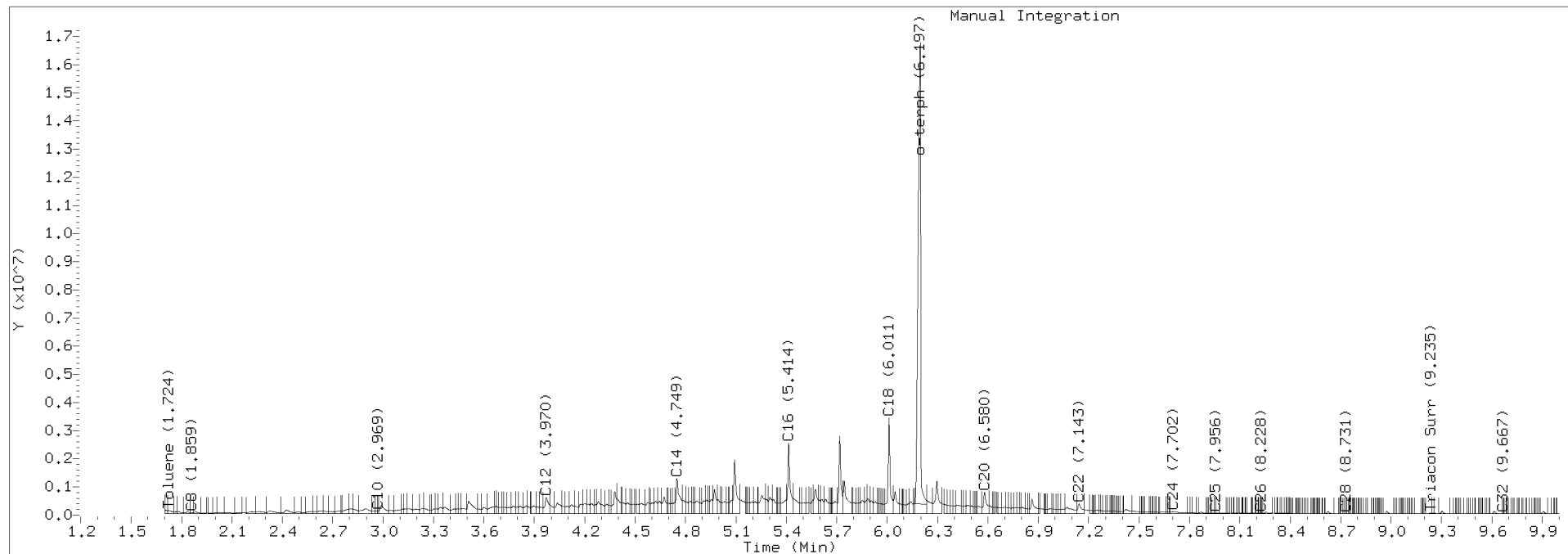
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2933.D Injection: 30-NOV-2020 04:29

Lab ID:SEQ-CCV3



Data File: \\target\share\chem2\fid4a,1\20201129,8\420K2934.D
Date: 30-NOV-2020 04:49

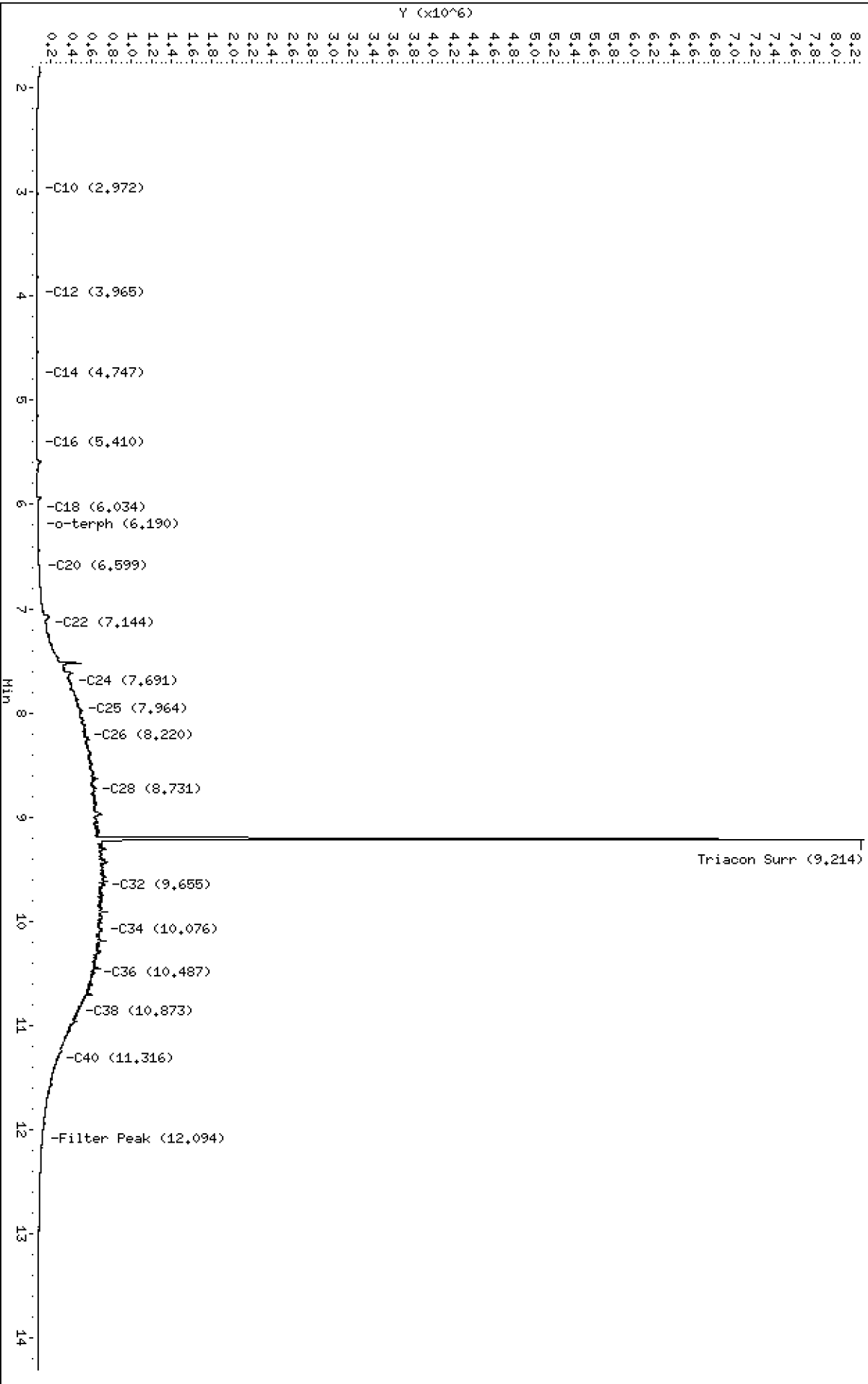
Client ID:
Sample Info: SEQ-CCV4

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR
Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201129,8\420K2934.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2934.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV4
Client ID:
Injection: 30-NOV-2020 04:49
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

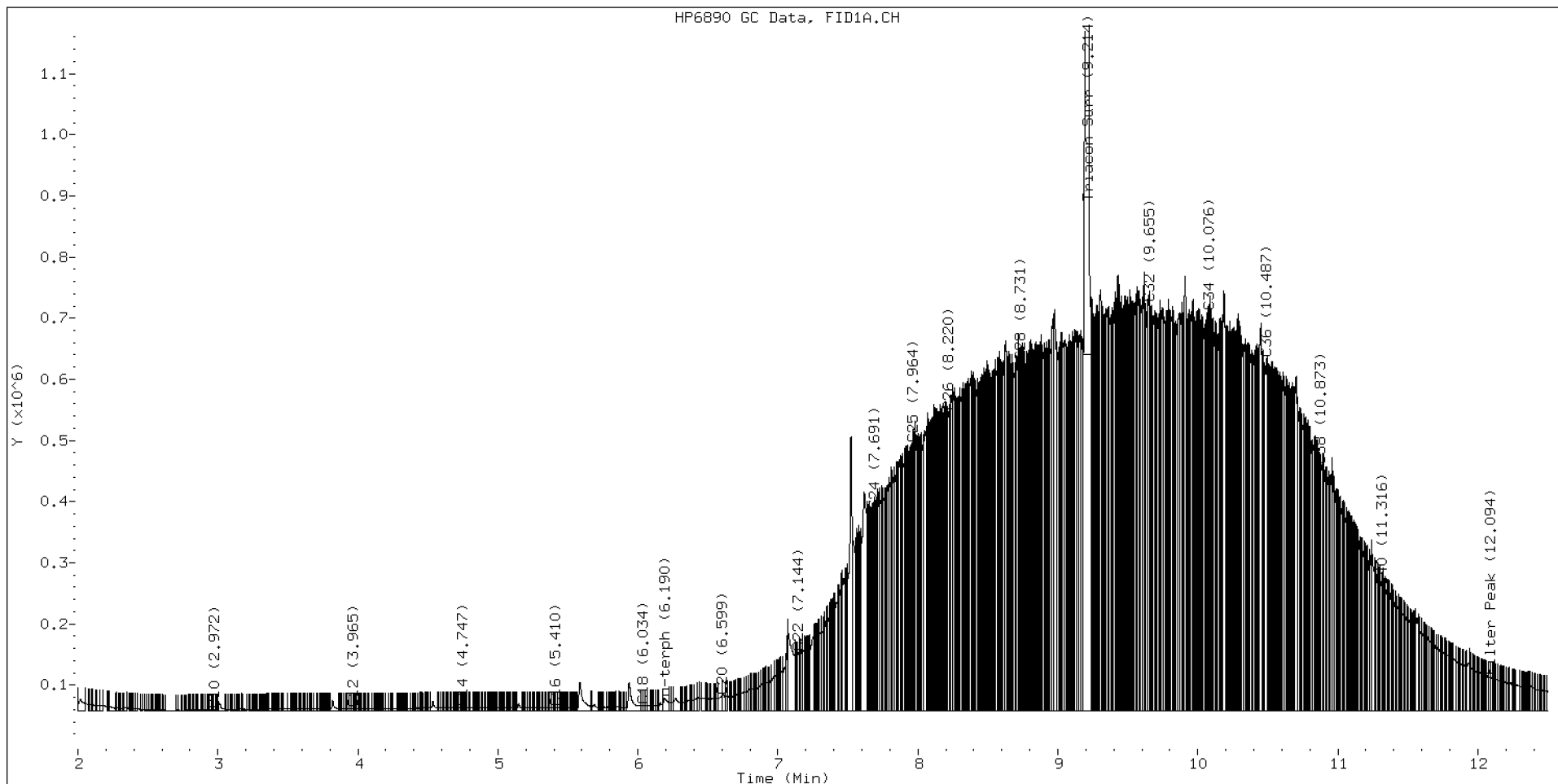
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.853	-0.018	41780	104814	WATPHD	(C12-C24)	10170688	63.8
C10	2.972	0.003	1071	651	WATPHM	(C24-C38)	105643767	1044.3
C12	3.965	0.001	3062	1787	AK102	(C10-C25)	14117911	72.2
C14	4.747	-0.001	4651	2536	AK103	(C25-C36)	90693317	1238.9
C16	5.410	-0.004	4458	1967	OR.DIES	(C10-C28)	40125575	204.7
C18	6.034	0.022	7537	7696				
C20	6.599	0.016	23648	40342	JET-A	(C10-C18)	825837	5.0
C22	7.144	0.000	94224	82361				
C24	7.691	-0.002	325912	113074				
C25	7.964	0.003	435140	276540				
C26	8.220	-0.003	487855	455745				
C28	8.731	0.003	570230	142165				
C32	9.655	-0.001	666261	264547				
C34	10.076	-0.002	652354	225734				
Filter Peak	12.094	-0.004	53798	37209	BUNKERC	(C10-C38)	115976742	2937.8
C36	10.487	0.005	575086	531200				
C38	10.873	0.001	399977	258094				
C40	11.316	0.003	201704	50128				
o-terph	6.190	-0.008	19664	46301				
Triacon Surr	9.214	-0.017	7654141	7270751	NAS DIES	(C10-C24)	10332975	52.9

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	46301	0.2
Triacontane	7270751	49.0 M

M Indicates the peak was manually integrated

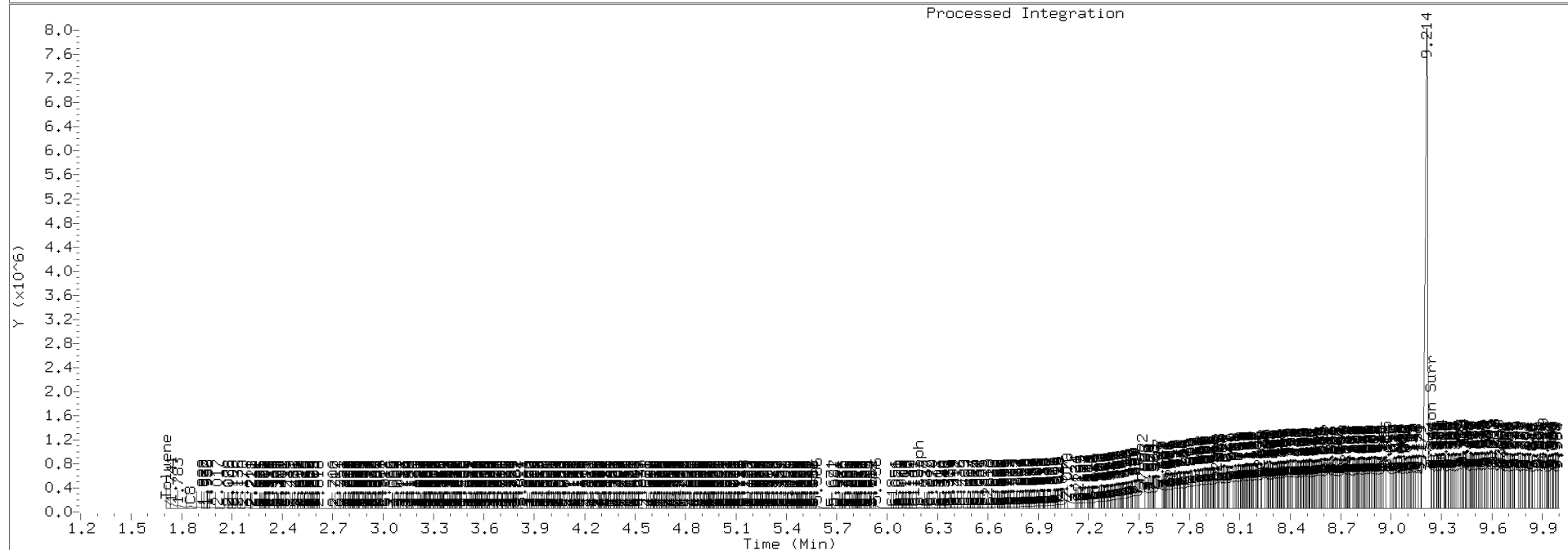
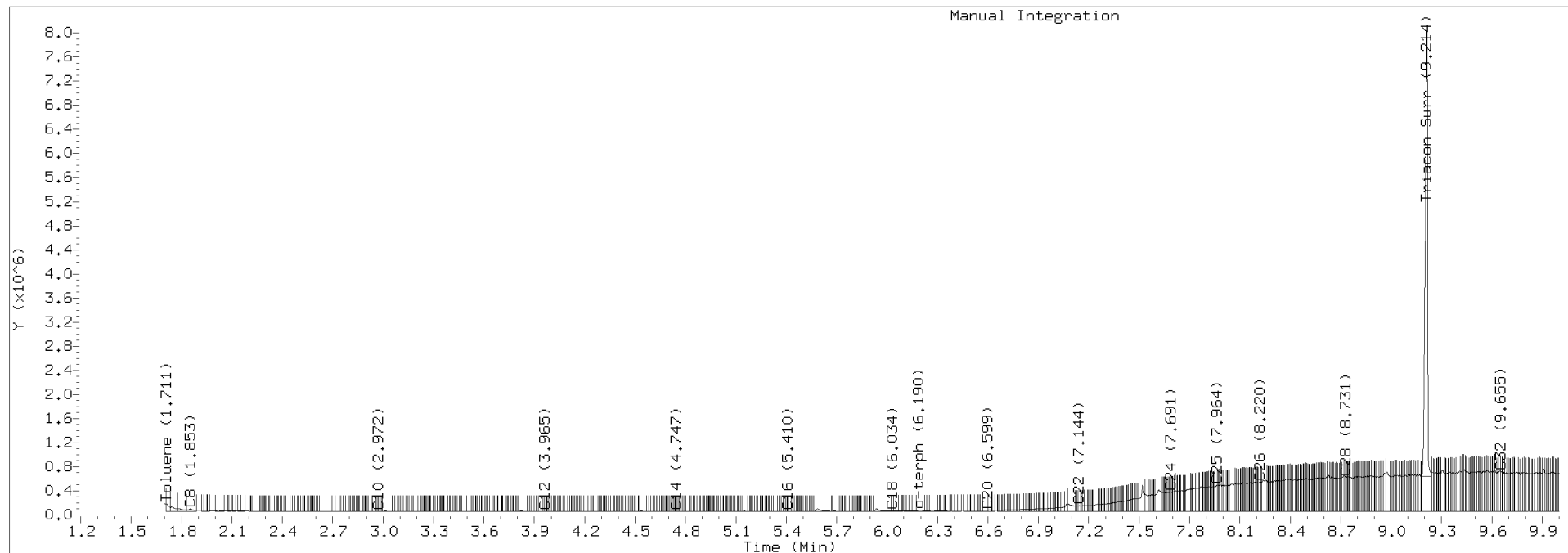
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2934.D Injection: 30-NOV-2020 04:49

Lab ID:SEQ-CCV4





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2953.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0411</u>	Injection Date:	<u>11/30/20</u>
Lab Sample ID:	<u>SIK0411-CCV5</u>	Injection Time:	<u>11:14</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	487	159336.7	155154.8		-2.6	+/-15
o-Terphenyl	A	90.000	86.9	204701.9	197609.4		-3.4	+/-15

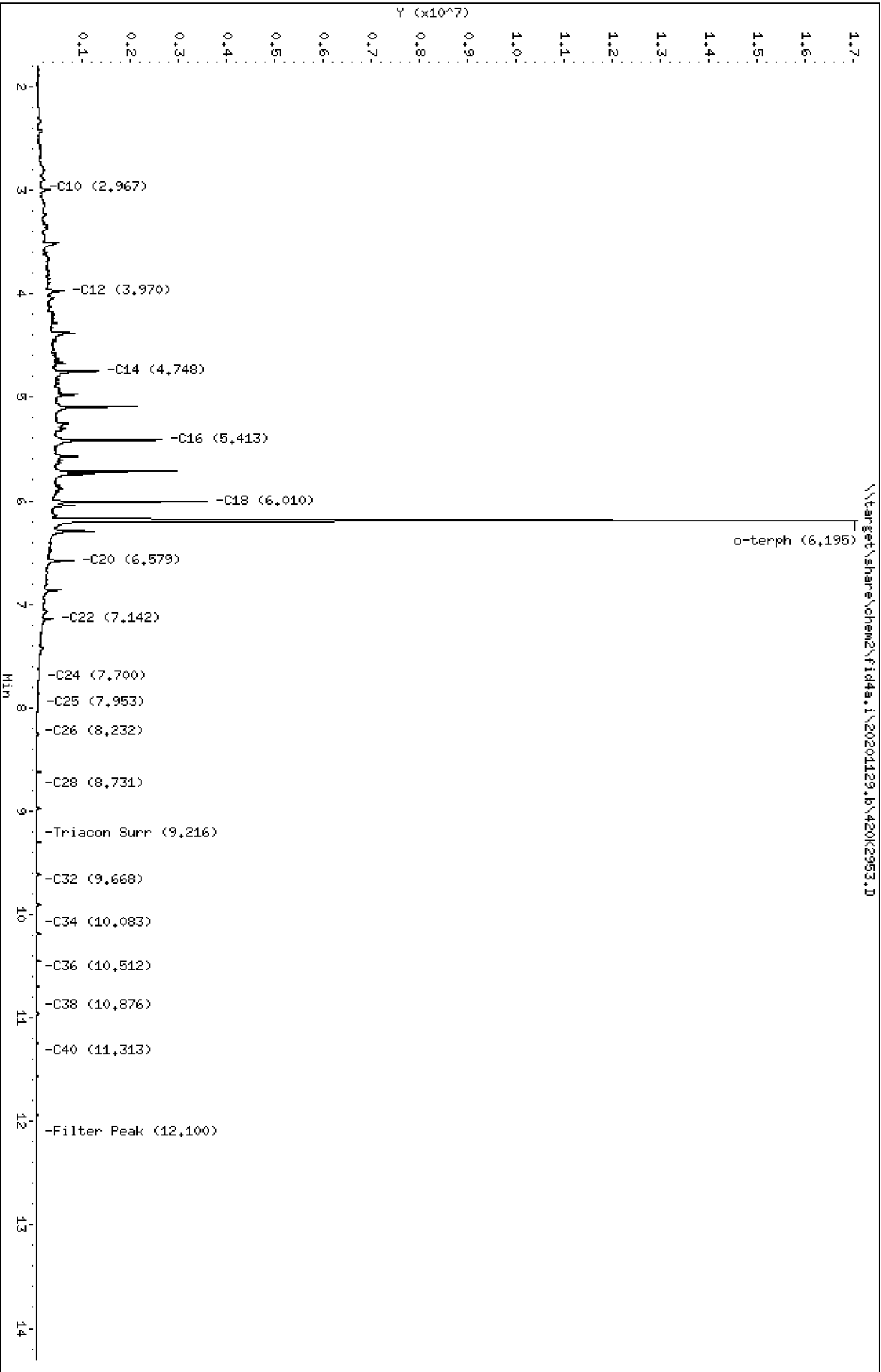
* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201129,b\420K2953.D
Date: 30-NOV-2020 11:14
Client ID:
Sample Info: SEQ-CV5

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2953.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV5
Client ID:
Injection: 30-NOV-2020 11:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

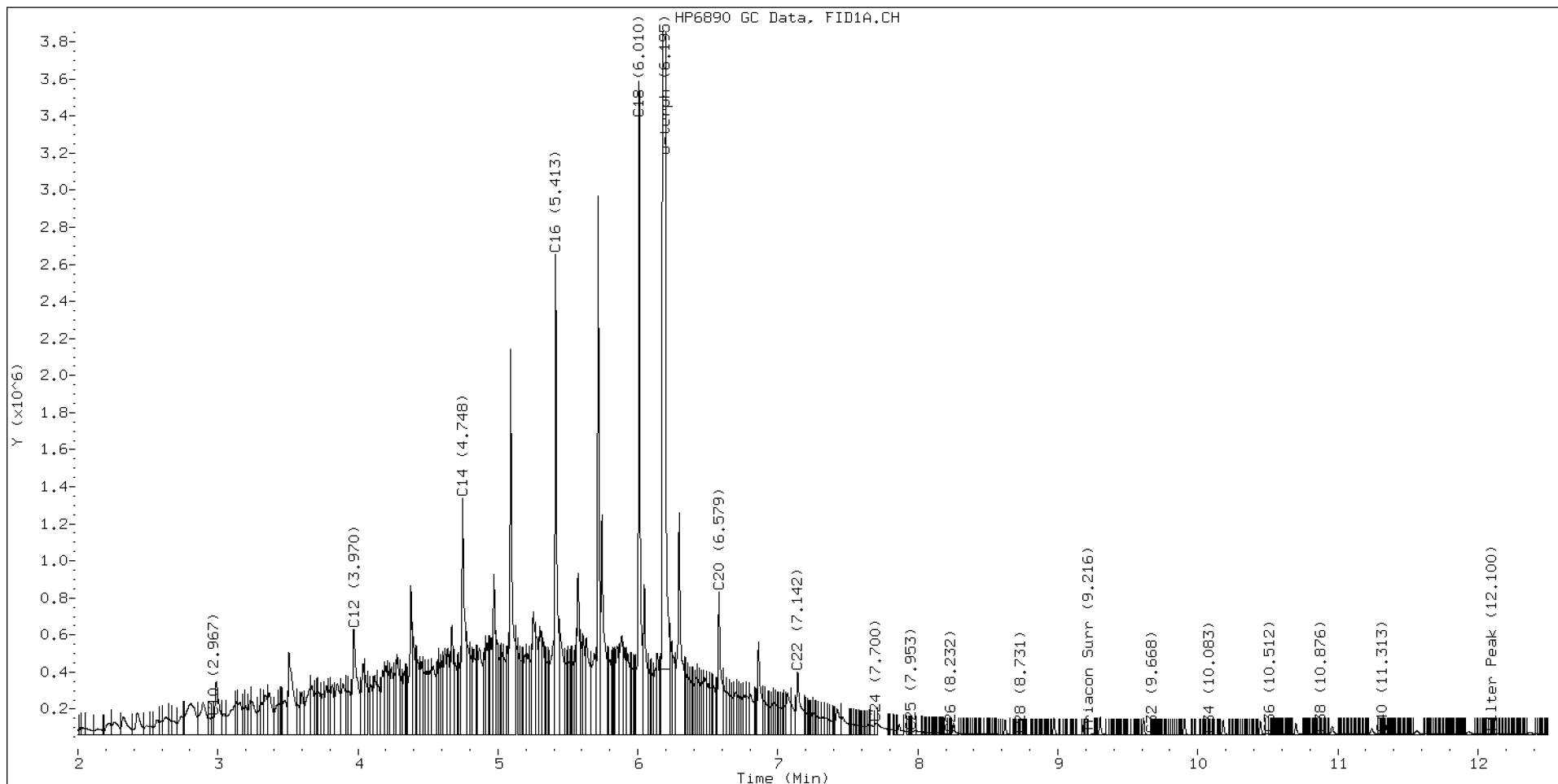
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.858	-0.014	31754	28084	WATPHD	(C12-C24)	77577392	486.9
C10	2.967	-0.003	95652	103773	WATPHM	(C24-C38)	1288930	12.7
C12	3.970	0.006	570123	1324446	AK102	(C10-C25)	90432302	462.6
C14	4.748	-0.000	1277287	1869859	AK103	(C25-C36)	975708	13.3
C16	5.413	-0.001	2590435	2508962	OR.DIES	(C10-C28)	90882656	463.7
C18	6.010	-0.002	3527198	3114914				
C20	6.579	-0.004	768325	1045752	JET-A	(C10-C18)	69947784	421.8
C22	7.142	-0.002	336181	689988				
C24	7.700	0.007	62719	85855				
C25	7.953	-0.008	16209	4840				
C26	8.232	0.009	7434	2578				
C28	8.731	0.004	1719	486				
C32	9.668	0.012	713	206				
C34	10.083	0.005	1311	485				
Filter Peak	12.100	0.002	6749	5015	BUNKERC	(C10-C38)	91562968	2319.4
C36	10.512	0.030	3278	2274				
C38	10.876	0.004	5763	2000				
C40	11.313	-0.000	6815	3043				
o-terph	6.195	-0.003	16662476	17784850				
Triacon Surr	9.216	-0.015	802	256	NAS DIES	(C10-C24)	90274038	462.6

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17784850	86.9 M
Triacontane	256	0.0

M Indicates the peak was manually integrated

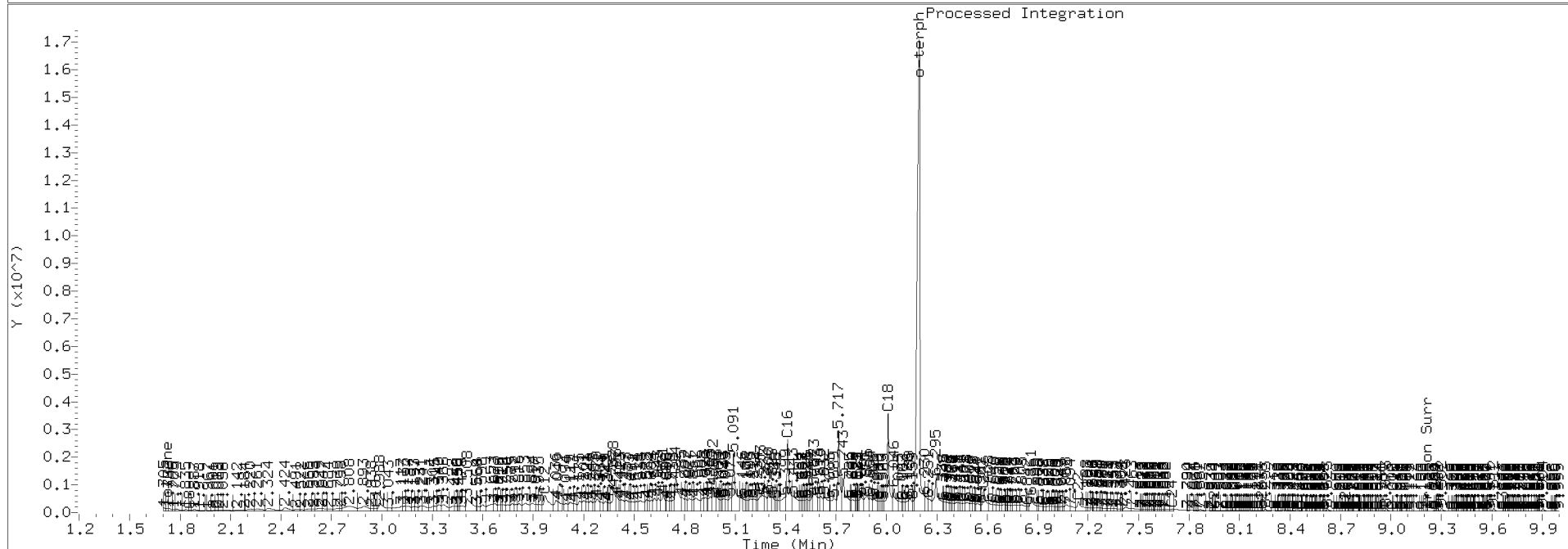
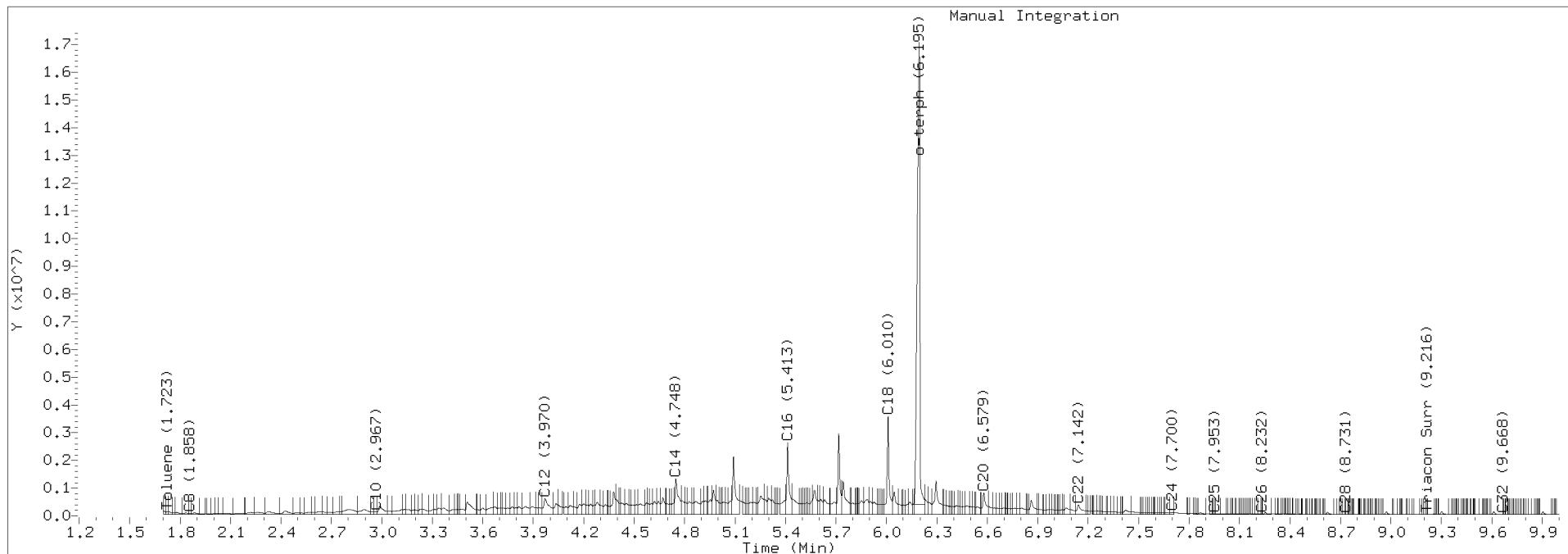
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2953.D Injection: 30-NOV-2020 11:14

Lab ID:SEQ-CCV5





CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420K2954.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIK0411</u>	Injection Date: <u>11/30/20</u>
Lab Sample ID: <u>SIK0411-CCV6</u>	Injection Time: <u>11:34</u>
Sequence Name: <u>MOIL CCV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1130	101166	113997.2		12.7	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201129,8\420K2954.D
Date: 30-NOV-2020 11:34

Client ID:

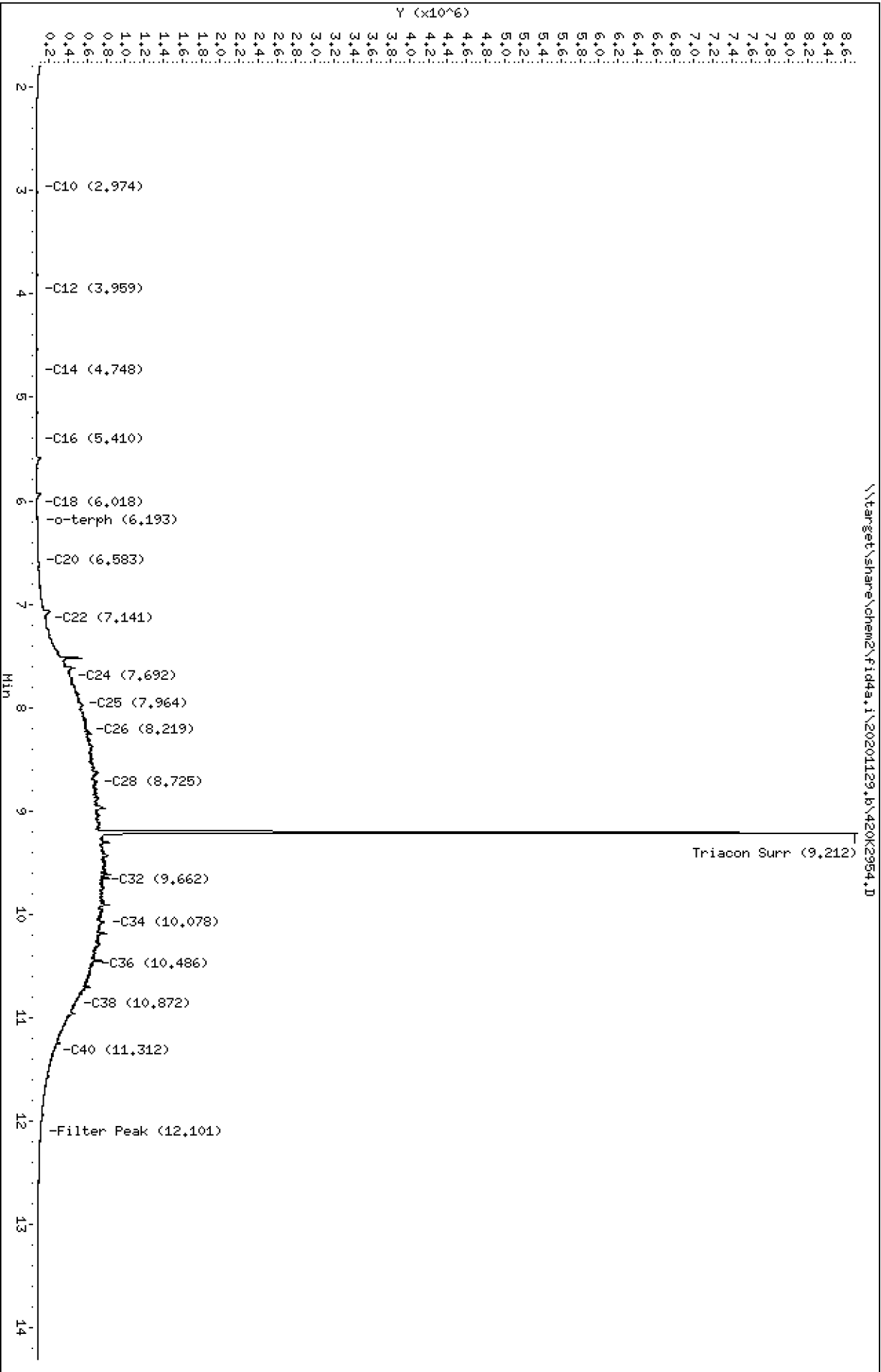
Sample Info: SED-OCW6

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2954.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV6
Client ID:
Injection: 30-NOV-2020 11:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

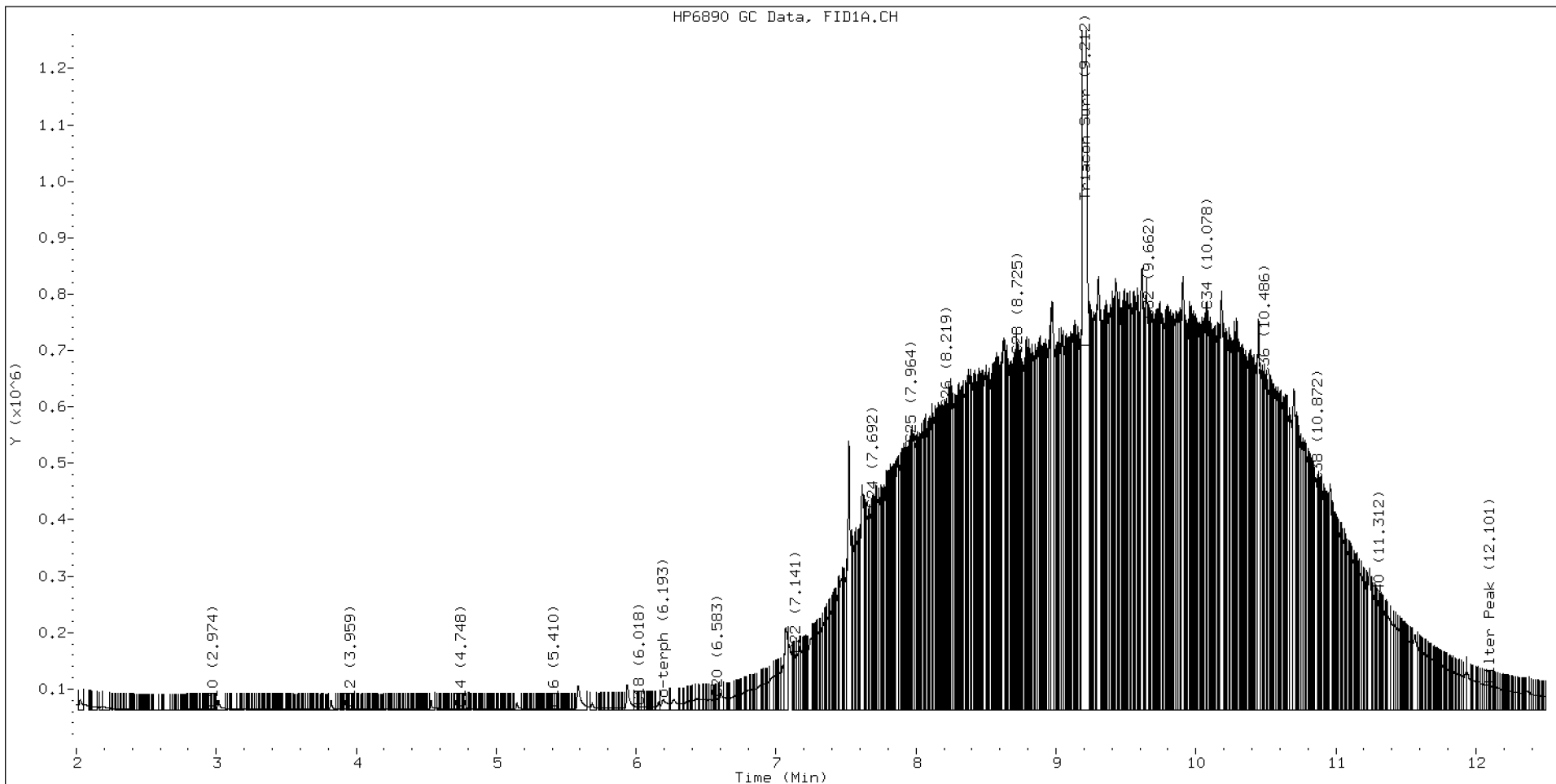
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.872	0.001	35867	61994	WATPHD	(C12-C24)	10267796	64.4
C10	2.974	0.004	2694	1943	WATPHM	(C24-C38)	113997179	1126.8
C12	3.959	-0.005	1570	1335	AK102	(C10-C25)	14644558	74.9
C14	4.748	0.000	2904	2510	AK103	(C25-C36)	98545203	1346.1
C16	5.410	-0.004	2582	2106	OR.DIES	(C10-C28)	43054035	219.7
C18	6.018	0.006	5380	1329				
C20	6.583	0.000	20055	15245	JET-A	(C10-C18)	585507	3.5
C22	7.141	-0.003	98255	52591				
C24	7.692	-0.001	355528	106076				
C25	7.964	0.003	471063	279733				
C26	8.219	-0.004	532435	236776				
C28	8.725	-0.002	628492	218619				
C32	9.662	0.006	691450	137893				
C34	10.078	-0.001	708681	245557				
Filter Peak	12.101	0.003	42635	12649	BUNKERC	(C10-C38)	124394767	3151.1
C36	10.486	0.004	589171	262737				
C38	10.872	-0.001	403793	139410				
C40	11.312	-0.002	189370	120731				
o-terph	6.193	-0.005	19025	51268				
Triacon Surr	9.212	-0.018	8015942	7874508	NAS DIES	(C10-C24)	10397588	53.3

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	51268	0.3
Triacontane	7874508	53.1 M

M Indicates the peak was manually integrated

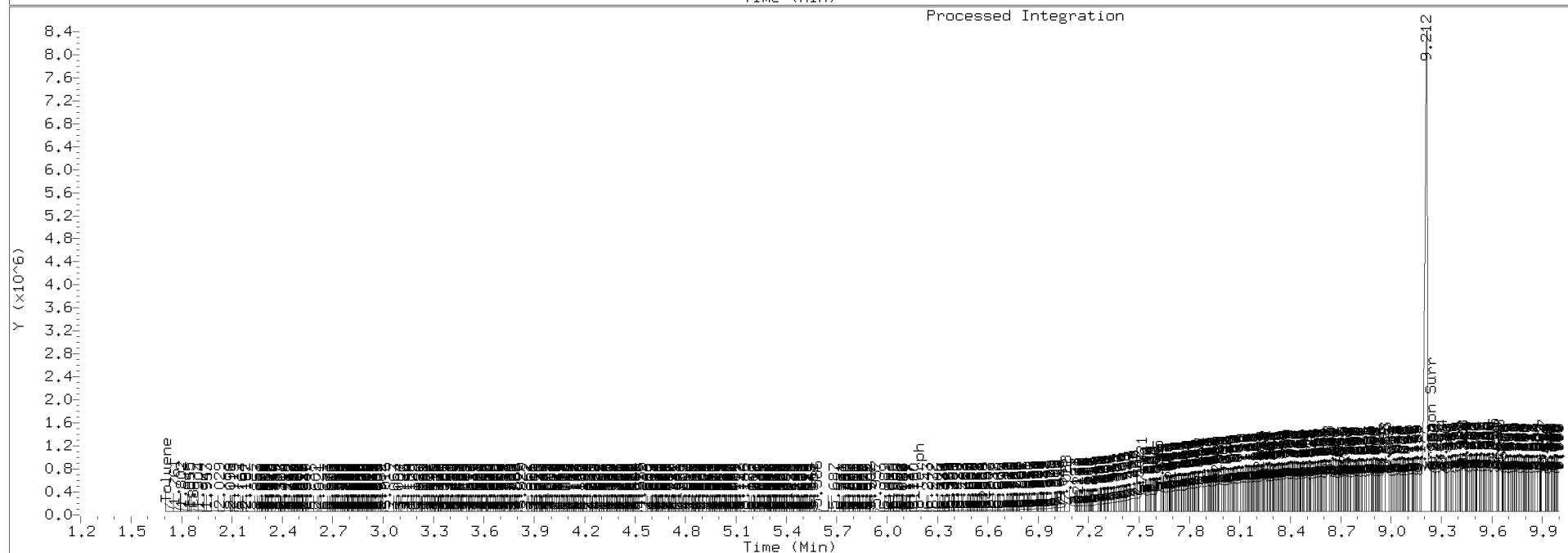
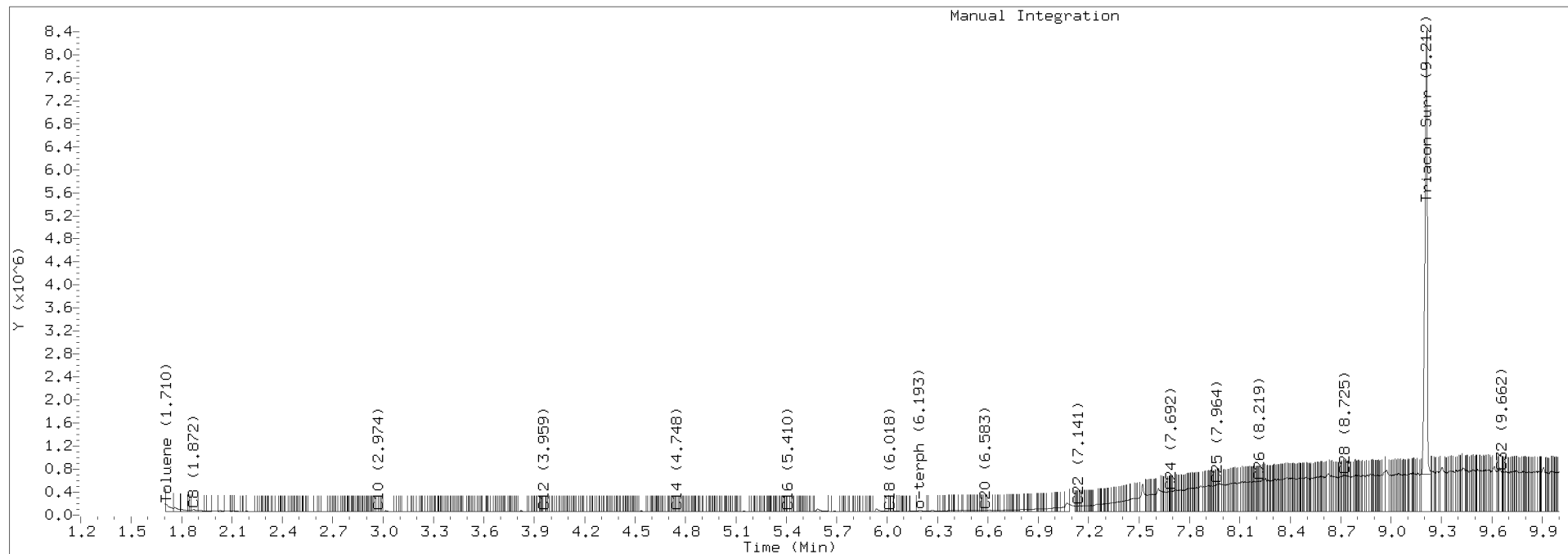
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2954.D Injection: 30-NOV-2020 11:34

Lab ID:SEQ-CCV6





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument ID: FID4 Calibration: DA00022
Lab File ID: 420K2956.D Calibration Date: 10/25/2019
Sequence: SIK0411 Injection Date: 11/30/20
Lab Sample ID: SIK0411-CCV7 Injection Time: 14:42
Sequence Name: DIESEL CCV

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	481	159336.7	153191.6		-3.9	+/-15
o-Terphenyl	A	90.000	90.0	204701.9	204621.7		0.0	+/-15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201129,b\420K2956.D
Date: 30-NOV-2020 14:42

Client ID:

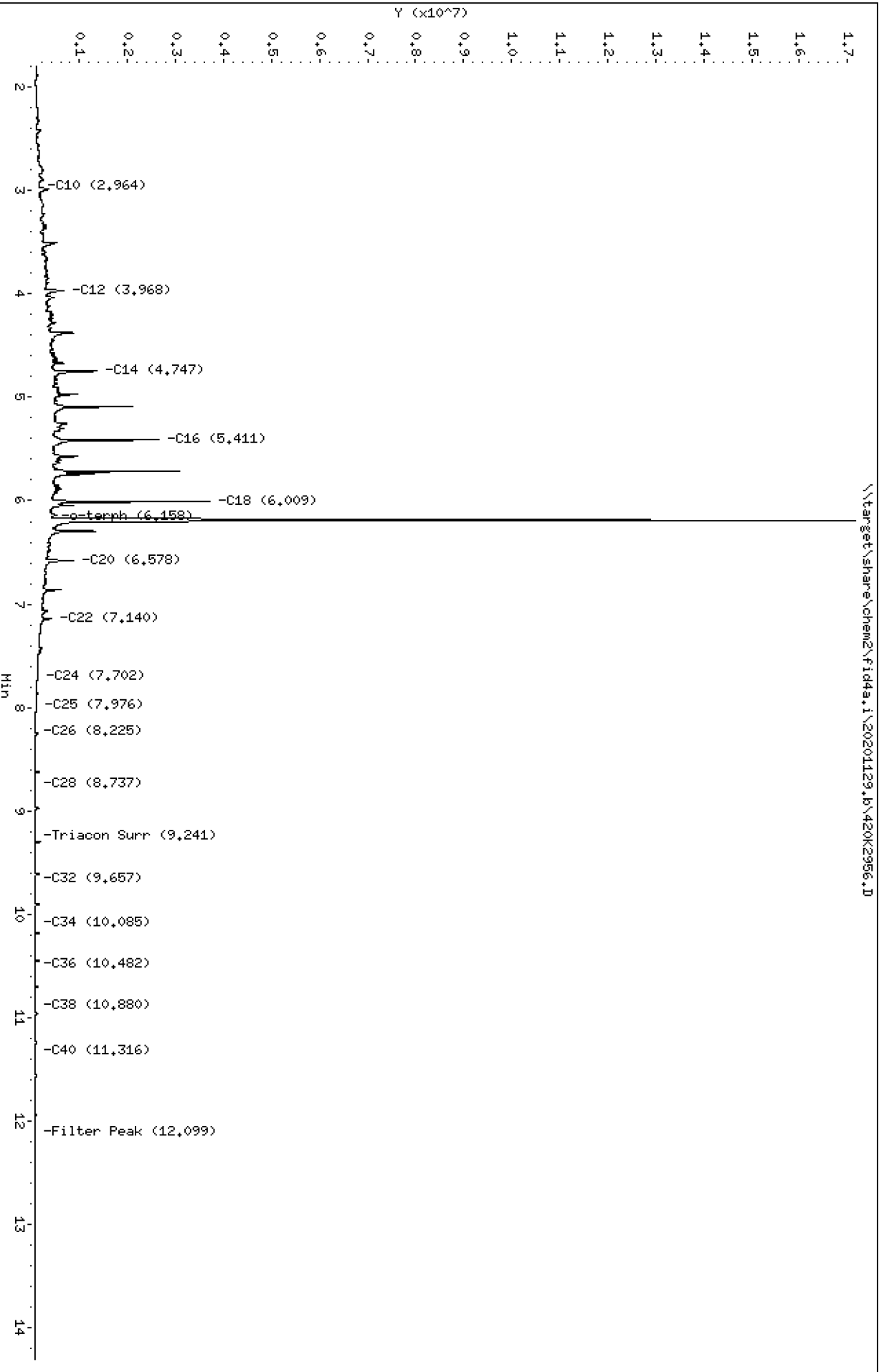
Sample Info: SEQ-CCV7

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2956.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV7
Client ID:
Injection: 30-NOV-2020 14:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

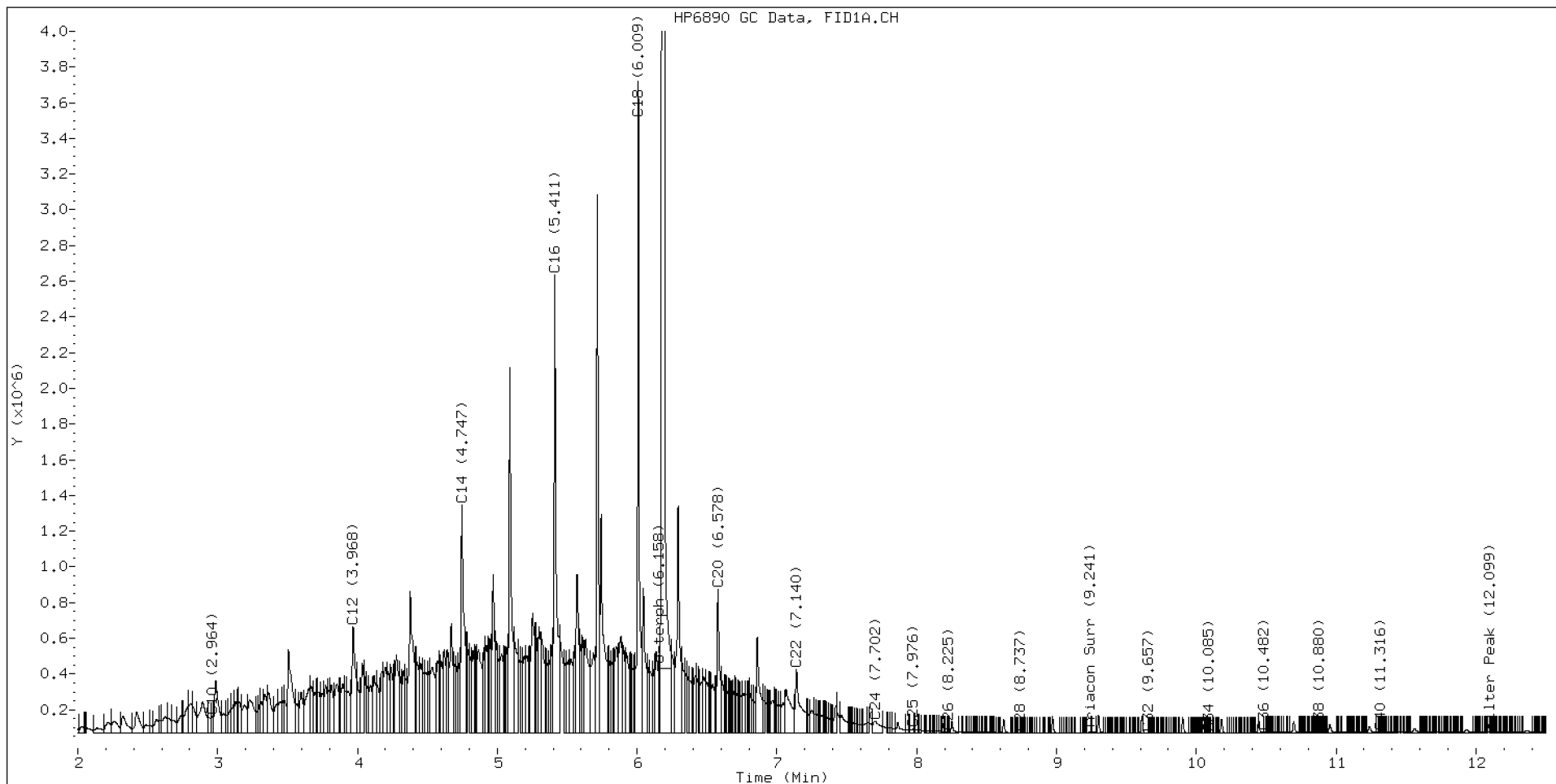
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.859	-0.012	27544	26308	WATPHD	(C12-C24)	76595819	480.7
C10	2.964	-0.006	93152	101851	WATPHM	(C24-C38)	1394764	13.8
C12	3.968	0.004	596985	1007053	AK102	(C10-C25)	89526406	458.0
C14	4.747	-0.001	1279630	1842164	AK103	(C25-C36)	998053	13.6
C16	5.411	-0.002	2567810	2866821	OR.DIES	(C10-C28)	89973228	459.0
C18	6.009	-0.003	3652684	3167368				
C20	6.578	-0.005	806243	974826	JET-A	(C10-C18)	69312234	417.9
C22	7.140	-0.004	356662	921820				
C24	7.702	0.009	67558	226861				
C25	7.976	0.014	21871	27707				
C26	8.225	0.002	8027	2781				
C28	8.737	0.010	2154	2086				
C32	9.657	0.002	775	249				
C34	10.085	0.006	1358	691				
Filter Peak	12.099	0.001	7411	5500	BUNKERC	(C10-C38)	90689544	2297.3
C36	10.482	0.000	4176	3772				
C38	10.880	0.008	6262	3417				
C40	11.316	0.003	7536	3364				
o-terph	6.195	-0.003	16732004	18415948				
Triacon Surr	9.241	0.011	4813	5299	NAS DIES	(C10-C24)	89294779	457.6

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18415948	90.0 M
Triacontane	5299	0.0

M Indicates the peak was manually integrated

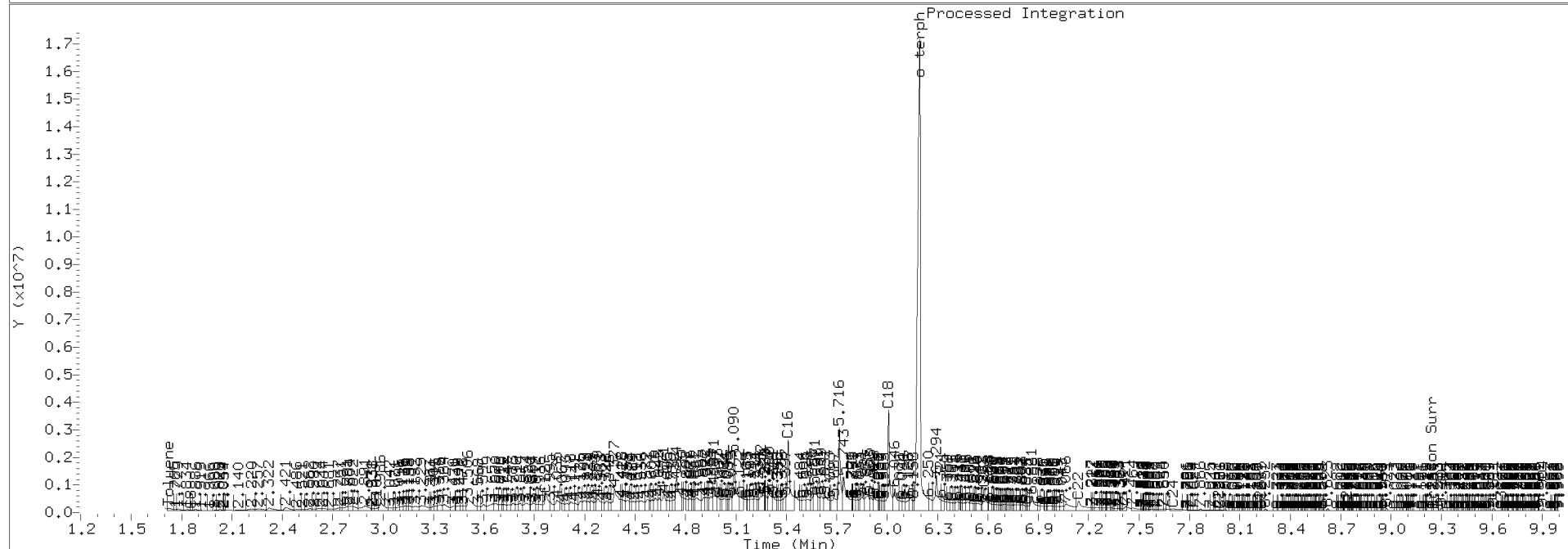
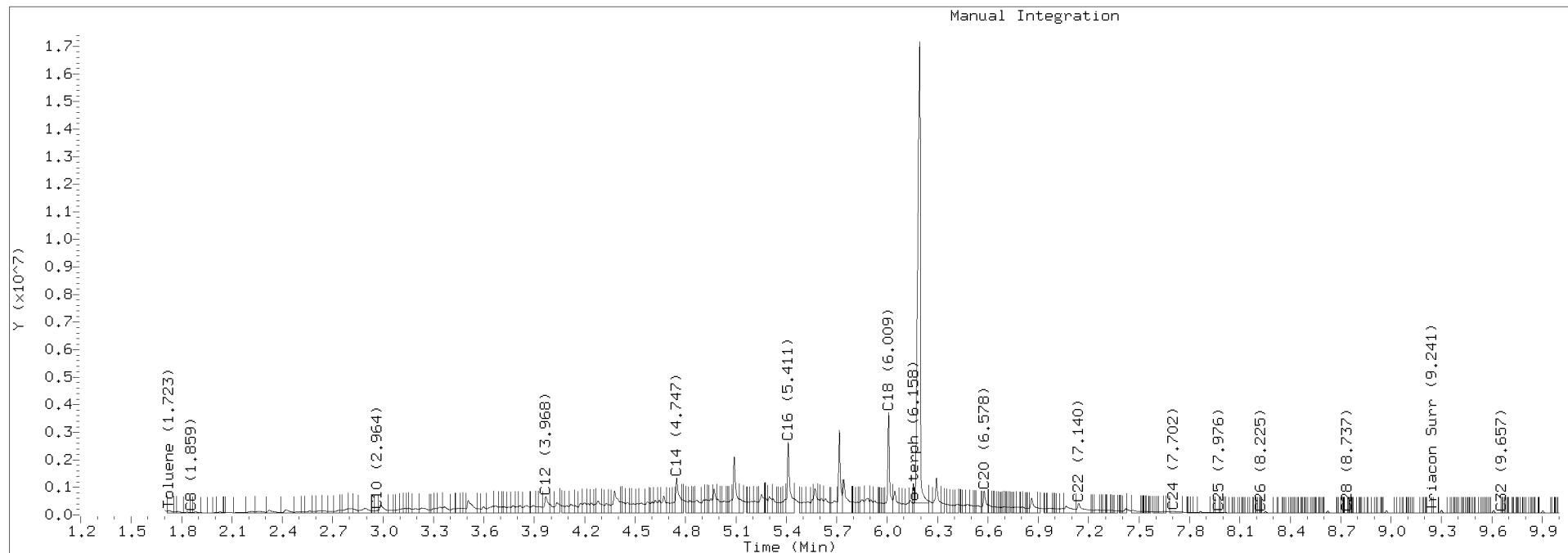
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2956.D Injection: 30-NOV-2020 14:42

Lab ID:SEQ-CCV7





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument ID: FID4 Calibration: DA00022
Lab File ID: 420K2957.D Calibration Date: 10/25/2019
Sequence: SIK0411 Injection Date: 11/30/20
Lab Sample ID: SIK0411-CCV8 Injection Time: 15:02
Sequence Name: MOIL CCV

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1020	101166	103285.5		2.1	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201129,8\420K2957.D
Date: 30-NOV-2020 15:02

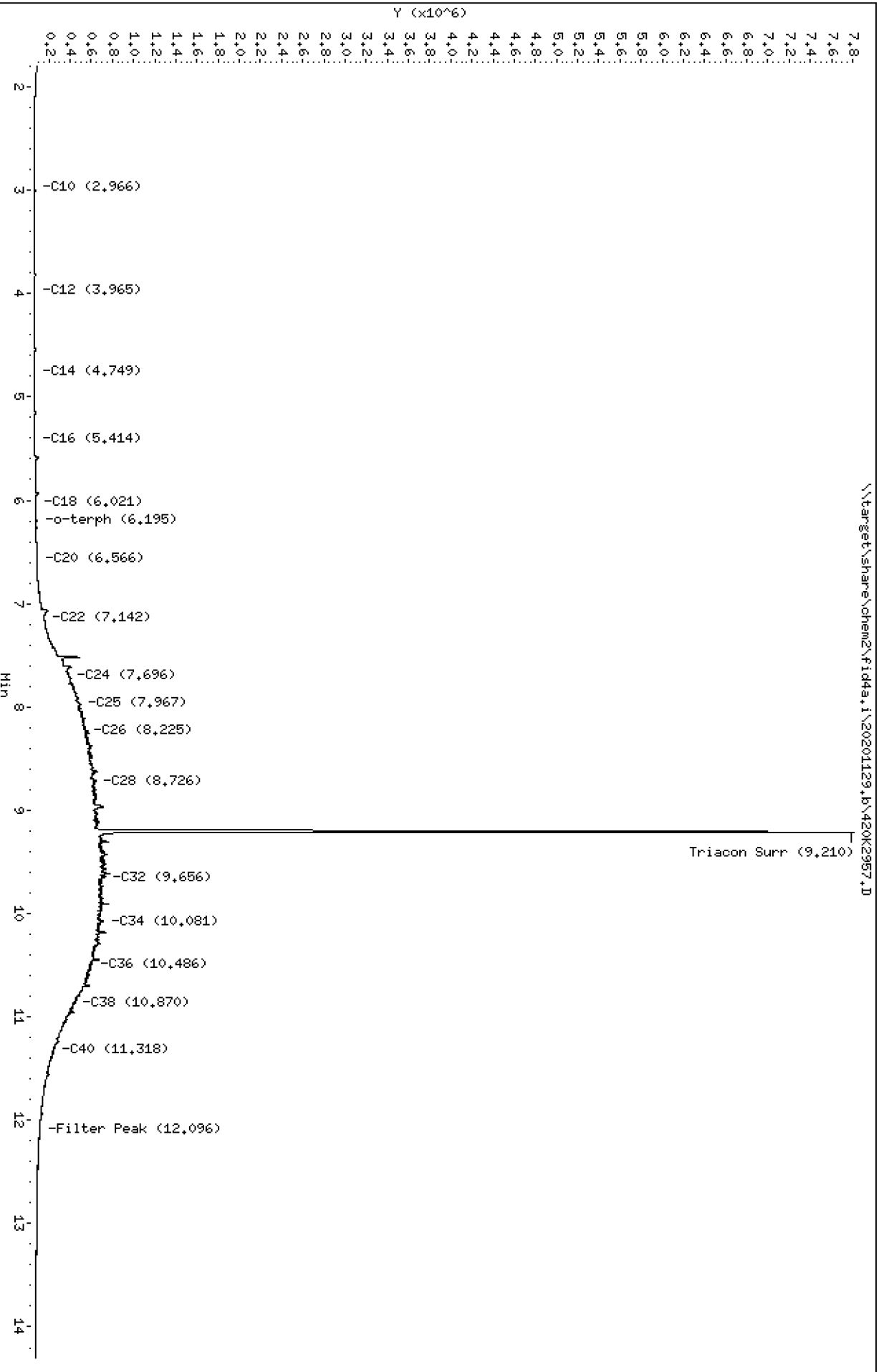
Client ID:
Sample Info: SEQ-OCV8

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129.b/420K2957.D
Method: 20201129.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV8
Client ID:
Injection: 30-NOV-2020 15:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

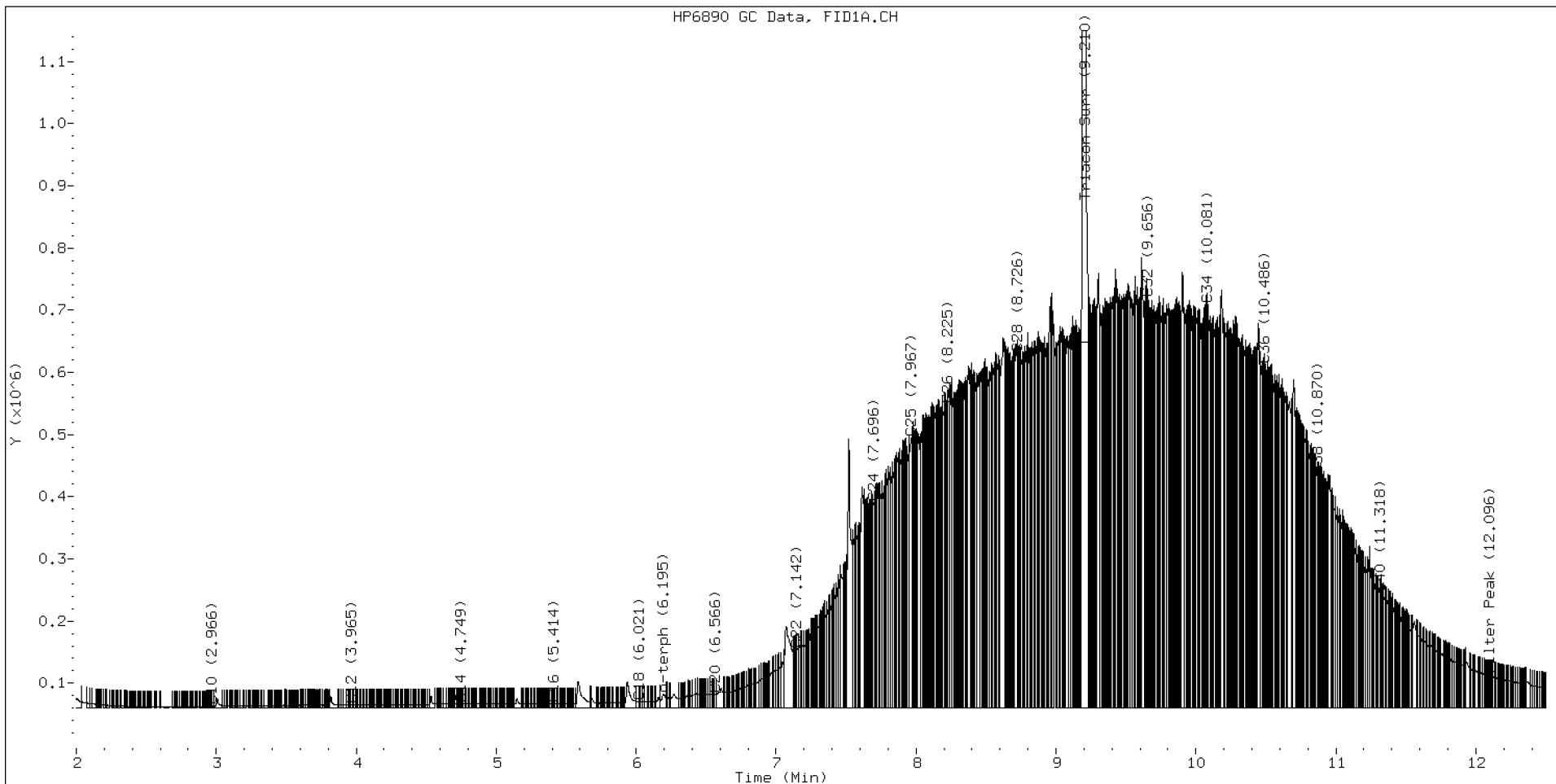
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.837	-0.034	29418	117360	WATPHD	(C12-C24)	10453140	65.6
C10	2.966	-0.003	1815	801	WATPHM	(C24-C38)	103285457	1021.0
C12	3.965	0.001	3747	2028	AK102	(C10-C25)	14445556	73.9
C14	4.749	0.001	5553	3866	AK103	(C25-C36)	88907640	1214.5
C16	5.414	0.000	6111	3618	OR.DIES	(C10-C28)	40314478	205.7
C18	6.021	0.009	9190	3653				
C20	6.566	-0.017	21072	17755	JET-A	(C10-C18)	1007256	6.1
C22	7.142	-0.002	93225	46168				
C24	7.696	0.002	329711	276646				
C25	7.967	0.006	433246	444729				
C26	8.225	0.002	486128	214435				
C28	8.726	-0.002	569489	169954				
C32	9.656	0.000	658464	417920				
C34	10.081	0.002	647121	256271				
Filter Peak	12.096	-0.002	51524	25456	BUNKERC	(C10-C38)	113932380	2886.0
C36	10.486	0.004	549823	190349				
C38	10.870	-0.002	372665	129825				
C40	11.318	0.004	182907	72339				
o-terph	6.195	-0.003	20610	40449				
Triacon Surr	9.210	-0.020	7164677	7119504	NAS DIES	(C10-C24)	10646923	54.6

Range Times: NW Diesel(3.964 - 7.693) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	40449	0.2
Triacontane	7119504	48.0 M

M Indicates the peak was manually integrated

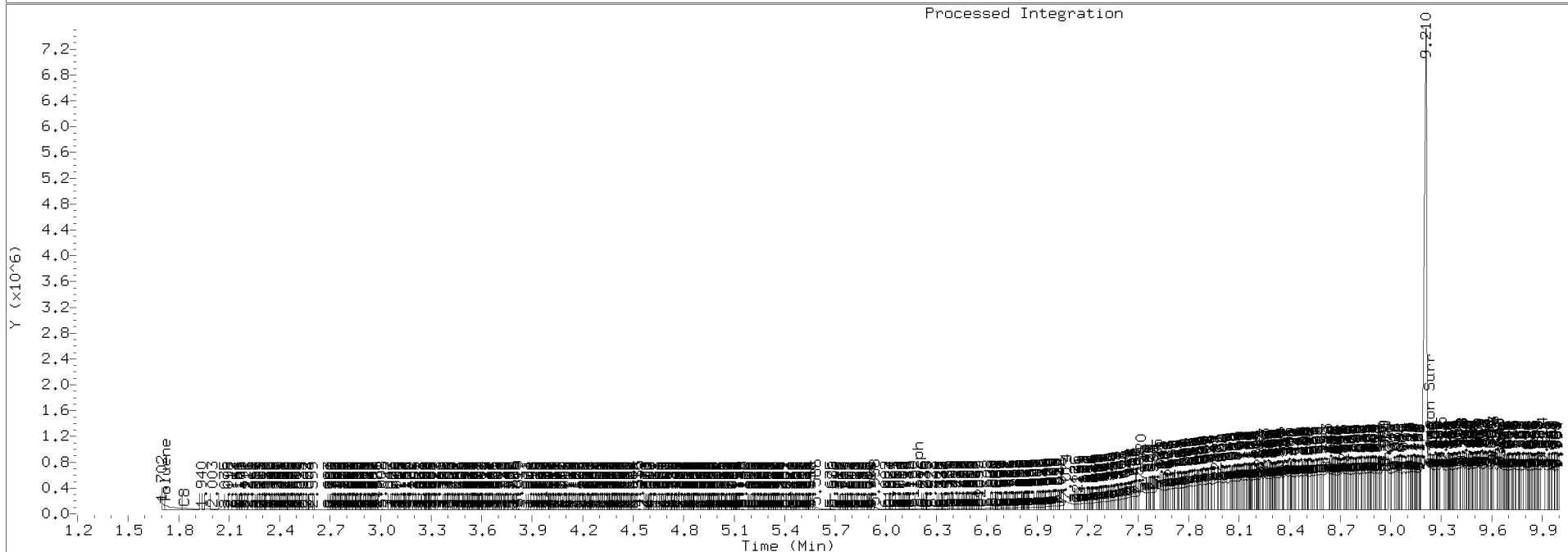
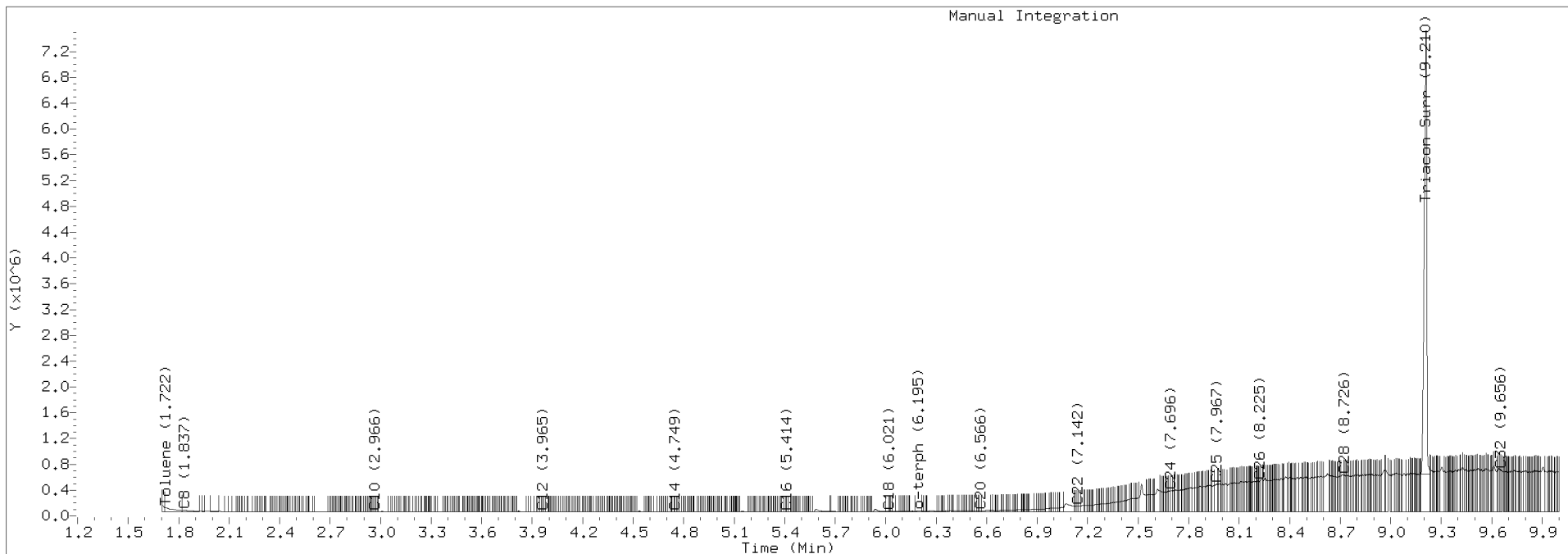
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129.b/420K2957.D Injection: 30-NOV-2020 15:02

Lab ID:SEQ-CCV8





ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SHJ0406

Instrument: FID4

Calibration: CJ00089

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SHJ0406-IBL1	419J2505.D	NA	10/25/19 13:11
Instrument Blank	SHJ0406-IBL2	419J2506.D	NA	10/25/19 13:31
DIESEL 50	SHJ0406-CAL1	419J2507.D	NA	10/25/19 13:52
DIESEL 100	SHJ0406-CAL2	419J2508.D	NA	10/25/19 14:12
DIESEL 250	SHJ0406-CAL3	419J2509.D	NA	10/25/19 14:32
DIESEL 500	SHJ0406-CAL4	419J2510.D	NA	10/25/19 14:53
DIESEL 1000	SHJ0406-CAL5	419J2511.D	NA	10/25/19 15:13
DIESEL 2500	SHJ0406-CAL6	419J2512.D	NA	10/25/19 15:32
DIESEL SCV	SHJ0406-SCV1	419J2513.D	NA	10/25/19 15:52
MOIL 100	SHJ0406-CAL7	419J2514.D	NA	10/25/19 16:12
MOIL 250	SHJ0406-CAL8	419J2515.D	NA	10/25/19 16:33
MOIL 500	SHJ0406-CAL9	419J2516.D	NA	10/25/19 16:53
MOIL 1000	SHJ0406-CALA	419J2517.D	NA	10/25/19 17:13
MOIL 2500	SHJ0406-CALB	419J2518.D	NA	10/25/19 17:34
MOIL 5000	SHJ0406-CALC	419J2519.D	NA	10/25/19 17:54
MOIL SCV	SHJ0406-SCV2	419J2520.D	NA	10/25/19 18:14



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019	11:37	419J2501.D	1	RINSE	
2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BHJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BHJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2336	419J2536.D	19J0373-05	1	o-terph,	Triacon Surr,
2357	419J2537.D	19J0373-06	1		Triacon Surr,
0017	419J2538.D	19J0373-07	1		Triacon Surr,
0037	419J2539.D	19J0373-08	1		Triacon Surr,
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1		Triacon Surr,

Security Status Report

Date: 30-Oct-2019 07:25

419J2507.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2508.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2509.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2510.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2511.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2512.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2513.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2514.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2515.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2516.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2517.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2518.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2519.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2520.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2521.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2522.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2523.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2524.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2525.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2526.D	Data Locked	jrains, 30-Oct-2019 07:20
419J2527.D	Data Locked	jrains, 30-Oct-2019 07:20

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0740	420F0201.D	RINSE		1	NO MANUAL INTEGRATION
0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

Date: 02-Jun-2020 12:52

420F0201.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0202.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0203.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0204.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0205.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0206.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0207.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0208.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0209.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	10-AUG-2020	08:11	420H1001.D	1	RINSE	
2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
46	11-AUG-2020	01:44	420H1046.D	1	BIH0166-BS1	
47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
50	11-AUG-2020	03:03	420H1050.D	1	BIH0166-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	11-AUG-2020	03:22	420H1051.D	1	20H0082-02	
52	11-AUG-2020	03:42	420H1052.D	1	20H0082-03	
53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0811	420H1001.D	RINSE		1	NO MANUAL INTEGRATION
0830	420H1002.D	RINSE		1	NO MANUAL INTEGRATION
0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1003.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1004.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1006.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIH0165

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIH0165-IBL1	420H1403.D	NA	08/14/20 08:43
Instrument Blank	SIH0165-IBL2	420H1404.D	NA	08/14/20 09:03
ZZZZZ	20H0120-01	420H1410.D	Solid	08/14/20 11:00
ZZZZZ	20H0120-02	420H1411.D	Solid	08/14/20 11:20
ZZZZZ	20H0120-03	420H1412.D	Solid	08/14/20 11:39
DIESEL CCV	SIH0165-CCV1	420H1413.D	NA	08/14/20 11:59
MOIL CCV	SIH0165-CCV2	420H1414.D	NA	08/14/20 12:18
JETA CAL	SIH0165-CAL1	420H1416.D	NA	08/14/20 12:58
ZZZZZ	BIH0255-BLK1	420H1417.D	Water	08/14/20 13:17
ZZZZZ	BIH0255-BS1	420H1418.D	Water	08/14/20 13:37
ZZZZZ	BIH0255-BSD1	420H1419.D	Water	08/14/20 13:56
ZZZZZ	20H0139-03	420H1420.D	Water	08/14/20 14:16
ZZZZZ	20H0139-04	420H1421.D	Water	08/14/20 14:36
ZZZZZ	20H0139-05	420H1422.D	Water	08/14/20 14:55
ZZZZZ	20H0142-01	420H1423.D	Water	08/14/20 15:15
ZZZZZ	BIH0199-BLK1	420H1424.D	Water	08/14/20 15:34
ZZZZZ	BIH0199-BS1	420H1425.D	Water	08/14/20 15:54
ZZZZZ	BIH0199-BSD1	420H1426.D	Water	08/14/20 16:14
ZZZZZ	20H0099-01	420H1427.D	Water	08/14/20 16:33
ZZZZZ	20H0099-02	420H1428.D	Water	08/14/20 16:53
ZZZZZ	20H0099-03	420H1429.D	Water	08/14/20 17:13
ZZZZZ	20H0099-04	420H1430.D	Water	08/14/20 17:32
DIESEL CCV	SIH0165-CCV4	420H1431.D	NA	08/14/20 17:52
MOIL CCV	SIH0165-CCV5	420H1432.D	NA	08/14/20 18:11
JETA CCV	SIH0165-CCV6	420H1433.D	NA	08/14/20 18:31
ZZZZZ	BIH0218-BLK1	420H1434.D	Water	08/14/20 18:51
ZZZZZ	BIH0218-BS1	420H1435.D	Water	08/14/20 19:10
ZZZZZ	BIH0218-BSD1	420H1436.D	Water	08/14/20 19:30
ZZZZZ	20H0114-01	420H1437.D	Water	08/14/20 19:49
ZZZZZ	20H0114-02	420H1438.D	Water	08/14/20 20:09

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	14-AUG-2020	08:04	420H1401.D	1	RINSE	
2	14-AUG-2020	08:23	420H1402.D	1	RINSE	
3	14-AUG-2020	08:43	420H1403.D	1	SEQ-IBL1	
4	14-AUG-2020	09:03	420H1404.D	1	SEQ-IBL2	
5	14-AUG-2020	09:22	420H1405.D	1	SEQ-ICV1	
6	14-AUG-2020	09:42	420H1406.D	1	SEQ-ICV2	
7	14-AUG-2020	10:01	420H1407.D	1	SEQ-ICV3	
8	14-AUG-2020	10:21	420H1408.D	1	BIH0223-BLK1	
9	14-AUG-2020	10:41	420H1409.D	1	BIH0223-BS1	
10	14-AUG-2020	11:00	420H1410.D	1	20H0120-01	
11	14-AUG-2020	11:20	420H1411.D	1	20H0120-02	
12	14-AUG-2020	11:39	420H1412.D	1	20H0120-03	
13	14-AUG-2020	11:59	420H1413.D	1	SEQ-CCV1	
14	14-AUG-2020	12:18	420H1414.D	1	SEQ-CCV2	
15	14-AUG-2020	12:38	420H1415.D	1	SEQ-CCV3	
16	14-AUG-2020	12:58	420H1416.D	1	SEQ-ICV4	
17	14-AUG-2020	13:17	420H1417.D	1	BIH0255-BLK1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 14-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0804	420H1401.D	RINSE		1	NO MANUAL INTEGRATION
0823	420H1402.D	RINSE		1	NO MANUAL INTEGRATION
0843	420H1403.D	SEQ-IBL1		1	C40,
0903	420H1404.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0922	420H1405.D	SEQ-ICV1		1	o-terph,
0942	420H1406.D	SEQ-ICV2		1	Triacon Surr,
1001	420H1407.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
1021	420H1408.D	BIH0223-BLK1		1	o-terph,
1041	420H1409.D	BIH0223-BS1		1	NO MANUAL INTEGRATION
1100	420H1410.D	20H0120-01		1	o-terph, Triacon Surr,
1120	420H1411.D	20H0120-02		1	o-terph, Triacon Surr,
1139	420H1412.D	20H0120-03		1	o-terph, Triacon Surr,
1159	420H1413.D	SEQ-CCV1		1	o-terph,
1218	420H1414.D	SEQ-CCV2		1	Triacon Surr,
1238	420H1415.D	SEQ-CCV3		1	NO MANUAL INTEGRATION

Security Status Report

Date: 14-Aug-2020 13:57

420H1401.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1402.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1403.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1404.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1405.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1406.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1407.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1408.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1409.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1410.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1411.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1412.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1413.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1414.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1415.D	Data Locked	christopher, 14-Aug-2020 13:52



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIJ0042

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIJ0042-IBL1	420J0203.D	NA	10/02/20 09:21
Instrument Blank	SIJ0042-IBL2	420J0204.D	NA	10/02/20 09:42
DIESEL ICV	SIJ0042-ICV1	420J0205.D	NA	10/02/20 10:02
MOIL ICV	SIJ0042-ICV2	420J0206.D	NA	10/02/20 10:22
A/S CREOSOTE 100	SIJ0042-CAL1	420J0207.D	NA	10/02/20 10:43
A/S CREOSOTE 250	SIJ0042-CAL2	420J0208.D	NA	10/02/20 11:04
A/S CREOSOTE 500	SIJ0042-CAL3	420J0209.D	NA	10/02/20 11:24
A/S CREOSOTE 1000	SIJ0042-CAL4	420J0210.D	NA	10/02/20 11:45
A/S CREOSOTE 2500	SIJ0042-CAL5	420J0211.D	NA	10/02/20 12:05
A/S CREOSOTE 5000	SIJ0042-CAL6	420J0212.D	NA	10/02/20 12:26
A/S CREOSOTE ICV	SIJ0042-ICV3	420J0213.D	NA	10/02/20 12:46
ZZZZZ	BII0597-BLK1	420J0214.D	Water	10/02/20 13:07
ZZZZZ	BII0597-BS1	420J0215.D	Water	10/02/20 13:27
ZZZZZ	BII0597-BSD1	420J0216.D	Water	10/02/20 13:48
ZZZZZ	20I0229-02	420J0217.D	Water	10/02/20 14:08
ZZZZZ	20I0229-03	420J0218.D	Water	10/02/20 14:29
ZZZZZ	20I0229-04	420J0219.D	Water	10/02/20 14:50
ZZZZZ	20I0229-05	420J0220.D	Water	10/02/20 15:10
ZZZZZ	20I0229-06	420J0221.D	Water	10/02/20 15:31
ZZZZZ	20I0229-07	420J0222.D	Water	10/02/20 15:51
ZZZZZ	20I0229-08	420J0223.D	Water	10/02/20 16:12
ZZZZZ	20I0229-09	420J0224.D	Water	10/02/20 16:32
ZZZZZ	20I0229-10	420J0225.D	Water	10/02/20 16:52
ZZZZZ	20I0229-11	420J0226.D	Water	10/02/20 17:13
DIESEL CCV	SIJ0042-CCV1	420J0227.D	NA	10/02/20 17:33
MOIL CCV	SIJ0042-CCV2	420J0228.D	NA	10/02/20 17:54
A/S CREOSOTE CCV	SIJ0042-CCV3	420J0229.D	NA	10/02/20 18:14
ZZZZZ	20I0229-12	420J0230.D	Water	10/02/20 18:35
ZZZZZ	20I0229-13	420J0231.D	Water	10/02/20 18:55
ZZZZZ	20I0229-14	420J0232.D	Water	10/02/20 19:16



ANALYSIS SEQUENCE

SIJ0042

Instrument: FID4
Calibration ID: DA00022

Printed: 10/11/2020 10:46:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIJ0042-IBL1	QC		1		I006239			
SIJ0042-IBL2	QC		2		I006241			
SIJ0042-ICV1	QC		3		I008275			
SIJ0042-ICV2	QC		4		I008935			
SIJ0042-CAL1	QC		5		I009068			
SIJ0042-CAL2	QC		6		I009067			
SIJ0042-CAL3	QC		7		I009066			
SIJ0042-CAL4	QC		8		I009064			
SIJ0042-CAL5	QC		9		I009065			
SIJ0042-CAL6	QC		10		I009005			
SIJ0042-ICV3	QC		11		I009064			
BII0597-BLK1	QC		12					
BII0597-BS1	QC		13					
BII0597-BSD1	QC		14					
20I0229-02	PH NW (Extractables) low lev	C 01	15				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-03	PH NW (Extractables) low lev	C 01	16				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-04	PH NW (Extractables) low lev	C 01	17				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-05	PH NW (Extractables) low lev	C 01	18				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-06	PH NW (Extractables) low lev	C 01	19				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-07	PH NW (Extractables) low lev	C 01	20				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-08	PH NW (Extractables) low lev	C 01	21				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIJ0042

Instrument: FID4
Calibration ID: DA00022

Printed: 10/11/2020 10:46:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20I0229-09	PH NW (Extractables) low lev	C 01	22				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-10	PH NW (Extractables) low lev	C 01	23				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-11	PH NW (Extractables) low lev	C 01	24				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
SIJ0042-CCV1	QC		25		I008275			
SIJ0042-CCV2	QC		26		I008935			
SIJ0042-CCV3	QC		27		I009064			
20I0229-12	PH NW (Extractables) low lev	C 01	28				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-13	PH NW (Extractables) low lev	C 01	29				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-14	PH NW (Extractables) low lev	C 01	30				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-15	PH NW (Extractables) low lev	C 01	31				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-16	PH NW (Extractables) low lev	C 01	32				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0307-01	PH NW (Extractables) low lev	O 01	33				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-02	PH NW (Extractables) low lev	O 01	34				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-03	PH NW (Extractables) low lev	O 01	35				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-04	PH NW (Extractables) low lev	O 01	36				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
SIJ0042-CCV4	QC		37		I008275			
SIJ0042-CCV5	QC		38		I008935			
SIJ0042-CCV6	QC		39		I009064			
20I0350-01	PH NW (Extractables) low lev	A 01	40				Geosyntec Consultants	
20I0350-02	PH NW (Extractables) low lev	A 01	41				Geosyntec Consultants	
20I0350-03	PH NW (Extractables) low lev	A 01	42				Geosyntec Consultants	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - fid4a.i\20201002.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-OCT-2020	08:41	420J0201.D	1	RINSE	
2	02-OCT-2020	09:01	420J0202.D	1	RINSE	
3	02-OCT-2020	09:21	420J0203.D	1	SEQ-IBL1	
4	02-OCT-2020	09:42	420J0204.D	1	SEQ-IBL2	
5	02-OCT-2020	10:02	420J0205.D	1	SEQ-ICV1	
6	02-OCT-2020	10:22	420J0206.D	1	SEQ-ICV2	
7	02-OCT-2020	10:43	420J0207.D	1	SEQ-CAL1	
8	02-OCT-2020	11:04	420J0208.D	1	SEQ-CAL2	
9	02-OCT-2020	11:24	420J0209.D	1	SEQ-CAL3	
10	02-OCT-2020	11:45	420J0210.D	1	SEQ-CAL4	
11	02-OCT-2020	12:05	420J0211.D	1	SEQ-CAL5	
12	02-OCT-2020	12:26	420J0212.D	1	SEQ-CAL6	
13	02-OCT-2020	12:46	420J0213.D	1	SEQ-ICV3	
14	02-OCT-2020	13:07	420J0214.D	1	BII0597-BLK1	
15	02-OCT-2020	13:27	420J0215.D	1	BII0597-BS1	
16	02-OCT-2020	13:48	420J0216.D	1	BII0597-BSD1	
17	02-OCT-2020	14:08	420J0217.D	1	20I0229-02	
18	02-OCT-2020	14:29	420J0218.D	1	20I0229-03	
19	02-OCT-2020	14:50	420J0219.D	1	20I0229-04	
20	02-OCT-2020	15:10	420J0220.D	1	20I0229-05	
21	02-OCT-2020	15:31	420J0221.D	1	20I0229-06	
22	02-OCT-2020	15:51	420J0222.D	1	20I0229-07	
23	02-OCT-2020	16:12	420J0223.D	1	20I0229-08	
24	02-OCT-2020	16:32	420J0224.D	1	20I0229-09	
25	02-OCT-2020	16:52	420J0225.D	1	20I0229-10	
26	02-OCT-2020	17:13	420J0226.D	1	20I0229-11	
27	02-OCT-2020	17:33	420J0227.D	1	SEQ-CCV1	
28	02-OCT-2020	17:54	420J0228.D	1	SEQ-CCV2	
29	02-OCT-2020	18:14	420J0229.D	1	SEQ-CCV3	
30	02-OCT-2020	18:35	420J0230.D	1	20I0229-12	
31	02-OCT-2020	18:55	420J0231.D	1	20I0229-13	
32	02-OCT-2020	19:16	420J0232.D	1	20I0229-14	
33	02-OCT-2020	19:36	420J0233.D	1	20I0229-15	
34	02-OCT-2020	19:57	420J0234.D	1	20I0229-16	
35	02-OCT-2020	20:17	420J0235.D	1	20I0307-01	
36	02-OCT-2020	20:37	420J0236.D	1	20I0307-02	
37	02-OCT-2020	20:58	420J0237.D	1	20I0307-03	
38	02-OCT-2020	21:18	420J0238.D	1	20I0307-04	
39	02-OCT-2020	21:39	420J0239.D	1	SEQ-CCV4	
40	02-OCT-2020	21:59	420J0240.D	1	SEQ-CCV5	
41	02-OCT-2020	22:20	420J0241.D	1	SEQ-CCV6	
42	02-OCT-2020	22:40	420J0242.D	1	20I0350-01	
43	02-OCT-2020	23:00	420J0243.D	1	20I0350-02	
44	02-OCT-2020	23:21	420J0244.D	1	20I0350-03	
45	02-OCT-2020	23:41	420J0245.D	1	20I0350-04	
46	03-OCT-2020	00:02	420J0246.D	1	20I0350-05	
47	03-OCT-2020	00:22	420J0247.D	1	20I0350-06	
48	03-OCT-2020	00:42	420J0248.D	1	20I0350-07	
49	03-OCT-2020	01:03	420J0249.D	1	20I0217-01	
50	03-OCT-2020	01:23	420J0250.D	200	20I0217-02	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	03-OCT-2020	01:44	420J0251.D	50	20I0217-02	
52	03-OCT-2020	02:04	420J0252.D	1	SEQ-CCV7	
53	03-OCT-2020	02:24	420J0253.D	1	SEQ-CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-OCT-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	420J0201.D	RINSE		1	NO MANUAL INTEGRATION
0901	420J0202.D	RINSE		1	NO MANUAL INTEGRATION
0921	420J0203.D	SEQ-IBL1		1	C40, Triacon Surr,
0942	420J0204.D	SEQ-IBL2		1	Triacon Surr,
1002	420J0205.D	SEQ-ICV1		1	o-terph,
1022	420J0206.D	SEQ-ICV2		1	Triacon Surr,
1043	420J0207.D	SEQ-CAL1		1	o-terph,
1104	420J0208.D	SEQ-CAL2		1	o-terph,
1124	420J0209.D	SEQ-CAL3		1	o-terph,
1145	420J0210.D	SEQ-CAL4		1	o-terph,
1205	420J0211.D	SEQ-CAL5		1	o-terph,
1226	420J0212.D	SEQ-CAL6		1	o-terph,
1246	420J0213.D	SEQ-ICV3		1	o-terph,
1307	420J0214.D	BII0597-BLK1		1	Triacon Surr,
1327	420J0215.D	BII0597-BS1		1	o-terph,
1348	420J0216.D	BII0597-BSD1		1	o-terph,
1408	420J0217.D	20I0229-02		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1429	420J0218.D	20I0229-03	1		NO MANUAL INTEGRATION
1450	420J0219.D	20I0229-04	1		NO MANUAL INTEGRATION
1510	420J0220.D	20I0229-05	1		NO MANUAL INTEGRATION
1531	420J0221.D	20I0229-06	1		NO MANUAL INTEGRATION
1551	420J0222.D	20I0229-07	1		Triacon Surr,
1612	420J0223.D	20I0229-08	1		NO MANUAL INTEGRATION
1632	420J0224.D	20I0229-09	1		NO MANUAL INTEGRATION
1652	420J0225.D	20I0229-10	1		NO MANUAL INTEGRATION
1713	420J0226.D	20I0229-11	1		NO MANUAL INTEGRATION
1733	420J0227.D	SEQ-CCV1	1		o-terph,
1754	420J0228.D	SEQ-CCV2	1		Triacon Surr,
1814	420J0229.D	SEQ-CCV3	1		o-terph,
1835	420J0230.D	20I0229-12	1		NO MANUAL INTEGRATION
1855	420J0231.D	20I0229-13	1		NO MANUAL INTEGRATION
1916	420J0232.D	20I0229-14	1		NO MANUAL INTEGRATION
1936	420J0233.D	20I0229-15	1		NO MANUAL INTEGRATION
1957	420J0234.D	20I0229-16	1		o-terph,
2017	420J0235.D	20I0307-01	1		o-terph, Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2037	420J0236.D	20I0307-02	1	o-terph,	Triacon Surr,
2058	420J0237.D	20I0307-03	1	o-terph,	Triacon Surr,
2118	420J0238.D	20I0307-04	1	o-terph,	Triacon Surr,
2139	420J0239.D	SEQ-CCV4	1	o-terph,	
2159	420J0240.D	SEQ-CCV5	1	Triacon Surr,	
2220	420J0241.D	SEQ-CCV6	1	o-terph,	
2240	420J0242.D	20I0350-01	1	NO MANUAL INTEGRATION	
2300	420J0243.D	20I0350-02	1	o-terph,	
2321	420J0244.D	20I0350-03	1	o-terph,	
2341	420J0245.D	20I0350-04	1	o-terph,	Triacon Surr,
0002	420J0246.D	20I0350-05	1	o-terph,	
0022	420J0247.D	20I0350-06	1	o-terph,	
0042	420J0248.D	20I0350-07	1	o-terph,	Triacon Surr,
0103	420J0249.D	20I0217-01	1	o-terph,	Triacon Surr,
0123	420J0250.D	20I0217-02	200	o-terph,	Triacon Surr,
0144	420J0251.D	20I0217-02	50	NO MANUAL INTEGRATION	
0204	420J0252.D	SEQ-CCV7	1	o-terph,	
0224	420J0253.D	SEQ-CCV8	1	Triacon Surr,	

420J0245.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0246.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0247.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0248.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0249.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0250.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0251.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0252.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0253.D	Data Locked	christopher, 11-Oct-2020 10:45



Extract Dilution Bench Sheet

Sequence: SII0042
Analyst: CTO Date: _____

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
20I0217-02	5	DCM	995	200				
20I0217-02	20	DCM	980	50				



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0016

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIK0016-IBL1	420K0203.D	NA	11/02/20 09:10
Instrument Blank	SIK0016-IBL2	420K0204.D	NA	11/02/20 09:30
DIESEL ICV	SIK0016-ICV1	420K0205.D	NA	11/02/20 09:50
MOIL ICV	SIK0016-ICV2	420K0206.D	NA	11/02/20 10:10
A/S LANDAU BUNKER C 100	SIK0016-CAL1	420K0207.D	NA	11/02/20 10:31
A/S LANDAU BUNKER C 250	SIK0016-CAL2	420K0208.D	NA	11/02/20 10:51
A/S LANDAU BUNKER C 500	SIK0016-CAL3	420K0209.D	NA	11/02/20 11:11
A/S LANDAU BUNKER C 1000	SIK0016-CAL4	420K0210.D	NA	11/02/20 11:32
A/S LANDAU BUNKER C 2500	SIK0016-CAL5	420K0211.D	NA	11/02/20 11:52
A/S LANDAU BUNKER C 5000	SIK0016-CAL6	420K0212.D	NA	11/02/20 12:13
A/S LANDAU BUNKER C	SIK0016-ICV3	420K0213.D	NA	11/02/20 12:33
ZZZZZ	20J0250-02	420K0214.D	Solid	11/02/20 12:53
ZZZZZ	20J0265-01	420K0215.D	Water	11/02/20 13:14
DIESEL CCV	SIK0016-CCV1	420K0216.D	NA	11/02/20 13:34
MOIL CCV	SIK0016-CCV2	420K0217.D	NA	11/02/20 13:55
A/S LANDAU BUNKER C	SIK0016-CCV3	420K0218.D	NA	11/02/20 14:15
ZZZZZ	BIJ0617-BLK1	420K0219.D	Water	11/02/20 14:36
ZZZZZ	BIJ0617-BS1	420K0220.D	Water	11/02/20 14:56
ZZZZZ	BIJ0617-BSD1	420K0221.D	Water	11/02/20 15:17
ZZZZZ	20J0265-02	420K0224.D	Water	11/02/20 16:18
ZZZZZ	20J0265-03	420K0225.D	Water	11/02/20 16:39
ZZZZZ	20J0265-04	420K0226.D	Water	11/02/20 16:59
ZZZZZ	20J0265-05	420K0227.D	Water	11/02/20 17:19
ZZZZZ	20J0265-06	420K0228.D	Water	11/02/20 17:40
ZZZZZ	20J0265-07	420K0229.D	Water	11/02/20 18:00
ZZZZZ	20J0265-08	420K0230.D	Water	11/02/20 18:21
ZZZZZ	20J0265-09	420K0231.D	Water	11/02/20 18:41
ZZZZZ	20J0265-10	420K0232.D	Water	11/02/20 19:01
ZZZZZ	20J0265-11	420K0233.D	Water	11/02/20 19:22
DIESEL CCV	SIK0016-CCV4	420K0234.D	NA	11/02/20 19:42



ANALYSIS SEQUENCE

SIK0016

Instrument: FID4
Calibration ID: DA00022

Printed: 11/3/2020 9:50:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIK0016-IBL1	QC		1		I006239			
SIK0016-IBL2	QC		2		I006241			
SIK0016-ICV1	QC		3		I008275			
SIK0016-ICV2	QC		4		I008935			
SIK0016-CAL1	QC		5		I010265			
SIK0016-CAL2	QC		6		I010264			
SIK0016-CAL3	QC		7		I010263			
SIK0016-CAL4	QC		8		I010262			
SIK0016-CAL5	QC		9		I010261			
SIK0016-CAL6	QC		10		I010260			
SIK0016-ICV3	QC		11		I010263			
20J0250-02	PH NW (Extractables) low lev	A 01	12				Seattle Public Utilities	A/S Clean up version
20J0265-01	PH NW (Extractables) low lev	A 01	13				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
SIK0016-CCV1	QC		14		I008275			
SIK0016-CCV2	QC		15		I008935			
SIK0016-CCV3	QC		16		I010263			
BIJ0617-BLK1	QC		17					
BIJ0617-BS1	QC		18					
BIJ0617-BSD1	QC		19					
BIJ0617-MS1	QC		20					
BIJ0617-MSD1	QC		21					

Samples Loaded By

Date

Data Processed By

Date



ANALYSIS SEQUENCE

SIK0016

Instrument: FID4
Calibration ID: DA00022

Printed: 11/3/2020 9:50:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20J0265-02	PH NW (Extractables) low lev	A 01	22				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-03	PH NW (Extractables) low lev	A 01	23				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-04	PH NW (Extractables) low lev	A 01	24				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-05	PH NW (Extractables) low lev	A 01	25				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-06	PH NW (Extractables) low lev	A 01	26				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-07	PH NW (Extractables) low lev	A 01	27				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-08	PH NW (Extractables) low lev	A 01	28				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-09	PH NW (Extractables) low lev	A 01	29				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-10	PH NW (Extractables) low lev	A 01	30				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-11	PH NW (Extractables) low lev	A 01	31				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
SIK0016-CCV4	QC		32		I008275			
SIK0016-CCV5	QC		33		I008935			
SIK0016-CCV6	QC		34		I010263			

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - fid4a.i\20201102.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-NOV-2020	08:29	420K0201.D	1	RINSE	
2	02-NOV-2020	08:49	420K0202.D	1	RINSE	
3	02-NOV-2020	09:10	420K0203.D	1	SEQ-IBL1	
4	02-NOV-2020	09:30	420K0204.D	1	SEQ-IBL2	
5	02-NOV-2020	09:50	420K0205.D	1	SEQ-ICV1	
6	02-NOV-2020	10:10	420K0206.D	1	SEQ-ICV2	
7	02-NOV-2020	10:31	420K0207.D	1	SEQ-CAL1	
8	02-NOV-2020	10:51	420K0208.D	1	SEQ-CAL2	
9	02-NOV-2020	11:11	420K0209.D	1	SEQ-CAL3	
10	02-NOV-2020	11:32	420K0210.D	1	SEQ-CAL4	
11	02-NOV-2020	11:52	420K0211.D	1	SEQ-CAL5	
12	02-NOV-2020	12:13	420K0212.D	1	SEQ-CAL6	
13	02-NOV-2020	12:33	420K0213.D	1	SEQ-ICV3	
14	02-NOV-2020	12:53	420K0214.D	1	20J0250-02	
15	02-NOV-2020	13:14	420K0215.D	1	20J0265-01	
16	02-NOV-2020	13:34	420K0216.D	1	SEQ-CCV1	
17	02-NOV-2020	13:55	420K0217.D	1	SEQ-CCV2	
18	02-NOV-2020	14:15	420K0218.D	1	SEQ-CCV3	
19	02-NOV-2020	14:36	420K0219.D	1	BIJ0617-BLK1	
20	02-NOV-2020	14:56	420K0220.D	1	BIJ0617-BS1	
21	02-NOV-2020	15:17	420K0221.D	1	BIJ0617-BSD1	
22	02-NOV-2020	15:37	420K0222.D	1	BIJ0617-MS1	
23	02-NOV-2020	15:58	420K0223.D	1	BIJ0617-MSD1	
24	02-NOV-2020	16:18	420K0224.D	1	20J0265-02	
25	02-NOV-2020	16:39	420K0225.D	1	20J0265-03	
26	02-NOV-2020	16:59	420K0226.D	1	20J0265-04	
27	02-NOV-2020	17:19	420K0227.D	1	20J0265-05	
28	02-NOV-2020	17:40	420K0228.D	1	20J0265-06	
29	02-NOV-2020	18:00	420K0229.D	1	20J0265-07	
30	02-NOV-2020	18:21	420K0230.D	1	20J0265-08	
31	02-NOV-2020	18:41	420K0231.D	1	20J0265-09	
32	02-NOV-2020	19:01	420K0232.D	1	20J0265-10	
33	02-NOV-2020	19:22	420K0233.D	1	20J0265-11	
34	02-NOV-2020	19:42	420K0234.D	1	SEQ-CCV4	
35	02-NOV-2020	20:02	420K0235.D	1	SEQ-CCV5	
36	02-NOV-2020	20:23	420K0236.D	1	SEQ-CCV6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0829	420K0201.D	RINSE		1	NO MANUAL INTEGRATION
0849	420K0202.D	RINSE		1	NO MANUAL INTEGRATION
0910	420K0203.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0930	420K0204.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0950	420K0205.D	SEQ-ICV1		1	o-terph,
1010	420K0206.D	SEQ-ICV2		1	Triacon Surr,
1031	420K0207.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1051	420K0208.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
1111	420K0209.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
1132	420K0210.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
1152	420K0211.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
1213	420K0212.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
1233	420K0213.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
1253	420K0214.D	20J0250-02		1	o-terph, Triacon Surr,
1314	420K0215.D	20J0265-01		1	NO MANUAL INTEGRATION
1334	420K0216.D	SEQ-CCV1		1	o-terph,
1355	420K0217.D	SEQ-CCV2		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1415	420K0218.D	SEQ-CCV3	1		NO MANUAL INTEGRATION
1436	420K0219.D	BIJ0617-BLK1	1		NO MANUAL INTEGRATION
1456	420K0220.D	BIJ0617-BS1	1		o-terph,
1517	420K0221.D	BIJ0617-BSD1	1		o-terph,
1537	420K0222.D	BIJ0617-MS1	1		o-terph,
1558	420K0223.D	BIJ0617-MSD1	1		o-terph,
1618	420K0224.D	20J0265-02	1		NO MANUAL INTEGRATION
1639	420K0225.D	20J0265-03	1		NO MANUAL INTEGRATION
1659	420K0226.D	20J0265-04	1		NO MANUAL INTEGRATION
1719	420K0227.D	20J0265-05	1		NO MANUAL INTEGRATION
1740	420K0228.D	20J0265-06	1		NO MANUAL INTEGRATION
1800	420K0229.D	20J0265-07	1		NO MANUAL INTEGRATION
1821	420K0230.D	20J0265-08	1		NO MANUAL INTEGRATION
1841	420K0231.D	20J0265-09	1		NO MANUAL INTEGRATION
1901	420K0232.D	20J0265-10	1		NO MANUAL INTEGRATION
1922	420K0233.D	20J0265-11	1		NO MANUAL INTEGRATION
1942	420K0234.D	SEQ-CCV4	1		o-terph,
2002	420K0235.D	SEQ-CCV5	1		Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2023	420K0236.D	SEQ-CCV6	1		NO MANUAL INTEGRATION

Security Status Report

Date: 03-Nov-2020 09:49

420K0201.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0202.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0203.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0204.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0205.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0206.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0207.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0208.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0209.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0210.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0211.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0212.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0213.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0214.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0215.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0216.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0217.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0218.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0219.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0220.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0221.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0222.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0223.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0224.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0225.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0226.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0227.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0228.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0229.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0230.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0231.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0232.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0233.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0234.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0235.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0236.D	Data Locked	christopher,	03-Nov-2020	09:38



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0402

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIK0402-IBL1	420K2503.D	NA	11/25/20 17:07
Instrument Blank	SIK0402-IBL2	420K2504.D	NA	11/25/20 17:27
DIESEL ICV	SIK0402-ICV1	420K2505.D	NA	11/25/20 17:47
MOIL ICV	SIK0402-ICV2	420K2506.D	NA	11/25/20 18:08
Blank	BIK0374-BLK1	420K2507.D	Solid	11/25/20 20:36
LCS	BIK0374-BS1	420K2508.D	Solid	11/25/20 20:56
LCS Dup	BIK0374-BSD1	420K2509.D	Solid	11/25/20 21:16
ZZZZZ	20K0002-02	420K2510.D	Solid	11/25/20 21:36
ZZZZZ	20K0002-03	420K2513.D	Solid	11/25/20 22:37
ZZZZZ	20K0002-04	420K2514.D	Solid	11/25/20 22:57
PP8-5	20K0007-02	420K2515.D	Solid	11/25/20 23:17
PP8-10	20K0007-04	420K2516.D	Solid	11/25/20 23:38
PP11-2.5	20K0007-07	420K2517.D	Solid	11/25/20 23:58
PP11-7.5	20K0007-09	420K2518.D	Solid	11/26/20 00:18
PP12-2.5	20K0007-13	420K2519.D	Solid	11/26/20 00:38
PP10-2.5	20K0007-19	420K2521.D	Solid	11/26/20 01:19
DIESEL CCV	SIK0402-CCV1	420K2522.D	NA	11/26/20 01:39
MOIL CCV	SIK0402-CCV2	420K2523.D	NA	11/26/20 01:59
PP10-7.5	20K0007-21	420K2524.D	Solid	11/26/20 02:19
PP9-2.5	20K0007-25	420K2525.D	Solid	11/26/20 02:39
PP9-7.5	20K0007-27	420K2526.D	Solid	11/26/20 02:59
PP4-2.5	20K0007-31	420K2527.D	Solid	11/26/20 03:20
PP4-7.5	20K0007-33	420K2528.D	Solid	11/26/20 03:40
ZZZZZ	BIK0230-BLK1	420K2529.D	Water	11/26/20 04:00
ZZZZZ	BIK0230-BS1	420K2530.D	Water	11/26/20 04:20
ZZZZZ	BIK0230-BSD1	420K2531.D	Water	11/26/20 04:40
ZZZZZ	20K0035-01	420K2532.D	Water	11/26/20 05:00
ZZZZZ	20K0035-02	420K2533.D	Water	11/26/20 05:20
ZZZZZ	20K0035-03	420K2534.D	Water	11/26/20 05:41
ZZZZZ	20K0035-04	420K2535.D	Water	11/26/20 06:01



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Sequence: SIK0402 Instrument: FID4
Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20K0035-05	420K2536.D	Water	11/26/20 06:21
DIESEL CCV	SIK0402-CCV3	420K2537.D	NA	11/26/20 06:41
MOIL CCV	SIK0402-CCV4	420K2538.D	NA	11/26/20 07:02
ZZZZZ	20K0035-06	420K2539.D	Water	11/26/20 07:22
ZZZZZ	20K0105-01	420K2540.D	Water	11/26/20 07:42
ZZZZZ	20K0110-01	420K2541.D	Water	11/26/20 08:02
ZZZZZ	20K0110-02	420K2542.D	Water	11/26/20 08:22
ZZZZZ	20K0110-03	420K2543.D	Water	11/26/20 08:43
ZZZZZ	20K0111-04	420K2544.D	Water	11/26/20 09:03
ZZZZZ	20K0115-03	420K2545.D	Water	11/26/20 09:23
ZZZZZ	20K0115-12	420K2546.D	Water	11/26/20 09:43
ZZZZZ	20K0121-01	420K2547.D	Water	11/26/20 10:03
ZZZZZ	20K0142-08	420K2548.D	Water	11/26/20 10:24
DIESEL CCV	SIK0402-CCV5	420K2549.D	NA	11/26/20 10:44
MOIL CCV	SIK0402-CCV6	420K2550.D	NA	11/26/20 11:04
ZZZZZ	20J0387-19	420K2551.D	Solid	11/26/20 11:24
ZZZZZ	20J0387-25	420K2552.D	Solid	11/26/20 11:44
ZZZZZ	BIK0440-BLK1	420K2553.D	Water	11/26/20 12:05
ZZZZZ	BIK0440-BS1	420K2554.D	Water	11/26/20 12:25
ZZZZZ	20K0092-01	420K2555.D	Water	11/26/20 12:45
ZZZZZ	20K0092-02	420K2556.D	Water	11/26/20 13:05
ZZZZZ	20K0092-03	420K2557.D	Water	11/26/20 13:25
ZZZZZ	20K0092-04	420K2558.D	Water	11/26/20 13:45
ZZZZZ	20K0092-05	420K2559.D	Water	11/26/20 14:06
ZZZZZ	20K0155-01	420K2560.D	Water	11/26/20 14:26
ZZZZZ	20K0195-03	420K2561.D	Water	11/26/20 14:46
DIESEL CCV	SIK0402-CCV7	420K2562.D	NA	11/26/20 15:06
MOIL CCV	SIK0402-CCV8	420K2563.D	NA	11/26/20 15:27



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0411

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DIESEL ICV	SIK0411-ICV1	420K2905.D	NA	11/29/20 16:25
Retention Time Standard	SIK0411-IBL1	420K2903.D	NA	11/29/20 18:24
Instrument Blank	SIK0411-IBL2	420K2904.D	NA	11/29/20 18:44
MOIL ICV	SIK0411-ICV2	420K2906.D	NA	11/29/20 19:25
ZZZZZ	20K0154-04RE1	420K2907.D	Solid	11/29/20 19:45
ZZZZZ	20K0145-15	420K2908.D	Solid	11/29/20 20:05
ZZZZZ	20K0152-10	420K2909.D	Solid	11/29/20 20:25
ZZZZZ	20K0152-17	420K2910.D	Solid	11/29/20 20:45
ZZZZZ	20K0152-18	420K2911.D	Solid	11/29/20 21:05
ZZZZZ	20K0191-01	420K2916.D	Solid	11/29/20 22:46
ZZZZZ	20K0191-02	420K2917.D	Solid	11/29/20 23:06
ZZZZZ	20K0191-04	420K2918.D	Solid	11/29/20 23:26
ZZZZZ	20K0191-05	420K2919.D	Solid	11/29/20 23:46
ZZZZZ	20K0191-06	420K2920.D	Solid	11/30/20 00:07
DIESEL CCV	SIK0411-CCV1	420K2921.D	NA	11/30/20 00:27
MOIL CCV	SIK0411-CCV2	420K2922.D	NA	11/30/20 00:47
ZZZZZ	20K0191-07	420K2923.D	Solid	11/30/20 01:07
ZZZZZ	20K0191-11	420K2924.D	Solid	11/30/20 01:27
ZZZZZ	20K0191-12	420K2925.D	Solid	11/30/20 01:47
ZZZZZ	20K0191-14	420K2926.D	Solid	11/30/20 02:08
ZZZZZ	20K0191-15	420K2927.D	Solid	11/30/20 02:28
ZZZZZ	20K0191-16	420K2928.D	Solid	11/30/20 02:48
ZZZZZ	20K0191-17	420K2929.D	Solid	11/30/20 03:08
ZZZZZ	20K0191-18	420K2930.D	Solid	11/30/20 03:28
ZZZZZ	20K0191-21	420K2931.D	Solid	11/30/20 03:49
ZZZZZ	20K0191-22	420K2932.D	Solid	11/30/20 04:09
DIESEL CCV	SIK0411-CCV3	420K2933.D	NA	11/30/20 04:29
MOIL CCV	SIK0411-CCV4	420K2934.D	NA	11/30/20 04:49
ZZZZZ	20K0191-24	420K2935.D	Solid	11/30/20 05:09
ZZZZZ	20K0191-25	420K2936.D	Solid	11/30/20 05:30



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0411

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20K0191-26	420K2937.D	Solid	11/30/20 05:50
ZZZZZ	20K0191-27	420K2938.D	Solid	11/30/20 06:10
ZZZZZ	20K0191-28	420K2939.D	Solid	11/30/20 06:30
ZZZZZ	20K0204-07	420K2943.D	Solid	11/30/20 07:51
ZZZZZ	20K0117-21	420K2948.D	Solid	11/30/20 09:33
ZZZZZ	20K0170-04	420K2949.D	Solid	11/30/20 09:53
ZZZZZ	20K0170-14	420K2952.D	Solid	11/30/20 10:54
DIESEL CCV	SIK0411-CCV5	420K2953.D	NA	11/30/20 11:14
MOIL CCV	SIK0411-CCV6	420K2954.D	NA	11/30/20 11:34
PP12-7.5	20K0007-15	420K2955.D	Solid	11/30/20 14:22
DIESEL CCV	SIK0411-CCV7	420K2956.D	NA	11/30/20 14:42
MOIL CCV	SIK0411-CCV8	420K2957.D	NA	11/30/20 15:02



ANALYSIS SEQUENCE

SIK0411

Instrument: FID4
Calibration ID: DA00022

Printed: 11/30/2020 5:35:12PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20K0191-11	TPH NW (Extractables)	A 01	22				Anchor QEA, LLC	
20K0191-12	TPH NW (Extractables)	A 01	23				Anchor QEA, LLC	
20K0191-14	TPH NW (Extractables)	A 01	24				Anchor QEA, LLC	
20K0191-15	TPH NW (Extractables)	A 01	25				Anchor QEA, LLC	
20K0191-16	TPH NW (Extractables)	A 01	26				Anchor QEA, LLC	
20K0191-17	TPH NW (Extractables)	A 01	27				Anchor QEA, LLC	
20K0191-18	TPH NW (Extractables)	A 01	28				Anchor QEA, LLC	
20K0191-21	TPH NW (Extractables)	A 01	29				Anchor QEA, LLC	
20K0191-22	TPH NW (Extractables)	A 01	30				Anchor QEA, LLC	
SIK0411-CCV3	QC		31		I008275			
SIK0411-CCV4	QC		32		I008935			
20K0191-24	TPH NW (Extractables)	A 01	33				Anchor QEA, LLC	
20K0191-25	TPH NW (Extractables)	A 01	34				Anchor QEA, LLC	
20K0191-26	TPH NW (Extractables)	A 01	35				Anchor QEA, LLC	
20K0191-27	TPH NW (Extractables)	A 01	36				Anchor QEA, LLC	
20K0191-28	TPH NW (Extractables)	A 01	37				Anchor QEA, LLC	
BIK0744-BLK1	QC		38					
BIK0744-BS1	QC		39					
20K0204-07	TPH NW (Extractables)	A 02	40				Anchor QEA, LLC	
BIK0744-MS1	QC		41					
BIK0744-MSD1	QC		42					

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - fid4a.i\20201129.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	29-NOV-2020	17:44	420K2901.D	1	RINSE	
2	29-NOV-2020	18:04	420K2902.D	1	RINSE	
3	29-NOV-2020	18:24	420K2903.D	1	SEQ-IBL1	
4	29-NOV-2020	18:44	420K2904.D	1	SEQ-IBL2	
5	29-NOV-2020	16:25	420K2905.D	1	SEQ-ICV1	
6	29-NOV-2020	19:25	420K2906.D	1	SEQ-ICV2	
7	29-NOV-2020	19:45	420K2907.D	200	20K0154-04RE	
8	29-NOV-2020	20:05	420K2908.D	50	20K0145-15RE1	
9	29-NOV-2020	20:25	420K2909.D	50	20K0152-10RE1	
10	29-NOV-2020	20:45	420K2910.D	25	20K0152-17RE1	
11	29-NOV-2020	21:05	420K2911.D	50	20K0152-18RE1	
12	29-NOV-2020	21:25	420K2912.D	1	BIK0583-BLK1	
13	29-NOV-2020	21:46	420K2913.D	1	BIK0583-BS1	
14	29-NOV-2020	22:06	420K2914.D	1	BIK0583-MS1	
15	29-NOV-2020	22:26	420K2915.D	1	BIK0583-MSD1	
16	29-NOV-2020	22:46	420K2916.D	1	20K0191-01	
17	29-NOV-2020	23:06	420K2917.D	1	20K0191-02	
18	29-NOV-2020	23:26	420K2918.D	1	20K0191-04	
19	29-NOV-2020	23:46	420K2919.D	1	20K0191-05	
20	30-NOV-2020	00:07	420K2920.D	1	20K0191-06	
21	30-NOV-2020	00:27	420K2921.D	1	SEQ-CCV1	
22	30-NOV-2020	00:47	420K2922.D	1	SEQ-CCV2	
23	30-NOV-2020	01:07	420K2923.D	1	20K0191-07	
24	30-NOV-2020	01:27	420K2924.D	1	20K0191-11	
25	30-NOV-2020	01:47	420K2925.D	1	20K0191-12	
26	30-NOV-2020	02:08	420K2926.D	1	20K0191-14	
27	30-NOV-2020	02:28	420K2927.D	1	20K0191-15	
28	30-NOV-2020	02:48	420K2928.D	1	20K0191-16	
29	30-NOV-2020	03:08	420K2929.D	1	20K0191-17	
30	30-NOV-2020	03:28	420K2930.D	1	20K0191-18	
31	30-NOV-2020	03:49	420K2931.D	1	20K0191-21	
32	30-NOV-2020	04:09	420K2932.D	1	20K0191-22	
33	30-NOV-2020	04:29	420K2933.D	1	SEQ-CCV3	
34	30-NOV-2020	04:49	420K2934.D	1	SEQ-CCV4	
35	30-NOV-2020	05:09	420K2935.D	1	20K0191-24	
36	30-NOV-2020	05:30	420K2936.D	1	20K0191-25	
37	30-NOV-2020	05:50	420K2937.D	1	20K0191-26	
38	30-NOV-2020	06:10	420K2938.D	1	20K0191-27	
39	30-NOV-2020	06:30	420K2939.D	1	20K0191-28	
40	30-NOV-2020	06:51	420K2940.D	1	BIK0744-BLK1	
41	30-NOV-2020	07:11	420K2941.D	1	BIK0744-BS1	
42	30-NOV-2020	07:31	420K2942.D	1	20K0204-05	
43	30-NOV-2020	07:51	420K2943.D	1	20K0204-07	
44	30-NOV-2020	08:12	420K2944.D	1	BIK0744-MS1	
45	30-NOV-2020	08:32	420K2945.D	1	BIK0744-MSD1	
46	30-NOV-2020	08:52	420K2946.D	1	BIK0664-BLK1	
47	30-NOV-2020	09:12	420K2947.D	1	BIK0664-BS1	
48	30-NOV-2020	09:33	420K2948.D	10	20K0117-21	
49	30-NOV-2020	09:53	420K2949.D	1	20K0170-04	
50	30-NOV-2020	10:13	420K2950.D	1	BIK0664-MS1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	30-NOV-2020	10:33	420K2951.D	1	BIK0664-MSD1	
52	30-NOV-2020	10:54	420K2952.D	1	20K0170-14	
53	30-NOV-2020	11:14	420K2953.D	1	SEQ-CCV5	
54	30-NOV-2020	11:34	420K2954.D	1	SEQ-CCV6	
55	30-NOV-2020	14:22	420K2955.D	1	20K0007-15RE1	
56	30-NOV-2020	14:42	420K2956.D	1	SEQ-CCV7	
57	30-NOV-2020	15:02	420K2957.D	1	SEQ-CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 29-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1744	420K2901.D	RINSE		1	NO MANUAL INTEGRATION
1804	420K2902.D	RINSE		1	NO MANUAL INTEGRATION
1824	420K2903.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
1844	420K2904.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1625	420K2905.D	SEQ-ICV1		1	o-terph,
1925	420K2906.D	SEQ-ICV2		1	Triacon Surr,
1945	420K2907.D	20K0154-04RE		200	o-terph,
2005	420K2908.D	20K0145-15RE1		50	o-terph, Triacon Surr,
2025	420K2909.D	20K0152-10RE1		50	o-terph, Triacon Surr,
2045	420K2910.D	20K0152-17RE1		25	o-terph, Triacon Surr,
2105	420K2911.D	20K0152-18RE1		50	o-terph, Triacon Surr,
2125	420K2912.D	BIK0583-BLK1		1	NO MANUAL INTEGRATION
2146	420K2913.D	BIK0583-BS1		1	o-terph,
2206	420K2914.D	BIK0583-MS1		1	o-terph,
2226	420K2915.D	BIK0583-MSD1		1	o-terph,
2246	420K2916.D	20K0191-01		1	NO MANUAL INTEGRATION
2306	420K2917.D	20K0191-02		1	o-terph, Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2326	420K2918.D	20K0191-04	1		Triacon Surr,
2346	420K2919.D	20K0191-05	1		Triacon Surr,
0007	420K2920.D	20K0191-06	1		o-terph, Triacon Surr,
0027	420K2921.D	SEQ-CCV1	1		o-terph,
0047	420K2922.D	SEQ-CCV2	1		Triacon Surr,
0107	420K2923.D	20K0191-07	1		o-terph, Triacon Surr,
0127	420K2924.D	20K0191-11	1		NO MANUAL INTEGRATION
0147	420K2925.D	20K0191-12	1		o-terph, Triacon Surr,
0208	420K2926.D	20K0191-14	1		NO MANUAL INTEGRATION
0228	420K2927.D	20K0191-15	1		NO MANUAL INTEGRATION
0248	420K2928.D	20K0191-16	1		Triacon Surr,
0308	420K2929.D	20K0191-17	1		o-terph, Triacon Surr,
0328	420K2930.D	20K0191-18	1		o-terph, Triacon Surr,
0349	420K2931.D	20K0191-21	1		NO MANUAL INTEGRATION
0409	420K2932.D	20K0191-22	1		o-terph, Triacon Surr,
0429	420K2933.D	SEQ-CCV3	1		o-terph,
0449	420K2934.D	SEQ-CCV4	1		Triacon Surr,
0509	420K2935.D	20K0191-24	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0530	420K2936.D	20K0191-25	1	o-terph,	Triacon Surr,
0550	420K2937.D	20K0191-26	1	o-terph,	Triacon Surr,
0610	420K2938.D	20K0191-27	1	o-terph,	Triacon Surr,
0630	420K2939.D	20K0191-28	1	o-terph,	Triacon Surr,
0651	420K2940.D	BIK0744-BLK1	1		NO MANUAL INTEGRATION
0711	420K2941.D	BIK0744-BS1	1	o-terph,	
0731	420K2942.D	20K0204-05	1		Triacon Surr,
0751	420K2943.D	20K0204-07	1		NO MANUAL INTEGRATION
0812	420K2944.D	BIK0744-MS1	1	o-terph,	
0832	420K2945.D	BIK0744-MSD1	1	o-terph,	
0852	420K2946.D	BIK0664-BLK1	1		NO MANUAL INTEGRATION
0912	420K2947.D	BIK0664-BS1	1	o-terph,	
0933	420K2948.D	20K0117-21	10	o-terph,	Triacon Surr,
0953	420K2949.D	20K0170-04	1		NO MANUAL INTEGRATION
1013	420K2950.D	BIK0664-MS1	1	o-terph,	
1033	420K2951.D	BIK0664-MSD1	1	o-terph,	
1054	420K2952.D	20K0170-14	1	o-terph,	Triacon Surr,
1114	420K2953.D	SEQ-CCV5	1	o-terph,	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1134	420K2954.D	SEQ-CCV6	1		Triacon Surr,
1422	420K2955.D	20K0007-15RE1	1		o-terph, Triacon Surr,
1442	420K2956.D	SEQ-CCV7	1		o-terph,
1502	420K2957.D	SEQ-CCV8	1		Triacon Surr,

420K2945.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2946.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2947.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2948.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2949.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2950.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2951.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2952.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2953.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2954.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2955.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2956.D	Data Locked	christopher, 30-Nov-2020 17:36
420K2957.D	Data Locked	christopher, 30-Nov-2020 17:36



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SK2411
Analyst: JE Date: 11/29/20

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
20K0154-04 (20x)	100	DCM	900	200				
20K145-15	20	↓	980	50				
20K152-10 (5x)	100	↓	900	50				
20K152-17	40	↓	960	25				
20K152-18 (5x)	100	↓	900	50				
20K117-21	100	↓	900	10				



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIJ0042</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>10/25/2019</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIJ0042-ICV1 (Water)			Lab File ID: 420J0205.D			Analyzed: 10/02/20 10:02		
o-Terphenyl	90.000	89.6	85 - 115	6.28	6.66	-0.3800	N/A	
SIJ0042-ICV3 (Water)			Lab File ID: 420J0213.D			Analyzed: 10/02/20 12:46		
o-Terphenyl	90.000	94.7	85 - 115	6.28	6.66	-0.3800	N/A	
SIJ0042-CCV1 (Water)			Lab File ID: 420J0227.D			Analyzed: 10/02/20 17:33		
o-Terphenyl	90.000	88.3	85 - 115	6.28	6.66	-0.3800	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0402</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0402-IBL1 (Solid)			Lab File ID: 420K2503.D			Analyzed: 11/25/20 17:07		
o-Terphenyl	100.00	101	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0402-IBL2 (Solid)			Lab File ID: 420K2504.D			Analyzed: 11/25/20 17:27		
o-Terphenyl	100.00	98.1	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0402-ICV1 (Solid)			Lab File ID: 420K2505.D			Analyzed: 11/25/20 17:47		
o-Terphenyl	90.000	95.1	85 - 115	6.2	6.66	-0.4600	N/A	
BIK0374-BLK1 (Solid)			Lab File ID: 420K2507.D			Analyzed: 11/25/20 20:36		
o-Terphenyl	11.250	88.8	50 - 150	6.2	6.66	-0.4600	N/A	
BIK0374-BS1 (Solid)			Lab File ID: 420K2508.D			Analyzed: 11/25/20 20:56		
o-Terphenyl	11.250	96.2	50 - 150	6.21	6.66	-0.4500	N/A	
BIK0374-BSD1 (Solid)			Lab File ID: 420K2509.D			Analyzed: 11/25/20 21:16		
o-Terphenyl	11.250	86.6	50 - 150	6.21	6.66	-0.4500	N/A	
20K0007-02 (Solid)			Lab File ID: 420K2515.D			Analyzed: 11/25/20 23:17		
o-Terphenyl	14.443	90.0	50 - 150	6.21	6.66	-0.4500	N/A	
20K0007-04 (Solid)			Lab File ID: 420K2516.D			Analyzed: 11/25/20 23:38		
o-Terphenyl	15.787	91.6	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-07 (Solid)			Lab File ID: 420K2517.D			Analyzed: 11/25/20 23:58		
o-Terphenyl	14.137	79.4	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-09 (Solid)			Lab File ID: 420K2518.D			Analyzed: 11/26/20 00:18		
o-Terphenyl	15.174	79.8	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-13 (Solid)			Lab File ID: 420K2519.D			Analyzed: 11/26/20 00:38		
o-Terphenyl	13.497	84.4	50 - 150	6.19	6.66	-0.4700	N/A	
20K0007-19 (Solid)			Lab File ID: 420K2521.D			Analyzed: 11/26/20 01:19		
o-Terphenyl	12.557	88.9	50 - 150	6.18	6.66	-0.4800	N/A	
SIK0402-CCV1 (Solid)			Lab File ID: 420K2522.D			Analyzed: 11/26/20 01:39		
o-Terphenyl	90.000	97.2	85 - 115	6.2	6.66	-0.4600	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0402</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0007-21 (Solid)		Lab File ID: 420K2524.D			Analyzed: 11/26/20 02:19			
o-Terphenyl	14.516	87.1	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-25 (Solid)		Lab File ID: 420K2525.D			Analyzed: 11/26/20 02:39			
o-Terphenyl	12.893	85.2	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-27 (Solid)		Lab File ID: 420K2526.D			Analyzed: 11/26/20 02:59			
o-Terphenyl	20.505	77.2	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-31 (Solid)		Lab File ID: 420K2527.D			Analyzed: 11/26/20 03:20			
o-Terphenyl	12.688	83.1	50 - 150	6.2	6.66	-0.4600	N/A	
20K0007-33 (Solid)		Lab File ID: 420K2528.D			Analyzed: 11/26/20 03:40			
o-Terphenyl	14.730	95.8	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0402-CCV3 (Solid)		Lab File ID: 420K2537.D			Analyzed: 11/26/20 06:41			
o-Terphenyl	90.000	95.3	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0402-CCV5 (Solid)		Lab File ID: 420K2549.D			Analyzed: 11/26/20 10:44			
o-Terphenyl	90.000	99.4	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0402-CCV7 (Solid)		Lab File ID: 420K2562.D			Analyzed: 11/26/20 15:06			
o-Terphenyl	90.000	97.8	85 - 115	6.2	6.66	-0.4600	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0411</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>10/25/2019</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0411-ICV1 (Solid)			Lab File ID: 420K2905.D			Analyzed: 11/29/20 16:25		
o-Terphenyl	90.000	90.4	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0411-IBL1 (Solid)			Lab File ID: 420K2903.D			Analyzed: 11/29/20 18:24		
o-Terphenyl	100.00	103	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0411-IBL2 (Solid)			Lab File ID: 420K2904.D			Analyzed: 11/29/20 18:44		
o-Terphenyl	100.00	106	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0411-CCV1 (Solid)			Lab File ID: 420K2921.D			Analyzed: 11/30/20 00:27		
o-Terphenyl	90.000	91.8	85 - 115	6.19	6.66	-0.4700	N/A	
SIK0411-CCV3 (Solid)			Lab File ID: 420K2933.D			Analyzed: 11/30/20 04:29		
o-Terphenyl	90.000	93.8	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0411-CCV5 (Solid)			Lab File ID: 420K2953.D			Analyzed: 11/30/20 11:14		
o-Terphenyl	90.000	96.6	85 - 115	6.2	6.66	-0.4600	N/A	
20K0007-15 (Solid)			Lab File ID: 420K2955.D			Analyzed: 11/30/20 14:22		
o-Terphenyl	14.387	82.6	50 - 150	6.19	6.66	-0.4700	N/A	
SIK0411-CCV7 (Solid)			Lab File ID: 420K2956.D			Analyzed: 11/30/20 14:42		
o-Terphenyl	90.000	100	85 - 115	6.19	6.66	-0.4700	N/A	



HOLDING TIME SUMMARY

Analysis: **NWTPH-Dx**

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP8-5 20K0007-02	10/30/20 08:50	10/31/20 12:30	11/13/20 14:23	14	14	11/25/20 23:17	12	40	
PP8-10 20K0007-04	10/30/20 09:00	10/31/20 12:30	11/13/20 14:23	14	14	11/25/20 23:38	12	40	
PP11-2.5 20K0007-07	10/30/20 09:35	10/31/20 12:30	11/13/20 14:23	14	14	11/25/20 23:58	12	40	
PP11-7.5 20K0007-09	10/30/20 09:45	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 00:18	12	40	
PP12-2.5 20K0007-13	10/30/20 10:50	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 00:38	12	40	
PP12-7.5 20K0007-15	10/30/20 11:00	10/31/20 12:30	11/13/20 14:23	14	14	11/30/20 14:22	17	40	
PP10-2.5 20K0007-19	10/30/20 12:35	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 01:19	12	40	
PP10-7.5 20K0007-21	10/30/20 12:45	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 02:19	12	40	
PP9-2.5 20K0007-25	10/30/20 13:30	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 02:39	13	40	
PP9-7.5 20K0007-27	10/30/20 13:40	10/31/20 12:30	11/13/20 14:23	14	14	11/26/20 02:59	13	40	
PP4-2.5 20K0007-31	10/30/20 14:25	10/31/20 12:30	11/13/20 14:23	13	14	11/26/20 03:20	13	40	
PP4-7.5 20K0007-33	10/30/20 14:35	10/31/20 12:30	11/13/20 14:23	13	14	11/26/20 03:40	13	40	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L



Dual Column

PP8-5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-02 A File ID: 20111710ECD5.D
 Sampled: 10/30/20 08:50 Prepared: 11/13/20 10:20 Analyzed: 11/17/20 22:10
 % Solids: 77.89 Preparation: EPA 3546 (Microwave) Initial/Final: 6.5 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	98.8	39.5	98.8	U
11104-28-2	Aroclor 1221	1	5	98.8	39.5	98.8	U
11141-16-5	Aroclor 1232	1	5	98.8	39.5	98.8	U
53469-21-9	Aroclor 1242	1	5	98.8	39.5	98.8	U
12672-29-6	Aroclor 1248	1	5	641	39.5	98.8	D
11097-69-1	Aroclor 1254	1	5	543	39.5	98.8	P1, D
11096-82-5	Aroclor 1260	1	5	450	45.8	98.8	D
37324-23-5	Aroclor 1262	1	5	98.8	45.8	98.8	U
11100-14-4	Aroclor 1268	1	5	98.8	45.8	98.8	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.503	36.2	91.8	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.503	32.5	82.3	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111710ECD5.D
Data file 2: /20201117.b/20201117.b/20111710ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-02
Client ID:
Injection Date: 17-NOV-2020 22:10
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: ~~1.000~~ 5x

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.096	-0.003	279457	6.313	-0.000	237083	6.6	6.7	1.6	Tetrachloro-m-xylene
13.904	-0.006	331625	14.530	-0.001	268766	7.3	7.5	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	16.5	16.7
Decachlorobiphenyl	18.4	18.7

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2904014	7.4
Hexabromobiphenyl	3964848	3817088	-3.7

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2752904	-5.5
Hexabromobiphenyl	2801720	2879767	2.8

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.481	-0.002	103104	86.8	1	7.781	-0.001	126703	83.0	
Aroclor-1016	2	7.836	-0.001	351898	93.4	2	8.352	-0.002	302969	97.8	
Aroclor-1016	3	7.972	-0.001	151356	97.8	3	8.544	-0.002	96223	74.0	
Aroclor-1016	4	8.285	-0.002	158594	154.3	4	9.186	-0.001	146461	152.8	
Total CollAve (4 peaks):					108.1	Total Col2Ave (4 peaks):					101.9
Corrected Ave (3 peaks):					92.7	Corrected Ave (3 peaks):					84.9
										RPD = 6	
										RPD = 9	
Aroclor-1221	1	---			0.0	1	5.700	0.047	5752	23.3	
Aroclor-1221	2	6.550	-0.003	18129	45.9	2	6.877	-0.003	3970	7.9	
Aroclor-1221	3	6.636	-0.003	40271	35.9	3	7.085	-0.003	6573	24.4	
CollAve: <3 Quant Peaks						Col2Ave:					18.6
Aroclor-1232	1	---			0.0	1	5.700	0.047	5752	40.0	
Aroclor-1232	2	7.481	-0.003	103104	197.4	2	7.781	-0.005	126703	178.5	
Aroclor-1232	3	7.836	0.000	351898	218.3	3	8.352	-0.005	302969	227.5	
Aroclor-1232	4	7.972	-0.002	151356	224.8	4	8.544	-0.005	96223	172.2	
Total CollAve (3 peaks):					213.5	Total Col2Ave (4 peaks):					154.5
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):					130.2
										RPD = 32	
Aroclor-1242	1	7.481	-0.001	103104	110.2	1	7.781	-0.001	126703	103.7	
Aroclor-1242	2	7.836	-0.000	351898	119.0	2	8.352	-0.002	302969	121.5	
Aroclor-1242	3	9.069	-0.003	300170	279.4	3	9.684	-0.007	139996	172.1	
Aroclor-1242	4	9.343	-0.008	231244	197.0	4	10.020	-0.011	122726	122.6	
Total CollAve (4 peaks):					176.4	Total Col2Ave (4 peaks):					130.0
Corrected Ave (3 peaks):					142.0	Corrected Ave (3 peaks):					115.9
										RPD = 30	
										RPD = 20	
Aroclor-1248	1	8.563	-0.002	208187	136.0	1	8.788	-0.001	128282	122.5	
Aroclor-1248	2	8.724	-0.003	210159	113.3	2	9.186	-0.001	146461	117.3	
Aroclor-1248	3	9.126	-0.000	311964	135.6	3	9.608	-0.004	189486	115.2	
Aroclor-1248	4	9.343	-0.007	231244	134.7	4	10.020	-0.009	122726	75.2	
Total CollAve (4 peaks):					129.9	Total Col2Ave (4 peaks):					107.5
Corrected Ave (3 peaks):					127.9	Corrected Ave (3 peaks):					102.6
										RPD = 19	
										RPD = 22	
Aroclor-1254	1	9.126	-0.007	311964	152.1	1	9.898	-0.001	178679	106.9	
Aroclor-1254	2	9.418	-0.004	259191	94.0	2	9.992	0.001	76213	86.9	
Aroclor-1254	3	9.492	-0.003	110871	105.6	3	10.410	-0.002	73779	57.6	
Aroclor-1254	4	9.788	0.010	718727	394.2	4	10.558	-0.000	285435	102.4	
Aroclor-1254	5	9.905	-0.003	317103	88.5	5	11.328	0.002	147708	86.3	
Total CollAve (5 peaks):					166.9	Total Col2Ave (5 peaks):					88.0
Corrected Ave (4 peaks):					110.0	Corrected Ave (4 peaks):					83.3
										RPD = 62*	
										RPD = 28	
Aroclor-1260	1	11.423	-0.004	212926	95.2	1	11.624	-0.003	144302	83.7	
Aroclor-1260	2	11.782	-0.005	494427	88.4	2	12.075	-0.002	196998	94.2	
Aroclor-1260	3	12.176	-0.005	260958	86.2	3	12.330	-0.003	343391	82.7	
Aroclor-1260	4	12.286	-0.005	114308	91.8	4	13.631	-0.003	106706	95.2	
Aroclor-1260	5	12.358	-0.005	138489	94.6	NS	---			----	
Total CollAve (5 peaks):					91.2	Total Col2Ave (4 peaks):					89.0
Corrected Ave (4 peaks):					90.2	Corrected Ave (3 peaks):					86.9
										RPD = 3	
										RPD = 4	
Aroclor-1262	1	11.114	-0.005	207273	63.6	1	11.624	-0.007	144302	54.3	
Aroclor-1262	2	11.782	-0.006	494427	70.9	2	12.075	-0.006	196998	94.9	
Aroclor-1262	3	12.176	-0.006	260958	107.2	3	12.330	-0.007	343391	64.8	
Aroclor-1262	4	12.286	-0.005	114308	53.4	4	12.848	-0.006	105484	56.1	
Aroclor-1262	5	12.358	-0.005	138489	55.7	NS	---			----	
Total CollAve (5 peaks):					70.2	Total Col2Ave (4 peaks):					67.5
Corrected Ave (4 peaks):					60.9	Corrected Ave (3 peaks):					58.4
										RPD = 4	
										RPD = 4	
Aroclor-1268	1	12.286	-0.005	114308	15.5	1	12.848	-0.005	105484	19.5	
Aroclor-1268	2	12.358	-0.004	138489	19.6	2	12.911	-0.009	260228	48.6	
Aroclor-1268	3	12.753	0.013	69836	11.1	3	13.308	-0.008	37536	8.5	
Aroclor-1268	4	12.502	0.008	40512	2.2	4	14.115	0.008	24877	1.9	
Total CollAve (4 peaks):					12.2	Total Col2Ave (4 peaks):					19.6
										RPD = 47*	

Corrected Ave (3 peaks): 9.7 Corrected Ave (3 peaks): 10.0 RPD = 3

Total PCB Area Col1 (6.199 - 13.810) = 9315666 Col1 Total PCB = 0.30 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7262433 Col2 Total PCB = 0.27 ppm*

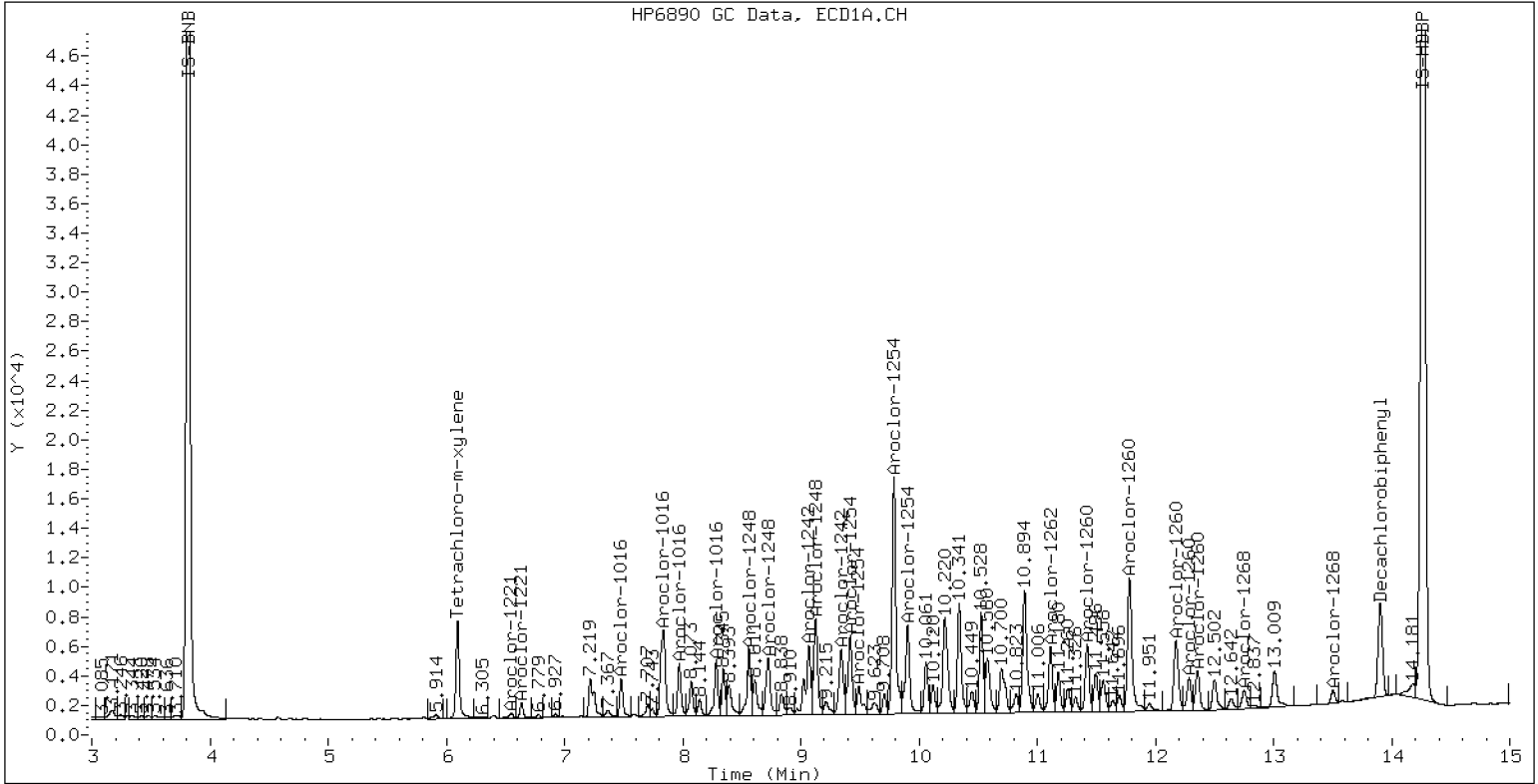
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

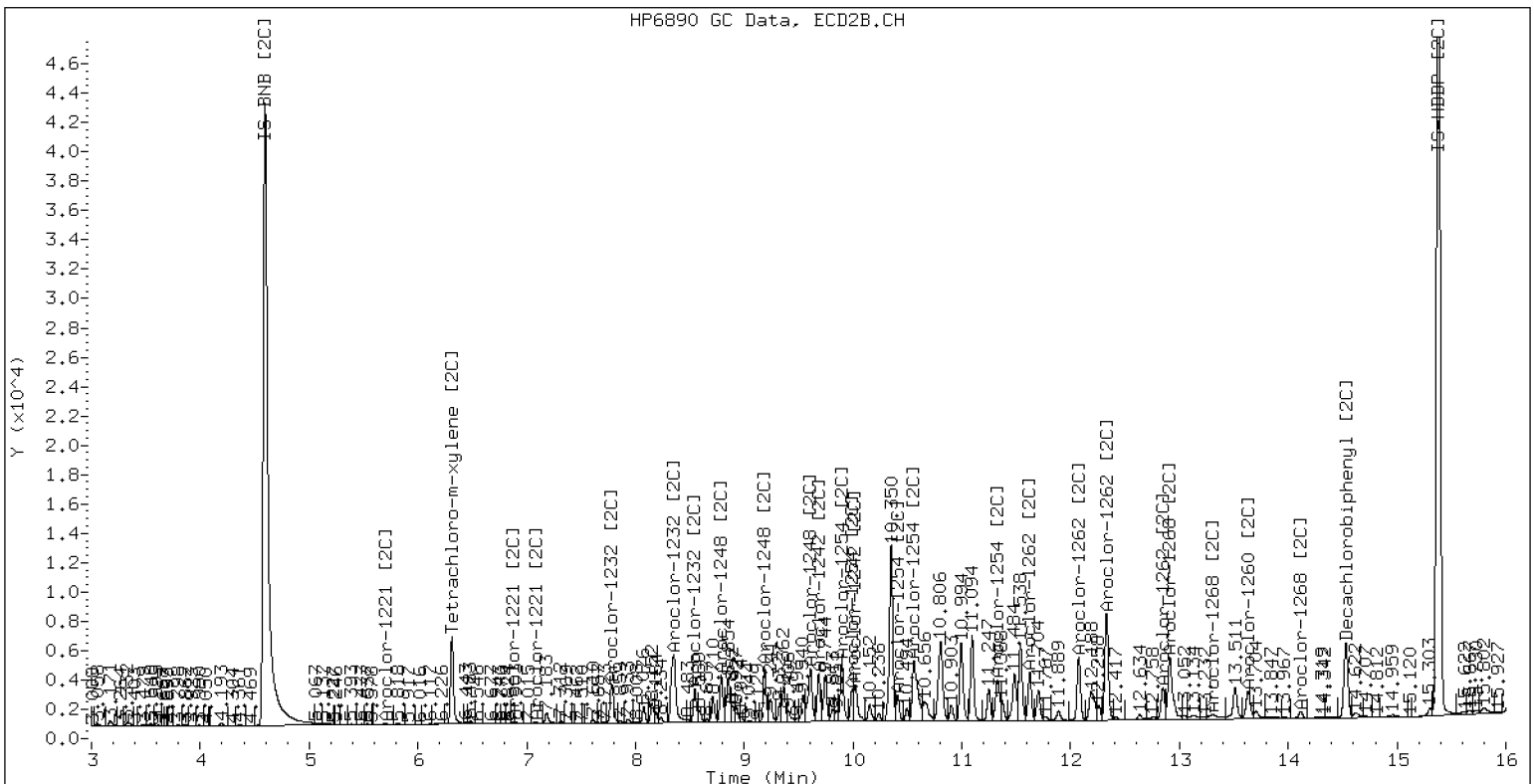
ECD5-ZB5 /20201117.b/20111710ECD5.D 20K007-02

17-NOV-2020 22:10 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111710ECD5.D 20K007-02



ZB-35 Manual Integration: NO



Dual Column

PP8-10

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-04 A File ID: 20111711ECD5.D
 Sampled: 10/30/20 09:00 Prepared: 11/13/20 10:20 Analyzed: 11/17/20 22:30
 % Solids: 71.19 Preparation: EPA 3546 (Microwave) Initial/Final: 7.09 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.8	7.9	19.8	U
11104-28-2	Aroclor 1221	1	1	19.8	7.9	19.8	U
11141-16-5	Aroclor 1232	1	1	19.8	7.9	19.8	U
53469-21-9	Aroclor 1242	1	1	19.8	7.9	19.8	U
12672-29-6	Aroclor 1248	1	1	11.4	7.9	19.8	J
11097-69-1	Aroclor 1254	2	1	19.8	7.9	19.8	U
11096-82-5	Aroclor 1260	2	1	19.8	9.2	19.8	U
37324-23-5	Aroclor 1262	1	1	19.8	9.2	19.8	U
11100-14-4	Aroclor 1268	1	1	19.8	9.2	19.8	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.625	29.9	75.5	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.625	26.2	66.2	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.625	30.3	76.5	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.625	28.2	71.1	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111711ECD5.D
Data file 2: /20201117.b/20201117.b/20111711ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-04
Client ID:
Injection Date: 17-NOV-2020 22:30
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	0.001 1205992	6.314 0.001 1071165	26.5	28.4	7.1	Tetrachloro-m-xylene	
13.905	-0.003 1717555	14.530 -0.001 1204328	30.2	30.6	1.3	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	66.2	71.1
Decachlorobiphenyl	75.5	76.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3117595	15.3
Hexabromobiphenyl	3964848	4804493	21.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2929013	0.5
Hexabromobiphenyl	2801720	3156868	12.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.480	-0.001	9649	7.6	1	7.780	-0.002	5244	3.2	
Aroclor-1016	2	7.838	0.000	19226	4.8	2	8.352	-0.001	16622	5.0	
Aroclor-1016	3	7.969	-0.003	17506	10.5	3	8.547	0.000	3489	2.5	
Aroclor-1016	4	8.284	-0.002	9786	8.9	4	9.186	-0.001	3374	3.3	
Total CollAve (4 peaks):				7.9	Total Col2Ave (4 peaks):				3.5	RPD = 77*	
Corrected Ave (3 peaks):				7.1	Corrected Ave (3 peaks):				3.0	RPD = 80*	
Aroclor-1221	1	---	---	---	0.0	1	5.640	-0.013	723	2.8	
Aroclor-1221	2	---	---	---	0.0	2	6.905	0.025	17122	32.2	
Aroclor-1221	3	---	---	---	0.0	3	7.117	0.029	2467	8.6	
CollAve: < 3 Quant Peaks				---	Col2Ave: 14.5				---		
Aroclor-1232	1	---	---	---	0.0	1	5.640	-0.013	723	4.7	
Aroclor-1232	2	7.480	-0.003	9649	17.2	2	7.780	-0.006	5244	6.9	
Aroclor-1232	3	7.838	0.002	19226	11.1	3	8.352	-0.004	16622	11.7	
Aroclor-1232	4	7.969	-0.005	17506	24.2	4	8.547	-0.002	3489	5.9	
Total CollAve (3 peaks):				17.5	Total Col2Ave (4 peaks):				7.3	RPD = 82*	
Corrected Ave: < 3 Peaks				---	Corrected Ave (3 peaks):				5.8	---	
Aroclor-1242	1	7.480	-0.001	9649	9.6	1	7.780	-0.002	5244	4.0	
Aroclor-1242	2	7.838	0.000	19226	6.1	2	8.352	-0.001	16622	6.3	
Aroclor-1242	3	9.074	-0.000	12382	10.7	3	9.688	-0.002	10201	11.8	
Aroclor-1242	4	9.349	-0.004	13978	11.1	4	10.028	-0.004	16675	15.7	
Total CollAve (4 peaks):				9.4	Total Col2Ave (4 peaks):				9.4	RPD = 1	
Corrected Ave (3 peaks):				8.8	Corrected Ave (3 peaks):				7.4	RPD = 18	
Aroclor-1248	1	8.565	0.000	22792	13.9	1	8.788	-0.001	11993	10.8	
Aroclor-1248	2	8.726	-0.002	25521	12.8	2	9.186	-0.001	3374	2.5	
Aroclor-1248	3	9.127	-0.001	29354	11.9	3	9.611	-0.001	12228	7.0	
Aroclor-1248	4	9.349	-0.003	13978	7.6	4	10.028	-0.001	16675	9.6	
Total CollAve (4 peaks):				11.5	Total Col2Ave (4 peaks):				7.5	RPD = 43*	
Corrected Ave (3 peaks):				10.8	Corrected Ave (3 peaks):				6.4	RPD = 51*	
Aroclor-1254	1	9.127	-0.002	29354	13.3	1	9.899	0.001	13445	7.6	
Aroclor-1254	2	9.422	0.003	13755	4.6	2	10.028	0.037	16675	17.9	
Aroclor-1254	3	9.490	-0.001	7307	6.5	3	10.416	0.004	2010	1.5	
Aroclor-1254	4	9.789	0.014	12606	6.4	4	10.585	0.027	19240	6.5	
Aroclor-1254	5	9.905	0.001	13826	3.6	5	11.332	0.006	11885	6.5	
Total CollAve (5 peaks):				6.9	Total Col2Ave (5 peaks):				8.0	RPD = 15	
Corrected Ave (4 peaks):				5.3	Corrected Ave (4 peaks):				5.5	RPD = 4	
Aroclor-1260	1	11.424	-0.003	21207	7.5	1	11.626	-0.002	15380	8.1	
Aroclor-1260	2	11.788	0.001	50067	7.1	2	12.076	-0.001	21071	9.2	
Aroclor-1260	3	12.180	-0.002	23614	6.2	3	12.332	-0.002	31464	6.9	
Aroclor-1260	4	12.289	-0.001	10079	6.4	4	13.633	-0.001	10913	8.9	
Aroclor-1260	5	12.360	-0.002	12204	6.6	NS	---	---	---	---	
Total CollAve (5 peaks):				6.8	Total Col2Ave (4 peaks):				8.3	RPD = 20	
Corrected Ave (4 peaks):				6.6	Corrected Ave (3 peaks):				8.0	RPD = 19	
Aroclor-1262	1	11.118	-0.001	19678	4.8	1	11.626	-0.006	15380	5.3	
Aroclor-1262	2	11.788	-0.000	50067	5.7	2	12.076	-0.005	21071	9.3	
Aroclor-1262	3	12.180	-0.002	23614	7.7	3	12.332	-0.006	31464	5.4	
Aroclor-1262	4	12.289	-0.003	10079	3.7	4	12.849	-0.006	11647	5.6	
Aroclor-1262	5	12.360	-0.003	12204	3.9	NS	---	---	---	---	
Total CollAve (5 peaks):				5.2	Total Col2Ave (4 peaks):				6.4	RPD = 21	
Corrected Ave (4 peaks):				4.5	Corrected Ave (3 peaks):				5.4	RPD = 18	
Aroclor-1268	1	12.289	-0.003	10079	1.1	1	12.849	-0.005	11647	2.0	
Aroclor-1268	2	12.360	-0.002	12204	1.4	2	12.913	-0.008	27555	4.7	
Aroclor-1268	3	12.746	0.006	12775	1.6	3	13.307	-0.009	15553	3.2	
Aroclor-1268	4	12.508	0.002	18940	0.9	4	14.116	0.008	11182	0.8	
Total CollAve (4 peaks):				1.2	Total Col2Ave (4 peaks):				2.7	RPD = 73*	

Corrected Ave (3 peaks): 1.1 Corrected Ave (3 peaks): 2.0 RPD = 56*

Total PCB Area Col1 (6.197 - 13.808) = 976430 Col1 Total PCB = 0.03 ppm*

Total PCB Area Col2 (6.197 - 13.808) = 1867469 Col2 Total PCB = 0.07 ppm*

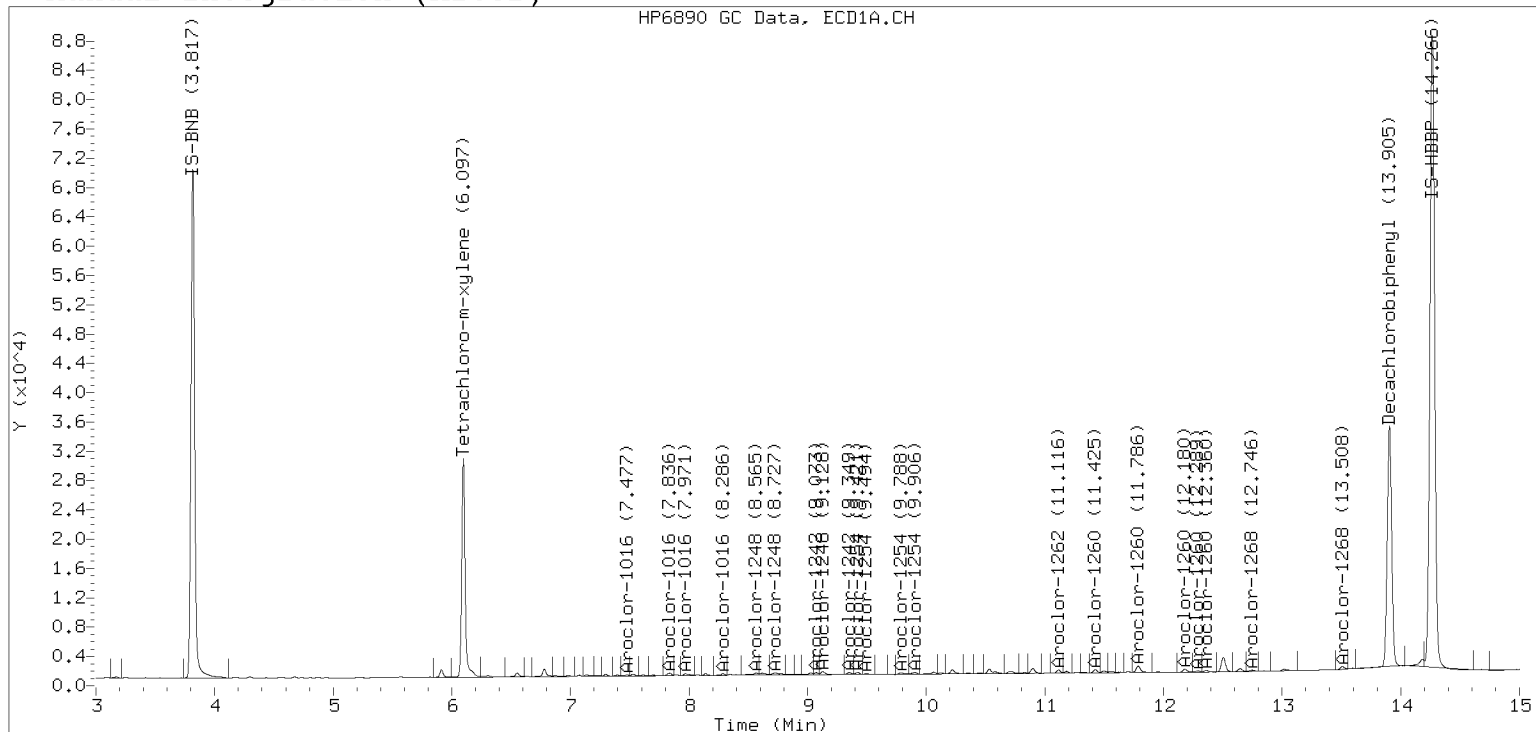
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

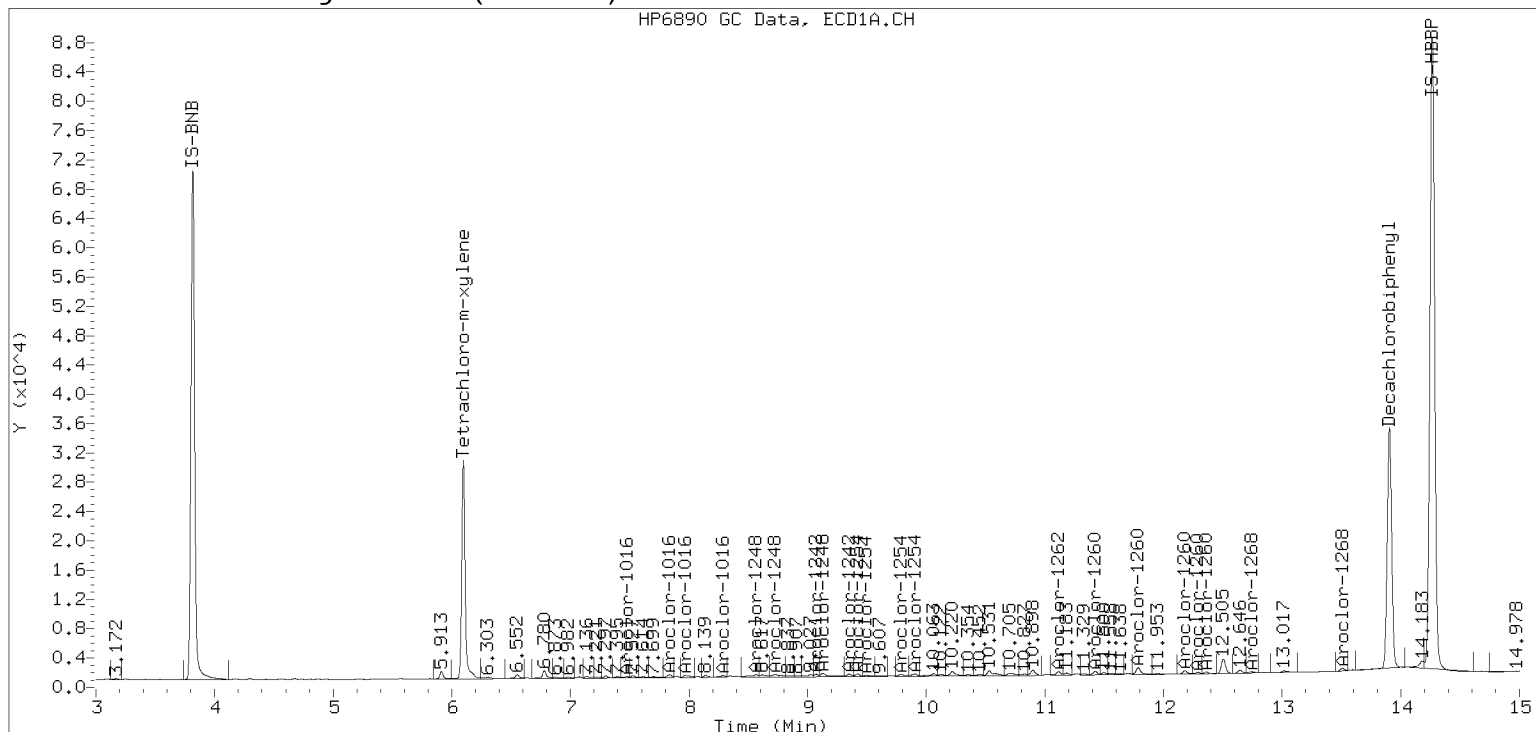
Datafile: ecd5.i/20201117.b/20111711ECD5.D

Injection Date: 17-NOV-2020 22:3

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP11-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-07 A File ID: 20111712ECD5.D
 Sampled: 10/30/20 09:35 Prepared: 11/13/20 10:20 Analyzed: 11/17/20 22:51
 % Solids: 79.50 Preparation: EPA 3546 (Microwave) Initial/Final: 6.32 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	1	1	19.9	8.0	19.9	U
11097-69-1	Aroclor 1254	1	1	19.9	8.0	19.9	U
11096-82-5	Aroclor 1260	1	1	19.9	9.2	19.9	U
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.806	27.9	70.0	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.806	22.1	55.5	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111712ECD5.D
Data file 2: /20201117.b/20201117.b/20111712ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-07
Client ID:
Injection Date: 17-NOV-2020 22:51
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.095	-0.002	1032824	6.311	-0.001	913441	22.2	24.8	11.1	Tetrachloro-m-xylene
13.906	-0.002	1634858	14.531	-0.000	1143760	28.0	29.0	3.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	55.5	62.0
Decachlorobiphenyl	70.0	72.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3184255	17.8
Hexabromobiphenyl	3964848	4930852	24.4

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2861400	-1.8
Hexabromobiphenyl	2801720	3169447	13.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.443	-0.038	6999	5.4	1	7.774	-0.007	5908	3.7	
Aroclor-1016	2	7.832	-0.006	3212	0.8	2	8.323	-0.030	24264	7.5	
Aroclor-1016	3	7.995	0.022	16715	9.8	3	8.544	-0.002	9158	6.8	
Aroclor-1016	4	8.290	0.005	6626	5.9	4	9.239	0.053	592	0.6	
Total CollAve (4 peaks):				5.5	Total Col2Ave (4 peaks):				4.7	RPD = 16	
Corrected Ave (3 peaks):				4.0	Corrected Ave (3 peaks):				3.7	RPD = 8	
Aroclor-1221	1	---	---	---	0.0	1	5.634	-0.019	675	2.6	
Aroclor-1221	2	---	---	---	0.0	2	6.903	0.023	15357	29.6	
Aroclor-1221	3	---	---	---	0.0	3	7.116	0.028	2463	8.8	
CollAve: <3 Quant Peaks				Col2Ave: 13.7							
Aroclor-1232	1	---	---	---	0.0	1	5.634	-0.019	675	4.5	
Aroclor-1232	2	7.443	-0.041	6999	12.2	2	7.774	-0.011	5908	8.0	
Aroclor-1232	3	7.832	-0.004	3212	1.8	3	8.323	-0.033	24264	17.5	
Aroclor-1232	4	7.995	0.021	16715	22.6	4	8.544	-0.005	9158	15.8	
Total CollAve (3 peaks):				12.2	Total Col2Ave (4 peaks):				11.5	RPD = 7	
Corrected Ave: < 3 Peaks				Corrected Ave (3 peaks): 9.4							
Aroclor-1242	1	7.443	-0.038	6999	6.8	1	7.774	-0.008	5908	4.7	
Aroclor-1242	2	7.832	-0.005	3212	1.0	2	8.323	-0.030	24264	9.4	
Aroclor-1242	3	9.026	-0.048	19316	16.4	3	9.741	0.050	10666	12.6	
Aroclor-1242	4	9.329	-0.025	426	0.3	4	9.962	-0.070	16653	16.0	
Total CollAve (4 peaks):				6.1	Total Col2Ave (4 peaks):				10.7	RPD = 54*	
Corrected Ave (3 peaks):				2.7	Corrected Ave (3 peaks):				8.9	RPD = 106*	
Aroclor-1248	1	8.627	0.062	27517	16.4	1	8.787	-0.002	33417	30.7	
Aroclor-1248	2	8.725	-0.003	12722	6.3	2	9.239	0.052	592	0.5	
Aroclor-1248	3	9.131	0.004	6403	2.5	3	9.589	-0.023	9848	5.8	
Aroclor-1248	4	9.329	-0.023	426	0.2	4	9.962	-0.068	16653	9.8	
Total CollAve (4 peaks):				6.4	Total Col2Ave (4 peaks):				11.7	RPD = 59*	
Corrected Ave (3 peaks):				3.0	Corrected Ave (3 peaks):				5.3	RPD = 56*	
Aroclor-1254	1	9.131	0.002	6403	2.8	1	9.859	-0.040	9572	5.5	
Aroclor-1254	2	9.419	0.001	3306	1.1	2	9.962	-0.029	16653	18.3	
Aroclor-1254	3	9.496	0.004	22	0.0	3	10.345	-0.067	5085	3.8	
Aroclor-1254	4	9.794	0.020	1115	0.6	4	10.534	-0.024	11038	3.8	
Aroclor-1254	5	9.911	0.006	3736	1.0	5	11.331	0.005	6321	3.6	
Total CollAve (5 peaks):				1.1	Total Col2Ave (5 peaks):				7.0	RPD = 146*	
Corrected Ave (4 peaks):				0.7	Corrected Ave (4 peaks):				4.2	RPD = 146*	
Aroclor-1260	1	---	---	---	0.0	1	11.693	0.065	4862	2.6	
Aroclor-1260	2	---	---	---	0.0	2	12.068	-0.009	5440	2.4	
Aroclor-1260	3	---	---	---	0.0	3	12.340	0.006	2730	0.6	
Aroclor-1260	4	---	---	---	0.0	4	13.633	-0.001	548	0.4	
Aroclor-1260	5	---	---	---	0.0	NS	---	---	---	---	
CollAve: <3 Quant Peaks				Col2Ave: 1.5							
Aroclor-1262	1	---	---	---	0.0	1	11.693	0.061	4862	1.7	
Aroclor-1262	2	---	---	---	0.0	2	12.068	-0.013	5440	2.4	
Aroclor-1262	3	---	---	---	0.0	3	12.340	0.002	2730	0.5	
Aroclor-1262	4	---	---	---	0.0	4	12.827	-0.028	2613	1.3	
Aroclor-1262	5	---	---	---	0.0	NS	---	---	---	---	
CollAve: <3 Quant Peaks				Col2Ave: 1.4							
Aroclor-1268	1	---	---	---	0.0	1	12.827	-0.027	2613	0.4	
Aroclor-1268	2	---	---	---	0.0	2	12.911	-0.010	2756	0.5	
Aroclor-1268	3	12.646	-0.093	24607	3.0	3	13.309	-0.007	5685	1.2	
Aroclor-1268	4	13.509	-0.001	17883	0.8	4	14.117	-0.007	12566	0.9	
CollAve: <3 Quant Peaks				Col2Ave: 0.7							

Total PCB Area Col1 (6.197 - 13.808) = 577237 Col1 Total PCB = 0.02 ppm*

Total PCB Area Col2 (6.197 - 13.808) = 1703233 Col2 Total PCB = 0.06 ppm*

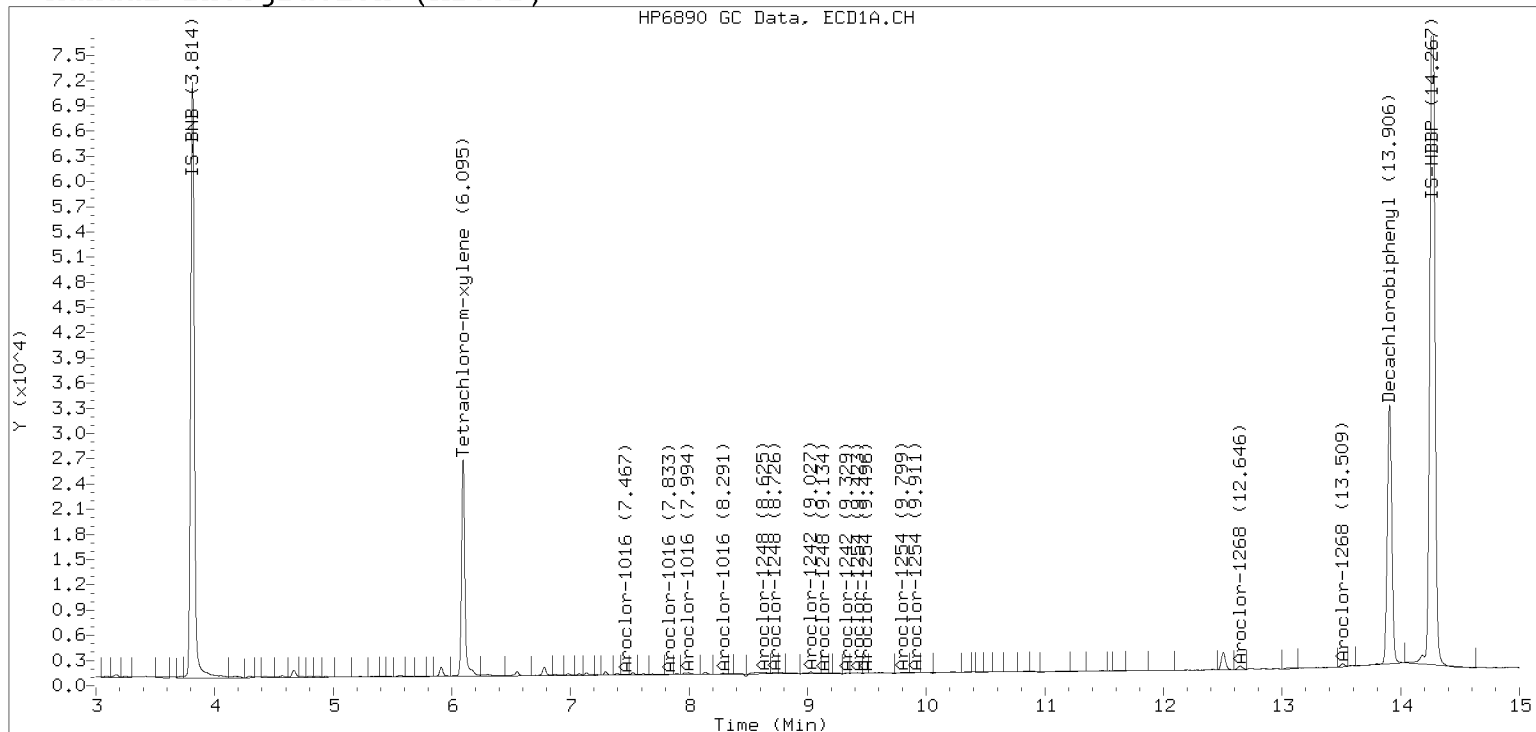
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

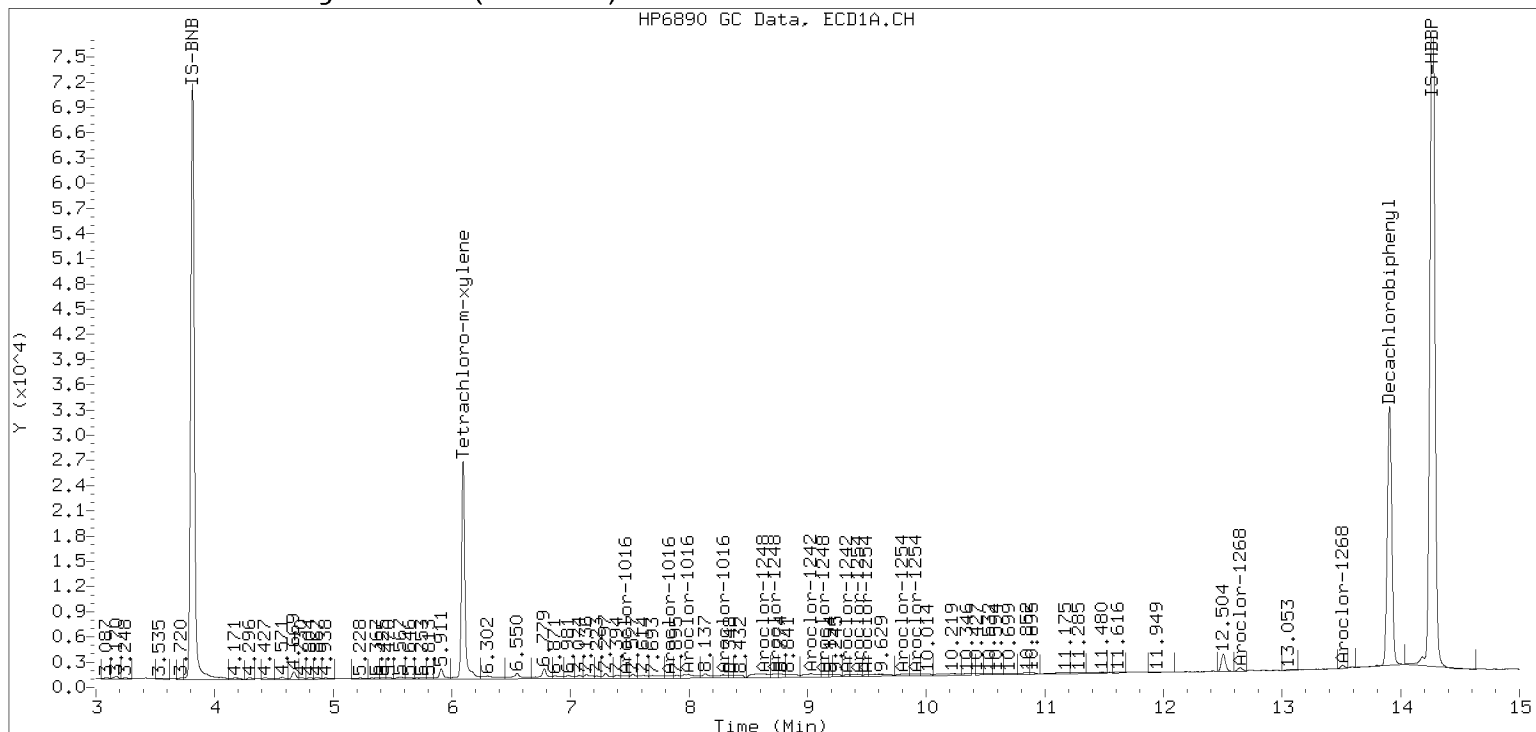
Datafile: ecd5.i/20201117.b/20111712ECD5.D

Injection Date: 17-NOV-2020 22:5

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP11-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-09 A File ID: 20111713ECD5.D
 Sampled: 10/30/20 09:45 Prepared: 11/13/20 10:20 Analyzed: 11/17/20 23:12
 % Solids: 73.70 Preparation: EPA 3546 (Microwave) Initial/Final: 6.82 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	1	1	19.9	8.0	19.9	U
11097-69-1	Aroclor 1254	1	1	19.9	8.0	19.9	U
11096-82-5	Aroclor 1260	1	1	19.9	9.2	19.9	U
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.790	27.8	69.9	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.790	24.7	62.0	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111713ECD5.D
Data file 2: /20201117.b/20201117.b/20111713ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-09
Client ID:
Injection Date: 17-NOV-2020 23:12
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.001 1089246	6.312 -0.001 977456	24.8	29.2	16.4	Tetrachloro-m-xylene	
13.905	-0.004 1518025	14.530 -0.001 1185662	28.0	29.3	4.8	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	62.0	73.1
Decachlorobiphenyl	69.9	73.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3004343	11.1
Hexabromobiphenyl	3964848	4584135	15.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2598658	-10.8
Hexabromobiphenyl	2801720	3241488	15.7

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.447	-0.034	9357	7.6	1	7.779	-0.003	3323	2.3	
Aroclor-1016	2	7.837	-0.001	2393	0.6	2	8.324	-0.029	6626	2.3	
Aroclor-1016	3	7.994	0.021	12846	8.0	3	8.542	-0.005	1241	1.0	
Aroclor-1016	4	8.294	0.009	4716	4.4	4	9.239	0.052	20886	23.1	
Total CollAve (4 peaks):				5.2	Total Col2Ave (4 peaks):				7.2	RPD = 32	
Corrected Ave (3 peaks):				4.2	Corrected Ave (3 peaks):				1.9	RPD = 78*	
Aroclor-1221	1	---	---	---	0.0	1	5.675	0.022	8974	38.5	
Aroclor-1221	2	---	---	---	0.0	2	6.903	0.024	17544	37.2	
Aroclor-1221	3	---	---	---	0.0	3	7.113	0.025	2687	10.6	
CollAve: <3 Quant Peaks				Col2Ave: 28.8							
Aroclor-1232	1	---	---	---	0.0	1	5.675	0.022	8974	66.1	
Aroclor-1232	2	7.447	-0.037	9357	17.3	2	7.779	-0.007	3323	5.0	
Aroclor-1232	3	7.837	0.001	2393	1.4	3	8.324	-0.032	6626	5.3	
Aroclor-1232	4	7.994	0.020	12846	18.4	4	8.542	-0.007	1241	2.4	
Total CollAve (3 peaks):				12.4	Total Col2Ave (4 peaks):				19.7	RPD = 45*	
Corrected Ave. < 3 Peaks				Corrected Ave (3 peaks): 4.2							
Aroclor-1242	1	7.447	-0.034	9357	9.7	1	7.779	-0.003	3323	2.9	
Aroclor-1242	2	7.837	-0.000	2393	0.8	2	8.324	-0.029	6626	2.8	
Aroclor-1242	3	9.026	-0.048	3699	3.3	3	9.739	0.048	2176	2.8	
Aroclor-1242	4	9.333	-0.021	4415	3.6	4	9.969	-0.062	6063	6.4	
Total CollAve (4 peaks):				4.4	Total Col2Ave (4 peaks):				3.7	RPD = 15	
Corrected Ave (3 peaks):				2.6	Corrected Ave (3 peaks):				2.8	RPD = 10	
Aroclor-1248	1	8.569	0.003	8954	5.7	1	8.787	-0.003	676	0.7	
Aroclor-1248	2	8.719	-0.009	17306	9.0	2	9.239	0.052	20886	17.7	
Aroclor-1248	3	9.124	-0.004	9875	4.1	3	9.599	-0.013	1597	1.0	
Aroclor-1248	4	9.333	-0.019	4415	2.5	4	9.969	-0.060	6063	3.9	
Total CollAve (4 peaks):				5.3	Total Col2Ave (4 peaks):				5.8	RPD = 9	
Corrected Ave (3 peaks):				4.1	Corrected Ave (3 peaks):				1.9	RPD = 74*	
Aroclor-1254	1	9.124	-0.006	9875	4.7	1	9.893	-0.006	3688	2.3	
Aroclor-1254	2	9.419	0.001	5426	1.9	2	9.969	-0.021	6063	7.3	
Aroclor-1254	3	---	---	---	0.0	3	10.441	0.030	1143	0.9	
Aroclor-1254	4	9.796	0.022	916	0.5	4	10.534	-0.024	15510	5.9	
Aroclor-1254	5	9.899	-0.005	3653	1.0	5	11.320	-0.006	2468	1.5	
Total CollAve (4 peaks):				2.0	Total Col2Ave (5 peaks):				3.6	RPD = 57*	
Corrected Ave (3 peaks):				1.1	Corrected Ave (4 peaks):				2.7	RPD = 82*	
Aroclor-1260	1	11.419	-0.008	4622	1.7	1	11.669	0.041	3457	1.8	
Aroclor-1260	2	11.787	-0.000	3961	0.6	2	12.071	-0.006	4733	2.0	
Aroclor-1260	3	12.124	-0.057	888	0.2	3	12.332	-0.001	5840	1.2	
Aroclor-1260	4	12.248	-0.042	564	0.4	4	13.602	-0.032	2613	2.1	
Aroclor-1260	5	12.384	0.022	1093	0.6	NS	---	---	---	---	
Total CollAve (5 peaks):				0.7	Total Col2Ave (4 peaks):				1.8	RPD = 86*	
Corrected Ave (4 peaks):				0.5	Corrected Ave (3 peaks):				1.7	RPD = 114*	
Aroclor-1262	1	11.111	-0.008	4046	1.0	1	11.669	0.037	3457	1.2	
Aroclor-1262	2	11.787	-0.001	3961	0.5	2	12.071	-0.010	4733	2.0	
Aroclor-1262	3	12.124	-0.058	888	0.3	3	12.332	-0.005	5840	1.0	
Aroclor-1262	4	12.248	-0.044	564	0.2	4	12.822	-0.033	6870	3.2	
Aroclor-1262	5	12.384	0.021	1093	0.4	NS	---	---	---	---	
Total CollAve (5 peaks):				0.5	Total Col2Ave (4 peaks):				1.9	RPD = 118*	
Corrected Ave (4 peaks):				0.3	Corrected Ave (3 peaks):				1.4	RPD = 121*	
Aroclor-1268	1	12.248	-0.044	564	0.1	1	12.822	-0.032	6870	1.1	
Aroclor-1268	2	12.384	0.022	1093	0.1	2	12.962	0.042	6816	1.1	
Aroclor-1268	3	12.735	-0.004	6535	0.9	3	13.311	-0.005	8801	1.8	
Aroclor-1268	4	13.511	0.000	13823	0.7	4	14.114	-0.010	11996	0.8	
Total CollAve (4 peaks):				0.4	Total Col2Ave (4 peaks):				1.2	RPD = 95*	

Corrected Ave (3 peaks): 0.3 Corrected Ave (3 peaks): 1.0 RPD = 114*

Total PCB Area Col1 (6.197 - 13.808) = 617476 Col1 Total PCB = 0.02 ppm*

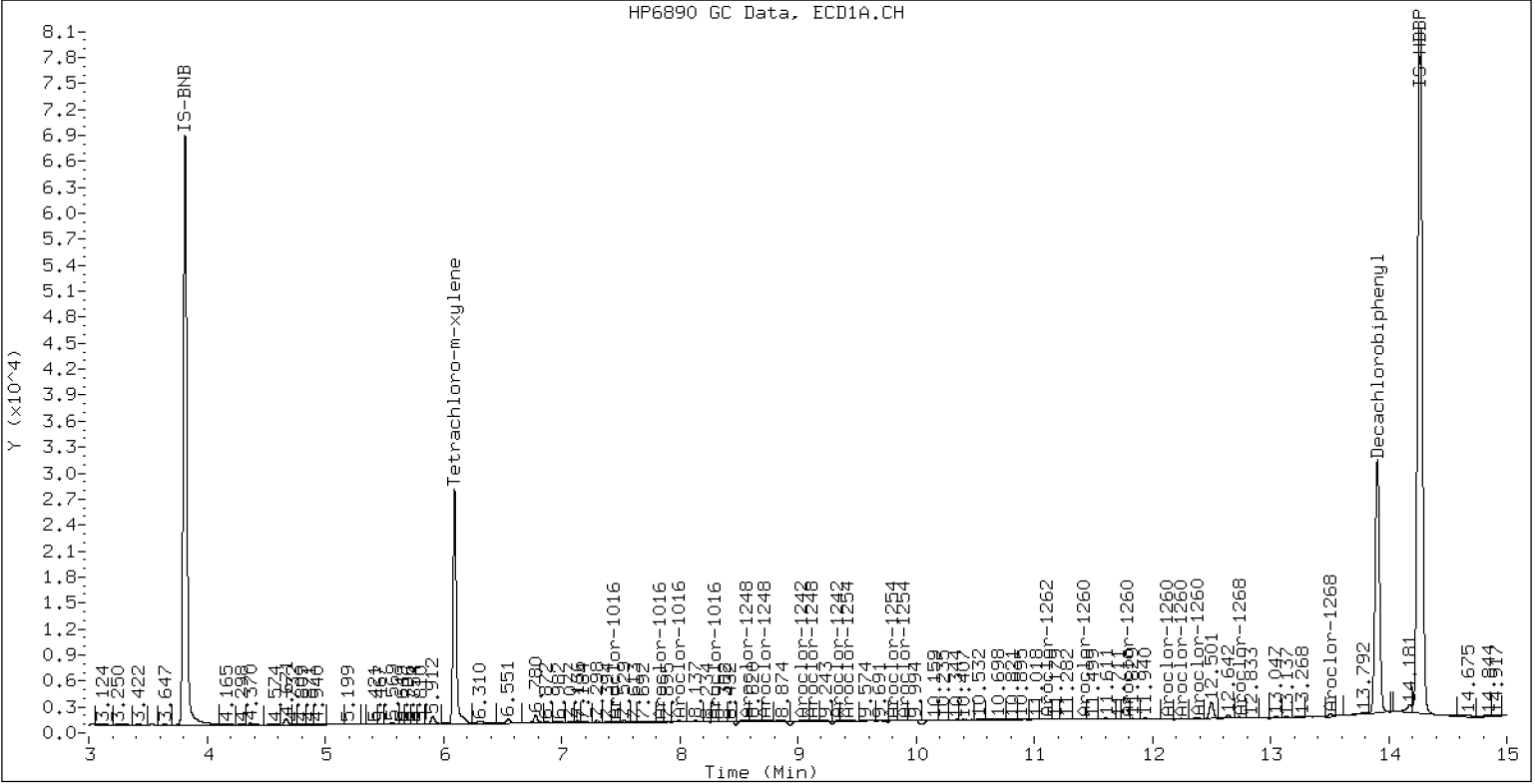
Total PCB Area Col2 (6.197 - 13.808) = 1483752 Col2 Total PCB = 0.05 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

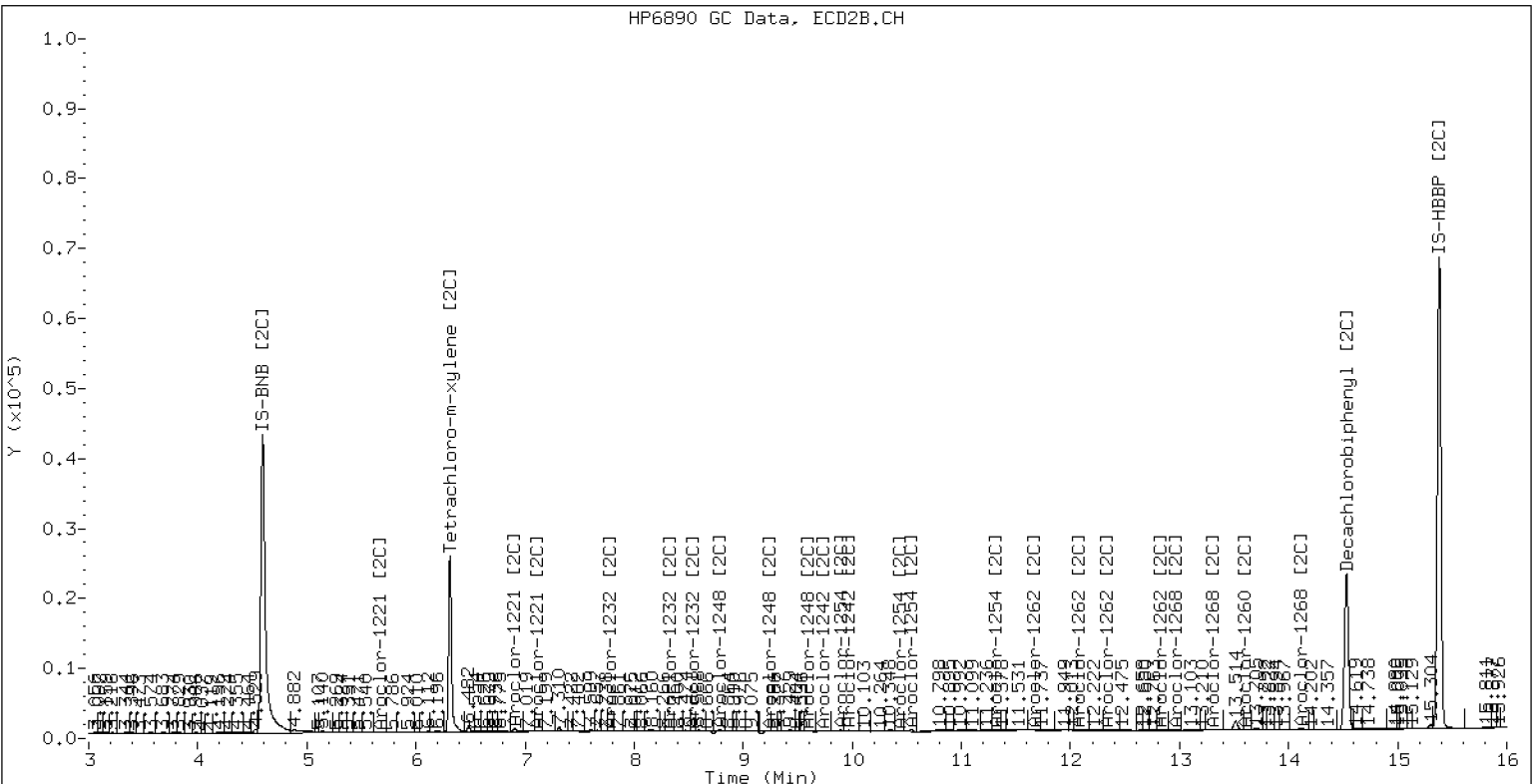
ECD5-ZB5 /20201117.b/20111713ECD5.D 20K007-09

17-NOV-2020 23:12 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201117.b/20201117.b/20111713ECD5.D 20K007-09



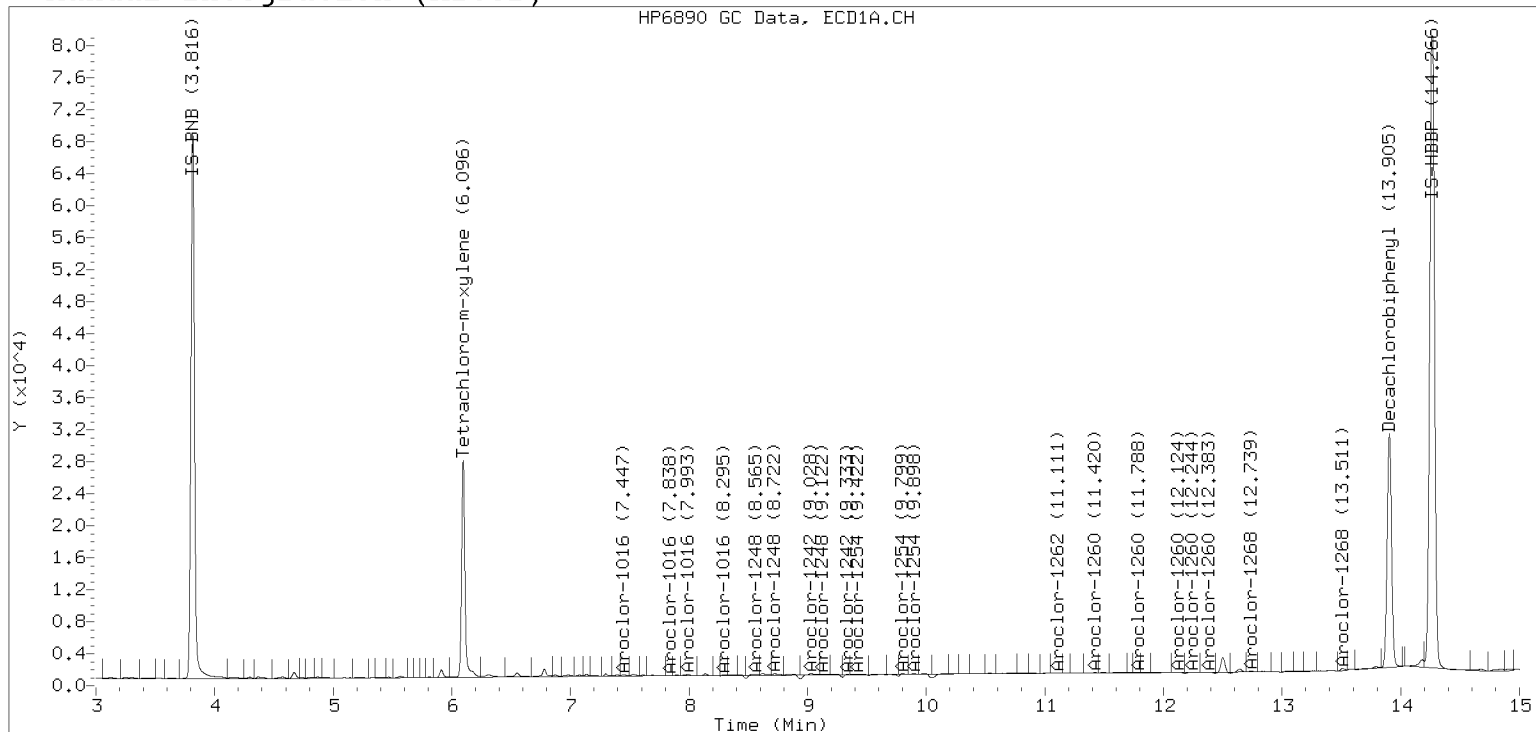
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

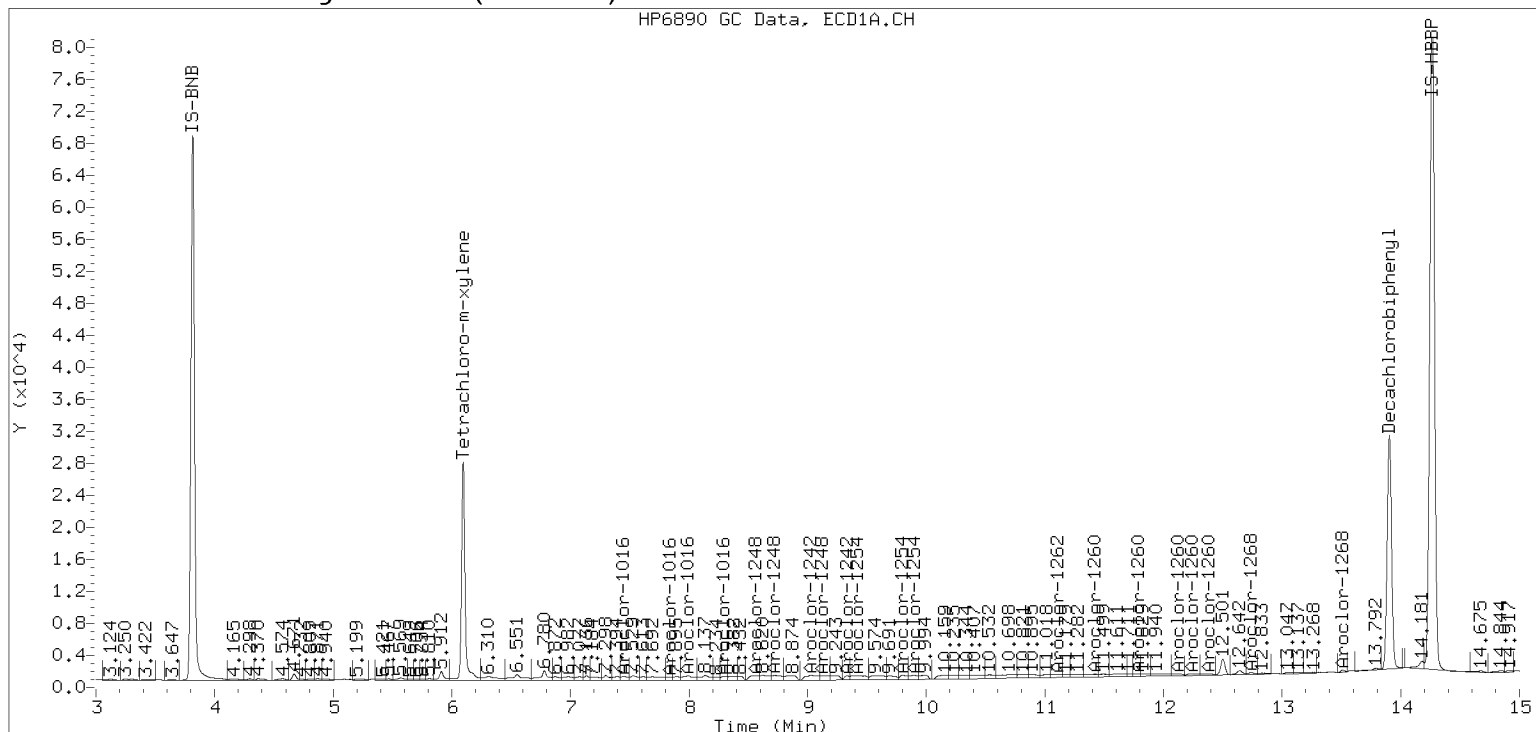
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Injection Date: 17-NOV-2020 23:1

Manual Integration (After)



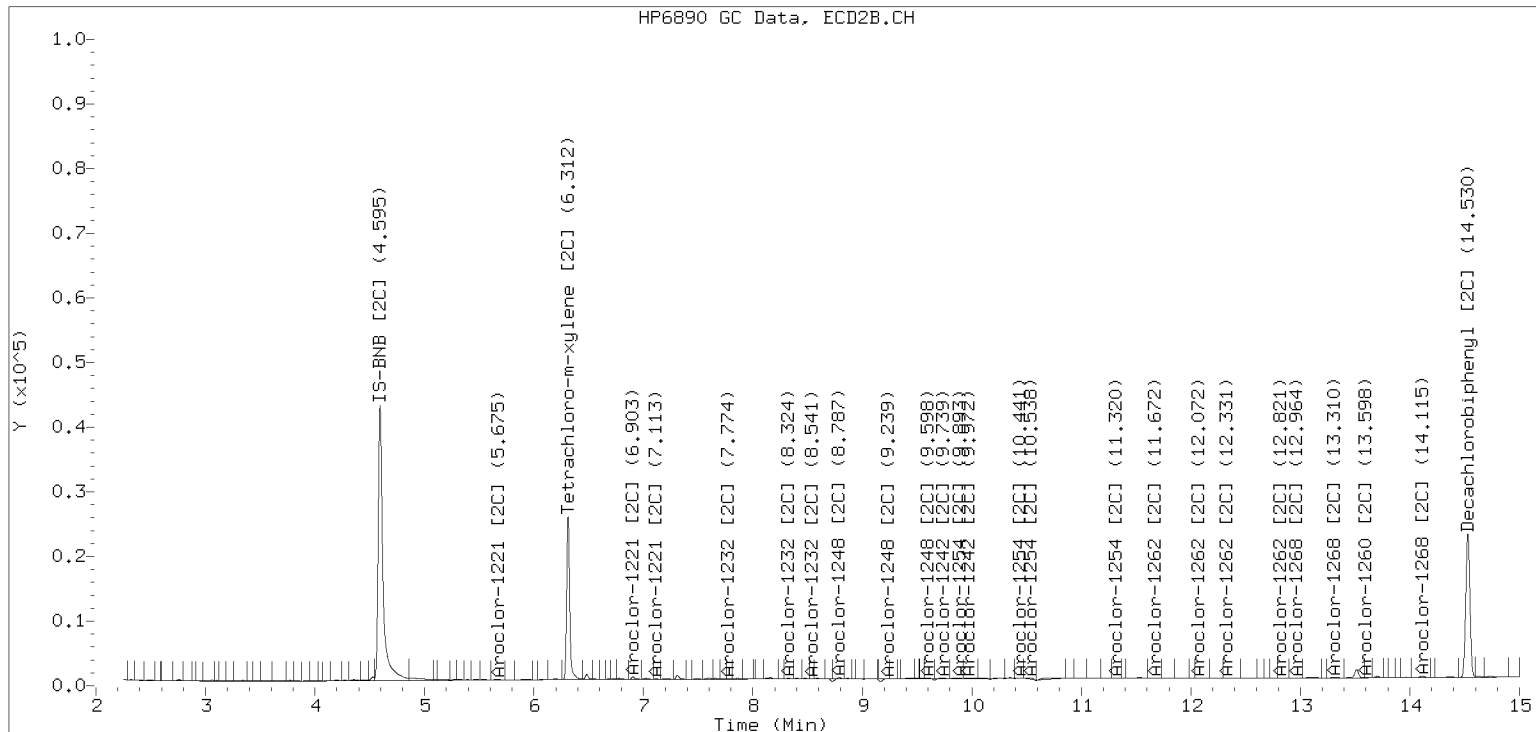
Processed Integration (Before)



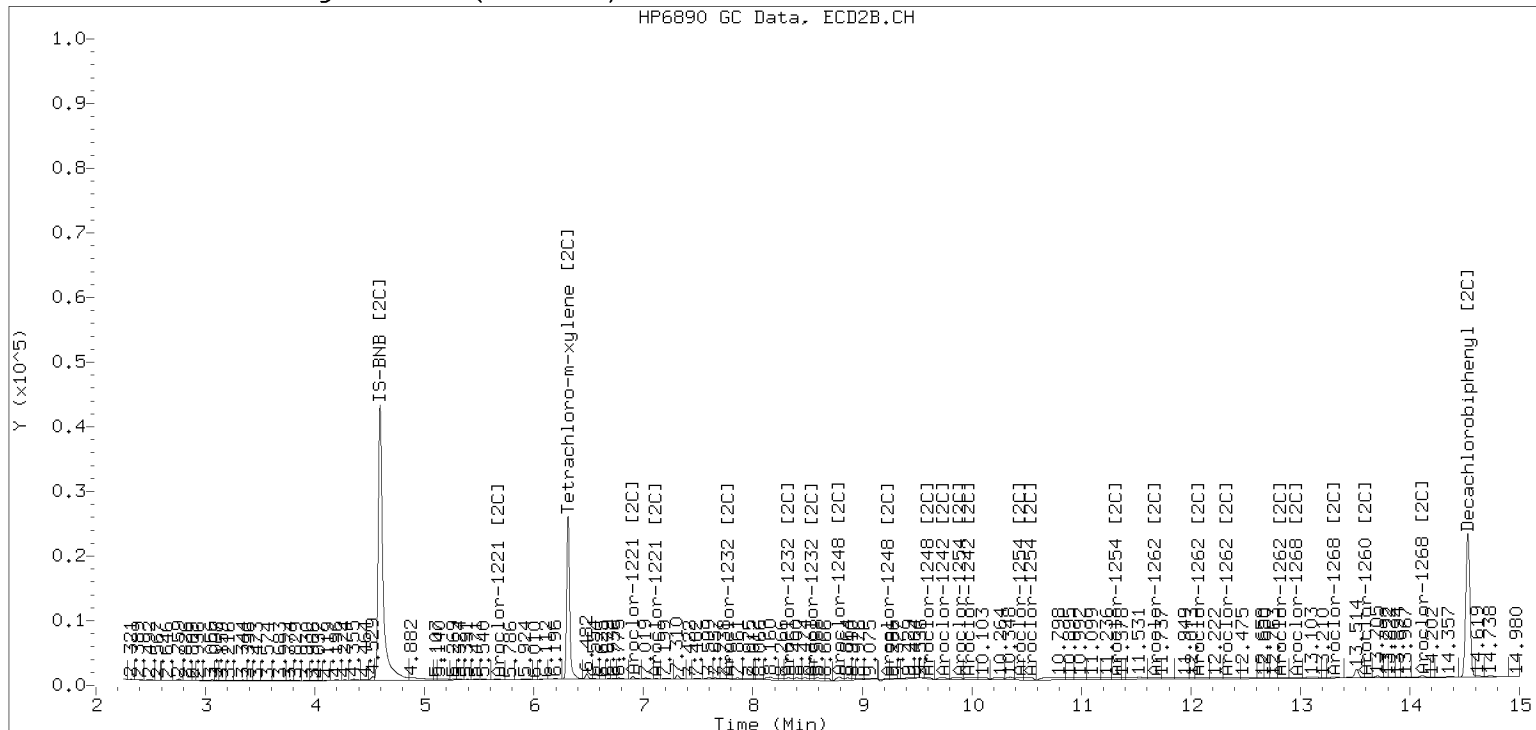
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201117.b/20201117.b/20111713ECD5.D Injection Date: 17-NOV-2

Manual Integration (After)



Processed Integration (Before)





ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-13 A File ID: 20111714ECD5.D
 Sampled: 10/30/20 10:50 Prepared: 11/13/20 10:20 Analyzed: 11/17/20 23:32
 % Solids: 82.69 Preparation: EPA 3546 (Microwave) Initial/Final: 6.07 g Wet / 10 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	199	79.7	199	U
11104-28-2	Aroclor 1221	1	5	199	79.7	199	U
11141-16-5	Aroclor 1232	1	5	199	79.7	199	U
53469-21-9	Aroclor 1242	1	5	199	79.7	199	U
12672-29-6	Aroclor 1248	1	5	2150	79.7	199	D
11097-69-1	Aroclor 1254	2	5	3150	79.7	199	P1, D
11096-82-5	Aroclor 1260	2	5	5340	92.4	199	D
37324-23-5	Aroclor 1262	1	5	199	92.4	199	U
11100-14-4	Aroclor 1268	1	5	199	92.4	199	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.846	36.0	90.2	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.846	28.9	72.5	53 - 120	*
<i>Decachlorobiphenyl</i>	2	39.846	40.9	103	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.846	29.9	75.1	53 - 120	*

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111714ECD5.D
Data file 2: /20201117.b/20201117.b/20111714ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-13
Client ID:
Injection Date: 17-NOV-2020 23:32
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: ~~1-000~~ 5x

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.003	102285	6.312	2.9	3.0	3.6	Tetrachloro-m-xylene
13.903	-0.007	166383	14.529	3.6	4.1	12.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	7.2	7.5
Decachlorobiphenyl	9.0	10.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2414555	-10.7
Hexabromobiphenyl	3964848	3894305	-1.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2035216	-30.2
Hexabromobiphenyl	2801720	3002179	7.2

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.480	-0.003	73667	74.6	1	7.779	-0.003	108361	96.0	
Aroclor-1016	2	7.821	-0.017	347092	110.8	2	8.349	-0.005	261806	114.3	
Aroclor-1016	3	7.969	-0.003	116537	90.6	3	8.543	-0.003	151234	157.2	
Aroclor-1016	4	8.283	-0.003	132858	155.5	4	9.185	-0.001	160823	227.0	
Total CollAve (4 peaks):				107.9		Total Col2Ave (4 peaks):				148.6	RPD = 32
Corrected Ave (3 peaks):				92.0		Corrected Ave (3 peaks):				122.5	RPD = 28
Aroclor-1221	1	---			0.0	1	5.634	-0.019	46368	254.3	
Aroclor-1221	2	6.545	-0.008	26531	80.7	2	6.880	0.001	3363	9.1	
Aroclor-1221	3	6.635	-0.004	32469	34.8	3	7.118	0.030	29383	147.6	
CollAve: <3 Quant Peaks						Col2Ave: 137.0					
Aroclor-1232	1	---			0.0	1	5.634	-0.019	46368	435.8	
Aroclor-1232	2	7.480	-0.004	73667	169.6	2	7.779	-0.007	108361	206.5	
Aroclor-1232	3	7.821	-0.015	347092	259.0	3	8.349	-0.008	261806	265.9	
Aroclor-1232	4	7.969	-0.005	116537	208.2	4	8.543	-0.006	151234	366.0	
Total CollAve (3 peaks):				212.3		Total Col2Ave (4 peaks):				318.6	RPD = 40*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				279.5	
Aroclor-1242	1	7.480	-0.002	73667	94.7	1	7.779	-0.003	108361	119.9	
Aroclor-1242	2	7.821	-0.016	347092	141.2	2	8.349	-0.005	261806	142.0	
Aroclor-1242	3	9.066	-0.007	169462	189.7	3	9.680	-0.011	136513	227.1	
Aroclor-1242	4	9.342	-0.008	487529	499.5	4	10.047	0.015	392166	529.9	
Total CollAve (4 peaks):				231.3		Total Col2Ave (4 peaks):				254.7	RPD = 10
Corrected Ave (3 peaks):				141.8		Corrected Ave (3 peaks):				163.0	RPD = 14
Aroclor-1248	1	8.560	-0.005	219284	172.3	1	8.787	-0.003	121568	157.0	
Aroclor-1248	2	8.722	-0.005	174750	113.4	2	9.185	-0.002	160823	174.3	
Aroclor-1248	3	9.126	0.000	453079	236.8	3	9.604	-0.008	184506	151.7	
Aroclor-1248	4	9.342	-0.007	487529	341.5	4	10.047	0.018	392166	324.9	
Total CollAve (4 peaks):				216.0		Total Col2Ave (4 peaks):				202.0	RPD = 7
Corrected Ave (3 peaks):				174.2		Corrected Ave (3 peaks):				161.0	RPD = 8
Aroclor-1254	1	9.126	-0.007	453079	265.6	1	9.896	-0.002	394117	318.8	
Aroclor-1254	2	9.417	-0.004	493349	215.1	2	10.047	0.056	392166	605.0	
Aroclor-1254	3	9.489	-0.005	51369	58.8	3	10.408	-0.003	114808	121.2	
Aroclor-1254	4	9.781	0.003	296545	195.6	4	10.584	0.026	939851	456.1	
Aroclor-1254	5	9.899	-0.009	503724	169.1	5	11.330	0.004	465611	368.0	
Total CollAve (5 peaks):				180.9		Total Col2Ave (5 peaks):				373.8	RPD = 70*
Corrected Ave (4 peaks):				159.7		Corrected Ave (4 peaks):				316.0	RPD = 66*
Aroclor-1260	1	11.422	-0.006	1109058	485.8	1	11.623	-0.005	925181	514.7	
Aroclor-1260	2	11.780	-0.007	2796272	490.1	2	12.074	-0.003	1136024	521.3	
Aroclor-1260	3	12.174	-0.008	1509504	488.7	3	12.328	-0.005	2331559	538.5	
Aroclor-1260	4	12.284	-0.006	626777	493.2	4	13.630	-0.004	667322	571.3	
Aroclor-1260	5	12.357	-0.006	764779	511.9	NS	---			----	
Total CollAve (5 peaks):				494.0		Total Col2Ave (4 peaks):				536.4	RPD = 8
Corrected Ave (4 peaks):				489.5		Corrected Ave (3 peaks):				524.8	RPD = 7
Aroclor-1262	1	11.112	-0.006	1067551	321.0	1	11.623	-0.009	925181	334.2	
Aroclor-1262	2	11.780	-0.007	2796272	393.0	2	12.074	-0.008	1136024	525.0	
Aroclor-1262	3	12.174	-0.009	1509504	607.7	3	12.328	-0.009	2331559	421.7	
Aroclor-1262	4	12.284	-0.007	626777	287.3	4	12.847	-0.007	701717	357.9	
Aroclor-1262	5	12.357	-0.007	764779	301.6	NS	---			----	
Total CollAve (5 peaks):				382.1		Total Col2Ave (4 peaks):				409.7	RPD = 7
Corrected Ave (4 peaks):				325.7		Corrected Ave (3 peaks):				371.3	RPD = 13
Aroclor-1268	1	12.284	-0.007	626777	83.4	1	12.847	-0.006	701717	124.6	
Aroclor-1268	2	12.357	-0.005	764779	106.3	2	12.909	-0.011	1638613	293.4	
Aroclor-1268	3	12.752	0.012	358191	56.0	3	13.308	-0.008	21523	4.7	
Aroclor-1268	4	13.504	-0.007	159201	8.9	4	14.114	-0.010	122095	9.0	
Total CollAve (4 peaks):				63.6		Total Col2Ave (4 peaks):				107.9	RPD = 52*

Corrected Ave (3 peaks): 49.4 Corrected Ave (3 peaks): 46.1 RPD = 7

Total PCB Area Col1 (6.199 - 13.810) = 25519131 Col1 Total PCB = 0.81 ppm*

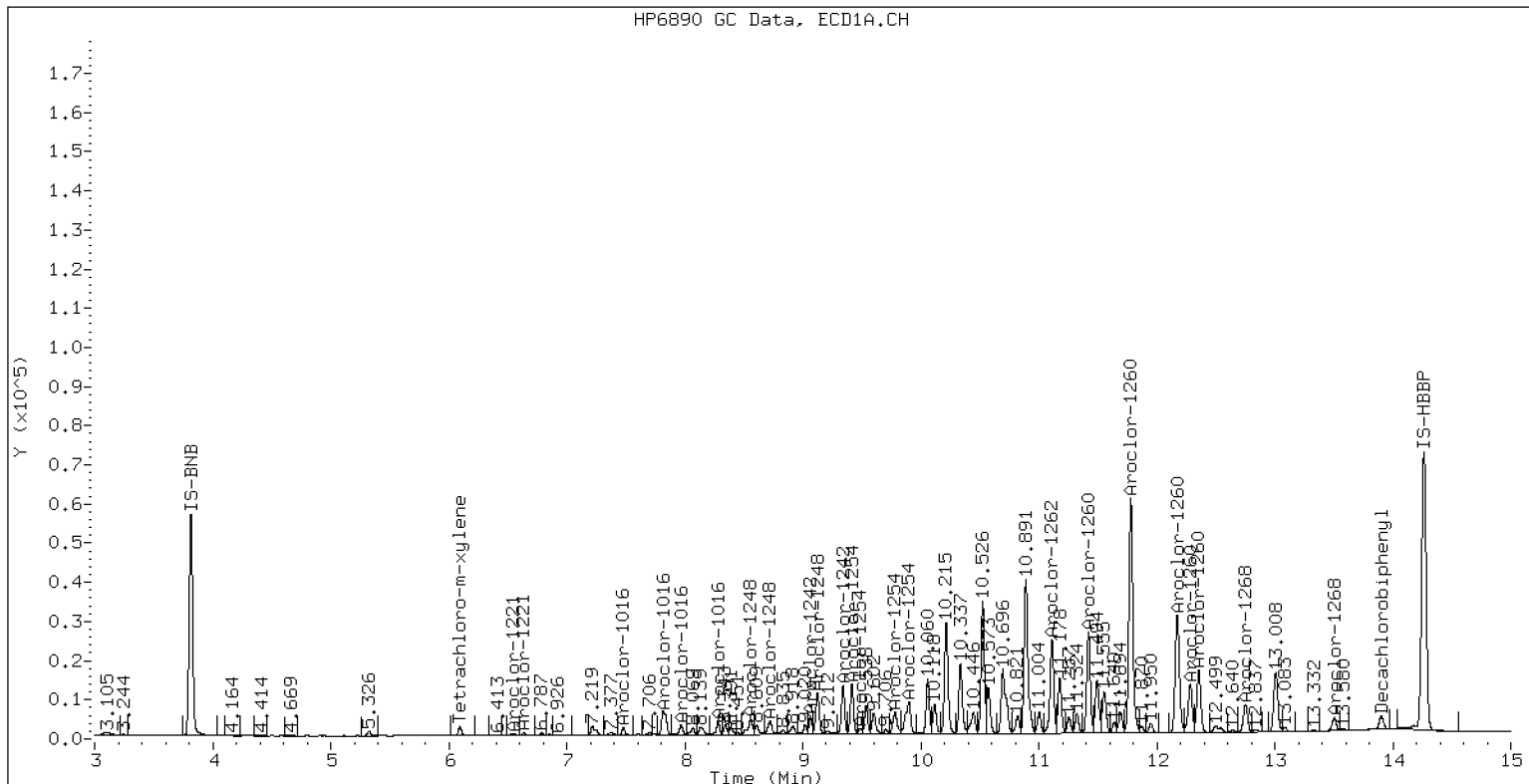
Total PCB Area Col2 (6.199 - 13.810) = 22508403 Col2 Total PCB = 0.83 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

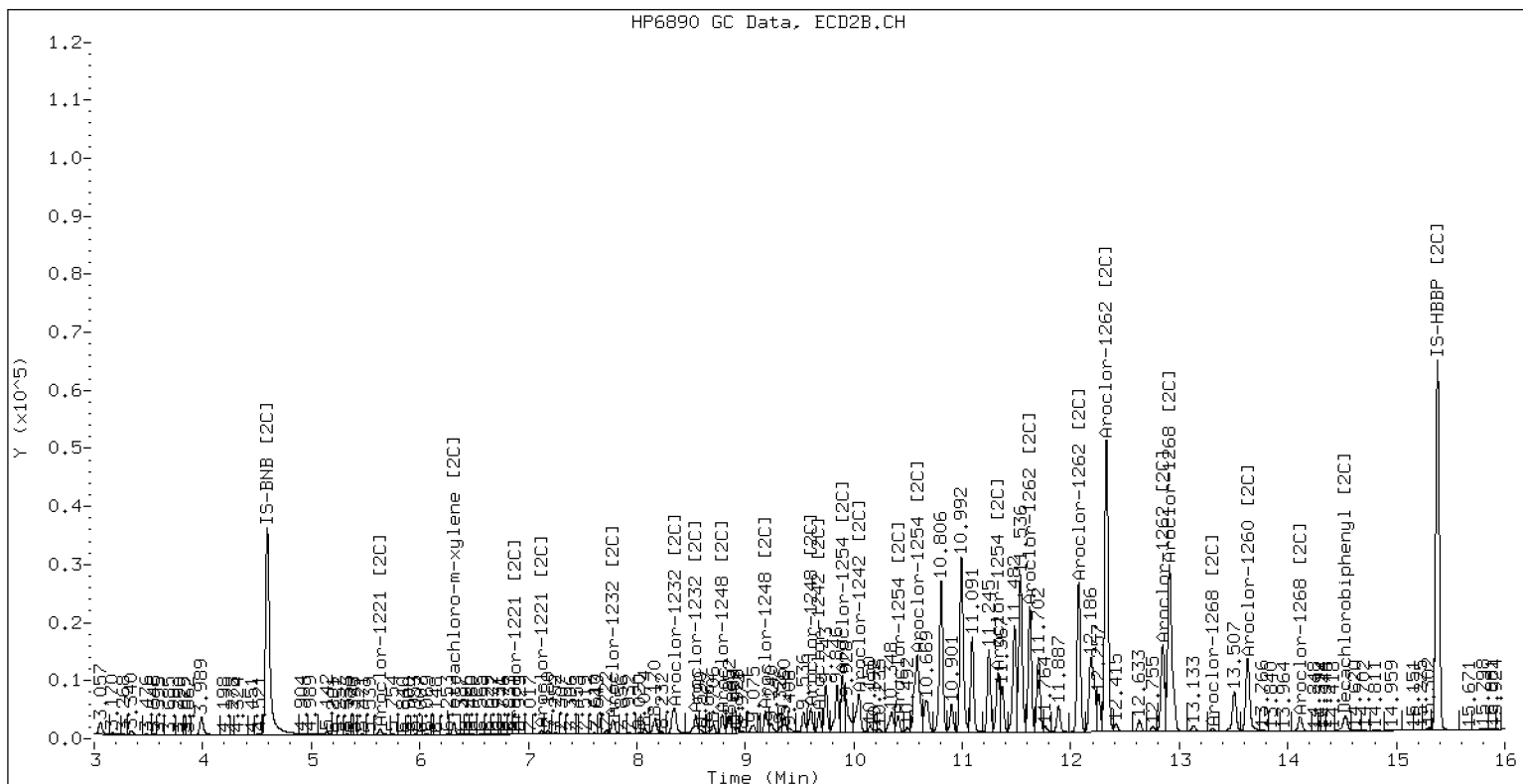
ECD5-ZB5 /20201117.b/20111714ECD5.D 20K007-13

17-NOV-2020 23:32 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111714ECD5.D 20K007-13



ZB-35 Manual Integration: NO



Dual Column

PP12-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-15 A File ID: 20111717ECD5.D
 Sampled: 10/30/20 11:00 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 00:34
 % Solids: 77.96 Preparation: EPA 3546 (Microwave) Initial/Final: 6.43 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	99.7	39.9	99.7	U
11104-28-2	Aroclor 1221	1	5	99.7	39.9	99.7	U
11141-16-5	Aroclor 1232	1	5	99.7	39.9	99.7	U
53469-21-9	Aroclor 1242	1	5	99.7	39.9	99.7	U
12672-29-6	Aroclor 1248	1	5	75.3	39.9	99.7	J, D
11097-69-1	Aroclor 1254	2	5	107	39.9	99.7	D
11096-82-5	Aroclor 1260	2	5	209	46.3	99.7	D
37324-23-5	Aroclor 1262	1	5	99.7	46.3	99.7	U
11100-14-4	Aroclor 1268	1	5	99.7	46.3	99.7	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.898	42.6	107	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.898	33.6	84.3	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.898	43.4	109	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.898	34.8	87.1	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111717ECD5.D
Data file 2: /20201117.b/20201117.b/20111717ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-15
Client ID:
Injection Date: 18-NOV-2020 00:34
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: ~~1-000~~ 5x

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.097	-0.003	283561	6.313	0.000	242257	6.7	7.0	3.3	Tetrachloro-m-xylene
13.906	-0.004	461402	14.532	0.000	326848	8.6	8.7	1.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	16.9	17.4
Decachlorobiphenyl	21.4	21.7

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2877384	6.5
Hexabromobiphenyl	3964848	4558840	15.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2701252	-7.3
Hexabromobiphenyl	2801720	3015307	7.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	7.781	-0.000	7597	5.1	
Aroclor-1016	2	7.836	-0.002	21146	5.7	2	8.353	-0.000	15886	5.2	
Aroclor-1016	3	7.972	-0.000	11725	7.6	3	8.546	-0.001	3926	3.1	
Aroclor-1016	4	8.286	-0.000	14439	14.2	4	9.191	0.004	3172	3.4	
Total CollAve (3 peaks):				9.2	Total Col2Ave (4 peaks):				4.2	RPD = 75*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				3.8		
Aroclor-1221	1	---			0.0	1	5.699	0.046	1388	5.7	
Aroclor-1221	2	---			0.0	2	6.904	0.024	3709	7.6	
Aroclor-1221	3	---			0.0	3	7.057	-0.031	340	1.3	
CollAve: <3 Quant Peaks					Col2Ave:				4.9		
Aroclor-1232	1	---			0.0	1	5.699	0.046	1388	9.8	
Aroclor-1232	2	---			0.0	2	7.781	-0.004	7597	10.9	
Aroclor-1232	3	7.836	-0.000	21146	13.2	3	8.353	-0.004	15886	12.2	
Aroclor-1232	4	7.972	-0.002	11725	17.6	4	8.546	-0.003	3926	7.2	
CollAve: <3 Quant Peaks					Col2Ave:				10.0		
Aroclor-1242	1	---			0.0	1	7.781	-0.001	7597	6.3	
Aroclor-1242	2	7.836	-0.001	21146	7.2	2	8.353	-0.000	15886	6.5	
Aroclor-1242	3	9.072	-0.000	13747	12.9	3	9.691	0.000	6210	7.8	
Aroclor-1242	4	9.347	-0.004	23846	20.5	4	9.993	-0.038	14631	14.9	
Total CollAve (3 peaks):				13.5	Total Col2Ave (4 peaks):				8.9	RPD = 42*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				6.9		
Aroclor-1248	1	8.565	0.000	24677	16.3	1	8.790	0.001	11253	10.9	
Aroclor-1248	2	8.726	-0.002	27594	15.0	2	9.191	0.003	3172	2.6	
Aroclor-1248	3	9.131	0.006	72391	31.8	3	9.612	-0.000	10129	6.3	
Aroclor-1248	4	9.347	-0.003	23846	14.0	4	9.993	-0.036	14631	9.1	
Total CollAve (4 peaks):				19.3	Total Col2Ave (4 peaks):				7.2	RPD = 91*	
Corrected Ave (3 peaks):				15.1	Corrected Ave (3 peaks):				6.0	RPD = 86*	
Aroclor-1254	1	9.131	-0.002	72391	35.6	1	9.901	0.002	44793	27.3	
Aroclor-1254	2	9.421	-0.000	60354	22.1	2	9.993	0.002	14631	17.0	
Aroclor-1254	3	9.493	-0.002	17733	17.0	3	10.413	0.002	7731	6.1	
Aroclor-1254	4	9.782	0.003	16650	9.2	4	10.587	0.029	86188	31.5	
Aroclor-1254	5	9.905	-0.003	72894	20.5	5	11.335	0.009	42644	25.4	
Total CollAve (5 peaks):				20.9	Total Col2Ave (5 peaks):				21.5	RPD = 3	
Corrected Ave (4 peaks):				17.2	Corrected Ave (4 peaks):				19.0	RPD = 10	
Aroclor-1260	1	11.427	-0.001	127890	47.9	1	11.627	-0.000	82964	45.9	
Aroclor-1260	2	11.786	-0.001	252085	37.7	2	12.078	0.001	100770	46.0	
Aroclor-1260	3	12.180	-0.001	146147	40.4	3	12.333	0.000	176122	40.5	
Aroclor-1260	4	12.289	-0.002	58749	39.5	4	13.634	0.000	41609	35.5	
Aroclor-1260	5	12.361	-0.002	67887	38.8	NS	---			---	
Total CollAve (5 peaks):				40.9	Total Col2Ave (4 peaks):				42.0	RPD = 3	
Corrected Ave (4 peaks):				39.1	Corrected Ave (3 peaks):				40.6	RPD = 4	
Aroclor-1262	1	11.117	-0.002	119867	30.8	1	11.627	-0.004	82964	29.8	
Aroclor-1262	2	11.786	-0.001	252085	30.3	2	12.078	-0.003	100770	46.4	
Aroclor-1262	3	12.180	-0.003	146147	50.3	3	12.333	-0.004	176122	31.7	
Aroclor-1262	4	12.289	-0.003	58749	23.0	4	12.835	-0.019	135308	68.7	
Aroclor-1262	5	12.361	-0.003	67887	22.9	NS	---			---	
Total CollAve (5 peaks):				31.4	Total Col2Ave (4 peaks):				41.2	RPD = 34	
Corrected Ave (4 peaks):				26.7	Corrected Ave (3 peaks):				36.0	RPD = 29	
Aroclor-1268	1	12.289	-0.003	58749	6.7	1	12.835	-0.018	135308	23.9	
Aroclor-1268	2	12.361	-0.001	67887	8.1	2	12.915	-0.005	124217	22.1	
Aroclor-1268	3	12.757	0.018	35365	4.7	3	13.311	-0.005	3962	0.9	
Aroclor-1268	4	13.507	-0.004	35172	1.7	4	14.080	-0.044	39915	2.9	
Total CollAve (4 peaks):				5.3	Total Col2Ave (4 peaks):				12.5	RPD = 81*	
Corrected Ave (3 peaks):				4.4	Corrected Ave (3 peaks):				8.6	RPD = 66*	

Total PCB Area Col1 (6.199 - 13.810) = 3250879 Col1 Total PCB = 0.10 ppm*

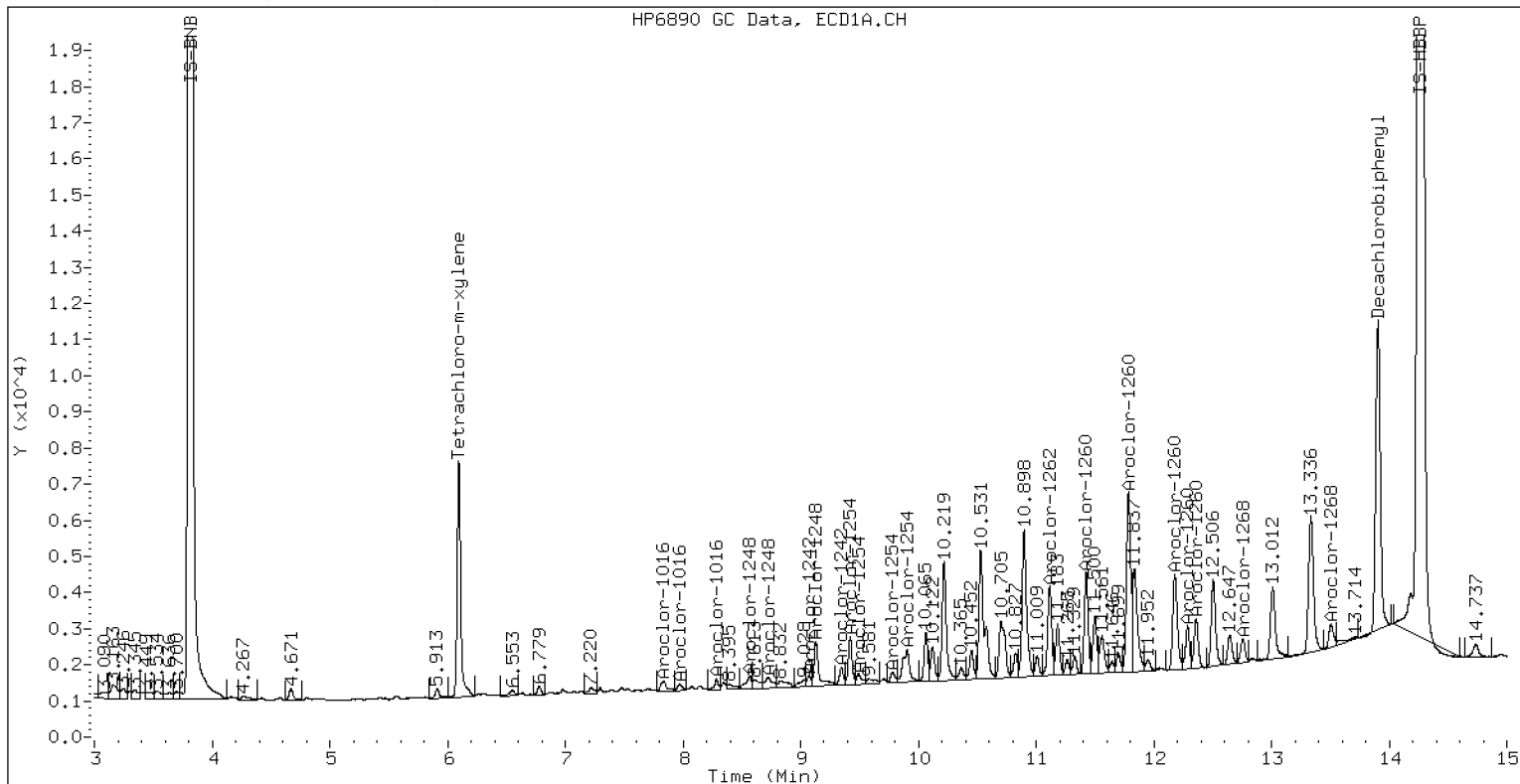
Total PCB Area Col2 (6.199 - 13.810) = 2229724 Col2 Total PCB = 0.08 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

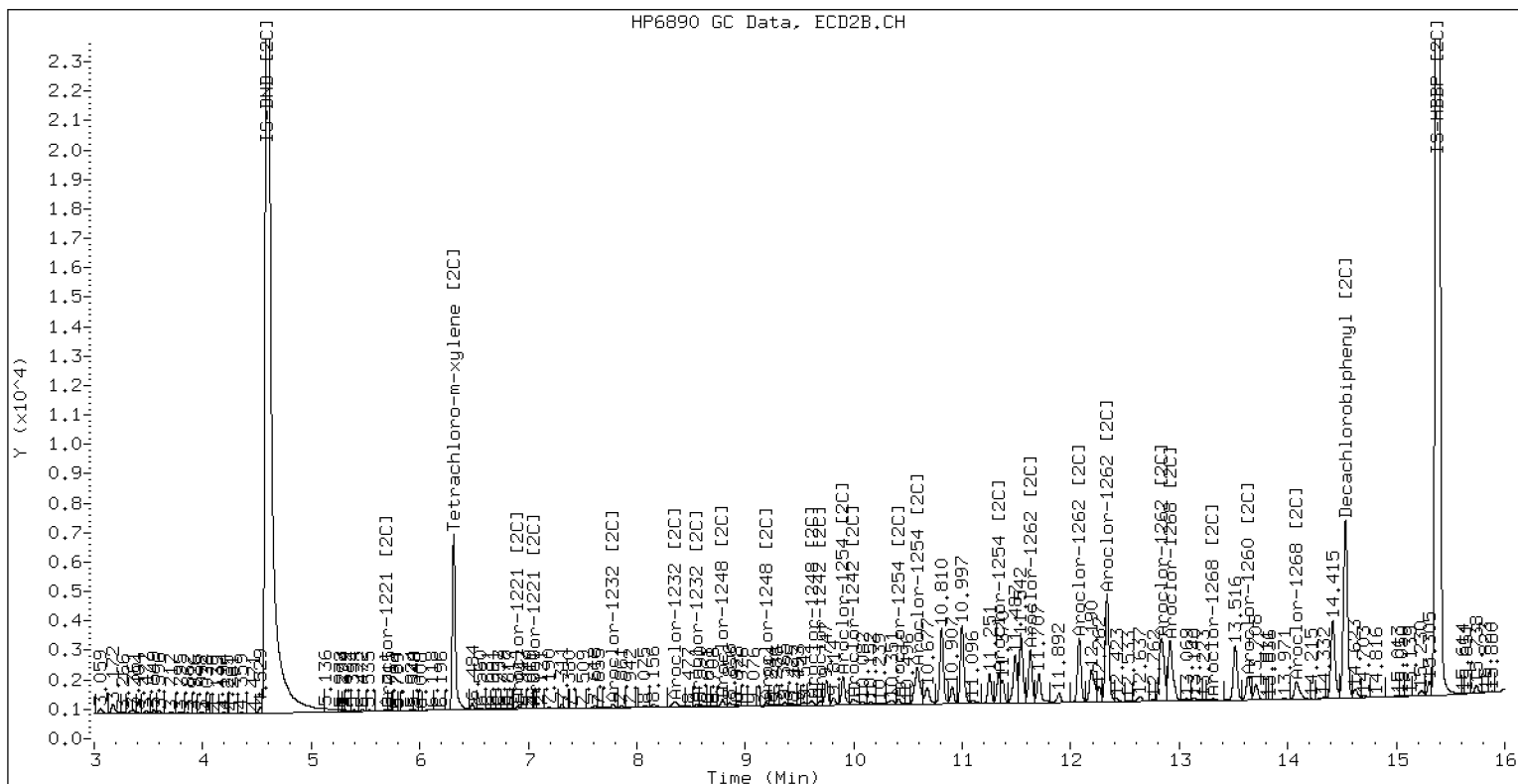
ECD5-ZB5 /20201117.b/20111717ECD5.D 20K007-15

18-NOV-2020 00:34 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111717ECD5.D 20K007-15



ZB-35 Manual Integration: NO



Dual Column

PP10-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-19 A File ID: 20112807ECD5.D
 Sampled: 10/30/20 12:35 Prepared: 11/13/20 10:20 Analyzed: 11/29/20 20:59
 % Solids: 88.97 Preparation: EPA 3546 (Microwave) Initial/Final: 5.66 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0052 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	7.9	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	7.9	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	7.9	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	7.9	19.9	U
12672-29-6	Aroclor 1248	1	1	12.2	7.9	19.9	J
11097-69-1	Aroclor 1254	2	1	9.1	7.9	19.9	J
11096-82-5	Aroclor 1260	1	1	16.7	9.2	19.9	J
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.716	27.7	69.7	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.716	19.9	50.2	53 - 120	*
<i>Decachlorobiphenyl</i>	2	39.716	28.9	72.8	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.716	22.9	57.7	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201128.b/20112807ECD5.D
Data file 2: /20201128.b/20201128.b/20112807ECD5.D
Method: ecd5.i\20201128.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-19
Client ID:
Injection Date: 29-NOV-2020 20:59
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.095	-0.004 634994	-0.003 695420	6.311	20.1	23.1	14.0	Tetrachloro-m-xylene
13.906	-0.004 1378564	-0.003 1306479	14.532	27.9	29.1	4.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	50.2	57.7
Decachlorobiphenyl	69.7	72.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2164932	-19.9
Hexabromobiphenyl	3964848	4176574	5.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2340800	-19.7
Hexabromobiphenyl	2801720	3599930	28.5

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.456	-0.027	17001	19.2	1	7.774	-0.009	12282	9.5	
Aroclor-1016	2	7.816	-0.022	22923	8.2	2	8.335	-0.018	19181	7.3	
Aroclor-1016	3	7.968	-0.004	15696	13.6	3	8.545	-0.002	7870	7.1	
Aroclor-1016	4	8.306	0.019	50021	65.3	4	9.186	-0.006	6237	7.7	
Total CollAve (4 peaks):				26.6	Total Col2Ave (4 peaks):				7.9	RPD = 109*	
Corrected Ave (3 peaks):				13.7	Corrected Ave (3 peaks):				7.3	RPD = 60*	
Aroclor-1221	1	---			0.0	1	5.636	-0.017	15361	73.2	
Aroclor-1221	2	6.549	-0.004	22343	75.8	2	6.901	0.021	13787	32.4	
Aroclor-1221	3	6.656	0.016	15490	18.5	3	7.124	0.036	6311	27.6	
Total CollAve (3 peaks):				13.7	Total Col2Ave (3 peaks):				44.4		
Corrected Ave (3 peaks):				13.7	Corrected Ave (3 peaks):				18.0		
Aroclor-1232	1	---			0.0	1	5.636	-0.017	15361	125.5	
Aroclor-1232	2	7.456	-0.028	17001	43.7	2	7.774	-0.012	12282	20.4	
Aroclor-1232	3	7.816	-0.020	22923	19.1	3	8.335	-0.021	19181	16.9	
Aroclor-1232	4	7.968	-0.006	15696	31.3	4	8.545	-0.005	7870	16.6	
Total CollAve (3 peaks):				31.3	Total Col2Ave (4 peaks):				44.8	RPD = 35	
Corrected Ave (3 peaks):				13.7	Corrected Ave (3 peaks):				18.0		
Aroclor-1242	1	7.456	-0.026	17001	24.4	1	7.774	-0.010	12282	11.8	
Aroclor-1242	2	7.816	-0.021	22923	10.4	2	8.335	-0.019	19181	9.0	
Aroclor-1242	3	9.064	-0.008	11278	14.1	3	9.681	-0.009	8301	12.0	
Aroclor-1242	4	9.342	-0.009	26309	30.1	4	10.047	0.017	24031	28.2	
Total CollAve (4 peaks):				19.7	Total Col2Ave (4 peaks):				15.9	RPD = 25	
Corrected Ave (3 peaks):				16.3	Corrected Ave (3 peaks):				11.0	RPD = 39	
Aroclor-1248	1	8.559	-0.006	19378	17.0	1	8.786	-0.005	10663	12.0	
Aroclor-1248	2	8.720	-0.007	12410	9.0	2	9.186	-0.003	6237	5.9	
Aroclor-1248	3	9.120	-0.006	18574	10.8	3	9.601	-0.011	9034	6.5	
Aroclor-1248	4	9.342	-0.008	26309	20.6	4	10.047	0.017	24031	17.3	
Total CollAve (4 peaks):				14.3	Total Col2Ave (4 peaks):				10.4	RPD = 32	
Corrected Ave (3 peaks):				12.3	Corrected Ave (3 peaks):				8.1	RPD = 41*	
Aroclor-1254	1	9.120	-0.013	18574	12.1	1	9.896	-0.005	18951	13.3	
Aroclor-1254	2	9.413	-0.009	23244	11.3	2	9.990	-0.004	8397	11.3	
Aroclor-1254	3	9.492	-0.002	4100	5.2	3	10.412	-0.003	5055	4.6	
Aroclor-1254	4	9.785	0.007	37636	27.7	4	10.556	-0.006	21358	9.0	
Aroclor-1254	5	9.900	-0.008	16366	6.1	5	11.328	-0.003	11434	7.9	
Total CollAve (5 peaks):				12.5	Total Col2Ave (5 peaks):				9.2	RPD = 30	
Corrected Ave (4 peaks):				8.7	Corrected Ave (4 peaks):				8.2	RPD = 6	
Aroclor-1260	1	11.422	-0.006	27360	11.2	1	11.625	-0.003	24607	11.4	
Aroclor-1260	2	11.780	-0.007	66382	10.8	2	12.075	-0.004	35994	13.8	
Aroclor-1260	3	12.174	-0.007	68305	20.6	3	12.330	-0.004	60418	11.6	
Aroclor-1260	4	12.286	-0.005	33567	24.6	4	13.633	-0.004	26278	18.8	
Aroclor-1260	5	12.358	-0.004	43027	26.9	NS	---			---	
Total CollAve (5 peaks):				19.8	Total Col2Ave (4 peaks):				13.9	RPD = 30	
Corrected Ave (4 peaks):				16.8	Corrected Ave (3 peaks):				12.3	RPD = 31	
Aroclor-1262	1	11.112	-0.007	23382	6.6	1	11.625	-0.006	24607	7.4	
Aroclor-1262	2	11.780	-0.007	66382	8.7	2	12.075	-0.006	35994	13.9	
Aroclor-1262	3	12.174	-0.008	68305	25.6	3	12.330	-0.007	60418	9.1	
Aroclor-1262	4	12.286	-0.006	33567	14.3	4	12.848	-0.006	29030	12.3	
Aroclor-1262	5	12.358	-0.005	43027	15.8	NS	---			---	
Total CollAve (5 peaks):				14.2	Total Col2Ave (4 peaks):				10.7	RPD = 28	
Corrected Ave (4 peaks):				11.4	Corrected Ave (3 peaks):				9.6	RPD = 16	
Aroclor-1268	1	12.286	-0.006	33567	4.2	1	12.848	-0.005	29030	4.3	
Aroclor-1268	2	12.358	-0.004	43027	5.6	2	12.913	-0.007	53519	8.0	
Aroclor-1268	3	12.747	0.008	32342	4.7	3	13.309	-0.007	10782	2.0	
Aroclor-1268	4	13.507	-0.004	21382	1.1	4	14.118	-0.006	30154	1.8	
Total CollAve (4 peaks):				3.9	Total Col2Ave (4 peaks):				4.0	RPD = 3	

Corrected Ave (3 peaks): 3.3 Corrected Ave (3 peaks): 2.7 RPD = 21

Total PCB Area Col1 (6.199 - 13.810) = 1270652 Col1 Total PCB = 0.04 ppm*

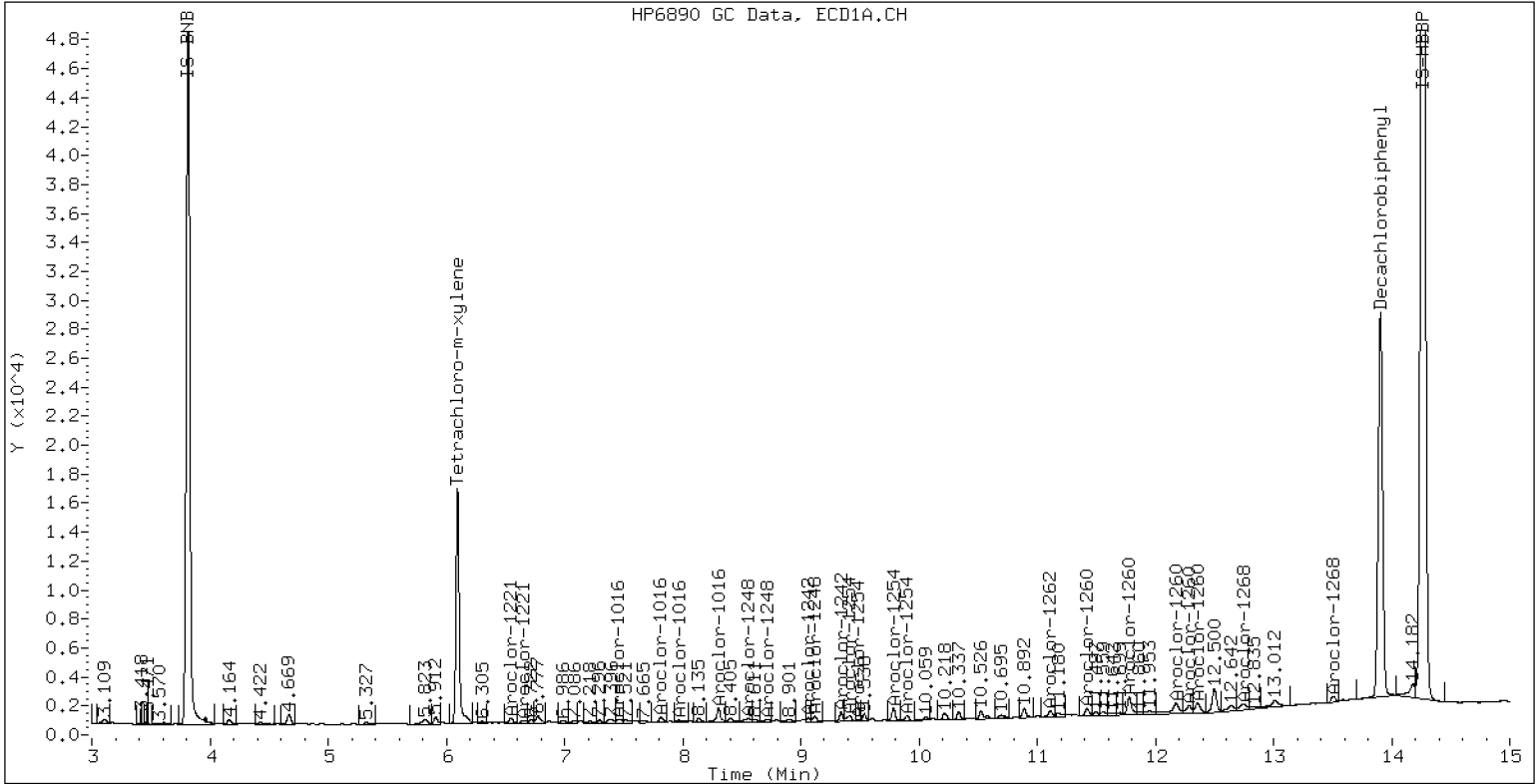
Total PCB Area Col2 (6.199 - 13.810) = 1842360 Col2 Total PCB = 0.07 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

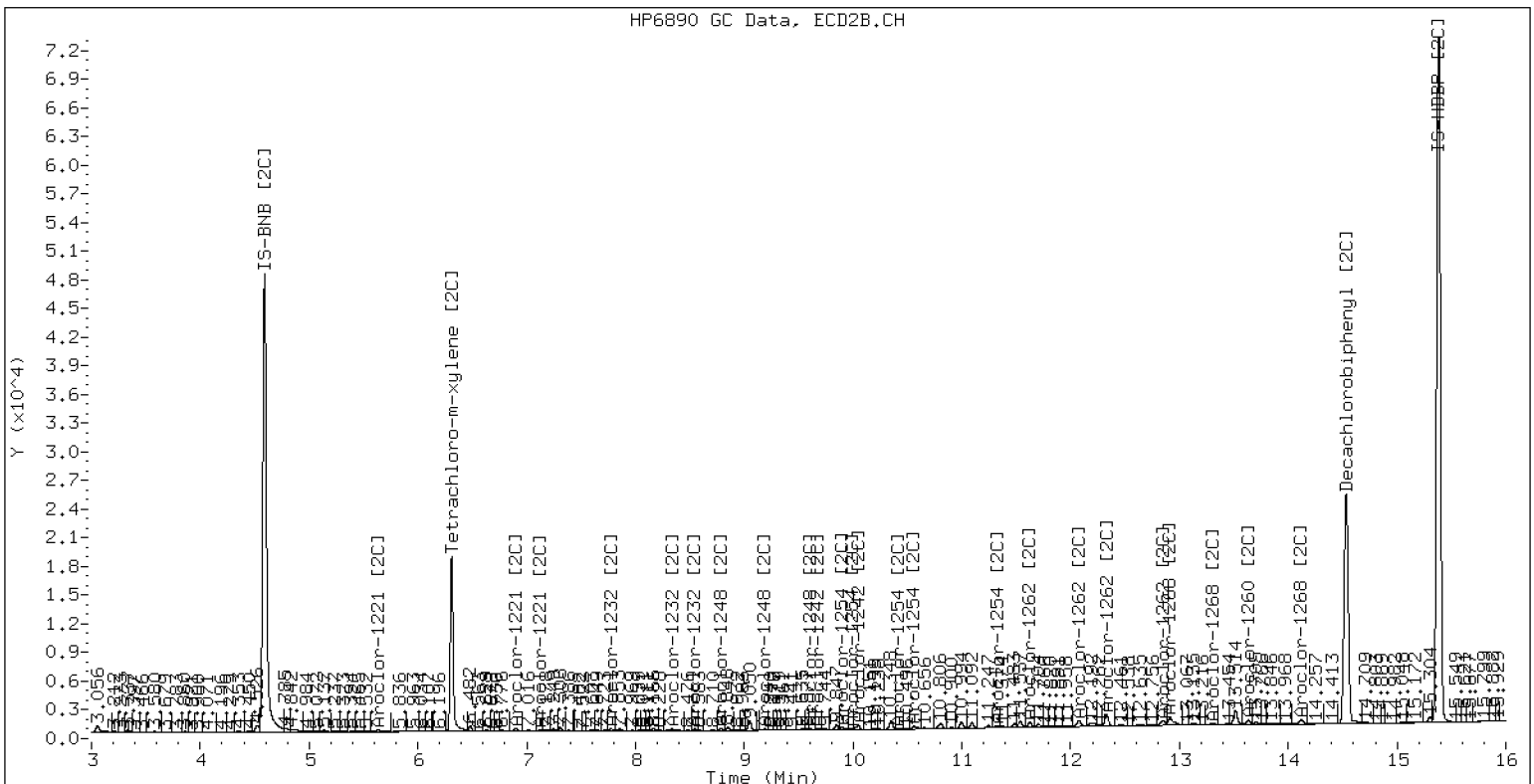
ECD5-ZB5 /20201128.b/20112807ECD5.D 20K0007-19

29-NOV-2020 20:59 2ul JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201128.b/20201128.b/20112807ECD5.D 20K0007-19



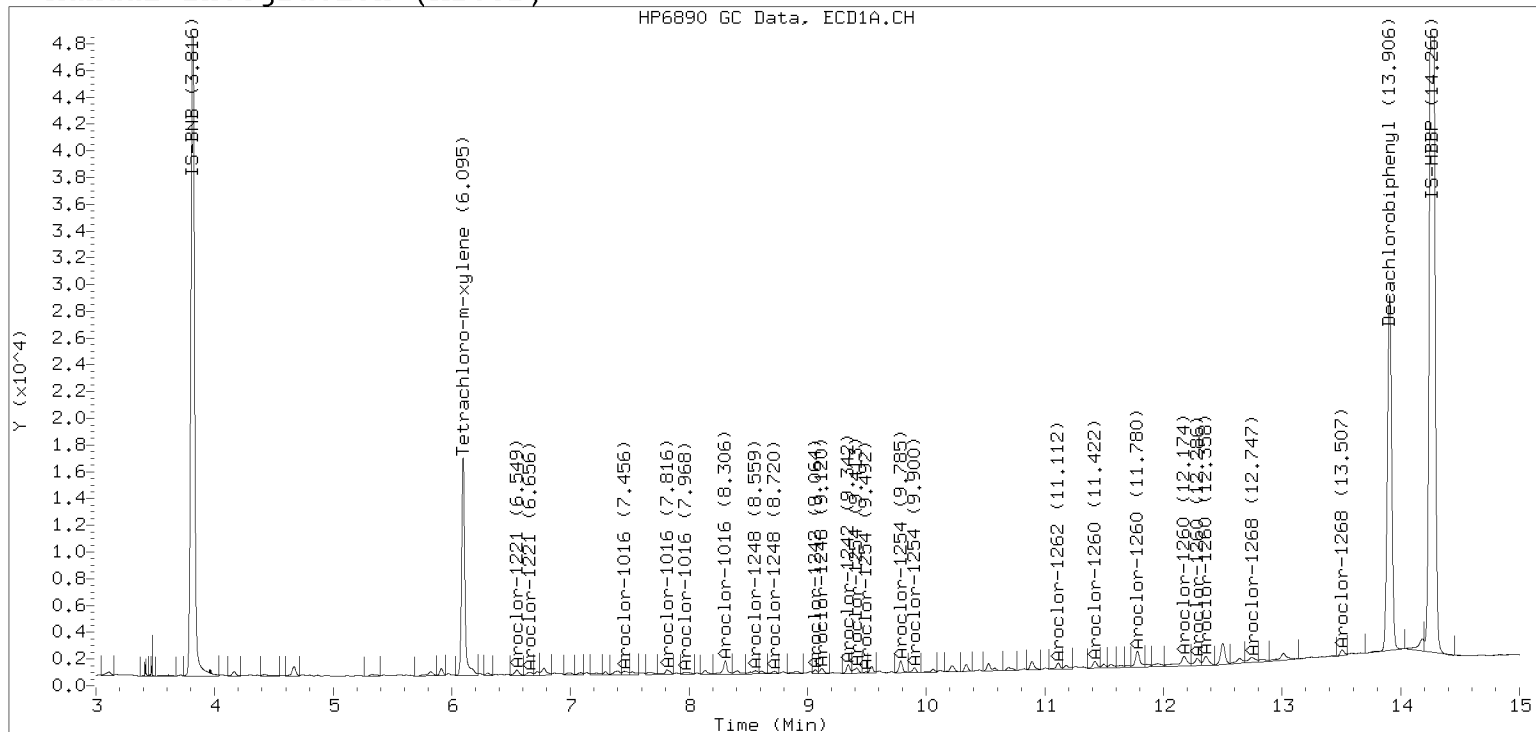
ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

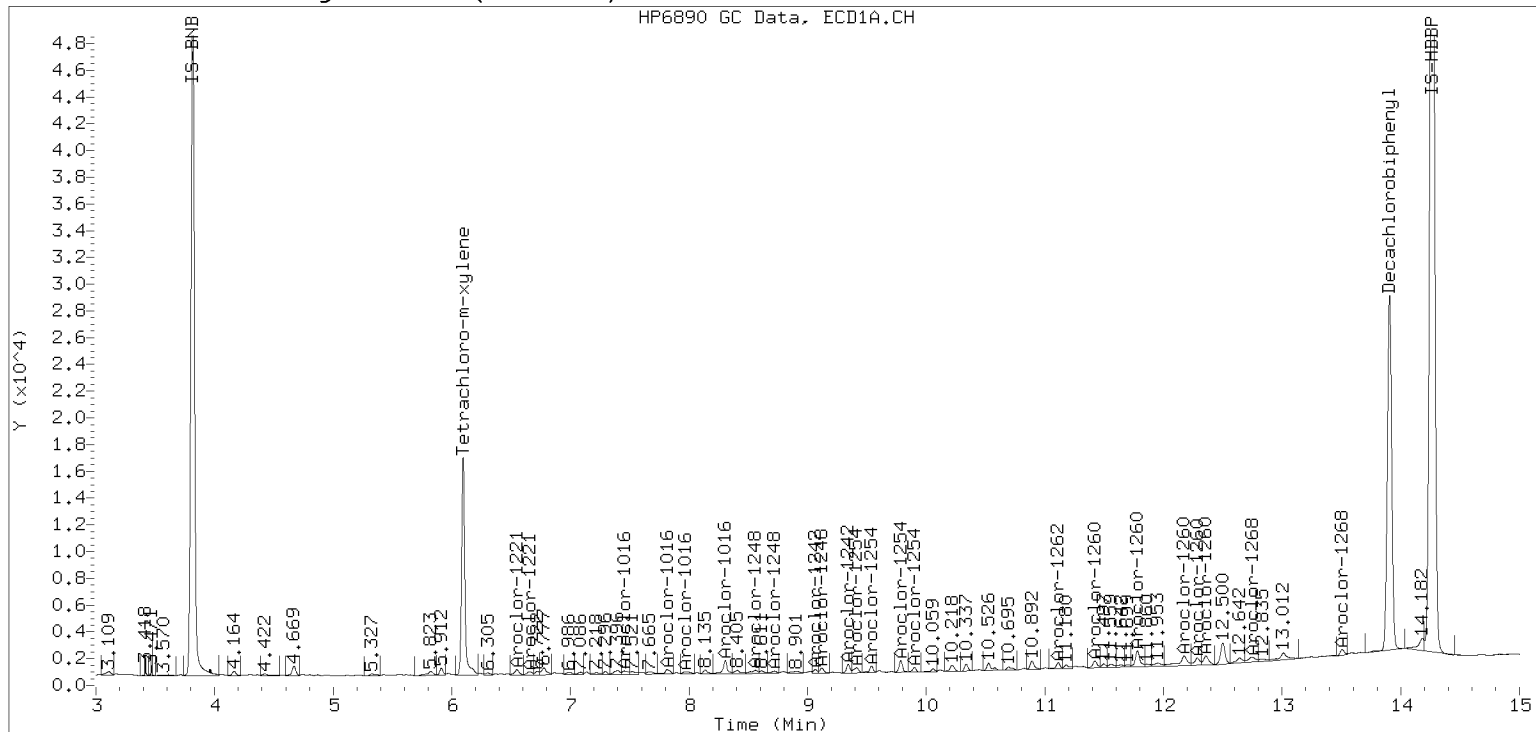
Datafile: ecd5.i/20201128.b/20112807ECD5.D

Injection Date: 29-NOV-2020 20:5

Manual Integration (After)



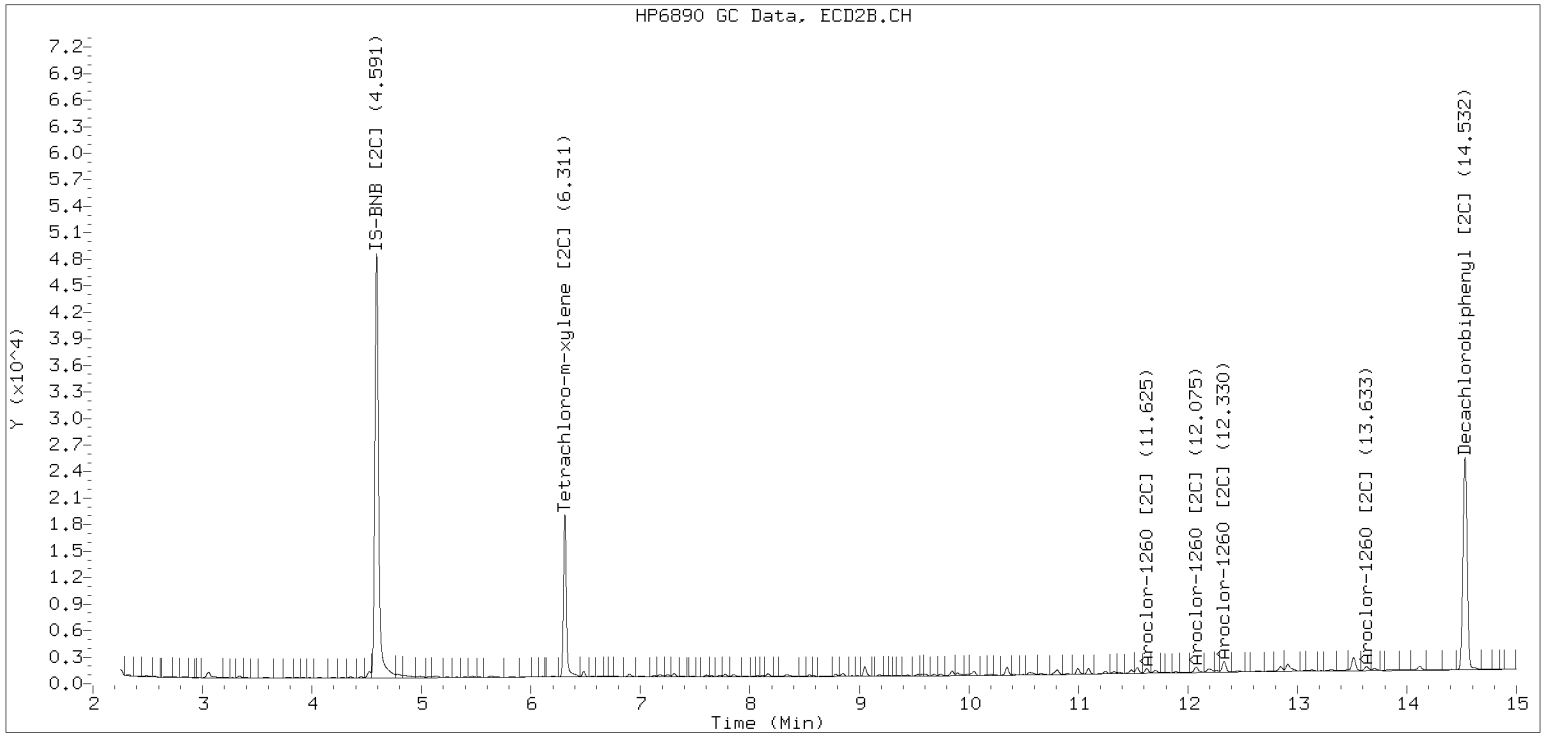
Processed Integration (Before)



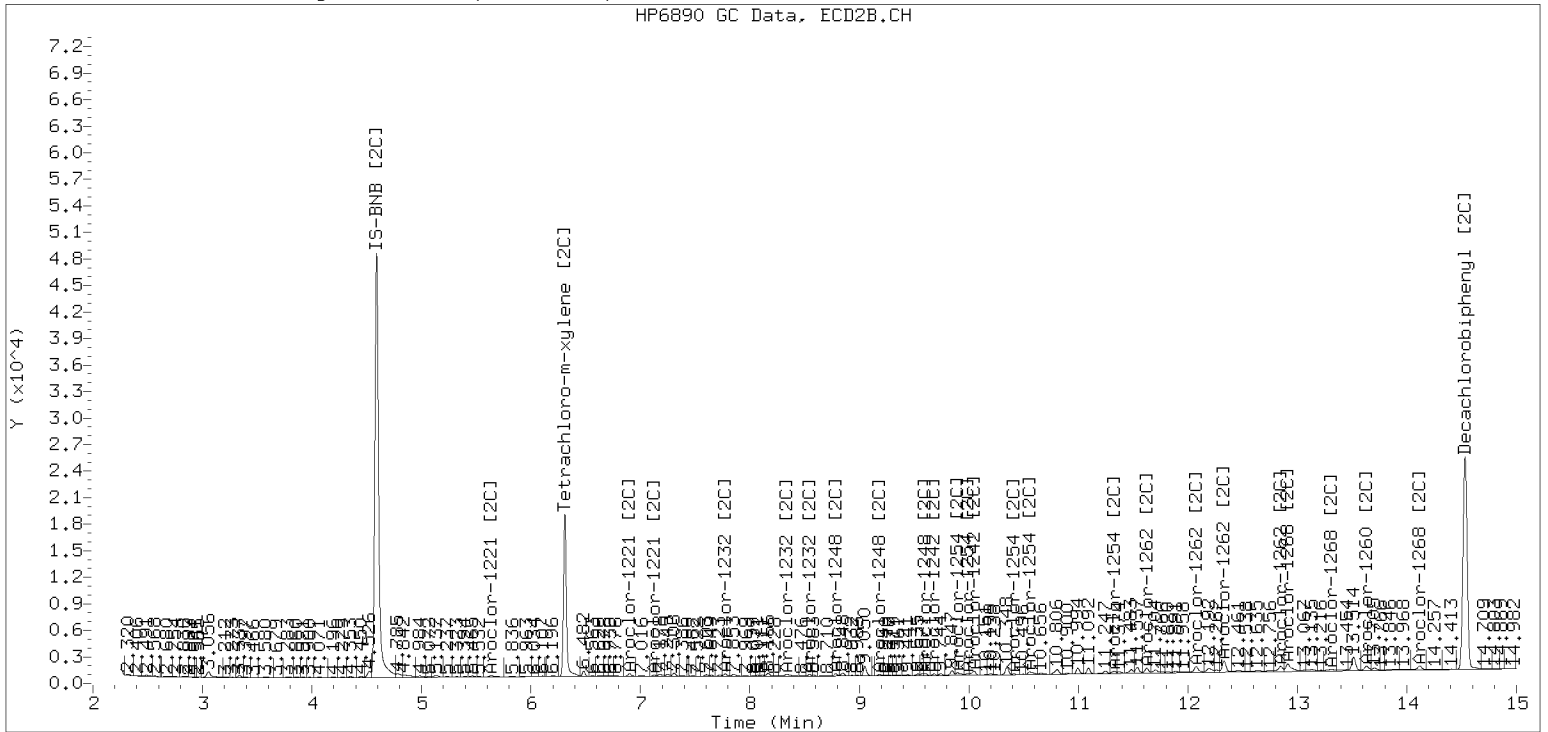
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201128.b/20201128.b/20112807ECD5.D Injection Date: 29-NOV-2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP10-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-21 A File ID: 20111721ECD5.D
 Sampled: 10/30/20 12:45 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 01:57
 % Solids: 76.66 Preparation: EPA 3546 (Microwave) Initial/Final: 6.56 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	1	1	19.9	8.0	19.9	U
11097-69-1	Aroclor 1254	1	1	19.9	8.0	19.9	U
11096-82-5	Aroclor 1260	1	1	19.9	9.2	19.9	U
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.770	28.2	70.9	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.770	23.5	59.1	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111721ECD5.D
Data file 2: /20201117.b/20201117.b/20111721ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-21
Client ID:
Injection Date: 18-NOV-2020 01:57
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	0.001	767287	6.314	0.002	674771	23.6	27.6	15.6	Tetrachloro-m-xylene
13.906	-0.003	1195142	14.531	0.000	838027	28.4	28.9	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	59.1	69.1
Decachlorobiphenyl	70.9	72.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2221666	-17.8
Hexabromobiphenyl	3964848	3561335	-10.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	1898597	-34.9
Hexabromobiphenyl	2801720	2325591	-17.0

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.449	-0.032	5743	6.3	1	7.783	0.001	2949	2.8	
Aroclor-1016	2	7.840	0.003	3274	1.1	2	8.330	-0.023	5727	2.7	
Aroclor-1016	3	7.993	0.020	10779	9.1	3	8.547	0.000	1442	1.6	
Aroclor-1016	4	8.294	0.008	4048	5.1	4	9.245	0.058	309	0.5	
Total CollAve (4 peaks):				5.4	Total Col2Ave (4 peaks):				1.9	RPD = 97*	
Corrected Ave (3 peaks):				4.2	Corrected Ave (3 peaks):				1.6	RPD = 90*	
Aroclor-1221	1	---	---	---	0.0	1	5.710	0.057	6593	38.8	
Aroclor-1221	2	---	---	---	0.0	2	6.905	0.026	13185	38.2	
Aroclor-1221	3	---	---	---	0.0	3	7.121	0.032	1928	10.4	
CollAve: <3 Quant Peaks				---	Col2Ave: 29.1				---		
Aroclor-1232	1	---	---	---	0.0	1	5.710	0.057	6593	66.4	
Aroclor-1232	2	7.449	-0.035	5743	14.4	2	7.783	-0.003	2949	6.0	
Aroclor-1232	3	7.840	0.004	3274	2.7	3	8.330	-0.026	5727	6.2	
Aroclor-1232	4	7.993	0.019	10779	20.9	4	8.547	-0.002	1442	3.7	
Total CollAve (3 peaks):				12.7	Total Col2Ave (4 peaks):				20.6	RPD = 48*	
Corrected Ave: < 3 Peaks				---	Corrected Ave (3 peaks):				5.3	---	
Aroclor-1242	1	7.449	-0.033	5743	8.0	1	7.783	0.001	2949	3.5	
Aroclor-1242	2	7.840	0.003	3274	1.4	2	8.330	-0.023	5727	3.3	
Aroclor-1242	3	9.030	-0.044	8459	10.3	3	9.750	0.059	6362	11.3	
Aroclor-1242	4	9.346	-0.007	849	0.9	4	10.015	-0.016	899	1.3	
Total CollAve (4 peaks):				5.2	Total Col2Ave (4 peaks):				4.9	RPD = 6	
Corrected Ave (3 peaks):				3.5	Corrected Ave (3 peaks):				2.7	RPD = 25	
Aroclor-1248	1	8.567	0.002	8879	7.6	1	8.790	0.001	6211	8.6	
Aroclor-1248	2	8.729	0.000	5758	4.1	2	9.245	0.057	309	0.4	
Aroclor-1248	3	9.127	-0.001	2914	1.7	3	9.580	-0.032	2781	2.5	
Aroclor-1248	4	9.346	-0.006	849	0.6	4	10.015	-0.014	899	0.8	
Total CollAve (4 peaks):				3.5	Total Col2Ave (4 peaks):				3.1	RPD = 13	
Corrected Ave (3 peaks):				2.1	Corrected Ave (3 peaks):				1.2	RPD = 55*	
Aroclor-1254	1	9.127	-0.002	2914	1.9	1	9.903	0.005	6849	5.9	
Aroclor-1254	2	9.419	0.000	1865	0.9	2	10.015	0.024	899	1.5	
Aroclor-1254	3	---	---	---	0.0	3	10.334	-0.078	1933	2.2	
Aroclor-1254	4	---	---	---	0.0	4	10.533	-0.025	4549	2.4	
Aroclor-1254	5	9.912	0.007	4357	1.6	5	11.338	0.012	2770	2.3	
Total CollAve (3 peaks):				1.4	Total Col2Ave (5 peaks):				2.9	RPD = 66*	
Corrected Ave: < 3 Peaks				---	Corrected Ave (4 peaks):				2.1	---	
Aroclor-1260	1	11.337	-0.090	1257	0.6	1	11.623	-0.005	2147	1.5	
Aroclor-1260	2	11.786	-0.001	8524	1.6	2	12.076	-0.001	4990	3.0	
Aroclor-1260	3	---	---	---	0.0	3	12.333	-0.000	3923	1.2	
Aroclor-1260	4	---	---	---	0.0	4	13.631	-0.003	2247	2.5	
Aroclor-1260	5	---	---	---	0.0	NS	---	---	---	----	
CollAve: <3 Quant Peaks				---	Col2Ave: 2.0				---		
Aroclor-1262	1	11.117	-0.002	1079	0.4	1	11.623	-0.009	2147	1.0	
Aroclor-1262	2	11.786	-0.002	8524	1.3	2	12.076	-0.005	4990	3.0	
Aroclor-1262	3	---	---	---	0.0	3	12.333	-0.004	3923	0.9	
Aroclor-1262	4	---	---	---	0.0	4	12.832	-0.023	3669	2.4	
Aroclor-1262	5	---	---	---	0.0	NS	---	---	---	----	
CollAve: <3 Quant Peaks				---	Col2Ave: 1.8				---		
Aroclor-1268	1	---	---	---	0.0	1	12.832	-0.022	3669	0.8	
Aroclor-1268	2	---	---	---	0.0	2	12.918	-0.003	5841	1.4	
Aroclor-1268	3	12.646	-0.094	21496	3.7	3	13.311	-0.006	5963	1.7	
Aroclor-1268	4	13.511	0.000	10480	0.6	4	14.116	-0.007	9631	0.9	
CollAve: <3 Quant Peaks				---	Col2Ave: 1.2				---		

Total PCB Area Col1 (6.197 - 13.808) = 412480 Col1 Total PCB = 0.01 ppm*

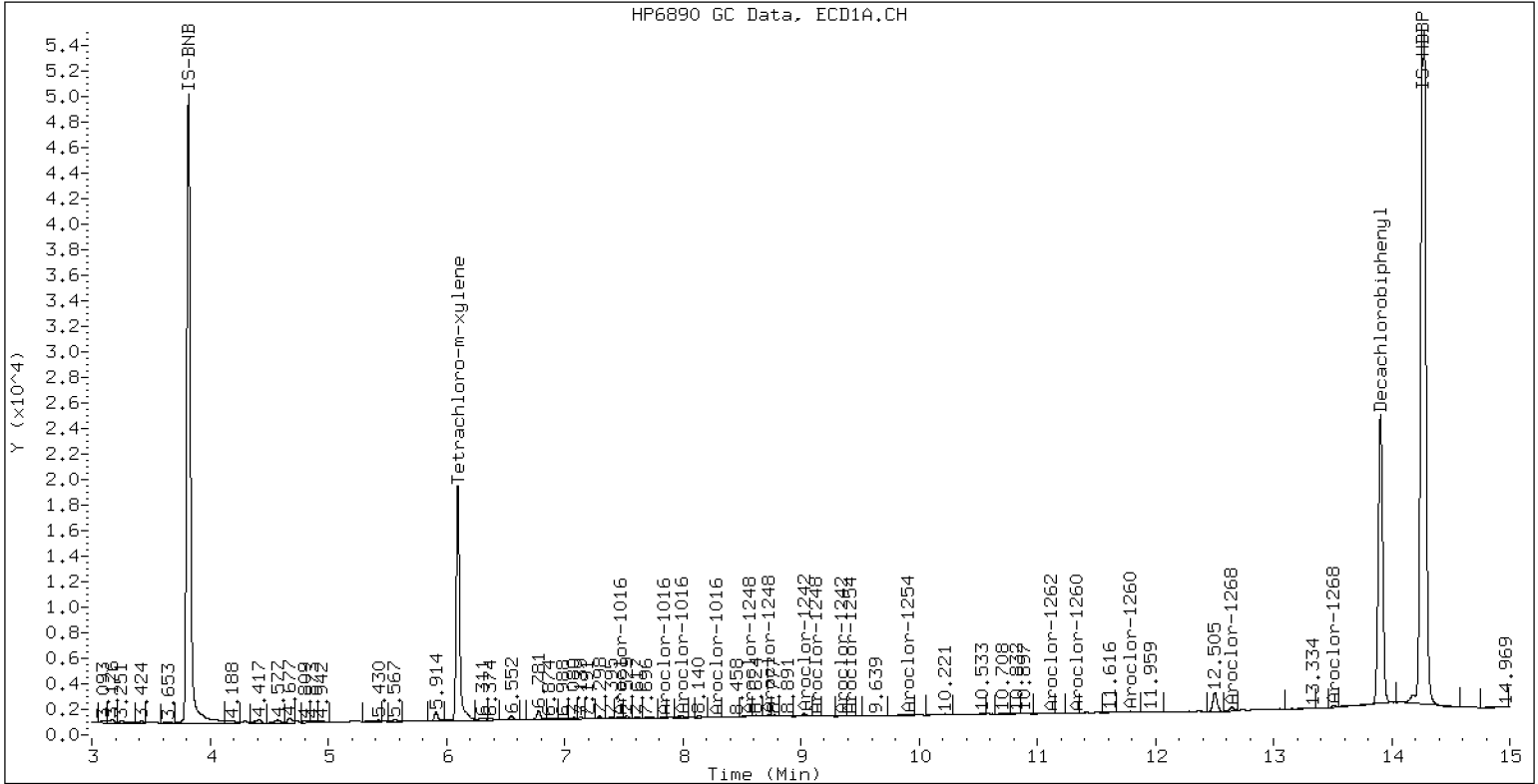
Total PCB Area Col2 (6.197 - 13.808) = 1032160 Col2 Total PCB = 0.04 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

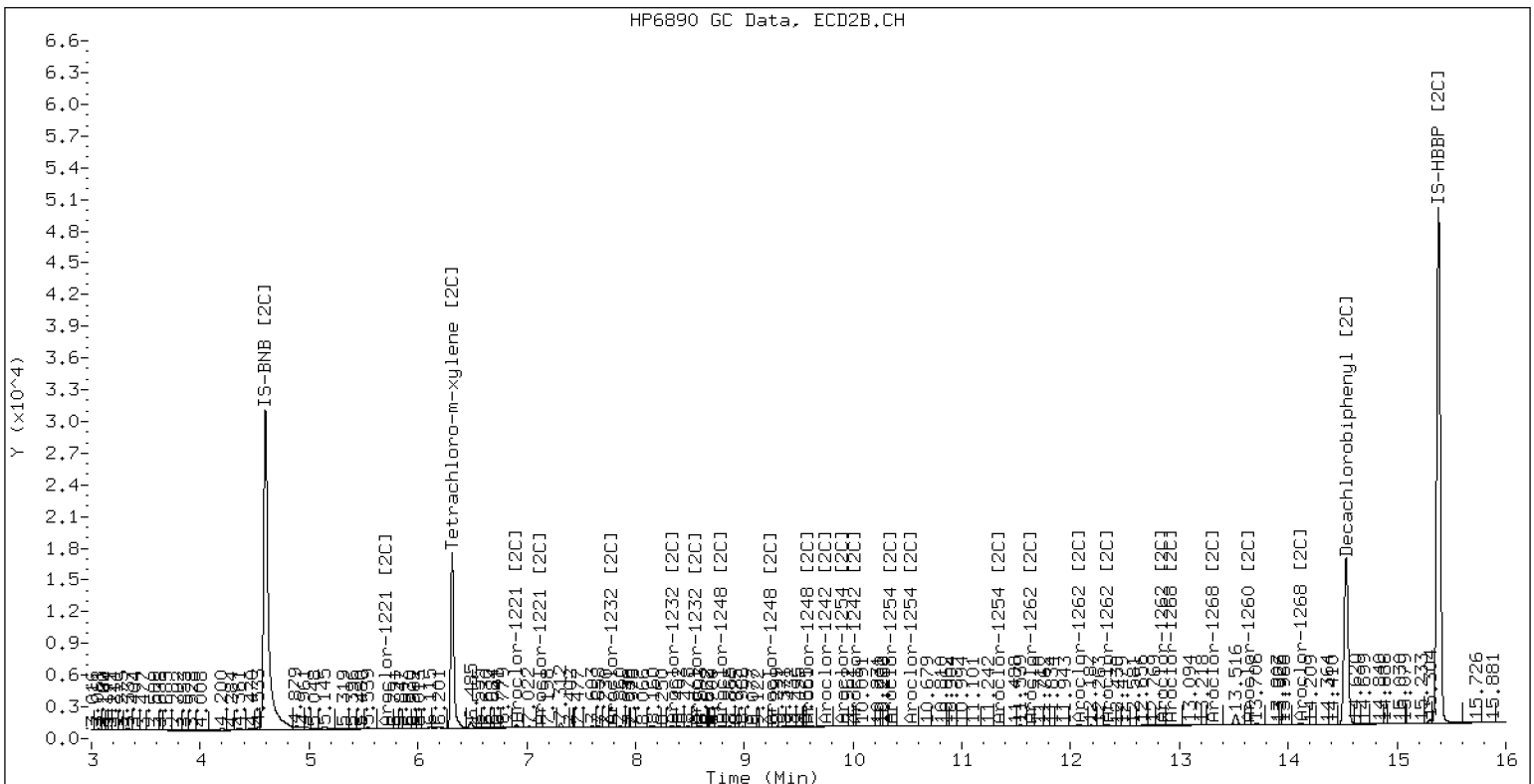
ECD5-ZB5 /20201117.b/20111721ECD5.D 20K0007-21

18-NOV-2020 01:57 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201117.b/20201117.b/20111721ECD5.D 20K0007-21



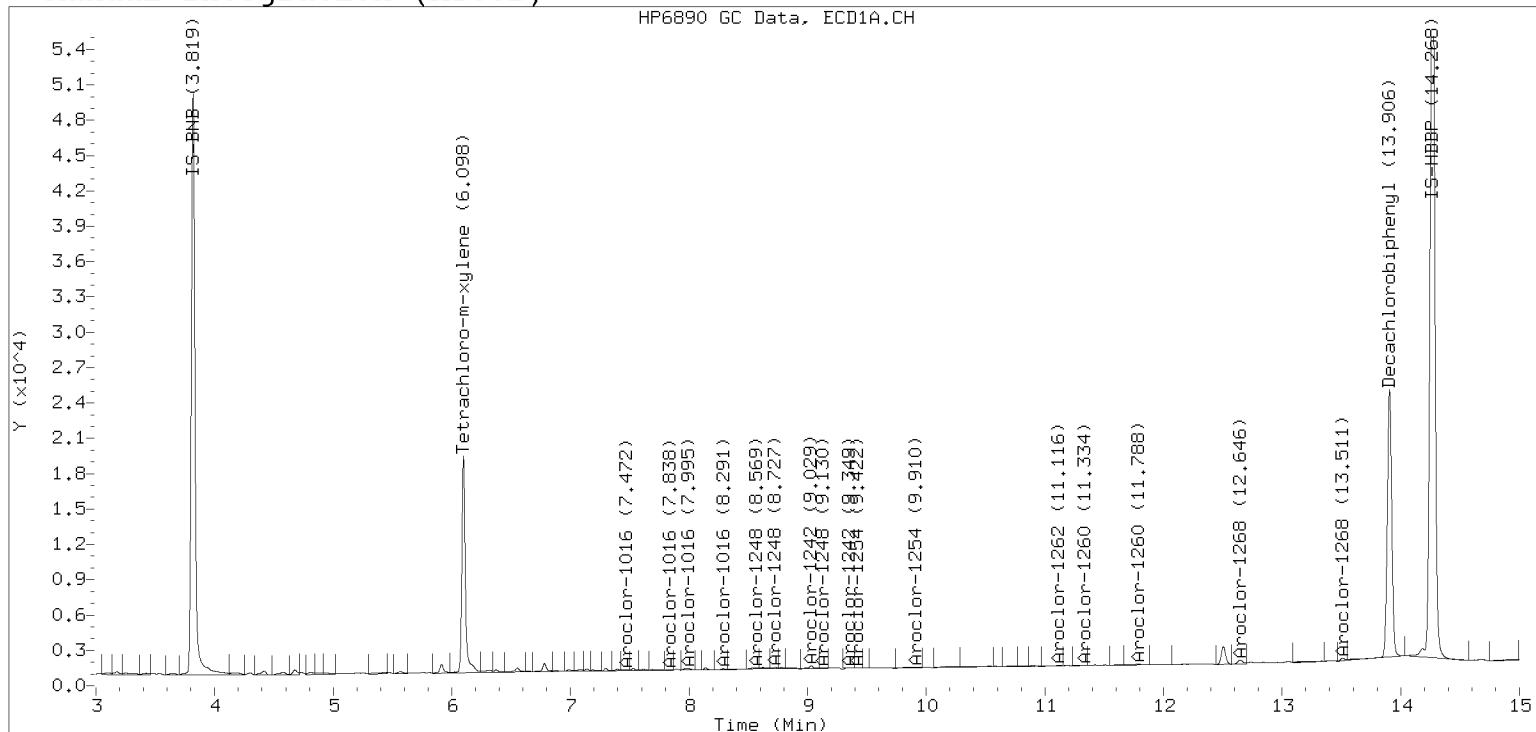
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

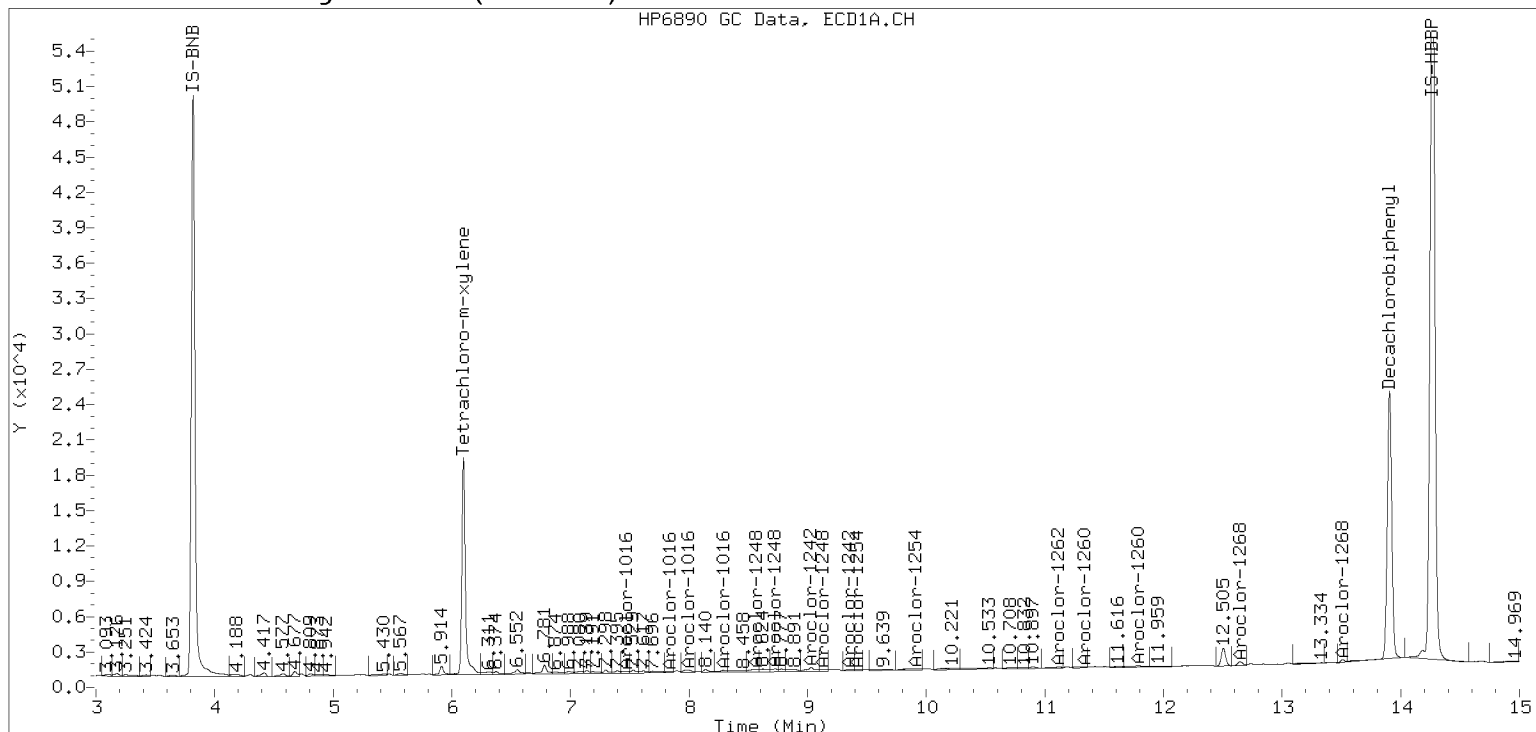
Datafile: ecd5.i/20201117.b/20111721ECD5.D

Injection Date: 18-NOV-2020 01:5

Manual Integration (After)



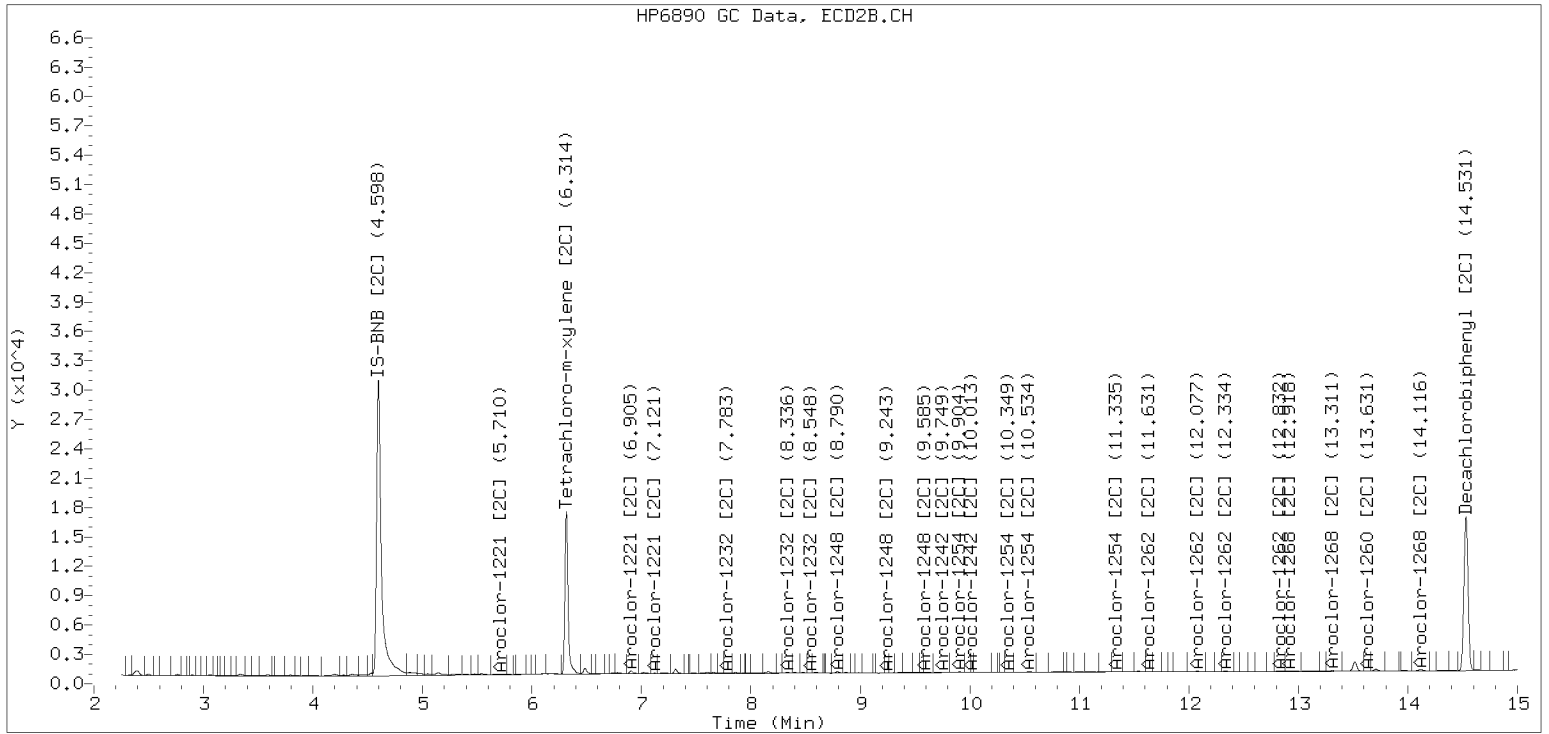
Processed Integration (Before)



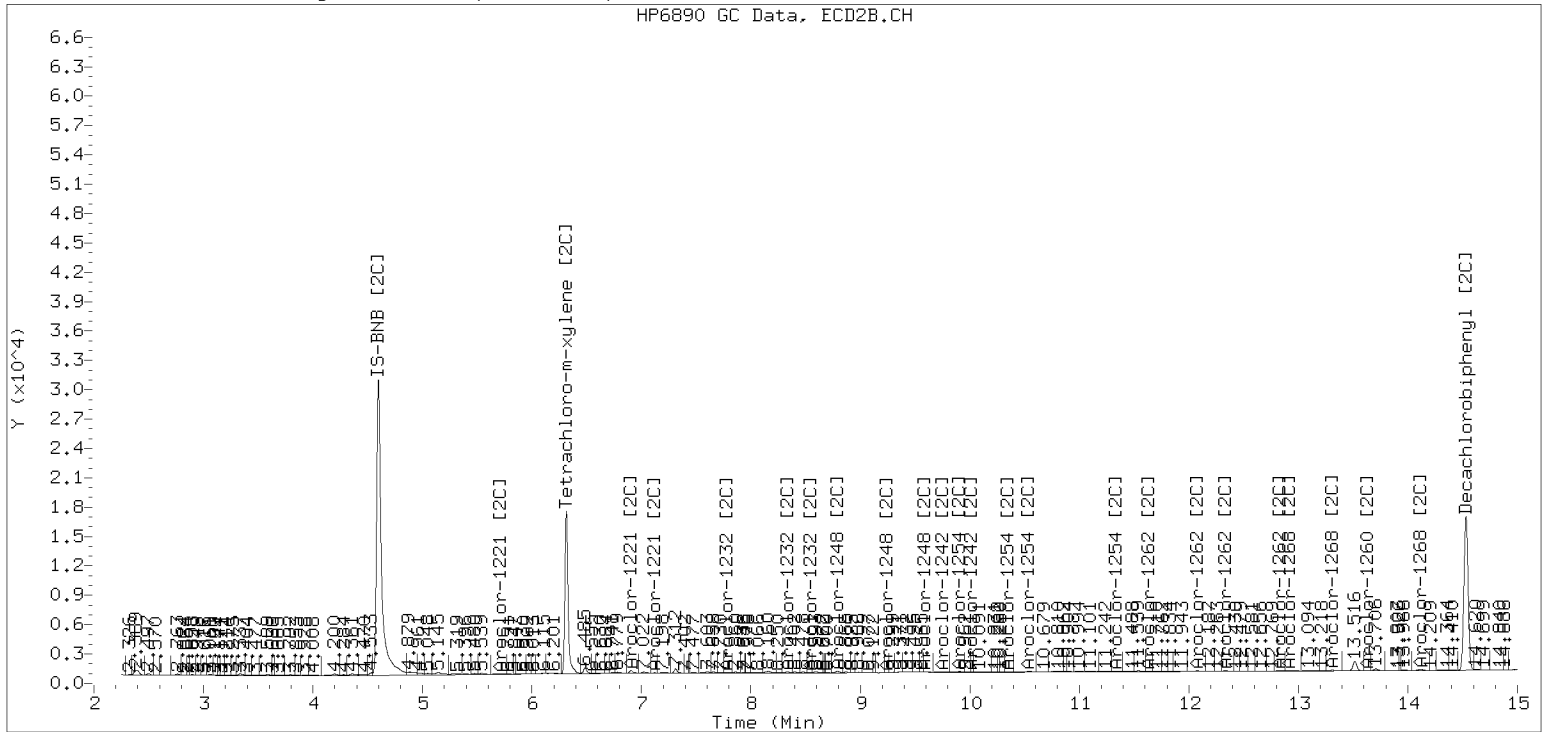
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201117.b/20201117.b/20111721ECD5.D Injection Date: 18-NOV-2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP9-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-25 A File ID: 20111722ECD5.D
 Sampled: 10/30/20 13:30 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 02:18
 % Solids: 86.82 Preparation: EPA 3546 (Microwave) Initial/Final: 5.8 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	99.3	39.7	99.3	U
11104-28-2	Aroclor 1221	1	5	99.3	39.7	99.3	U
11141-16-5	Aroclor 1232	1	5	99.3	39.7	99.3	U
53469-21-9	Aroclor 1242	1	5	99.3	39.7	99.3	U
12672-29-6	Aroclor 1248	1	5	175	39.7	99.3	D
11097-69-1	Aroclor 1254	2	5	352	39.7	99.3	D
11096-82-5	Aroclor 1260	2	5	980	46.1	99.3	D
37324-23-5	Aroclor 1262	1	5	99.3	46.1	99.3	U
11100-14-4	Aroclor 1268	1	5	99.3	46.1	99.3	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.718	39.1	98.5	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.718	33.0	83.0	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.718	39.6	99.7	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.718	33.2	83.7	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111722ECD5.D
Data file 2: /20201117.b/20201117.b/20111722ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-25
Client ID:
Injection Date: 18-NOV-2020 02:18
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: ~~1.000~~ 5x

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.097	-0.003	277038	6.313	0.000	229207	6.6	6.7	0.8	Tetrachloro-m-xylene
13.908	-0.003	415763	14.531	-0.000	293755	7.9	8.0	1.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	16.6	16.7
Decachlorobiphenyl	19.7	19.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2854829	5.6
Hexabromobiphenyl	3964848	4459900	12.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2661702	-8.7
Hexabromobiphenyl	2801720	2955694	5.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.480	-0.002	12005	10.3	1	7.782	0.001	7160	4.9	
Aroclor-1016	2	7.839	0.002	42117	11.4	2	8.355	0.002	32732	10.9	
Aroclor-1016	3	7.980	0.007	10005	6.6	3	8.550	0.004	1884	1.5	
Aroclor-1016	4	8.286	-0.001	46629	46.2	4	9.188	0.001	34279	37.0	
Total CollAve (4 peaks):				18.6		Total Col2Ave (4 peaks):				12.6	RPD = 31
Corrected Ave (3 peaks):				9.4		Corrected Ave (3 peaks):				5.8	RPD = 48*
Aroclor-1221	1	---			0.0	1	5.636	-0.017	16380	68.7	
Aroclor-1221	2	---			0.0	2	6.884	0.004	12058	24.9	
Aroclor-1221	3	---			0.0	3	7.067	-0.021	258	1.0	
CollAve: <3 Quant Peaks						Col2Ave: 31.5					
Aroclor-1232	1	---			0.0	1	5.636	-0.017	16380	117.7	
Aroclor-1232	2	7.480	-0.004	12005	23.4	2	7.782	-0.003	7160	10.4	
Aroclor-1232	3	7.839	0.003	42117	26.6	3	8.355	-0.002	32732	25.4	
Aroclor-1232	4	7.980	0.006	10005	15.1	4	8.550	0.001	1884	3.5	
Total CollAve (3 peaks):				21.7		Total Col2Ave (4 peaks):				39.3	RPD = 58*
Corrected Ave: <3 Peaks						Corrected Ave (3 peaks):				13.1	
Aroclor-1242	1	7.480	-0.002	12005	13.0	1	7.782	0.000	7160	6.1	
Aroclor-1242	2	7.839	0.003	42117	14.5	2	8.355	0.002	32732	13.6	
Aroclor-1242	3	9.075	0.002	70505	66.8	3	9.690	-0.001	31396	39.9	
Aroclor-1242	4	9.348	-0.002	57805	50.1	4	10.024	-0.007	49143	50.8	
Total CollAve (4 peaks):				50.1		Total Col2Ave (4 peaks):				27.0	RPD = 27
Corrected Ave (3 peaks):				25.9		Corrected Ave (3 peaks):				19.9	RPD = 26
Aroclor-1248	1	8.565	0.000	56561	37.6	1	8.790	0.000	39604	39.1	
Aroclor-1248	2	8.727	-0.001	61549	33.8	2	9.188	0.001	34279	28.4	
Aroclor-1248	3	9.131	0.005	190281	84.1	3	9.612	0.000	46444	29.2	
Aroclor-1248	4	9.348	-0.001	57805	34.2	4	10.024	-0.005	49143	31.1	
Total CollAve (4 peaks):				47.4		Total Col2Ave (4 peaks):				32.0	RPD = 39
Corrected Ave (3 peaks):				35.2		Corrected Ave (3 peaks):				29.6	RPD = 17
Aroclor-1254	1	9.131	-0.002	190281	94.3	1	9.900	0.002	151575	93.8	
Aroclor-1254	2	9.422	-0.000	201508	74.3	2	10.024	0.034	49143	58.0	
Aroclor-1254	3	9.494	-0.001	24323	23.6	3	10.413	0.002	38553	31.1	
Aroclor-1254	4	9.785	0.007	93052	51.9	4	10.588	0.029	341642	126.8	
Aroclor-1254	5	9.907	-0.001	244710	69.5	5	11.335	0.009	167318	101.1	
Total CollAve (5 peaks):				62.7		Total Col2Ave (5 peaks):				82.1	RPD = 27
Corrected Ave (4 peaks):				54.8		Corrected Ave (4 peaks):				71.0	RPD = 26
Aroclor-1260	1	11.426	-0.002	519289	198.6	1	11.627	-0.001	358779	202.7	
Aroclor-1260	2	11.786	-0.001	1253648	191.9	2	12.078	0.001	420998	196.2	
Aroclor-1260	3	12.180	-0.001	634087	179.3	3	12.333	-0.000	832518	195.3	
Aroclor-1260	4	12.289	-0.002	294093	202.1	4	13.633	-0.001	224523	195.2	
Aroclor-1260	5	12.361	-0.002	354384	207.1	NS	---			----	
Total CollAve (5 peaks):				195.8		Total Col2Ave (4 peaks):				197.4	RPD = 1
Corrected Ave (4 peaks):				193.0		Corrected Ave (3 peaks):				195.6	RPD = 1
Aroclor-1262	1	11.117	-0.001	497477	130.6	1	11.627	-0.005	358779	131.6	
Aroclor-1262	2	11.786	-0.002	1253648	153.9	2	12.078	-0.004	420998	197.6	
Aroclor-1262	3	12.180	-0.002	634087	222.9	3	12.333	-0.005	832518	153.0	
Aroclor-1262	4	12.289	-0.003	294093	117.7	4	12.850	-0.004	246987	127.9	
Aroclor-1262	5	12.361	-0.002	354384	122.0	NS	---			----	
Total CollAve (5 peaks):				149.4		Total Col2Ave (4 peaks):				152.5	RPD = 2
Corrected Ave (4 peaks):				131.0		Corrected Ave (3 peaks):				137.5	RPD = 5
Aroclor-1268	1	12.289	-0.003	294093	34.2	1	12.850	-0.003	246987	44.5	
Aroclor-1268	2	12.361	-0.001	354384	43.0	2	12.914	-0.006	583339	106.1	
Aroclor-1268	3	12.758	0.018	165438	22.6	3	13.309	-0.007	11016	2.4	
Aroclor-1268	4	13.508	-0.002	69354	3.4	4	14.117	-0.007	49112	3.7	
Total CollAve (4 peaks):				25.8		Total Col2Ave (4 peaks):				39.2	RPD = 41*

Corrected Ave (3 peaks): 20.0 Corrected Ave (3 peaks): 16.9 RPD = 17

Total PCB Area Col1 (6.199 - 13.810) = 10521616 Col1 Total PCB = 0.33 ppm*

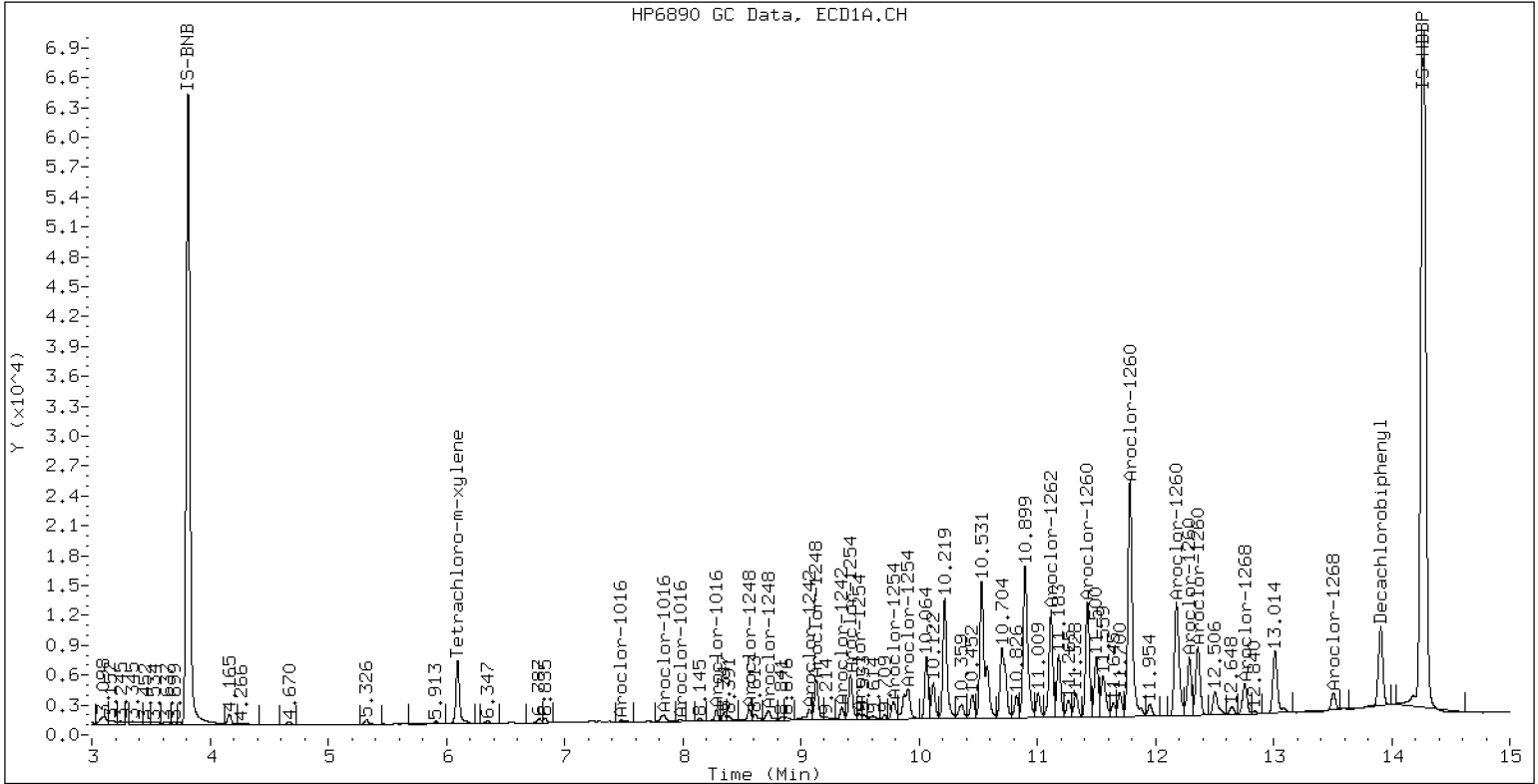
Total PCB Area Col2 (6.199 - 13.810) = 7576410 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

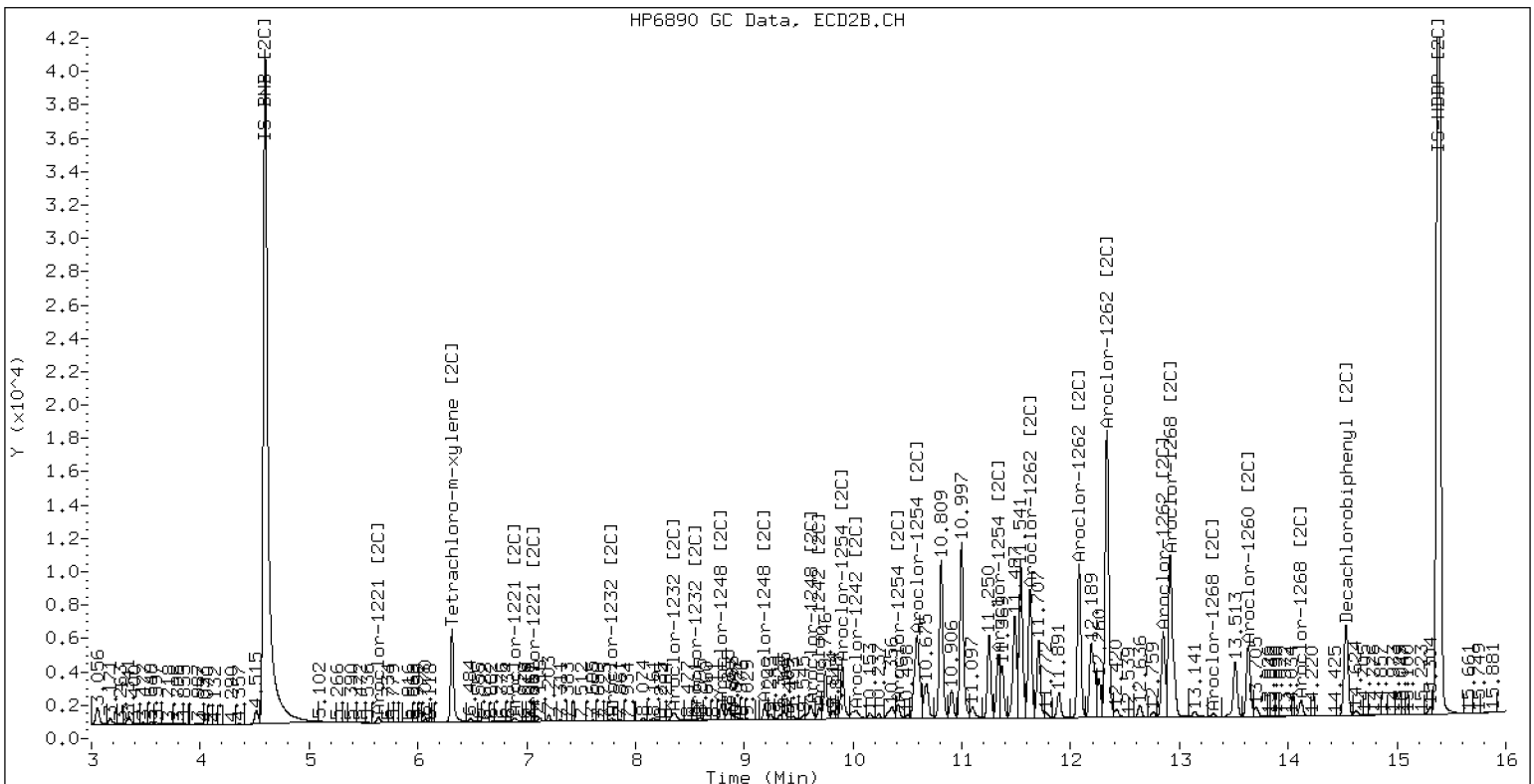
ECD5-ZB5 /20201117.b/20111722ECD5.D 20K007-25

18-NOV-2020 02:18 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111722ECD5.D 20K007-25



ZB-35 Manual Integration: NO



Dual Column

PP9-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-27 A File ID: 20111723ECD5.D
 Sampled: 10/30/20 13:40 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 02:39
 % Solids: 54.70 Preparation: EPA 3546 (Microwave) Initial/Final: 9.19 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	1	1	19.9	8.0	19.9	U
11097-69-1	Aroclor 1254	2	1	28.5	8.0	19.9	
11096-82-5	Aroclor 1260	2	1	58.8	9.2	19.9	
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.786	20.0	50.3	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.786	18.1	45.4	53 - 120	*
<i>Decachlorobiphenyl</i>	2	39.786	21.3	53.6	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.786	20.1	50.4	53 - 120	*

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111723ECD5.D
Data file 2: /20201117.b/20201117.b/20111723ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-27
Client ID:
Injection Date: 18-NOV-2020 02:39
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	0.000	812287	6.313	0.001	713960	18.2	20.2	10.3	Tetrachloro-m-xylene
13.905	-0.004	1110319	14.529	-0.002	861956	20.1	21.5	6.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	45.4	50.4
Decachlorobiphenyl	50.3	53.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3057046	13.1
Hexabromobiphenyl	3964848	4659664	17.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2752290	-5.6
Hexabromobiphenyl	2801720	3223413	15.1

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.479	-0.002	14822	11.9	1	7.781	-0.001	13301	8.7	
Aroclor-1016	2	7.818	-0.020	35120	8.9	2	8.352	-0.001	22063	7.1	
Aroclor-1016	3	7.968	-0.005	23997	14.7	3	8.545	-0.002	8414	6.5	
Aroclor-1016	4	8.285	-0.001	21674	20.0	4	9.191	0.004	1185	1.2	
Total CollAve (4 peaks):				13.9	Total Col2Ave (4 peaks):				5.9	RPD = 81*	
Corrected Ave (3 peaks):				11.8	Corrected Ave (3 peaks):				4.9	RPD = 82*	
Aroclor-1221	1	5.092	0.011	4460	15.2	1	5.637	-0.016	25196	102.2	
Aroclor-1221	2	6.551	-0.002	23795	57.2	2	6.904	0.025	12494	25.0	
Aroclor-1221	3	6.631	-0.008	9060	7.7	3	7.120	0.032	4567	17.0	
Total CollAve (3 peaks):				26.7	Total Col2Ave (3 peaks):				48.0	RPD = 57*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	5.092	0.011	4460	25.5	1	5.637	-0.016	25196	175.1	
Aroclor-1232	2	7.479	-0.005	14822	27.0	2	7.781	-0.005	13301	18.7	
Aroclor-1232	3	7.818	-0.018	35120	20.7	3	8.352	-0.004	22063	16.6	
Aroclor-1232	4	7.968	-0.006	23997	33.9	4	8.545	-0.004	8414	15.1	
Total CollAve (4 peaks):				26.7	Total Col2Ave (4 peaks):				56.4	RPD = 71*	
Corrected Ave (3 peaks):				24.4	Corrected Ave (3 peaks):				16.8	RPD = 37	
Aroclor-1242	1	7.479	-0.002	14822	15.0	1	7.781	-0.001	13301	10.9	
Aroclor-1242	2	7.818	-0.019	35120	11.3	2	8.352	-0.001	22063	8.8	
Aroclor-1242	3	9.066	-0.008	6001	5.3	3	9.688	-0.002	5714	7.0	
Aroclor-1242	4	9.345	-0.008	34122	27.6	4	10.049	0.017	10962	11.0	
Total CollAve (4 peaks):				14.8	Total Col2Ave (4 peaks):				9.4	RPD = 44*	
Corrected Ave (3 peaks):				10.5	Corrected Ave (3 peaks):				8.9	RPD = 17	
Aroclor-1248	1	8.564	-0.001	26871	16.7	1	8.789	-0.001	18495	17.7	
Aroclor-1248	2	8.727	-0.001	31663	16.2	2	9.191	0.003	1185	0.9	
Aroclor-1248	3	9.130	0.002	72401	29.9	3	9.629	0.017	3816	2.3	
Aroclor-1248	4	9.345	-0.007	34122	18.9	4	10.049	0.020	10962	6.7	
Total CollAve (4 peaks):				20.4	Total Col2Ave (4 peaks):				6.9	RPD = 99*	
Corrected Ave (3 peaks):				17.3	Corrected Ave (3 peaks):				3.3	RPD = 135*	
Aroclor-1254	1	9.130	0.001	72401	33.5	1	9.899	0.001	62566	37.4	
Aroclor-1254	2	9.420	0.001	77955	26.8	2	9.991	-0.000	23961	27.3	
Aroclor-1254	3	9.491	-0.001	21619	19.6	3	10.411	0.000	8847	6.9	
Aroclor-1254	4	9.786	0.011	24141	12.6	4	10.581	0.023	100652	36.1	
Aroclor-1254	5	9.901	-0.004	75227	19.9	5	11.332	0.007	60881	35.6	
Total CollAve (5 peaks):				22.5	Total Col2Ave (5 peaks):				28.7	RPD = 24	
Corrected Ave (4 peaks):				19.7	Corrected Ave (4 peaks):				26.5	RPD = 29	
Aroclor-1260	1	11.424	-0.003	165790	60.7	1	11.624	-0.004	124541	64.5	
Aroclor-1260	2	11.783	-0.004	390527	57.2	2	12.074	-0.003	140615	60.1	
Aroclor-1260	3	12.174	-0.008	189492	51.3	3	12.330	-0.003	258218	55.5	
Aroclor-1260	4	12.287	-0.002	92111	60.6	4	13.630	-0.004	70490	56.2	
Aroclor-1260	5	12.359	-0.003	108181	60.5	NS	---	---	---	---	
Total CollAve (5 peaks):				58.1	Total Col2Ave (4 peaks):				59.1	RPD = 2	
Corrected Ave (4 peaks):				57.4	Corrected Ave (3 peaks):				57.3	RPD = 0	
Aroclor-1262	1	11.114	-0.005	173621	43.6	1	11.624	-0.008	124541	41.9	
Aroclor-1262	2	11.783	-0.005	390527	45.9	2	12.074	-0.007	140615	60.5	
Aroclor-1262	3	12.174	-0.008	189492	63.8	3	12.330	-0.007	258218	43.5	
Aroclor-1262	4	12.287	-0.004	92111	35.3	4	12.847	-0.007	84318	40.1	
Aroclor-1262	5	12.359	-0.004	108181	25.7	NS	---	---	---	---	
Total CollAve (5 peaks):				44.8	Total Col2Ave (4 peaks):				46.5	RPD = 4	
Corrected Ave (4 peaks):				40.1	Corrected Ave (3 peaks):				41.8	RPD = 4	
Aroclor-1268	1	12.287	-0.004	92111	10.2	1	12.847	-0.006	84318	13.9	
Aroclor-1268	2	12.359	-0.003	108181	12.6	2	12.913	-0.007	174367	29.1	
Aroclor-1268	3	12.755	0.015	56802	7.4	3	13.308	-0.008	8594	1.7	
Aroclor-1268	4	13.510	-0.000	25415	1.2	4	14.114	-0.010	26450	1.8	

Total Col1Ave (4 peaks):	7.9	Total Col2Ave (4 peaks):	11.6	RPD = 39
Corrected Ave (3 peaks):	6.3	Corrected Ave (3 peaks):	5.8	RPD = 8

Total PCB Area Col1 (6.197 - 13.808) = 3885339 Col1 Total PCB = 0.12 ppm*

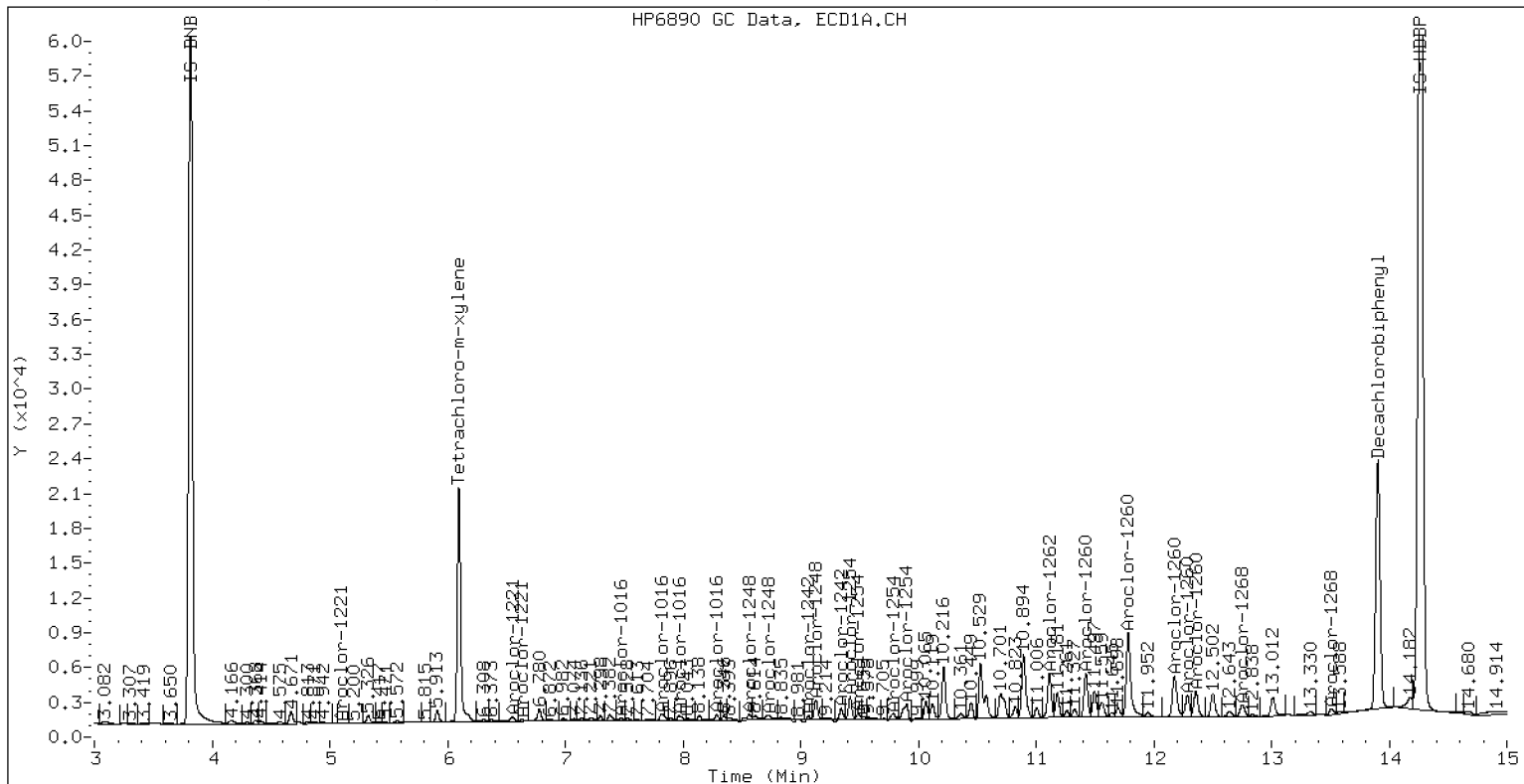
Total PCB Area Col2 (6.197 - 13.808) = 3483899 Col2 Total PCB = 0.13 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

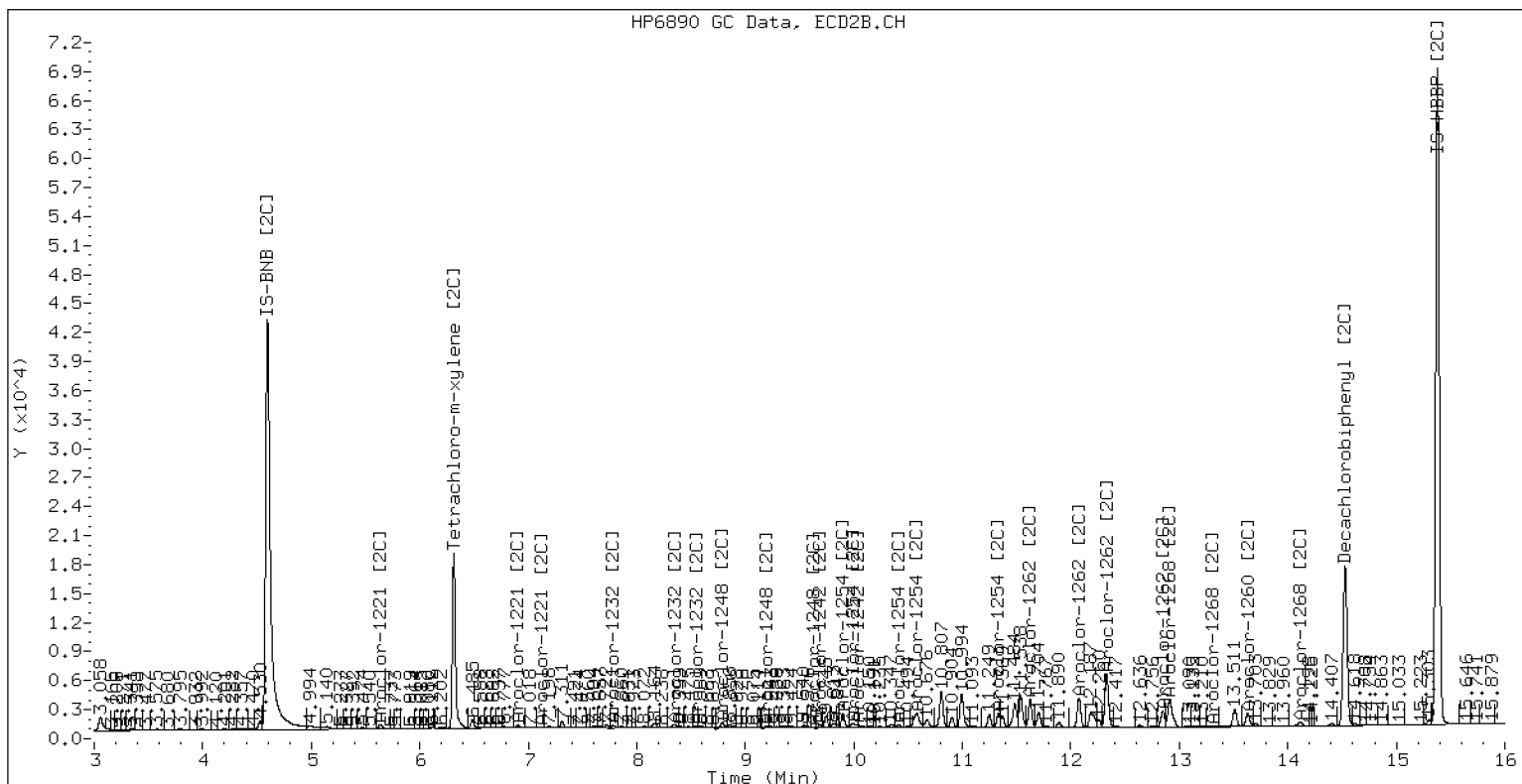
ECD5-ZB5 /20201117.b/20111723ECD5.D 20K007-27

18-NOV-2020 02:39 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201117.b/20201117.b/20111723ECD5.D 20K007-27



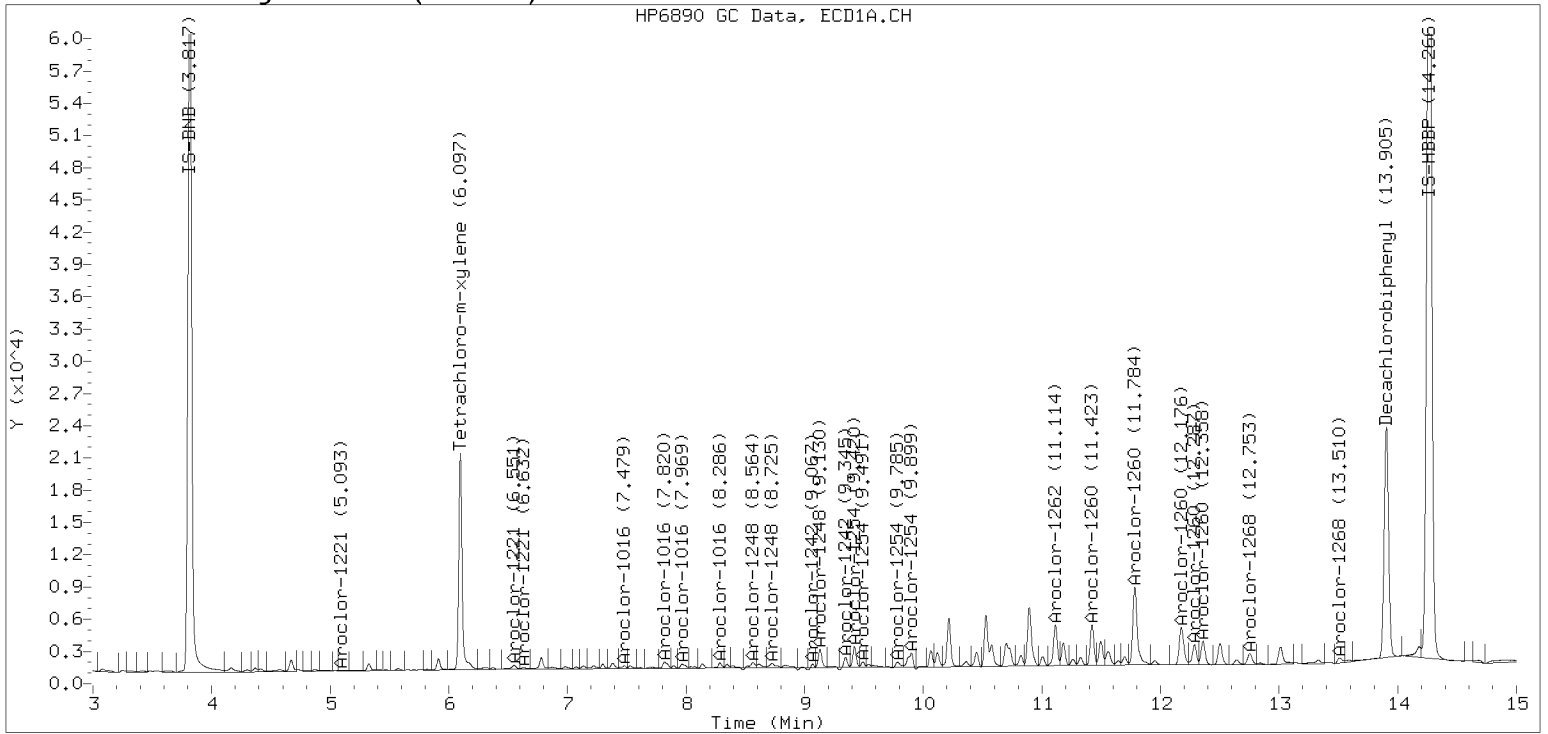
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

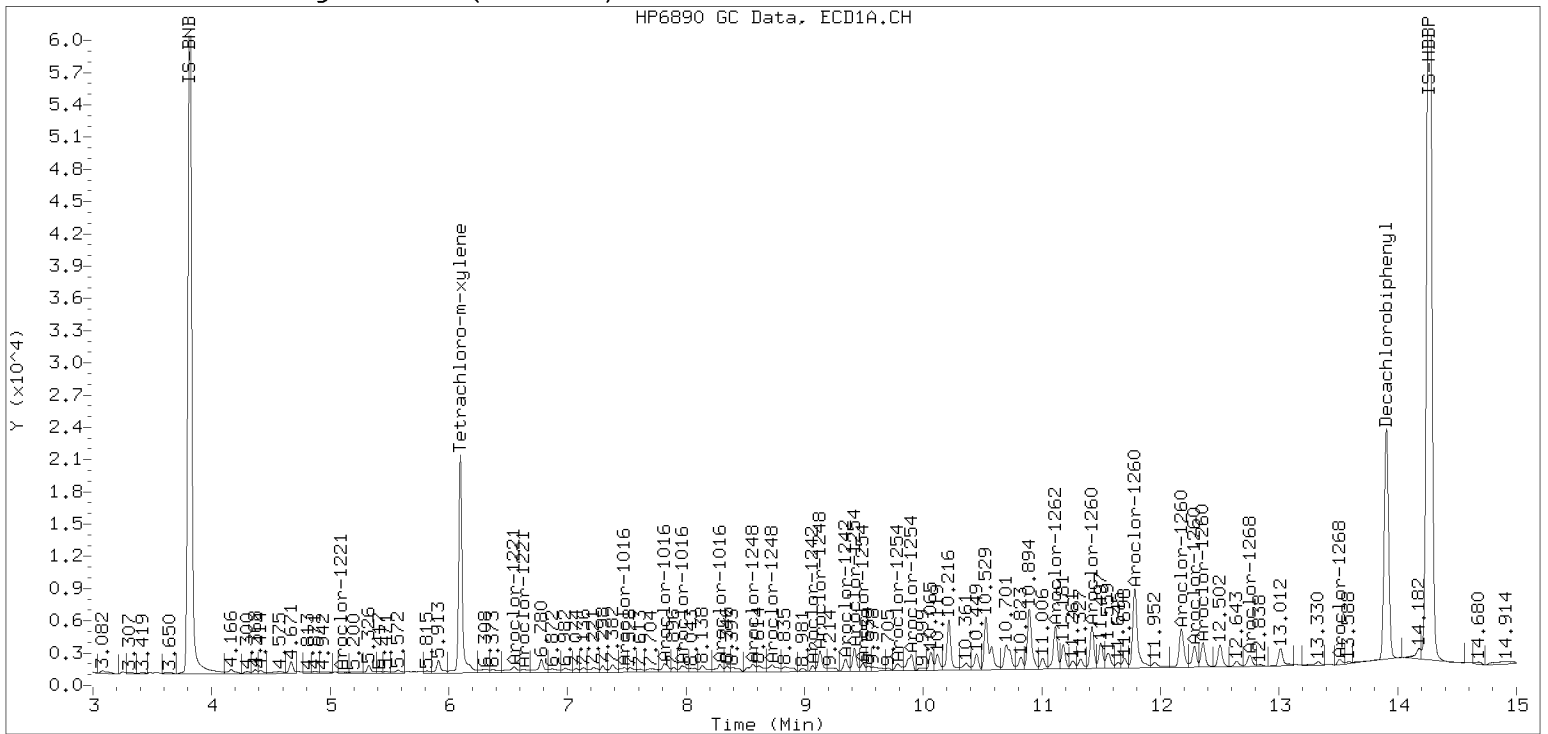
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Injection Date: 18-NOV-2020 02:3

Manual Integration (After)



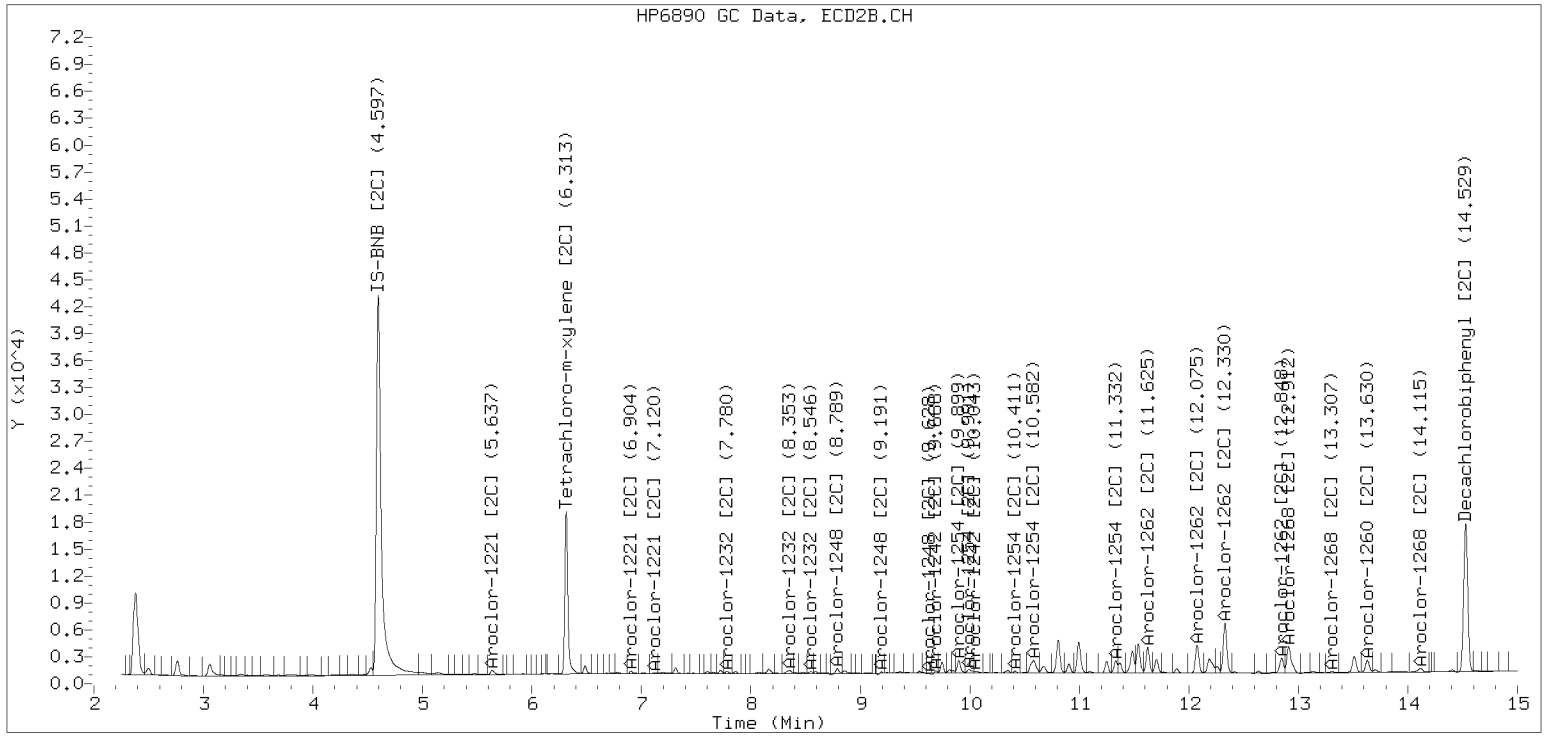
Processed Integration (Before)



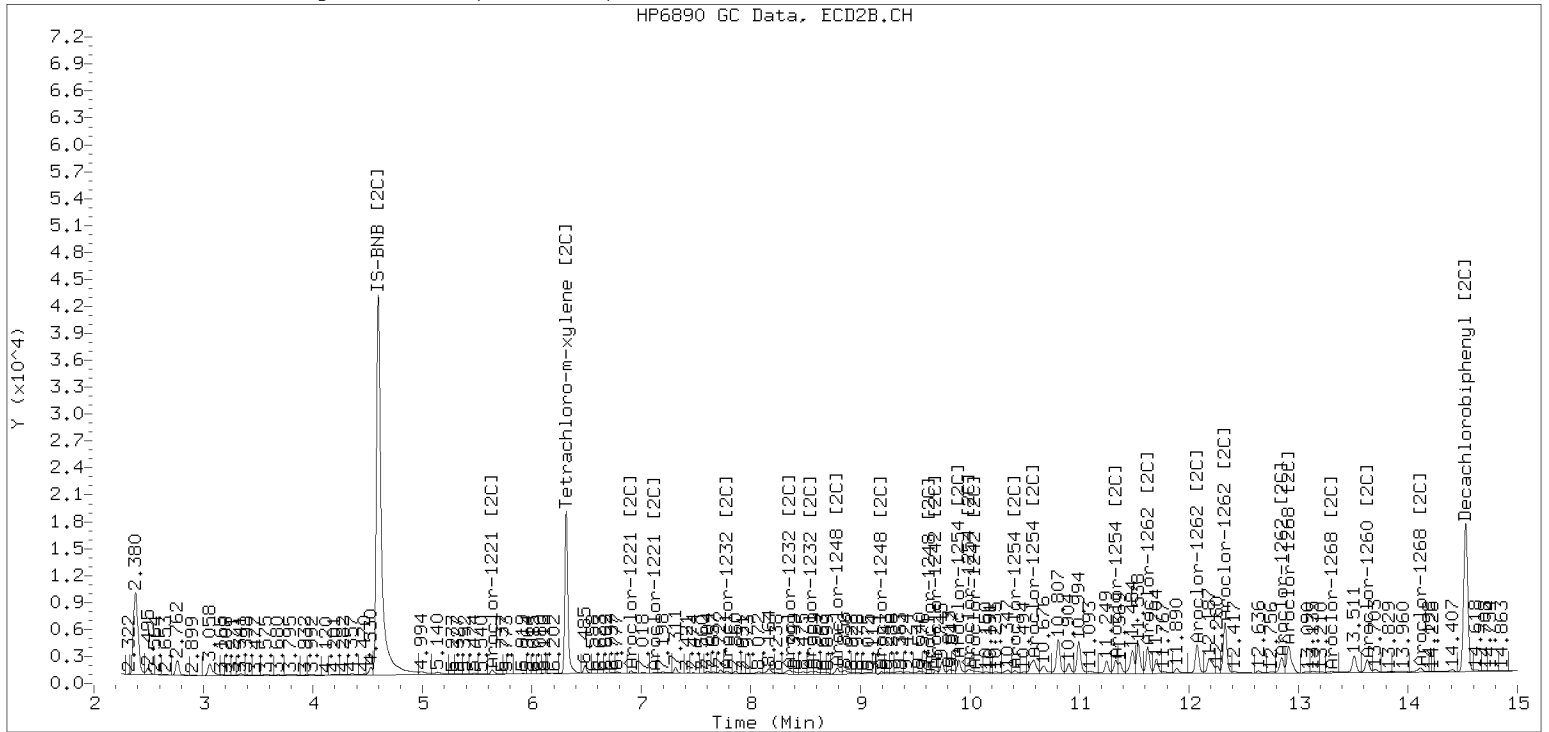
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201117.b/20201117.b/20111723ECD5.D Injection Date: 18-NOV-2

Manual Integration (After)



Processed Integration (Before)





ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-31 A File ID: 20111724ECD5.D
 Sampled: 10/30/20 14:25 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 02:59
 % Solids: 88.14 Preparation: EPA 3546 (Microwave) Initial/Final: 5.72 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.8	7.9	19.8	U
11104-28-2	Aroclor 1221	1	1	19.8	7.9	19.8	U
11141-16-5	Aroclor 1232	1	1	19.8	7.9	19.8	U
53469-21-9	Aroclor 1242	1	1	19.8	7.9	19.8	U
12672-29-6	Aroclor 1248	1	1	19.8	7.9	19.8	U
11097-69-1	Aroclor 1254	1	1	19.8	7.9	19.8	U
11096-82-5	Aroclor 1260	2	1	11.9	9.2	19.8	J
37324-23-5	Aroclor 1262	1	1	19.8	9.2	19.8	U
11100-14-4	Aroclor 1268	1	1	19.8	9.2	19.8	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.670	34.4	86.8	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.670	29.2	73.7	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.670	34.8	87.7	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.670	31.1	78.3	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111724ECD5.D
Data file 2: /20201117.b/20201117.b/20111724ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-31
Client ID:
Injection Date: 18-NOV-2020 02:59
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	0.001	1248318	6.314	0.001	1076588	29.5	31.3	6.1	Tetrachloro-m-xylene
13.905	-0.003	1972909	14.532	0.000	1352134	34.7	35.1	1.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	73.7	78.3
Decachlorobiphenyl	86.8	87.7

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2897634	7.2
Hexabromobiphenyl	3964848	4801437	21.1

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2670392	-8.4
Hexabromobiphenyl	2801720	3094372	10.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.469	-0.012	2749	2.3	1	7.776	-0.005	2447	1.7	
Aroclor-1016	2	7.818	-0.019	5550	1.5	2	8.324	-0.029	4064	1.4	
Aroclor-1016	3	7.995	0.022	16469	10.7	3	8.591	0.044	6439	5.1	
Aroclor-1016	4	8.287	0.002	14732	14.4	4	---	---	---	0.0	
Total CollAve (4 peaks):				7.2	Total Col2Ave (3 peaks):				2.7	RPD = 91*	
Corrected Ave (3 peaks):				4.8	Corrected Ave:				< 3 Peaks		
Aroclor-1221	1	---	---	---	0.0	1	5.666	0.013	10143	42.4	
Aroclor-1221	2	---	---	---	0.0	2	6.899	0.020	33451	69.0	
Aroclor-1221	3	---	---	---	0.0	3	7.118	0.030	1856	7.1	
CollAve: <3 Quant Peaks				Col2Ave:				39.5			
Aroclor-1232	1	---	---	---	0.0	1	5.666	0.013	10143	72.7	
Aroclor-1232	2	7.469	-0.015	2749	5.3	2	7.776	-0.009	2447	3.6	
Aroclor-1232	3	7.818	-0.018	5550	3.5	3	8.324	-0.033	4064	3.1	
Aroclor-1232	4	7.995	0.021	16469	24.5	4	8.591	0.042	6439	11.9	
Total CollAve (3 peaks):				11.1	Total Col2Ave (4 peaks):				22.8	RPD = 69*	
Corrected Ave: < 3 Peaks				Corrected Ave (3 peaks):				6.2			
Aroclor-1242	1	7.469	-0.012	2749	2.9	1	7.776	-0.006	2447	2.1	
Aroclor-1242	2	7.818	-0.019	5550	1.9	2	8.324	-0.029	4064	1.7	
Aroclor-1242	3	9.076	0.002	1355	1.3	3	9.746	0.055	10004	12.7	
Aroclor-1242	4	9.344	-0.009	8587	7.3	4	10.049	0.017	3783	3.9	
Total CollAve (4 peaks):				3.4	Total Col2Ave (4 peaks):				5.1	RPD = 41*	
Corrected Ave (3 peaks):				2.0	Corrected Ave (3 peaks):				2.5	RPD = 23	
Aroclor-1248	1	8.628	0.063	24869	16.3	1	8.788	-0.002	9122	9.0	
Aroclor-1248	2	8.739	0.011	7646	4.1	2	---	---	---	0.0	
Aroclor-1248	3	9.130	0.002	10429	4.5	3	9.578	-0.034	3109	1.9	
Aroclor-1248	4	9.344	-0.008	8587	5.0	4	10.049	0.020	3783	2.4	
Total CollAve (4 peaks):				7.5	Total Col2Ave (3 peaks):				4.4	RPD = 51*	
Corrected Ave (3 peaks):				4.6	Corrected Ave:				< 3 Peaks		
Aroclor-1254	1	9.130	0.001	10429	5.1	1	9.902	0.003	5976	3.7	
Aroclor-1254	2	9.420	0.001	10635	3.9	2	10.049	0.058	3783	4.4	
Aroclor-1254	3	9.539	0.047	8028	7.7	3	10.441	0.030	968	0.8	
Aroclor-1254	4	9.795	0.020	4385	2.4	4	10.589	0.031	19901	7.4	
Aroclor-1254	5	9.914	0.009	5109	1.4	5	11.334	0.008	8174	4.9	
Total CollAve (5 peaks):				4.1	Total Col2Ave (5 peaks):				4.2	RPD = 4	
Corrected Ave (4 peaks):				3.2	Corrected Ave (4 peaks):				3.5	RPD = 8	
Aroclor-1260	1	11.427	-0.001	29898	10.6	1	11.626	-0.002	22846	12.3	
Aroclor-1260	2	11.784	-0.003	77655	11.0	2	12.078	0.001	28182	12.5	
Aroclor-1260	3	12.177	-0.004	34698	9.1	3	12.332	-0.001	49000	11.0	
Aroclor-1260	4	12.288	-0.001	21894	14.0	4	13.633	-0.001	14703	12.2	
Aroclor-1260	5	12.361	-0.002	25969	14.1	NS	---	---	---	---	
Total CollAve (5 peaks):				11.8	Total Col2Ave (4 peaks):				12.0	RPD = 2	
Corrected Ave (4 peaks):				11.2	Corrected Ave (3 peaks):				11.8	RPD = 6	
Aroclor-1262	1	11.116	-0.003	32976	8.0	1	11.626	-0.006	22846	8.0	
Aroclor-1262	2	11.784	-0.004	77655	8.9	2	12.078	-0.003	28182	12.6	
Aroclor-1262	3	12.177	-0.005	34698	11.3	3	12.332	-0.005	49000	8.6	
Aroclor-1262	4	12.288	-0.003	21894	8.1	4	12.849	-0.005	15502	7.7	
Aroclor-1262	5	12.361	-0.003	25969	8.3	NS	---	---	---	---	
Total CollAve (5 peaks):				8.9	Total Col2Ave (4 peaks):				9.2	RPD = 3	
Corrected Ave (4 peaks):				8.3	Corrected Ave (3 peaks):				8.1	RPD = 3	
Aroclor-1268	1	12.288	-0.003	21894	2.4	1	12.849	-0.004	15502	2.7	
Aroclor-1268	2	12.361	-0.001	25969	2.9	2	12.914	-0.006	36351	6.3	
Aroclor-1268	3	12.747	0.008	17336	2.2	3	13.309	-0.007	6902	1.5	
Aroclor-1268	4	13.500	0.003	23493	1.1	4	14.117	0.007	15470	1.1	
Total CollAve (4 peaks):				2.1	Total Col2Ave (4 peaks):				2.9	RPD = 30	

Corrected Ave (3 peaks): 1.9 Corrected Ave (3 peaks): 1.7 RPD = 7

Total PCB Area Col1 (6.197 - 13.808) = 1129554 Col1 Total PCB = 0.04 ppm*

Total PCB Area Col2 (6.197 - 13.808) = 1901827 Col2 Total PCB = 0.07 ppm*

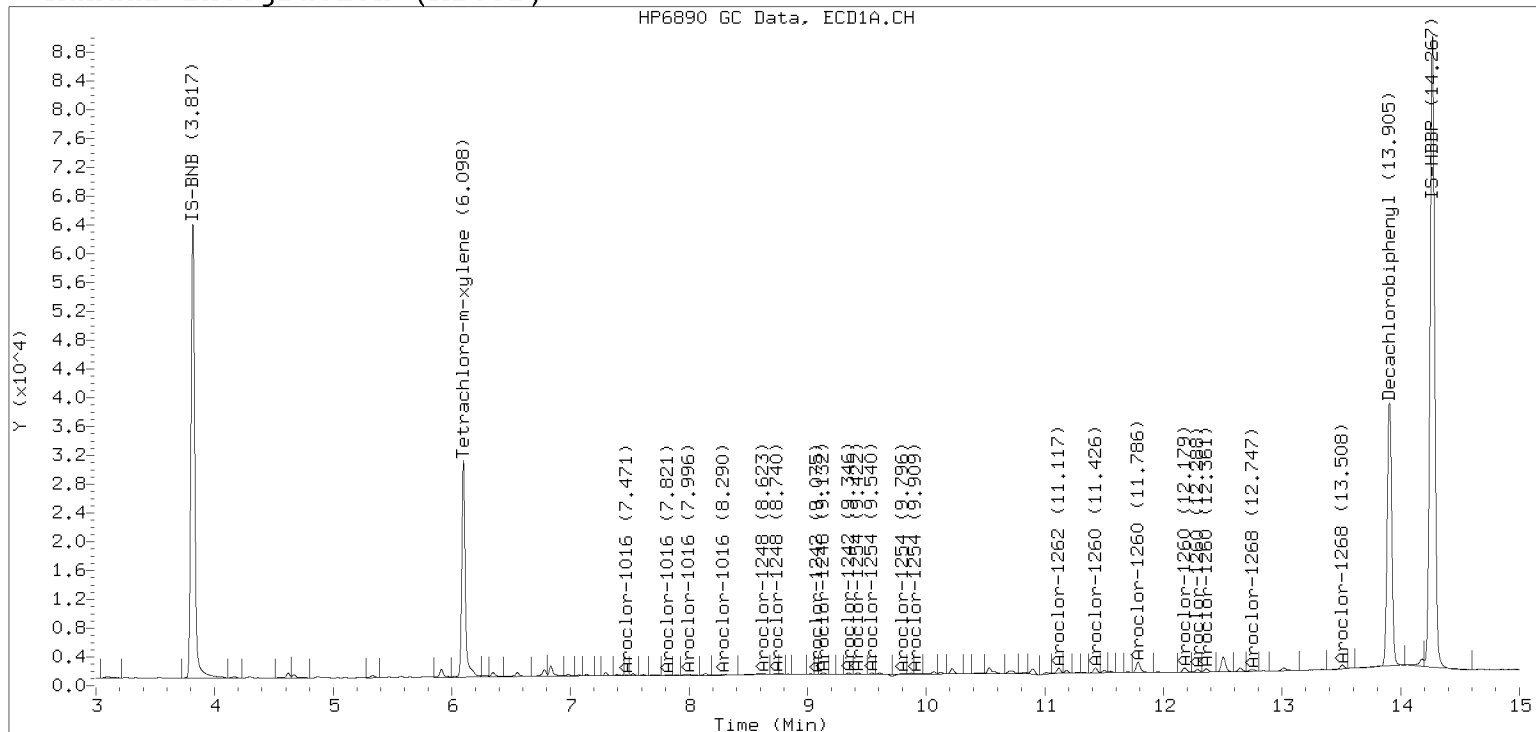
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

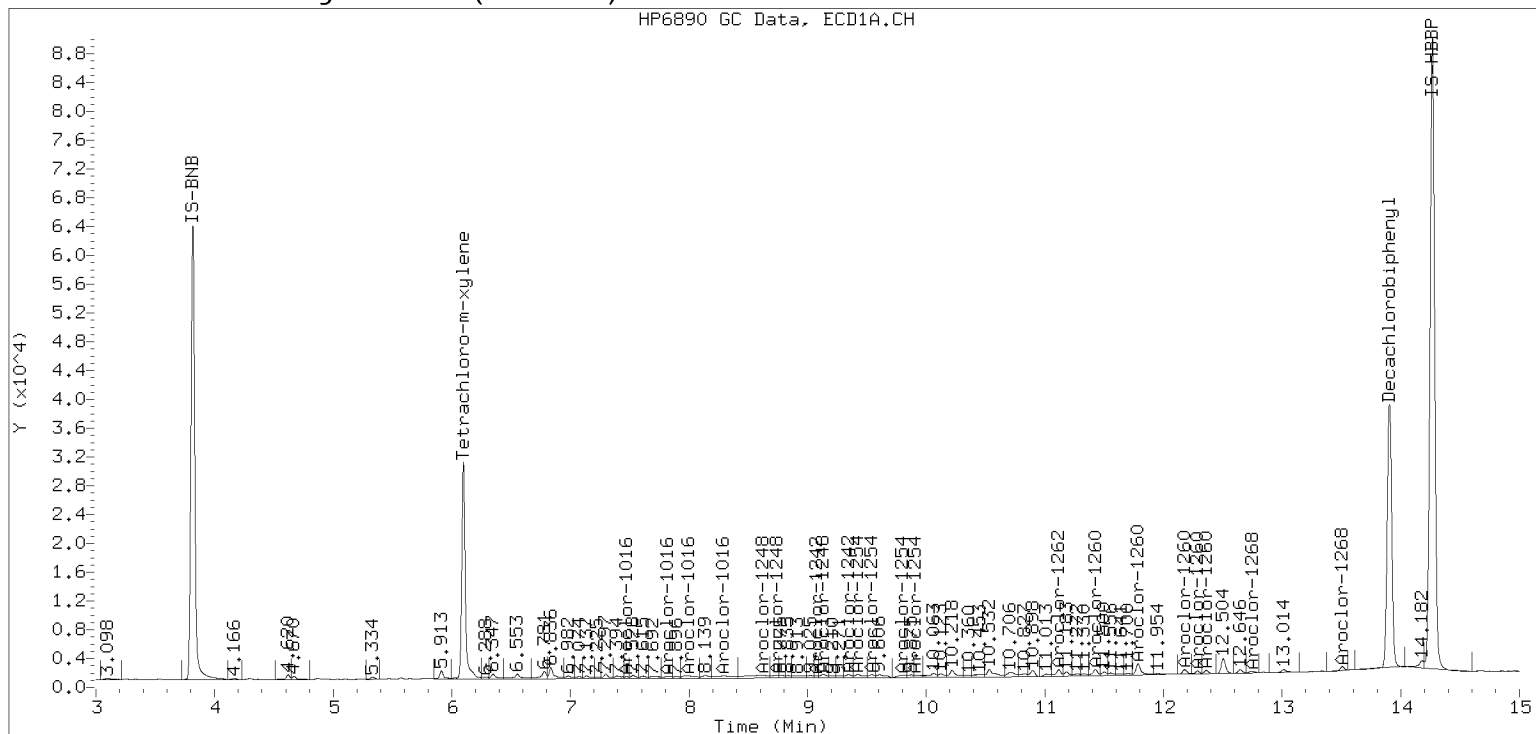
Datafile: ecd5.i/20201117.b/20111724ECD5.D

Injection Date: 18-NOV-2020 02:5

Manual Integration (After)



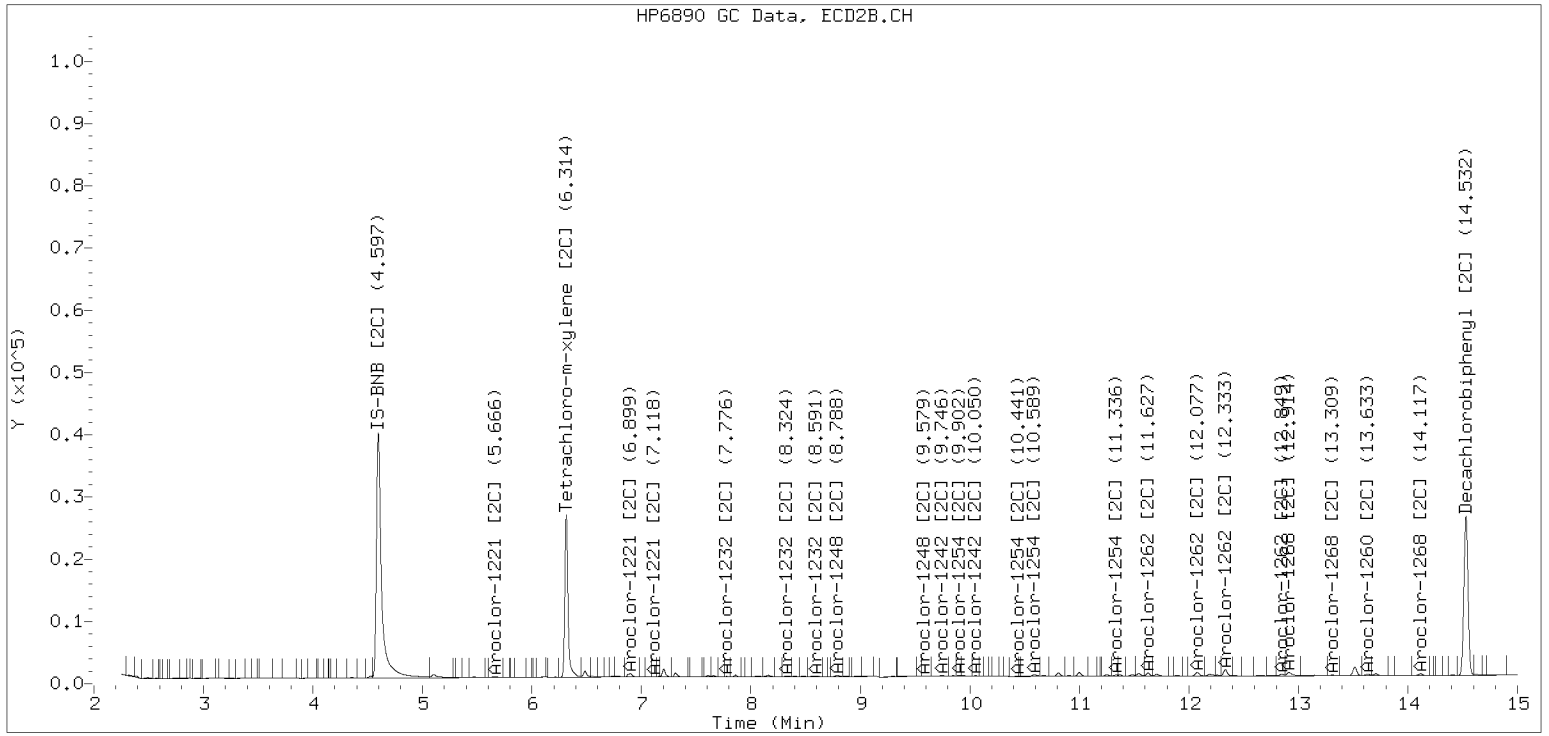
Processed Integration (Before)



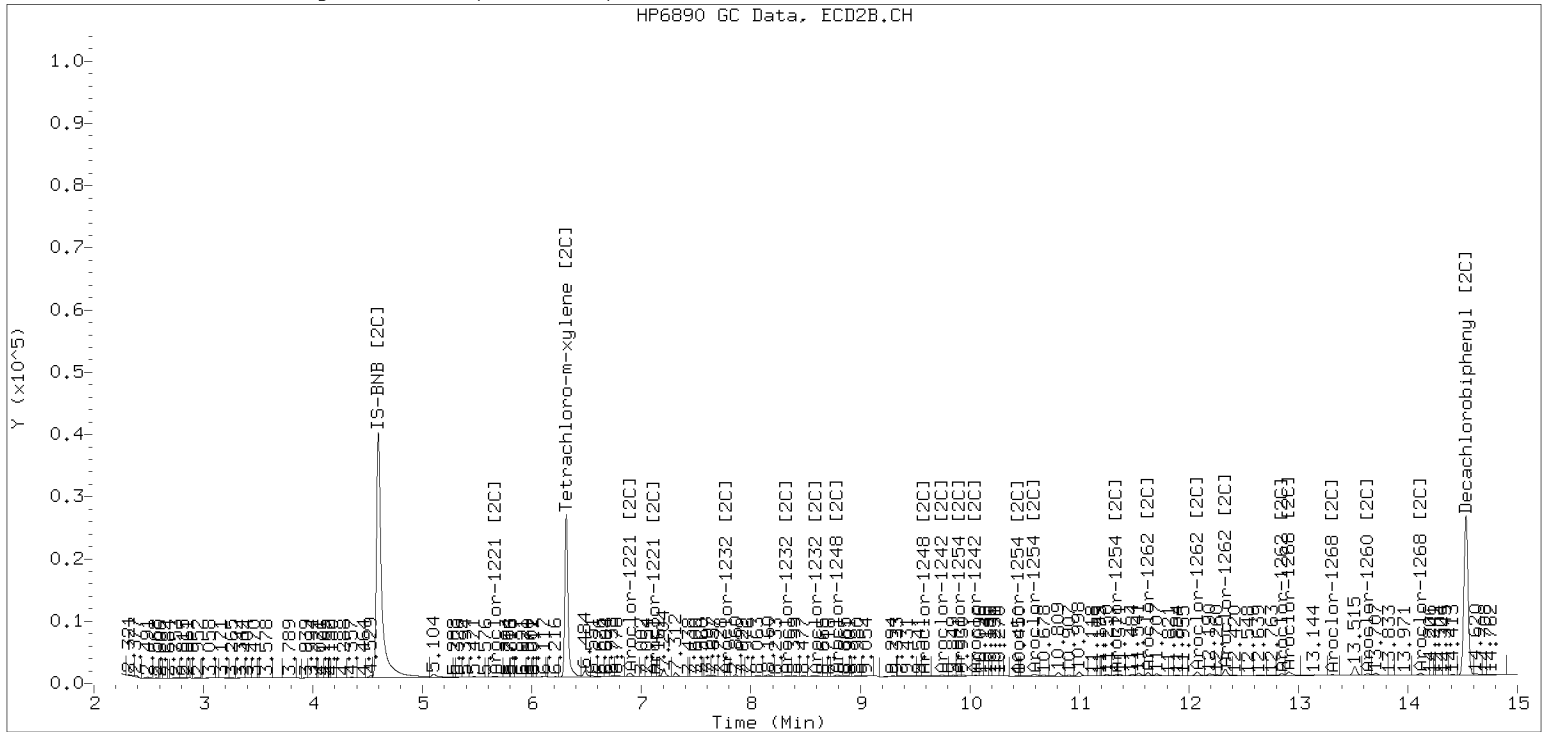
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201117.b/20201117.b/20111724ECD5.D Injection Date: 18-NOV-2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP4-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0007-33 A File ID: 20111725ECD5.D
 Sampled: 10/30/20 14:35 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 03:20
 % Solids: 75.77 Preparation: EPA 3546 (Microwave) Initial/Final: 6.6 g Wet / 5 mL
 Batch: BIK0378 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	20.0	8.0	20.0	U
11104-28-2	Aroclor 1221	1	1	20.0	8.0	20.0	U
11141-16-5	Aroclor 1232	1	1	20.0	8.0	20.0	U
53469-21-9	Aroclor 1242	1	1	20.0	8.0	20.0	U
12672-29-6	Aroclor 1248	1	1	35.9	8.0	20.0	P1
11097-69-1	Aroclor 1254	2	1	52.7	8.0	20.0	
11096-82-5	Aroclor 1260	2	1	117	9.3	20.0	
37324-23-5	Aroclor 1262	1	1	20.0	9.3	20.0	U
11100-14-4	Aroclor 1268	1	1	20.0	9.3	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.993	27.9	69.8	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.993	23.0	57.5	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.993	28.5	71.2	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.993	24.9	62.3	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111725ECD5.D
Data file 2: /20201117.b/20201117.b/20111725ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0007-33
Client ID:
Injection Date: 18-NOV-2020 03:20
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002	1002806	6.313	23.0	24.9	8.0	Tetrachloro-m-xylene
13.906	-0.004	1655471	14.531	27.9	28.5	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	57.5	62.3
Decachlorobiphenyl	69.8	71.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2980812	10.3
Hexabromobiphenyl	3964848	5007477	26.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2730479	-6.3
Hexabromobiphenyl	2801720	3176130	13.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.481	-0.001	56355	46.2	1	7.780	-0.001	43359	28.6	
Aroclor-1016	2	7.836	-0.002	88037	22.8	2	8.352	-0.002	64232	20.9	
Aroclor-1016	3	7.973	0.000	46284	29.1	3	8.546	-0.000	15857	12.3	
Aroclor-1016	4	8.286	-0.001	46458	44.0	4	9.187	-0.000	21434	22.6	
Total CollAve (4 peaks):				35.5	Total Col2Ave (4 peaks):				21.1	RPD = 51*	
Corrected Ave (3 peaks):				32.0	Corrected Ave (3 peaks):				18.6	RPD = 53*	
Aroclor-1221	1	---			0.0	1	5.636	-0.017	7606	31.1	
Aroclor-1221	2	6.552	-0.001	33472	82.5	2	6.905	0.025	18036	36.4	
Aroclor-1221	3	6.637	-0.003	21359	18.6	3	7.084	-0.004	2501	9.4	
CollAve: < 3 Quant Peaks					Col2Ave: 25.6						
Aroclor-1232	1	---			0.0	1	5.636	-0.017	7606	53.3	
Aroclor-1232	2	7.481	-0.003	56355	105.1	2	7.780	-0.005	43359	61.6	
Aroclor-1232	3	7.836	-0.000	88037	53.2	3	8.352	-0.005	64232	48.6	
Aroclor-1232	4	7.973	-0.001	46284	67.0	4	8.546	-0.003	15857	28.6	
Total CollAve (4 peaks):				75.1	Total Col2Ave (4 peaks):				48.8	RPD = 44*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				43.5		
Aroclor-1242	1	7.481	-0.001	56355	58.7	1	7.780	-0.002	43359	35.8	
Aroclor-1242	2	7.836	-0.001	88037	29.0	2	8.352	-0.002	64232	26.0	
Aroclor-1242	3	9.073	0.000	40349	36.6	3	9.688	-0.002	23683	29.4	
Aroclor-1242	4	9.347	-0.003	67799	56.3	4	9.992	-0.039	45170	45.5	
Total CollAve (4 peaks):				45.1	Total Col2Ave (4 peaks):				34.1	RPD = 28	
Corrected Ave (3 peaks):				40.6	Corrected Ave (3 peaks):				30.4	RPD = 29	
Aroclor-1248	1	8.565	-0.000	58352	37.1	1	8.790	-0.000	36842	35.5	
Aroclor-1248	2	8.726	-0.002	61070	32.1	2	9.187	-0.000	21434	17.3	
Aroclor-1248	3	9.130	0.004	136901	58.0	3	9.610	-0.002	35050	21.5	
Aroclor-1248	4	9.347	-0.002	67799	38.5	4	9.992	-0.037	45170	27.9	
Total CollAve (4 peaks):				41.4	Total Col2Ave (4 peaks):				25.5	RPD = 47*	
Corrected Ave (3 peaks):				35.9	Corrected Ave (3 peaks):				22.2	RPD = 47*	
Aroclor-1254	1	9.130	-0.003	136901	65.0	1	9.899	0.001	100912	60.8	
Aroclor-1254	2	9.421	-0.001	137575	48.6	2	9.992	0.001	45170	51.9	
Aroclor-1254	3	9.493	-0.002	51664	47.9	3	10.413	0.001	14429	11.4	
Aroclor-1254	4	9.781	0.002	38367	20.5	4	10.587	0.029	220906	79.9	
Aroclor-1254	5	9.905	-0.003	167945	45.7	5	11.335	0.009	100793	59.4	
Total CollAve (5 peaks):				45.5	Total Col2Ave (5 peaks):				52.7	RPD = 15	
Corrected Ave (4 peaks):				40.7	Corrected Ave (4 peaks):				45.9	RPD = 12	
Aroclor-1260	1	11.425	-0.002	317164	108.1	1	11.626	-0.001	240498	126.5	
Aroclor-1260	2	11.786	-0.001	1010072	137.7	2	12.077	-0.000	260237	112.9	
Aroclor-1260	3	12.179	-0.002	369132	92.9	3	12.332	-0.001	506301	110.5	
Aroclor-1260	4	12.288	-0.003	196068	120.0	4	13.632	-0.002	145251	117.5	
Aroclor-1260	5	12.360	-0.002	236725	123.2	NS	---			---	
Total CollAve (5 peaks):				116.4	Total Col2Ave (4 peaks):				116.8	RPD = 0	
Corrected Ave (4 peaks):				111.1	Corrected Ave (3 peaks):				113.6	RPD = 2	
Aroclor-1262	1	11.116	-0.002	337756	79.0	1	11.626	-0.005	240498	82.1	
Aroclor-1262	2	11.786	-0.002	1010072	110.4	2	12.077	-0.004	260237	113.7	
Aroclor-1262	3	12.179	-0.003	369132	115.6	3	12.332	-0.005	506301	86.6	
Aroclor-1262	4	12.288	-0.003	196068	69.9	4	12.840	-0.014	327024	157.6	
Aroclor-1262	5	12.360	-0.003	236725	72.6	NS	---			---	
Total CollAve (5 peaks):				89.5	Total Col2Ave (4 peaks):				110.0	RPD = 21	
Corrected Ave (4 peaks):				83.0	Corrected Ave (3 peaks):				94.1	RPD = 13	
Aroclor-1268	1	12.288	-0.003	196068	20.3	1	12.840	-0.013	327024	54.9	
Aroclor-1268	2	12.360	-0.002	236725	25.6	2	12.915	-0.006	359559	60.9	
Aroclor-1268	3	12.756	0.016	105936	12.9	3	13.310	-0.006	10390	2.1	
Aroclor-1268	4	13.507	-0.003	60273	2.6	4	14.080	-0.044	106865	7.4	
Total CollAve (4 peaks):				15.3	Total Col2Ave (4 peaks):				31.3	RPD = 68*	

Corrected Ave (3 peaks): 11.9 Corrected Ave (3 peaks): 21.5 RPD = 57*

Total PCB Area Col1 (6.199 - 13.810) = 8202525 Col1 Total PCB = 0.26 ppm*

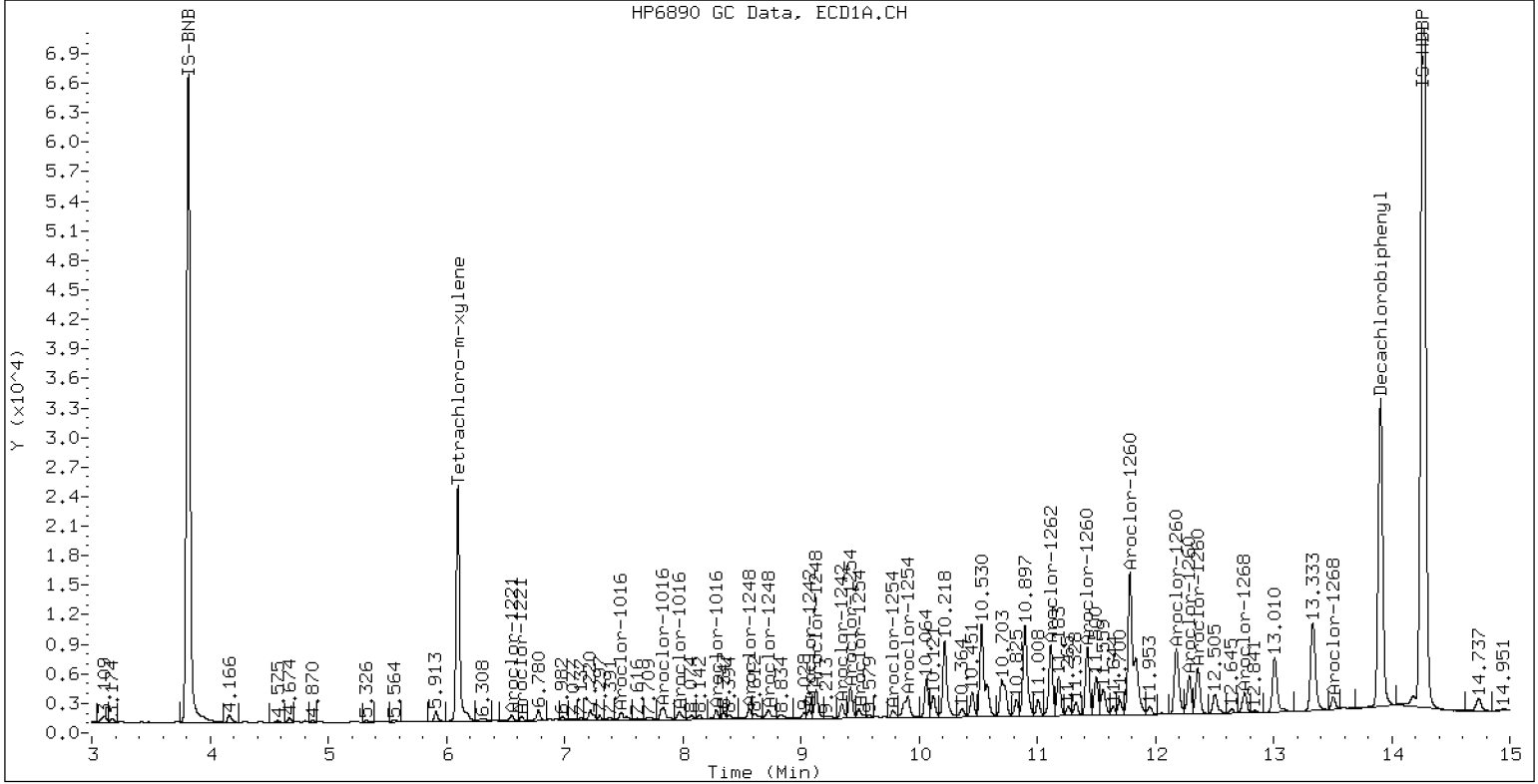
Total PCB Area Col2 (6.199 - 13.810) = 6064369 Col2 Total PCB = 0.22 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

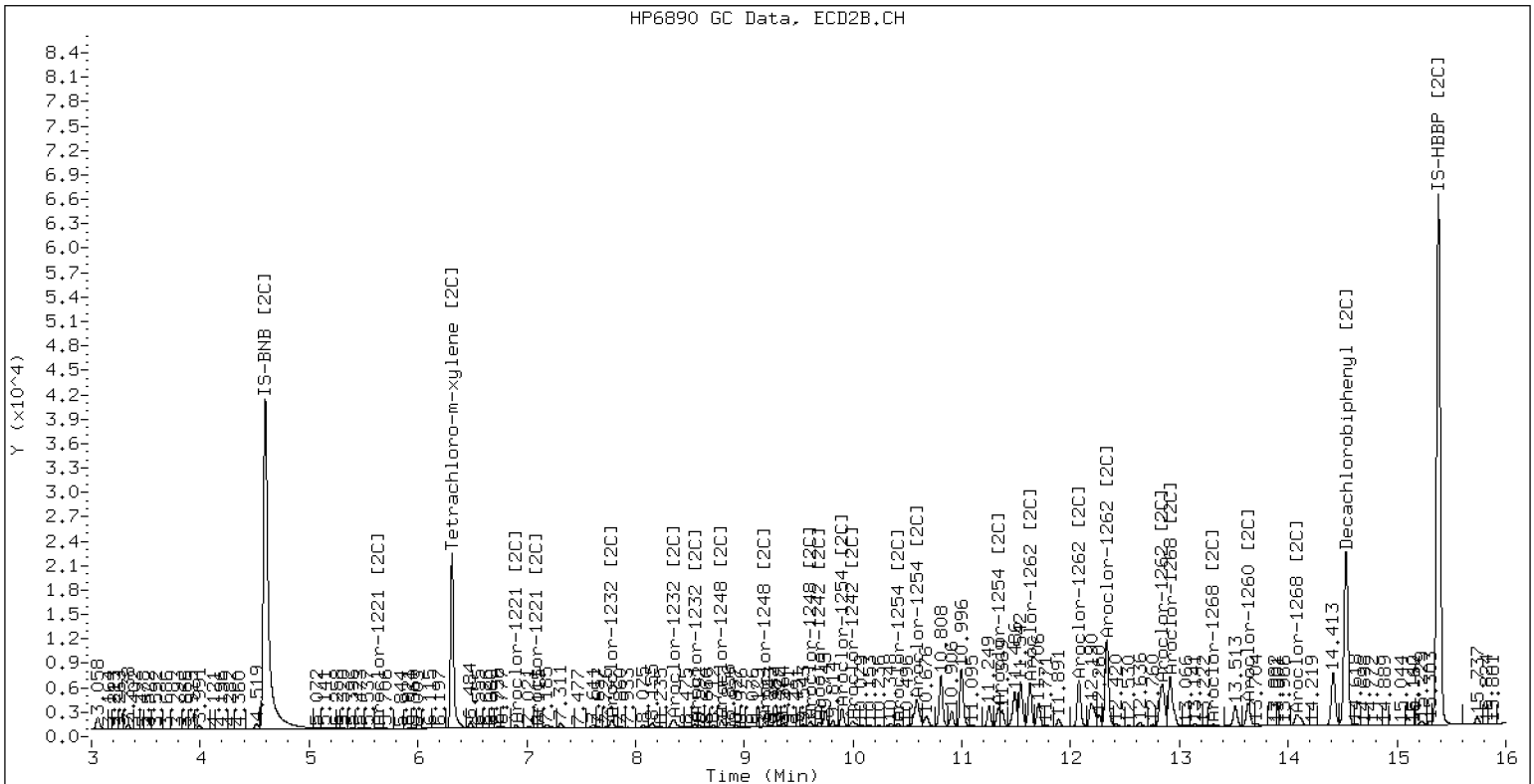
ECD5-ZB5 /20201117.b/20111725ECD5.D 20K007-33

18-NOV-2020 03:20 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111725ECD5.D 20K007-33



ZB-35 Manual Integration: NO



check SPE splits



Batch: BIK0378

Prepared using: EPA 3546 (Microwave)

8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Matrix: Solid

Date Prepared: 11/13/20

Balance ID: B146462614

Set Up By: CTO 11/12/20

Analysis: 8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)

Lab Number & Container	% Solids	Initial (g)		(REQ)	(REQ)	(Opt)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 5 (Wet)	Actual	Acid C/U (5mL)	Sulfur C/U (5mL)	Silica Gel C/U (1:5)			
20K0007-02 A	77.9	(6.42)	6.50	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-04 A	71.2	(7.02)	7.09	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-07 A	79.5	(6.29)	6.32	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-09 A	73.7	(6.78)	6.82	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-13 A	82.7	(6.05)	6.07	5.0mL	5.0mL	1mL Y/N	5	1.0	500ul on SPE
20K0007-15 A	78.0	(6.41)	6.43	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-19 A	89.0	(5.62)	5.66	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-21 A	76.7	(6.52)	6.56	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-25 A	86.8	(5.76)	5.80	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-27 A	54.7	(9.14)	9.19	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-31 A	88.1	(5.67)	5.72	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0007-33 A	75.8	(6.60)	6.60	5.0mL	5.0mL	1mL Y/N	5	1.0	

Batch QC

Lab Number	% Solids	Initial (g)		(REQ)	(REQ)	(Opt)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 5 (Wet)	Actual	Acid C/U (5mL)	Sulfur C/U (5mL)	Silica Gel C/U (1:5)			
BIK0378-BLK1	100.0	(5.00)	5.00	5.0mL	5.0mL	1mL Y/N	5	1.0	
BIK0378-BS1	100.0	(5.00)	5.00	5.0mL	5.0mL	1mL Y/N	5	1.0	
BIK0378-MS1	89.0	(5.62)	5.62	5.0mL	5.0mL	1mL Y/N	5	1.0	Use 20K0007-19
BIK0378-MSD1	89.0	(5.62)	5.62	5.0mL	5.0mL	1mL Y/N	5	1.0	Use 20K0007-19

Client ID verified By: [Signature] 11/13/20

Date

Preparation Reviewed By: BH

Date

11/17/20

Extraction Date and Time: 11/13/20

10:20



Batch: BIK0378

Prepared using: EPA 3546 (Microwave)
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Prep Steps	Reagents Used	Surrogates & Spike Standards Used
Microwave 1 2 3 Analyst/Date: [Signature] 11/13/20	Station/Reagent Microwave Analyst: [Signature] Date: 11/13/20	Type Surrogate N 1007220 Exp: 02-14-2021 100µL 2µg/mL
	Standard ID I010438	Vial ID / Standard ID 1 1008526 Exp: 03-22-2021 125µL 20µg/mL
KD 100°C Hexane Exchange (2 X 20 mL) 1 2 3 4 5 6 Analyst/Date: [Signature] 11/14/20	Anhydrous Sodium Sulfate Neutral Glass Wool 1:1 Hexane/Acetone Hexane	(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards. If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).
	Standard ID I010414 I009625 I009769	
	KD Analyst: VLB Date: 11/14/20	
TurboVap Pre Cleanups 1 2 3 4 5 Analyst/Date: [Signature] 11/17/20	Hexane Neutral Glass Wool Sodium sulfate	Standard ID I009769 I010438
	Vialing Analyst: BH Date: 11/17/20	
TurboVap Post Cleanups 1 2 3 4 5 6 Analyst/Date: [Signature] 11/17/20	Hexane Concentrated Sulfuric Acid Tetrabutylammonium hydrogensulfate (TBAS) Sodium Sulfite Silica Gel (SPE) Darts	Standard ID I009769 I007088 I000008 I006339 I009985
	Vialing Analyst: BH Date: 11/17/20	
	Vialing Analyst/Date: [Signature] 11/17/20	
	Vialing Analyst/Date: [Signature] 11/17/20	



Batch: BIK0378

Prepared using: EPA 3546 (Microwave)
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Prep Instructions

SPECIAL INSTRUCTIONS:

1. Weigh soil/sed into beakers-lightly dry with sodium sulfate.
 2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels).
 3. Add 1:1 Hexane/Acetone until the solvent layer is 3 inches above the soil layer after homogenization.
 4. Add surr/spike.
 5. Microwave on appropriate power setting determined by # of samples.
 6. After microwave-Re-homogenize while hot then cool vessels in Refrigerator 05. Re-homogenize while cool.
 7. Decant 1:1 Hex/Ace into E. flask using a funnel with neutral glasswool plug.
 8. Re-homogenize and rinse with 1:1 Hexane/Acetone.
 9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane.
 10. KD on 100° bath.
 11. Exchange (2 X with 20mL) Hexane.
 12. TurboVap.
 13. Vial 5 mL into labelled scintillation vials using Hexane.
- Acid/Sulfur cleanups REQUIRED
14. TurboVap (if Silica Clean).
 15. Vial with Hexane.

A. Need Total Solids Y N

B. Archive/Freeze Y N



Extraction Parameter: PCB Extraction Batch B1K0378

Total Solids Batch: MA Work Order(s): 20K0007

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <u>4, 7, 21, 25, 27, 31.</u>	<u>ME 11/13/20</u>
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= <u>fuel odor #2, #9, 13, 15, 19, 33.</u>	<u>ME 11/13/20</u>
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input checked="" type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<u>Used wrist shaker for sulfur clean.</u>	<u>BH 11/17/20</u>
<input checked="" type="checkbox"/> Share Samples Y/ N	<u>ME 11/12/20</u>
<input checked="" type="checkbox"/> Multiple Jars Y/ N	<u>ME 11/13/20</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Batch: BIK0378

Batch Comment: **NONE**

Project: ICS-Former NW Cooperage

Project Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Work Order:20K0007

Work Order Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Sample: 20K0007-02

Sample Comments: **NONE**

Sample: 20K0007-04

Sample Comments: **NONE**

Sample: 20K0007-07

Sample Comments: **NONE**

Sample: 20K0007-09

Sample Comments: **NONE**

Sample: 20K0007-13

Sample Comments: **NONE**

Sample: 20K0007-15

Sample Comments: **NONE**

Sample: 20K0007-19

Sample Comments: **NONE**

Sample: 20K0007-21

Sample Comments: **NONE**

Sample: 20K0007-25

Sample Comments: **NONE**

Sample: 20K0007-27

Sample Comments: **NONE**

Sample: 20K0007-31

Sample Comments: **NONE**

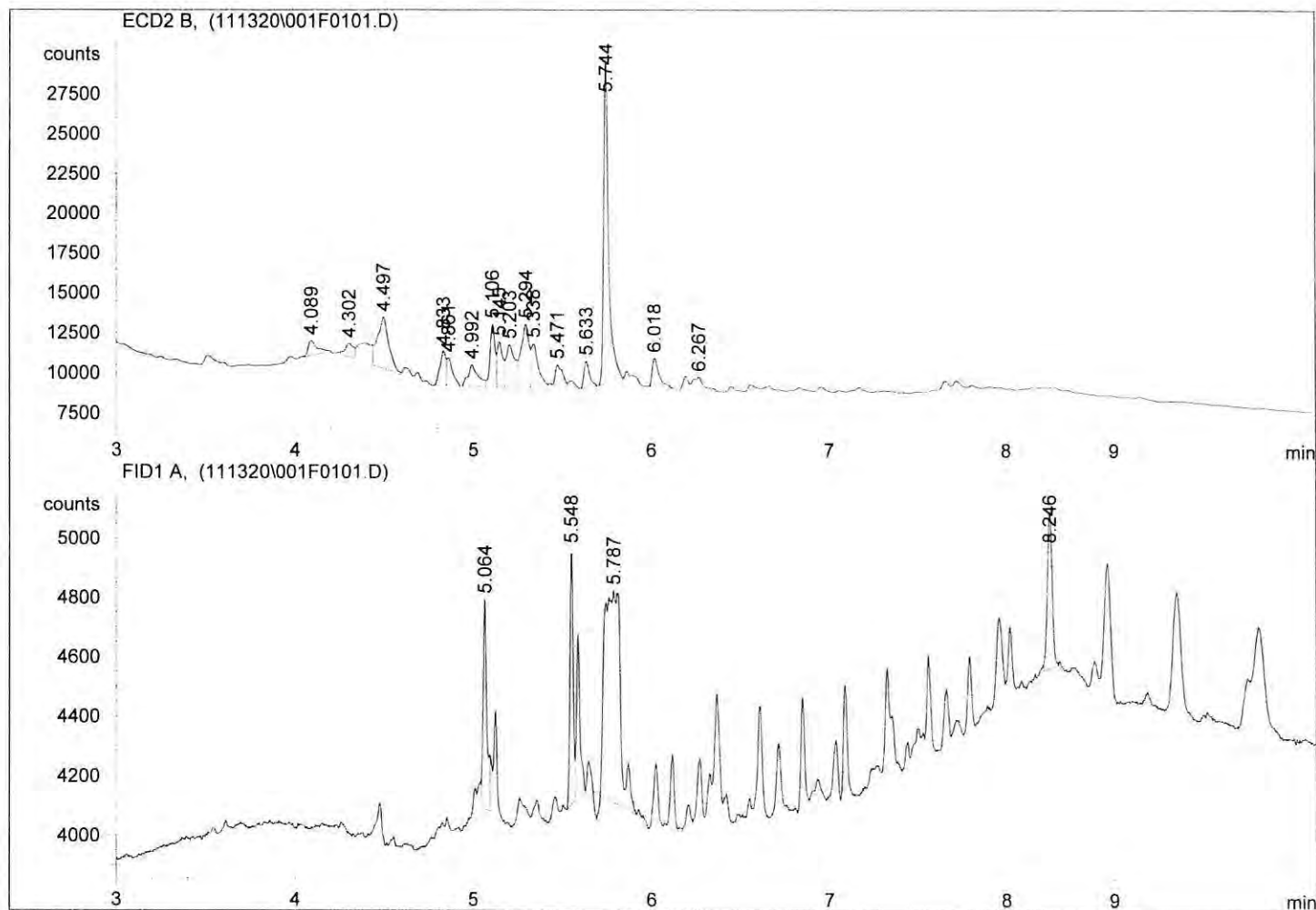
Sample: 20K0007-33

Sample Comments: **NONE**

```

=====
Injection Date : 11/13/2020 1:56:12 PM      Seq. Line : 1
Sample Name    : DCM RINSE                  Location  : Vial 1
Acq. Operator  : YL                        Inj       : 1
                                           Inj Volume: 1 µl

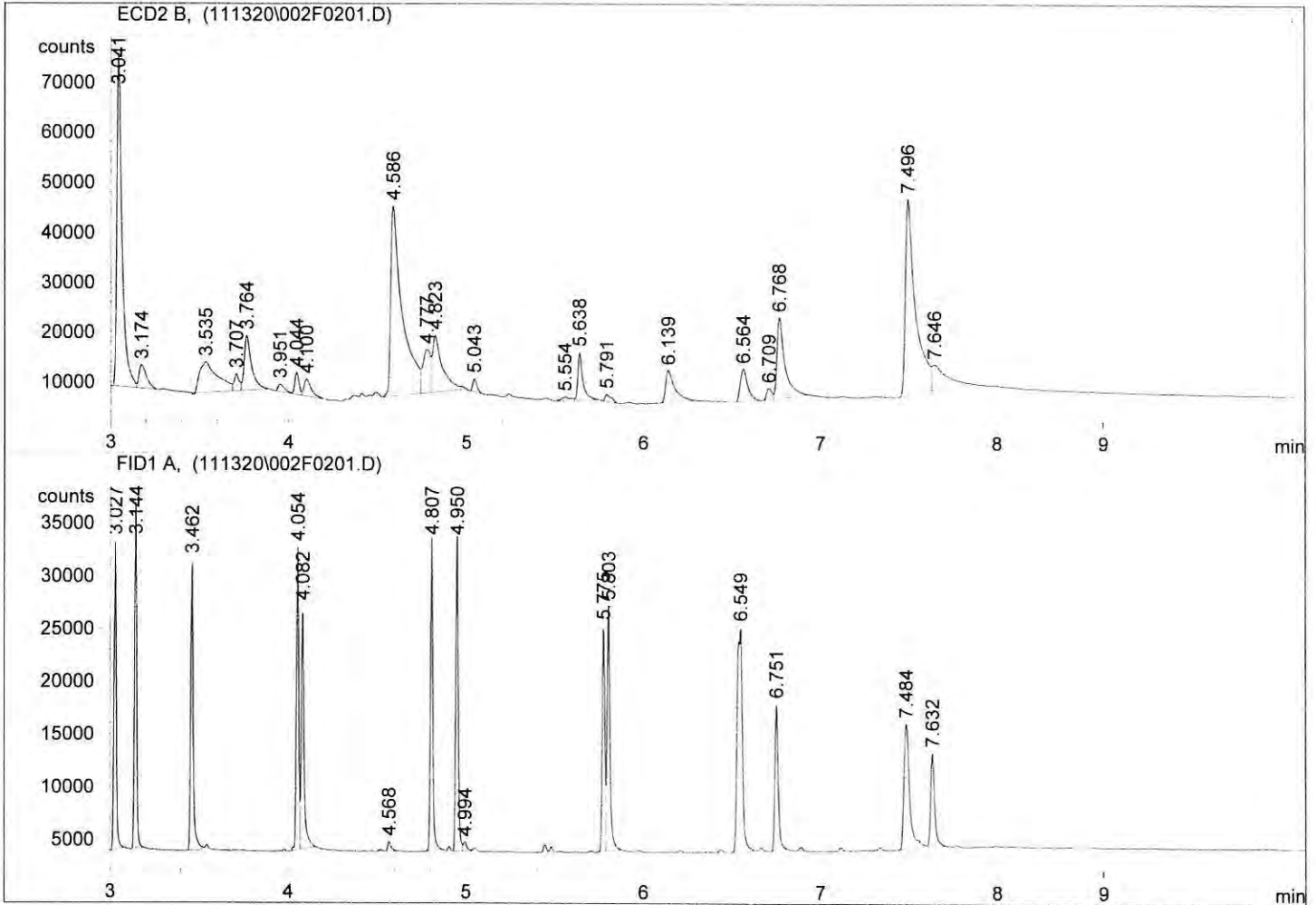
Sequence File  : C:\HPCHEM\1\SEQUENCE\111320.S
Method        : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed   : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====
    
```



*** End of Report ***

```
=====
Injection Date : 11/13/2020 2:09:59 PM      Seq. Line : 2
Sample Name    : PNA STD 10PPM              Location  : Vial 2
Acq. Operator  : YL                        Inj       : 1
                                           Inj Volume: 1 µl

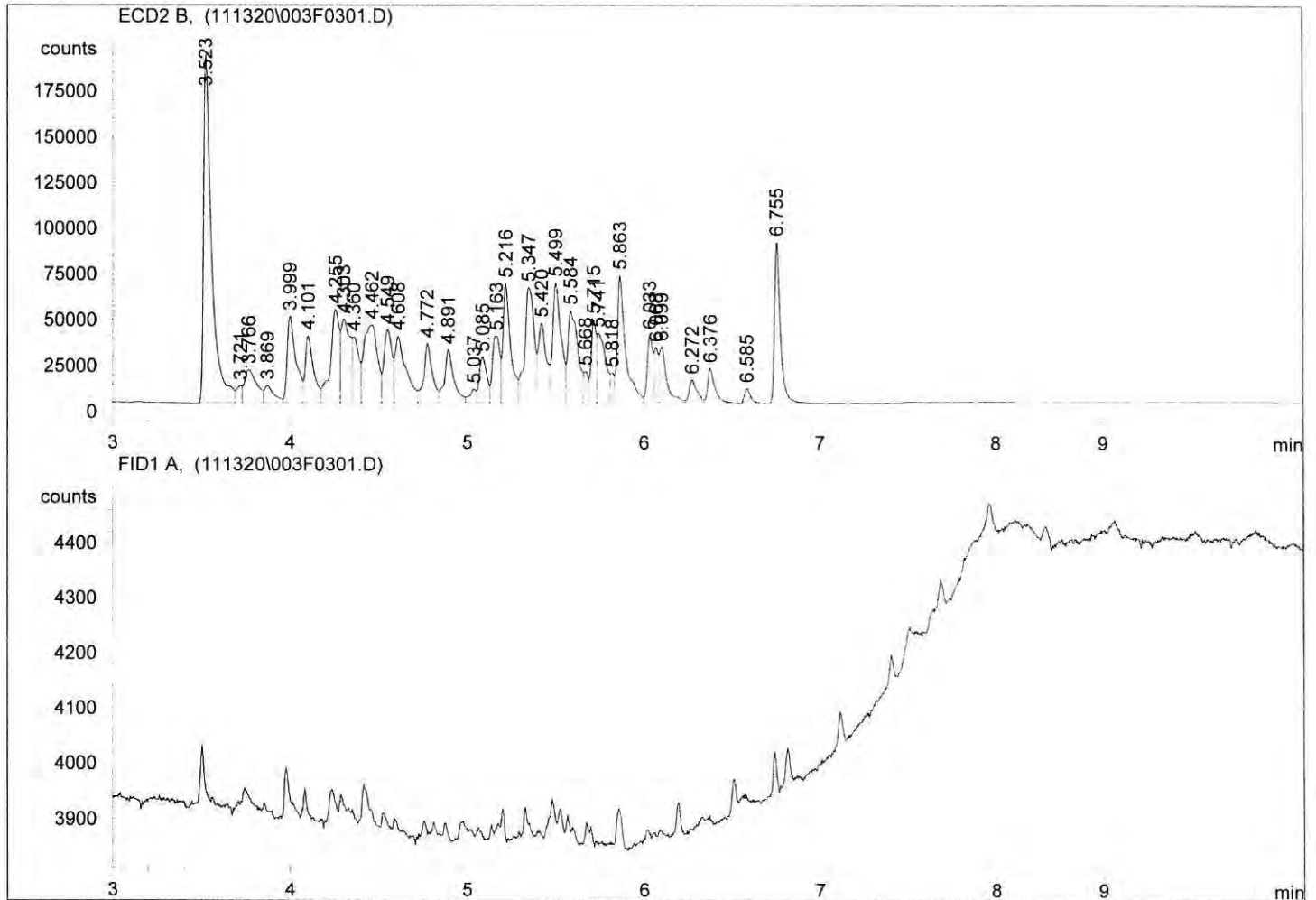
Sequence File  : C:\HPCHEM\1\SEQUENCE\111320.S
Method         : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed   : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====
```



*** End of Report ***

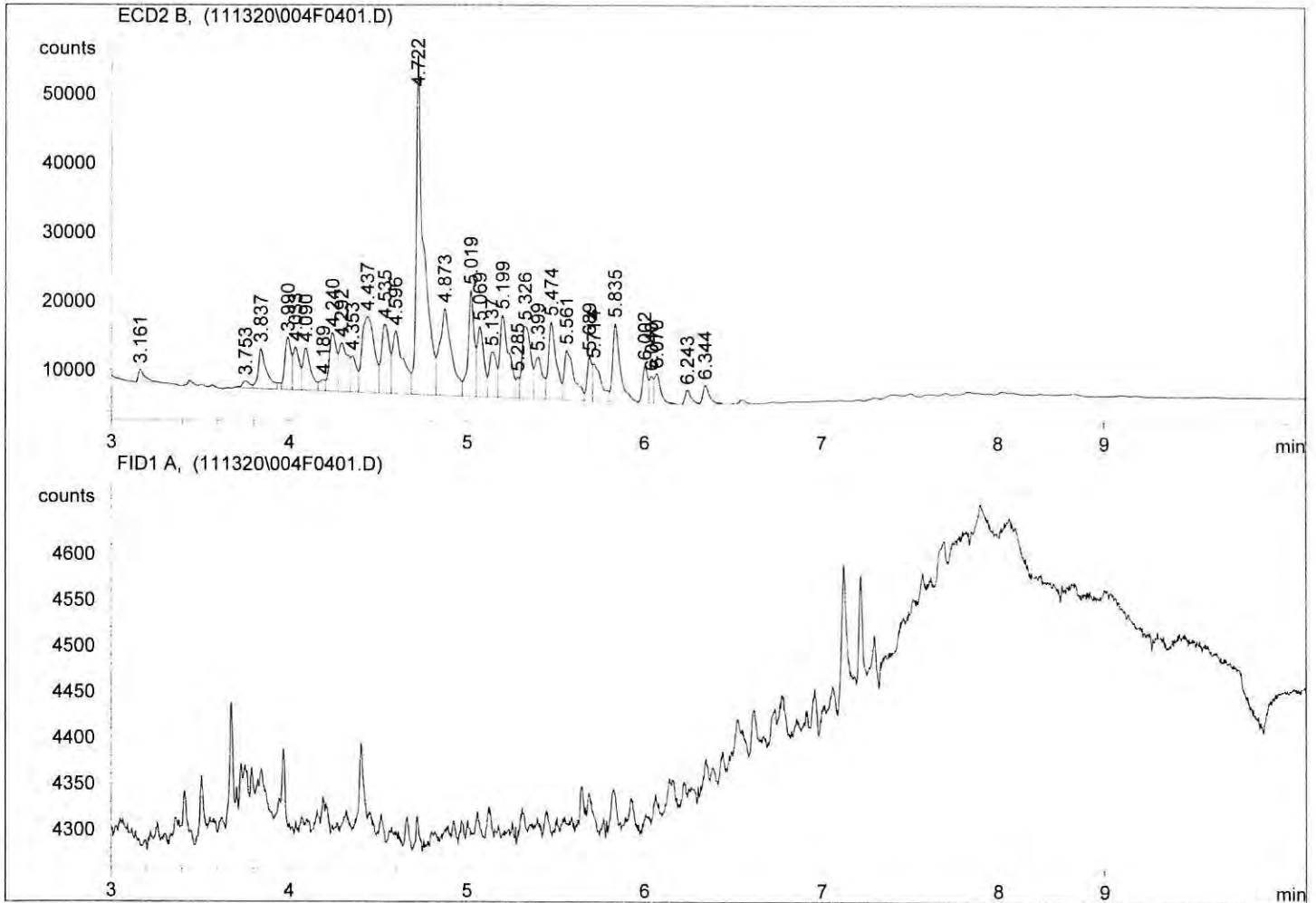
=====
Injection Date : 11/13/2020 2:24:14 PM Seq. Line : 3
Sample Name : AR1660 1PPM Location : Vial 3
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

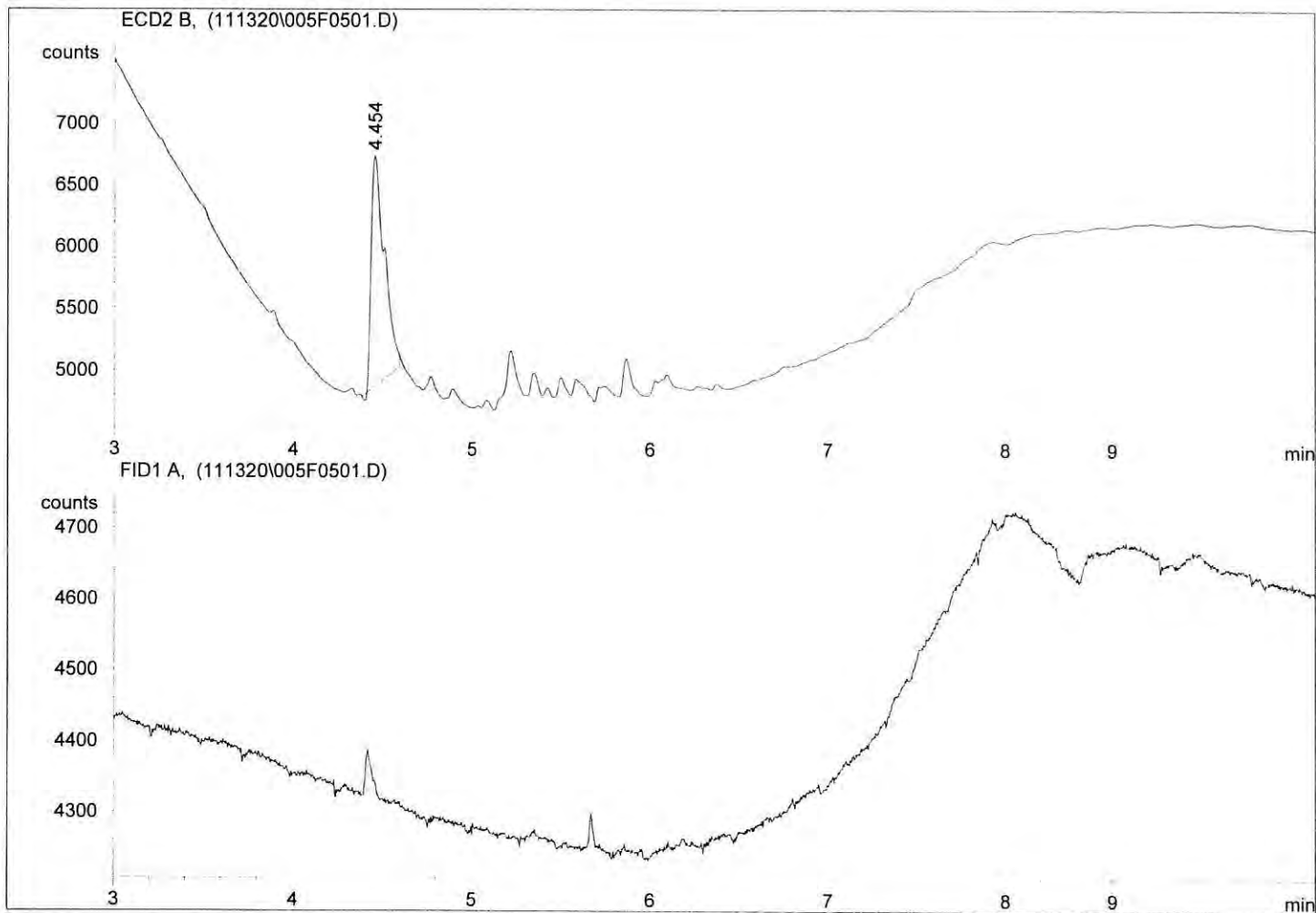
Injection Date : 11/13/2020 2:38:05 PM Seq. Line : 4
Sample Name : 20K0007 02 Location : Vial 4
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl
Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD



*** End of Report ***

=====
Injection Date : 11/13/2020 2:52:30 PM Seq. Line : 5
Sample Name : 20K0007 04 Location : Vial 5
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

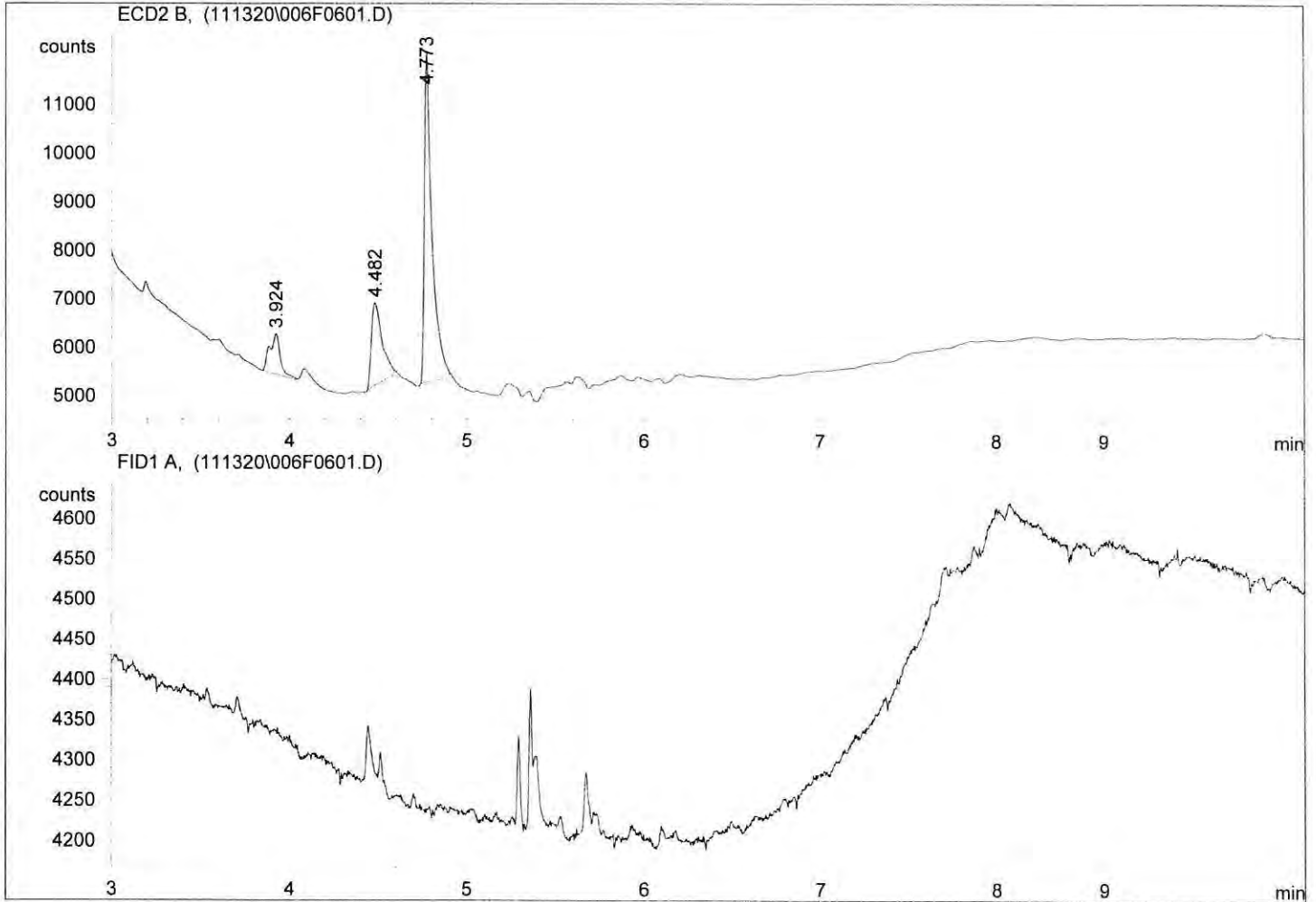
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Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

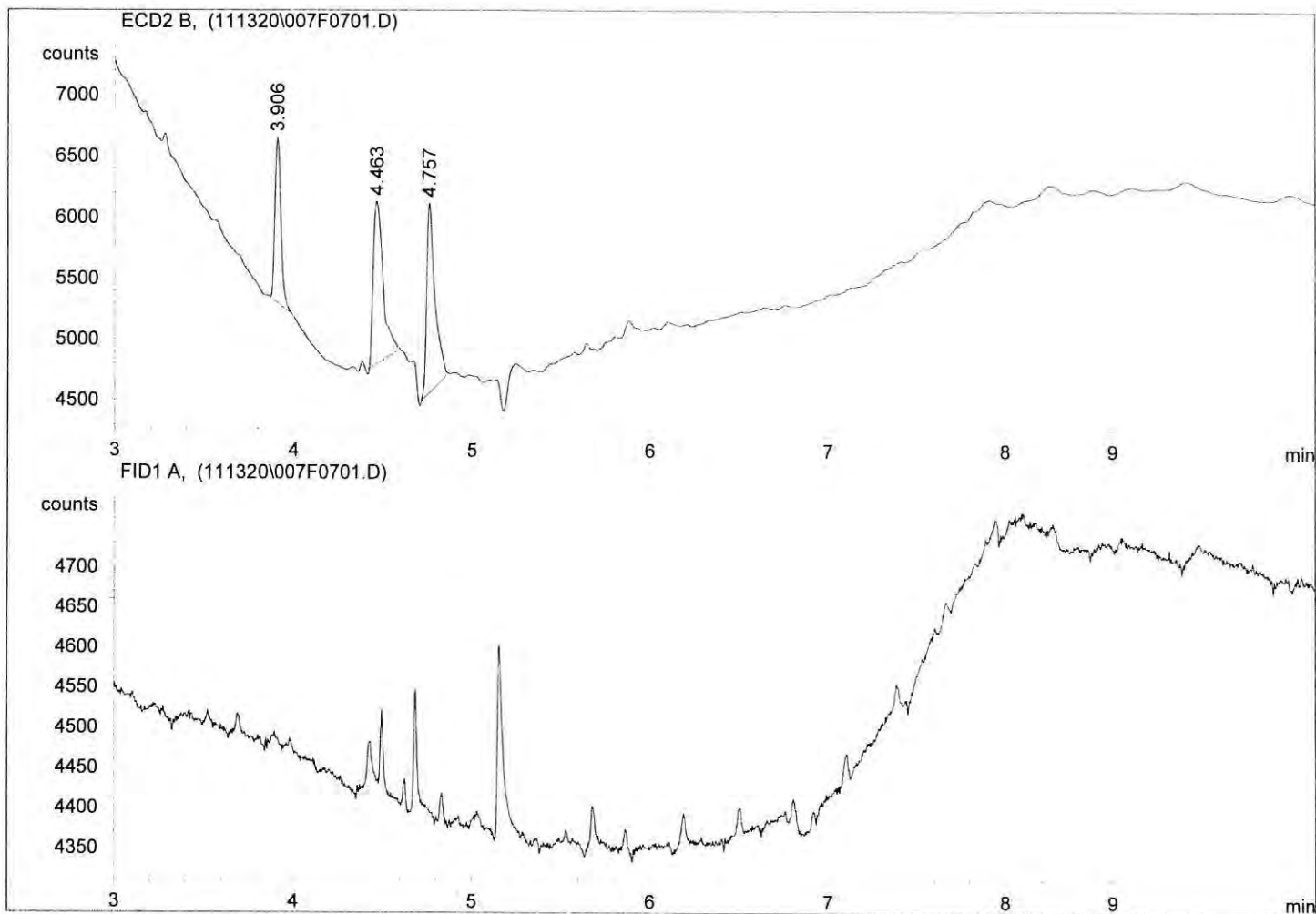
=====
Injection Date : 11/13/2020 3:06:22 PM Seq. Line : 6
Sample Name : 20K0007 07 Location : Vial 6
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

Injection Date : 11/13/2020 3:20:44 PM Seq. Line : 7
Sample Name : 20K0007 09 Location : Vial 7
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl
Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD



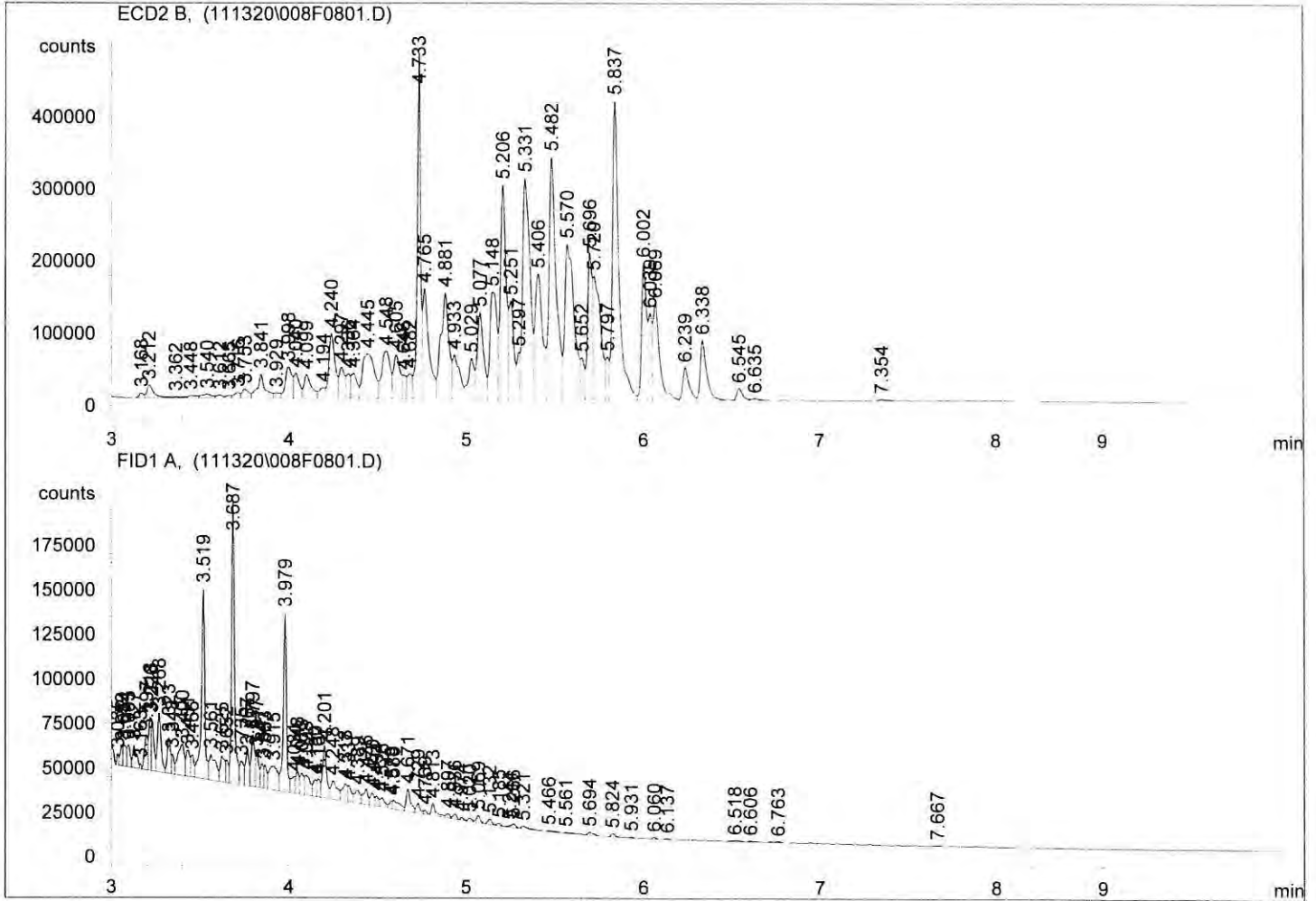
*** End of Report ***


```

=====
Injection Date   : 11/13/2020 3:34:36 PM      Seq. Line :    8
Sample Name     : 20K0007 13                 Location  : Vial 8
Acq. Operator  : YL                          Inj       :    1
                                           Inj Volume: 1 µl

Sequence File   : C:\HPCHEM\1\SEQUENCE\111320.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed    : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====

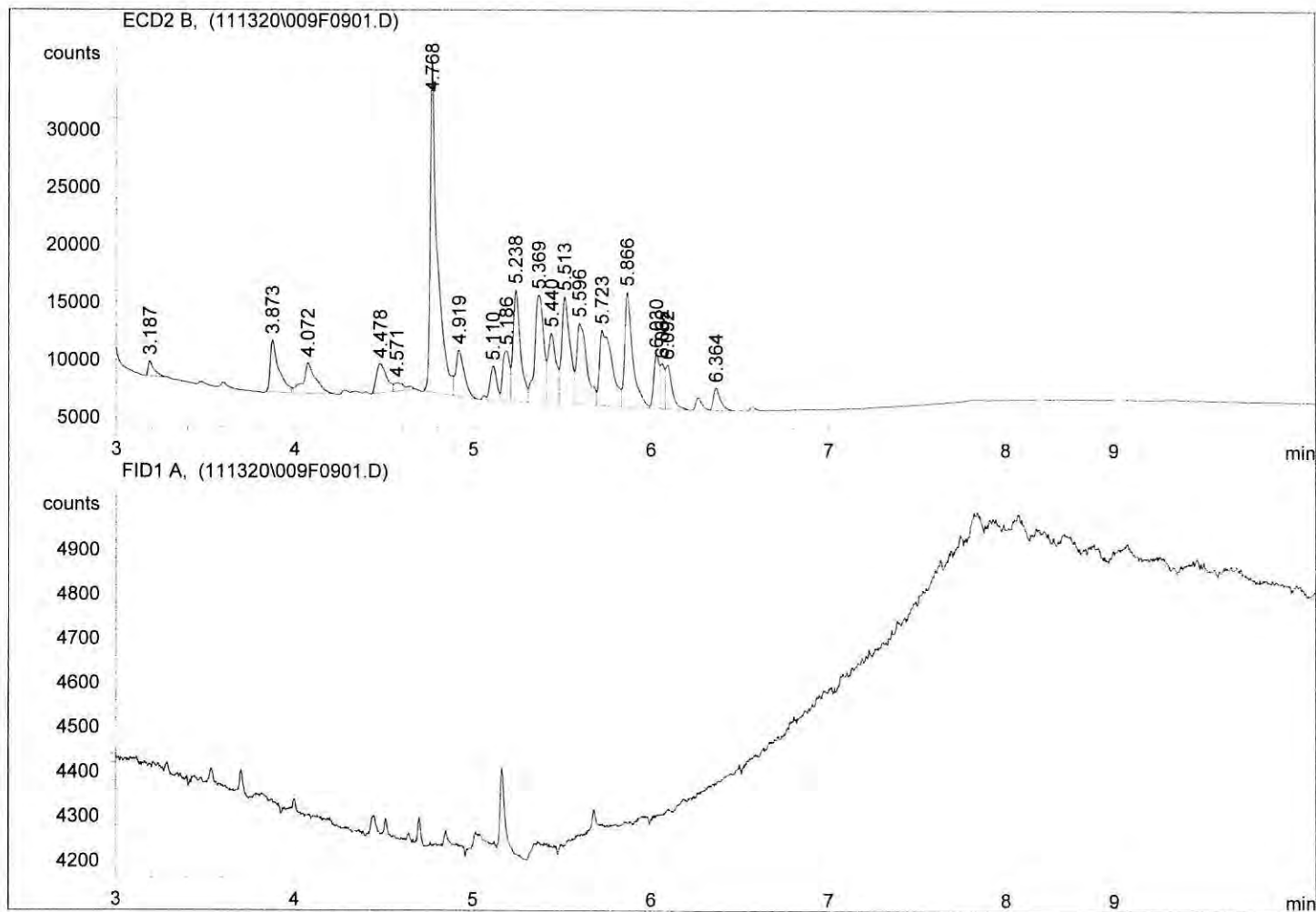
```



*** End of Report ***

=====
Injection Date : 11/13/2020 3:49:02 PM Seq. Line : 9
Sample Name : 20K0007 15 Location : Vial 9
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

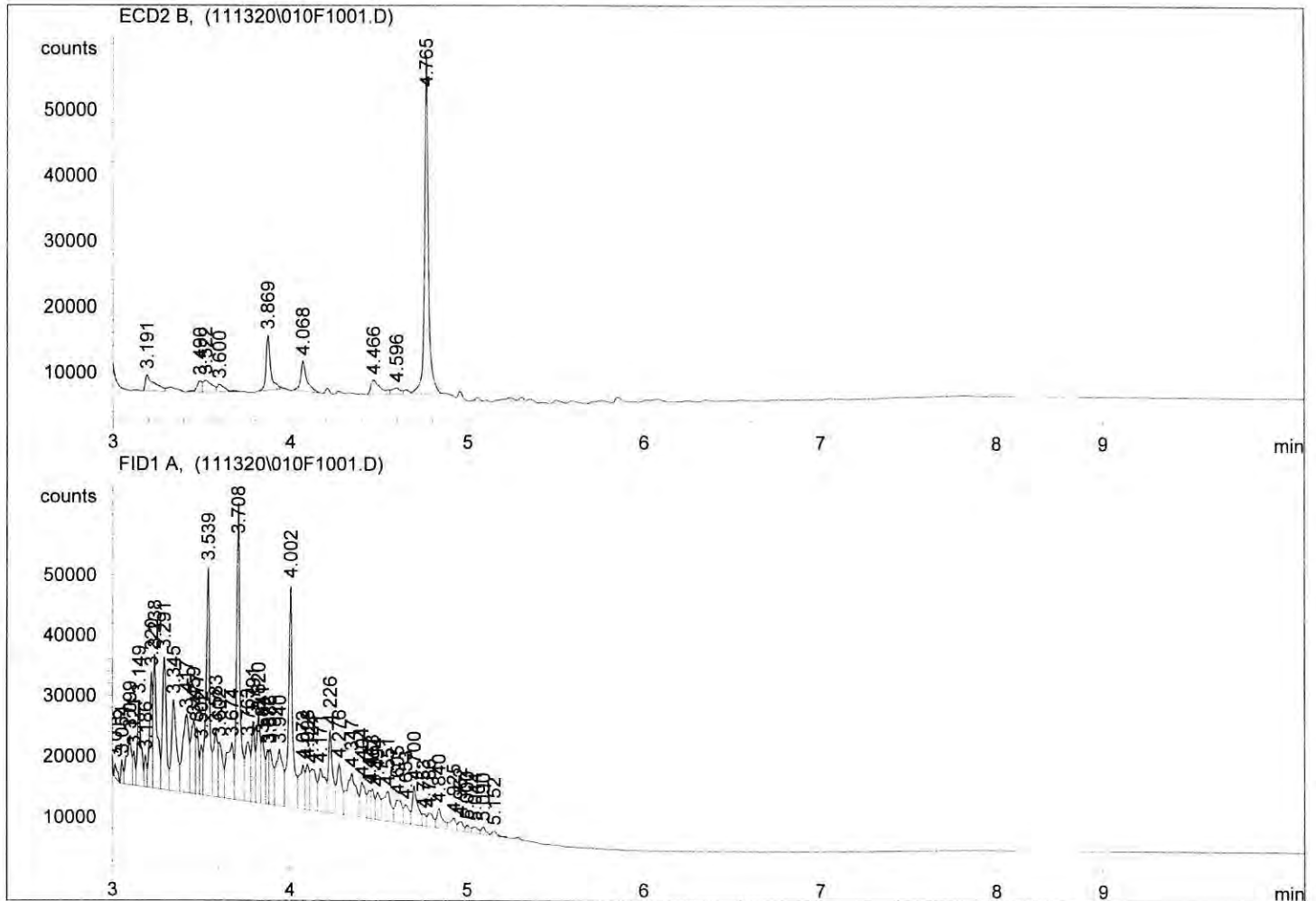
Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

```
=====
Injection Date   : 11/13/2020 4:02:53 PM      Seq. Line : 10
Sample Name     : 20K0007 19                  Location  : Vial 10
Acq. Operator  : YL                           Inj      : 1
                                           Inj Volume: 1 µl

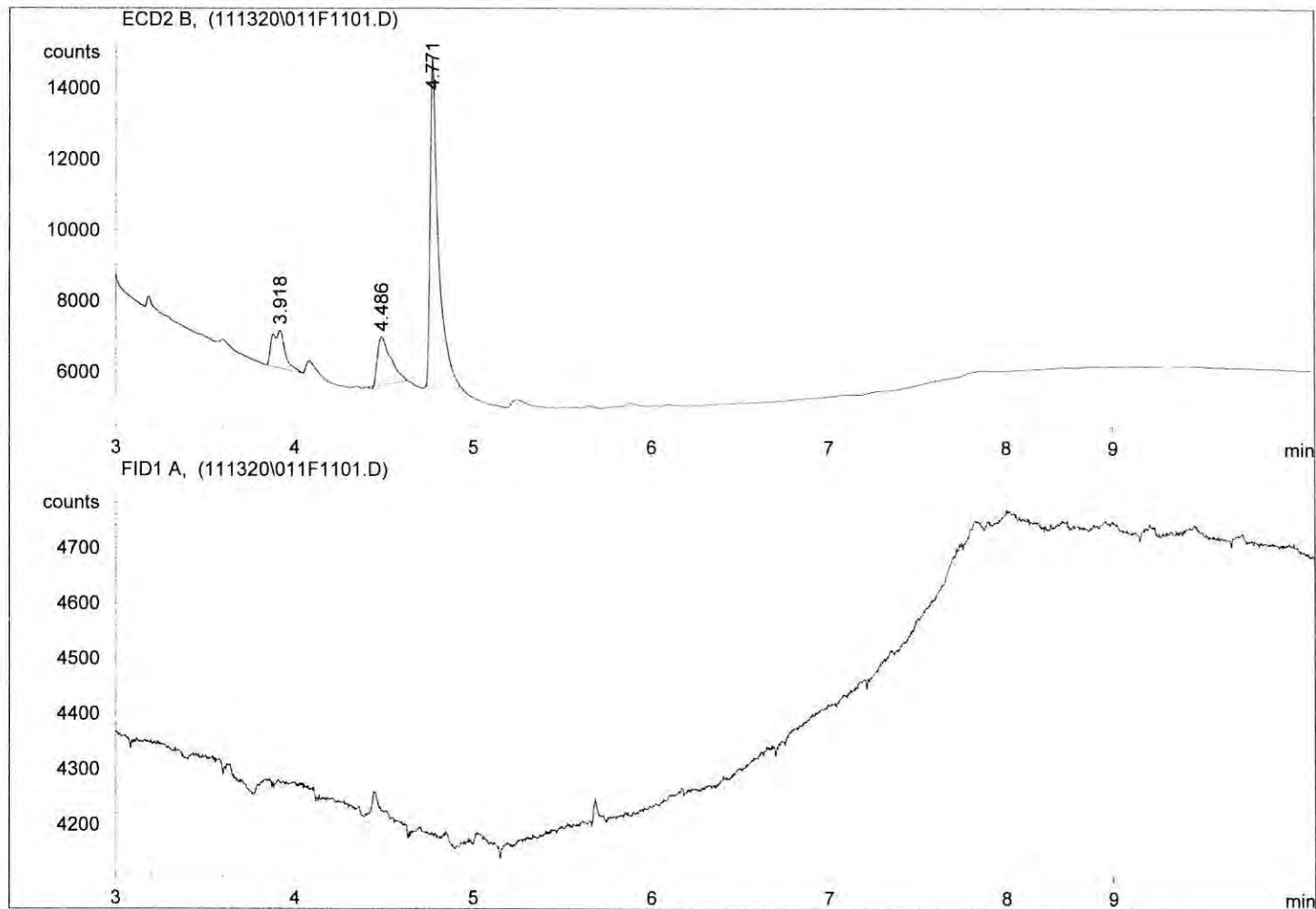
Sequence File   : C:\HPCHEM\1\SEQUENCE\111320.S
Method          : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed   : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====
```



*** End of Report ***

=====
Injection Date : 11/13/2020 4:17:15 PM Seq. Line : 11
Sample Name : 20K0007 21 Location : Vial 11
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

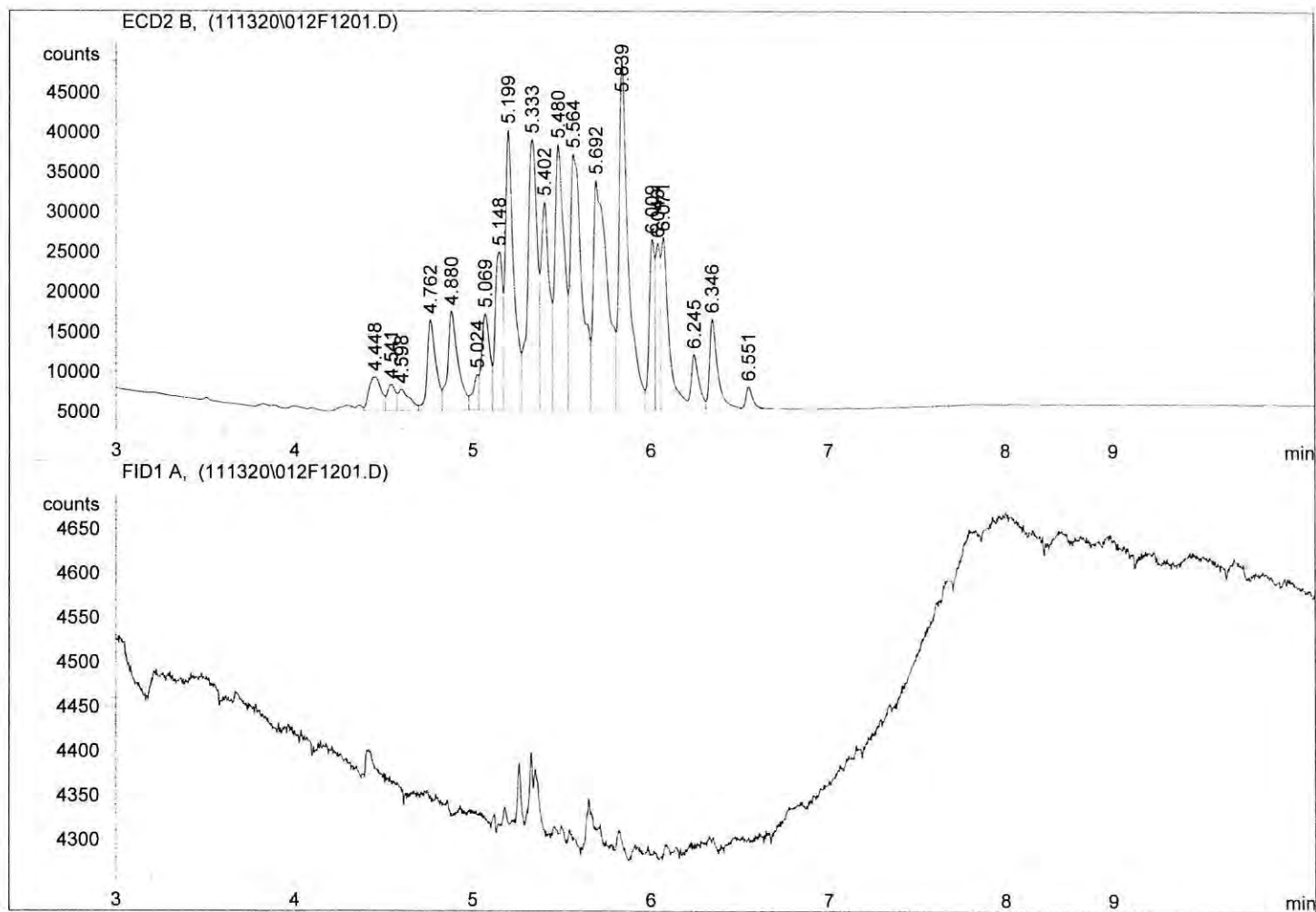
Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

Injection Date : 11/13/2020 4:31:11 PM Seq. Line : 12
Sample Name : 20K0007 25 Location : Vial 12
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

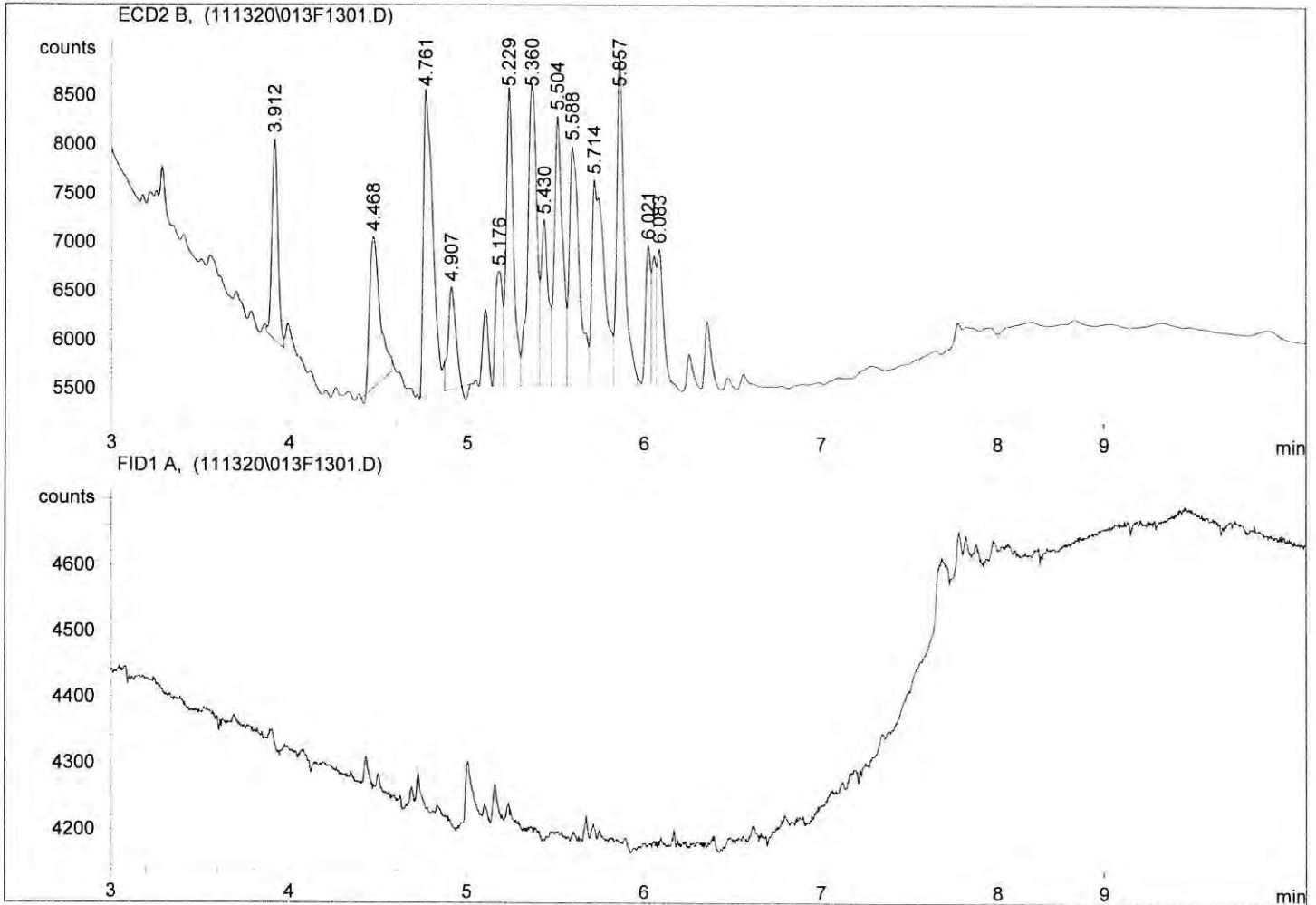
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Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD



*** End of Report ***

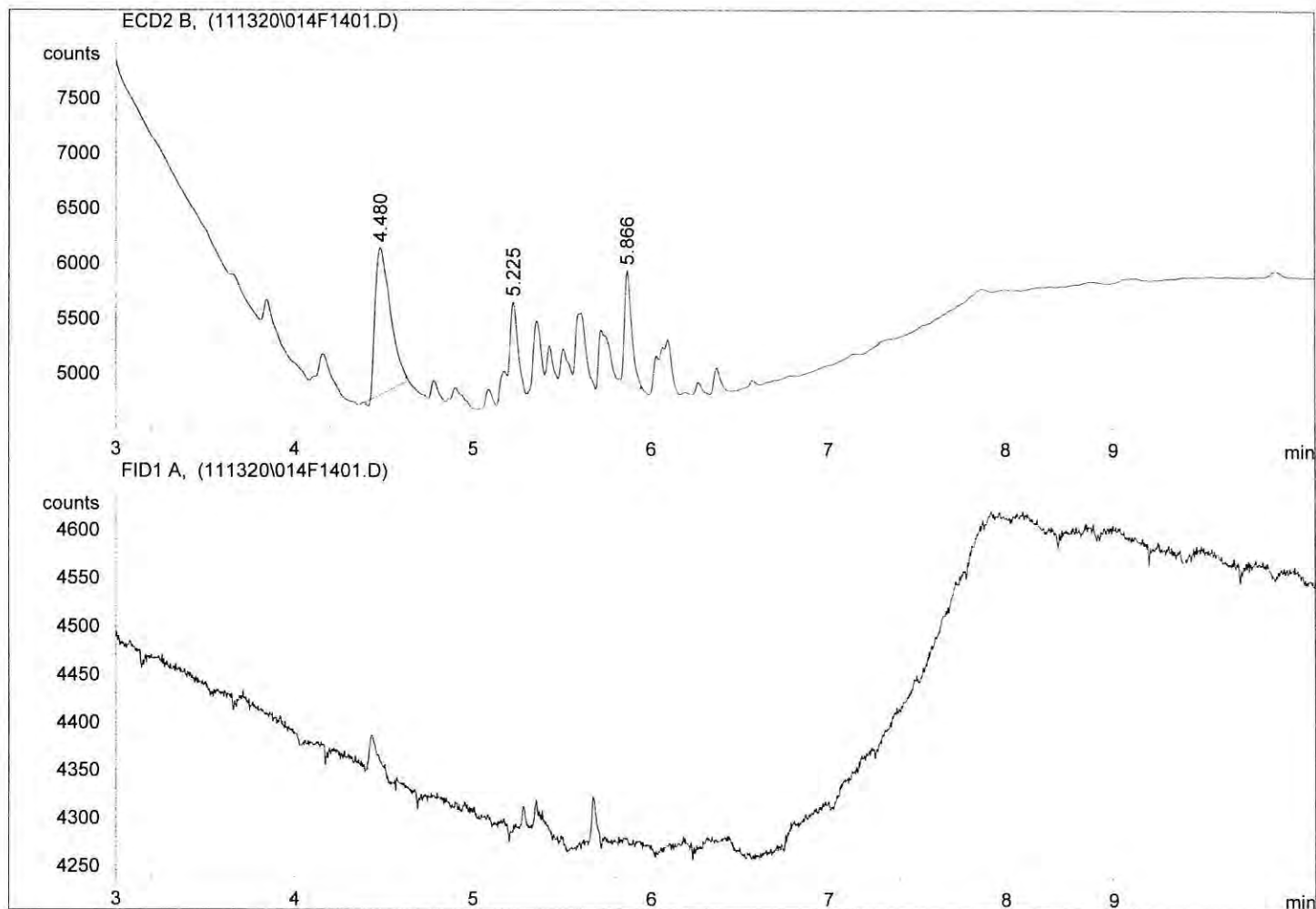
=====
Injection Date : 11/13/2020 4:45:35 PM Seq. Line : 13
Sample Name : 20K0007 27 Location : Vial 13
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD
=====



*** End of Report ***

Injection Date : 11/13/2020 4:59:26 PM Seq. Line : 14
Sample Name : 20K0007 31 Location : Vial 14
Acq. Operator : YL Inj : 1
 Inj Volume : 1 µl
Sequence File : C:\HPCHEM\1\SEQUENCE\111320.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 9/11/2020 3:50:10 PM by JGR
SCREEN METHOD



*** End of Report ***



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Cleanup Batch: CIK0131

Cleanup Type: Sulfuric Acid

Cleanup Method: EPA 3665A Sulfuric Acid Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP4-2.5	20K0007-31	20111724ECD5.D	11/17/2020	
PP9-7.5	20K0007-27	20111723ECD5.D	11/17/2020	
PP10-2.5	20K0007-19	20112807ECD5.D	11/17/2020	
PP8-5	20K0007-02	20111710ECD5.D	11/17/2020	
Blank	BIK0378-BLK1	20111705ECD5.D	11/17/2020	
LCS	BIK0378-BS1	20111706ECD5.D	11/17/2020	
PP8-10	20K0007-04	20111711ECD5.D	11/17/2020	
Matrix Spike Dup	BIK0378-MSD1	20111720ECD5.D	11/17/2020	
PP9-2.5	20K0007-25	20111722ECD5.D	11/17/2020	
PP12-7.5	20K0007-15	20111717ECD5.D	11/17/2020	
PP12-2.5	20K0007-13	20111714ECD5.D	11/17/2020	
PP11-7.5	20K0007-09	20111713ECD5.D	11/17/2020	
PP11-2.5	20K0007-07	20111712ECD5.D	11/17/2020	
PP10-7.5	20K0007-21	20111721ECD5.D	11/17/2020	
PP4-7.5	20K0007-33	20111725ECD5.D	11/17/2020	
Matrix Spike	BIK0378-MS1	20111719ECD5.D	11/17/2020	



CLEANUP BENCH SHEET

CIK0131

Matrix: Solid

Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup

Printed: 11/17/2020 10:26:04AM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0007-33	A	PP4-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-31	A	PP4-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-19	A	PP10-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-21	A	PP10-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-25	A	PP9-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-27	A	PP9-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-02	A	PP8-5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-04	A	PP8-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-07	A	PP11-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-09	A	PP11-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-13	A	PP12-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-15	A	PP12-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
BIK0378-MSD1	-	Matrix Spike Dup	-	5	5	-	11/17/2020	BH	
BIK0378-MS1	-	Matrix Spike	-	5	5	-	11/17/2020	BH	
BIK0378-BLK1	-	Blank	-	5	5	-	11/17/2020	BH	
BIK0378-BS1	-	LCS	-	5	5	-	11/17/2020	BH	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Cleanup Batch: CIK0132

Cleanup Type: Sulfur

Cleanup Method: EPA 3660B Sulfur Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP9-7.5	20K0007-27	20111723ECD5.D	11/17/2020	
PP8-10	20K0007-04	20111711ECD5.D	11/17/2020	
PP4-7.5	20K0007-33	20111725ECD5.D	11/17/2020	
PP4-2.5	20K0007-31	20111724ECD5.D	11/17/2020	
PP12-7.5	20K0007-15	20111717ECD5.D	11/17/2020	
PP12-2.5	20K0007-13	20111714ECD5.D	11/17/2020	
PP10-2.5	20K0007-19	20112807ECD5.D	11/17/2020	
PP10-7.5	20K0007-21	20111721ECD5.D	11/17/2020	
PP8-5	20K0007-02	20111710ECD5.D	11/17/2020	
PP11-2.5	20K0007-07	20111712ECD5.D	11/17/2020	
PP9-2.5	20K0007-25	20111722ECD5.D	11/17/2020	
Matrix Spike Dup	BIK0378-MSD1	20111720ECD5.D	11/17/2020	
Matrix Spike	BIK0378-MS1	20111719ECD5.D	11/17/2020	
LCS	BIK0378-BS1	20111706ECD5.D	11/17/2020	
Blank	BIK0378-BLK1	20111705ECD5.D	11/17/2020	
PP11-7.5	20K0007-09	20111713ECD5.D	11/17/2020	



CLEANUP BENCH SHEET

CIK0132

Matrix: Solid

Cleanup using: Organics - EPA 3660B Sulfur Cleanup

Printed: 11/17/2020 10:26:54AM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0007-21	A	PP10-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-19	A	PP10-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-07	A	PP11-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-09	A	PP11-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-13	A	PP12-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-15	A	PP12-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-02	A	PP8-5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-04	A	PP8-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-25	A	PP9-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-27	A	PP9-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-31	A	PP4-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-33	A	PP4-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
BIK0378-MSD1	-	Matrix Spike Dup	-	5	5	-	11/17/2020	BH	
BIK0378-MS1	-	Matrix Spike	-	5	5	-	11/17/2020	BH	
BIK0378-BLK1	-	Blank	-	5	5	-	11/17/2020	BH	
BIK0378-BS1	-	LCS	-	5	5	-	11/17/2020	BH	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Cleanup Batch: CIK0133

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP4-2.5	20K0007-31	20111724ECD5.D	11/17/2020	
Matrix Spike	BIK0378-MS1	20111719ECD5.D	11/17/2020	
LCS	BIK0378-BS1	20111706ECD5.D	11/17/2020	
Blank	BIK0378-BLK1	20111705ECD5.D	11/17/2020	
PP9-7.5	20K0007-27	20111723ECD5.D	11/17/2020	
PP10-2.5	20K0007-19	20112807ECD5.D	11/17/2020	
PP8-10	20K0007-04	20111711ECD5.D	11/17/2020	
PP4-7.5	20K0007-33	20111725ECD5.D	11/17/2020	
PP9-2.5	20K0007-25	20111722ECD5.D	11/17/2020	
PP12-7.5	20K0007-15	20111717ECD5.D	11/17/2020	
PP12-2.5	20K0007-13	20111714ECD5.D	11/17/2020	
PP11-7.5	20K0007-09	20111713ECD5.D	11/17/2020	
PP11-2.5	20K0007-07	20111712ECD5.D	11/17/2020	
PP10-7.5	20K0007-21	20111721ECD5.D	11/17/2020	
Matrix Spike Dup	BIK0378-MSD1	20111720ECD5.D	11/17/2020	
PP8-5	20K0007-02	20111710ECD5.D	11/17/2020	



CLEANUP BENCH SHEET

CIK0133

Matrix: Solid

Cleanup using: Organics - EPA 3630C Silica Gel Cleanup

Printed: 11/17/2020 10:27:40AM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0007-33	A	PP4-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-31	A	PP4-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-19	A	PP10-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-21	A	PP10-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-25	A	PP9-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-27	A	PP9-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-02	A	PP8-5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-04	A	PP8-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-07	A	PP11-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-09	A	PP11-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-13	A	PP12-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
20K0007-15	A	PP12-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/17/2020	BH	
BIK0378-MSD1	-	Matrix Spike Dup	-	5	5	-	11/17/2020	BH	
BIK0378-MS1	-	Matrix Spike	-	5	5	-	11/17/2020	BH	
BIK0378-BLK1	-	Blank	-	5	5	-	11/17/2020	BH	
BIK0378-BS1	-	LCS	-	5	5	-	11/17/2020	BH	



Form I
METHOD BLANK DATA SHEET
EPA 8082A

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BIK0378-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>11/13/20 10:20</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0378</u>	Sequence:	<u>SIL0028</u>
Instrument:	<u>ECD5</u>	Column:	<u>ZB5</u>
		Cleanups:	<u>Silica Gel, Sulfur, Sulfuric Acid</u>
		File ID:	<u>20111705ECD5.D</u>
		Analyzed:	<u>11/17/20 20:26</u>
		Initial/Final:	<u>5 g / 5 mL</u>
		Calibration:	<u>DK00033</u>

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	20.0	U	8.0	20.0
11104-28-2	Aroclor 1221	1	20.0	U	8.0	20.0
11141-16-5	Aroclor 1232	1	20.0	U	8.0	20.0
53469-21-9	Aroclor 1242	1	20.0	U	8.0	20.0
12672-29-6	Aroclor 1248	1	20.0	U	8.0	20.0
11097-69-1	Aroclor 1254	1	20.0	U	8.0	20.0
11096-82-5	Aroclor 1260	1	20.0	U	9.3	20.0
37324-23-5	Aroclor 1262	1	20.0	U	9.3	20.0
11100-14-4	Aroclor 1268	1	20.0	U	9.3	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	40.000	28.4	71.0	40 - 133	
Tetrachlorometaxylene	40.000	25.3	63.2	53 - 120	
Decachlorobiphenyl [2C]	40.000	29.6	73.9	40 - 133	
Tetrachlorometaxylene [2C]	40.000	27.2	68.1	53 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111705ECD5.D
Data file 2: /20201117.b/20201117.b/20111705ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0378-BLK1
Client ID:
Injection Date: 17-NOV-2020 20:26
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	0.000	1186494	6.313	0.000	1058789	25.3	27.2	7.5	Tetrachloro-m-xylene
13.905	-0.003	1722049	14.531	-0.000	1191927	28.4	29.6	4.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.2	68.1
Decachlorobiphenyl	71.0	73.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3212003	18.8
Hexabromobiphenyl	3964848	5121108	29.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3022075	3.7
Hexabromobiphenyl	2801720	3234690	15.5

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.528	0.047	9407	7.2	1	7.778	-0.004	2201	1.3
Aroclor-1016	2	---			0.0	2	8.326	-0.027	4689	1.4
Aroclor-1016	3	7.997	0.024	13977	8.2	3	8.589	0.043	6919	4.8
Aroclor-1016	4	---			0.0	4	9.184	-0.003	356	0.3
CollAve: <3 Quant Peaks						Col2Ave: 2.0				
Aroclor-1221	1	---			0.0	1	5.633	-0.020	1223	4.5
Aroclor-1221	2	---			0.0	2	6.904	0.025	16121	29.4
Aroclor-1221	3	---			0.0	3	7.114	0.026	2146	7.3
CollAve: <3 Quant Peaks						Col2Ave: 13.7				
Aroclor-1232	1	---			0.0	1	5.633	-0.020	1223	7.7
Aroclor-1232	2	7.528	0.044	9407	16.3	2	7.778	-0.008	2201	2.8
Aroclor-1232	3	---			0.0	3	8.326	-0.030	4689	3.2
Aroclor-1232	4	7.997	0.023	13977	18.8	4	8.589	0.040	6919	11.3
CollAve: <3 Quant Peaks						Col2Ave: 6.3				
Aroclor-1242	1	7.528	0.047	9407	9.1	1	7.778	-0.004	2201	1.6
Aroclor-1242	2	---			0.0	2	8.326	-0.027	4689	1.7
Aroclor-1242	3	9.025	-0.048	5413	4.6	3	9.696	0.006	11340	12.7
Aroclor-1242	4	---			0.0	4	10.102	0.070	8272	7.5
CollAve: <3 Quant Peaks						Col2Ave: 5.9				
Aroclor-1248	1	8.624	0.059	26751	15.8	1	8.788	-0.002	9692	8.4
Aroclor-1248	2	8.726	-0.002	4124	2.0	2	9.184	-0.003	356	0.3
Aroclor-1248	3	9.126	-0.001	1280	0.5	3	9.578	-0.034	7016	3.9
Aroclor-1248	4	---			0.0	4	10.102	0.073	8272	4.6
Total CollAve (3 peaks):				6.1	Total Col2Ave (4 peaks):				4.3	RPD = 35
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				2.9	
Aroclor-1254	1	9.126	-0.003	1280	0.6	1	9.932	0.034	13497	7.4
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	10.341	-0.071	1860	1.3
Aroclor-1254	4	9.670	-0.105	13722	6.8	4	10.587	0.028	6086	2.0
Aroclor-1254	5	9.909	0.004	8394	2.1	5	11.334	0.008	4109	2.2
Total CollAve (3 peaks):				3.2	Total Col2Ave (4 peaks):				3.2	RPD = 2
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				1.8	
Aroclor-1260	1	11.424	-0.003	779	0.3	1	11.684	0.057	3627	1.9
Aroclor-1260	2	11.840	0.053	4170	0.6	2	12.063	-0.014	5868	2.5
Aroclor-1260	3	---			0.0	3	12.337	0.004	1104	0.2
Aroclor-1260	4	---			0.0	4	13.707	0.073	14237	11.3
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 4.0				
Aroclor-1262	1	11.178	0.059	7107	1.6	1	11.684	0.053	3627	1.2
Aroclor-1262	2	11.840	0.053	4170	0.4	2	12.063	-0.018	5868	2.5
Aroclor-1262	3	---			0.0	3	12.337	-0.000	1104	0.2
Aroclor-1262	4	---			0.0	4	12.827	-0.027	6779	3.2
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 1.8				
Aroclor-1268	1	---			0.0	1	12.827	-0.026	6779	1.1
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.646	-0.094	22322	2.7	3	13.309	-0.007	4811	1.0
Aroclor-1268	4	13.508	-0.003	21310	0.9	4	14.116	-0.008	11509	0.8
CollAve: <3 Quant Peaks						Col2Ave: 1.0				

Total PCB Area Col1 (6.197 - 13.808) = 436040 Col1 Total PCB = 0.01 ppm*

Total PCB Area Col2 (6.197 - 13.808) = 1523160 Col2 Total PCB = 0.06 ppm*

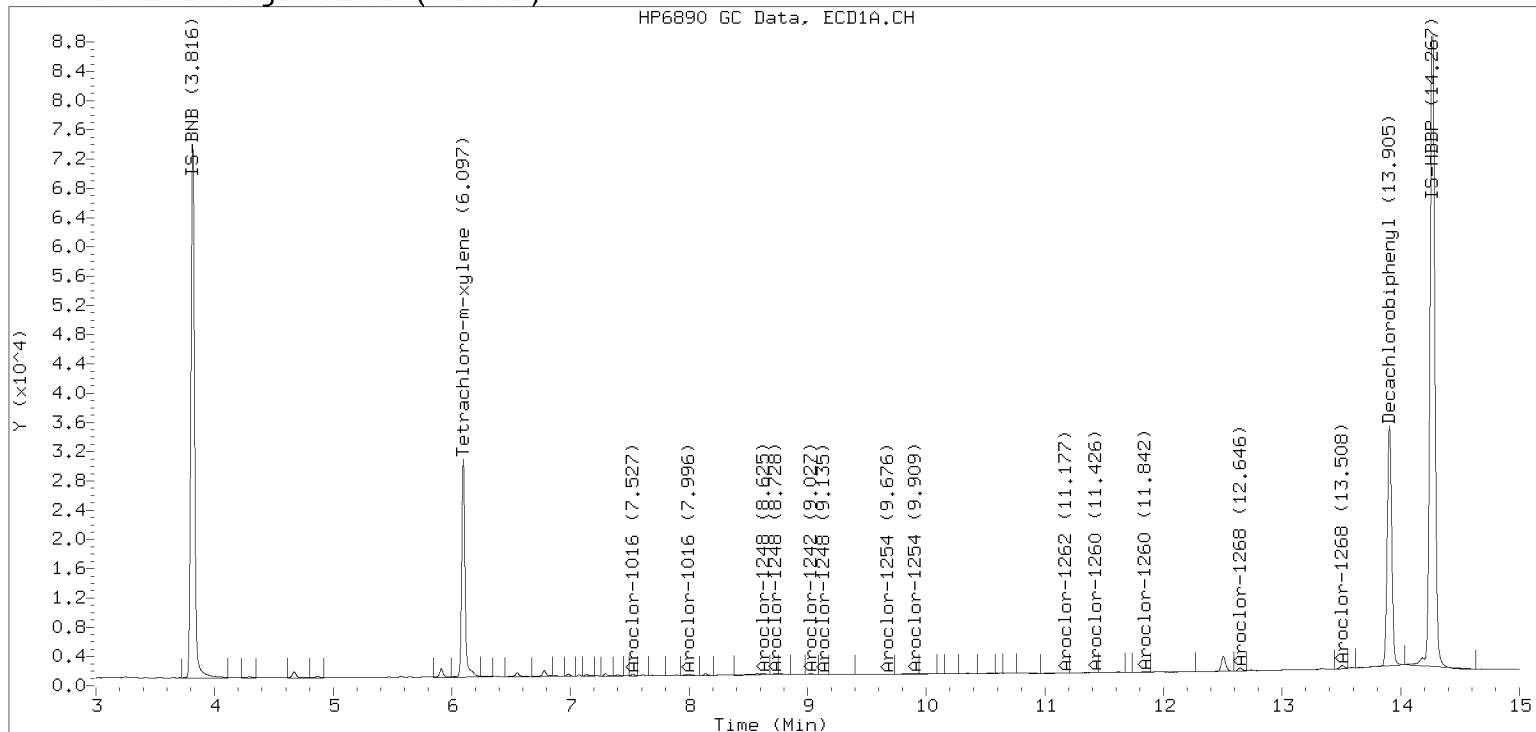
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

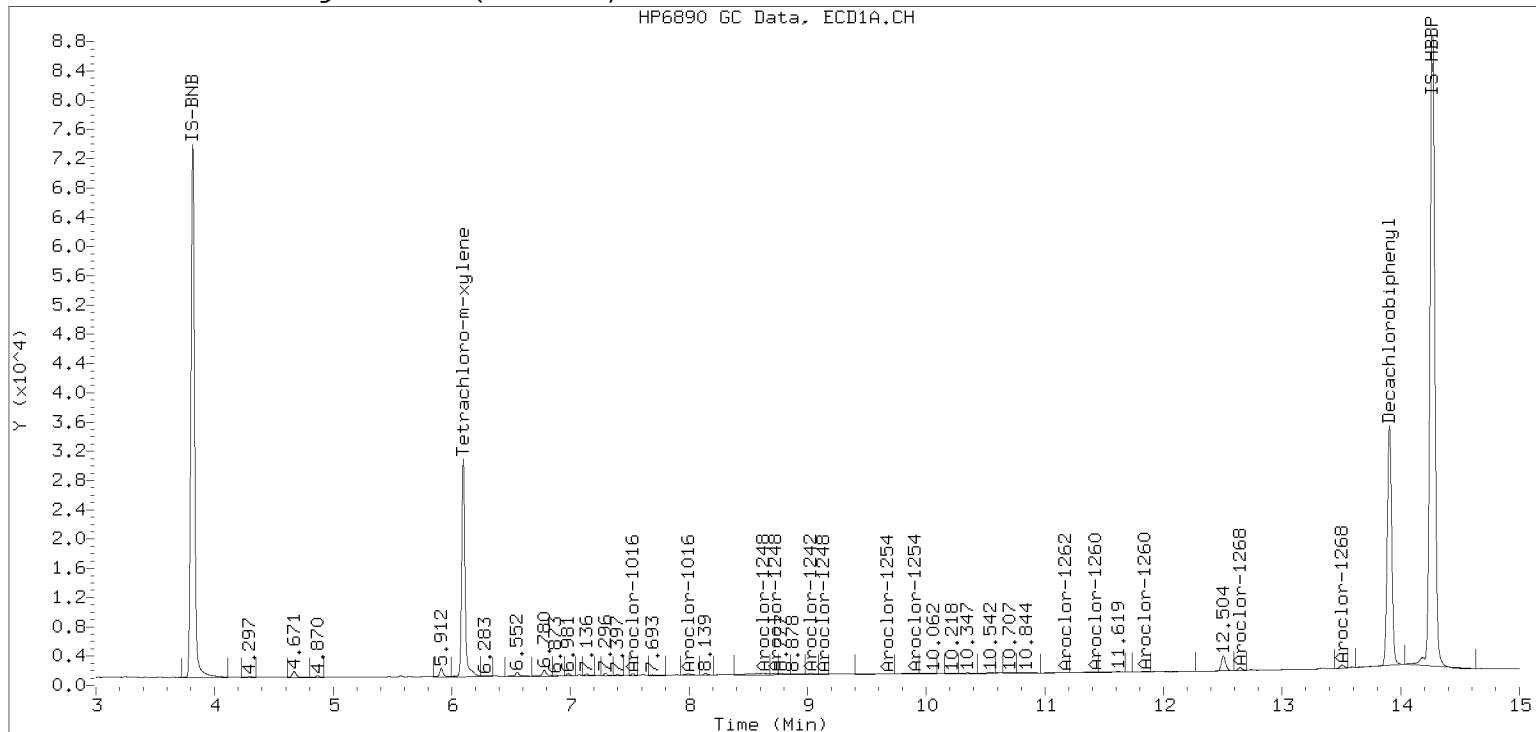
Datafile: ecd5.i/20201117.b/20111705ECD5.D

Injection Date: 17-NOV-2020 20:2

Manual Integration (After)



Processed Integration (Before)





LCS / LCS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/17/20 20:47</u>
Batch:	<u>BIK0378</u>	Laboratory ID:	<u>BIK0378-BS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>5 g / 5 mL</u>		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016 [2C]	500	345		68.9	52 - 120
Aroclor 1260 [2C]	500	374		74.8	57 - 120

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111706ECD5.D
Data file 2: /20201117.b/20201117.b/20111706ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0378-BS1
Client ID:
Injection Date: 17-NOV-2020 20:47
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.003	1360959	6.313	29.1	31.1	6.4	Tetrachloro-m-xylene
13.905	-0.006	1961277	14.529	32.6	33.7	3.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	72.8	77.6
Decachlorobiphenyl	81.6	84.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3197837	18.3
Hexabromobiphenyl	3964848	5075303	28.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3008586	3.2
Hexabromobiphenyl	2801720	3204712	14.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.480	-0.002	428180	327.5	1	7.781	-0.001	571715	342.8
Aroclor-1016	2	7.835	-0.002	1368868	330.0	2	8.351	-0.002	1205092	355.9
Aroclor-1016	3	7.971	-0.002	563118	330.4	3	8.544	-0.003	501816	352.9
Aroclor-1016	4	8.284	-0.002	362461	320.3	4	9.185	-0.002	342499	327.0
Total CollAve (4 peaks):				327.0		Total Col2Ave (4 peaks):				344.7 RPD = 5
Corrected Ave (3 peaks):				325.9		Corrected Ave (3 peaks):				340.9 RPD = 5
Aroclor-1221	1	---			0.0	1	5.646	-0.007	3105	11.5
Aroclor-1221	2	6.551	-0.003	82335	189.1	2	6.876	-0.003	60036	109.9
Aroclor-1221	3	6.636	-0.004	273620	221.6	3	7.084	-0.004	49636	168.7
CollAve: <3 Quant Peaks						Col2Ave:				96.7
Aroclor-1232	1	---			0.0	1	5.646	-0.007	3105	19.7
Aroclor-1232	2	7.480	-0.003	428180	744.5	2	7.781	-0.005	571715	737.2
Aroclor-1232	3	7.835	-0.001	1368868	771.2	3	8.351	-0.005	1205092	827.9
Aroclor-1232	4	7.971	-0.003	563118	759.6	4	8.544	-0.005	501816	821.5
Total CollAve (3 peaks):				758.4		Total Col2Ave (4 peaks):				601.6 RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				526.1
Aroclor-1242	1	7.480	-0.002	428180	415.5	1	7.781	-0.001	571715	428.1
Aroclor-1242	2	7.835	-0.001	1368868	420.3	2	8.351	-0.002	1205092	442.0
Aroclor-1242	3	9.070	-0.002	87398	73.9	3	9.686	-0.005	50826	57.2
Aroclor-1242	4	9.346	-0.004	73343	56.7	4	10.026	-0.006	44002	40.2
Total CollAve (4 peaks):				241.6		Total Col2Ave (4 peaks):				241.9 RPD = 0
Corrected Ave (3 peaks):				182.0		Corrected Ave (3 peaks):				175.2 RPD = 4
Aroclor-1248	1	8.563	-0.002	436050	258.7	1	8.788	-0.002	294997	257.7
Aroclor-1248	2	8.726	-0.002	518747	254.1	2	9.185	-0.002	342499	251.1
Aroclor-1248	3	9.130	0.004	351632	138.8	3	9.581	-0.031	147325	81.9
Aroclor-1248	4	9.346	-0.003	73343	38.8	4	10.026	-0.004	44002	24.7
Total CollAve (4 peaks):				172.6		Total Col2Ave (4 peaks):				153.8 RPD = 11
Corrected Ave (3 peaks):				143.9		Corrected Ave (3 peaks):				119.2 RPD = 19
Aroclor-1254	1	9.130	-0.003	351632	155.7	1	9.898	0.000	260193	142.4
Aroclor-1254	2	9.421	-0.001	359482	118.3	2	10.026	0.035	44002	45.9
Aroclor-1254	3	---			0.0	3	10.412	0.000	47291	33.8
Aroclor-1254	4	9.774	-0.004	70044	34.9	4	10.586	0.028	628246	206.3
Aroclor-1254	5	9.900	-0.008	366475	92.9	5	11.332	0.006	287769	153.8
Total CollAve (4 peaks):				100.4		Total Col2Ave (5 peaks):				116.4 RPD = 15
Corrected Ave (3 peaks):				82.0		Corrected Ave (4 peaks):				94.0 RPD = 14
Aroclor-1260	1	11.424	-0.004	984675	331.0	1	11.624	-0.003	699403	364.5
Aroclor-1260	2	11.783	-0.004	2477274	333.2	2	12.075	-0.002	810633	348.5
Aroclor-1260	3	12.177	-0.004	1249576	310.4	3	12.331	-0.002	1639307	354.7
Aroclor-1260	4	12.287	-0.004	629536	380.1	4	13.631	-0.003	533085	427.5
Aroclor-1260	5	12.358	-0.004	752828	386.7	NS	---			----
Total CollAve (5 peaks):				348.3		Total Col2Ave (4 peaks):				373.8 RPD = 7
Corrected Ave (4 peaks):				338.7		Corrected Ave (3 peaks):				355.9 RPD = 5
Aroclor-1262	1	11.114	-0.004	978326	225.7	1	11.624	-0.007	699403	236.6
Aroclor-1262	2	11.783	-0.005	2477274	267.2	2	12.075	-0.006	810633	350.9
Aroclor-1262	3	12.177	-0.005	1249576	386.0	3	12.331	-0.006	1639307	277.8
Aroclor-1262	4	12.287	-0.005	629536	221.4	4	12.848	-0.006	536287	256.2
Aroclor-1262	5	12.358	-0.005	752828	227.8	NS	---			----
Total CollAve (5 peaks):				265.6		Total Col2Ave (4 peaks):				280.4 RPD = 5
Corrected Ave (4 peaks):				235.5		Corrected Ave (3 peaks):				256.9 RPD = 9
Aroclor-1268	1	12.287	-0.005	629536	64.3	1	12.848	-0.005	536287	89.2
Aroclor-1268	2	12.358	-0.004	752828	80.3	2	12.912	-0.009	1180287	198.0
Aroclor-1268	3	12.754	0.015	350036	42.0	3	13.308	-0.008	30032	6.1
Aroclor-1268	4	13.505	-0.005	194398	8.3	4	14.116	-0.008	133989	9.2
Total CollAve (4 peaks):				48.7		Total Col2Ave (4 peaks):				75.6 RPD = 43*

Corrected Ave (3 peaks): 38.2 Corrected Ave (3 peaks): 34.8 RPD = 9

Total PCB Area Col1 (6.199 - 13.810) = 25489761 Col1 Total PCB = 0.81 ppm*

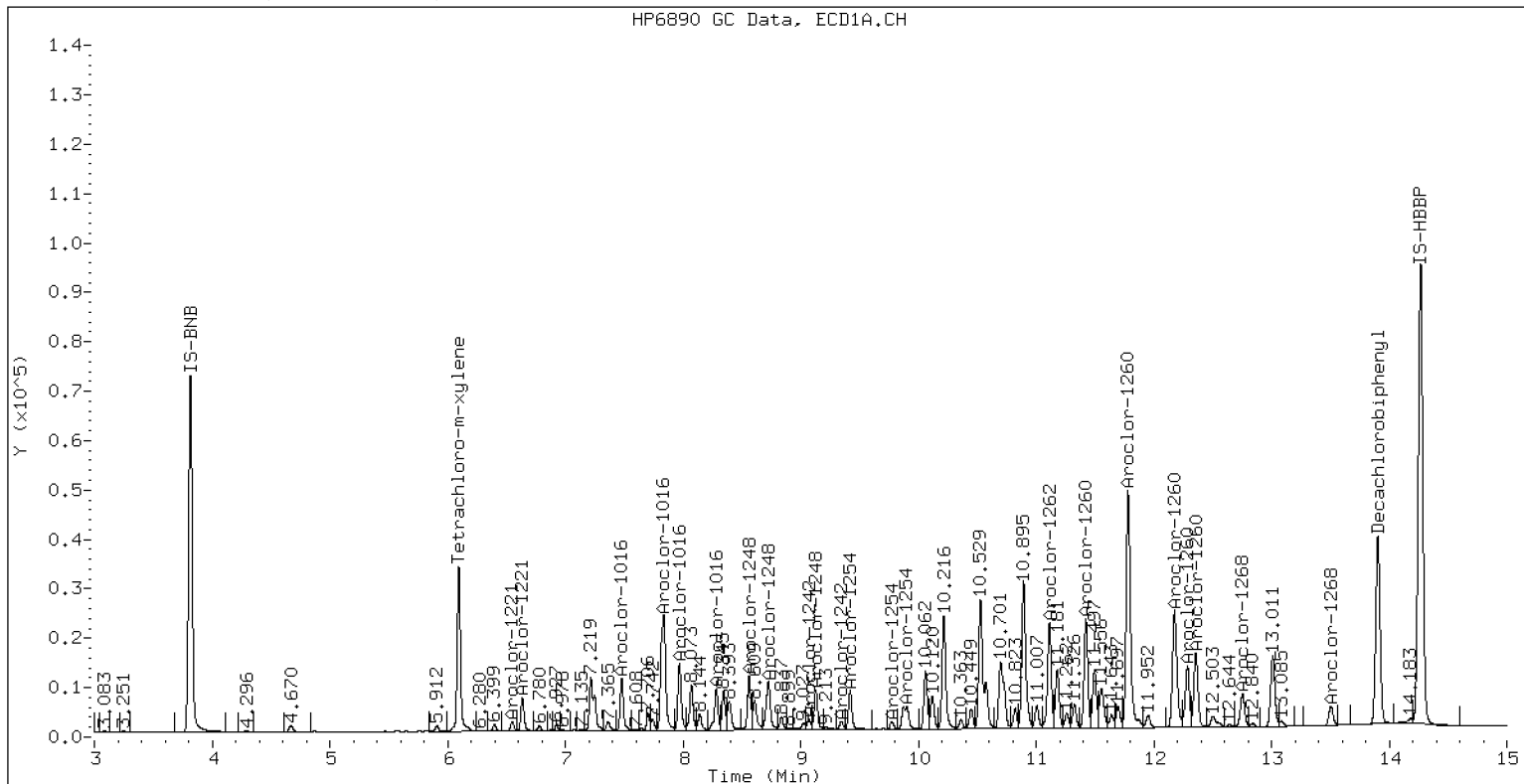
Total PCB Area Col2 (6.199 - 13.810) = 20193188 Col2 Total PCB = 0.74 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201117.b/20111706ECD5.D BIK0378-BS1

17-NOV-2020 20:47 2ul JGR





**MS / MS DUPLICATE RECOVERY
EPA 8082A**

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/18/20 01:16</u>
Batch:	<u>BIK0378</u>	Laboratory ID:	<u>BIK0378-MS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>5.62 g / 5 mL</u>	Source Sample:	<u>PP10-2.5</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Aroclor 1016	500	ND	U	241	*	48.1 *	52 - 120
Aroclor 1260	500	16.7	J	272	*	51.1 *	57 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.



MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/18/20 01:36</u>
Batch:	<u>BIK0378</u>	Laboratory ID:	<u>BIK0378-MSD1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>5.62 g / 5 mL</u>	Source Sample:	<u>PP10-2.5</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	500	252	*	50.5 *	4.81	30	52 - 120
Aroclor 1260	500	301	*	56.9 *	10.1	30	57 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111719ECD5.D
Data file 2: /20201117.b/20201117.b/20111719ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0378-MS1
Client ID:
Injection Date: 18-NOV-2020 01:16
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002	722927	6.312	23.2	25.2	8.6	Tetrachloro-m-xylene
13.905	-0.006	1476674	14.530	30.3	30.5	0.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	57.9	63.1
Decachlorobiphenyl	75.7	76.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2134246	-21.0
Hexabromobiphenyl	3964848	4122711	4.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2008303	-31.1
Hexabromobiphenyl	2801720	3008812	7.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.480	-0.003	218400	250.3	1	7.779	-0.003	288153	258.8
Aroclor-1016	2	7.832	-0.005	643721	232.5	2	8.347	-0.007	597312	264.3
Aroclor-1016	3	7.968	-0.005	251857	221.4	3	8.540	-0.007	239655	252.5
Aroclor-1016	4	8.284	-0.003	194924	258.1	4	9.183	-0.004	199530	285.4
Total CollAve (4 peaks):				240.6		Total Col2Ave (4 peaks):				265.3 RPD = 10
Corrected Ave (3 peaks):				234.7		Corrected Ave (3 peaks):				258.5 RPD = 10
Aroclor-1221	1	---			0.0	1	5.640	-0.013	15420	85.7
Aroclor-1221	2	6.551	-0.003	51534	177.4	2	6.873	-0.006	34671	95.1
Aroclor-1221	3	6.636	-0.003	146279	177.5	3	7.082	-0.006	26127	133.0
CollAve: <3 Quant Peaks						Col2Ave: 104.6				
Aroclor-1232	1	---			0.0	1	5.640	-0.013	15420	146.9
Aroclor-1232	2	7.480	-0.004	218400	569.0	2	7.779	-0.006	288153	556.6
Aroclor-1232	3	7.832	-0.004	643721	543.4	3	8.347	-0.010	597312	614.8
Aroclor-1232	4	7.968	-0.006	251857	509.0	4	8.540	-0.009	239655	587.7
Total CollAve (3 peaks):				540.5		Total Col2Ave (4 peaks):				476.5 RPD = 13
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				430.4
Aroclor-1242	1	7.480	-0.002	218400	317.5	1	7.779	-0.003	288153	323.2
Aroclor-1242	2	7.832	-0.004	643721	296.2	2	8.347	-0.007	597312	328.2
Aroclor-1242	3	9.065	-0.008	47680	60.4	3	9.679	-0.012	30465	51.4
Aroclor-1242	4	9.342	-0.009	55795	64.7	4	10.023	-0.009	25593	35.0
Total CollAve (4 peaks):				184.7		Total Col2Ave (4 peaks):				184.5 RPD = 0
Corrected Ave (3 peaks):				140.4		Corrected Ave (3 peaks):				136.5 RPD = 3
Aroclor-1248	1	8.561	-0.004	199769	177.6	1	8.786	-0.004	141932	185.8
Aroclor-1248	2	8.723	-0.005	211905	155.5	2	9.183	-0.004	199530	219.1
Aroclor-1248	3	9.126	-0.000	156760	92.7	3	9.581	-0.030	80494	67.1
Aroclor-1248	4	9.342	-0.008	55795	44.2	4	10.023	-0.006	25593	21.5
Total CollAve (4 peaks):				117.5		Total Col2Ave (4 peaks):				123.4 RPD = 5
Corrected Ave (3 peaks):				97.5		Corrected Ave (3 peaks):				91.4 RPD = 6
Aroclor-1254	1	9.126	-0.007	156760	104.0	1	9.895	-0.003	143054	117.3
Aroclor-1254	2	9.417	-0.005	157641	77.8	2	10.023	0.032	25593	40.0
Aroclor-1254	3	9.538	0.043	23307	30.2	3	10.408	-0.004	30533	32.7
Aroclor-1254	4	9.780	0.002	69376	51.8	4	10.584	0.026	367042	180.5
Aroclor-1254	5	9.897	-0.011	163896	62.2	5	11.330	0.004	193592	155.0
Total CollAve (5 peaks):				65.2		Total Col2Ave (5 peaks):				105.1 RPD = 47*
Corrected Ave (4 peaks):				55.5		Corrected Ave (4 peaks):				86.2 RPD = 43*
Aroclor-1260	1	11.422	-0.006	560190	231.8	1	11.623	-0.005	500173	277.6
Aroclor-1260	2	11.780	-0.007	1492728	247.2	2	12.073	-0.004	627477	287.3
Aroclor-1260	3	12.174	-0.007	828233	253.3	3	12.327	-0.006	1310045	301.9
Aroclor-1260	4	12.285	-0.006	418680	311.2	4	13.629	-0.005	539797	461.1
Aroclor-1260	5	12.357	-0.005	502897	318.0	NS	---			----
Total CollAve (5 peaks):				272.3		Total Col2Ave (4 peaks):				332.0 RPD = 20
Corrected Ave (4 peaks):				260.9		Corrected Ave (3 peaks):				288.9 RPD = 10
Aroclor-1262	1	11.113	-0.006	515958	146.5	1	11.623	-0.009	500173	180.3
Aroclor-1262	2	11.780	-0.008	1492728	198.2	2	12.073	-0.008	627477	289.3
Aroclor-1262	3	12.174	-0.008	828233	315.0	3	12.327	-0.010	1310045	236.4
Aroclor-1262	4	12.285	-0.007	418680	181.3	4	12.846	-0.009	450535	229.3
Aroclor-1262	5	12.357	-0.006	502897	187.3	NS	---			----
Total CollAve (5 peaks):				205.6		Total Col2Ave (4 peaks):				233.8 RPD = 13
Corrected Ave (4 peaks):				178.3		Corrected Ave (3 peaks):				215.3 RPD = 19
Aroclor-1268	1	12.285	-0.007	418680	52.6	1	12.846	-0.008	450535	79.8
Aroclor-1268	2	12.357	-0.005	502897	66.0	2	12.910	-0.011	968440	173.0
Aroclor-1268	3	12.752	0.012	251496	37.1	3	13.308	-0.008	32941	7.1
Aroclor-1268	4	13.505	-0.005	151983	8.0	4	14.114	-0.010	122498	9.0
Total CollAve (4 peaks):				40.9		Total Col2Ave (4 peaks):				67.2 RPD = 49*

Corrected Ave (3 peaks): 32.6 Corrected Ave (3 peaks): 32.0 RPD = 2

Total PCB Area Col1 (6.199 - 13.810) = 14005358 Col1 Total PCB = 0.45 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13478755 Col2 Total PCB = 0.50 ppm*

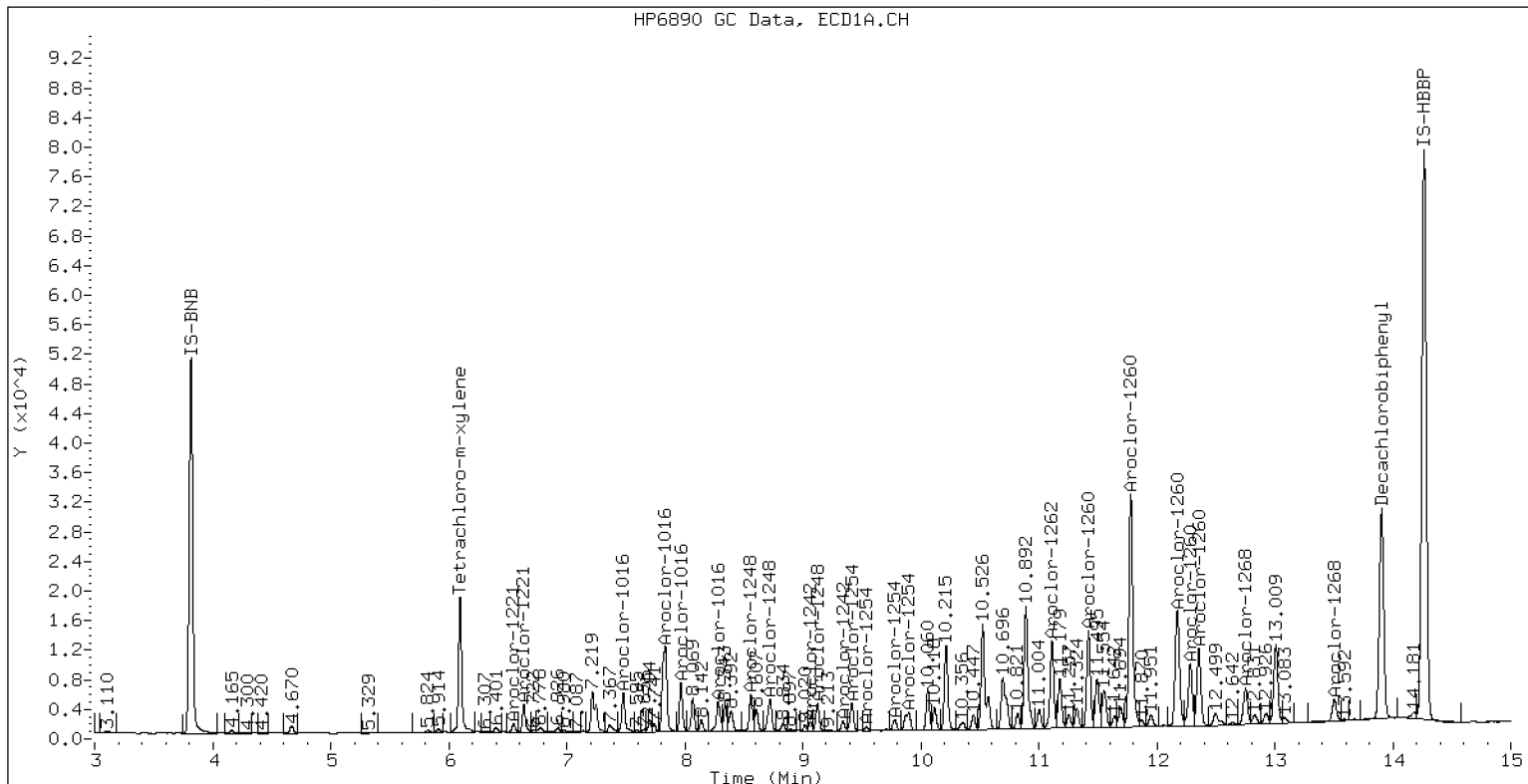
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

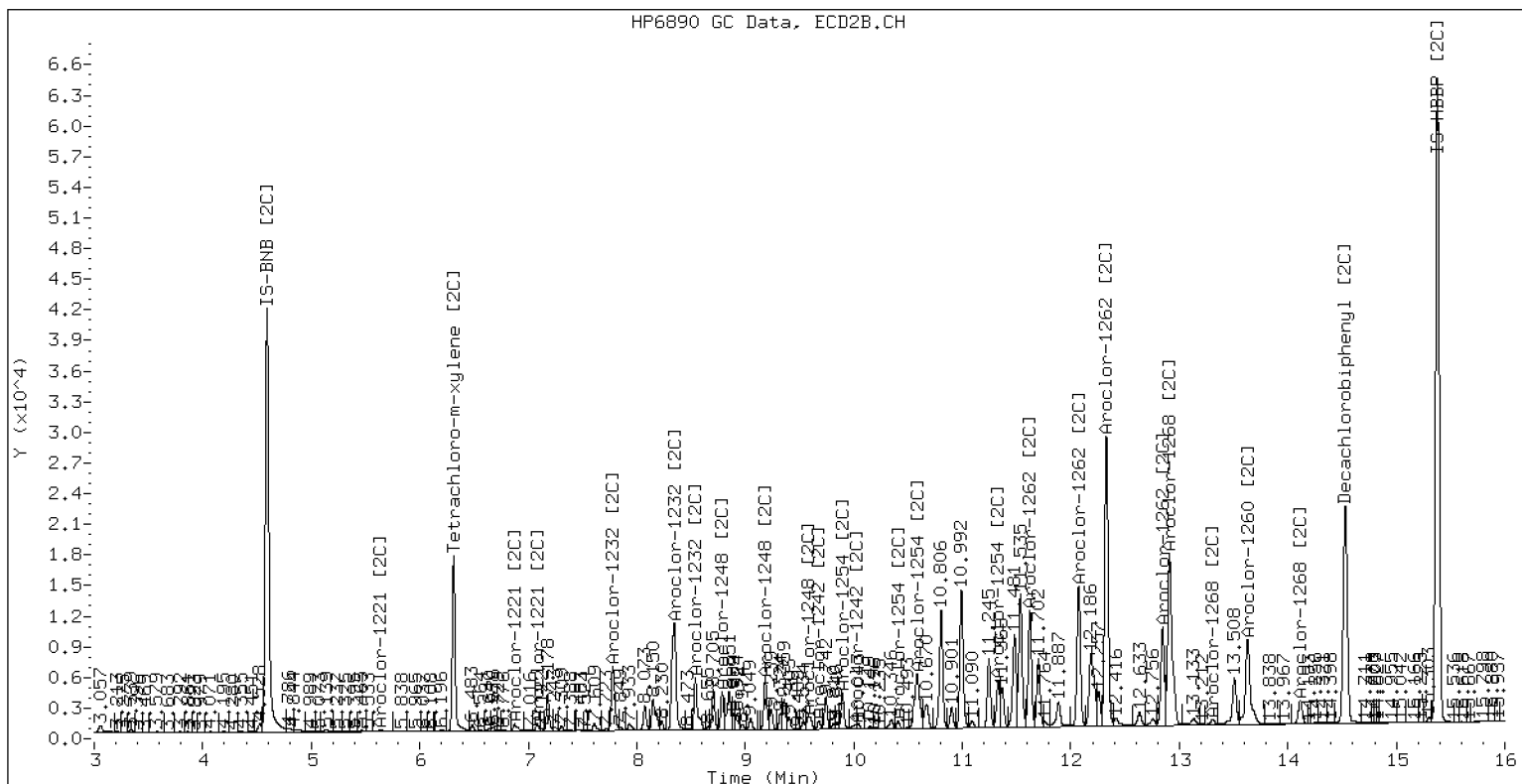
ECD5-ZB5 /20201117.b/20111719ECD5.D BIK0378-MS1

18-NOV-2020 01:16 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111719ECD5.D BIK0378-MS1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111720ECD5.D
Data file 2: /20201117.b/20201117.b/20111720ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0378-MSD1
Client ID:
Injection Date: 18-NOV-2020 01:36
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.003	773051	6.312	24.8	26.7	7.4	Tetrachloro-m-xylene
13.904	-0.006	1584459	14.529	31.9	32.0	0.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	62.1	66.9
Decachlorobiphenyl	79.7	80.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2129630	-21.2
Hexabromobiphenyl	3964848	4199901	5.9

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	1988430	-31.8
Hexabromobiphenyl	2801720	3130192	11.7

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.479	-0.003	229383	263.4	1	7.780	-0.002	303924	275.7
Aroclor-1016	2	7.833	-0.005	679398	245.9	2	8.347	-0.006	628426	280.8
Aroclor-1016	3	7.968	-0.005	266995	235.3	3	8.541	-0.006	255925	272.3
Aroclor-1016	4	8.284	-0.003	199841	265.2	4	9.185	-0.002	212920	307.6
Total CollAve (4 peaks):				252.4		Total Col2Ave (4 peaks):				284.1 RPD = 12
Corrected Ave (3 peaks):				248.2		Corrected Ave (3 peaks):				276.3 RPD = 11
Aroclor-1221	1	---			0.0	1	5.640	-0.013	15067	84.6
Aroclor-1221	2	6.551	-0.003	51981	179.3	2	6.874	-0.006	35127	97.3
Aroclor-1221	3	6.636	-0.004	151765	184.6	3	7.082	-0.006	26554	136.5
CollAve: <3 Quant Peaks						Col2Ave: 106.1				
Aroclor-1232	1	---			0.0	1	5.640	-0.013	15067	145.0
Aroclor-1232	2	7.479	-0.004	229383	598.9	2	7.780	-0.005	303924	592.9
Aroclor-1232	3	7.833	-0.003	679398	574.8	3	8.347	-0.009	628426	653.2
Aroclor-1232	4	7.968	-0.006	266995	540.8	4	8.541	-0.008	255925	633.9
Total CollAve (3 peaks):				571.5		Total Col2Ave (4 peaks):				506.3 RPD = 12
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				457.3
Aroclor-1242	1	7.479	-0.002	229383	334.2	1	7.780	-0.002	303924	344.3
Aroclor-1242	2	7.833	-0.004	679398	313.3	2	8.347	-0.006	628426	348.8
Aroclor-1242	3	9.065	-0.007	49985	63.4	3	9.679	-0.011	30781	52.4
Aroclor-1242	4	9.342	-0.009	56746	65.9	4	10.024	-0.008	26933	37.2
Total CollAve (4 peaks):				194.2		Total Col2Ave (4 peaks):				195.7 RPD = 1
Corrected Ave (3 peaks):				147.5		Corrected Ave (3 peaks):				144.7 RPD = 2
Aroclor-1248	1	8.561	-0.004	210601	187.6	1	8.787	-0.003	149648	197.8
Aroclor-1248	2	8.723	-0.005	226684	166.7	2	9.185	-0.002	212920	236.2
Aroclor-1248	3	9.126	0.000	167421	99.2	3	9.581	-0.031	84149	70.8
Aroclor-1248	4	9.342	-0.008	56746	45.1	4	10.024	-0.005	26933	22.8
Total CollAve (4 peaks):				124.7		Total Col2Ave (4 peaks):				131.9 RPD = 6
Corrected Ave (3 peaks):				103.7		Corrected Ave (3 peaks):				97.1 RPD = 6
Aroclor-1254	1	9.126	-0.007	167421	111.3	1	9.895	-0.003	153903	127.4
Aroclor-1254	2	9.416	-0.005	168604	83.3	2	10.024	0.033	26933	42.5
Aroclor-1254	3	9.538	0.043	22958	29.8	3	10.408	-0.003	33238	35.9
Aroclor-1254	4	9.779	0.001	66788	50.0	4	10.584	0.026	394643	196.0
Aroclor-1254	5	9.895	-0.013	177360	67.5	5	11.330	0.005	213583	172.8
Total CollAve (5 peaks):				68.4		Total Col2Ave (5 peaks):				114.9 RPD = 51*
Corrected Ave (4 peaks):				57.7		Corrected Ave (4 peaks):				94.7 RPD = 49*
Aroclor-1260	1	11.421	-0.007	633427	257.3	1	11.623	-0.005	552483	294.8
Aroclor-1260	2	11.780	-0.008	1739409	282.7	2	12.074	-0.003	693761	305.3
Aroclor-1260	3	12.173	-0.008	933855	280.4	3	12.328	-0.005	1461832	323.8
Aroclor-1260	4	12.285	-0.006	465297	339.5	4	13.630	-0.004	498164	409.1
Aroclor-1260	5	12.356	-0.007	558387	346.6	NS	---			----
Total CollAve (5 peaks):				301.3		Total Col2Ave (4 peaks):				333.2 RPD = 10
Corrected Ave (4 peaks):				290.0		Corrected Ave (3 peaks):				308.0 RPD = 6
Aroclor-1262	1	11.112	-0.007	583273	162.6	1	11.623	-0.009	552483	191.4
Aroclor-1262	2	11.780	-0.008	1739409	226.7	2	12.074	-0.007	693761	307.5
Aroclor-1262	3	12.173	-0.010	933855	348.6	3	12.328	-0.009	1461832	253.6
Aroclor-1262	4	12.285	-0.007	465297	197.7	4	12.847	-0.007	498840	244.0
Aroclor-1262	5	12.356	-0.007	558387	204.2	NS	---			----
Total CollAve (5 peaks):				228.0		Total Col2Ave (4 peaks):				249.1 RPD = 9
Corrected Ave (4 peaks):				197.8		Corrected Ave (3 peaks):				229.7 RPD = 15
Aroclor-1268	1	12.285	-0.007	465297	57.4	1	12.847	-0.006	498840	85.0
Aroclor-1268	2	12.356	-0.006	558387	71.9	2	12.910	-0.010	1072400	184.2
Aroclor-1268	3	12.751	0.012	279307	40.5	3	13.307	-0.009	35620	7.4
Aroclor-1268	4	13.505	-0.006	152564	7.9	4	14.115	-0.009	135386	9.5
Total CollAve (4 peaks):				44.4		Total Col2Ave (4 peaks):				71.5 RPD = 47*

Corrected Ave (3 peaks): 35.3 Corrected Ave (3 peaks): 34.0 RPD = 4

Total PCB Area Col1 (6.199 - 13.810) = 15301608 Col1 Total PCB = 0.49 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 14577340 Col2 Total PCB = 0.54 ppm*

* Quantitated against AR1660 0.25ppm in Ical



INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	20K0007
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DK00033	Instrument:	ECD5
Calibration Date:	11/07/2020	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.001097E-02	11.3			RSD (20)	
Aroclor 1232 [2C]		0.0			RSD (20)	
Aroclor 1242 [2C]		0.0			RSD (20)	
Aroclor 1248 [2C]		0.0			RSD (20)	
Aroclor 1254 [2C]		0.0			RSD (20)	
Aroclor 1260 [2C]	6.312054E-02	8.7			RSD (20)	
Aroclor 1262 [2C]		0.0			RSD (20)	
Aroclor 1268 [2C]		0.0			RSD (20)	
Decachlorobiphenyl [2C]	0.9970133	11.5			RSD (20)	
Tetrachlorometaxylene [2C]	1.029393	7.0			RSD (20)	



ANALYSIS SEQUENCE

SIK0223

Instrument: ECD5 Element Column ID: h4096h4097
Calibration ID: DK00033

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0223-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0223-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0223-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0223-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0223-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0223-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0223-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0223-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0223-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0223-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0223-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0223-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0223-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0223-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0223-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0223-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0223-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020 18:13	20110701.D	1	RINSE	
2	07-NOV-2020 18:34	20110702.D	1	RINSE	
3	07-NOV-2020 18:55	20110703.D	1	RINSE	
4	07-NOV-2020 19:15	20110704.D	1	RINSE	
5	07-NOV-2020 19:36	20110705.D	1	RINSE	
6	07-NOV-2020 19:56	20110706.D	1	RINSE	
7	07-NOV-2020 20:17	20110707.D	1	IB	
8	07-NOV-2020 20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020 20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020 21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020 21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020 22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020 22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020 22:42	20110714.D	1	AR1242	
15	07-NOV-2020 23:02	20110715.D	1	AR1248	
16	07-NOV-2020 23:23	20110716.D	1	AR1254	
17	07-NOV-2020 23:44	20110717.D	1	AR2162	
18	08-NOV-2020 00:04	20110718.D	1	AR3268	
19	08-NOV-2020 00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020 00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020 01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020 01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020 01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020 02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020 02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020 02:49	20110726.D	1	BD	

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	j rains, 16-Nov-2020 07:18
20110702.D	Data Locked	j rains, 16-Nov-2020 07:18
20110703.D	Data Locked	j rains, 16-Nov-2020 07:18
20110704.D	Data Locked	j rains, 16-Nov-2020 07:18
20110705.D	Data Locked	j rains, 16-Nov-2020 07:18
20110706.D	Data Locked	j rains, 16-Nov-2020 07:18
20110707.D	Data Locked	j rains, 16-Nov-2020 07:18
20110708.D	Data Locked	j rains, 16-Nov-2020 07:18
20110709.D	Data Locked	j rains, 16-Nov-2020 07:18
20110710.D	Data Locked	j rains, 16-Nov-2020 07:18
20110711.D	Data Locked	j rains, 16-Nov-2020 07:18
20110712.D	Data Locked	j rains, 16-Nov-2020 07:18
20110713.D	Data Locked	j rains, 16-Nov-2020 07:18
20110714.D	Data Locked	j rains, 16-Nov-2020 07:18
20110715.D	Data Locked	j rains, 16-Nov-2020 07:18
20110716.D	Data Locked	j rains, 16-Nov-2020 07:18
20110717.D	Data Locked	j rains, 16-Nov-2020 07:18
20110718.D	Data Locked	j rains, 16-Nov-2020 07:18
20110719.D	Data Locked	j rains, 16-Nov-2020 07:18
20110720.D	Data Locked	j rains, 16-Nov-2020 07:18
20110721.D	Data Locked	j rains, 16-Nov-2020 07:18
20110722.D	Data Locked	j rains, 16-Nov-2020 07:18
20110723.D	Data Locked	j rains, 16-Nov-2020 07:18
20110724.D	Data Locked	j rains, 16-Nov-2020 07:18
20110725.D	Data Locked	j rains, 16-Nov-2020 07:18
20110726.D	Data Locked	j rains, 16-Nov-2020 07:18

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268	1		NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1	1		NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2	1		NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3	1		NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4	1		NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5	1		NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6	1		NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS	1		NO MANUAL INTEGRATION
0249	20110726.D	BD	1		NO MANUAL INTEGRATION
1813	20110701.D	RINSE	1		NO MANUAL INTEGRATION
1834	20110702.D	RINSE	1		NO MANUAL INTEGRATION
1855	20110703.D	RINSE	1		NO MANUAL INTEGRATION
1915	20110704.D	RINSE	1		NO MANUAL INTEGRATION
1936	20110705.D	RINSE	1		NO MANUAL INTEGRATION
1956	20110706.D	RINSE	1		NO MANUAL INTEGRATION
2017	20110707.D	IB	1		NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660	1		NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110709.D
 Level 2: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110710.D
 Level 3: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110712.D
 Level 4: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110708.D
 Level 5: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110713.D
 Level 6: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110711.D
 Level 7: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110718.D
 Level 8: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110725.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
1 Aroclor-1221 [2C] (1)	0.00717	0.000e+00					0.00717	0.000
(2)	0.01453						0.01453	0.000
(3)	0.00783						0.00783	0.000
4 Aroclor-1232 [2C] (1)	0.00418						0.00418	0.000

(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02062	+++++						0.02062	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03870	+++++						0.03870	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01624	+++++						0.01624	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03551	+++++						0.03551	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000	0.000e+00						
	Level 7	Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07249	0.000
	0.07249	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02363	0.000
	0.02363	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02909	0.000
	0.02909	+++++						
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03044	0.000
	0.03044	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03627	0.000
	0.03627	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04782	0.000
	0.04782	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04745	0.000
	0.04745	+++++						
7 Aroclor-1016 [2C] (1)	0.05341	0.04734	0.04550	0.04374	0.04020	0.03589		

	+++++	+++++					0.04435	13.584
(2)	0.10428	0.09543	0.09147	0.08918	0.08335	0.07655		
	+++++	+++++					0.09004	10.670
(3)	0.04448	0.04007	0.03825	0.03689	0.03473	0.03243		
	+++++	+++++					0.03781	11.157
(4)	0.03217	0.02944	0.02830	0.02720	0.02583	0.02413		
	+++++	+++++					0.02785	10.121

	0.14732	+++++					0.14732	0.000

(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05225	+++++					0.05225	0.000

9 Aroclor-1260 [2C] (1)	0.05521	0.04961	0.04778	0.04472	0.04219	+++++		
	+++++	+++++					0.04790	10.392

(2)	0.06635	0.06006	0.05746	0.05449	0.05200	+++++		
	+++++	+++++					0.05807	9.531

	+++++	1177					1177	0.000

44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	739					739	0.000

45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	833					833	0.000

46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	857					857	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.11554	1.05922	1.05737	1.05134	0.98340	0.90949	1.02939	7.014
\$ 13 Decachlorobiphenyl [2C]	1.16392	1.06091	1.02919	0.97605	0.91397	0.83803	0.99701	11.487

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110709.D
 Level 2: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110710.D
 Level 3: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110712.D
 Level 4: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110708.D
 Level 5: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110713.D
 Level 6: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110711.D
 Level 7: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110718.D
 Level 8: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110725.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
1 Aroclor-1221 [2C] (1)	0.00717	0.000e+00					0.00717	0.000
(2)	0.01453						0.01453	0.000
(3)	0.00783						0.00783	0.000
4 Aroclor-1232 [2C] (1)	0.00418						0.00418	0.000

(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02062	+++++						0.02062	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03870	+++++						0.03870	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01624	+++++						0.01624	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03551	+++++						0.03551	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000	0.000e+00						
	Level 7	Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07249	0.000
	0.07249	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02363	0.000
	0.02363	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02909	0.000
	0.02909	+++++						
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03044	0.000
	0.03044	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03627	0.000
	0.03627	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04782	0.000
	0.04782	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04745	0.000
	0.04745	+++++						
7 Aroclor-1016 [2C] (1)	0.05341	0.04734	0.04550	0.04374	0.04020	0.03589		

	+++++	+++++					0.04435	13.584
(2)	0.10428	0.09543	0.09147	0.08918	0.08335	0.07655		
	+++++	+++++					0.09004	10.670
(3)	0.04448	0.04007	0.03825	0.03689	0.03473	0.03243		
	+++++	+++++					0.03781	11.157
(4)	0.03217	0.02944	0.02830	0.02720	0.02583	0.02413		
	+++++	+++++					0.02785	10.121

	0.14732	+++++					0.14732	0.000

(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05225	+++++					0.05225	0.000

9 Aroclor-1260 [2C] (1)	0.05521	0.04961	0.04778	0.04472	0.04219	+++++		
	+++++	+++++					0.04790	10.392

(2)	0.06635	0.06006	0.05746	0.05449	0.05200	+++++		
	+++++	+++++					0.05807	9.531

	+++++	1177					1177	0.000

44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	739					739	0.000

45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	833					833	0.000

46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	857					857	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.11554	1.05922	1.05737	1.05134	0.98340	0.90949	1.02939	7.014
\$ 13 Decachlorobiphenyl [2C]	1.16392	1.06091	1.02919	0.97605	0.91397	0.83803	0.99701	11.487

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd5.i\20201107.b\20201107.b
Inst ID: ecd5.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 20110708 20110709 20110710 20110711 20110712 20110713
INJ. DATE: 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020
INJ. TIME: 20:38 20:58 21:19 21:40 22:00 22:21

Table with columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include various chemical compounds like IS-BNB, Tetrachloro-m-xylene, Aroclor-1221, etc.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Batch File: \\target\share\chem4\ecd5.i\20201107.b\20201107.b
 Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.526	11.426-11.626	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m
Batch File: \\target\share\chem4\ecd5.i\20201107.b
Inst ID: ecd5.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	20110708	20110709	20110710	20110711	20110712	20110713
INJ. DATE:	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020
INJ. TIME:	20:38	20:58	21:19	21:40	22:00	22:21

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.816	3.817	3.817	3.816	3.817	3.817	3.818	3.718-3.918	3.817	0.000
§ 1 Tetrachloro-m-xylene	6.098	6.098	6.098	6.099	6.098	6.099	6.099	5.999-6.199	6.098	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	5.081	4.981-5.181	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.482	7.382-7.582	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	5.081	4.981-5.181	+++++	+++++
7 Aroclor-1016	7.482	7.482	7.482	7.482	7.482	7.482	7.482	7.382-7.582	7.482	0.000
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.565	8.465-8.665	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.133	9.033-9.233	+++++	+++++
9 Aroclor-1260	11.427	11.429	11.428	11.427	11.428	11.428	11.428	11.328-11.528	11.428	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	11.119	11.019-11.219	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.292	12.192-12.392	+++++	+++++
§ 13 Decachlorobiphenyl	13.910	13.909	13.909	13.911	13.909	13.910	13.910	13.810-14.010	13.910	0.001
* 12 IS-HBBP	14.272	14.271	14.271	14.272	14.271	14.270	14.272	14.172-14.372	14.271	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.390	9.340-9.440	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.912	9.862-9.962	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.394	10.344-10.444	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.794	9.694-9.894	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m
 Batch File: \\target\share\chem4\ecd5.i\20201107.b
 Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.344	10.244-10.444	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.837	10.737-10.937	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110707.D
Data file 2: /20201107.b/20201107.b/20110707.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 07-NOV-2020 20:17
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1611130	6.315 -0.001 1581434	42.2	44.1	4.3	Tetrachloro-m-xylene
13.910	-0.000 2003244	14.537 -0.001 1488891	40.8	42.6	4.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.5	110.2
Decachlorobiphenyl	101.9	106.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2610934	-3.4
Hexabromobiphenyl	3964848	4150531	4.7

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2788180	-4.3
Hexabromobiphenyl	2801720	2805630	0.1

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	7.764	-0.021	3550	2.3
Aroclor-1016	2	---			0.0	2	8.399	0.045	1834	0.6
Aroclor-1016	3	---			0.0	3	8.596	0.049	1693	1.3
Aroclor-1016	4	---			0.0	4	9.208	0.018	2495	2.6
CollAve: <3 Quant Peaks						Col2Ave: 1.7				
Aroclor-1221	1	---			0.0	1	5.613	-0.040	57	0.2
Aroclor-1221	2	---			0.0	2	6.906	0.027	24111	47.6
Aroclor-1221	3	---			0.0	3	7.119	0.031	1672	6.1
CollAve: <3 Quant Peaks						Col2Ave: 18.0				
Aroclor-1232	1	---			0.0	1	5.613	-0.040	57	0.4
Aroclor-1232	2	---			0.0	2	7.764	-0.021	3550	4.9
Aroclor-1232	3	---			0.0	3	8.399	0.043	1834	1.4
Aroclor-1232	4	---			0.0	4	8.596	0.047	1693	3.0
CollAve: <3 Quant Peaks						Col2Ave: 2.4				
Aroclor-1242	1	---			0.0	1	7.764	-0.019	3550	2.9
Aroclor-1242	2	---			0.0	2	8.399	0.045	1834	0.7
Aroclor-1242	3	---			0.0	3	9.739	0.049	6072	7.4
Aroclor-1242	4	---			0.0	4	10.103	0.072	4147	4.1
CollAve: <3 Quant Peaks						Col2Ave: 3.8				
Aroclor-1248	1	---			0.0	1	8.807	0.015	146	0.1
Aroclor-1248	2	---			0.0	2	9.208	0.018	2495	2.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	10.103	0.073	4147	2.5
CollAve: <3 Quant Peaks						Col2Ave: 1.5				
Aroclor-1254	1	---			0.0	1	9.930	0.027	6153	3.6
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	10.436	0.021	2119	1.6
Aroclor-1254	4	---			0.0	4	10.615	0.051	2033	0.7
Aroclor-1254	5	---			0.0	5	11.341	0.010	2536	1.5
CollAve: <3 Quant Peaks						Col2Ave: 1.9				
Aroclor-1260	1	---			0.0	1	11.660	0.031	1558	0.9
Aroclor-1260	2	---			0.0	2	12.129	0.047	2191	1.1
Aroclor-1260	3	---			0.0	3	12.362	0.026	878	0.2
Aroclor-1260	4	---			0.0	4	13.713	0.076	17703	16.2
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 4.6				
Aroclor-1262	1	---			0.0	1	11.660	0.029	1558	0.6
Aroclor-1262	2	---			0.0	2	12.129	0.047	2191	1.1
Aroclor-1262	3	---			0.0	3	12.362	0.025	878	0.2
Aroclor-1262	4	---			0.0	4	12.840	-0.014	1100	0.6
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 0.6				
Aroclor-1268	1	---			0.0	1	12.840	-0.013	1100	0.2
Aroclor-1268	2	---			0.0	2	12.907	-0.013	949	0.2
Aroclor-1268	3	---			0.0	3	13.315	-0.001	6655	1.5
Aroclor-1268	4	---			0.0	4	14.122	-0.002	14362	1.1
CollAve: <3 Quant Peaks						Col2Ave: 0.8				

Total PCB Area Col1 (6.199 - 13.810) = 167377 Col1 Total PCB = 0.01 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 1811558 Col2 Total PCB = 0.07 ppm*

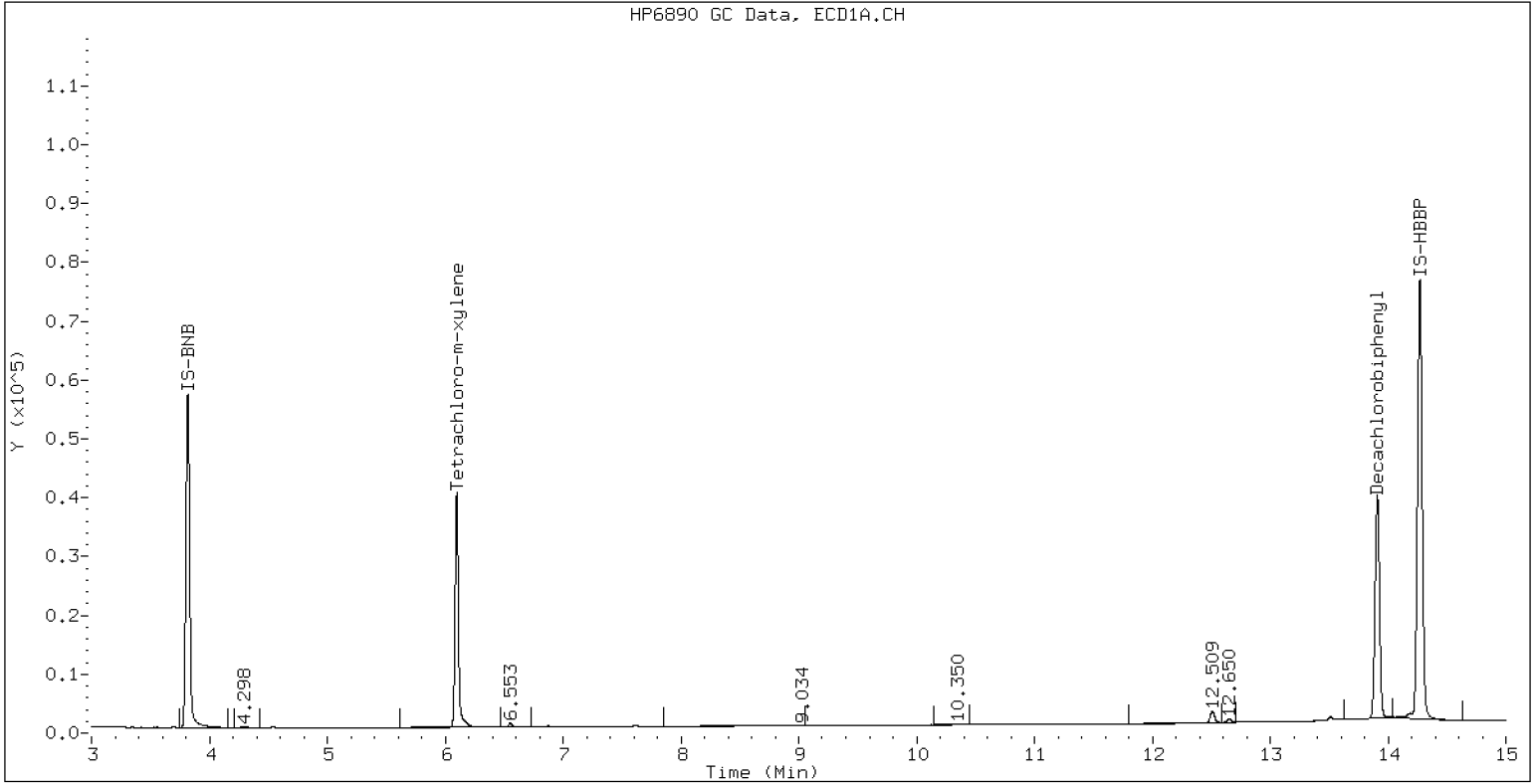
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

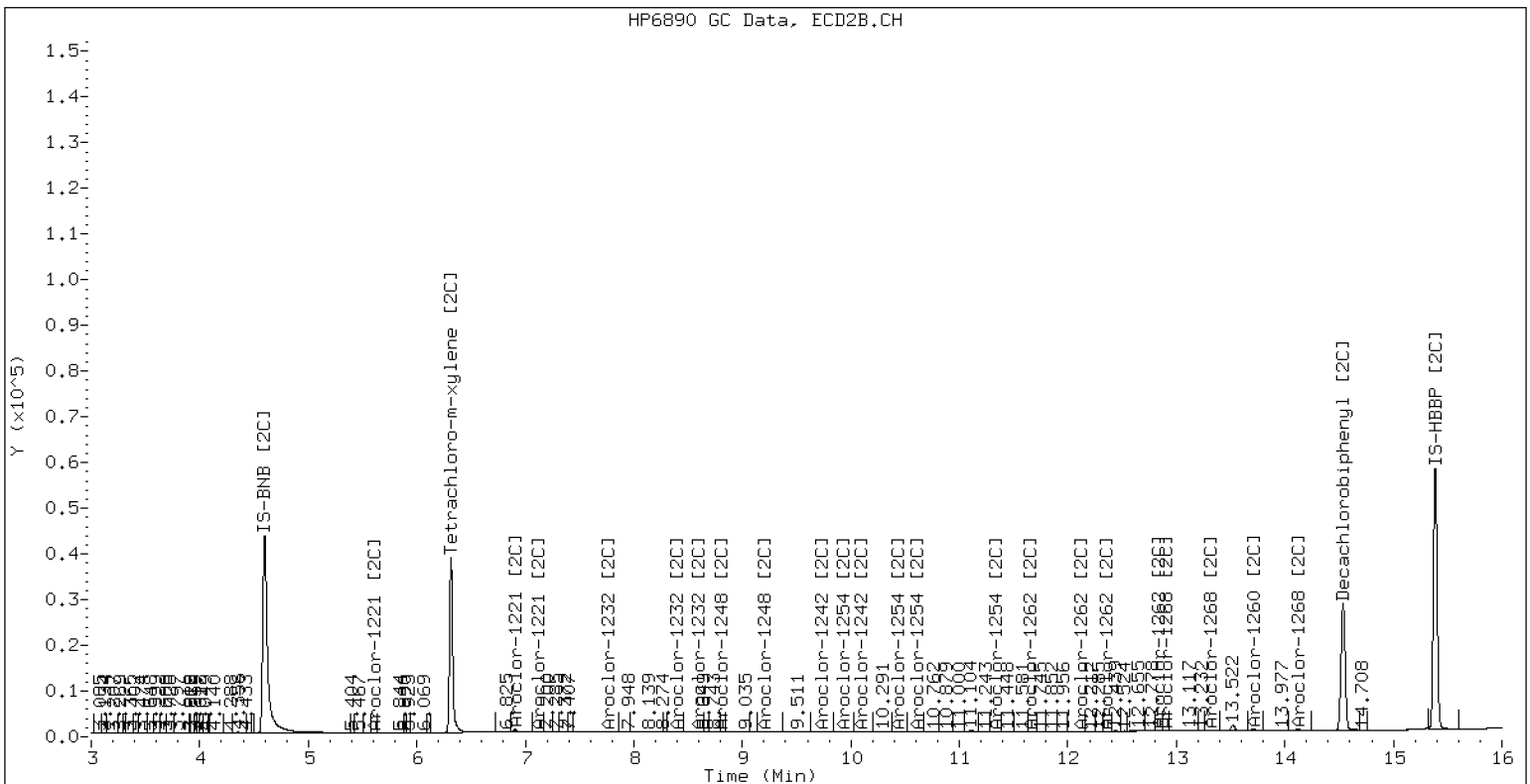
ECD5-ZB5 /20201107.b/20110707.D IB

07-NOV-2020 20:17 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110707.D IB



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110708.D
Data file 2: /20201107.b/20201107.b/20110708.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 20:38
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1595124	6.315 -0.001 1531920		40.4	40.9	1.2	Tetrachloro-m-xylene
13.910	-0.000 1830638	14.537 -0.001 1367316		39.0	39.2	0.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	100.9	102.1
Decachlorobiphenyl	97.5	97.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2703006	0.0
Hexabromobiphenyl	3964848	3964848	0.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2914229	0.0
Hexabromobiphenyl	2801720	2801720	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.001	268307	242.8	1	7.784	-0.001	398377	246.6
Aroclor-1016	2	7.837	-0.001	861045	245.6	2	8.354	-0.001	812165	247.6
Aroclor-1016	3	7.972	-0.001	350814	243.5	3	8.547	0.000	335947	243.9
Aroclor-1016	4	8.286	-0.001	234849	245.5	4	9.189	-0.000	247715	244.2
Total CollAve (4 peaks):				244.3	Total Col2Ave (4 peaks):				245.6	RPD = 1
Corrected Ave (3 peaks):				243.9	Corrected Ave (3 peaks):				244.9	RPD = 0
CalAmt %D:				-2.3	CalAmt %D:				-1.8	
Aroclor-1260	1	11.427	-0.001	559361	240.7	1	11.630	0.000	391577	233.4
Aroclor-1260	2	11.787	-0.000	1388519	239.1	2	12.080	-0.001	477100	234.6
Aroclor-1260	3	12.181	-0.001	756429	240.6	3	12.336	0.000	958194	237.1
Aroclor-1260	4	12.290	-0.000	312398	241.4	4	13.638	0.001	263069	241.3
Aroclor-1260	5	12.363	0.000	369140	242.7	NS	---			----
Total CollAve (5 peaks):				240.9	Total Col2Ave (4 peaks):				236.6	RPD = 2
Corrected Ave (4 peaks):				240.4	Corrected Ave (3 peaks):				235.0	RPD = 2
CalAmt %D:				-3.6	CalAmt %D:				-5.4	

Total PCB Area Col1 (6.199 - 13.810) = 15704210 Col1 Total PCB = 0.50 ppm*

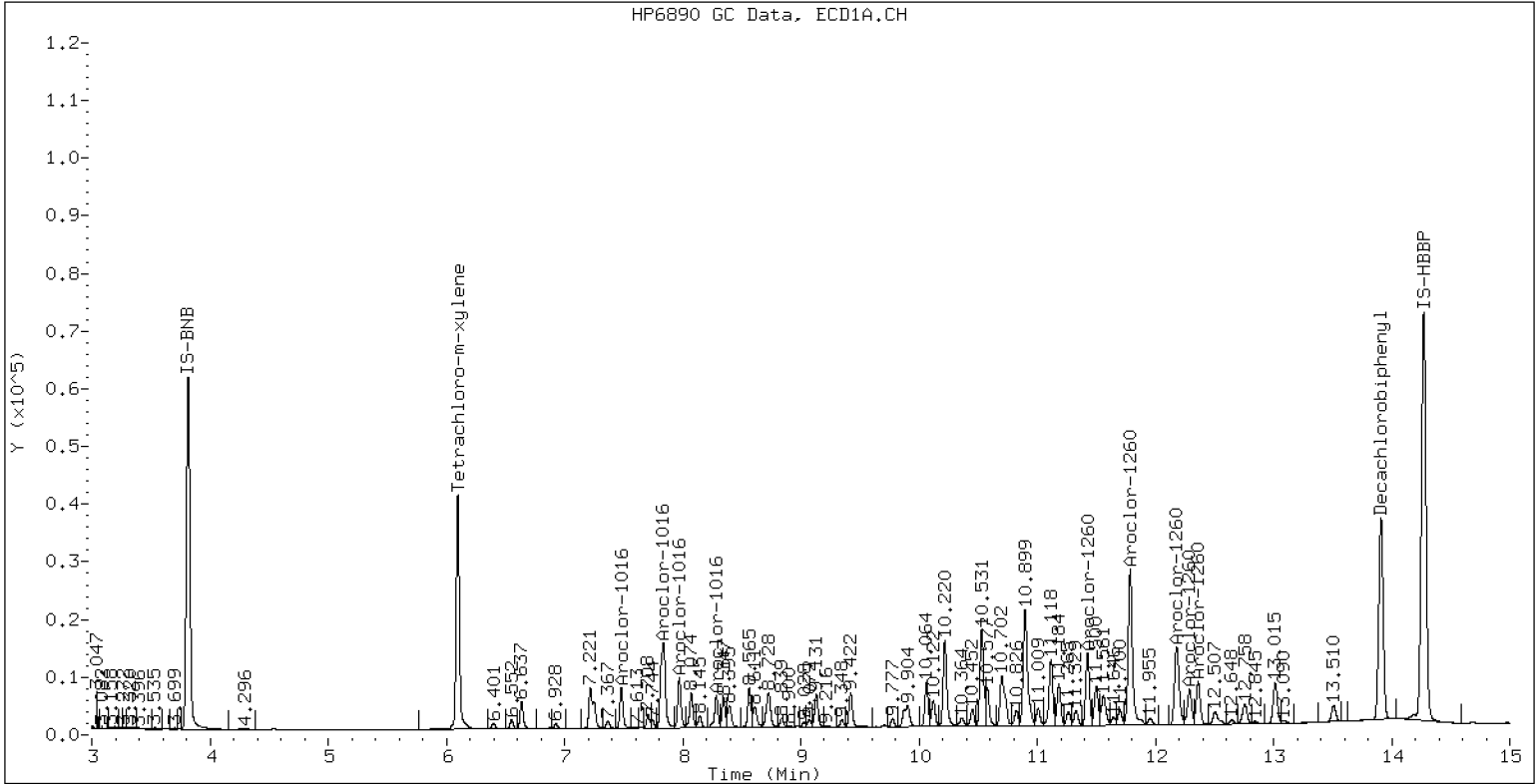
Total PCB Area Col2 (6.199 - 13.810) = 13613509 Col2 Total PCB = 0.50 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110708.D 0.25PPMAR1660

07-NOV-2020 20:38 2ul JGR



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110709.D
Data file 2: /20201107.b/20201107.b/20110709.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 20:58
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002	136545	6.315	3.6	3.5	2.8	Tetrachloro-m-xylene
13.909	-0.001	169116	14.537	3.7	3.7	2.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	8.9	8.7
Decachlorobiphenyl	9.1	9.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2620042	-3.1
Hexabromobiphenyl	3964848	3913396	-1.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2806311	-3.7
Hexabromobiphenyl	2801720	2737823	-2.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.482	-0.000	26316	24.6	1	7.784	-0.000	37469	24.1	
Aroclor-1016	2	7.837	-0.000	81079	23.9	2	8.355	0.001	73161	23.2	
Aroclor-1016	3	7.974	0.001	33596	24.1	3	8.548	0.001	31204	23.5	
Aroclor-1016	4	8.287	0.000	21525	23.2	4	9.190	0.001	22573	23.1	
Total CollAve (4 peaks):				23.9		Total Col2Ave (4 peaks):				23.5	RPD = 2
Corrected Ave (3 peaks):				23.7		Corrected Ave (3 peaks):				23.3	RPD = 2
CalAmt %D:				19.6		CalAmt %D:				17.4	
Aroclor-1260	1	11.429	0.001	54906	23.9	1	11.631	0.002	37791	23.1	
Aroclor-1260	2	11.789	0.002	141562	24.7	2	12.082	0.001	45415	22.9	
Aroclor-1260	3	12.184	0.003	74128	23.9	3	12.338	0.002	88533	22.4	
Aroclor-1260	4	12.292	0.001	30294	23.7	4	13.639	0.001	23276	21.9	
Aroclor-1260	5	12.364	0.002	35251	23.5	NS	---			----	
Total CollAve (5 peaks):				23.9		Total Col2Ave (4 peaks):				22.5	RPD = 6
Corrected Ave (4 peaks):				23.8		Corrected Ave (3 peaks):				22.4	RPD = 6
CalAmt %D:				19.7		CalAmt %D:				12.7	

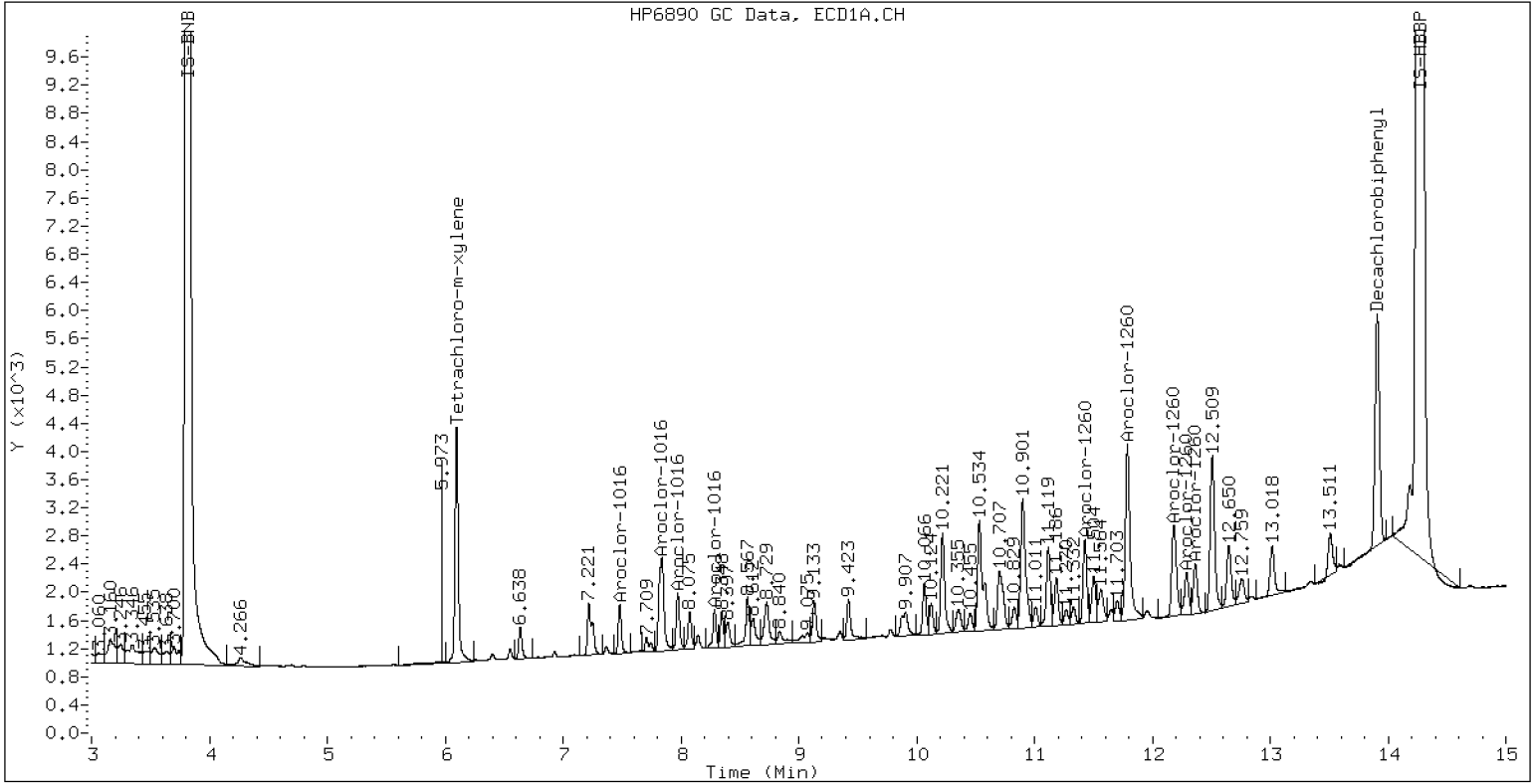
Total PCB Area Col1 (6.199 - 13.810) = 1701903 Col1 Total PCB = 0.05 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 1391862 Col2 Total PCB = 0.05 ppm*

* Quantitated against AR1660 0.25ppm in Ical

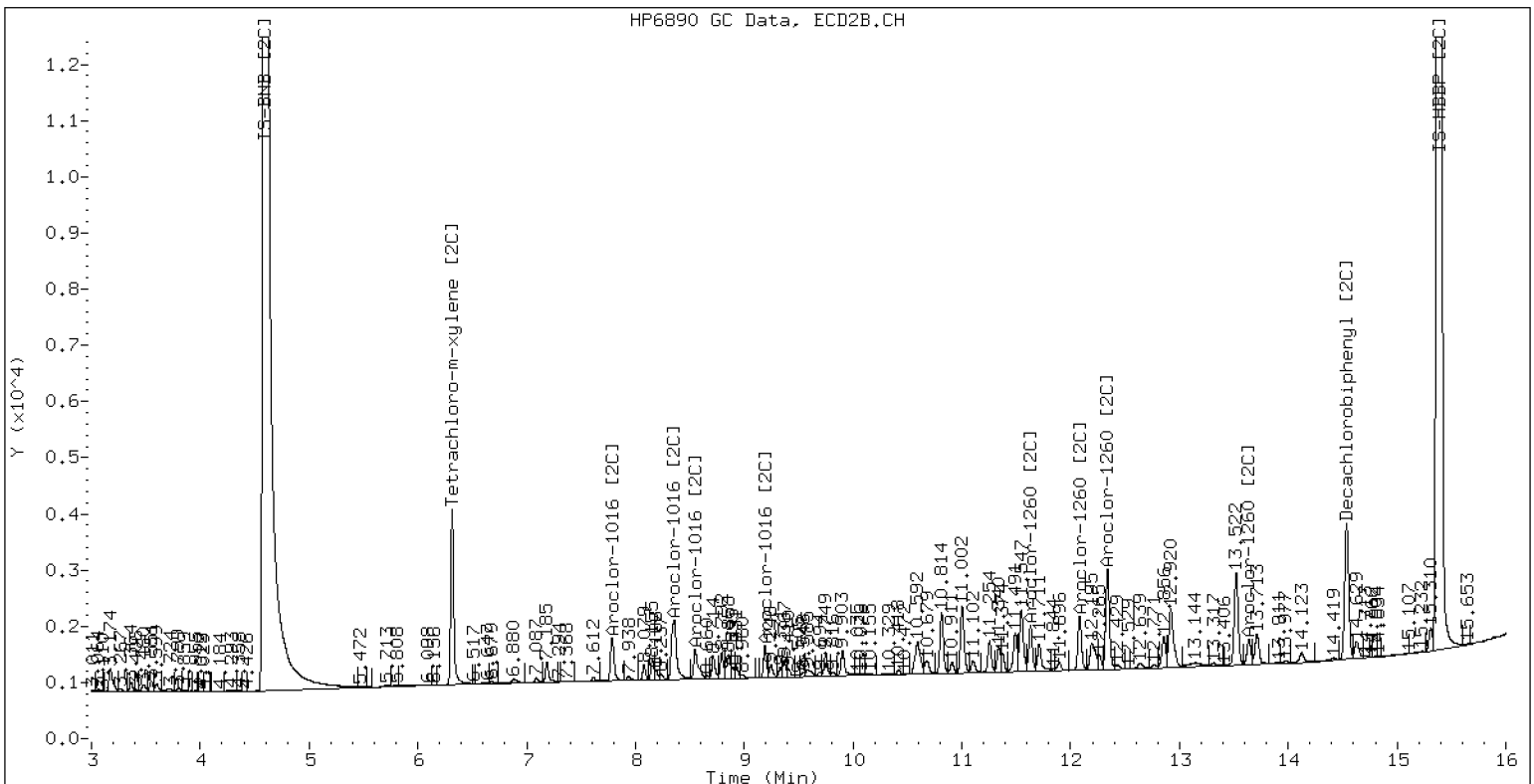
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110709.D 0.02PPMAR1660 07-NOV-2020 20:58 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110709.D 0.02PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110710.D
Data file 2: /20201107.b/20201107.b/20110710.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 21:19
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002	322011	6.314	-0.002	302878	8.2	8.2	0.9	Tetrachloro-m-xylene
13.909	-0.001	408216	14.536	-0.002	300626	8.7	8.5	2.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	20.4	20.6
Decachlorobiphenyl	21.8	21.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2700026	-0.1
Hexabromobiphenyl	3964848	3963447	-0.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2859432	-1.9
Hexabromobiphenyl	2801720	2833655	1.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	60115	54.5	1	7.784	-0.000	84610	53.4
Aroclor-1016	2	7.837	-0.000	186752	53.3	2	8.354	0.000	170541	53.0
Aroclor-1016	3	7.973	0.001	77922	54.2	3	8.548	0.001	71613	53.0
Aroclor-1016	4	8.287	0.000	51612	54.0	4	9.190	-0.000	52607	52.9
Total CollAve (4 peaks):				54.0		Total Col2Ave (4 peaks):				53.1 RPD = 2
Corrected Ave (3 peaks):				53.8		Corrected Ave (3 peaks):				52.9 RPD = 2
CalAmt %D:				8.0		CalAmt %D:				6.1
Aroclor-1260	1	11.428	0.000	128686	55.4	1	11.630	0.001	87861	51.8
Aroclor-1260	2	11.788	0.001	318015	54.8	2	12.081	0.000	106360	51.7
Aroclor-1260	3	12.182	0.001	172500	54.9	3	12.338	0.001	210539	51.5
Aroclor-1260	4	12.291	0.001	71318	55.1	4	13.638	0.001	55734	50.6
Aroclor-1260	5	12.364	0.001	82710	54.4	NS	---			----
Total CollAve (5 peaks):				54.9		Total Col2Ave (4 peaks):				51.4 RPD = 7
Corrected Ave (4 peaks):				54.8		Corrected Ave (3 peaks):				51.3 RPD = 7
CalAmt %D:				9.8		CalAmt %D:				2.8

Total PCB Area Col1 (6.199 - 13.810) = 3765913 Col1 Total PCB = 0.12 ppm*

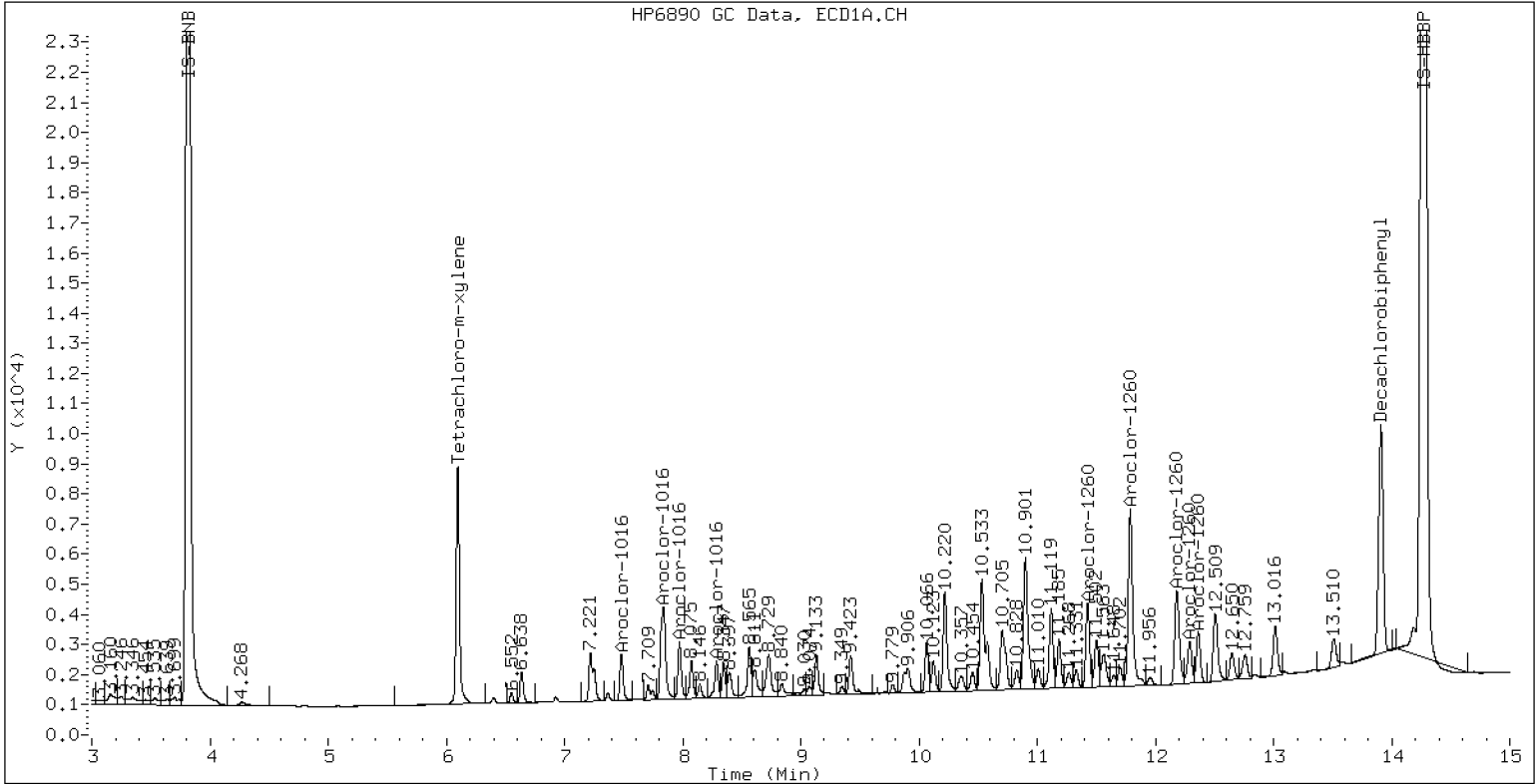
Total PCB Area Col2 (6.199 - 13.810) = 3082640 Col2 Total PCB = 0.11 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

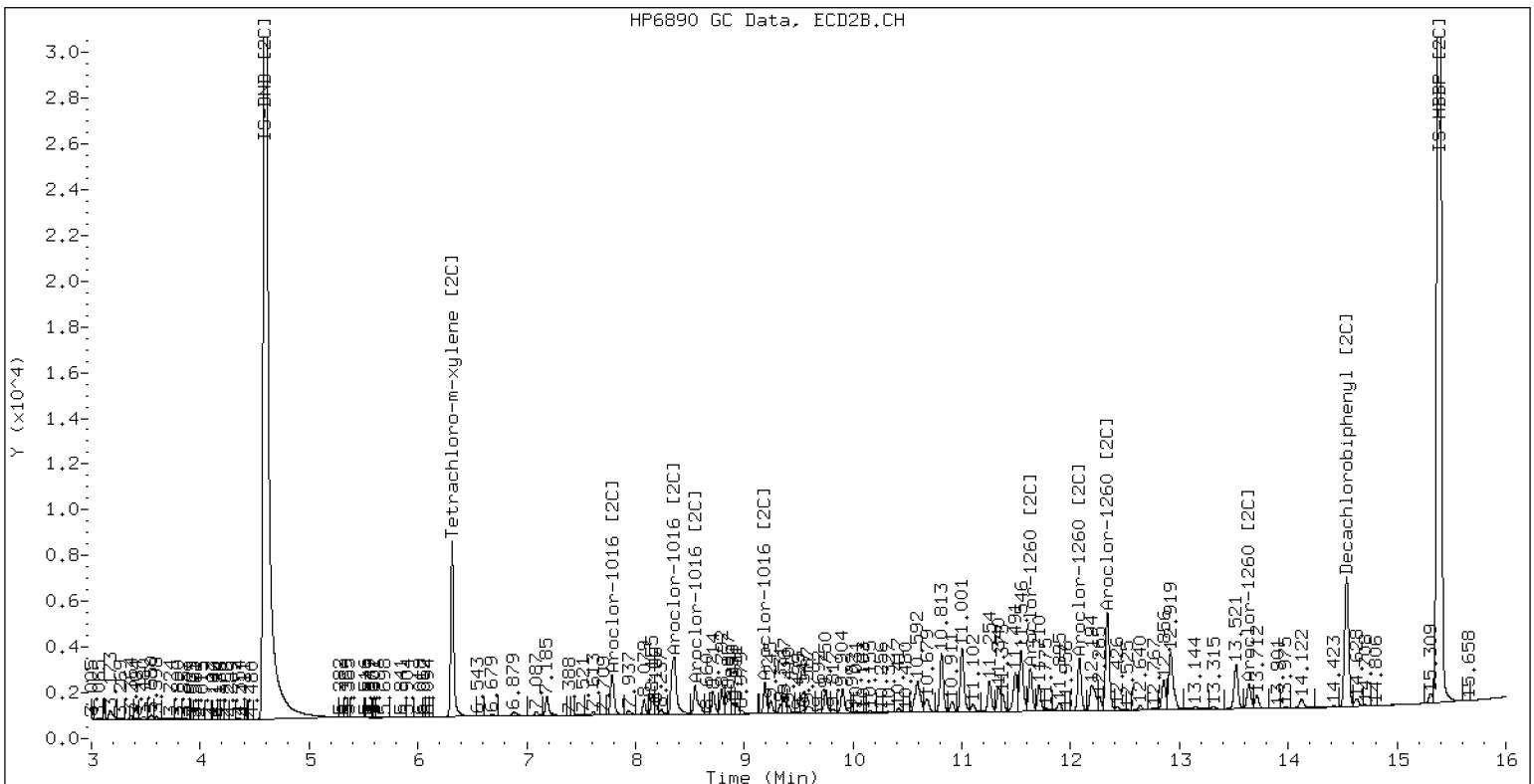
ECD5-ZB5 /20201107.b/20110710.D 0.05PPMAR1660

07-NOV-2020 21:19 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110710.D 0.05PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110711.D
Data file 2: /20201107.b/20201107.b/20110711.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 1PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 21:40
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	5726612	6.316	144.8	141.4	2.4	Tetrachloro-m-xylene
13.911	0.000	6815153	14.538	138.2	134.5	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	362.1	353.4
Decachlorobiphenyl	345.6	336.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2704917	0.1
Hexabromobiphenyl	3964848	4165505	5.1

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2852018	-2.1
Hexabromobiphenyl	2801720	2820685	0.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	880180	795.9	1	7.785	-0.000	1279616	809.4
Aroclor-1016	2	7.837	-0.000	2932230	835.6	2	8.353	-0.001	2728848	850.1
Aroclor-1016	3	7.972	-0.001	1181268	819.5	3	8.546	-0.001	1156308	857.9
Aroclor-1016	4	8.286	-0.000	801578	837.4	4	9.189	-0.001	860370	866.7
Total CollAve (4 peaks):				822.1		Total Col2Ave (4 peaks):				846.0 RPD = 3
Corrected Ave (3 peaks):				817.0		Corrected Ave (3 peaks):				839.1 RPD = 3

CalAmt %D: -17.8

CalAmt %D: -15.4

Aroclor-1260	1	11.427	-0.001	1991831	815.7	1	11.630	-0.000	1353611	801.4
Aroclor-1260	2	11.787	-0.001	4945579	810.4	2	12.081	-0.000	1674093	817.6
Aroclor-1260	3	12.180	-0.001	2713409	821.3	3	12.336	0.000	3318345	815.7
Aroclor-1260	4	12.290	-0.001	1107941	815.0	4	13.638	0.001	974034	887.6
Aroclor-1260	5	12.363	-0.000	1332600	833.9	NS	---			----
Total CollAve (5 peaks):				819.3		Total Col2Ave (4 peaks):				830.6 RPD = 1
Corrected Ave (4 peaks):				815.6		Corrected Ave (3 peaks):				811.6 RPD = 0

CalAmt %D: -18.1

CalAmt %D: -16.9

Total PCB Area Col1 (6.199 - 13.810) = 54385621 Col1 Total PCB = 1.73 ppm*

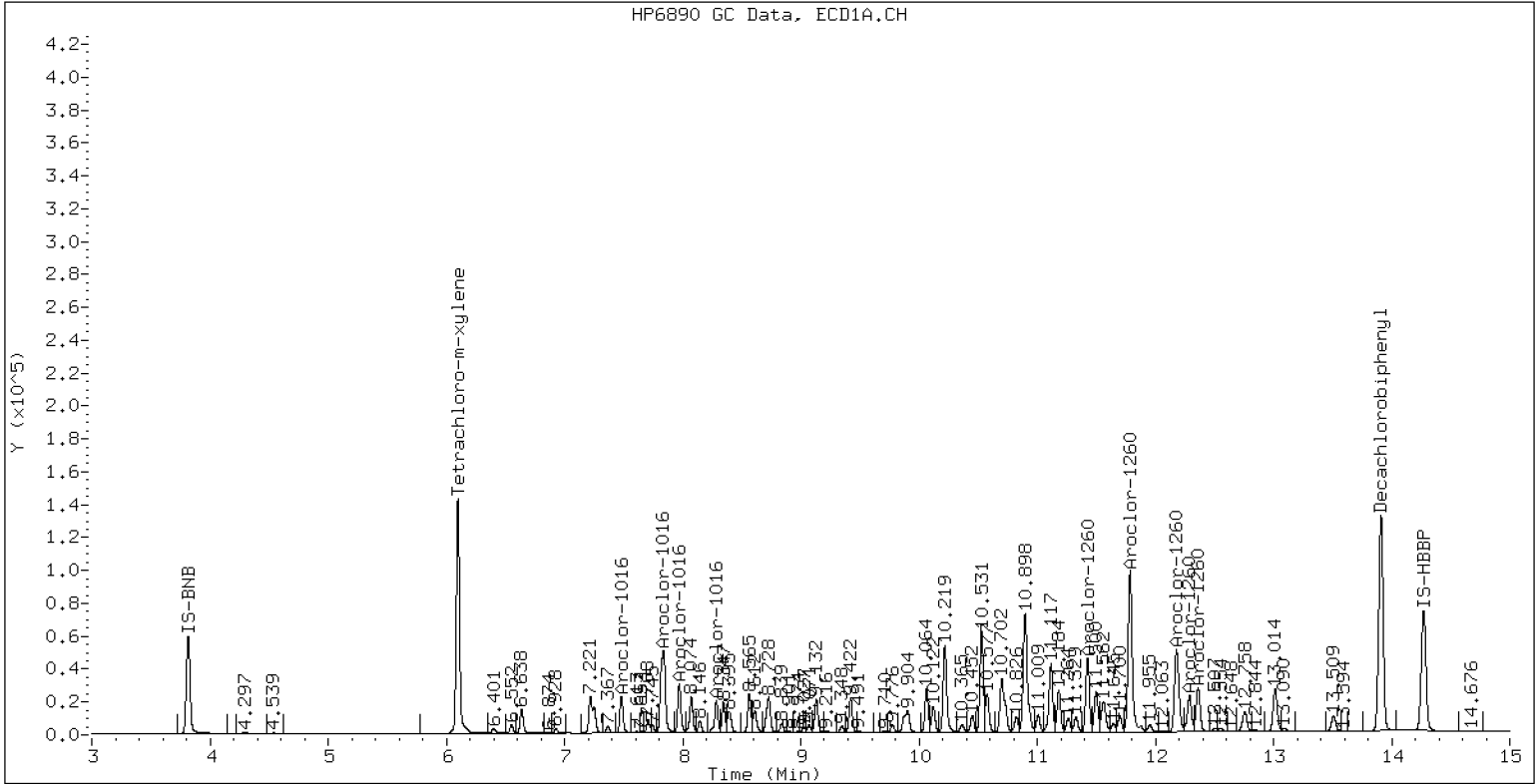
Total PCB Area Col2 (6.199 - 13.810) = 46840165 Col2 Total PCB = 1.72 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

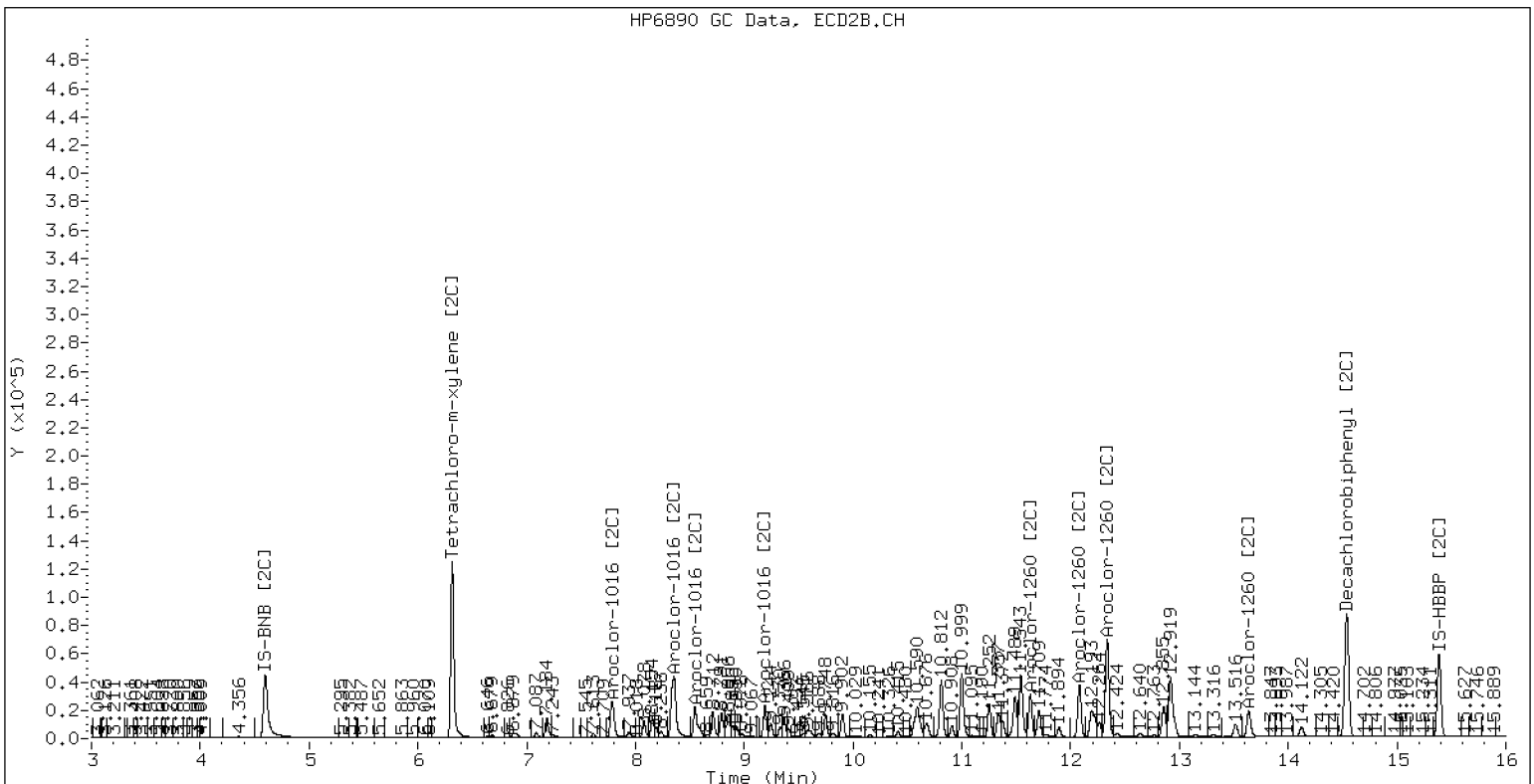
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110711.D 1PPMAR1660 07-NOV-2020 21:40 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110711.D 1PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110712.D
Data file 2: /20201107.b/20201107.b/20110712.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 22:00
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 649884	-0.001 623799	6.315	16.1	16.4	1.9	Tetrachloro-m-xylene
13.909	-0.001 787165	-0.002 596381	14.536	16.0	16.5	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	40.3	41.1
Decachlorobiphenyl	40.1	41.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2758566	2.1
Hexabromobiphenyl	3964848	4146800	4.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2949773	1.2
Hexabromobiphenyl	2801720	2897326	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	0.000	116800	103.6	1	7.784	-0.001	167774	102.6
Aroclor-1016	2	7.837	-0.000	364769	101.9	2	8.354	0.000	337253	101.6
Aroclor-1016	3	7.973	0.001	151300	102.9	3	8.548	0.001	141021	101.2
Aroclor-1016	4	8.286	0.000	101330	103.8	4	9.190	0.000	104356	101.6
Total CollAve (4 peaks):				103.1		Total Col2Ave (4 peaks):				101.7 RPD = 1
Corrected Ave (3 peaks):				102.8		Corrected Ave (3 peaks):				101.5 RPD = 1

CalAmt %D: 3.1

CalAmt %D: 1.7

Aroclor-1260	1	11.428	0.000	246222	101.3	1	11.631	0.001	173049	99.7
Aroclor-1260	2	11.788	0.001	610490	100.5	2	12.081	0.000	208089	98.9
Aroclor-1260	3	12.183	0.001	333936	101.5	3	12.337	0.000	417936	100.0
Aroclor-1260	4	12.291	0.000	139147	102.8	4	13.638	0.001	112429	99.7
Aroclor-1260	5	12.363	0.000	162109	101.9	NS	---			----
Total CollAve (5 peaks):				101.6		Total Col2Ave (4 peaks):				99.6 RPD = 2
Corrected Ave (4 peaks):				101.3		Corrected Ave (3 peaks):				99.5 RPD = 2

CalAmt %D: 1.6

CalAmt %D: -0.4

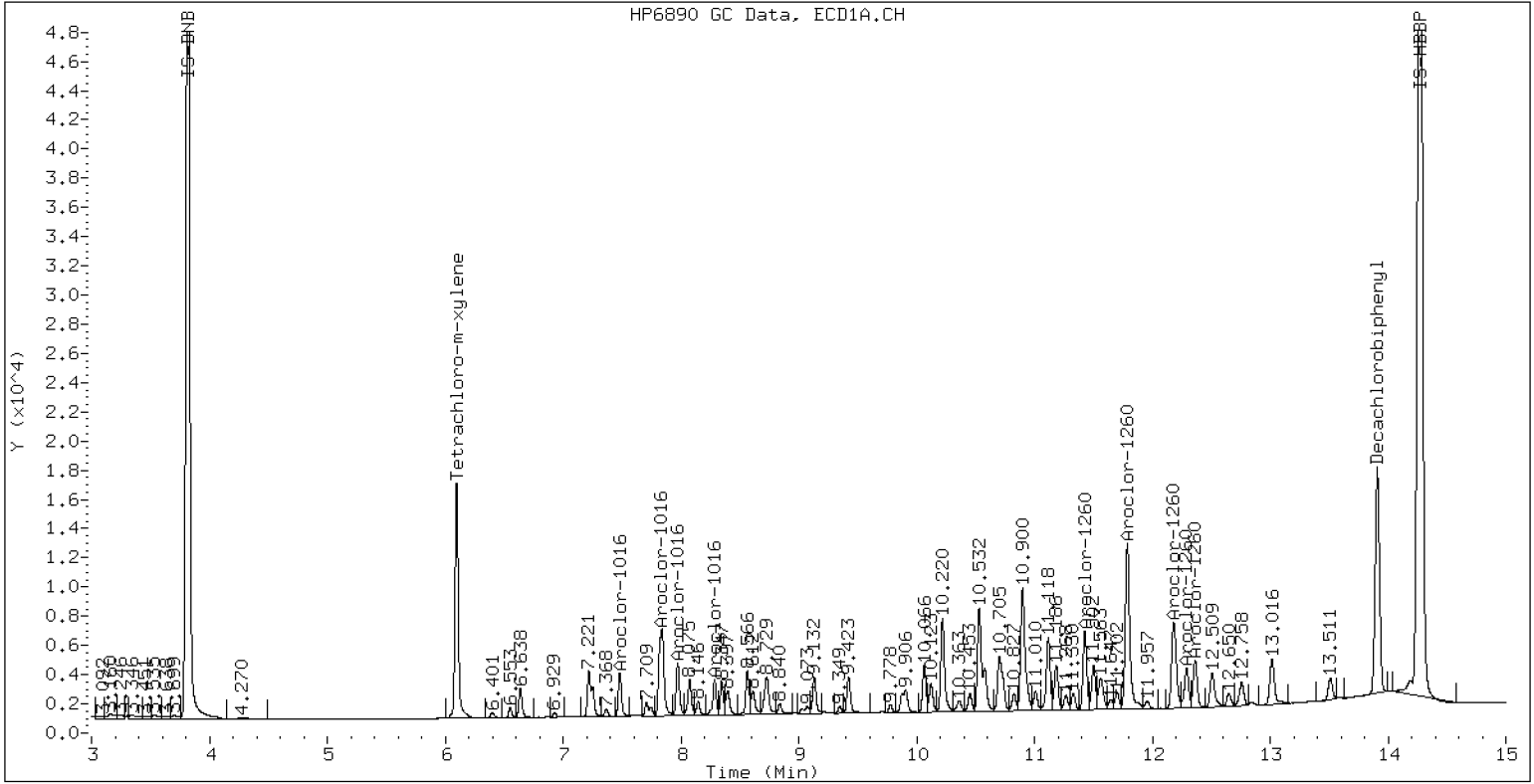
Total PCB Area Col1 (6.199 - 13.810) = 6978508 Col1 Total PCB = 0.22 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 5899039 Col2 Total PCB = 0.22 ppm*

* Quantitated against AR1660 0.25ppm in Ical

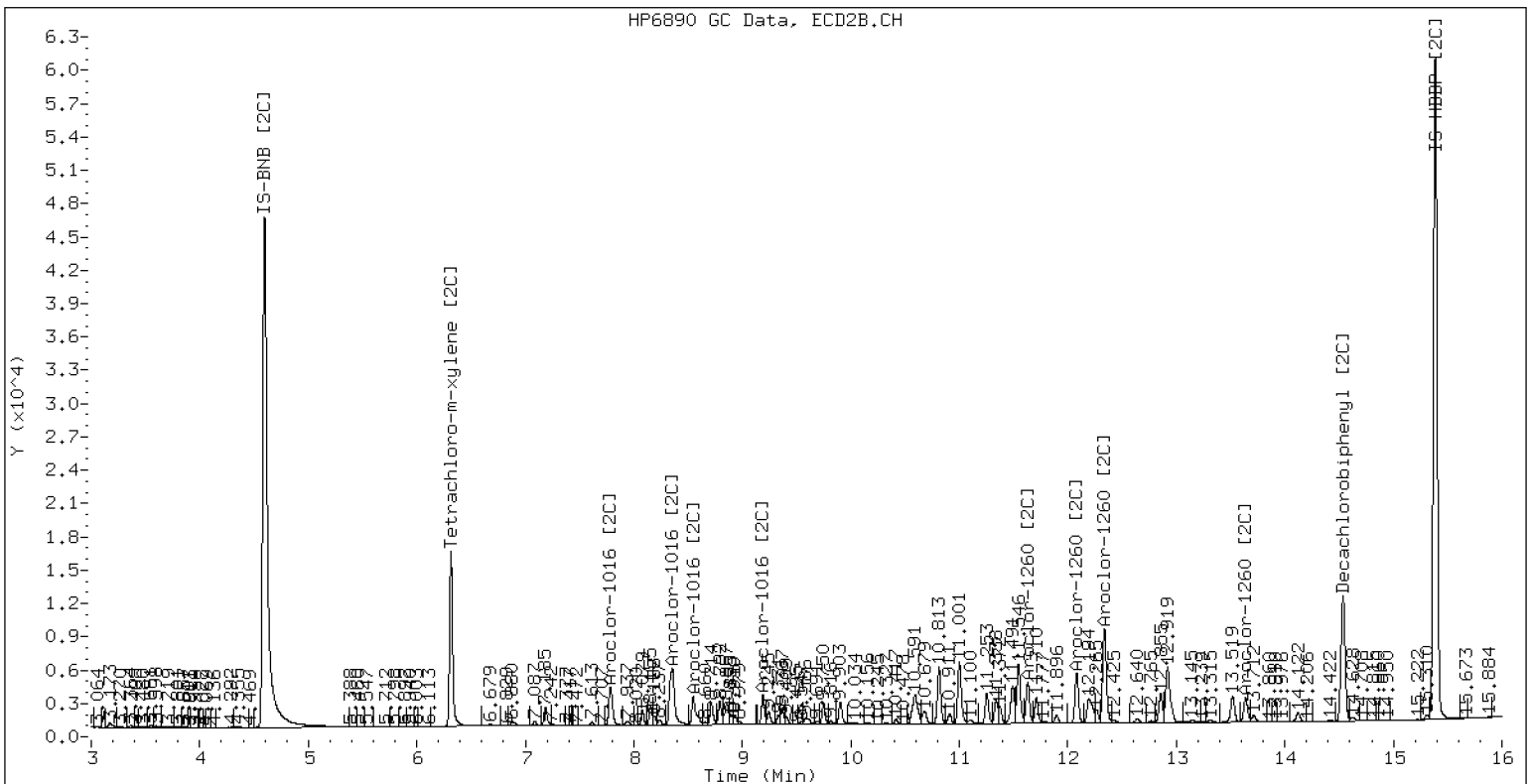
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110712.D 0.1PPMAR1660 07-NOV-2020 22:00 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110712.D 0.1PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110713.D
Data file 2: /20201107.b/20201107.b/20110713.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 22:21
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001	2928194	6.315	75.5	76.4	1.2	Tetrachloro-m-xylene
13.910	0.000	3532506	14.537	74.4	73.3	1.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	188.8	191.1
Decachlorobiphenyl	186.0	183.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2652715	-1.9
Hexabromobiphenyl	3964848	4012200	1.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2822301	-3.2
Hexabromobiphenyl	2801720	2797086	-0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	0.000	477278	440.0	1	7.785	0.000	709023	453.2
Aroclor-1016	2	7.838	0.000	1555248	451.9	2	8.354	0.000	1470220	462.8
Aroclor-1016	3	7.973	0.000	629901	445.6	3	8.547	0.000	612640	459.3
Aroclor-1016	4	8.286	0.000	423061	450.7	4	9.190	0.000	455704	463.9
Total CollAve (4 peaks):				447.1		Total Col2Ave (4 peaks):				459.8 RPD = 3
Corrected Ave (3 peaks):				445.4		Corrected Ave (3 peaks):				458.4 RPD = 3

CalAmt %D: -10.6

CalAmt %D: -8.0

Aroclor-1260	1	11.428	0.000	1063076	452.0	1	11.630	0.000	737522	440.3
Aroclor-1260	2	11.787	0.000	2640126	449.2	2	12.081	0.000	909063	447.7
Aroclor-1260	3	12.181	0.000	1446903	454.7	3	12.336	0.000	1815364	450.0
Aroclor-1260	4	12.291	0.000	590574	451.1	4	13.637	0.000	508023	466.8
Aroclor-1260	5	12.363	0.000	703562	457.1	NS	---			----
Total CollAve (5 peaks):				452.8		Total Col2Ave (4 peaks):				451.2 RPD = 0
Corrected Ave (4 peaks):				451.7		Corrected Ave (3 peaks):				446.0 RPD = 1

CalAmt %D: -9.4

CalAmt %D: -9.8

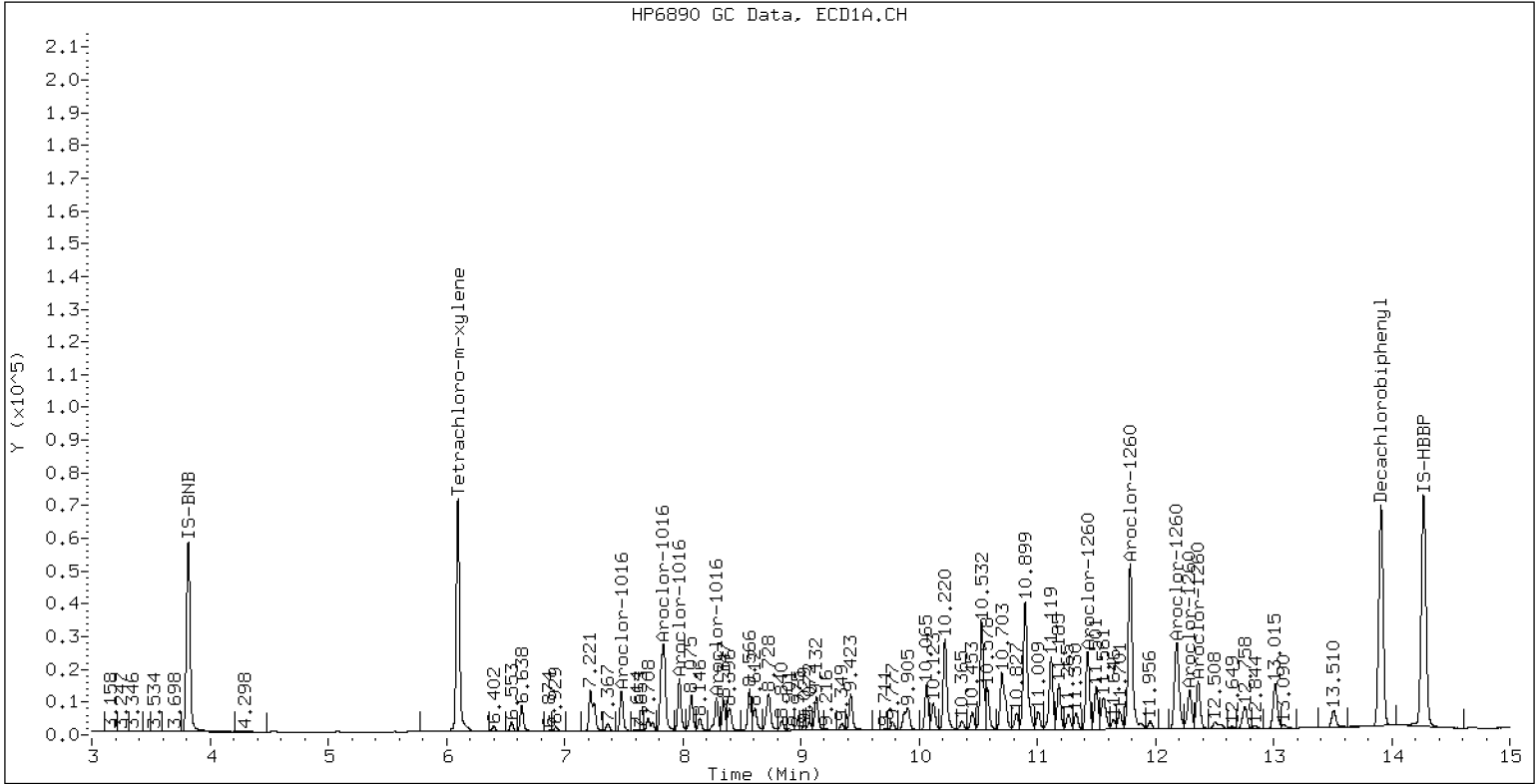
Total PCB Area Col1 (6.199 - 13.810) = 29092306 Col1 Total PCB = 0.93 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 25251101 Col2 Total PCB = 0.93 ppm*

* Quantitated against AR1660 0.25ppm in Ical

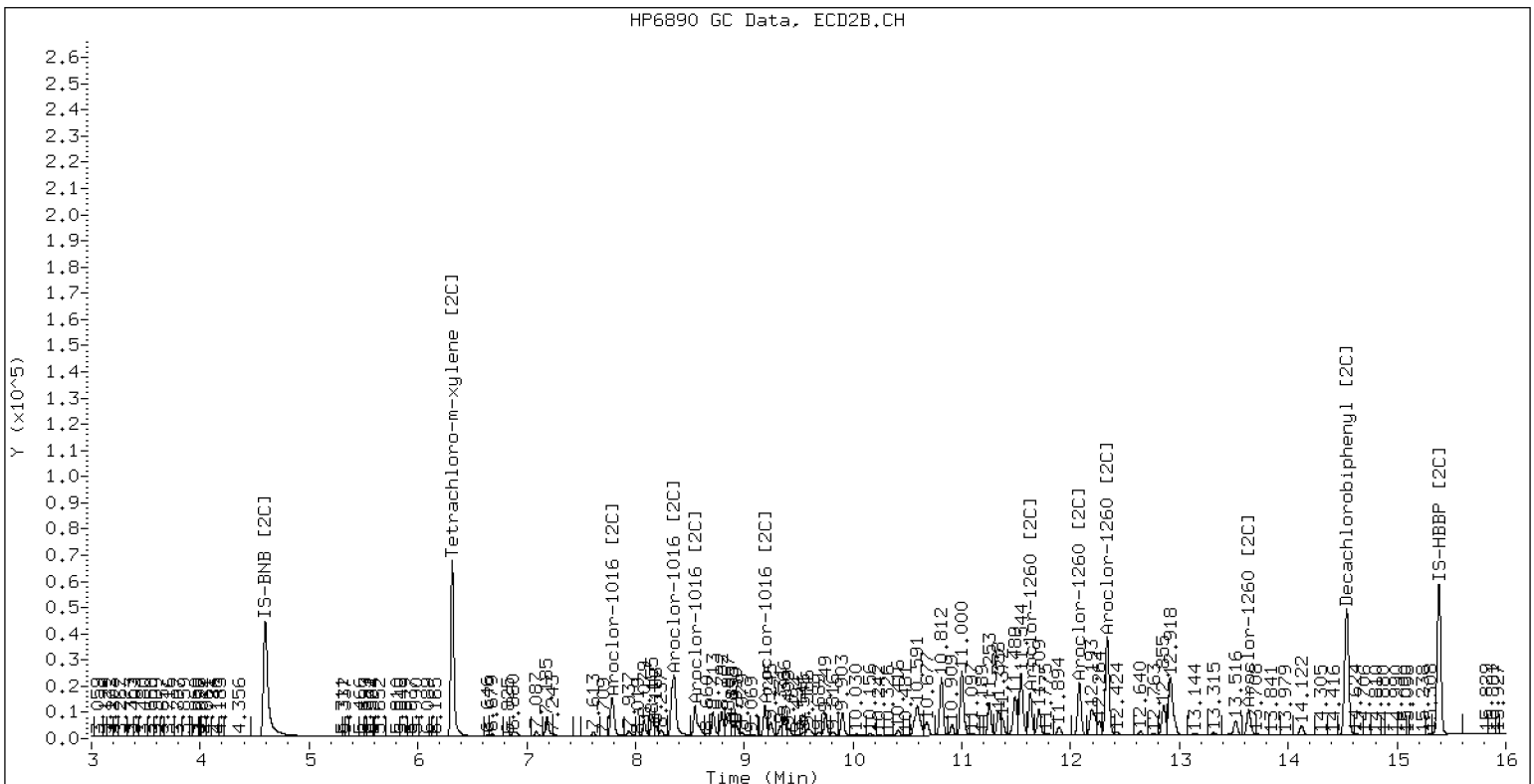
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110713.D 0.5PPMAR1660 07-NOV-2020 22:21 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110713.D 0.5PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110714.D
Data file 2: /20201107.b/20201107.b/20110714.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1242.sub
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 07-NOV-2020 22:42
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.003 1622387	6.314 -0.002 1544277	6.314	41.6	43.1	3.6	Tetrachloro-m-xylene
13.910	-0.000 1971494	14.536 -0.001 1428198	14.536	39.4	40.5	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.0	107.8
Decachlorobiphenyl	98.5	101.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2669261	-1.2
Hexabromobiphenyl	3964848	4229435	6.7

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2782800	-4.5
Hexabromobiphenyl	2801720	2827084	0.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.482	0.000	215056	250.0	1	7.784	0.000	308835	250.0	
Aroclor-1242	2	7.837	0.000	679577	250.0	2	8.354	0.000	630397	250.0	
Aroclor-1242	3	9.072	0.000	246865	250.0	3	9.690	0.000	205516	250.0	
Aroclor-1242	4	9.351	0.000	269760	250.0	4	10.030	0.000	252995	250.0	
Total Col1Ave (4 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (3 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 5488846 Col1 Total PCB = 0.17 ppm*

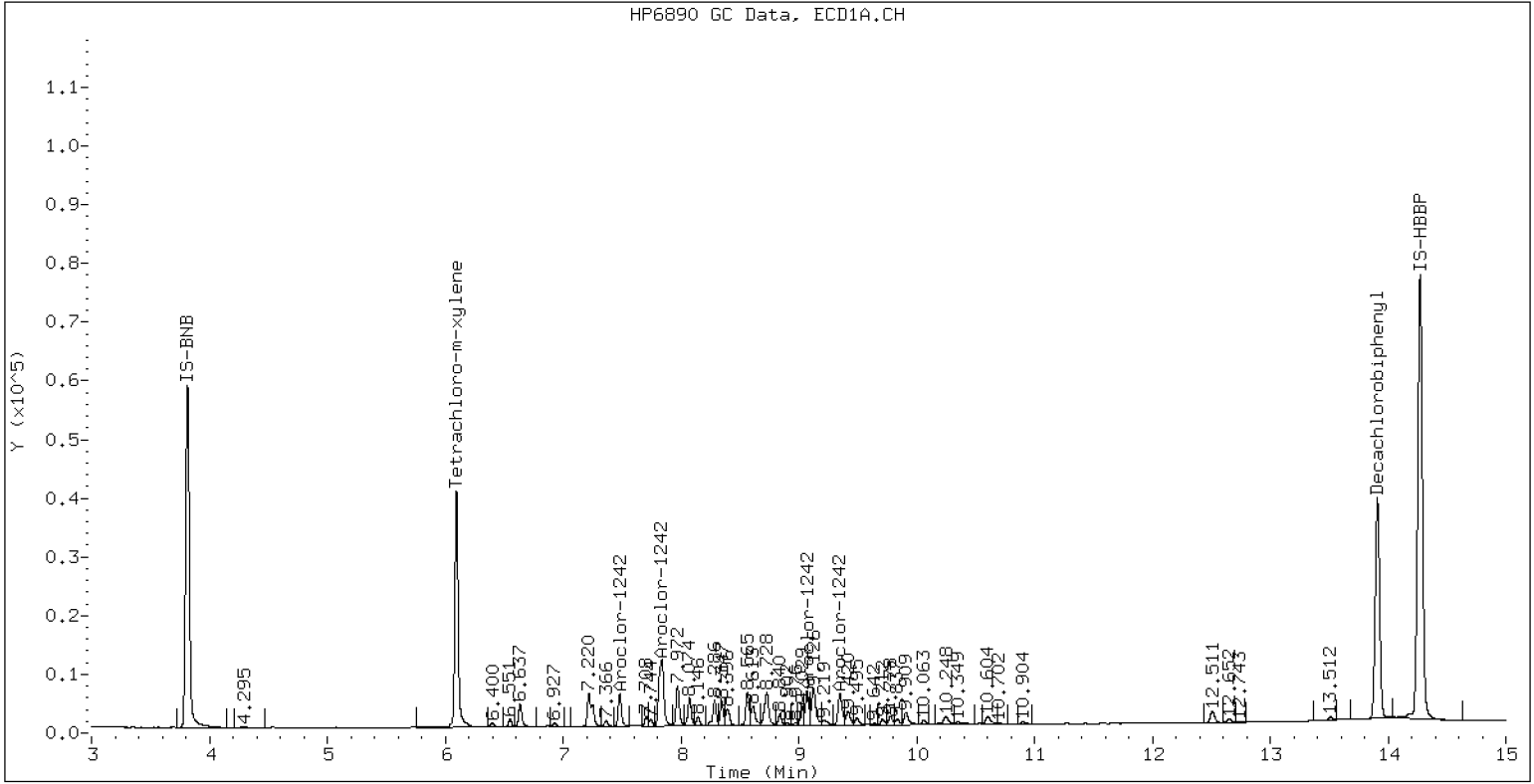
Total PCB Area Col2 (6.199 - 13.810) = 6178485 Col2 Total PCB = 0.23 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

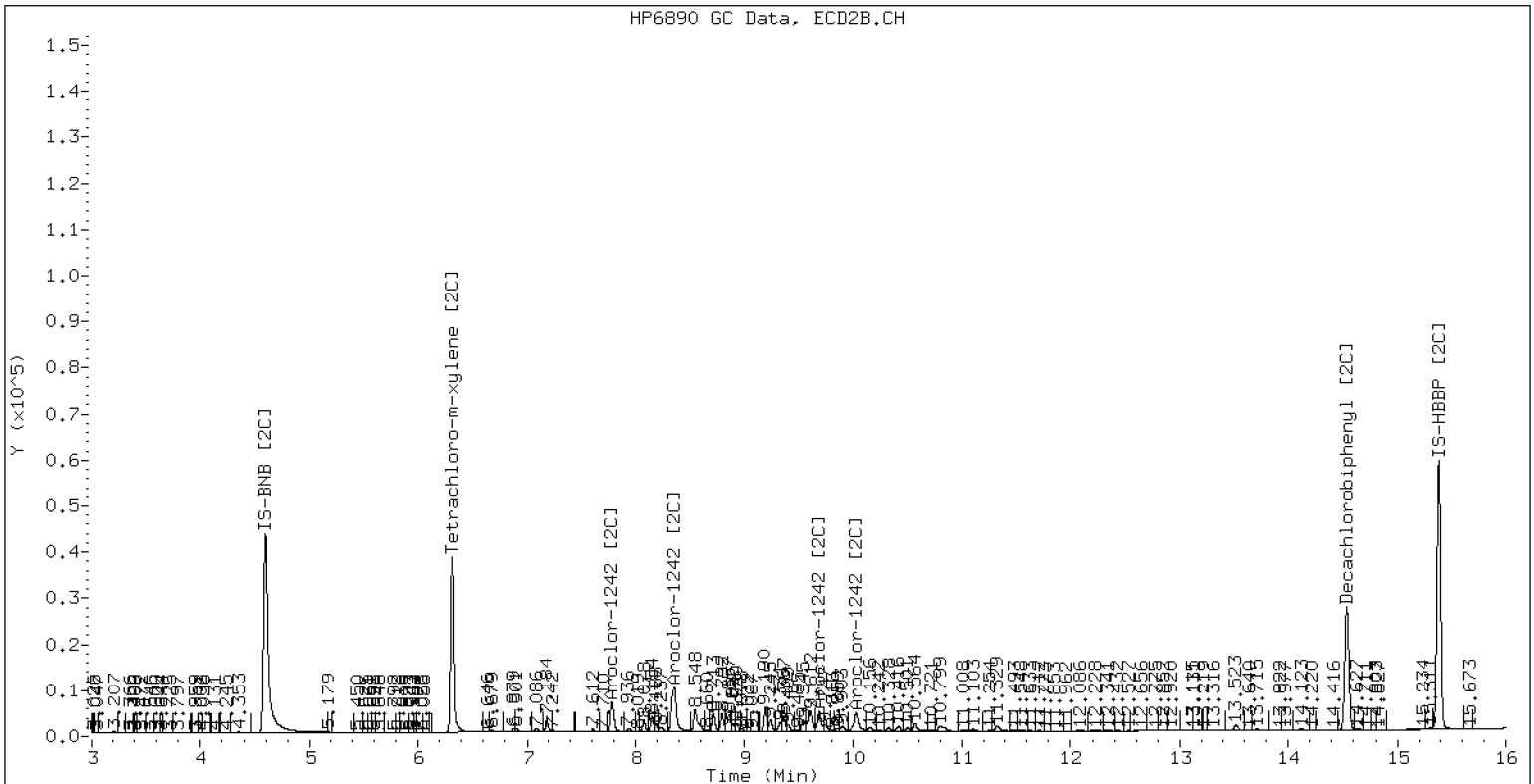
ECD5-ZB5 /20201107.b/20110714.D AR1242

07-NOV-2020 22:42 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110714.D AR1242



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110715.D
Data file 2: /20201107.b/20201107.b/20110715.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 07-NOV-2020 23:02
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1640558	6.316 -0.001 1585620	39.5	42.1	6.4	Tetrachloro-m-xylene	
13.911	0.000 1981248	14.536 -0.002 1445145	39.1	40.0	2.4	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.7	105.2
Decachlorobiphenyl	97.7	100.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2843479	5.2
Hexabromobiphenyl	3964848	4281970	8.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2929676	0.5
Hexabromobiphenyl	2801720	2895609	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.565	0.000	374655	250.0	1	8.792	0.000	278650	250.0	
Aroclor-1248	2	8.728	0.000	453860	250.0	2	9.190	0.000	332087	250.0	
Aroclor-1248	3	9.126	0.000	563222	250.0	3	9.612	0.000	437802	250.0	
Aroclor-1248	4	9.350	0.000	420345	250.0	4	10.029	0.000	434423	250.0	
Total Col1Ave (4 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (3 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 7184217 Col1 Total PCB = 0.23 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7499799 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

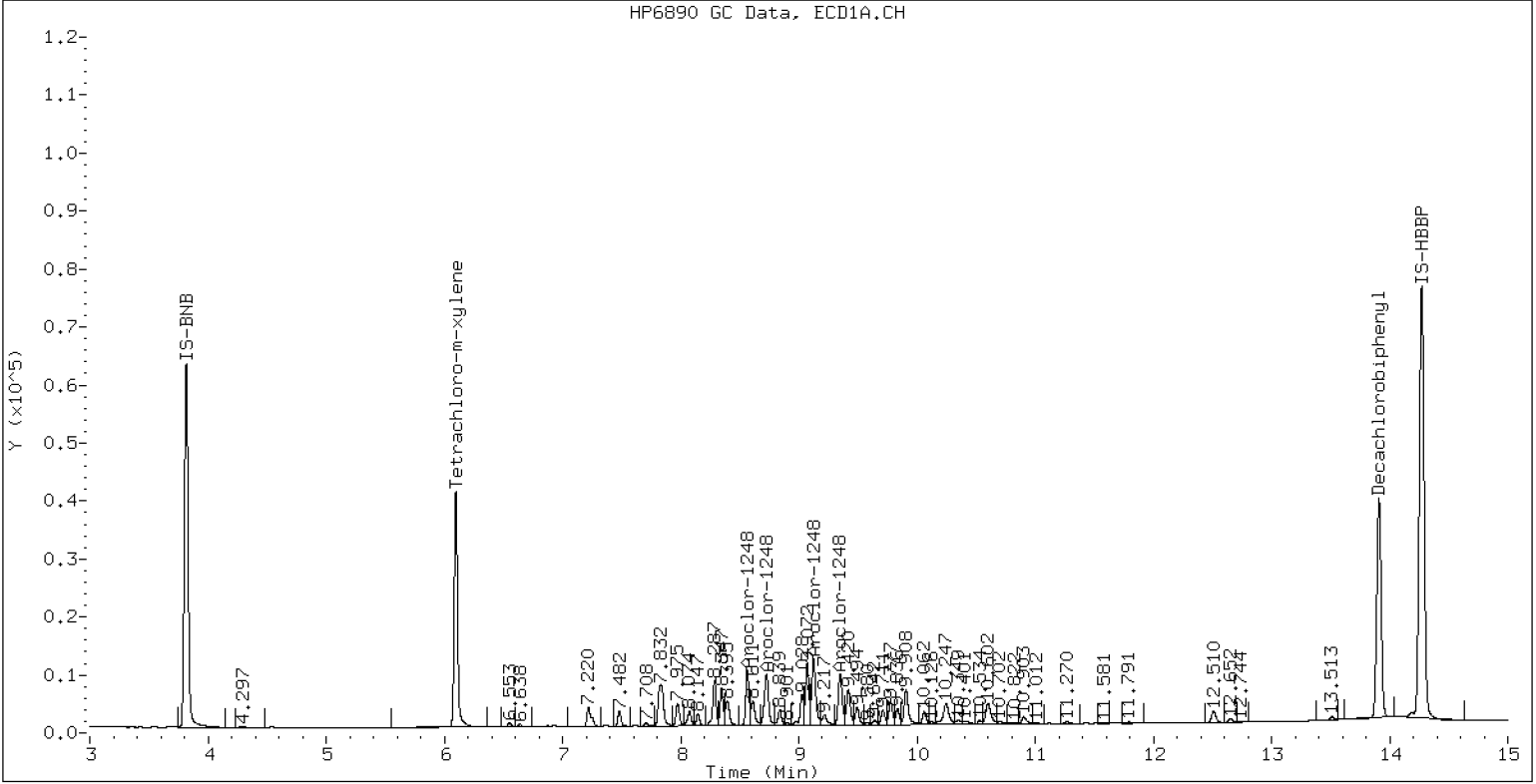
PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110715.D AR1248

07-NOV-2020 23:02 2ul JGR

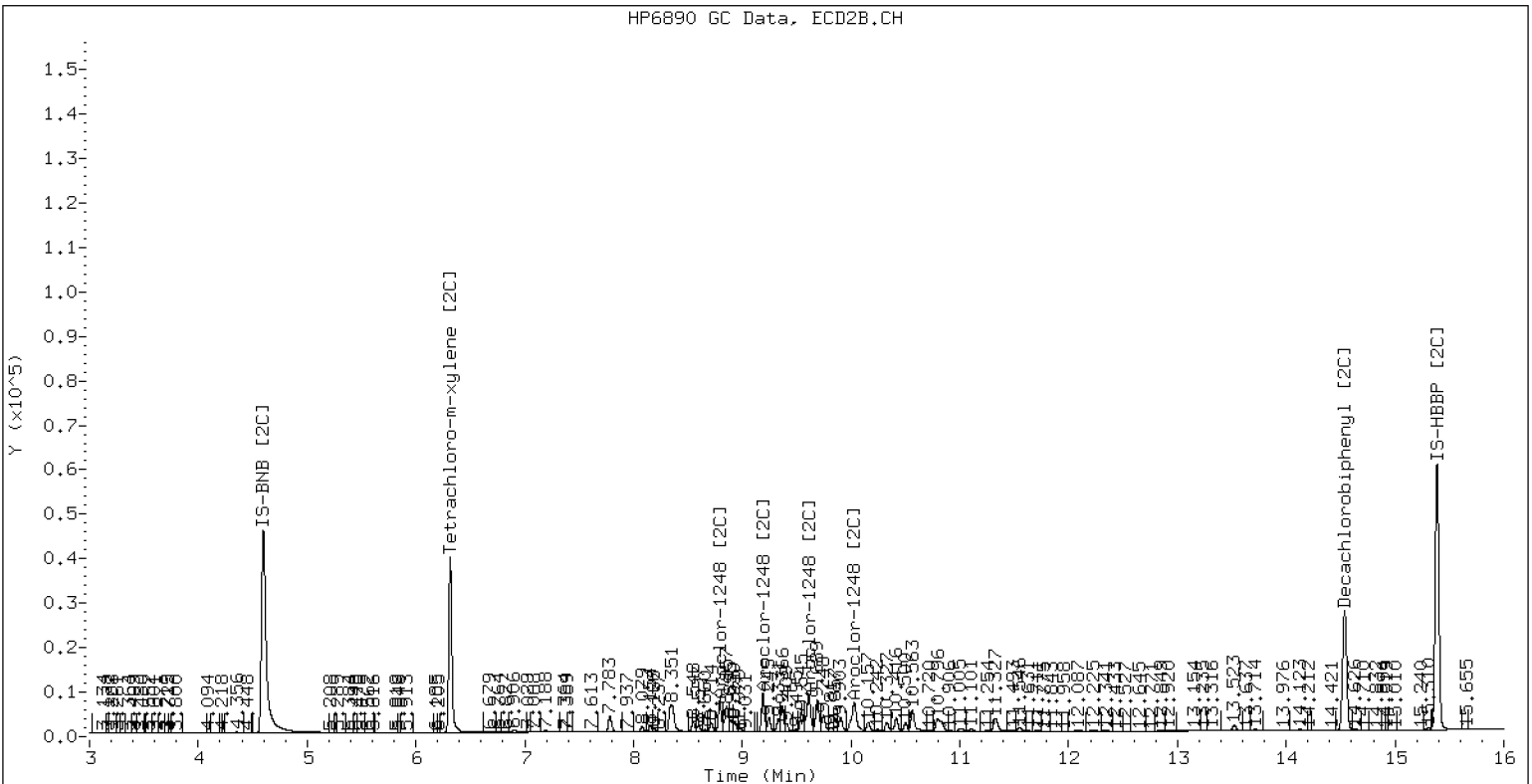
HP6890 GC Data, ECD1A.CH



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110715.D AR1248

HP6890 GC Data, ECD2B.CH



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110716.D
Data file 2: /20201107.b/20201107.b/20110716.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 07-NOV-2020 23:23
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	0.000 1601146	6.316 -0.000 1561891	39.1	41.9	6.9	Tetrachloro-m-xylene
13.910	-0.000 1978359	14.537 -0.001 1422207	39.8	39.9	0.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.8	104.7
Decachlorobiphenyl	99.6	99.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2800938	3.6
Hexabromobiphenyl	3964848	4194805	5.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2897965	-0.6
Hexabromobiphenyl	2801720	2863573	2.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.133	0.000	494672	250.0	1	9.903	0.000	440053	250.0	
Aroclor-1254	2	9.422	0.000	665153	250.0	2	9.995	0.000	230730	250.0	
Aroclor-1254	3	9.495	0.000	253186	250.0	3	10.416	0.000	337165	250.0	
Aroclor-1254	4	9.778	0.000	439600	250.0	4	10.563	0.000	733499	250.0	
Aroclor-1254	5	9.908	0.000	863993	250.0	5	11.331	0.000	450447	250.0	
Total Col1Ave (5 peaks):				250.0		Total Col2Ave (5 peaks):				250.0	RPD = 0
Corrected Ave (4 peaks):				250.0		Corrected Ave (4 peaks):				250.0	RPD = 0

Total PCB Area Col1 (6.199 - 13.810) = 9392975 Col1 Total PCB = 0.30 ppm*

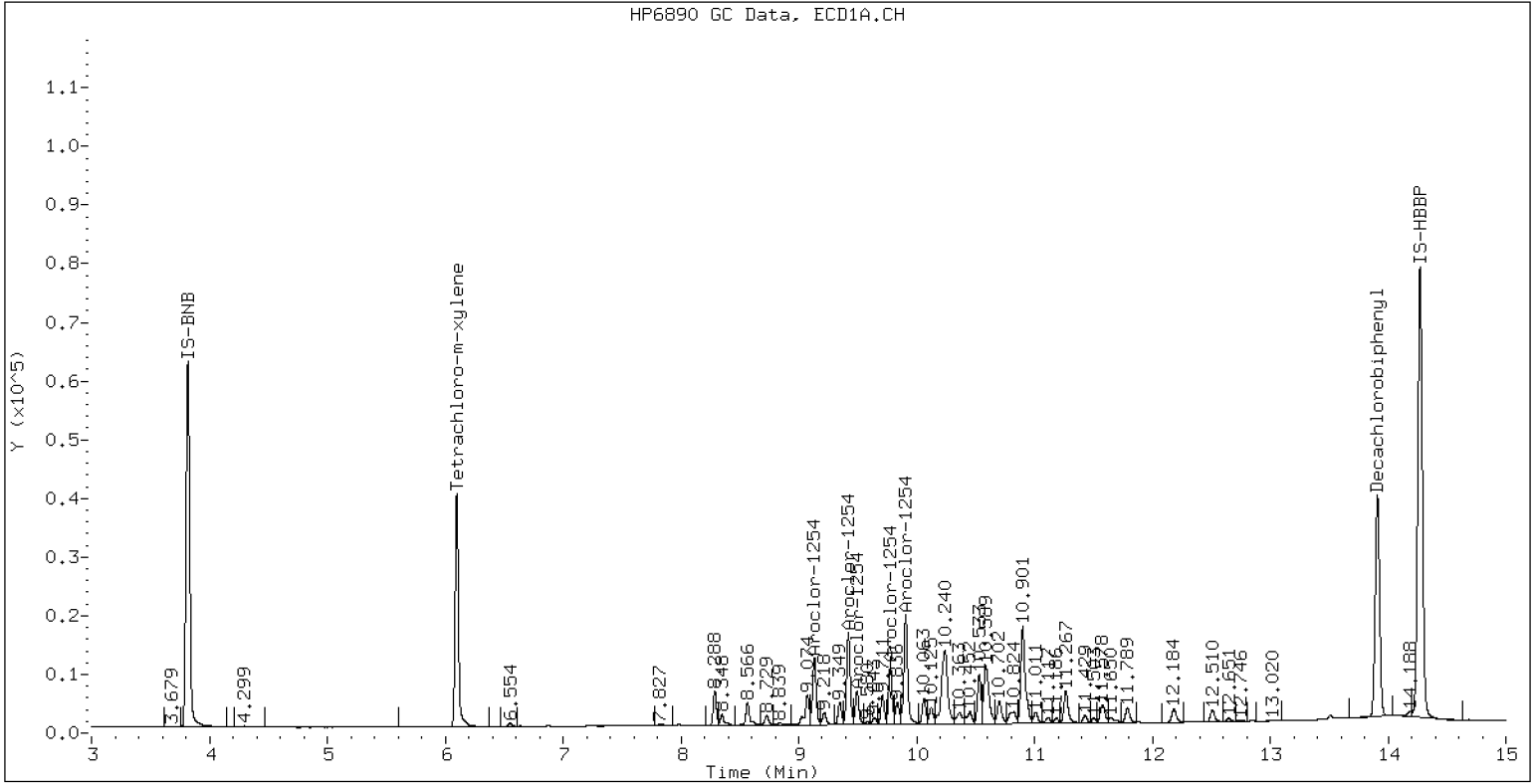
Total PCB Area Col2 (6.199 - 13.810) = 8746804 Col2 Total PCB = 0.32 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

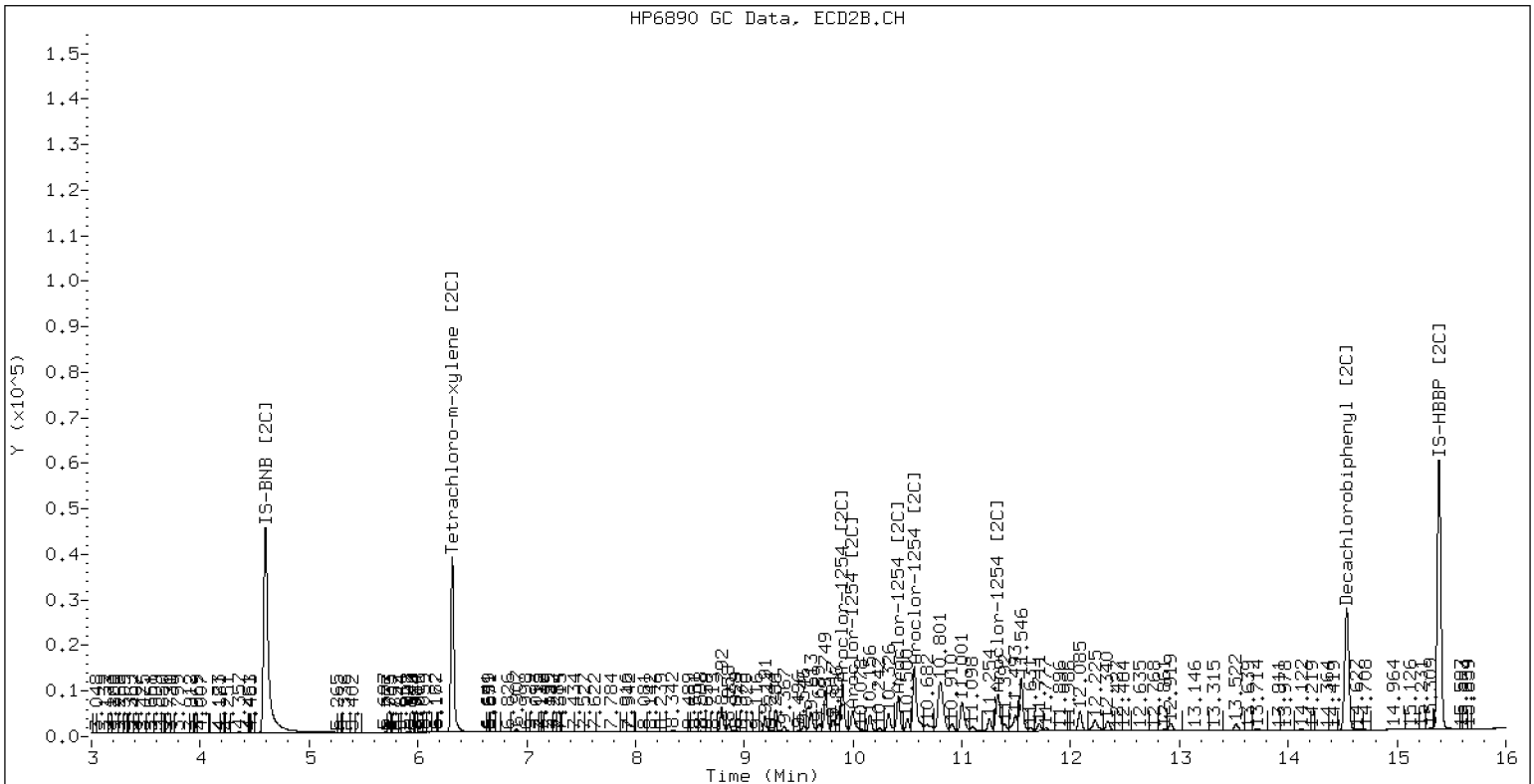
ECD5-ZB5 /20201107.b/20110716.D AR1254

07-NOV-2020 23:23 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110716.D AR1254



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110717.D
Data file 2: /20201107.b/20201107.b/20110717.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR2162.sub
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 07-NOV-2020 23:44
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.100	0.000 1594873	6.317 0.001 1489611	6.317	39.9	41.3	3.5	Tetrachloro-m-xylene
13.911	0.000 1917433	14.538 -0.000 1391639	14.538	38.6	39.3	1.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.7	103.3
Decachlorobiphenyl	96.4	98.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2734867	1.2
Hexabromobiphenyl	3964848	4201919	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2800645	-3.9
Hexabromobiphenyl	2801720	2844434	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1221	1	5.081	0.000	65611	250.0	1	5.653	0.000	62732	250.0	
Aroclor-1221	2	6.554	0.000	93083	250.0	2	6.879	0.000	127164	250.0	
Aroclor-1221	3	6.640	0.000	263952	250.0	3	7.088	0.000	68487	250.0	
Total CollAve (3 peaks):				250.0	Total Col2Ave (3 peaks):				250.0	RPD = 0	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1262	1	11.119	0.000	897186	250.0	1	11.632	0.000	655804	250.0	
Aroclor-1262	2	11.788	0.000	1919289	250.0	2	12.081	0.000	512572	250.0	
Aroclor-1262	3	12.182	0.000	670039	250.0	3	12.337	0.000	1309469	250.0	
Aroclor-1262	4	12.291	0.000	588553	250.0	4	12.855	0.000	464438	250.0	
Aroclor-1262	5	12.363	0.000	684071	250.0	NS	---		----		
Total CollAve (5 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (4 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 12962375 Col1 Total PCB = 0.41 ppm*

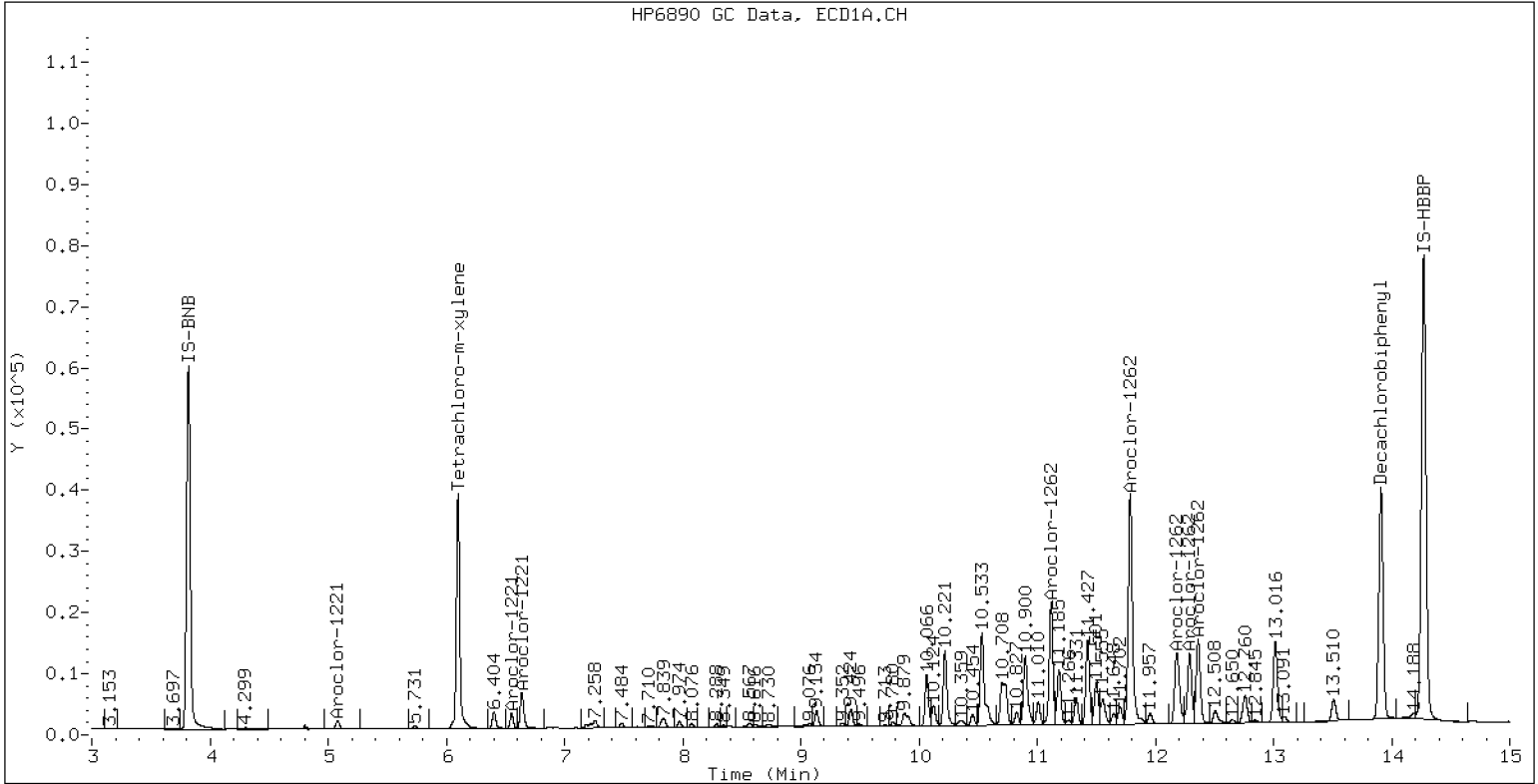
Total PCB Area Col2 (6.199 - 13.810) = 10871166 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

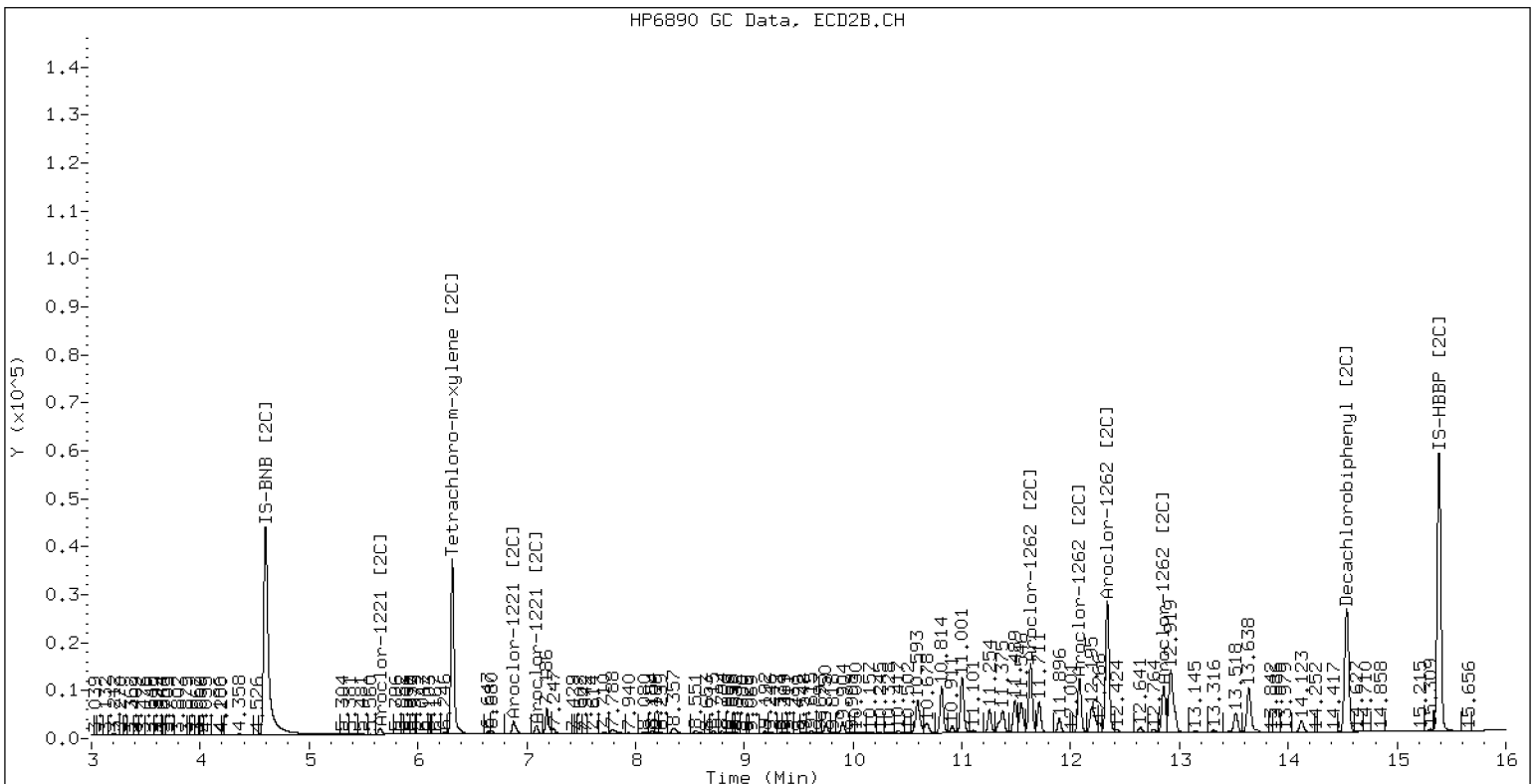
ECD5-ZB5 /20201107.b/20110717.D AR2162

07-NOV-2020 23:44 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110717.D AR2162

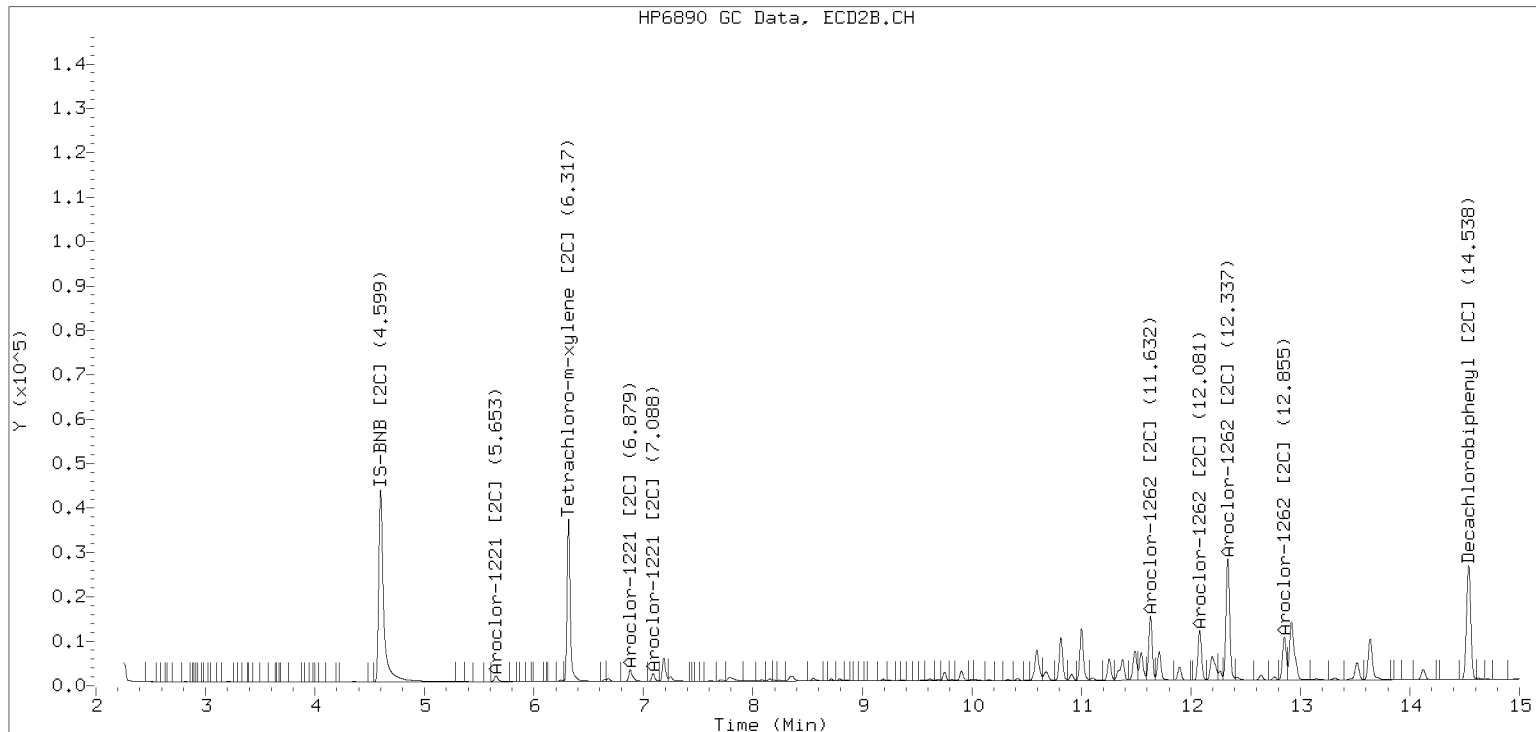


ZB-35 Manual Integration: YES

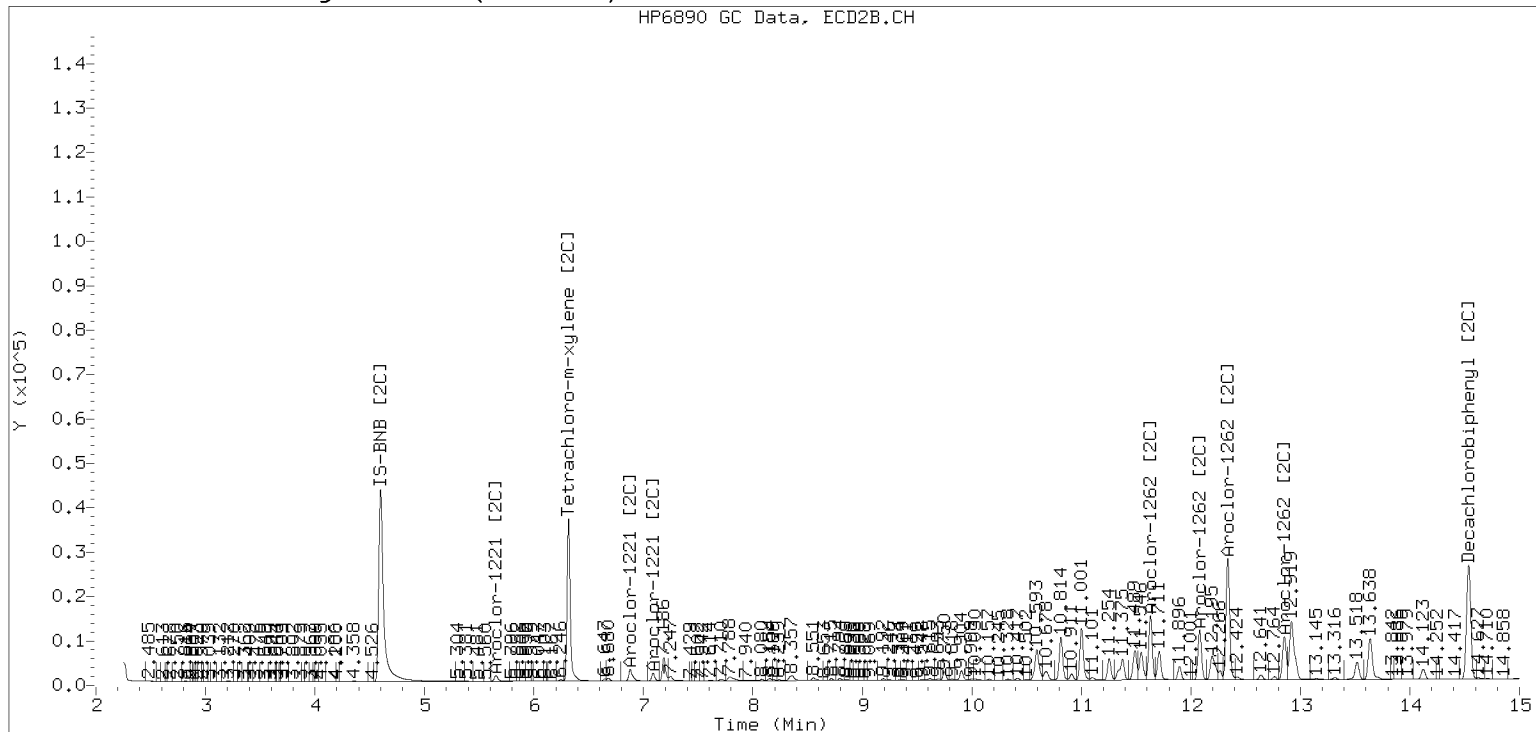
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201107.b/20201107.b/20110717.D Injection Date: 07-NOV-2020

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110718.D
Data file 2: /20201107.b/20201107.b/20110718.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR3268.sub
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 08-NOV-2020 00:04
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	0.000 1582561	6.316 0.000 1498193	6.316	39.8	40.7	2.4	Tetrachloro-m-xylene
13.910	0.000 2719198	14.538 0.000 1953879	14.538	57.6	55.8	3.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.5	101.8
Decachlorobiphenyl	144.1	139.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2721406	0.7
Hexabromobiphenyl	3964848	3986948	0.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2858606	-1.9
Hexabromobiphenyl	2801720	2808308	0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1232	1	5.081	0.000	38955	250.0	1	5.653	0.000	37358	250.0	
Aroclor-1232	2	7.484	0.000	122359	250.0	2	7.786	0.000	184225	250.0	
Aroclor-1232	3	7.836	0.000	377629	250.0	3	8.357	0.000	345752	250.0	
Aroclor-1232	4	7.974	0.000	157732	250.0	4	8.549	0.000	145099	250.0	
Total CollAve (4 peaks):				250.0		Total Col2Ave (4 peaks):				250.0	RPD = 0
Corrected Ave (3 peaks):				250.0		Corrected Ave (3 peaks):				250.0	RPD = 0
Aroclor-1268	1	12.292	0.000	1923022	250.0	1	12.853	0.000	1316957	250.0	
Aroclor-1268	2	12.362	0.000	1842140	250.0	2	12.920	0.000	1306057	250.0	
Aroclor-1268	3	12.740	0.000	1636898	250.0	3	13.316	0.000	1076800	250.0	
Aroclor-1268	4	13.511	0.000	4585516	250.0	4	14.124	0.000	3190058	250.0	
Total CollAve (4 peaks):				250.0		Total Col2Ave (4 peaks):				250.0	RPD = 0
Corrected Ave (3 peaks):				250.0		Corrected Ave (3 peaks):				250.0	RPD = 0

Total PCB Area Col1 (6.199 - 13.810) = 16150140 Col1 Total PCB = 0.51 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 9860362 Col2 Total PCB = 0.36 ppm*

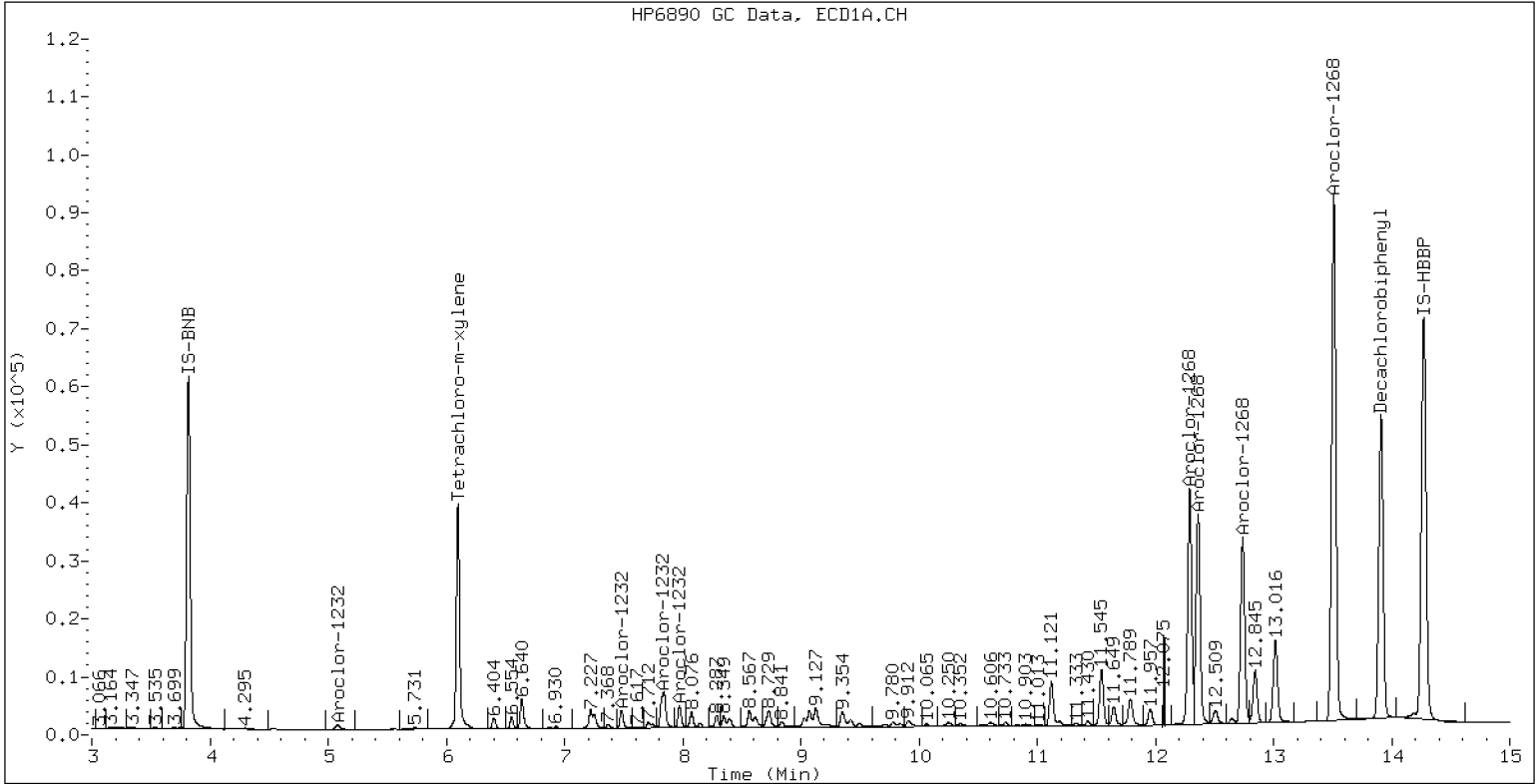
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

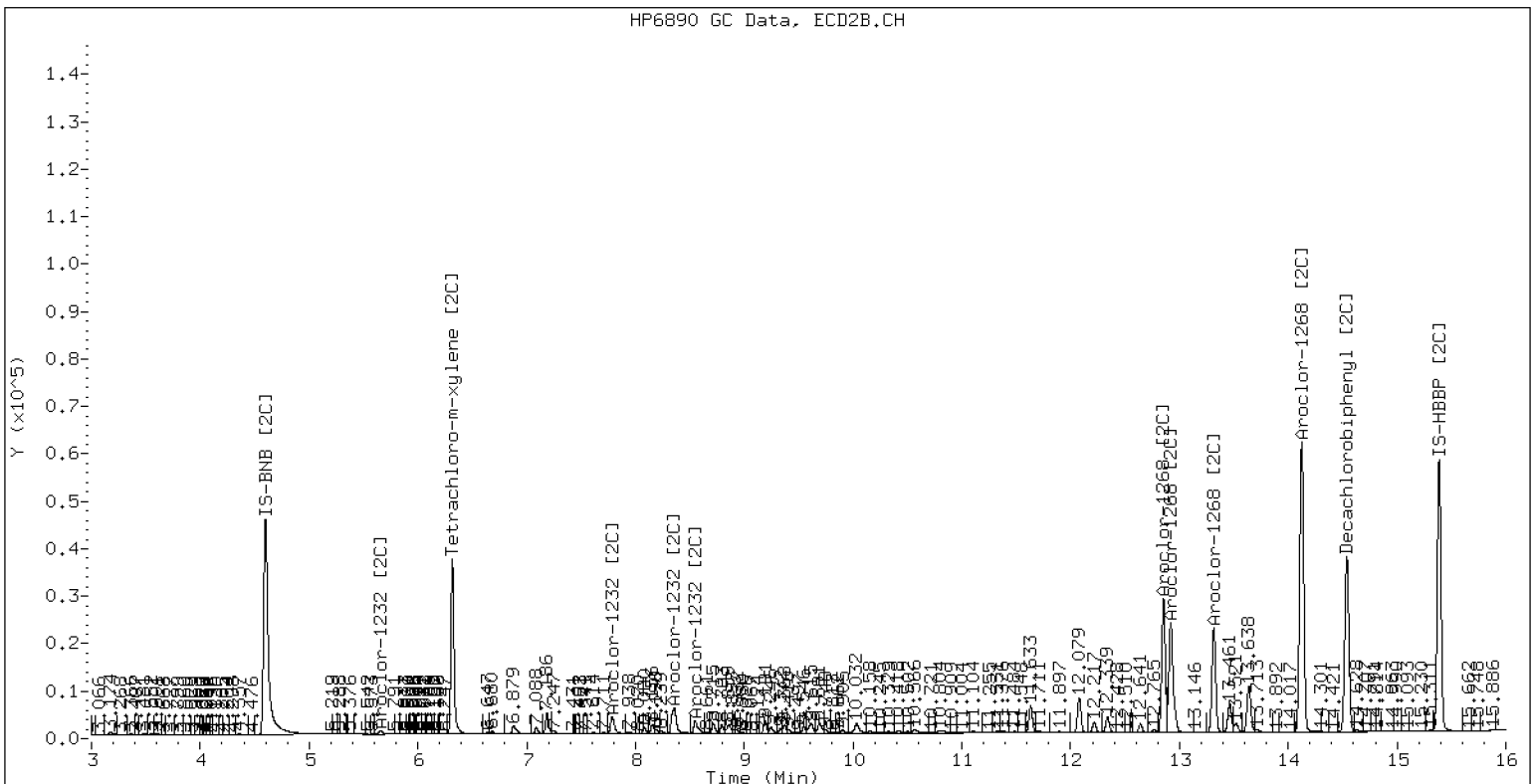
ECD5-ZB5 /20201107.b/20110718.D AR3268

08-NOV-2020 00:04 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110718.D AR3268



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110719.D
Data file 2: /20201107.b/20201107.b/20110719.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 08-NOV-2020 00:25
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1768678	6.316 -0.000 1671040	6.316	43.5	45.4	4.2	Tetrachloro-m-xylene
13.911	0.000 2148388	14.537 -0.001 1552696	14.537	43.5	44.5	2.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.8	113.5
Decachlorobiphenyl	108.7	111.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2781002	2.9
Hexabromobiphenyl	3964848	4175789	5.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2861203	-1.8
Hexabromobiphenyl	2801720	2797797	-0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	271410	238.7	1	7.786	0.001	393153	247.9
Aroclor-1016	2	7.838	0.000	862752	239.1	2	8.355	0.001	796500	247.3
Aroclor-1016	3	7.974	0.001	352765	238.0	3	8.549	0.002	332565	245.9
Aroclor-1016	4	8.287	0.001	232918	236.7	4	9.190	0.001	248432	249.4
Total CollAve (4 peaks):				238.1		Total Col2Ave (4 peaks):				247.6 RPD = 4
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				247.1 RPD = 4
Aroclor-1221	1	---			0.0	1	5.653	0.000	1405	5.5
Aroclor-1221	2	6.553	-0.000	65944	174.2	2	6.880	0.001	59366	114.2
Aroclor-1221	3	6.639	-0.001	198879	185.2	3	7.088	-0.000	38208	136.5
CollAve: <3 Quant Peaks						Col2Ave:				85.4
Aroclor-1232	1	---			0.0	1	5.653	0.000	1405	9.4
Aroclor-1232	2	7.483	-0.000	271410	542.7	2	7.786	-0.000	393153	533.0
Aroclor-1232	3	7.838	0.002	862752	558.9	3	8.355	-0.002	796500	575.4
Aroclor-1232	4	7.974	-0.001	352765	547.1	4	8.549	-0.001	332565	572.5
Total CollAve (3 peaks):				549.6		Total Col2Ave (4 peaks):				422.6 RPD = 26
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				371.6
Aroclor-1242	1	7.483	0.001	271410	302.8	1	7.786	0.002	393153	309.5
Aroclor-1242	2	7.838	0.001	862752	304.6	2	8.355	0.001	796500	307.2
Aroclor-1242	3	9.074	0.002	109530	106.5	3	9.690	0.001	31243	37.0
Aroclor-1242	4	9.350	-0.000	34888	31.0	4	10.031	0.001	13070	12.6
Total CollAve (4 peaks):				186.2		Total Col2Ave (4 peaks):				166.6 RPD = 11
Corrected Ave (3 peaks):				146.8		Corrected Ave (3 peaks):				118.9 RPD = 21
Aroclor-1248	1	8.567	0.002	281188	191.8	1	8.793	0.001	191628	176.0
Aroclor-1248	2	8.729	0.002	363820	204.9	2	9.190	0.000	248432	191.5
Aroclor-1248	3	9.133	0.007	221882	100.7	3	9.586	-0.026	108334	63.3
Aroclor-1248	4	9.350	0.001	34888	21.2	4	10.031	0.002	13070	7.7
Total CollAve (4 peaks):				129.7		Total Col2Ave (4 peaks):				109.6 RPD = 17
Corrected Ave (3 peaks):				104.6		Corrected Ave (3 peaks):				82.4 RPD = 24
Aroclor-1254	1	9.133	0.000	221882	112.9	1	9.904	0.001	150765	86.8
Aroclor-1254	2	9.424	0.002	204233	77.3	2	10.031	0.036	13070	14.3
Aroclor-1254	3	---			0.0	3	10.417	0.002	20814	15.6
Aroclor-1254	4	9.778	0.000	28261	16.2	4	10.592	0.029	383189	132.3
Aroclor-1254	5	9.879	-0.029	205020	59.7	5	11.340	0.008	170588	95.9
Total CollAve (4 peaks):				66.5		Total Col2Ave (5 peaks):				69.0 RPD = 4
Corrected Ave (3 peaks):				51.1		Corrected Ave (4 peaks):				53.2 RPD = 4
Aroclor-1260	1	11.428	0.000	634865	259.4	1	11.631	0.002	451019	269.2
Aroclor-1260	2	11.788	0.000	1575178	257.5	2	12.082	0.001	508923	250.6
Aroclor-1260	3	12.183	0.001	800252	241.6	3	12.337	0.001	1063607	263.6
Aroclor-1260	4	12.291	0.001	371402	272.5	4	13.639	0.001	308000	283.0
Aroclor-1260	5	12.364	0.002	452641	282.6	NS	---			----
Total CollAve (5 peaks):				262.7		Total Col2Ave (4 peaks):				266.6 RPD = 1
Corrected Ave (4 peaks):				257.8		Corrected Ave (3 peaks):				261.1 RPD = 1
Aroclor-1262	1	11.119	0.000	624803	175.2	1	11.631	-0.000	451019	174.8
Aroclor-1262	2	11.788	-0.000	1575178	206.5	2	12.082	0.001	508923	252.4
Aroclor-1262	3	12.183	0.000	800252	300.5	3	12.337	0.000	1063607	206.4
Aroclor-1262	4	12.291	-0.000	371402	158.7	4	12.856	0.002	323033	176.8
Aroclor-1262	5	12.364	0.001	452641	166.5	NS	---			----
Total CollAve (5 peaks):				201.5		Total Col2Ave (4 peaks):				202.6 RPD = 1
Corrected Ave (4 peaks):				176.7		Corrected Ave (3 peaks):				186.0 RPD = 5
Aroclor-1268	1	12.291	-0.000	371402	46.1	1	12.856	0.003	323033	61.6
Aroclor-1268	2	12.364	0.002	452641	58.7	2	12.919	-0.001	744424	143.0
Aroclor-1268	3	12.760	0.020	216757	31.6	3	13.316	-0.000	17319	4.0
Aroclor-1268	4	13.510	-0.001	118822	6.2	4	14.124	0.000	76750	6.0
Total CollAve (4 peaks):				35.6		Total Col2Ave (4 peaks):				53.7 RPD = 40*

Corrected Ave (3 peaks): 28.0 Corrected Ave (3 peaks): 23.9 RPD = 16

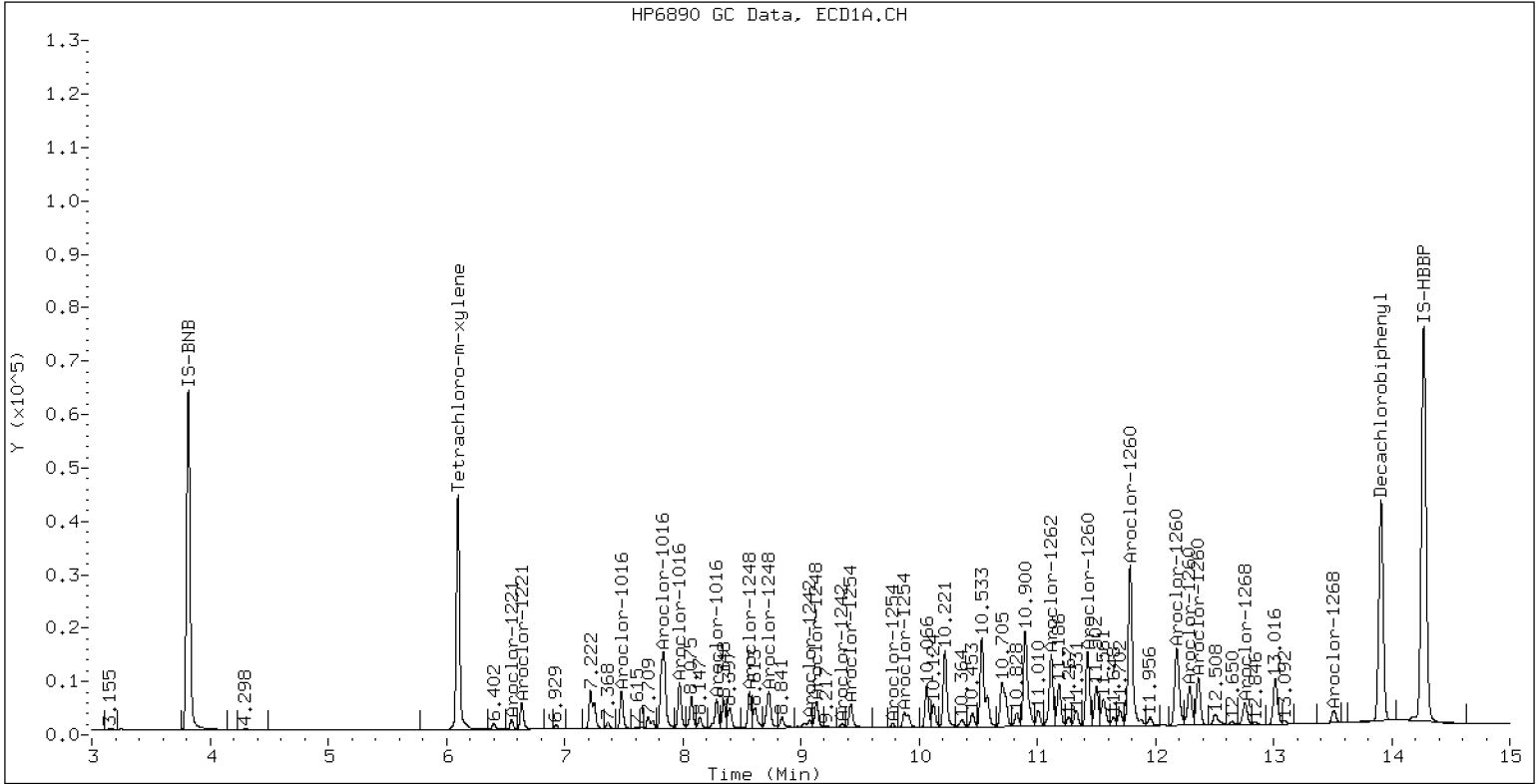
Total PCB Area Col1 (6.199 - 13.810) = 16176119 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13815410 Col2 Total PCB = 0.51 ppm*

* Quantitated against AR1660 0.25ppm in Ical

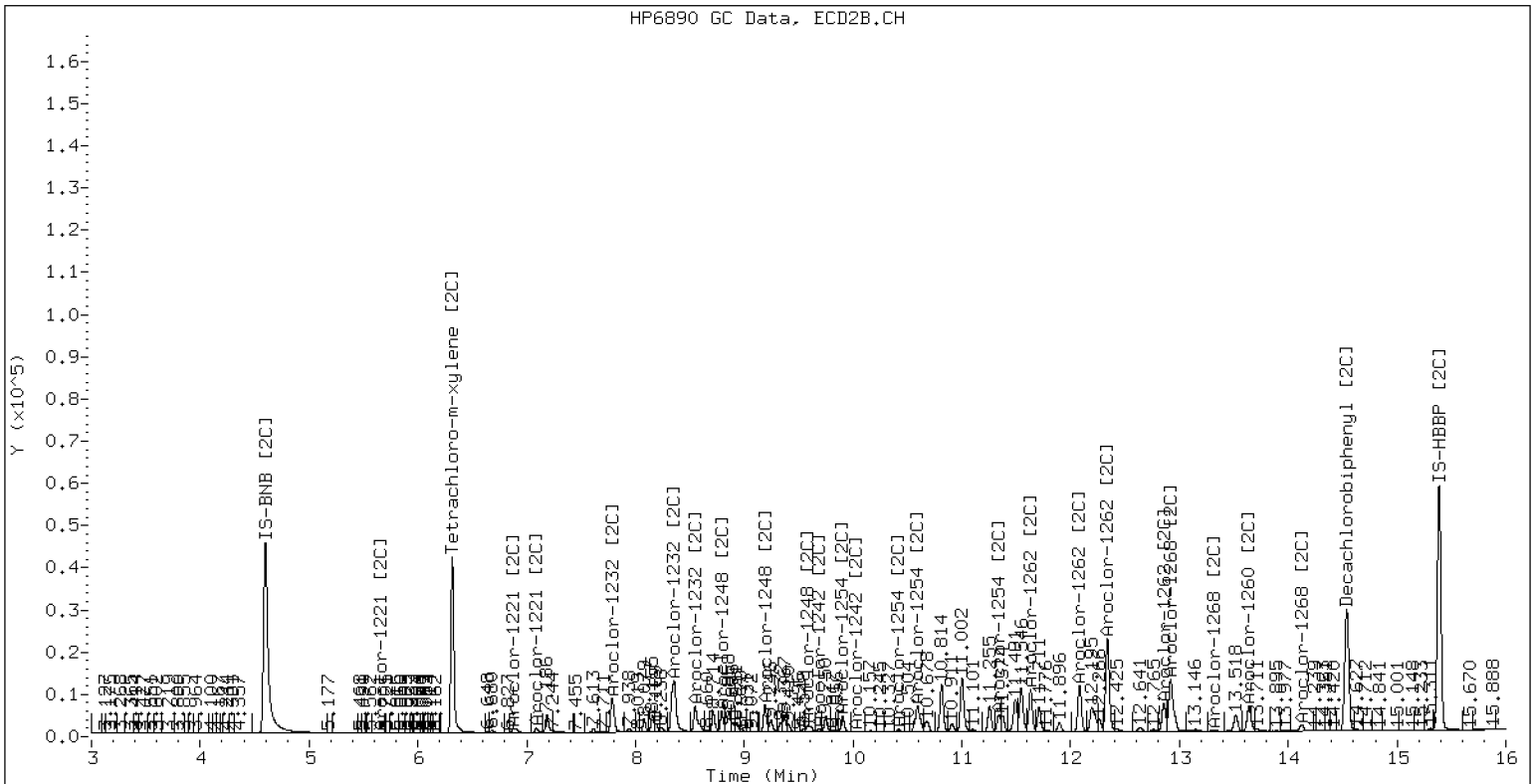
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110719.D AR1660SCV1 08-NOV-2020 00:25 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110719.D AR1660SCV1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110720.D
Data file 2: /20201107.b/20201107.b/20110720.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 08-NOV-2020 00:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1717953	6.316 -0.000 1629017	6.316	42.1	43.8	4.0	Tetrachloro-m-xylene
13.911	0.000 2113749	14.537 -0.001 1521236	14.537	42.7	43.3	1.5	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.2	109.5
Decachlorobiphenyl	106.7	108.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2793790	3.4
Hexabromobiphenyl	3964848	4185237	5.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2890341	-0.8
Hexabromobiphenyl	2801720	2818155	0.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	211136	184.8	1	7.785	-0.000	305654	190.8
Aroclor-1016	2	7.838	0.000	665613	183.6	2	8.355	0.000	616121	189.4
Aroclor-1016	3	7.973	0.001	274102	184.1	3	8.548	0.001	256320	187.6
Aroclor-1016	4	8.287	0.001	189075	191.2	4	9.190	0.001	201588	200.4
Total CollAve (4 peaks):				186.0		Total Col2Ave (4 peaks):				192.0 RPD = 3
Corrected Ave (3 peaks):				184.2		Corrected Ave (3 peaks):				189.3 RPD = 3
Aroclor-1221	1	---			0.0	1	5.654	0.001	1313	5.1
Aroclor-1221	2	6.553	-0.000	55656	146.3	2	6.881	0.001	23212	44.2
Aroclor-1221	3	6.639	-0.001	153135	142.0	3	7.087	-0.001	29111	103.0
CollAve: <3 Quant Peaks						Col2Ave:				50.8
Aroclor-1232	1	---			0.0	1	5.654	0.001	1313	8.7
Aroclor-1232	2	7.482	-0.001	211136	420.2	2	7.785	-0.001	305654	410.2
Aroclor-1232	3	7.838	0.002	665613	429.2	3	8.355	-0.002	616121	440.6
Aroclor-1232	4	7.973	-0.001	274102	423.2	4	8.548	-0.001	256320	436.8
Total CollAve (3 peaks):				424.2		Total Col2Ave (4 peaks):				324.1 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				285.2
Aroclor-1242	1	7.482	0.001	211136	234.5	1	7.785	0.001	305654	238.2
Aroclor-1242	2	7.838	0.001	665613	233.9	2	8.355	0.000	616121	235.2
Aroclor-1242	3	9.073	0.001	234060	226.5	3	9.690	0.000	187475	219.6
Aroclor-1242	4	9.351	0.001	245095	217.0	4	10.031	0.001	238760	227.2
Total CollAve (4 peaks):				228.0		Total Col2Ave (4 peaks):				230.0 RPD = 1
Corrected Ave (3 peaks):				225.8		Corrected Ave (3 peaks):				227.3 RPD = 1
Aroclor-1248	1	8.567	0.002	235033	159.6	1	8.792	0.000	157624	143.3
Aroclor-1248	2	8.730	0.002	304694	170.8	2	9.190	0.001	201588	153.8
Aroclor-1248	3	9.127	0.001	323003	145.9	3	9.613	0.001	241767	139.9
Aroclor-1248	4	9.351	0.002	245095	148.4	4	10.031	0.002	238760	139.3
Total CollAve (4 peaks):				156.2		Total Col2Ave (4 peaks):				144.1 RPD = 8
Corrected Ave (3 peaks):				151.3		Corrected Ave (3 peaks):				140.8 RPD = 7
Aroclor-1254	1	9.127	-0.006	323003	163.7	1	9.904	0.001	78354	44.6
Aroclor-1254	2	9.422	-0.000	149967	56.5	2	10.031	0.035	238760	259.4
Aroclor-1254	3	9.495	0.000	69968	69.3	3	10.417	0.001	61615	45.8
Aroclor-1254	4	9.779	0.001	86289	49.2	4	10.565	0.001	125332	42.8
Aroclor-1254	5	9.911	0.003	155572	45.1	5	11.332	0.001	80027	44.5
Total CollAve (5 peaks):				76.8		Total Col2Ave (5 peaks):				87.4 RPD = 13
Corrected Ave (4 peaks):				55.0		Corrected Ave (4 peaks):				44.5 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	3176	1.9
Aroclor-1260	2	---			0.0	2	12.088	0.007	16451	8.0
Aroclor-1260	3	---			0.0	3	12.343	0.007	8463	2.1
Aroclor-1260	4	---			0.0	4	13.644	0.007	789	0.7
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.2
Aroclor-1262	1	---			0.0	1	11.633	0.002	3176	1.2
Aroclor-1262	2	---			0.0	2	12.088	0.006	16451	8.1
Aroclor-1262	3	---			0.0	3	12.343	0.006	8463	1.6
Aroclor-1262	4	---			0.0	4	12.856	0.002	2240	1.2
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.0
Aroclor-1268	1	---			0.0	1	12.856	0.003	2240	0.4
Aroclor-1268	2	---			0.0	2	12.921	0.000	6254	1.2
Aroclor-1268	3	12.742	0.002	13242	1.9	3	13.317	0.001	7230	1.7
Aroclor-1268	4	13.512	0.001	12975	0.7	4	14.123	-0.000	15318	1.2
CollAve: <3 Quant Peaks						Col2Ave:				1.1

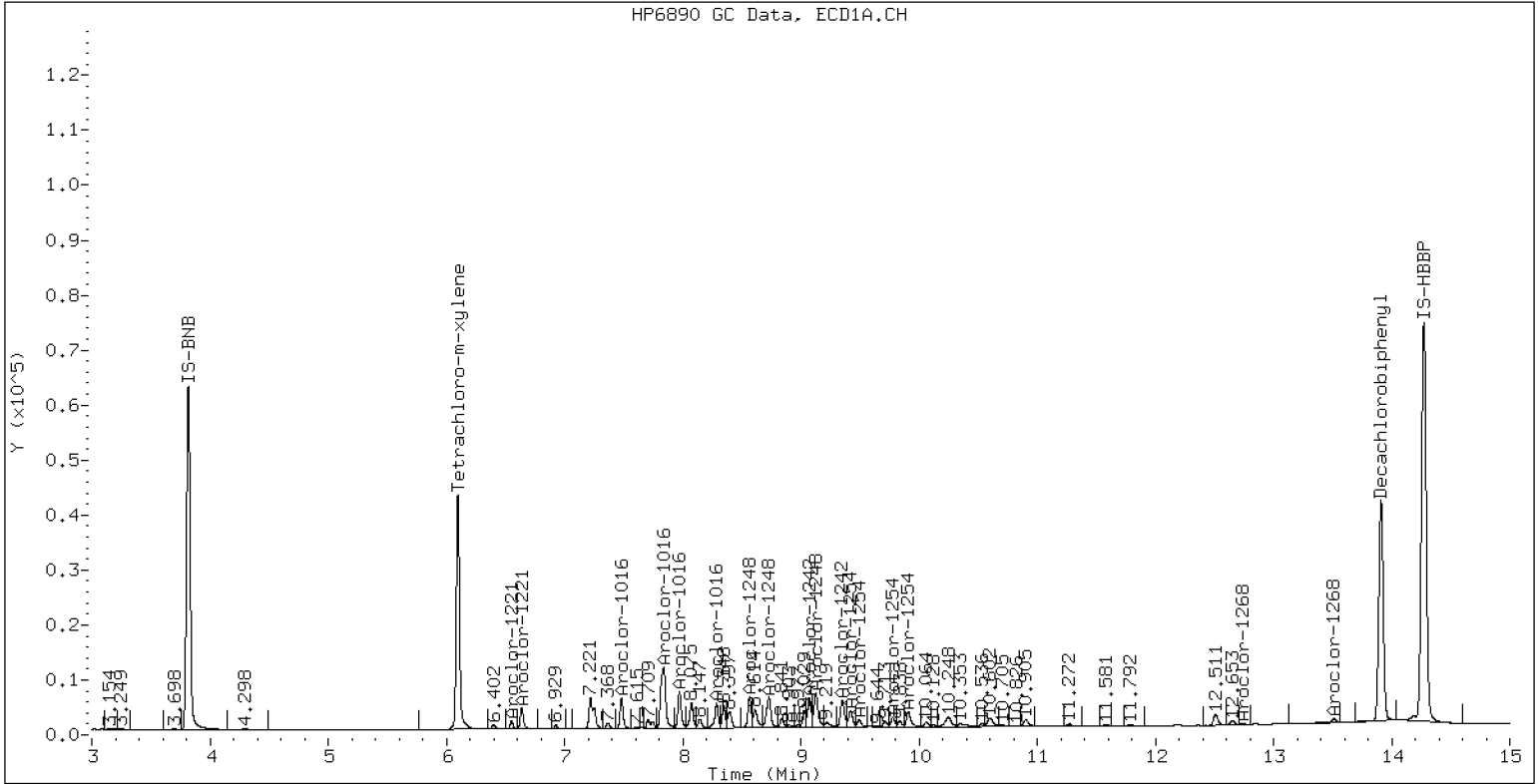
Total PCB Area Col1 (6.199 - 13.810) = 5771112 Col1 Total PCB = 0.18 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 6429126 Col2 Total PCB = 0.24 ppm*

* Quantitated against AR1660 0.25ppm in Ical

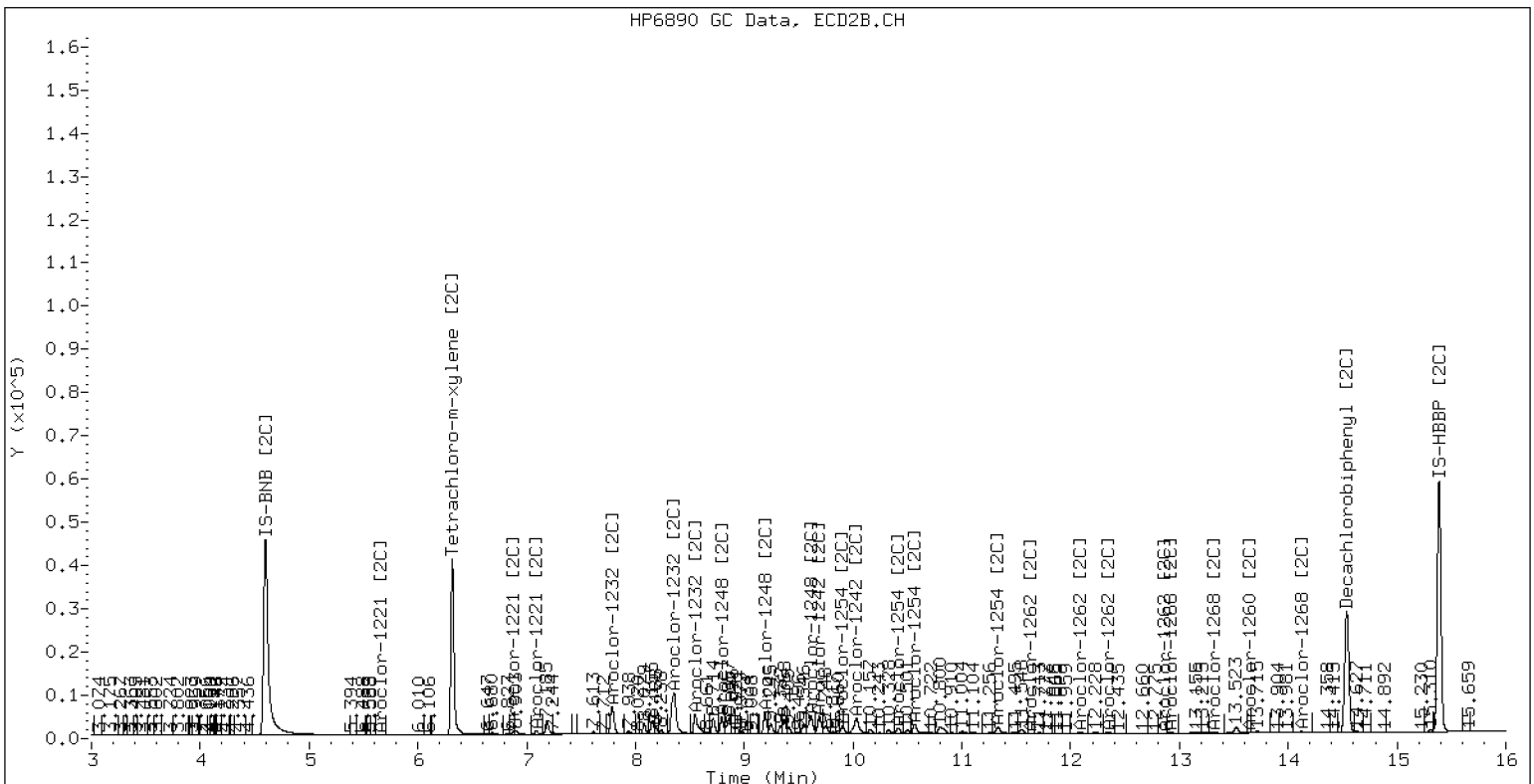
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110720.D AR1242SCV2 08-NOV-2020 00:45 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110720.D AR1242SCV2



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110721.D
Data file 2: /20201107.b/20201107.b/20110721.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 08-NOV-2020 01:06
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1786187	6.316 -0.000 1715006	6.316	43.3	45.4	4.7	Tetrachloro-m-xylene
13.911	0.001 2163167	14.537 -0.001 1579646	14.537	44.1	44.9	1.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.2	113.4
Decachlorobiphenyl	110.3	112.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2823266	4.4
Hexabromobiphenyl	3964848	4141310	4.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2937664	0.8
Hexabromobiphenyl	2801720	2824274	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	112728	97.7	1	7.784	-0.001	171068	105.0
Aroclor-1016	2	7.833	-0.004	467725	127.7	2	8.353	-0.001	437428	132.3
Aroclor-1016	3	7.975	0.002	176217	117.1	3	8.549	0.002	107682	77.6
Aroclor-1016	4	8.287	0.000	311646	311.9	4	9.191	0.001	326638	319.4
Total CollAve (4 peaks):				163.6		Total Col2Ave (4 peaks):				158.6 RPD = 3
Corrected Ave (3 peaks):				114.2		Corrected Ave (3 peaks):				105.0 RPD = 8
Aroclor-1221	1	---			0.0	1	5.647	-0.006	423	1.6
Aroclor-1221	2	6.553	-0.001	33908	88.2	2	6.906	0.027	30771	57.7
Aroclor-1221	3	6.639	-0.001	38833	35.6	3	7.088	-0.000	6801	23.7
CollAve: <3 Quant Peaks						Col2Ave:				27.6
Aroclor-1232	1	---			0.0	1	5.647	-0.006	423	2.8
Aroclor-1232	2	7.482	-0.001	112728	222.0	2	7.784	-0.002	171068	225.9
Aroclor-1232	3	7.833	-0.003	467725	298.5	3	8.353	-0.003	437428	307.8
Aroclor-1232	4	7.975	0.001	176217	269.2	4	8.549	-0.001	107682	180.5
Total CollAve (3 peaks):				263.2		Total Col2Ave (4 peaks):				179.2 RPD = 38
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				136.4
Aroclor-1242	1	7.482	0.001	112728	123.9	1	7.784	0.000	171068	131.2
Aroclor-1242	2	7.833	-0.003	467725	162.7	2	8.353	-0.001	437428	164.3
Aroclor-1242	3	9.073	0.001	419207	401.4	3	9.690	0.000	315629	363.7
Aroclor-1242	4	9.351	0.000	399904	350.4	4	10.030	-0.000	414188	387.7
Total CollAve (4 peaks):				259.6		Total Col2Ave (4 peaks):				261.7 RPD = 1
Corrected Ave (3 peaks):				212.3		Corrected Ave (3 peaks):				219.7 RPD = 3
Aroclor-1248	1	8.566	0.001	367978	247.3	1	8.792	0.000	272694	244.0
Aroclor-1248	2	8.728	0.001	439292	243.7	2	9.191	0.001	326638	245.2
Aroclor-1248	3	9.127	0.001	544503	243.4	3	9.613	0.001	425322	242.2
Aroclor-1248	4	9.351	0.001	399904	239.5	4	10.030	0.000	414188	237.7
Total CollAve (4 peaks):				243.5		Total Col2Ave (4 peaks):				242.3 RPD = 0
Corrected Ave (3 peaks):				242.2		Corrected Ave (3 peaks):				241.3 RPD = 0
Aroclor-1254	1	9.127	-0.006	544503	273.0	1	9.904	0.001	144626	81.1
Aroclor-1254	2	9.421	-0.001	284837	106.2	2	10.030	0.034	414188	442.7
Aroclor-1254	3	9.495	0.000	141607	138.7	3	10.417	0.001	134890	98.7
Aroclor-1254	4	9.778	-0.000	178065	100.5	4	10.565	0.001	248044	83.4
Aroclor-1254	5	9.909	0.001	307474	88.3	5	11.329	-0.002	164143	89.9
Total CollAve (5 peaks):				141.3		Total Col2Ave (5 peaks):				159.1 RPD = 12
Corrected Ave (4 peaks):				108.4		Corrected Ave (4 peaks):				88.2 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	9633	5.7
Aroclor-1260	2	---			0.0	2	12.086	0.005	21593	10.5
Aroclor-1260	3	---			0.0	3	12.342	0.006	17338	4.3
Aroclor-1260	4	---			0.0	4	13.641	0.004	5300	4.8
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				6.3
Aroclor-1262	1	11.121	0.003	12856	3.6	1	11.633	0.002	9633	3.7
Aroclor-1262	2	11.792	0.004	25800	3.4	2	12.086	0.005	21593	10.6
Aroclor-1262	3	---			0.0	3	12.342	0.005	17338	3.3
Aroclor-1262	4	---			0.0	4	12.856	0.002	7295	4.0
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				5.4
Aroclor-1268	1	---			0.0	1	12.856	0.003	7295	1.4
Aroclor-1268	2	---			0.0	2	12.922	0.002	12264	2.3
Aroclor-1268	3	---			0.0	3	13.317	0.001	7874	1.8
Aroclor-1268	4	---			0.0	4	14.123	-0.001	18089	1.4
CollAve: <3 Quant Peaks						Col2Ave:				1.7

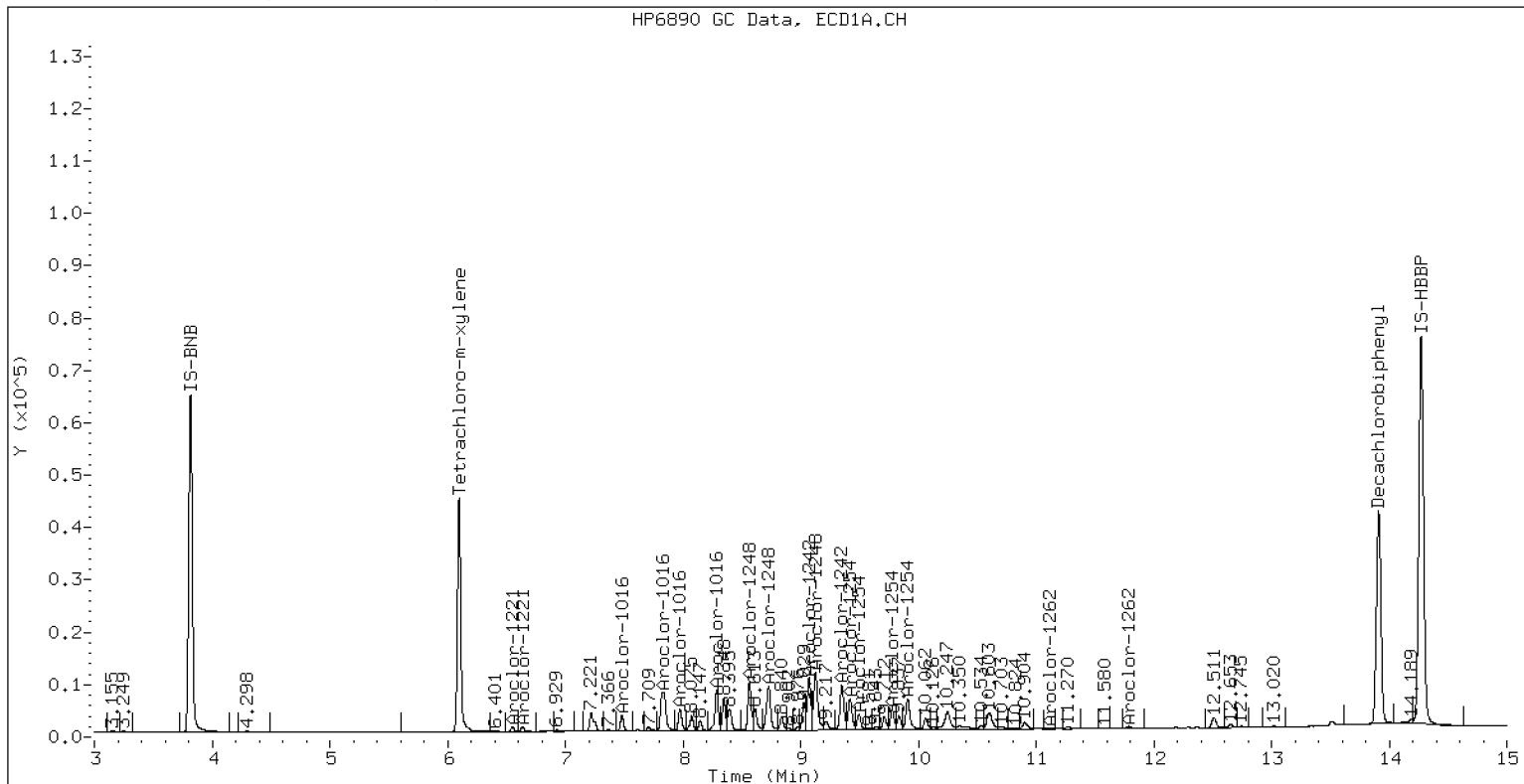
Total PCB Area Col1 (6.199 - 13.810) = 7128733 Col1 Total PCB = 0.23 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7597936 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

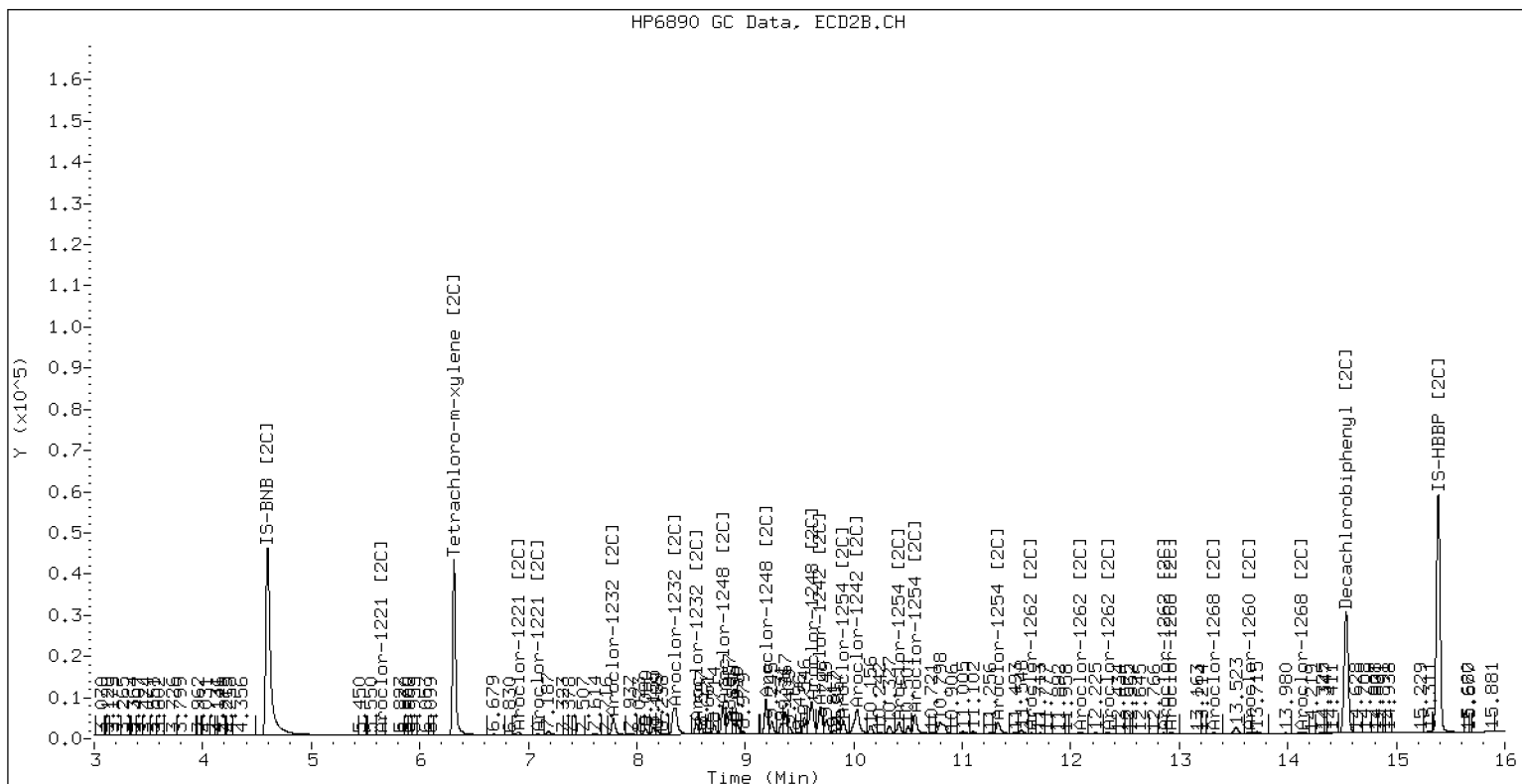
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110721.D AR1248SCV3 08-NOV-2020 01:06 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110721.D AR1248SCV3



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110722.D
Data file 2: /20201107.b/20201107.b/20110722.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 08-NOV-2020 01:27
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1712019	6.316	41.8	43.7	4.5	Tetrachloro-m-xylene
13.910	0.000	2083333	14.538	41.9	43.1	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	109.4
Decachlorobiphenyl	104.7	107.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2799459	3.6
Hexabromobiphenyl	3964848	4200846	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2919916	0.2
Hexabromobiphenyl	2801720	2840178	1.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	7.785	0.000	6697	4.1	
Aroclor-1016	2	7.828	-0.009	17542	4.8	2	8.346	-0.008	16385	5.0	
Aroclor-1016	3	---			0.0	3	8.552	0.005	3112	2.3	
Aroclor-1016	4	8.288	0.001	219577	221.6	4	9.191	0.002	128927	126.8	
CollAve: <3 Quant Peaks						Col2Ave: 34.6					
Aroclor-1221	1	---			0.0	1	5.624	-0.029	291	1.1	
Aroclor-1221	2	---			0.0	2	6.907	0.027	25274	47.7	
Aroclor-1221	3	---			0.0	3	7.088	-0.000	1944	6.8	
CollAve: <3 Quant Peaks						Col2Ave: 18.5					
Aroclor-1232	1	---			0.0	1	5.624	-0.029	291	1.9	
Aroclor-1232	2	---			0.0	2	7.785	-0.001	6697	8.9	
Aroclor-1232	3	---			0.0	3	8.346	-0.011	16385	11.6	
Aroclor-1232	4	---			0.0	4	8.552	0.003	3112	5.2	
CollAve: <3 Quant Peaks						Col2Ave: 6.9					
Aroclor-1242	1	---			0.0	1	7.785	0.001	6697	5.2	
Aroclor-1242	2	7.828	-0.008	17542	6.2	2	8.346	-0.008	16385	6.2	
Aroclor-1242	3	9.074	0.002	256329	247.5	3	9.690	0.000	60213	69.8	
Aroclor-1242	4	9.349	-0.001	156541	138.3	4	9.996	-0.034	242815	228.7	
Total CollAve (3 peaks):				130.7	Total Col2Ave (4 peaks):				77.5	RPD = 51*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				27.1		
Aroclor-1248	1	8.566	0.001	164978	111.8	1	8.793	0.001	197910	178.2	
Aroclor-1248	2	8.730	0.002	71828	40.2	2	9.191	0.002	128927	97.4	
Aroclor-1248	3	9.133	0.007	486586	219.4	3	9.614	0.002	177038	101.4	
Aroclor-1248	4	9.349	-0.000	156541	94.6	4	9.996	-0.034	242815	140.2	
Total CollAve (4 peaks):				116.5	Total Col2Ave (4 peaks):				129.3	RPD = 10	
Corrected Ave (3 peaks):				82.2	Corrected Ave (3 peaks):				113.0	RPD = 32	
Aroclor-1254	1	9.133	-0.000	486586	246.0	1	9.903	0.000	444834	250.8	
Aroclor-1254	2	9.422	0.000	662853	249.3	2	9.996	0.000	242815	261.1	
Aroclor-1254	3	9.495	0.000	257899	254.8	3	10.416	0.001	341296	251.2	
Aroclor-1254	4	9.778	-0.001	441415	251.2	4	10.564	0.001	727860	246.2	
Aroclor-1254	5	9.908	-0.000	848738	245.7	5	11.333	0.001	519064	285.9	
Total CollAve (5 peaks):				249.4	Total Col2Ave (5 peaks):				259.0	RPD = 4	
Corrected Ave (4 peaks):				248.0	Corrected Ave (4 peaks):				252.3	RPD = 2	
Aroclor-1260	1	11.430	0.002	64854	26.3	1	11.631	0.001	37091	21.8	
Aroclor-1260	2	11.790	0.002	138049	22.4	2	12.086	0.005	205656	99.8	
Aroclor-1260	3	12.185	0.004	133982	40.2	3	12.341	0.005	116574	28.5	
Aroclor-1260	4	---			0.0	4	13.640	0.003	4165	3.8	
Aroclor-1260	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				29.7	Total Col2Ave (4 peaks):				38.4	RPD = 26	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				18.0		
Aroclor-1262	1	11.118	-0.001	59307	16.5	1	11.631	-0.000	37091	14.2	
Aroclor-1262	2	11.790	0.002	138049	18.0	2	12.086	0.005	205656	100.5	
Aroclor-1262	3	12.185	0.003	133982	50.0	3	12.341	0.004	116574	22.3	
Aroclor-1262	4	---			0.0	4	12.864	0.009	14192	7.7	
Aroclor-1262	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				28.2	Total Col2Ave (4 peaks):				36.1	RPD = 25	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				14.7		
Aroclor-1268	1	---			0.0	1	12.864	0.010	14192	2.7	
Aroclor-1268	2	---			0.0	2	12.920	-0.000	81668	15.5	
Aroclor-1268	3	---			0.0	3	13.317	0.000	7030	1.6	
Aroclor-1268	4	---			0.0	4	14.124	-0.000	15811	1.2	
CollAve: <3 Quant Peaks						Col2Ave: 5.2					

Total PCB Area Col1 (6.199 - 13.810) = 9405930 Col1 Total PCB = 0.30 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 8871291 Col2 Total PCB = 0.33 ppm*

* Quantitated against AR1660 0.25ppm in Ical

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110723.D
Data file 2: /20201107.b/20201107.b/20110723.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 08-NOV-2020 01:47
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1737995	6.316 -0.000 1613562	42.8	44.1	3.0	Tetrachloro-m-xylene
13.910	-0.000 2134891	14.538 -0.000 1538406	42.8	44.0	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.1	110.3
Decachlorobiphenyl	107.1	110.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2776223	2.7
Hexabromobiphenyl	3964848	4210359	6.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2842470	-2.5
Hexabromobiphenyl	2801720	2805318	0.1

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	30410	26.8	1	7.788	0.003	65236	41.4
Aroclor-1016	2	7.839	0.002	81443	22.6	2	8.357	0.003	70881	22.2
Aroclor-1016	3	7.974	0.001	38317	25.9	3	8.550	0.003	33386	24.9
Aroclor-1016	4	8.287	0.001	19732	20.1	4	9.192	0.002	15613	15.8
Total CollAve (4 peaks):				23.8	Total Col2Ave (4 peaks):				26.0	RPD = 9
Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				20.9	RPD = 9
Aroclor-1221	1	5.080	-0.001	66212	248.5	1	5.653	-0.000	60198	236.4
Aroclor-1221	2	6.553	-0.001	95038	251.4	2	6.879	-0.001	126187	244.4
Aroclor-1221	3	6.639	-0.001	259584	242.2	3	7.088	-0.001	66732	240.0
Total CollAve (3 peaks):				247.4	Total Col2Ave (3 peaks):				240.3	RPD = 3
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.080	-0.001	66212	416.5	1	5.653	-0.001	60198	405.1
Aroclor-1232	2	7.483	-0.000	30410	60.9	2	7.788	0.002	65236	89.0
Aroclor-1232	3	7.839	0.003	81443	52.9	3	8.357	0.001	70881	51.5
Aroclor-1232	4	7.974	-0.000	38317	59.5	4	8.550	0.001	33386	57.8
Total CollAve (4 peaks):				147.5	Total Col2Ave (4 peaks):				150.9	RPD = 2
Corrected Ave (3 peaks):				57.8	Corrected Ave (3 peaks):				66.1	RPD = 14
Aroclor-1242	1	7.483	0.002	30410	34.0	1	7.788	0.004	65236	51.7
Aroclor-1242	2	7.839	0.003	81443	28.8	2	8.357	0.003	70881	27.5
Aroclor-1242	3	9.076	0.003	30780	30.0	3	9.693	0.004	11440	13.6
Aroclor-1242	4	9.351	0.001	23491	20.9	4	10.032	0.002	13795	13.3
Total CollAve (4 peaks):				28.4	Total Col2Ave (4 peaks):				26.5	RPD = 7
Corrected Ave (3 peaks):				26.6	Corrected Ave (3 peaks):				18.2	RPD = 38
Aroclor-1248	1	8.567	0.002	23731	16.2	1	8.793	0.001	18603	17.2
Aroclor-1248	2	8.730	0.003	25406	14.3	2	9.192	0.002	15613	12.1
Aroclor-1248	3	9.133	0.008	101088	46.0	3	9.616	0.004	20274	11.9
Aroclor-1248	4	9.351	0.002	23491	14.3	4	10.032	0.003	13795	8.2
Total CollAve (4 peaks):				22.7	Total Col2Ave (4 peaks):				12.4	RPD = 59*
Corrected Ave (3 peaks):				15.0	Corrected Ave (3 peaks):				10.7	RPD = 33
Aroclor-1254	1	9.133	0.000	101088	51.5	1	9.904	0.001	85281	49.4
Aroclor-1254	2	9.424	0.002	108135	41.0	2	9.999	0.003	11045	12.2
Aroclor-1254	3	9.496	0.001	17294	17.2	3	10.418	0.002	18195	13.8
Aroclor-1254	4	9.779	0.001	23497	13.5	4	10.593	0.030	346886	120.5
Aroclor-1254	5	9.879	-0.029	149776	43.7	5	11.376	0.044	326997	185.0
Total CollAve (5 peaks):				33.4	Total Col2Ave (5 peaks):				76.2	RPD = 78*
Corrected Ave (4 peaks):				28.9	Corrected Ave (4 peaks):				49.0	RPD = 52*
Aroclor-1260	1	11.429	0.001	741770	300.6	1	11.631	0.002	638841	380.3
Aroclor-1260	2	11.788	0.001	1731968	280.8	2	12.081	-0.000	610611	299.9
Aroclor-1260	3	12.183	0.001	610779	182.9	3	12.338	0.002	1183981	292.6
Aroclor-1260	4	12.291	0.000	743514	541.1	4	13.639	0.001	494159	452.8
Aroclor-1260	5	12.364	0.001	780256	483.1	NS	---			----
Total CollAve (5 peaks):				357.7	Total Col2Ave (4 peaks):				356.4	RPD = 0
Corrected Ave (4 peaks):				311.8	Corrected Ave (3 peaks):				324.3	RPD = 4
Aroclor-1262	1	11.119	0.001	875129	243.4	1	11.631	-0.000	638841	246.9
Aroclor-1262	2	11.788	0.000	1731968	225.1	2	12.081	-0.000	610611	302.0
Aroclor-1262	3	12.183	0.000	610779	227.4	3	12.338	0.001	1183981	229.2
Aroclor-1262	4	12.291	-0.000	743514	315.2	4	12.855	0.000	557952	304.5
Aroclor-1262	5	12.364	0.000	780256	284.6	NS	---			----
Total CollAve (5 peaks):				259.1	Total Col2Ave (4 peaks):				270.7	RPD = 4
Corrected Ave (4 peaks):				245.1	Corrected Ave (3 peaks):				259.4	RPD = 6
Aroclor-1268	1	12.291	-0.000	743514	91.5	1	12.855	0.001	557952	106.0
Aroclor-1268	2	12.364	0.002	780256	100.3	2	12.920	0.000	853918	163.6
Aroclor-1268	3	12.758	0.019	326534	47.2	3	13.316	-0.000	41584	9.7
Aroclor-1268	4	13.510	-0.000	278331	14.4	4	14.123	-0.001	178527	14.0

Total Col1Ave (4 peaks):	63.3	Total Col2Ave (4 peaks):	73.3	RPD = 15
Corrected Ave (3 peaks):	51.0	Corrected Ave (3 peaks):	43.2	RPD = 17

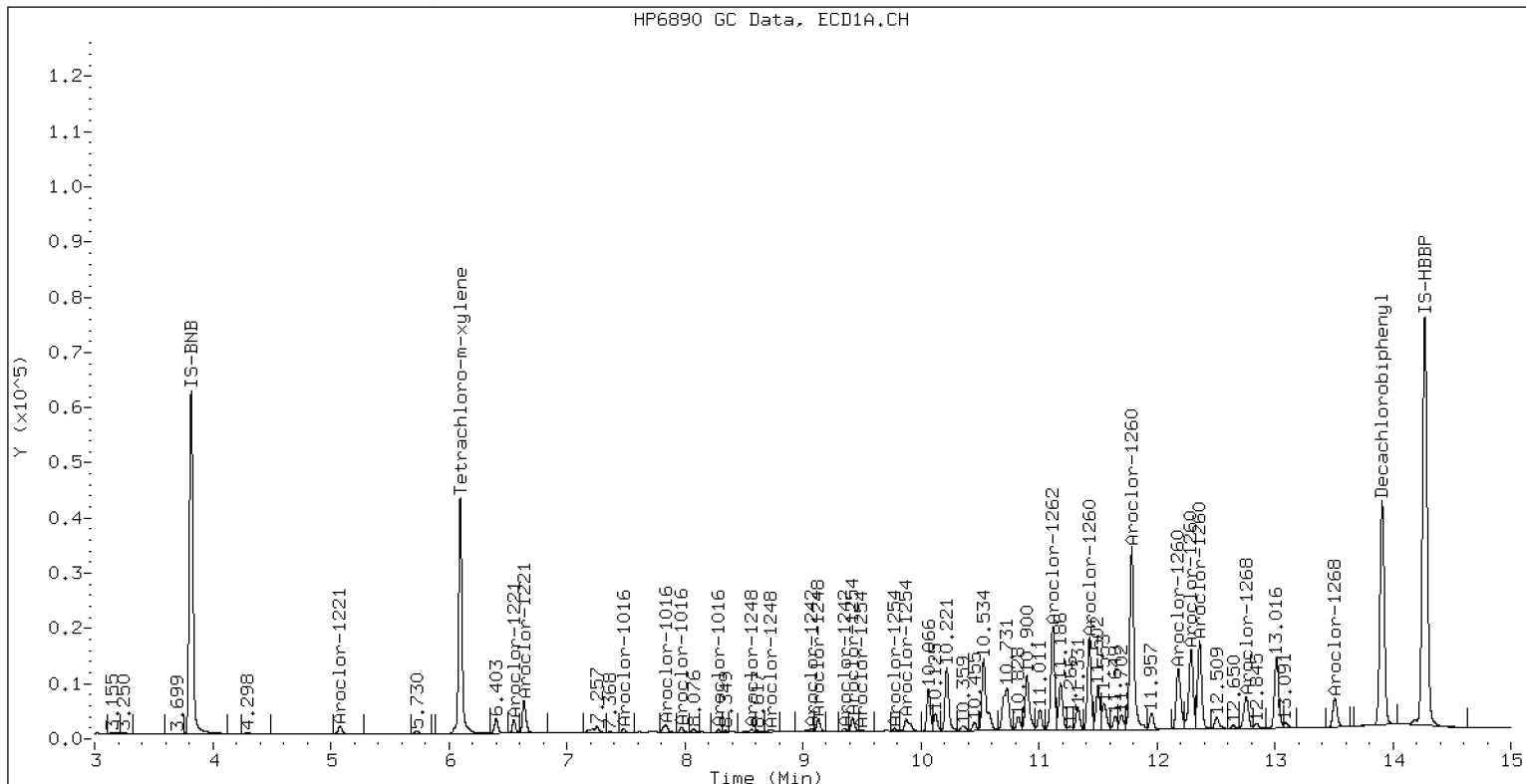
Total PCB Area Col1 (6.199 - 13.810) = 13102993 Col1 Total PCB = 0.42 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10950200 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical

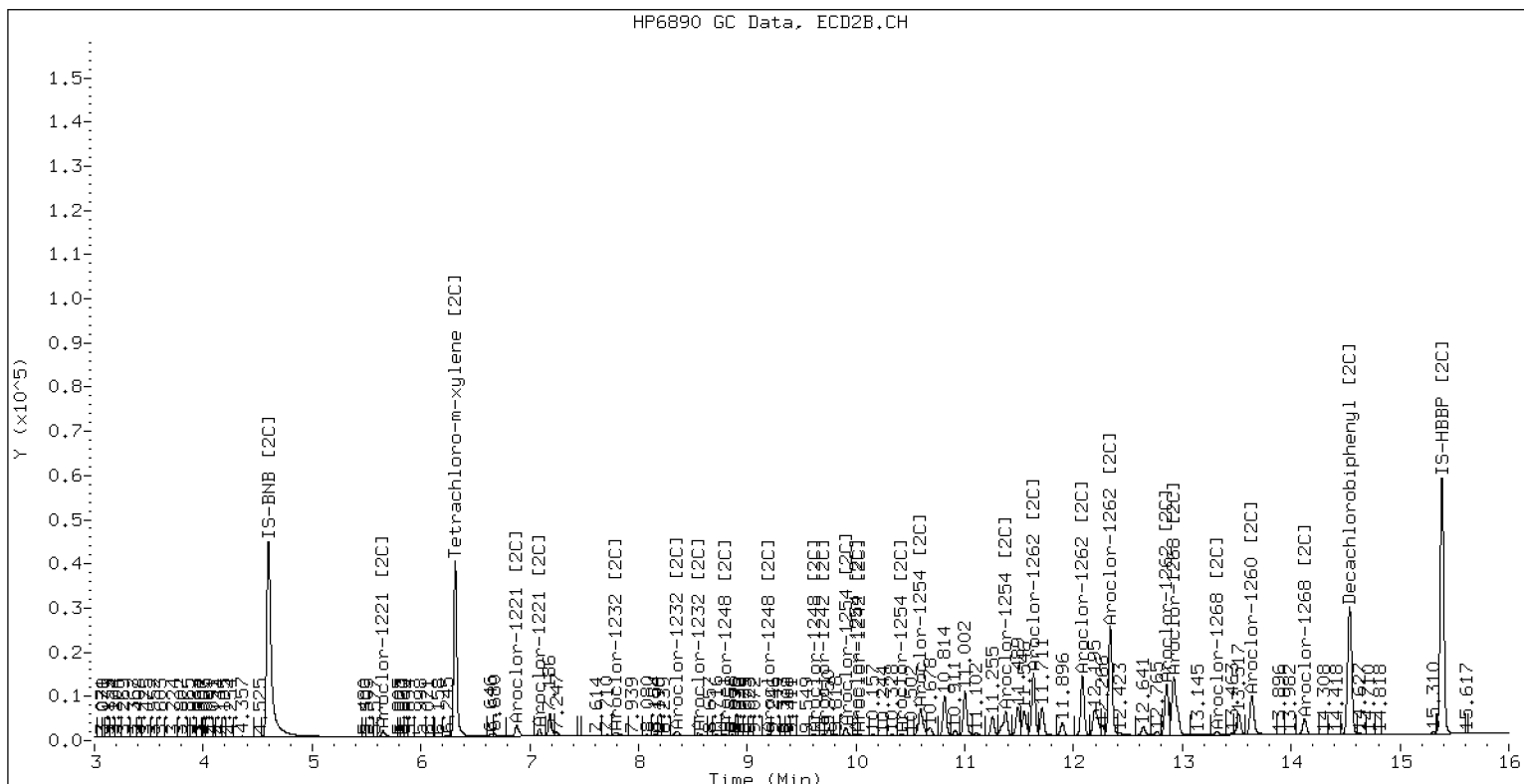
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110723.D AR2162SCV5 08-NOV-2020 01:47 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110723.D AR2162SCV5



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110724.D
Data file 2: /20201107.b/20201107.b/20110724.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 08-NOV-2020 02:08
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1743413	6.316 -0.000 1641765	43.1	44.7	3.6	Tetrachloro-m-xylene
13.911	0.000 2975643	14.538 -0.000 2140703	60.1	61.3	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.7	111.7
Decachlorobiphenyl	150.2	153.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2767662	2.4
Hexabromobiphenyl	3964848	4183877	5.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2856088	-2.0
Hexabromobiphenyl	2801720	2802153	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	131051	115.8	1	7.785	-0.000	195849	123.7
Aroclor-1016	2	7.838	0.001	401155	111.7	2	8.356	0.002	368649	114.7
Aroclor-1016	3	7.974	0.001	168393	114.2	3	8.549	0.002	155352	115.1
Aroclor-1016	4	8.287	0.001	102013	104.2	4	9.190	0.001	112207	112.9
Total CollAve (4 peaks):				111.5		Total Col2Ave (4 peaks):				116.6 RPD = 4
Corrected Ave (3 peaks):				110.0		Corrected Ave (3 peaks):				114.2 RPD = 4
Aroclor-1221	1	5.080	-0.001	40014	150.7	1	5.653	-0.000	34530	134.9
Aroclor-1221	2	6.553	-0.000	73712	195.6	2	6.880	0.000	87616	168.9
Aroclor-1221	3	6.639	-0.001	210368	196.9	3	7.088	-0.000	47040	168.4
Total CollAve (3 peaks):				181.1		Total Col2Ave (3 peaks):				157.4 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	5.080	-0.001	40014	252.5	1	5.653	-0.001	34530	231.3
Aroclor-1232	2	7.483	-0.000	131051	263.3	2	7.785	-0.001	195849	266.0
Aroclor-1232	3	7.838	0.002	401155	261.1	3	8.356	-0.001	368649	266.8
Aroclor-1232	4	7.974	-0.000	168393	262.4	4	8.549	-0.000	155352	267.9
Total CollAve (4 peaks):				259.8		Total Col2Ave (4 peaks):				258.0 RPD = 1
Corrected Ave (3 peaks):				258.7		Corrected Ave (3 peaks):				254.7 RPD = 2
Aroclor-1242	1	7.483	0.002	131051	146.9	1	7.785	0.001	195849	154.5
Aroclor-1242	2	7.838	0.002	401155	142.3	2	8.356	0.002	368649	142.4
Aroclor-1242	3	9.074	0.002	132607	129.5	3	9.691	0.002	109009	129.2
Aroclor-1242	4	9.353	0.002	142025	126.9	4	10.032	0.002	130833	126.0
Total CollAve (4 peaks):				136.4		Total Col2Ave (4 peaks):				138.0 RPD = 1
Corrected Ave (3 peaks):				132.9		Corrected Ave (3 peaks):				132.5 RPD = 0
Aroclor-1248	1	8.567	0.002	132576	90.9	1	8.793	0.001	83373	76.7
Aroclor-1248	2	8.729	0.002	170920	96.7	2	9.190	0.001	112207	86.6
Aroclor-1248	3	9.127	0.002	181590	82.8	3	9.614	0.002	138940	81.4
Aroclor-1248	4	9.353	0.003	142025	86.8	4	10.032	0.003	130833	77.2
Total CollAve (4 peaks):				89.3		Total Col2Ave (4 peaks):				80.5 RPD = 10
Corrected Ave (3 peaks):				86.8		Corrected Ave (3 peaks):				78.4 RPD = 10
Aroclor-1254	1	9.127	-0.006	181590	92.9	1	9.904	0.001	29380	16.9
Aroclor-1254	2	9.421	-0.001	64235	24.4	2	10.032	0.037	130833	143.8
Aroclor-1254	3	9.496	0.002	30966	30.9	3	10.417	0.002	20905	15.7
Aroclor-1254	4	9.781	0.002	29729	17.1	4	10.566	0.003	46531	16.1
Aroclor-1254	5	9.912	0.004	60353	17.7	5	11.332	0.001	21068	11.9
Total CollAve (5 peaks):				36.6		Total Col2Ave (5 peaks):				40.9 RPD = 11
Corrected Ave (4 peaks):				22.5		Corrected Ave (4 peaks):				15.2 RPD = 39
Aroclor-1260	1	11.430	0.002	34671	14.1	1	11.633	0.003	258365	154.0
Aroclor-1260	2	11.790	0.002	246913	40.3	2	12.078	-0.003	343198	168.7
Aroclor-1260	3	---	---	0.0	0.0	3	12.338	0.002	164339	40.7
Aroclor-1260	4	12.292	0.001	1912387	1400.7	4	13.638	0.000	497644	456.5
Aroclor-1260	5	12.362	-0.000	1837427	1144.8	NS	---	---	---	---
Total CollAve (4 peaks):				650.0		Total Col2Ave (4 peaks):				205.0 RPD = 104*
Corrected Ave (3 peaks):				399.7		Corrected Ave (3 peaks):				121.1 RPD = 107*
Aroclor-1262	1	11.121	0.002	347620	97.3	1	11.633	0.001	258365	100.0
Aroclor-1262	2	11.790	0.002	246913	32.3	2	12.078	-0.003	343198	169.9
Aroclor-1262	3	---	---	0.0	0.0	3	12.338	0.001	164339	31.8
Aroclor-1262	4	12.292	0.001	1912387	815.8	4	12.854	-0.001	1334495	729.2
Aroclor-1262	5	12.362	-0.001	1837427	674.4	NS	---	---	---	---
Total CollAve (4 peaks):				405.0		Total Col2Ave (4 peaks):				257.7 RPD = 44*
Corrected Ave (3 peaks):				268.0		Corrected Ave (3 peaks):				100.6 RPD = 91*
Aroclor-1268	1	12.292	0.000	1912387	236.9	1	12.854	0.000	1334495	253.9
Aroclor-1268	2	12.362	0.000	1837427	237.6	2	12.921	0.000	1312481	251.8
Aroclor-1268	3	12.740	-0.000	1605338	233.6	3	13.316	-0.000	1091359	253.9
Aroclor-1268	4	13.511	0.001	4630331	240.6	4	14.123	-0.001	3223735	253.2

Total Col1Ave (4 peaks):	237.2	Total Col2Ave (4 peaks):	253.2	RPD = 7
Corrected Ave (3 peaks):	236.1	Corrected Ave (3 peaks):	253.0	RPD = 7

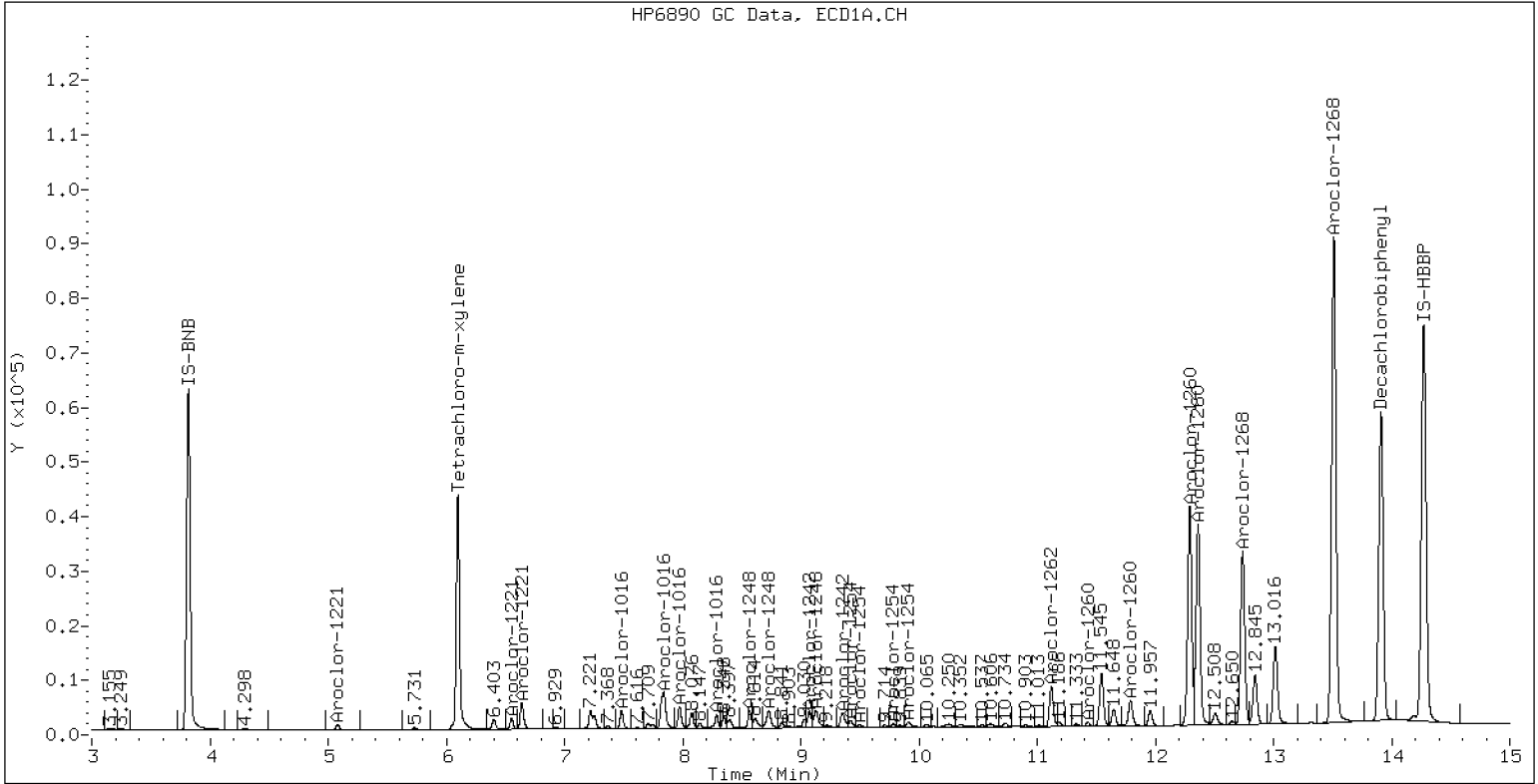
Total PCB Area Col1 (6.199 - 13.810) = 16074939 Col1 Total PCB = 0.51 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10113183 Col2 Total PCB = 0.37 ppm*

* Quantitated against AR1660 0.25ppm in Ical

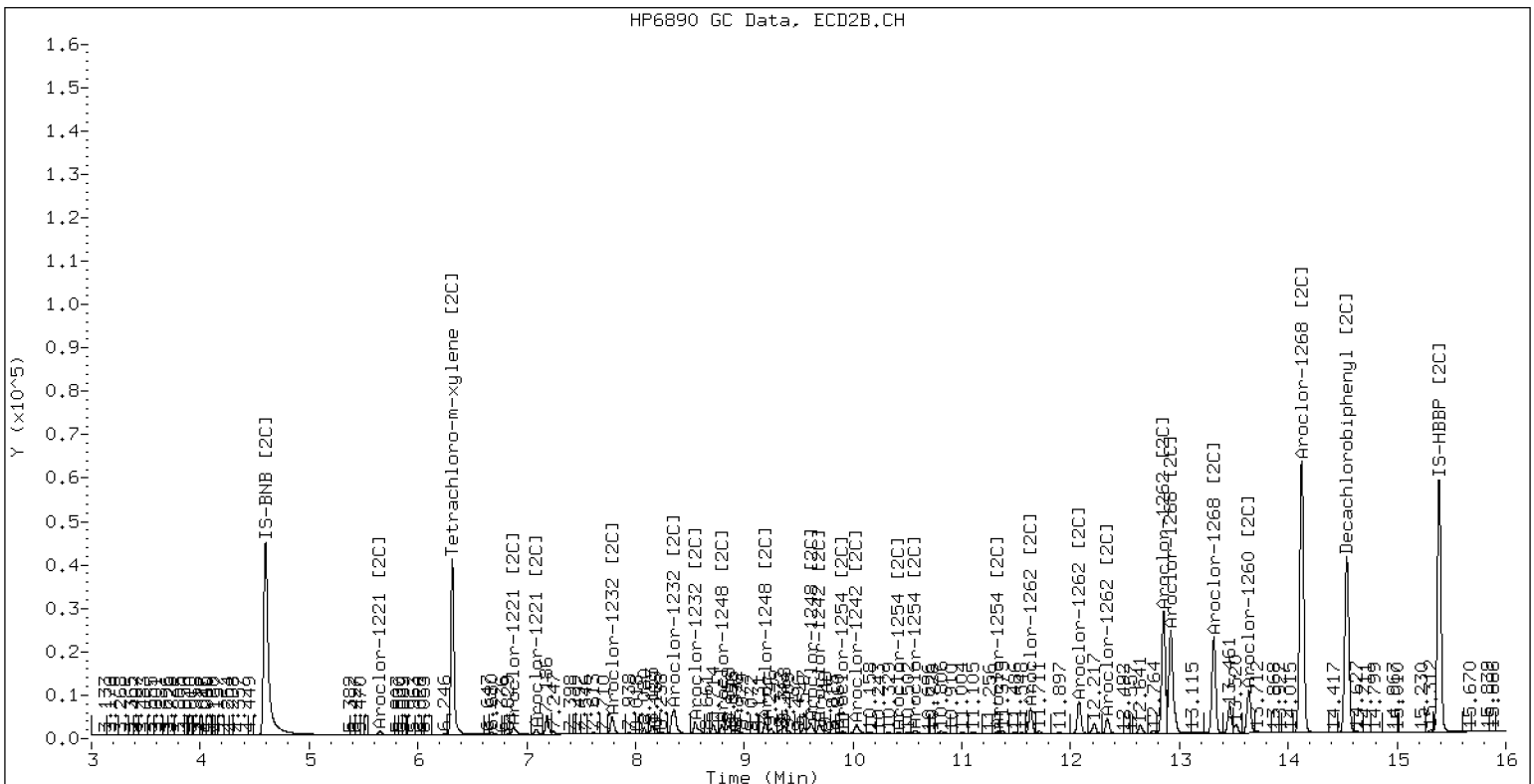
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110724.D AR3268SCV6 08-NOV-2020 02:08 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110724.D AR3268SCV6



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20201107.b/20110725.D

ARI ID: 0.1PPMDDTS

RT	ZB5 Col Shift Response		ZB35 Col Shift Response		ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.390	0.000 3222041		9.995 0.000 2741952		0.100	0.100	0.0	2,4-DDE
9.912	0.000 3383950		10.356 0.000 4336078		0.100	0.100	0.0	2,4-DDD
10.394	0.000 3514818		11.095 0.000 6138902		0.100	0.200#	66.7*	2,4-DDT
9.794	0.000 5276106		10.655 0.000 2723920		0.100	0.100	0.0	4,4-DDE
10.344	0.000 4792815		11.095 0.000 6138902		0.100	0.200#	66.7*	4,4-DDD
10.837	0.000 4197113		11.526 0.000 3158655		0.100	0.100	0.0	4,4-DDT

Indicates value is from co-eluting peaks

* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20201107.b/20110726.D

ARI ID: BD

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.357	-0.033 37929	9.994 -0.002 2754	0.001	0.000	168.9*	2,4-DDE	
0.000	-9.912 0	10.360 0.003 124864	0.000	0.003	----	2,4-DDD	
0.000	-10.394 0	11.105 0.010 409402	0.000	0.014#	----	2,4-DDT	
9.798	0.004 183463	10.654 -0.001 1364	0.004	0.000	194.4*	4,4-DDE	
10.349	0.005 516643	11.105 0.010 409402	0.011	0.014#	19.9	4,4-DDD	
10.838	0.001 4198636	11.527 0.001 3084958	0.104	0.100	3.7	4,4-DDT	

Indicates value is from co-eluting peaks

* Indicates RPD > 40%



SECOND-SOURCE CALIBRATION VERIFICATION EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV1

Sequence: SIK0223

Sequence Name: AR1660SCV1

Standard ID: I005063

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	238	-4.7	20.00
Aroclor 1016 [2C]	250.00	248	-0.9	20.00
Aroclor 1260	250.00	263	5.1	20.00
Aroclor 1260 [2C]	250.00	267	6.6	20.00
Decachlorobiphenyl	40.000	43.5	8.7	20.00
Tetrachlorometaxylene	40.000	43.5	8.8	20.00
Decachlorobiphenyl [2C]	40.000	44.5	11.3	20.00
Tetrachlorometaxylene [2C]	40.000	45.4	13.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110719.D
Data file 2: /20201107.b/20201107.b/20110719.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 08-NOV-2020 00:25
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1768678	6.316 -0.000 1671040	6.316	43.5	45.4	4.2	Tetrachloro-m-xylene
13.911	0.000 2148388	14.537 -0.001 1552696	14.537	43.5	44.5	2.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.8	113.5
Decachlorobiphenyl	108.7	111.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2781002	2.9
Hexabromobiphenyl	3964848	4175789	5.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2861203	-1.8
Hexabromobiphenyl	2801720	2797797	-0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	271410	238.7	1	7.786	0.001	393153	247.9
Aroclor-1016	2	7.838	0.000	862752	239.1	2	8.355	0.001	796500	247.3
Aroclor-1016	3	7.974	0.001	352765	238.0	3	8.549	0.002	332565	245.9
Aroclor-1016	4	8.287	0.001	232918	236.7	4	9.190	0.001	248432	249.4
Total CollAve (4 peaks):				238.1		Total Col2Ave (4 peaks):				247.6 RPD = 4
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				247.1 RPD = 4
Aroclor-1221	1	---			0.0	1	5.653	0.000	1405	5.5
Aroclor-1221	2	6.553	-0.000	65944	174.2	2	6.880	0.001	59366	114.2
Aroclor-1221	3	6.639	-0.001	198879	185.2	3	7.088	-0.000	38208	136.5
CollAve: <3 Quant Peaks						Col2Ave:				85.4
Aroclor-1232	1	---			0.0	1	5.653	0.000	1405	9.4
Aroclor-1232	2	7.483	-0.000	271410	542.7	2	7.786	-0.000	393153	533.0
Aroclor-1232	3	7.838	0.002	862752	558.9	3	8.355	-0.002	796500	575.4
Aroclor-1232	4	7.974	-0.001	352765	547.1	4	8.549	-0.001	332565	572.5
Total CollAve (3 peaks):				549.6		Total Col2Ave (4 peaks):				422.6 RPD = 26
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				371.6
Aroclor-1242	1	7.483	0.001	271410	302.8	1	7.786	0.002	393153	309.5
Aroclor-1242	2	7.838	0.001	862752	304.6	2	8.355	0.001	796500	307.2
Aroclor-1242	3	9.074	0.002	109530	106.5	3	9.690	0.001	31243	37.0
Aroclor-1242	4	9.350	-0.000	34888	31.0	4	10.031	0.001	13070	12.6
Total CollAve (4 peaks):				186.2		Total Col2Ave (4 peaks):				166.6 RPD = 11
Corrected Ave (3 peaks):				146.8		Corrected Ave (3 peaks):				118.9 RPD = 21
Aroclor-1248	1	8.567	0.002	281188	191.8	1	8.793	0.001	191628	176.0
Aroclor-1248	2	8.729	0.002	363820	204.9	2	9.190	0.000	248432	191.5
Aroclor-1248	3	9.133	0.007	221882	100.7	3	9.586	-0.026	108334	63.3
Aroclor-1248	4	9.350	0.001	34888	21.2	4	10.031	0.002	13070	7.7
Total CollAve (4 peaks):				129.7		Total Col2Ave (4 peaks):				109.6 RPD = 17
Corrected Ave (3 peaks):				104.6		Corrected Ave (3 peaks):				82.4 RPD = 24
Aroclor-1254	1	9.133	0.000	221882	112.9	1	9.904	0.001	150765	86.8
Aroclor-1254	2	9.424	0.002	204233	77.3	2	10.031	0.036	13070	14.3
Aroclor-1254	3	---			0.0	3	10.417	0.002	20814	15.6
Aroclor-1254	4	9.778	0.000	28261	16.2	4	10.592	0.029	383189	132.3
Aroclor-1254	5	9.879	-0.029	205020	59.7	5	11.340	0.008	170588	95.9
Total CollAve (4 peaks):				66.5		Total Col2Ave (5 peaks):				69.0 RPD = 4
Corrected Ave (3 peaks):				51.1		Corrected Ave (4 peaks):				53.2 RPD = 4
Aroclor-1260	1	11.428	0.000	634865	259.4	1	11.631	0.002	451019	269.2
Aroclor-1260	2	11.788	0.000	1575178	257.5	2	12.082	0.001	508923	250.6
Aroclor-1260	3	12.183	0.001	800252	241.6	3	12.337	0.001	1063607	263.6
Aroclor-1260	4	12.291	0.001	371402	272.5	4	13.639	0.001	308000	283.0
Aroclor-1260	5	12.364	0.002	452641	282.6	NS	---			----
Total CollAve (5 peaks):				262.7		Total Col2Ave (4 peaks):				266.6 RPD = 1
Corrected Ave (4 peaks):				257.8		Corrected Ave (3 peaks):				261.1 RPD = 1
Aroclor-1262	1	11.119	0.000	624803	175.2	1	11.631	-0.000	451019	174.8
Aroclor-1262	2	11.788	-0.000	1575178	206.5	2	12.082	0.001	508923	252.4
Aroclor-1262	3	12.183	0.000	800252	300.5	3	12.337	0.000	1063607	206.4
Aroclor-1262	4	12.291	-0.000	371402	158.7	4	12.856	0.002	323033	176.8
Aroclor-1262	5	12.364	0.001	452641	166.5	NS	---			----
Total CollAve (5 peaks):				201.5		Total Col2Ave (4 peaks):				202.6 RPD = 1
Corrected Ave (4 peaks):				176.7		Corrected Ave (3 peaks):				186.0 RPD = 5
Aroclor-1268	1	12.291	-0.000	371402	46.1	1	12.856	0.003	323033	61.6
Aroclor-1268	2	12.364	0.002	452641	58.7	2	12.919	-0.001	744424	143.0
Aroclor-1268	3	12.760	0.020	216757	31.6	3	13.316	-0.000	17319	4.0
Aroclor-1268	4	13.510	-0.001	118822	6.2	4	14.124	0.000	76750	6.0
Total CollAve (4 peaks):				35.6		Total Col2Ave (4 peaks):				53.7 RPD = 40*

Corrected Ave (3 peaks): 28.0 Corrected Ave (3 peaks): 23.9 RPD = 16

Total PCB Area Col1 (6.199 - 13.810) = 16176119 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13815410 Col2 Total PCB = 0.51 ppm*

* Quantitated against AR1660 0.25ppm in Ical



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DK00033

Laboratory ID: SIK0223-SCV2

Sequence: SIK0223

Sequence Name: AR1242SCV2

Standard ID: I005064

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	228	-8.8	20.00
Aroclor 1242 [2C]	250.00	230	-8.0	20.00
Decachlorobiphenyl	40.000	42.7	6.7	20.00
Tetrachlorometaxylene	40.000	42.1	5.2	20.00
Decachlorobiphenyl [2C]	40.000	43.3	8.3	20.00
Tetrachlorometaxylene [2C]	40.000	43.8	9.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110720.D
Data file 2: /20201107.b/20201107.b/20110720.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 08-NOV-2020 00:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1717953	6.316 -0.000 1629017	6.316	42.1	43.8	4.0	Tetrachloro-m-xylene
13.911	0.000 2113749	14.537 -0.001 1521236	14.537	42.7	43.3	1.5	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.2	109.5
Decachlorobiphenyl	106.7	108.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2793790	3.4
Hexabromobiphenyl	3964848	4185237	5.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2890341	-0.8
Hexabromobiphenyl	2801720	2818155	0.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	211136	184.8	1	7.785	-0.000	305654	190.8
Aroclor-1016	2	7.838	0.000	665613	183.6	2	8.355	0.000	616121	189.4
Aroclor-1016	3	7.973	0.001	274102	184.1	3	8.548	0.001	256320	187.6
Aroclor-1016	4	8.287	0.001	189075	191.2	4	9.190	0.001	201588	200.4
Total CollAve (4 peaks):				186.0		Total Col2Ave (4 peaks):				192.0 RPD = 3
Corrected Ave (3 peaks):				184.2		Corrected Ave (3 peaks):				189.3 RPD = 3
Aroclor-1221	1	---			0.0	1	5.654	0.001	1313	5.1
Aroclor-1221	2	6.553	-0.000	55656	146.3	2	6.881	0.001	23212	44.2
Aroclor-1221	3	6.639	-0.001	153135	142.0	3	7.087	-0.001	29111	103.0
CollAve: <3 Quant Peaks						Col2Ave:				50.8
Aroclor-1232	1	---			0.0	1	5.654	0.001	1313	8.7
Aroclor-1232	2	7.482	-0.001	211136	420.2	2	7.785	-0.001	305654	410.2
Aroclor-1232	3	7.838	0.002	665613	429.2	3	8.355	-0.002	616121	440.6
Aroclor-1232	4	7.973	-0.001	274102	423.2	4	8.548	-0.001	256320	436.8
Total CollAve (3 peaks):				424.2		Total Col2Ave (4 peaks):				324.1 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				285.2
Aroclor-1242	1	7.482	0.001	211136	234.5	1	7.785	0.001	305654	238.2
Aroclor-1242	2	7.838	0.001	665613	233.9	2	8.355	0.000	616121	235.2
Aroclor-1242	3	9.073	0.001	234060	226.5	3	9.690	0.000	187475	219.6
Aroclor-1242	4	9.351	0.001	245095	217.0	4	10.031	0.001	238760	227.2
Total CollAve (4 peaks):				228.0		Total Col2Ave (4 peaks):				230.0 RPD = 1
Corrected Ave (3 peaks):				225.8		Corrected Ave (3 peaks):				227.3 RPD = 1
Aroclor-1248	1	8.567	0.002	235033	159.6	1	8.792	0.000	157624	143.3
Aroclor-1248	2	8.730	0.002	304694	170.8	2	9.190	0.001	201588	153.8
Aroclor-1248	3	9.127	0.001	323003	145.9	3	9.613	0.001	241767	139.9
Aroclor-1248	4	9.351	0.002	245095	148.4	4	10.031	0.002	238760	139.3
Total CollAve (4 peaks):				156.2		Total Col2Ave (4 peaks):				144.1 RPD = 8
Corrected Ave (3 peaks):				151.3		Corrected Ave (3 peaks):				140.8 RPD = 7
Aroclor-1254	1	9.127	-0.006	323003	163.7	1	9.904	0.001	78354	44.6
Aroclor-1254	2	9.422	-0.000	149967	56.5	2	10.031	0.035	238760	259.4
Aroclor-1254	3	9.495	0.000	69968	69.3	3	10.417	0.001	61615	45.8
Aroclor-1254	4	9.779	0.001	86289	49.2	4	10.565	0.001	125332	42.8
Aroclor-1254	5	9.911	0.003	155572	45.1	5	11.332	0.001	80027	44.5
Total CollAve (5 peaks):				76.8		Total Col2Ave (5 peaks):				87.4 RPD = 13
Corrected Ave (4 peaks):				55.0		Corrected Ave (4 peaks):				44.5 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	3176	1.9
Aroclor-1260	2	---			0.0	2	12.088	0.007	16451	8.0
Aroclor-1260	3	---			0.0	3	12.343	0.007	8463	2.1
Aroclor-1260	4	---			0.0	4	13.644	0.007	789	0.7
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.2
Aroclor-1262	1	---			0.0	1	11.633	0.002	3176	1.2
Aroclor-1262	2	---			0.0	2	12.088	0.006	16451	8.1
Aroclor-1262	3	---			0.0	3	12.343	0.006	8463	1.6
Aroclor-1262	4	---			0.0	4	12.856	0.002	2240	1.2
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.0
Aroclor-1268	1	---			0.0	1	12.856	0.003	2240	0.4
Aroclor-1268	2	---			0.0	2	12.921	0.000	6254	1.2
Aroclor-1268	3	12.742	0.002	13242	1.9	3	13.317	0.001	7230	1.7
Aroclor-1268	4	13.512	0.001	12975	0.7	4	14.123	-0.000	15318	1.2
CollAve: <3 Quant Peaks						Col2Ave:				1.1

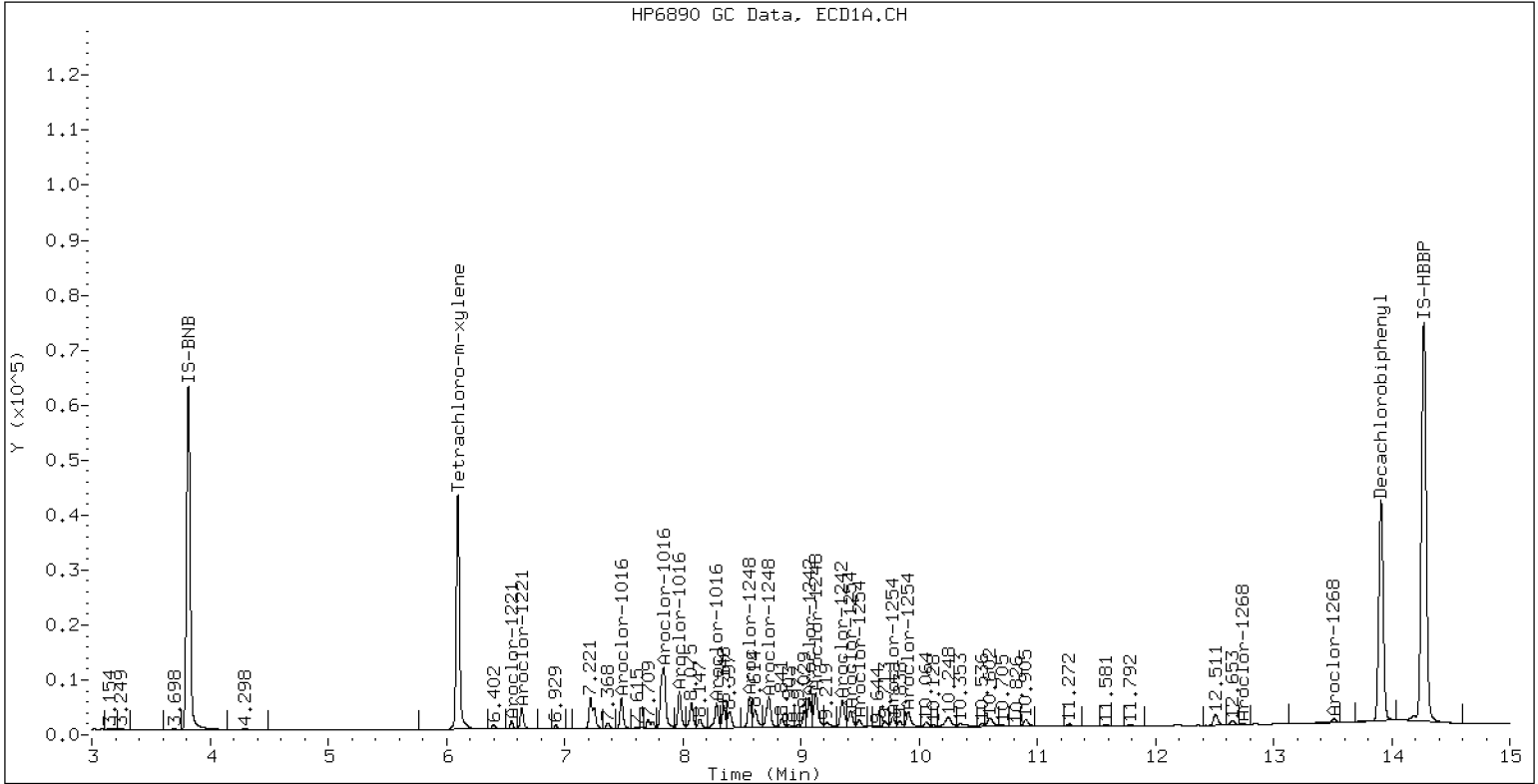
Total PCB Area Col1 (6.199 - 13.810) = 5771112 Col1 Total PCB = 0.18 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 6429126 Col2 Total PCB = 0.24 ppm*

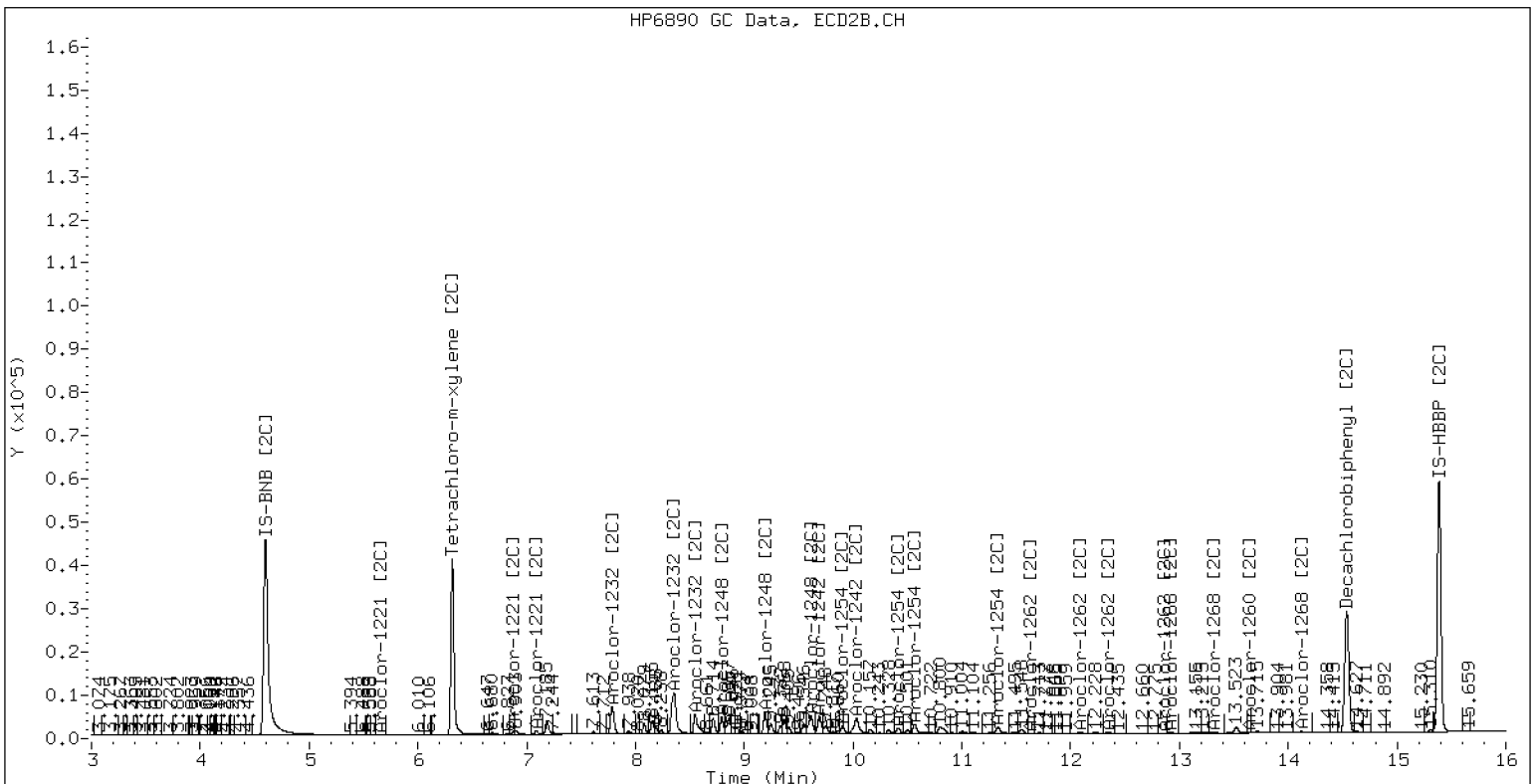
* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110720.D AR1242SCV2 08-NOV-2020 00:45 2ul JGR



ECD5-ZB35 /20201107.b/20201107.b/20110720.D AR1242SCV2





SECOND-SOURCE CALIBRATION VERIFICATION EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DK00033

Laboratory ID: SIK0223-SCV3

Sequence: SIK0223

Sequence Name: AR1248SCV3

Standard ID: I005065

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	243	-2.6	20.00
Aroclor 1248 [2C]	250.00	242	-3.1	20.00
Decachlorobiphenyl	40.000	44.1	10.3	20.00
Tetrachlorometaxylene	40.000	43.3	8.2	20.00
Decachlorobiphenyl [2C]	40.000	44.9	12.2	20.00
Tetrachlorometaxylene [2C]	40.000	45.4	13.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110721.D
Data file 2: /20201107.b/20201107.b/20110721.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 08-NOV-2020 01:06
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1786187	6.316 -0.000 1715006	43.3	45.4	4.7	Tetrachloro-m-xylene	
13.911	0.001 2163167	14.537 -0.001 1579646	44.1	44.9	1.7	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.2	113.4
Decachlorobiphenyl	110.3	112.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2823266	4.4
Hexabromobiphenyl	3964848	4141310	4.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2937664	0.8
Hexabromobiphenyl	2801720	2824274	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	112728	97.7	1	7.784	-0.001	171068	105.0
Aroclor-1016	2	7.833	-0.004	467725	127.7	2	8.353	-0.001	437428	132.3
Aroclor-1016	3	7.975	0.002	176217	117.1	3	8.549	0.002	107682	77.6
Aroclor-1016	4	8.287	0.000	311646	311.9	4	9.191	0.001	326638	319.4
Total CollAve (4 peaks):				163.6		Total Col2Ave (4 peaks):				158.6 RPD = 3
Corrected Ave (3 peaks):				114.2		Corrected Ave (3 peaks):				105.0 RPD = 8
Aroclor-1221	1	---			0.0	1	5.647	-0.006	423	1.6
Aroclor-1221	2	6.553	-0.001	33908	88.2	2	6.906	0.027	30771	57.7
Aroclor-1221	3	6.639	-0.001	38833	35.6	3	7.088	-0.000	6801	23.7
CollAve: <3 Quant Peaks						Col2Ave:				27.6
Aroclor-1232	1	---			0.0	1	5.647	-0.006	423	2.8
Aroclor-1232	2	7.482	-0.001	112728	222.0	2	7.784	-0.002	171068	225.9
Aroclor-1232	3	7.833	-0.003	467725	298.5	3	8.353	-0.003	437428	307.8
Aroclor-1232	4	7.975	0.001	176217	269.2	4	8.549	-0.001	107682	180.5
Total CollAve (3 peaks):				263.2		Total Col2Ave (4 peaks):				179.2 RPD = 38
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				136.4
Aroclor-1242	1	7.482	0.001	112728	123.9	1	7.784	0.000	171068	131.2
Aroclor-1242	2	7.833	-0.003	467725	162.7	2	8.353	-0.001	437428	164.3
Aroclor-1242	3	9.073	0.001	419207	401.4	3	9.690	0.000	315629	363.7
Aroclor-1242	4	9.351	0.000	399904	350.4	4	10.030	-0.000	414188	387.7
Total CollAve (4 peaks):				259.6		Total Col2Ave (4 peaks):				261.7 RPD = 1
Corrected Ave (3 peaks):				212.3		Corrected Ave (3 peaks):				219.7 RPD = 3
Aroclor-1248	1	8.566	0.001	367978	247.3	1	8.792	0.000	272694	244.0
Aroclor-1248	2	8.728	0.001	439292	243.7	2	9.191	0.001	326638	245.2
Aroclor-1248	3	9.127	0.001	544503	243.4	3	9.613	0.001	425322	242.2
Aroclor-1248	4	9.351	0.001	399904	239.5	4	10.030	0.000	414188	237.7
Total CollAve (4 peaks):				243.5		Total Col2Ave (4 peaks):				242.3 RPD = 0
Corrected Ave (3 peaks):				242.2		Corrected Ave (3 peaks):				241.3 RPD = 0
Aroclor-1254	1	9.127	-0.006	544503	273.0	1	9.904	0.001	144626	81.1
Aroclor-1254	2	9.421	-0.001	284837	106.2	2	10.030	0.034	414188	442.7
Aroclor-1254	3	9.495	0.000	141607	138.7	3	10.417	0.001	134890	98.7
Aroclor-1254	4	9.778	-0.000	178065	100.5	4	10.565	0.001	248044	83.4
Aroclor-1254	5	9.909	0.001	307474	88.3	5	11.329	-0.002	164143	89.9
Total CollAve (5 peaks):				141.3		Total Col2Ave (5 peaks):				159.1 RPD = 12
Corrected Ave (4 peaks):				108.4		Corrected Ave (4 peaks):				88.2 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	9633	5.7
Aroclor-1260	2	---			0.0	2	12.086	0.005	21593	10.5
Aroclor-1260	3	---			0.0	3	12.342	0.006	17338	4.3
Aroclor-1260	4	---			0.0	4	13.641	0.004	5300	4.8
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				6.3
Aroclor-1262	1	11.121	0.003	12856	3.6	1	11.633	0.002	9633	3.7
Aroclor-1262	2	11.792	0.004	25800	3.4	2	12.086	0.005	21593	10.6
Aroclor-1262	3	---			0.0	3	12.342	0.005	17338	3.3
Aroclor-1262	4	---			0.0	4	12.856	0.002	7295	4.0
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				5.4
Aroclor-1268	1	---			0.0	1	12.856	0.003	7295	1.4
Aroclor-1268	2	---			0.0	2	12.922	0.002	12264	2.3
Aroclor-1268	3	---			0.0	3	13.317	0.001	7874	1.8
Aroclor-1268	4	---			0.0	4	14.123	-0.001	18089	1.4
CollAve: <3 Quant Peaks						Col2Ave:				1.7

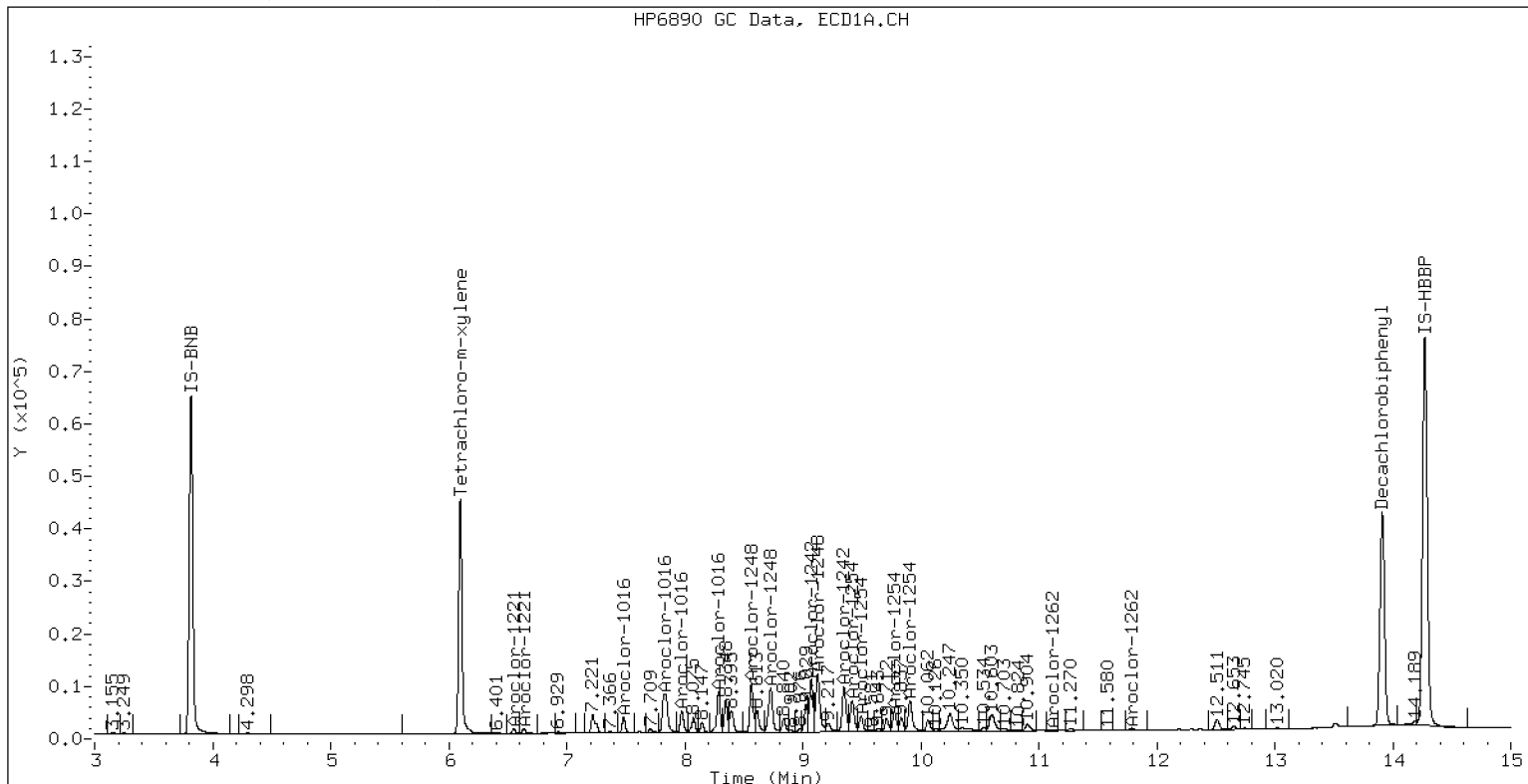
Total PCB Area Col1 (6.199 - 13.810) = 7128733 Col1 Total PCB = 0.23 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7597936 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

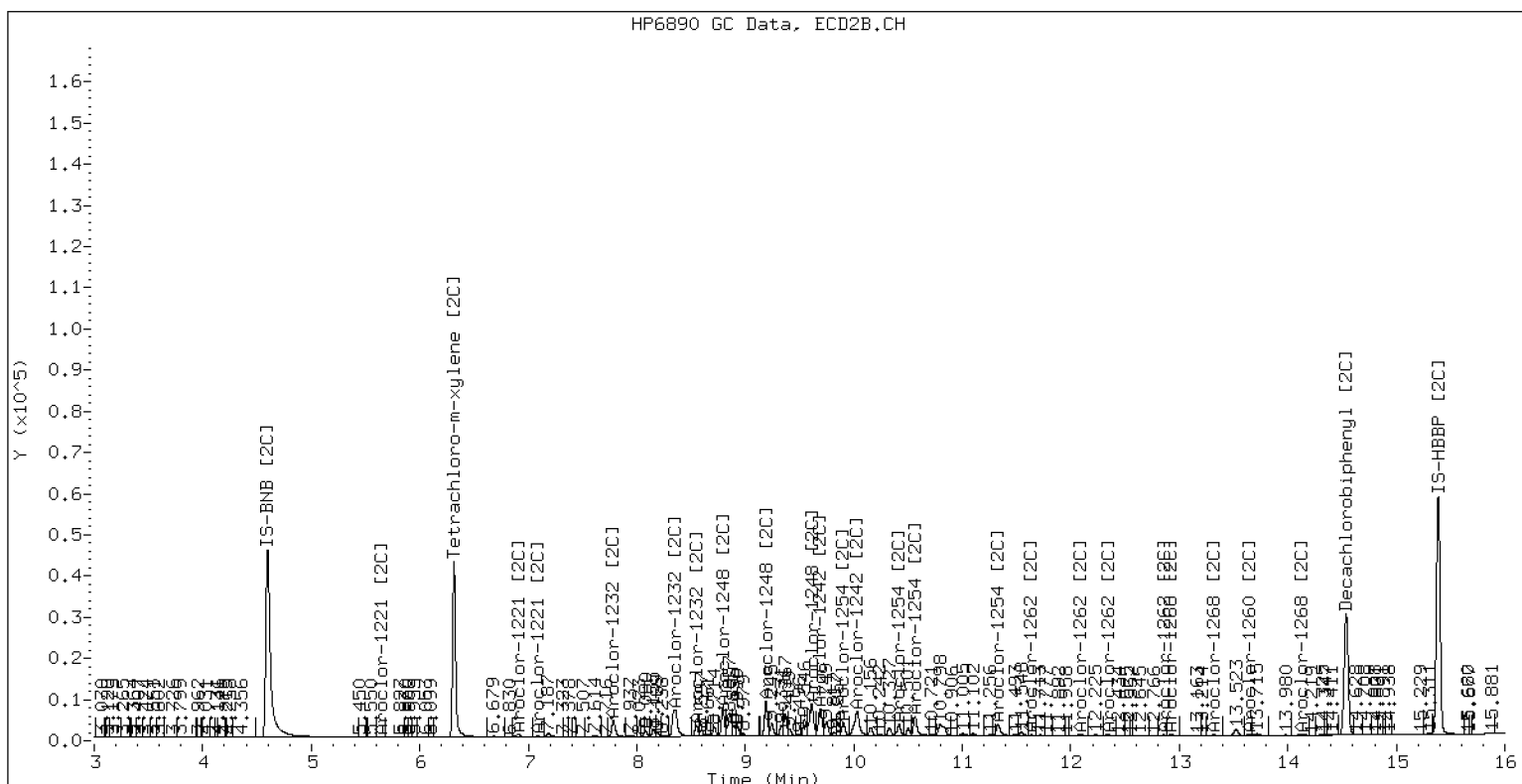
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110721.D AR1248SCV3 08-NOV-2020 01:06 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110721.D AR1248SCV3



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV4

Sequence: SIK0223

Sequence Name: AR1254SCV4

Standard ID: I005066

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	249	-0.2	20.00
Aroclor 1254 [2C]	250.00	259	3.6	20.00
Decachlorobiphenyl	40.000	41.9	4.7	20.00
Tetrachlorometaxylene	40.000	41.8	4.6	20.00
Decachlorobiphenyl [2C]	40.000	43.1	7.8	20.00
Tetrachlorometaxylene [2C]	40.000	43.7	9.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110722.D
Data file 2: /20201107.b/20201107.b/20110722.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 08-NOV-2020 01:27
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1712019	6.316	41.8	43.7	4.5	Tetrachloro-m-xylene
13.910	0.000	2083333	14.538	41.9	43.1	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	109.4
Decachlorobiphenyl	104.7	107.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2799459	3.6
Hexabromobiphenyl	3964848	4200846	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2919916	0.2
Hexabromobiphenyl	2801720	2840178	1.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	7.785	0.000	6697	4.1	
Aroclor-1016	2	7.828	-0.009	17542	4.8	2	8.346	-0.008	16385	5.0	
Aroclor-1016	3	---			0.0	3	8.552	0.005	3112	2.3	
Aroclor-1016	4	8.288	0.001	219577	221.6	4	9.191	0.002	128927	126.8	
CollAve: <3 Quant Peaks						Col2Ave: 34.6					
Aroclor-1221	1	---			0.0	1	5.624	-0.029	291	1.1	
Aroclor-1221	2	---			0.0	2	6.907	0.027	25274	47.7	
Aroclor-1221	3	---			0.0	3	7.088	-0.000	1944	6.8	
CollAve: <3 Quant Peaks						Col2Ave: 18.5					
Aroclor-1232	1	---			0.0	1	5.624	-0.029	291	1.9	
Aroclor-1232	2	---			0.0	2	7.785	-0.001	6697	8.9	
Aroclor-1232	3	---			0.0	3	8.346	-0.011	16385	11.6	
Aroclor-1232	4	---			0.0	4	8.552	0.003	3112	5.2	
CollAve: <3 Quant Peaks						Col2Ave: 6.9					
Aroclor-1242	1	---			0.0	1	7.785	0.001	6697	5.2	
Aroclor-1242	2	7.828	-0.008	17542	6.2	2	8.346	-0.008	16385	6.2	
Aroclor-1242	3	9.074	0.002	256329	247.5	3	9.690	0.000	60213	69.8	
Aroclor-1242	4	9.349	-0.001	156541	138.3	4	9.996	-0.034	242815	228.7	
Total CollAve (3 peaks):				130.7	Total Col2Ave (4 peaks):				77.5	RPD = 51*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				27.1		
Aroclor-1248	1	8.566	0.001	164978	111.8	1	8.793	0.001	197910	178.2	
Aroclor-1248	2	8.730	0.002	71828	40.2	2	9.191	0.002	128927	97.4	
Aroclor-1248	3	9.133	0.007	486586	219.4	3	9.614	0.002	177038	101.4	
Aroclor-1248	4	9.349	-0.000	156541	94.6	4	9.996	-0.034	242815	140.2	
Total CollAve (4 peaks):				116.5	Total Col2Ave (4 peaks):				129.3	RPD = 10	
Corrected Ave (3 peaks):				82.2	Corrected Ave (3 peaks):				113.0	RPD = 32	
Aroclor-1254	1	9.133	-0.000	486586	246.0	1	9.903	0.000	444834	250.8	
Aroclor-1254	2	9.422	0.000	662853	249.3	2	9.996	0.000	242815	261.1	
Aroclor-1254	3	9.495	0.000	257899	254.8	3	10.416	0.001	341296	251.2	
Aroclor-1254	4	9.778	-0.001	441415	251.2	4	10.564	0.001	727860	246.2	
Aroclor-1254	5	9.908	-0.000	848738	245.7	5	11.333	0.001	519064	285.9	
Total CollAve (5 peaks):				249.4	Total Col2Ave (5 peaks):				259.0	RPD = 4	
Corrected Ave (4 peaks):				248.0	Corrected Ave (4 peaks):				252.3	RPD = 2	
Aroclor-1260	1	11.430	0.002	64854	26.3	1	11.631	0.001	37091	21.8	
Aroclor-1260	2	11.790	0.002	138049	22.4	2	12.086	0.005	205656	99.8	
Aroclor-1260	3	12.185	0.004	133982	40.2	3	12.341	0.005	116574	28.5	
Aroclor-1260	4	---			0.0	4	13.640	0.003	4165	3.8	
Aroclor-1260	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				29.7	Total Col2Ave (4 peaks):				38.4	RPD = 26	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				18.0		
Aroclor-1262	1	11.118	-0.001	59307	16.5	1	11.631	-0.000	37091	14.2	
Aroclor-1262	2	11.790	0.002	138049	18.0	2	12.086	0.005	205656	100.5	
Aroclor-1262	3	12.185	0.003	133982	50.0	3	12.341	0.004	116574	22.3	
Aroclor-1262	4	---			0.0	4	12.864	0.009	14192	7.7	
Aroclor-1262	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				28.2	Total Col2Ave (4 peaks):				36.1	RPD = 25	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				14.7		
Aroclor-1268	1	---			0.0	1	12.864	0.010	14192	2.7	
Aroclor-1268	2	---			0.0	2	12.920	-0.000	81668	15.5	
Aroclor-1268	3	---			0.0	3	13.317	0.000	7030	1.6	
Aroclor-1268	4	---			0.0	4	14.124	-0.000	15811	1.2	
CollAve: <3 Quant Peaks						Col2Ave: 5.2					

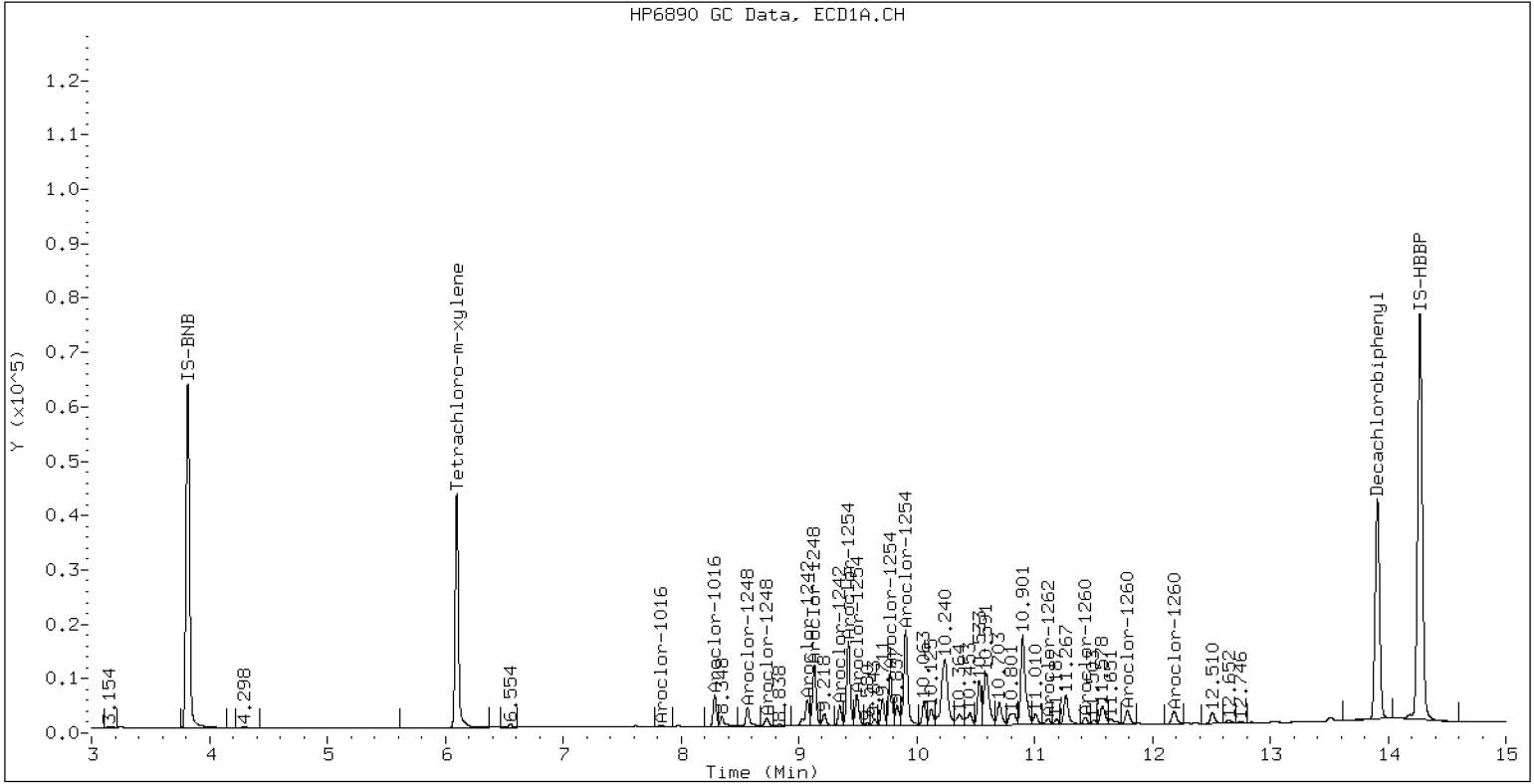
Total PCB Area Col1 (6.199 - 13.810) = 9405930 Col1 Total PCB = 0.30 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 8871291 Col2 Total PCB = 0.33 ppm*

* Quantitated against AR1660 0.25ppm in Ical

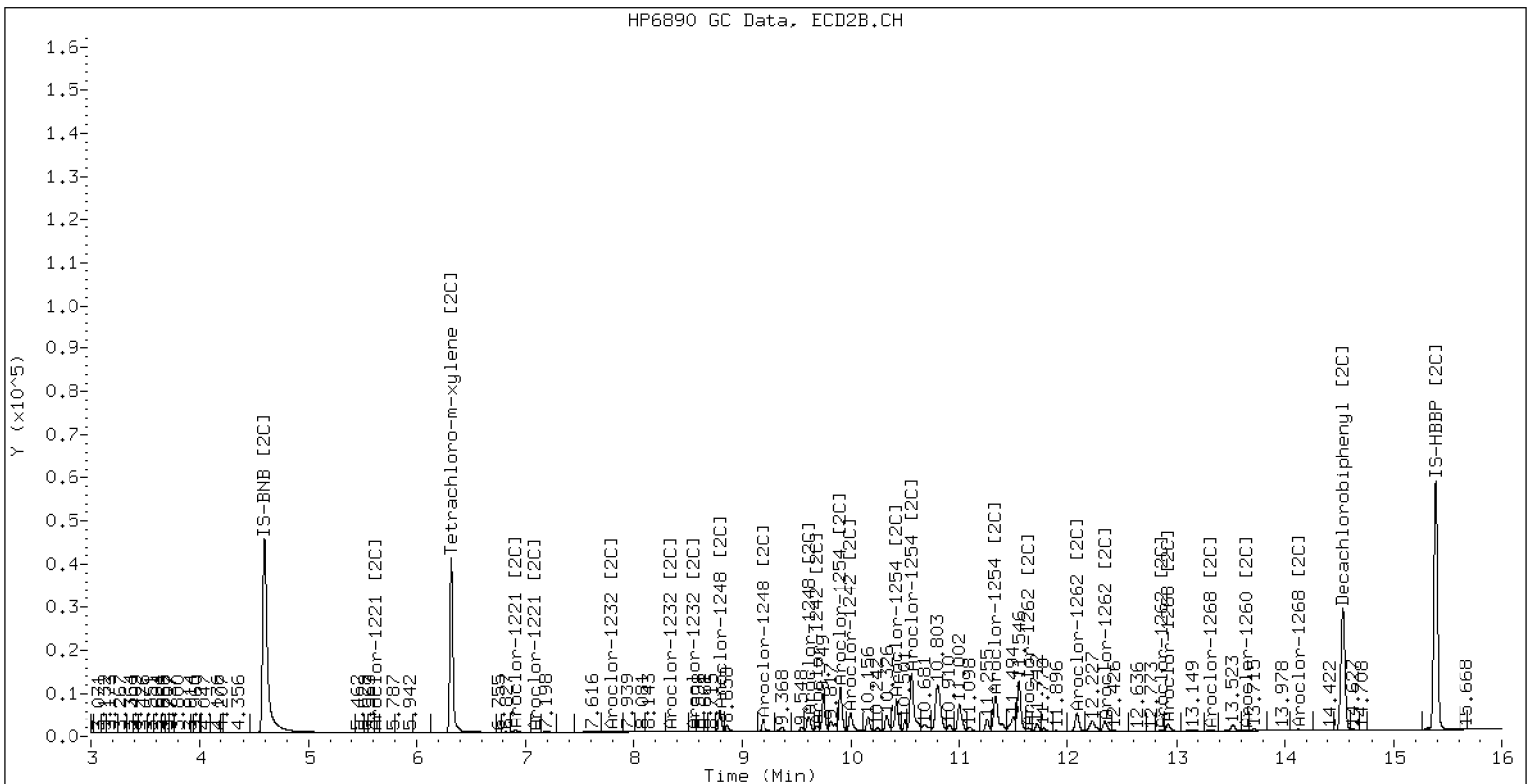
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110722.D AR1254SCV4 08-NOV-2020 01:27 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110722.D AR1254SCV4



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DK00033

Laboratory ID: SIK0223-SCV5

Sequence: SIK0223

Sequence Name: AR2162SCV5

Standard ID: I005067

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	247	-1.0	20.00
Aroclor 1221 [2C]	250.00	240	-3.9	20.00
Aroclor 1262	250.00	259	3.7	20.00
Aroclor 1262 [2C]	250.00	271	8.3	20.00
Decachlorobiphenyl	40.000	42.8	7.1	20.00
Tetrachlorometaxylene	40.000	42.8	7.1	20.00
Decachlorobiphenyl [2C]	40.000	44.0	10.0	20.00
Tetrachlorometaxylene [2C]	40.000	44.1	10.3	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110723.D
Data file 2: /20201107.b/20201107.b/20110723.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 08-NOV-2020 01:47
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1737995	6.316 -0.000 1613562	6.316	42.8	44.1	3.0	Tetrachloro-m-xylene
13.910	-0.000 2134891	14.538 -0.000 1538406	14.538	42.8	44.0	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.1	110.3
Decachlorobiphenyl	107.1	110.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2776223	2.7
Hexabromobiphenyl	3964848	4210359	6.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2842470	-2.5
Hexabromobiphenyl	2801720	2805318	0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	30410	26.8	1	7.788	0.003	65236	41.4
Aroclor-1016	2	7.839	0.002	81443	22.6	2	8.357	0.003	70881	22.2
Aroclor-1016	3	7.974	0.001	38317	25.9	3	8.550	0.003	33386	24.9
Aroclor-1016	4	8.287	0.001	19732	20.1	4	9.192	0.002	15613	15.8
Total CollAve (4 peaks):				23.8	Total Col2Ave (4 peaks):				26.0	RPD = 9
Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				20.9	RPD = 9
Aroclor-1221	1	5.080	-0.001	66212	248.5	1	5.653	-0.000	60198	236.4
Aroclor-1221	2	6.553	-0.001	95038	251.4	2	6.879	-0.001	126187	244.4
Aroclor-1221	3	6.639	-0.001	259584	242.2	3	7.088	-0.001	66732	240.0
Total CollAve (3 peaks):				247.4	Total Col2Ave (3 peaks):				240.3	RPD = 3
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.080	-0.001	66212	416.5	1	5.653	-0.001	60198	405.1
Aroclor-1232	2	7.483	-0.000	30410	60.9	2	7.788	0.002	65236	89.0
Aroclor-1232	3	7.839	0.003	81443	52.9	3	8.357	0.001	70881	51.5
Aroclor-1232	4	7.974	-0.000	38317	59.5	4	8.550	0.001	33386	57.8
Total CollAve (4 peaks):				147.5	Total Col2Ave (4 peaks):				150.9	RPD = 2
Corrected Ave (3 peaks):				57.8	Corrected Ave (3 peaks):				66.1	RPD = 14
Aroclor-1242	1	7.483	0.002	30410	34.0	1	7.788	0.004	65236	51.7
Aroclor-1242	2	7.839	0.003	81443	28.8	2	8.357	0.003	70881	27.5
Aroclor-1242	3	9.076	0.003	30780	30.0	3	9.693	0.004	11440	13.6
Aroclor-1242	4	9.351	0.001	23491	20.9	4	10.032	0.002	13795	13.3
Total CollAve (4 peaks):				28.4	Total Col2Ave (4 peaks):				26.5	RPD = 7
Corrected Ave (3 peaks):				26.6	Corrected Ave (3 peaks):				18.2	RPD = 38
Aroclor-1248	1	8.567	0.002	23731	16.2	1	8.793	0.001	18603	17.2
Aroclor-1248	2	8.730	0.003	25406	14.3	2	9.192	0.002	15613	12.1
Aroclor-1248	3	9.133	0.008	101088	46.0	3	9.616	0.004	20274	11.9
Aroclor-1248	4	9.351	0.002	23491	14.3	4	10.032	0.003	13795	8.2
Total CollAve (4 peaks):				22.7	Total Col2Ave (4 peaks):				12.4	RPD = 59*
Corrected Ave (3 peaks):				15.0	Corrected Ave (3 peaks):				10.7	RPD = 33
Aroclor-1254	1	9.133	0.000	101088	51.5	1	9.904	0.001	85281	49.4
Aroclor-1254	2	9.424	0.002	108135	41.0	2	9.999	0.003	11045	12.2
Aroclor-1254	3	9.496	0.001	17294	17.2	3	10.418	0.002	18195	13.8
Aroclor-1254	4	9.779	0.001	23497	13.5	4	10.593	0.030	346886	120.5
Aroclor-1254	5	9.879	-0.029	149776	43.7	5	11.376	0.044	326997	185.0
Total CollAve (5 peaks):				33.4	Total Col2Ave (5 peaks):				76.2	RPD = 78*
Corrected Ave (4 peaks):				28.9	Corrected Ave (4 peaks):				49.0	RPD = 52*
Aroclor-1260	1	11.429	0.001	741770	300.6	1	11.631	0.002	638841	380.3
Aroclor-1260	2	11.788	0.001	1731968	280.8	2	12.081	-0.000	610611	299.9
Aroclor-1260	3	12.183	0.001	610779	182.9	3	12.338	0.002	1183981	292.6
Aroclor-1260	4	12.291	0.000	743514	541.1	4	13.639	0.001	494159	452.8
Aroclor-1260	5	12.364	0.001	780256	483.1	NS	---			----
Total CollAve (5 peaks):				357.7	Total Col2Ave (4 peaks):				356.4	RPD = 0
Corrected Ave (4 peaks):				311.8	Corrected Ave (3 peaks):				324.3	RPD = 4
Aroclor-1262	1	11.119	0.001	875129	243.4	1	11.631	-0.000	638841	246.9
Aroclor-1262	2	11.788	0.000	1731968	225.1	2	12.081	-0.000	610611	302.0
Aroclor-1262	3	12.183	0.000	610779	227.4	3	12.338	0.001	1183981	229.2
Aroclor-1262	4	12.291	-0.000	743514	315.2	4	12.855	0.000	557952	304.5
Aroclor-1262	5	12.364	0.000	780256	284.6	NS	---			----
Total CollAve (5 peaks):				259.1	Total Col2Ave (4 peaks):				270.7	RPD = 4
Corrected Ave (4 peaks):				245.1	Corrected Ave (3 peaks):				259.4	RPD = 6
Aroclor-1268	1	12.291	-0.000	743514	91.5	1	12.855	0.001	557952	106.0
Aroclor-1268	2	12.364	0.002	780256	100.3	2	12.920	0.000	853918	163.6
Aroclor-1268	3	12.758	0.019	326534	47.2	3	13.316	-0.000	41584	9.7
Aroclor-1268	4	13.510	-0.000	278331	14.4	4	14.123	-0.001	178527	14.0

Total Col1Ave (4 peaks):	63.3	Total Col2Ave (4 peaks):	73.3	RPD = 15
Corrected Ave (3 peaks):	51.0	Corrected Ave (3 peaks):	43.2	RPD = 17

Total PCB Area Col1 (6.199 - 13.810) = 13102993 Col1 Total PCB = 0.42 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10950200 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV6

Sequence: SIK0223

Sequence Name: AR3268SCV6

Standard ID: I005068

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	260	3.9	20.00
Aroclor 1232 [2C]	250.00	258	3.2	20.00
Aroclor 1268	250.00	237	-5.1	20.00
Aroclor 1268 [2C]	250.00	253	1.3	20.00
Decachlorobiphenyl	40.000	60.1	50.2	20.00
Tetrachlorometaxylene	40.000	43.1	7.7	20.00
Decachlorobiphenyl [2C]	40.000	61.3	53.2	20.00
Tetrachlorometaxylene [2C]	40.000	44.7	11.7	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110724.D
Data file 2: /20201107.b/20201107.b/20110724.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 08-NOV-2020 02:08
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1743413	6.316 -0.000 1641765	6.316	43.1	44.7	3.6	Tetrachloro-m-xylene
13.911	0.000 2975643	14.538 -0.000 2140703	14.538	60.1	61.3	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.7	111.7
Decachlorobiphenyl	150.2	153.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2767662	2.4
Hexabromobiphenyl	3964848	4183877	5.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2856088	-2.0
Hexabromobiphenyl	2801720	2802153	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	131051	115.8	1	7.785	-0.000	195849	123.7
Aroclor-1016	2	7.838	0.001	401155	111.7	2	8.356	0.002	368649	114.7
Aroclor-1016	3	7.974	0.001	168393	114.2	3	8.549	0.002	155352	115.1
Aroclor-1016	4	8.287	0.001	102013	104.2	4	9.190	0.001	112207	112.9
Total CollAve (4 peaks):				111.5		Total Col2Ave (4 peaks):				116.6 RPD = 4
Corrected Ave (3 peaks):				110.0		Corrected Ave (3 peaks):				114.2 RPD = 4
Aroclor-1221	1	5.080	-0.001	40014	150.7	1	5.653	-0.000	34530	134.9
Aroclor-1221	2	6.553	-0.000	73712	195.6	2	6.880	0.000	87616	168.9
Aroclor-1221	3	6.639	-0.001	210368	196.9	3	7.088	-0.000	47040	168.4
Total CollAve (3 peaks):				181.1		Total Col2Ave (3 peaks):				157.4 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	5.080	-0.001	40014	252.5	1	5.653	-0.001	34530	231.3
Aroclor-1232	2	7.483	-0.000	131051	263.3	2	7.785	-0.001	195849	266.0
Aroclor-1232	3	7.838	0.002	401155	261.1	3	8.356	-0.001	368649	266.8
Aroclor-1232	4	7.974	-0.000	168393	262.4	4	8.549	-0.000	155352	267.9
Total CollAve (4 peaks):				259.8		Total Col2Ave (4 peaks):				258.0 RPD = 1
Corrected Ave (3 peaks):				258.7		Corrected Ave (3 peaks):				254.7 RPD = 2
Aroclor-1242	1	7.483	0.002	131051	146.9	1	7.785	0.001	195849	154.5
Aroclor-1242	2	7.838	0.002	401155	142.3	2	8.356	0.002	368649	142.4
Aroclor-1242	3	9.074	0.002	132607	129.5	3	9.691	0.002	109009	129.2
Aroclor-1242	4	9.353	0.002	142025	126.9	4	10.032	0.002	130833	126.0
Total CollAve (4 peaks):				136.4		Total Col2Ave (4 peaks):				138.0 RPD = 1
Corrected Ave (3 peaks):				132.9		Corrected Ave (3 peaks):				132.5 RPD = 0
Aroclor-1248	1	8.567	0.002	132576	90.9	1	8.793	0.001	83373	76.7
Aroclor-1248	2	8.729	0.002	170920	96.7	2	9.190	0.001	112207	86.6
Aroclor-1248	3	9.127	0.002	181590	82.8	3	9.614	0.002	138940	81.4
Aroclor-1248	4	9.353	0.003	142025	86.8	4	10.032	0.003	130833	77.2
Total CollAve (4 peaks):				89.3		Total Col2Ave (4 peaks):				80.5 RPD = 10
Corrected Ave (3 peaks):				86.8		Corrected Ave (3 peaks):				78.4 RPD = 10
Aroclor-1254	1	9.127	-0.006	181590	92.9	1	9.904	0.001	29380	16.9
Aroclor-1254	2	9.421	-0.001	64235	24.4	2	10.032	0.037	130833	143.8
Aroclor-1254	3	9.496	0.002	30966	30.9	3	10.417	0.002	20905	15.7
Aroclor-1254	4	9.781	0.002	29729	17.1	4	10.566	0.003	46531	16.1
Aroclor-1254	5	9.912	0.004	60353	17.7	5	11.332	0.001	21068	11.9
Total CollAve (5 peaks):				36.6		Total Col2Ave (5 peaks):				40.9 RPD = 11
Corrected Ave (4 peaks):				22.5		Corrected Ave (4 peaks):				15.2 RPD = 39
Aroclor-1260	1	11.430	0.002	34671	14.1	1	11.633	0.003	258365	154.0
Aroclor-1260	2	11.790	0.002	246913	40.3	2	12.078	-0.003	343198	168.7
Aroclor-1260	3	---	---	0.0	0.0	3	12.338	0.002	164339	40.7
Aroclor-1260	4	12.292	0.001	1912387	1400.7	4	13.638	0.000	497644	456.5
Aroclor-1260	5	12.362	-0.000	1837427	1144.8	NS	---	---	---	---
Total CollAve (4 peaks):				650.0		Total Col2Ave (4 peaks):				205.0 RPD = 104*
Corrected Ave (3 peaks):				399.7		Corrected Ave (3 peaks):				121.1 RPD = 107*
Aroclor-1262	1	11.121	0.002	347620	97.3	1	11.633	0.001	258365	100.0
Aroclor-1262	2	11.790	0.002	246913	32.3	2	12.078	-0.003	343198	169.9
Aroclor-1262	3	---	---	0.0	0.0	3	12.338	0.001	164339	31.8
Aroclor-1262	4	12.292	0.001	1912387	815.8	4	12.854	-0.001	1334495	729.2
Aroclor-1262	5	12.362	-0.001	1837427	674.4	NS	---	---	---	---
Total CollAve (4 peaks):				405.0		Total Col2Ave (4 peaks):				257.7 RPD = 44*
Corrected Ave (3 peaks):				268.0		Corrected Ave (3 peaks):				100.6 RPD = 91*
Aroclor-1268	1	12.292	0.000	1912387	236.9	1	12.854	0.000	1334495	253.9
Aroclor-1268	2	12.362	0.000	1837427	237.6	2	12.921	0.000	1312481	251.8
Aroclor-1268	3	12.740	-0.000	1605338	233.6	3	13.316	-0.000	1091359	253.9
Aroclor-1268	4	13.511	0.001	4630331	240.6	4	14.123	-0.001	3223735	253.2

Total Col1Ave (4 peaks):	237.2	Total Col2Ave (4 peaks):	253.2	RPD = 7
Corrected Ave (3 peaks):	236.1	Corrected Ave (3 peaks):	253.0	RPD = 7

Total PCB Area Col1 (6.199 - 13.810) = 16074939 Col1 Total PCB = 0.51 ppm*

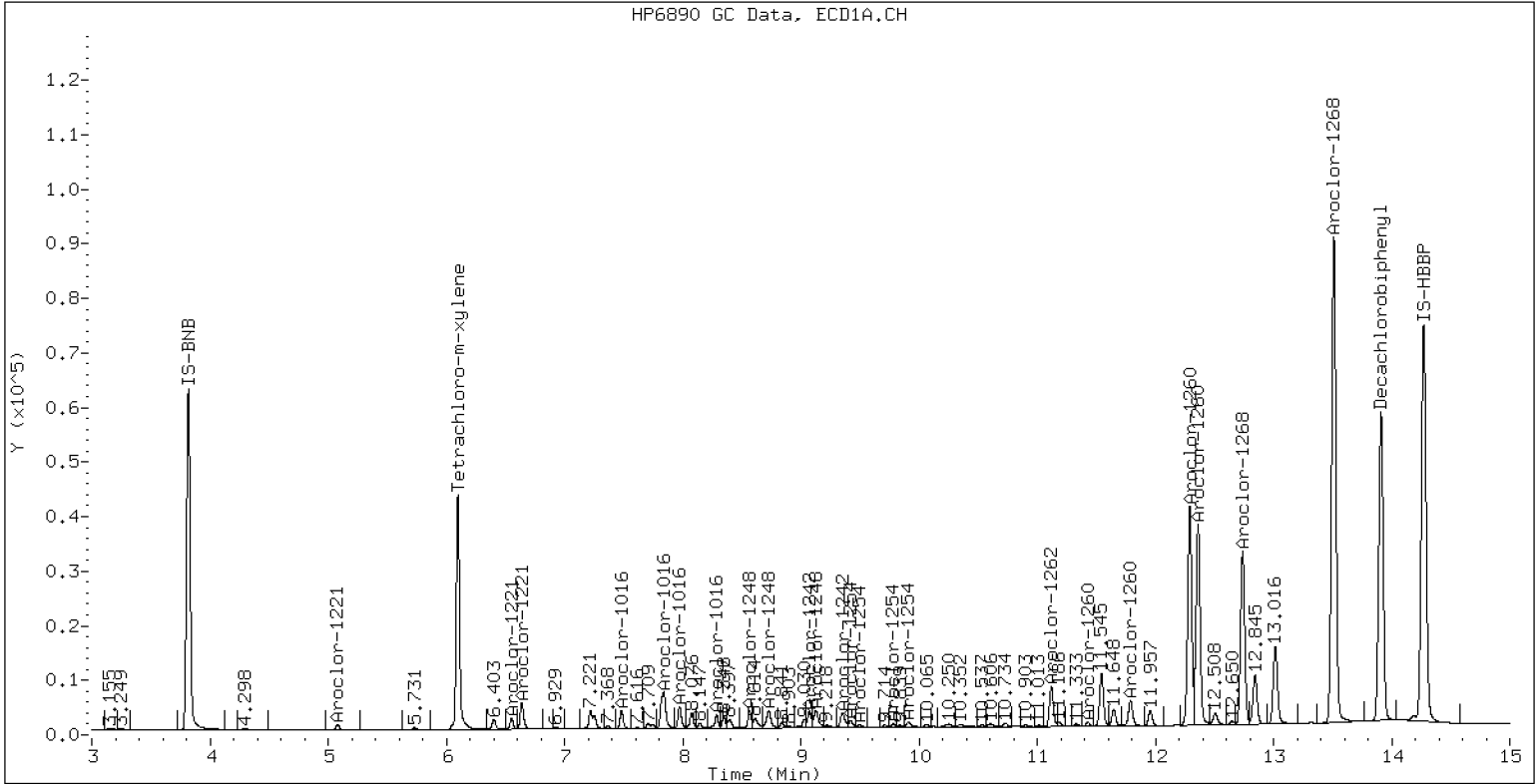
Total PCB Area Col2 (6.199 - 13.810) = 10113183 Col2 Total PCB = 0.37 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

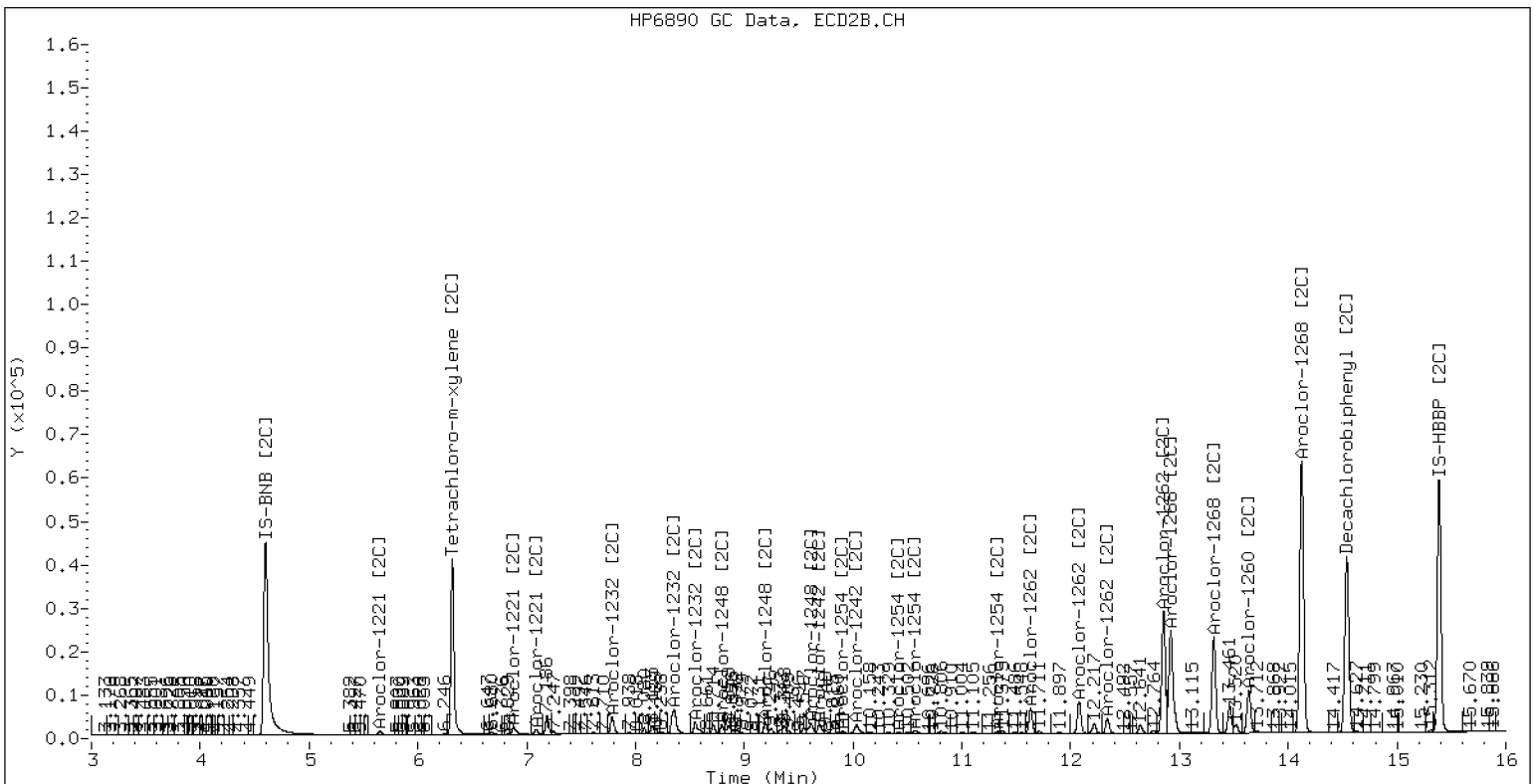
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110724.D AR3268SCV6 08-NOV-2020 02:08 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110724.D AR3268SCV6



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>ECD5</u>	Calibration:	<u>DK00033</u>
Lab File ID:	<u>20111703ECD5.D</u>	Calibration Date:	<u>11/07/2020</u>
Sequence:	<u>SIL0028</u>	Injection Date:	<u>11/17/20</u>
Lab Sample ID:	<u>SIL0028-ICV1</u>	Injection Time:	<u>19:45</u>
Sequence Name:	<u>AR1254ICV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	252	0.0620730	0.0625599		1.0	+/-20
Aroclor 1254 [2C]	A	250.00	260	0.0484068	0.0506040		4.2	+/-20
Decachlorobiphenyl	A	40.000	40.6	0.9468939	0.9601244		1.5	+/-20
Tetrachlorometaxylene	A	40.000	39.6	1.1693520	1.1578200		-1.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.7	0.9970133	0.9904077		-0.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.8	1.0293930	1.1023440		7.0	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111703ECD5.D
Data file 2: /20201117.b/20201117.b/20111703ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 17-NOV-2020 19:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1628173	0.000 1487050	6.313	39.6	42.8	7.8	Tetrachloro-m-xylene
13.906	-0.005 2084326	-0.002 1429032	14.530	40.6	39.7	2.1	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.0	107.1
Decachlorobiphenyl	101.4	99.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2812481	4.1
Hexabromobiphenyl	3964848	4341783	9.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2697977	-7.4
Hexabromobiphenyl	2801720	2885745	3.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.129	-0.004	510685	257.0	1	9.898	0.000	435742	265.9	
Aroclor-1254	2	9.419	-0.003	664200	248.6	2	9.991	0.000	234221	272.6	
Aroclor-1254	3	9.492	-0.003	260580	256.2	3	10.411	0.000	289563	230.6	
Aroclor-1254	4	9.774	-0.004	435884	246.9	4	10.558	0.000	722053	264.3	
Aroclor-1254	5	9.905	-0.003	877848	253.0	5	11.326	0.000	451679	269.3	
Total Col1Ave (5 peaks):				252.3	Total Col2Ave (5 peaks):				260.5	RPD = 3	
Corrected Ave (4 peaks):				251.2	Corrected Ave (4 peaks):				257.5	RPD = 2	
CalAmt %D:				0.9	CalAmt %D:				4.2		

Total PCB Area Col1 (6.199 - 13.810) = 9691738 Col1 Total PCB = 0.31 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 8647883 Col2 Total PCB = 0.32 ppm*

* Quantitated against AR1660 0.25ppm in Ical



INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>ECD5</u>	Calibration:	<u>DK00033</u>
Lab File ID:	<u>20111704ECD5.D</u>	Calibration Date:	<u>11/07/2020</u>
Sequence:	<u>SIL0028</u>	Injection Date:	<u>11/17/20</u>
Lab Sample ID:	<u>SIL0028-ICV2</u>	Injection Time:	<u>20:05</u>
Sequence Name:	<u>AR1660ICV2</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	246	0.0518592	0.0511181		-1.5	+/-20
Aroclor 1016 [2C]	A	250.00	237	0.0500110	0.0485434		-5.3	+/-20
Aroclor 1260	A	250.00	243	0.0568672	0.0550125		-2.8	+/-20
Aroclor 1260 [2C]	A	250.00	235	0.0631205	0.0590922		-6.1	+/-20
Decachlorobiphenyl	A	40.000	40.4	0.9468939	0.9562188		1.0	+/-20
Tetrachlorometaxylene	A	40.000	39.1	1.1693520	1.1437750		-2.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.6	0.9970133	0.9612151		-3.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0293930	1.0699670		4.0	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111704ECD5.D
Data file 2: /20201117.b/20201117.b/20111704ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 17-NOV-2020 20:05
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.003 1604899	6.312 -0.001 1454870	39.1	41.6	6.1	Tetrachloro-m-xylene	
13.907	-0.003 1979217	14.531 -0.001 1357094	40.4	38.6	4.6	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.8	103.9
Decachlorobiphenyl	101.0	96.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2806320	3.8
Hexabromobiphenyl	3964848	4139674	4.4

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2719467	-6.7
Hexabromobiphenyl	2801720	2823705	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.481	-0.002	283921	247.4	1	7.781	-0.000	373424	247.7
Aroclor-1016	2	7.837	-0.001	896648	246.3	2	8.352	-0.002	766517	250.4
Aroclor-1016	3	7.972	-0.001	365749	244.6	3	8.544	-0.002	321536	250.2
Aroclor-1016	4	8.285	-0.002	246854	248.6	4	9.186	-0.001	188676	199.3
Total CollAve (4 peaks):				246.7		Total Col2Ave (4 peaks):				236.9 RPD = 4
Corrected Ave (3 peaks):				246.1		Corrected Ave (3 peaks):				232.4 RPD = 6

CalAmt %D: -1.3

CalAmt %D: -5.2

Aroclor-1260	1	11.425	-0.003	582362	240.0	1	11.625	-0.003	391572	231.6
Aroclor-1260	2	11.784	-0.003	1459883	240.7	2	12.076	-0.001	479818	234.1
Aroclor-1260	3	12.180	-0.002	793291	241.6	3	12.331	-0.002	950062	233.3
Aroclor-1260	4	12.288	-0.003	329735	244.1	4	13.633	-0.001	264284	240.6
Aroclor-1260	5	12.360	-0.003	393069	247.5	NS	---			----
Total CollAve (5 peaks):				242.8		Total Col2Ave (4 peaks):				234.9 RPD = 3
Corrected Ave (4 peaks):				241.6		Corrected Ave (3 peaks):				233.0 RPD = 4

CalAmt %D: -2.9

CalAmt %D: -6.0

Total PCB Area Col1 (6.199 - 13.810) = 16848003 Col1 Total PCB = 0.54 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13315366 Col2 Total PCB = 0.49 ppm*

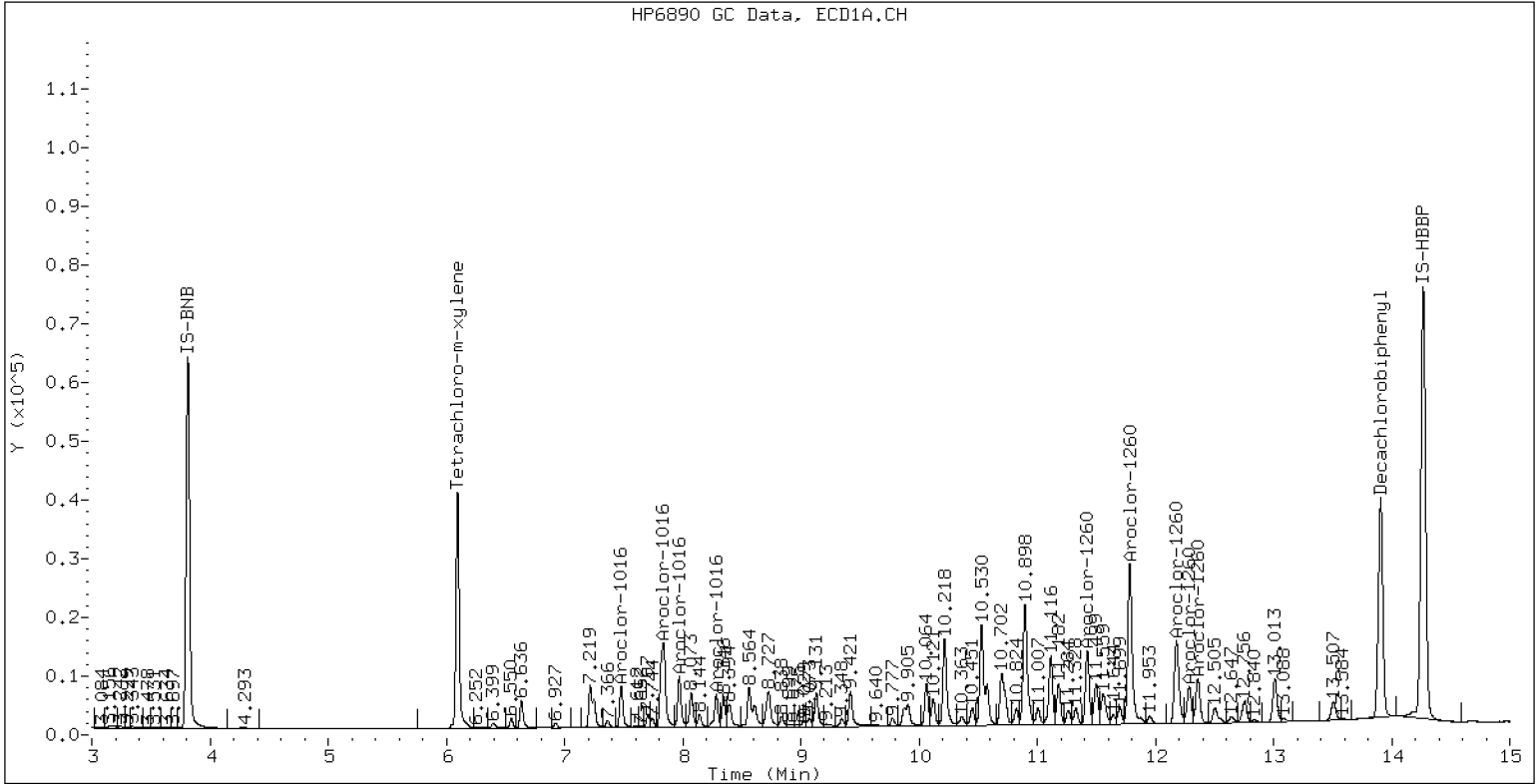
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

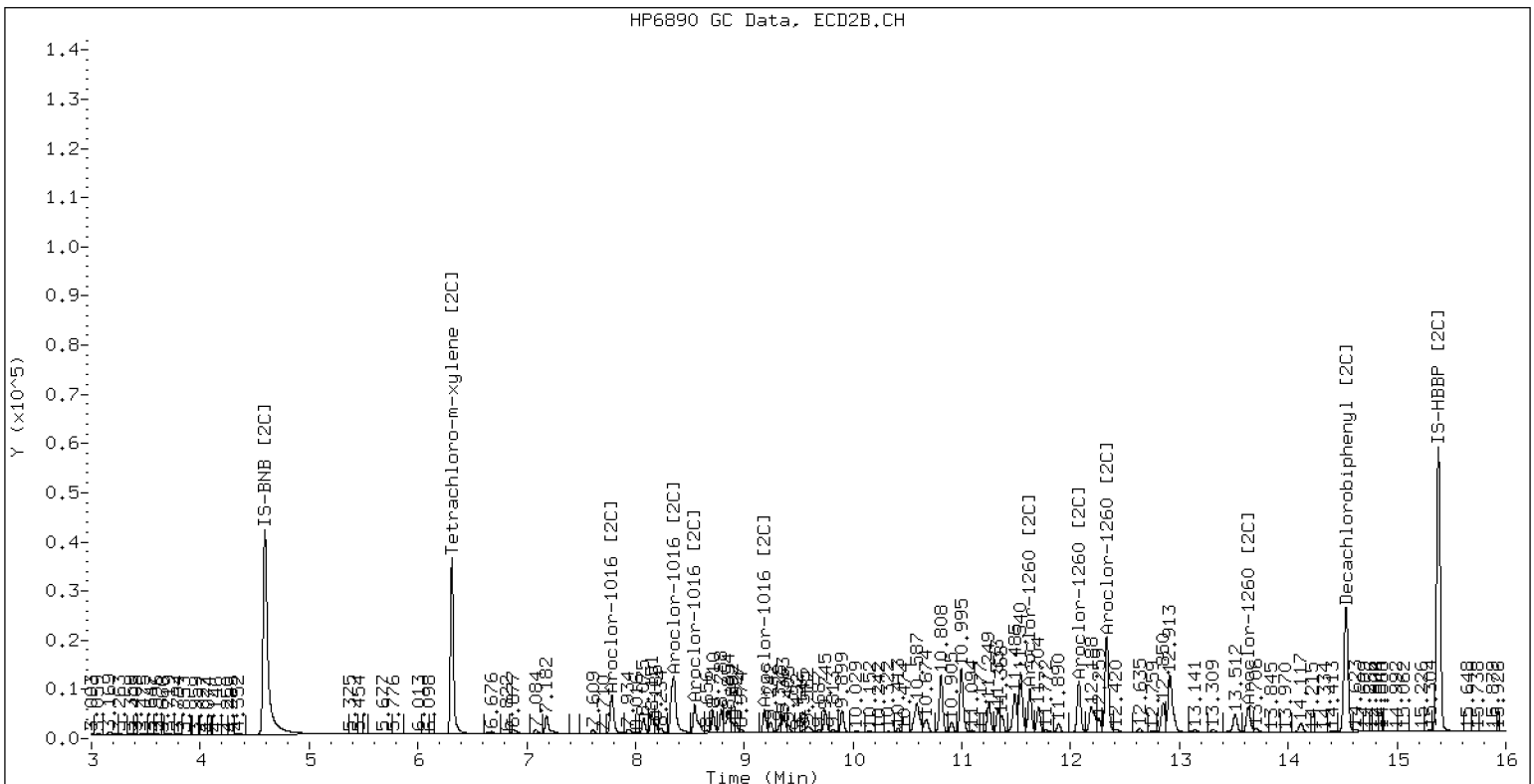
ECD5-ZB5 /20201117.b/20111704ECD5.D AR1660ICV2

17-NOV-2020 20:05 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111704ECD5.D AR1660ICV2



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument ID: ECD5 Calibration: DK00033
Lab File ID: 20112805ECD5.D Calibration Date: 11/07/2020
Sequence: SIL0052 Injection Date: 11/29/20
Lab Sample ID: SIL0052-ICV1 Injection Time: 20:17
Sequence Name: AR1254ICV1

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	241	0.0620730	0.0599468		-3.5	+/-20
Aroclor 1254 [2C]	A	250.00	260	0.0484068	0.0501092		4.1	+/-20
Decachlorobiphenyl	A	40.000	37.9	0.9468939	0.8963708		-5.3	+/-20
Tetrachlorometaxylene	A	40.000	38.9	1.1693520	1.1361910		-2.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.3	0.9970133	0.9785754		-1.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.3	1.0293930	1.0883880		5.8	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201128.b/20112805ECD5.D
Data file 2: /20201128.b/20201128.b/20112805ECD5.D
Method: ecd5.i\20201128.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 29-NOV-2020 20:17
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.096	-0.003	1721815	6.313	-0.001	1774565	38.9	42.3	8.4	Tetrachloro-m-xylene
13.907	-0.003	2177226	14.535	-0.000	1706700	37.9	39.3	3.6	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.2	105.7
Decachlorobiphenyl	94.7	98.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3030856	12.1
Hexabromobiphenyl	3964848	4857869	22.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3260906	11.9
Hexabromobiphenyl	2801720	3488132	24.5

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.132	-0.001	534594	249.7	1	9.901	0.000	515693	260.4
Aroclor-1254	2	9.421	-0.000	693270	240.8	2	9.994	0.000	292189	281.4
Aroclor-1254	3	9.495	-0.000	273006	249.1	3	10.415	0.000	363573	239.6
Aroclor-1254	4	9.778	0.000	421822	221.7	4	10.562	0.000	851395	257.9
Aroclor-1254	5	9.908	0.000	916218	245.0	5	11.331	0.000	530294	261.6
Total Col1Ave (5 peaks):				241.3	Total Col2Ave (5 peaks):				260.1	RPD = 8
Corrected Ave (4 peaks):				239.2	Corrected Ave (4 peaks):				254.8	RPD = 6

Total PCB Area Col1 (6.199 - 13.810) = 9865208 Col1 Total PCB = 0.31 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10200897 Col2 Total PCB = 0.37 ppm*

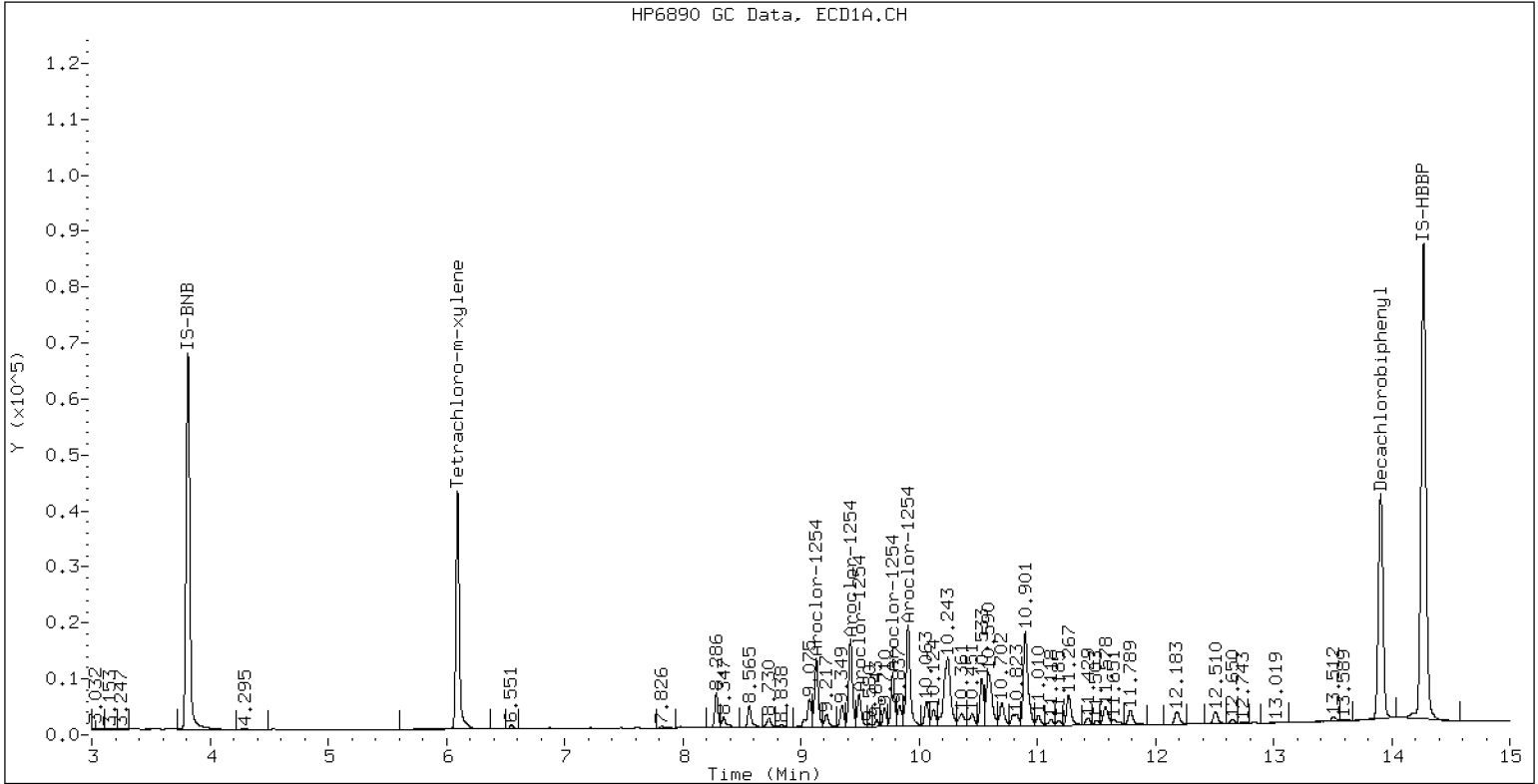
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

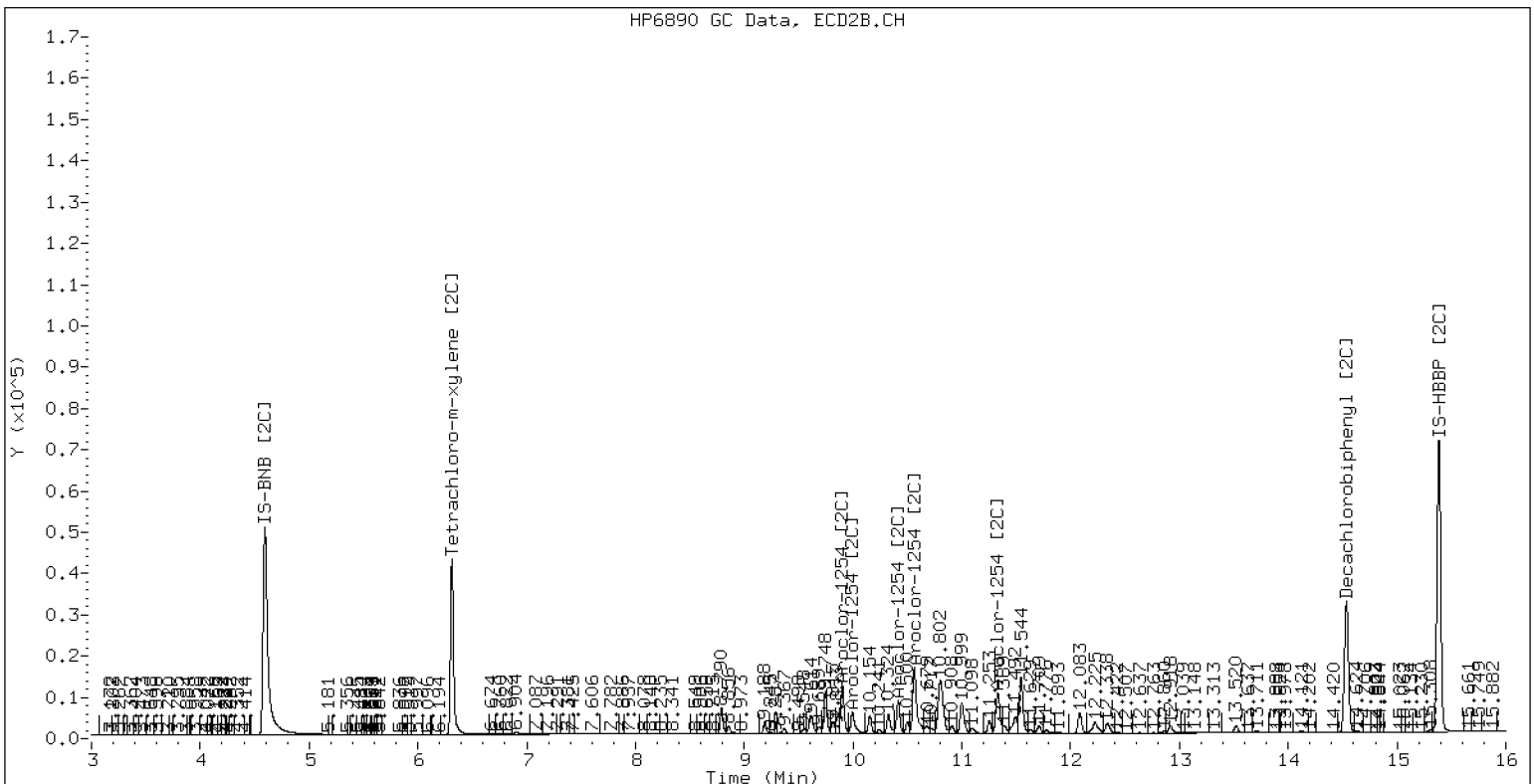
ECD5-ZB5 /20201128.b/20112805ECD5.D AR1254ICV1

29-NOV-2020 20:17 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201128.b/20201128.b/20112805ECD5.D AR1254ICV1



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>ECD5</u>	Calibration: <u>DK00033</u>
Lab File ID: <u>20112806ECD5.D</u>	Calibration Date: <u>11/07/2020</u>
Sequence: <u>SIL0052</u>	Injection Date: <u>11/29/20</u>
Lab Sample ID: <u>SIL0052-ICV2</u>	Injection Time: <u>20:38</u>
Sequence Name: <u>AR1660ICV2</u>	

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	276	0.0518592	0.0556872		10.6	+/-20
Aroclor 1016 [2C]	A	250.00	261	0.0500110	0.0522721		4.5	+/-20
Aroclor 1260	A	250.00	262	0.0568672	0.0582757		4.7	+/-20
Aroclor 1260 [2C]	A	250.00	236	0.0631205	0.0580996		-5.6	+/-20
Decachlorobiphenyl	A	40.000	42.0	0.9468939	0.9945578		5.0	+/-20
Tetrachlorometaxylene	A	40.000	38.7	1.1693520	1.1302210		-3.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.8	0.9970133	0.9933498		-0.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.6	1.0293930	1.0440520		1.5	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201128.b/20112806ECD5.D
Data file 2: /20201128.b/20201128.b/20112806ECD5.D
Method: ecd5.i\20201128.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 29-NOV-2020 20:38
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.003 1450540	6.312 -0.001 1495500	6.312	38.7	40.6	4.8	Tetrachloro-m-xylene
13.908	-0.003 1933494	14.534 -0.001 1461834	14.534	42.0	39.9	5.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.7	101.4
Decachlorobiphenyl	105.0	99.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2566825	-5.0
Hexabromobiphenyl	3964848	3888148	-1.9

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2864800	-1.7
Hexabromobiphenyl	2801720	2943241	5.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.481	-0.001	293367	279.5	1	7.782	-0.001	418493	263.5
Aroclor-1016	2	7.836	-0.002	851002	255.6	2	8.353	-0.000	826595	256.4
Aroclor-1016	3	7.972	-0.001	369614	270.2	3	8.546	-0.001	390305	288.3
Aroclor-1016	4	8.285	-0.001	272757	300.3	4	9.190	-0.002	236469	237.1
Total CollAve (4 peaks):				276.4		Total Col2Ave (4 peaks):				261.3 RPD = 6
Corrected Ave (3 peaks):				268.4		Corrected Ave (3 peaks):				252.3 RPD = 6
Aroclor-1260	1	11.426	-0.002	585446	256.9	1	11.627	-0.001	382325	216.9
Aroclor-1260	2	11.786	-0.002	1423884	250.0	2	12.078	-0.001	546276	255.7
Aroclor-1260	3	12.180	-0.002	765468	248.2	3	12.334	-0.001	917028	216.0
Aroclor-1260	4	12.288	-0.003	343295	270.6	4	13.636	-0.000	291886	254.9
Aroclor-1260	5	12.361	-0.002	422289	283.1	NS	---			----
Total CollAve (5 peaks):				261.8		Total Col2Ave (4 peaks):				235.9 RPD = 10
Corrected Ave (4 peaks):				256.4		Corrected Ave (3 peaks):				229.3 RPD = 11

Total PCB Area Col1 (6.199 - 13.810) = 18183461 Col1 Total PCB = 0.58 ppm*

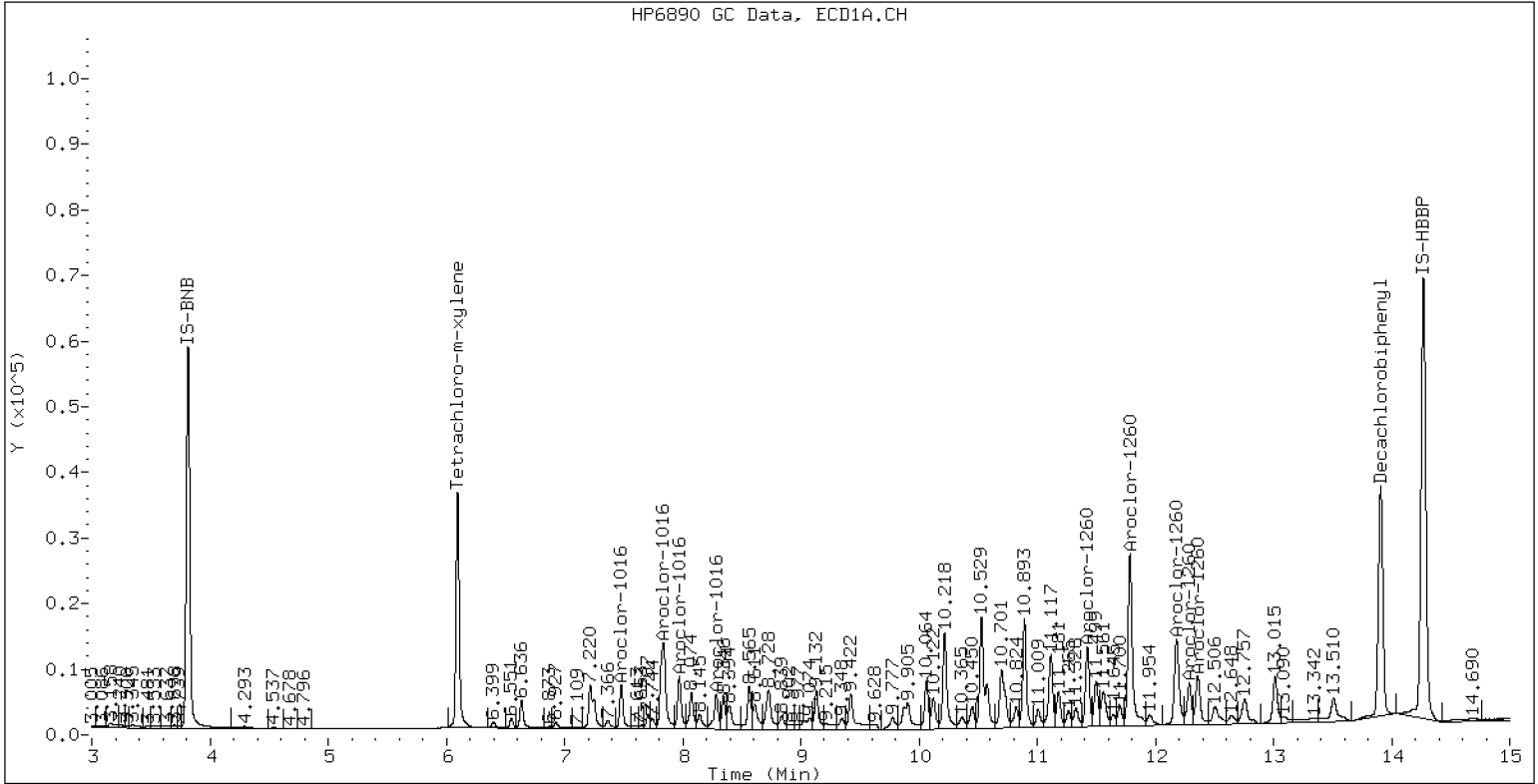
Total PCB Area Col2 (6.199 - 13.810) = 15371906 Col2 Total PCB = 0.56 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201128.b/20112806ECD5.D AR1660ICV2

29-NOV-2020 20:38 2u1 JGR



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111715ECD5.D
Data file 2: /20201117.b/20201117.b/20111715ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 17-NOV-2020 23:53
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1620549	0.001 1461146	6.314	39.2	42.3	7.7	Tetrachloro-m-xylene
13.907	-0.003 1985666	0.000 1377071	14.531	39.9	39.3	1.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.0	105.8
Decachlorobiphenyl	99.8	98.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2827932	4.6
Hexabromobiphenyl	3964848	4201317	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2682604	-7.9
Hexabromobiphenyl	2801720	2815034	0.5

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.565	0.000	377806	253.5	1	8.790	0.000	263153	257.8	
Aroclor-1248	2	8.728	0.001	471510	261.2	2	9.187	0.000	251238	206.6	
Aroclor-1248	3	9.128	0.002	592544	264.5	3	9.612	0.000	420983	262.5	
Aroclor-1248	4	9.352	0.002	420753	251.6	4	10.029	0.000	420194	264.1	
Total Col1Ave (4 peaks):				257.7	Total Col2Ave (4 peaks):				247.8	RPD = 4	
Corrected Ave (3 peaks):				255.4	Corrected Ave (3 peaks):				242.3	RPD = 5	
CalAmt %D:				3.1	CalAmt %D:				-0.9		

Total PCB Area Col1 (6.199 - 13.810) = 7672553 Col1 Total PCB = 0.24 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 6975394 Col2 Total PCB = 0.26 ppm*

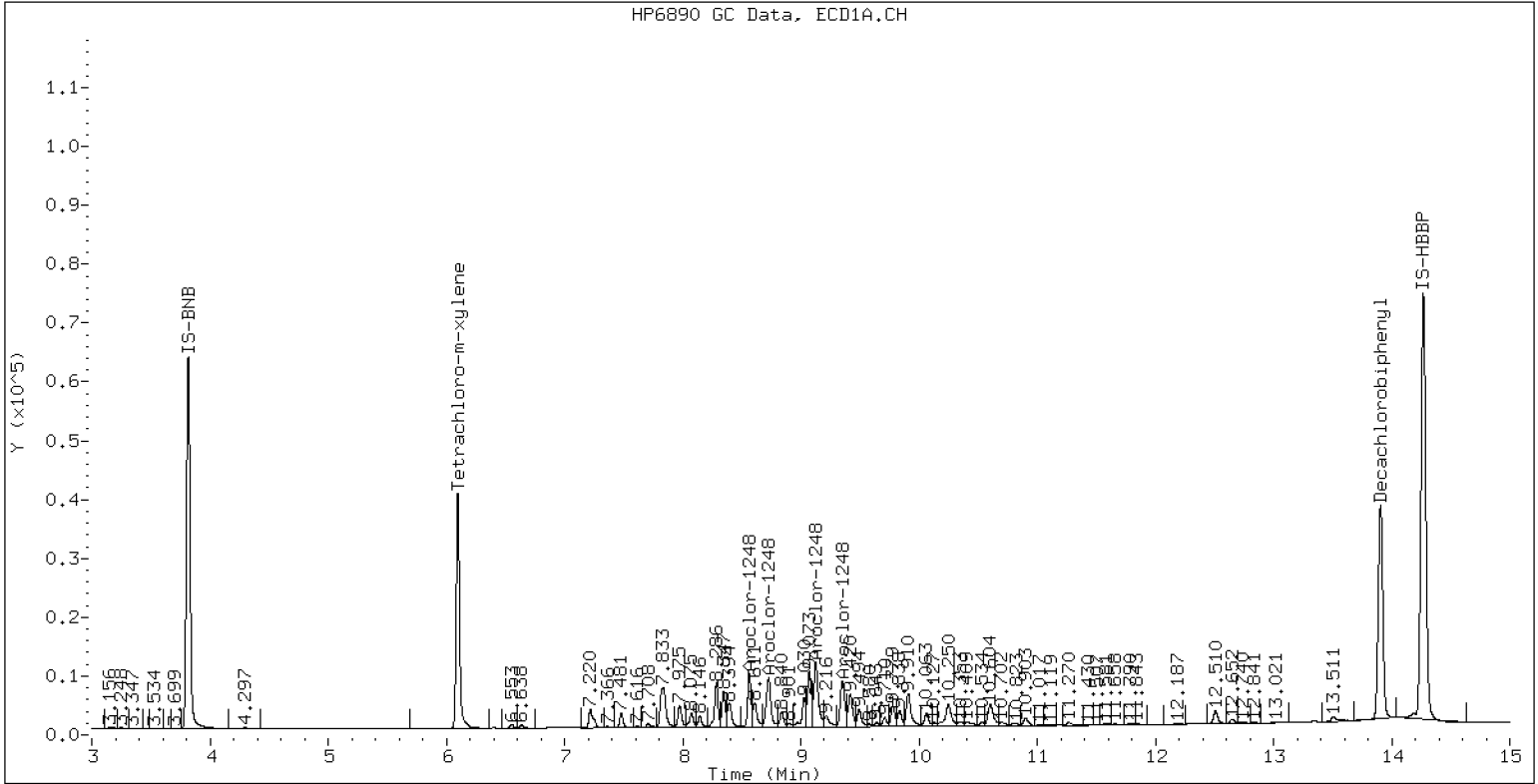
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

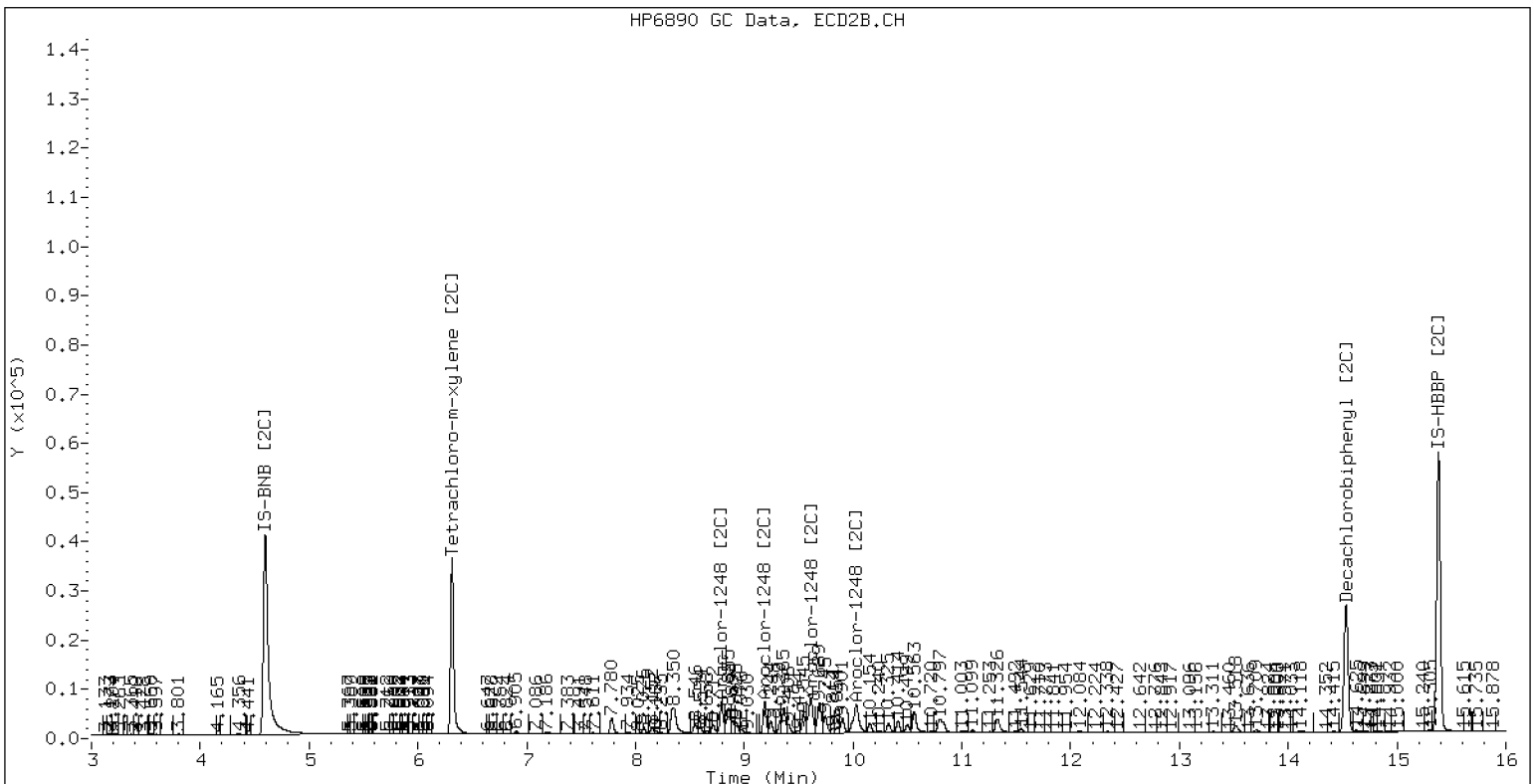
ECD5-ZB5 /20201117.b/20111715ECD5.D AR1248CCV1

17-NOV-2020 23:53 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111715ECD5.D AR1248CCV1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111716ECD5.D
Data file 2: /20201117.b/20201117.b/20111716ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 18-NOV-2020 00:14
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1496682	6.313 0.000 1313788	6.313	38.5	40.4	4.7	Tetrachloro-m-xylene
13.908	-0.003 1937141	14.532 0.001 1313342	14.532	39.8	38.4	3.6	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.3	101.0
Decachlorobiphenyl	99.5	96.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2656917	-1.7
Hexabromobiphenyl	3964848	4113567	3.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2526423	-13.3
Hexabromobiphenyl	2801720	2745631	-2.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.481	-0.001	265529	244.4	1	7.782	0.000	337028	240.6	
Aroclor-1016	2	7.837	-0.000	830593	241.0	2	8.353	-0.000	692335	243.5	
Aroclor-1016	3	7.973	0.000	344853	243.5	3	8.546	-0.000	290667	243.4	
Aroclor-1016	4	8.286	-0.000	234144	249.0	4	9.187	0.000	184742	210.1	
Total CollAve (4 peaks):				244.5		Total Col2Ave (4 peaks):				234.4	RPD = 4
Corrected Ave (3 peaks):				243.0		Corrected Ave (3 peaks):				231.4	RPD = 5

CalAmt %D: -2.2

CalAmt %D: -6.2

Aroclor-1260	1	11.427	-0.001	573751	237.9	1	11.628	0.000	375867	228.6	
Aroclor-1260	2	11.788	0.001	1443715	239.6	2	12.079	0.002	458761	230.2	
Aroclor-1260	3	12.182	0.001	778776	238.7	3	12.334	0.001	926542	234.0	
Aroclor-1260	4	12.290	-0.001	324350	241.6	4	13.635	0.001	255840	239.5	
Aroclor-1260	5	12.363	0.000	389969	247.1	NS	---			----	
Total CollAve (5 peaks):				241.0		Total Col2Ave (4 peaks):				233.1	RPD = 3
Corrected Ave (4 peaks):				239.5		Corrected Ave (3 peaks):				230.9	RPD = 4

CalAmt %D: -3.6

CalAmt %D: -6.8

Total PCB Area Col1 (6.199 - 13.810) = 16379102 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 12441954 Col2 Total PCB = 0.46 ppm*

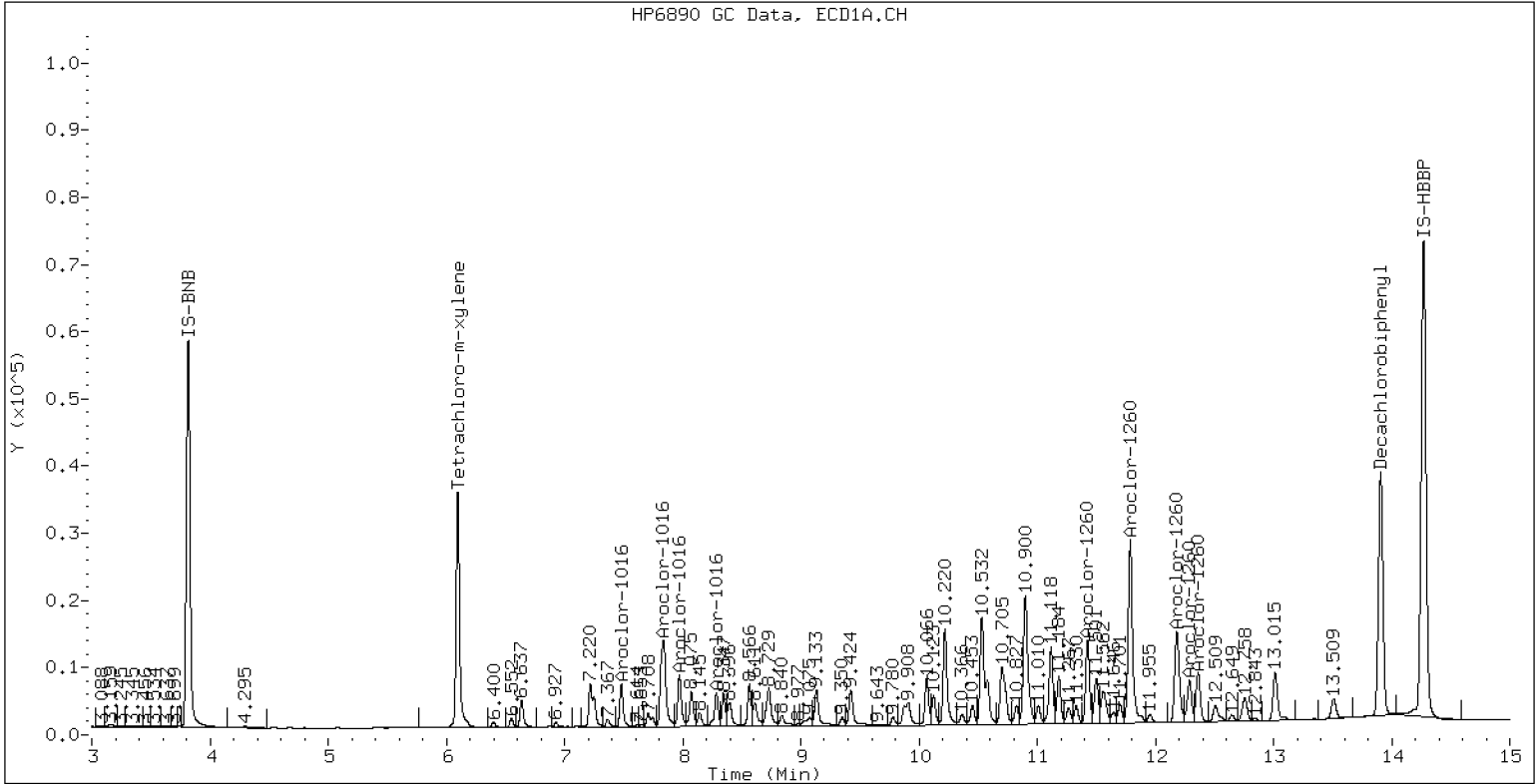
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD5-ZB5 /20201117.b/20111716ECD5.D AR1660CCV2

18-NOV-2020 00:14 2u1 JGR



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111726ECD5.D
Data file 2: /20201117.b/20201117.b/20111726ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1242.sub
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 18-NOV-2020 03:40
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002 1759377	6.314 0.001 1541626		40.5	43.2	6.4	Tetrachloro-m-xylene
13.907	-0.003 2181497	14.532 0.001 1475480		40.1	39.7	1.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	101.3	108.0
Decachlorobiphenyl	100.3	99.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2969689	9.9
Hexabromobiphenyl	3964848	4592722	15.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2772877	-4.9
Hexabromobiphenyl	2801720	2980063	6.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.481	-0.001	242395	253.3	1	7.782	0.000	305655	248.3	
Aroclor-1242	2	7.837	0.001	748646	247.5	2	8.353	0.000	622346	247.7	
Aroclor-1242	3	9.074	0.002	418744	381.2	3	9.691	0.000	205788	251.2	
Aroclor-1242	4	9.353	0.003	295692	246.3	4	10.032	0.000	256979	254.8	
Total Col1Ave (4 peaks):				282.1	Total Col2Ave (4 peaks):				250.5	RPD = 12	
Corrected Ave (3 peaks):				249.0	Corrected Ave (3 peaks):				249.1	RPD = 0	
CalAmt %D:				12.8	CalAmt %D:				0.2		

Total PCB Area Col1 (6.199 - 13.810) = 6782280 Col1 Total PCB = 0.22 ppm*

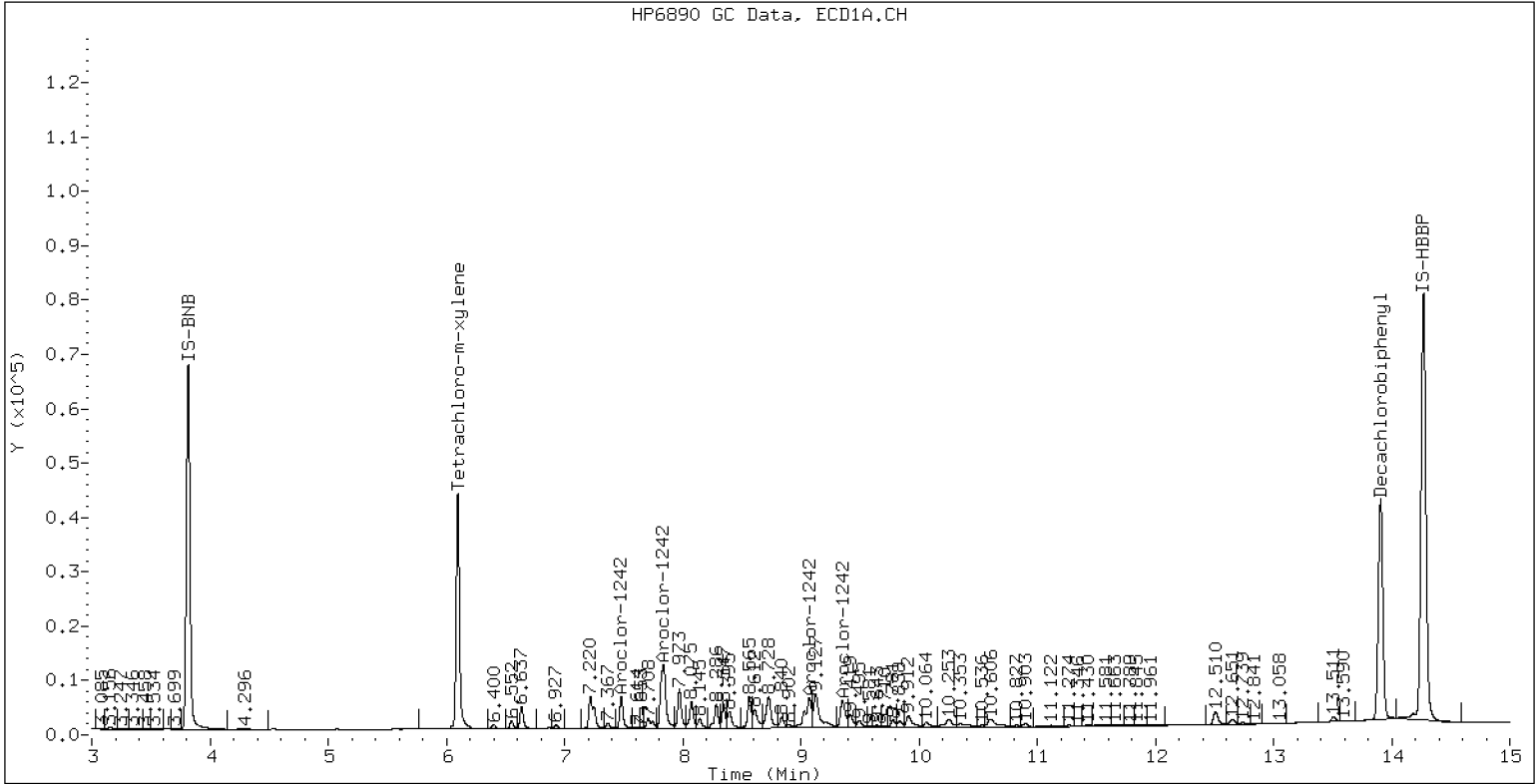
Total PCB Area Col2 (6.199 - 13.810) = 6148831 Col2 Total PCB = 0.23 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

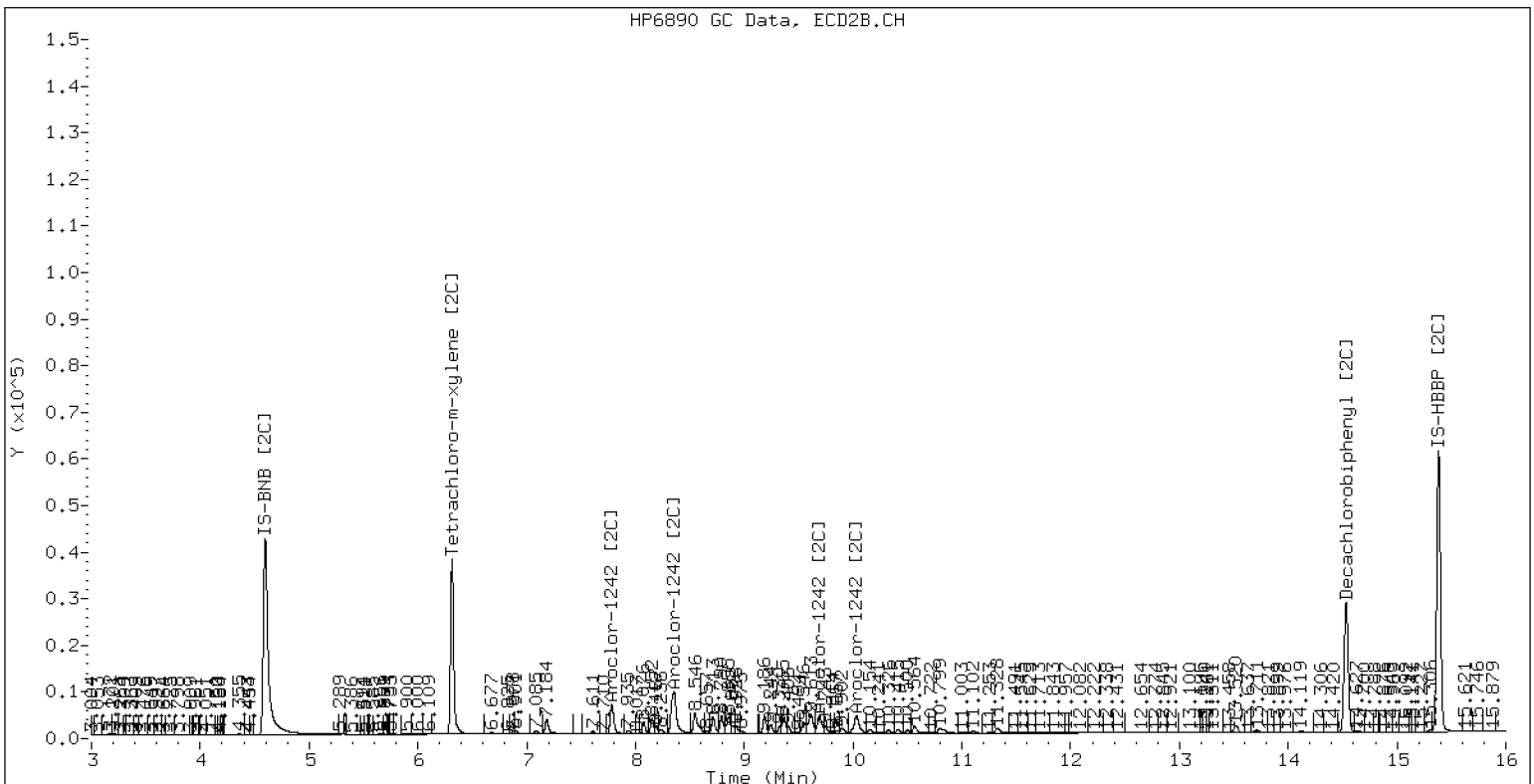
ECD5-ZB5 /20201117.b/20111726ECD5.D AR1242CCV3

18-NOV-2020 03:40 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111726ECD5.D AR1242CCV3



ZB-35 Manual Integration: NO



**CONTINUING CALIBRATION CHECK
EPA 8082A**

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>ECD5</u>	Calibration:	<u>DK00033</u>
Lab File ID:	<u>20111727ECD5.D</u>	Calibration Date:	<u>11/07/2020</u>
Sequence:	<u>SIL0028</u>	Injection Date:	<u>11/18/20</u>
Lab Sample ID:	<u>SIL0028-CCV4</u>	Injection Time:	<u>04:01</u>
Sequence Name:	<u>AR1660CCV4</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	239	0.0518592	0.0493240		-4.4	+/-20
Aroclor 1016 [2C]	A	250.00	234	0.0500110	0.0475991		-6.4	+/-20
Aroclor 1260	A	250.00	233	0.0568672	0.0527747		-6.8	+/-20
Aroclor 1260 [2C]	A	250.00	228	0.0631205	0.0573557		-9.0	+/-20
Decachlorobiphenyl	A	40.000	39.6	0.9468939	0.9385154		-1.0	+/-20
Tetrachlorometaxylene	A	40.000	38.0	1.1693520	1.1124190		-5.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.0	0.9970133	0.9472203		-5.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.2	1.0293930	1.0332980		0.5	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111727ECD5.D
Data file 2: /20201117.b/20201117.b/20111727ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 18-NOV-2020 04:01
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002	1552537	6.313	0.000	1361765	38.1	40.2	5.4	Tetrachloro-m-xylene
13.908	-0.002	1995584	14.531	0.000	1354418	39.6	38.0	4.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	95.1	100.4
Decachlorobiphenyl	99.1	95.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2791280	3.3
Hexabromobiphenyl	3964848	4252640	7.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2635764	-9.6
Hexabromobiphenyl	2801720	2859774	2.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.481	-0.001	273465	239.6	1	7.782	0.000	351156	240.3
Aroclor-1016	2	7.838	0.000	855234	236.2	2	8.353	0.000	723223	243.8
Aroclor-1016	3	7.973	0.000	353662	237.7	3	8.547	0.000	300569	241.3
Aroclor-1016	4	8.286	-0.001	238601	241.6	4	9.187	0.000	193303	210.7
Total CollAve (4 peaks):				238.8		Total Col2Ave (4 peaks):				234.0 RPD = 2
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				230.8 RPD = 3

CalAmt %D: -4.5

CalAmt %D: -6.4

Aroclor-1260	1	11.427	-0.001	571307	229.2	1	11.627	0.000	380604	222.3
Aroclor-1260	2	11.787	-0.000	1440731	231.3	2	12.077	0.000	465121	224.1
Aroclor-1260	3	12.182	0.000	778538	230.8	3	12.333	0.000	942391	228.5
Aroclor-1260	4	12.290	-0.001	325261	234.4	4	13.634	0.000	262187	235.6
Aroclor-1260	5	12.362	-0.000	390911	239.6	NS	---			----
Total CollAve (5 peaks):				233.1		Total Col2Ave (4 peaks):				227.6 RPD = 2
Corrected Ave (4 peaks):				231.4		Corrected Ave (3 peaks):				224.9 RPD = 3

CalAmt %D: -6.8

CalAmt %D: -9.0

Total PCB Area Col1 (6.199 - 13.810) = 16473410 Col1 Total PCB = 0.52 ppm*

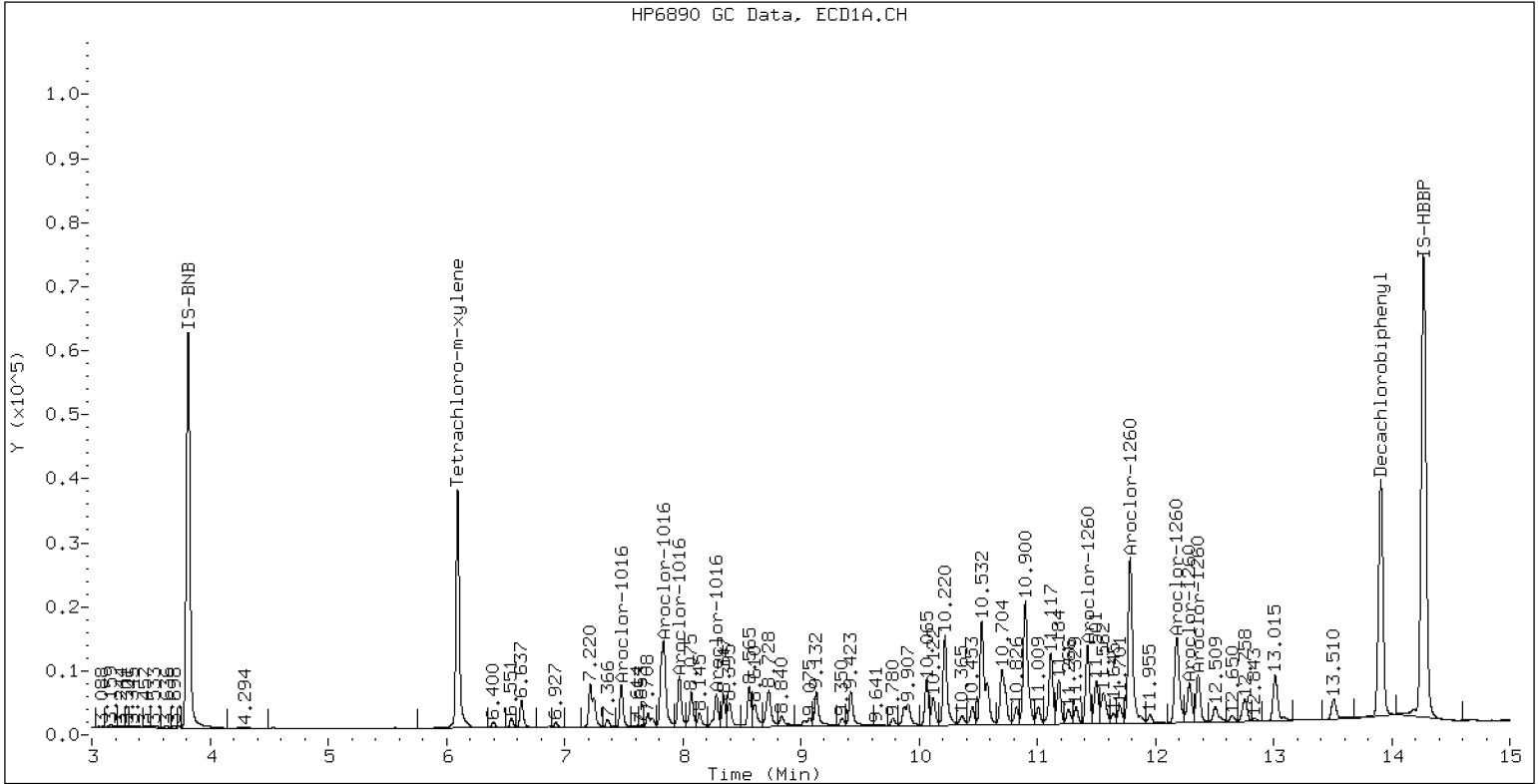
Total PCB Area Col2 (6.199 - 13.810) = 12766800 Col2 Total PCB = 0.47 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

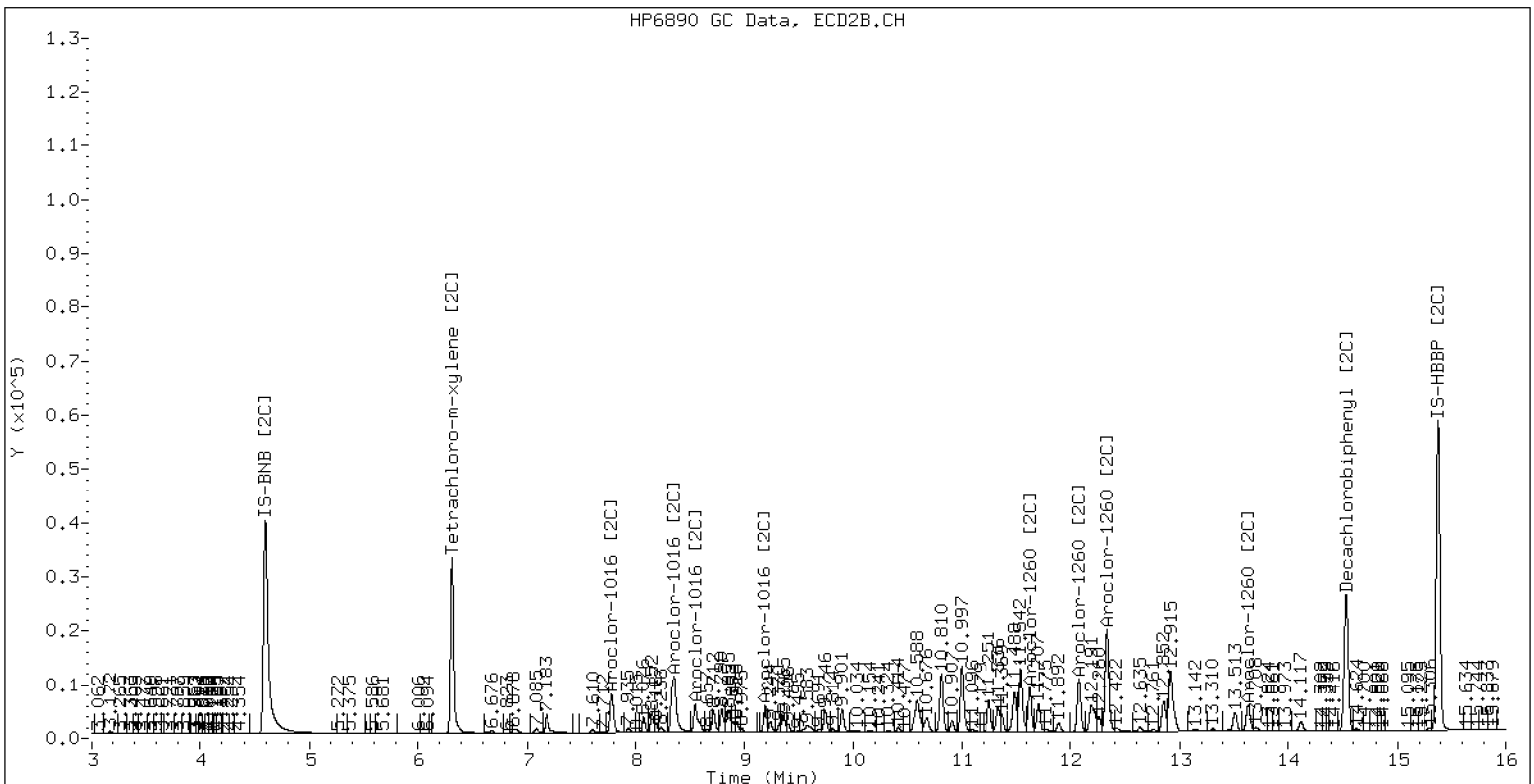
ECD5-ZB5 /20201117.b/20111727ECD5.D AR1660CCV4

18-NOV-2020 04:01 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111727ECD5.D AR1660CCV4



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>ECD5</u>	Calibration:	<u>DK00033</u>
Lab File ID:	<u>20112808ECD5.D</u>	Calibration Date:	<u>11/07/2020</u>
Sequence:	<u>SIL0052</u>	Injection Date:	<u>11/29/20</u>
Lab Sample ID:	<u>SIL0052-CCV1</u>	Injection Time:	<u>21:19</u>
Sequence Name:	<u>AR1248CCV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	258	0.0509821	0.0528234		3.3	+/-20
Aroclor 1248 [2C]	A	250.00	255	0.0404949	0.0414921		1.9	+/-20
Decachlorobiphenyl	A	40.000	39.7	0.9468939	0.9386441		-0.9	+/-20
Tetrachlorometaxylene	A	40.000	38.2	1.1693520	1.1155730		-4.6	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.8	0.9970133	0.9912915		-0.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.5	1.0293930	1.0688490		3.8	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201128.b/20112808ECD5.D
Data file 2: /20201128.b/20201128.b/20112808ECD5.D
Method: ecd5.i\20201128.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 29-NOV-2020 21:19
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1608924	0.000 1685438	6.314	38.2	41.5	8.5	Tetrachloro-m-xylene
13.909	-0.001 2093649	-0.001 1666028	14.534	39.7	39.8	0.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	95.4	103.8
Decachlorobiphenyl	99.1	99.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2884481	6.7
Hexabromobiphenyl	3964848	4461007	12.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3153743	8.2
Hexabromobiphenyl	2801720	3361328	20.0

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.566	0.001	379593	249.7	1	8.791	0.000	309872	258.3	
Aroclor-1248	2	8.729	0.001	478617	259.9	2	9.188	0.000	332171	232.3	
Aroclor-1248	3	9.129	0.003	604674	264.6	3	9.613	0.000	497669	264.0	
Aroclor-1248	4	9.353	0.004	441717	259.0	4	10.030	0.000	495980	265.1	
Total Col1Ave (4 peaks):				258.3	Total Col2Ave (4 peaks):				254.9	RPD = 1	
Corrected Ave (3 peaks):				256.2	Corrected Ave (3 peaks):				251.5	RPD = 2	

Total PCB Area Col1 (6.199 - 13.810) = 8436144 Col1 Total PCB = 0.27 ppm*

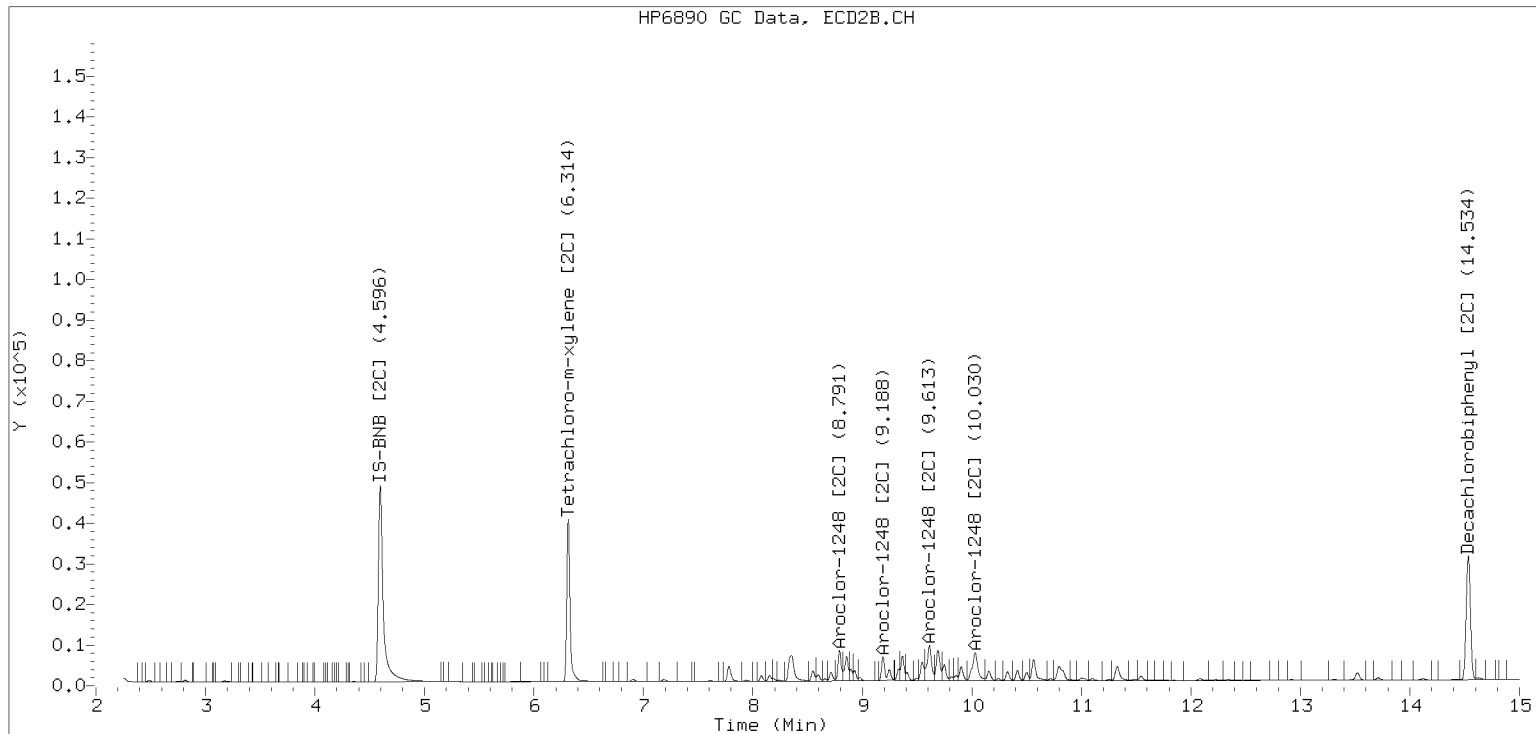
Total PCB Area Col2 (6.199 - 13.810) = 8070561 Col2 Total PCB = 0.30 ppm*

* Quantitated against AR1660 0.25ppm in Ical

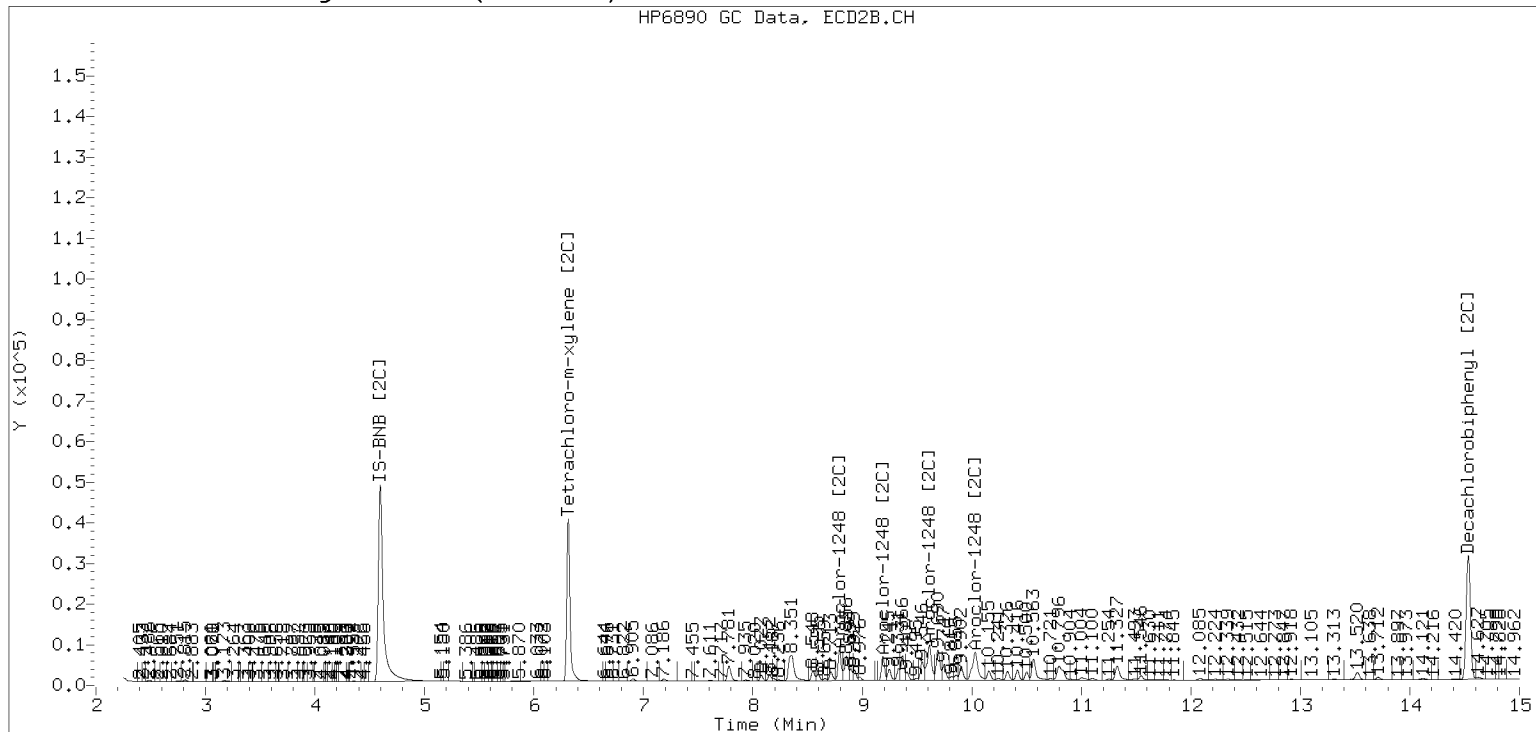
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201128.b/20201128.b/20112808ECD5.D Injection Date: 29-NOV-2

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201128.b/20112809ECD5.D
Data file 2: /20201128.b/20201128.b/20112809ECD5.D
Method: ecd5.i\20201128.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 29-NOV-2020 21:40
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1598157	6.314 0.000 1523587		41.8	40.7	2.8	Tetrachloro-m-xylene
13.908	-0.003 1969372	14.535 0.000 1501850		41.3	39.4	4.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	101.7
Decachlorobiphenyl	103.4	98.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2612652	-3.3
Hexabromobiphenyl	3964848	4024778	1.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2910019	-0.1
Hexabromobiphenyl	2801720	3059858	9.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	319655	299.2	1	7.783	0.000	419746	260.2
Aroclor-1016	2	7.838	0.000	892276	263.3	2	8.354	0.000	839036	256.2
Aroclor-1016	3	7.974	0.001	388120	278.8	3	8.547	0.000	394374	286.8
Aroclor-1016	4	8.287	0.000	287537	311.0	4	9.192	0.000	227943	225.0
Total CollAve (4 peaks):				288.1		Total Col2Ave (4 peaks):				257.0 RPD = 11
Corrected Ave (3 peaks):				280.4		Corrected Ave (3 peaks):				247.1 RPD = 13
Aroclor-1260	1	11.427	-0.001	600207	254.4	1	11.628	0.000	393754	214.9
Aroclor-1260	2	11.787	-0.000	1465582	248.6	2	12.080	0.000	568454	255.9
Aroclor-1260	3	12.181	-0.000	777757	243.7	3	12.334	0.000	942696	213.6
Aroclor-1260	4	12.290	-0.001	351228	267.4	4	13.636	0.000	299316	251.4
Aroclor-1260	5	12.362	-0.000	432824	280.3	NS	---			----
Total CollAve (5 peaks):				258.9		Total Col2Ave (4 peaks):				234.0 RPD = 10
Corrected Ave (4 peaks):				253.5		Corrected Ave (3 peaks):				226.6 RPD = 11

Total PCB Area Col1 (6.199 - 13.810) = 18950667 Col1 Total PCB = 0.60 ppm*

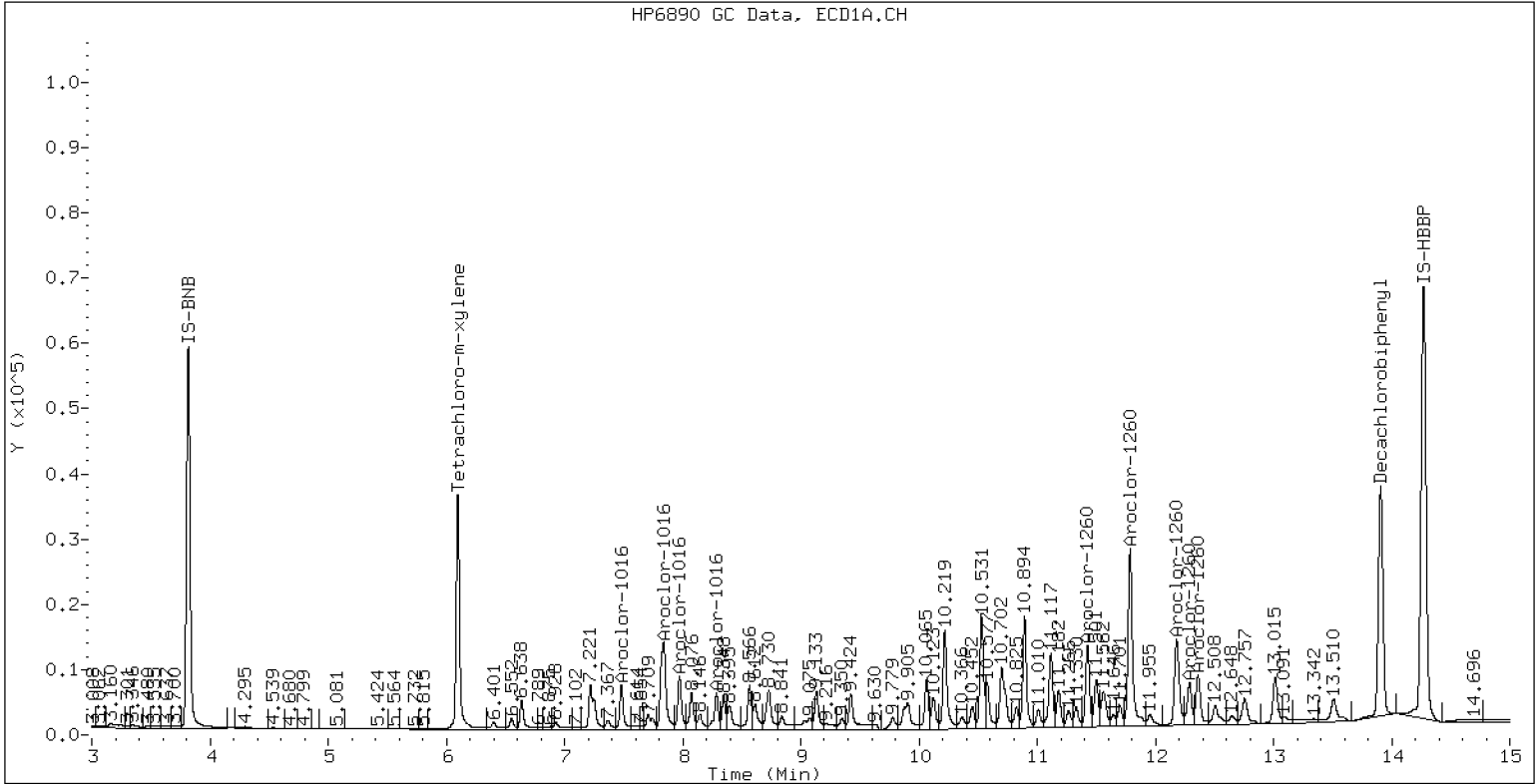
Total PCB Area Col2 (6.199 - 13.810) = 15690856 Col2 Total PCB = 0.58 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

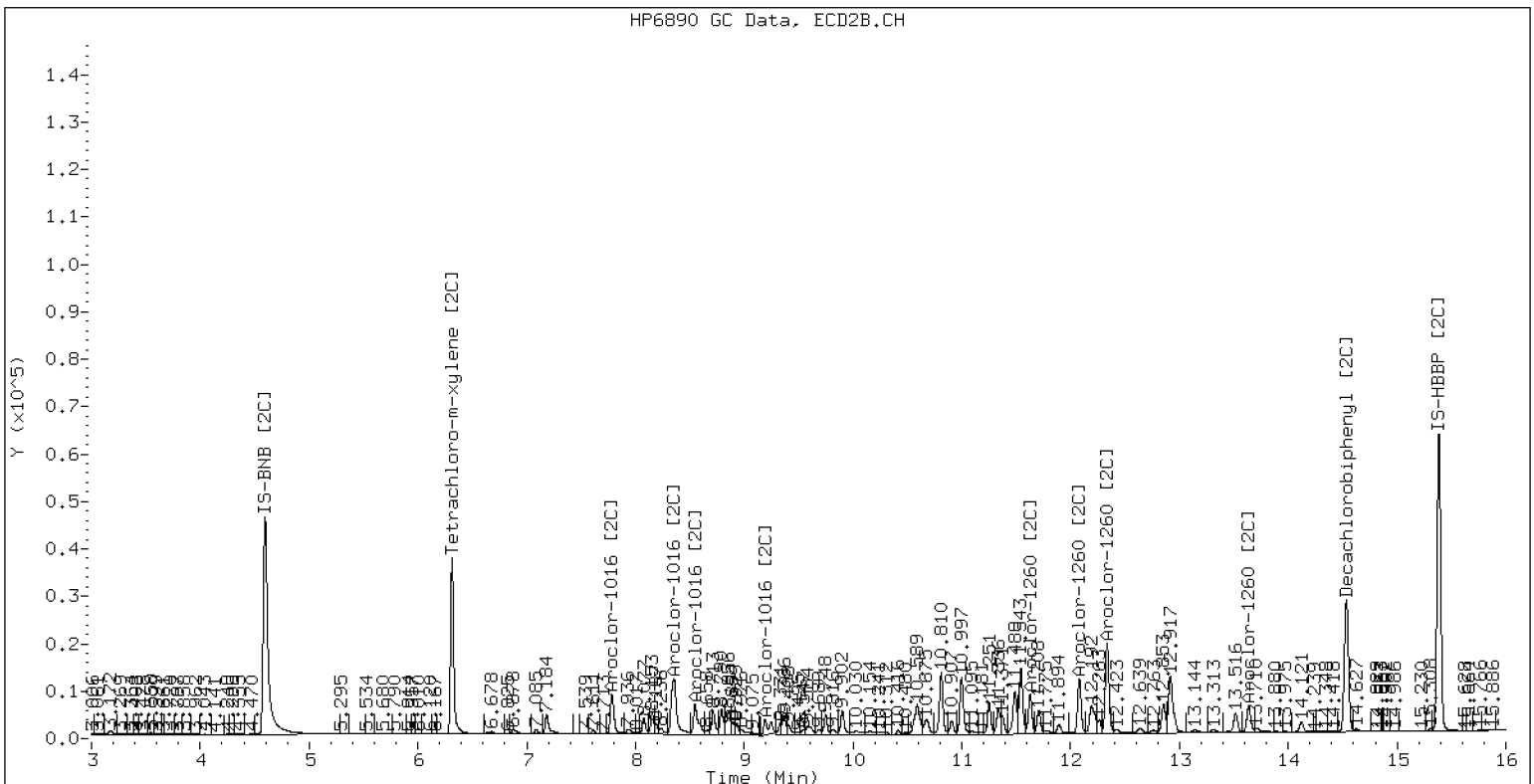
ECD5-ZB5 /20201128.b/20112809ECD5.D AR1660CCV2

29-NOV-2020 21:40 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201128.b/20201128.b/20112809ECD5.D AR1660CCV2





Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0223

Instrument: ECD5

Calibration: DK00033

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SIK0223-CAL1	20110708.D	20110708.D	NA	11/07/20 20:38
Cal Standard	SIK0223-CAL2	20110709.D	20110709.D	NA	11/07/20 20:58
Cal Standard	SIK0223-CAL3	20110710.D	20110710.D	NA	11/07/20 21:19
Cal Standard	SIK0223-CAL4	20110711.D	20110711.D	NA	11/07/20 21:40
Cal Standard	SIK0223-CAL5	20110712.D	20110712.D	NA	11/07/20 22:00
Cal Standard	SIK0223-CAL6	20110713.D	20110713.D	NA	11/07/20 22:21
Cal Standard	SIK0223-CAL7	20110714.D	20110714.D	NA	11/07/20 22:42
Cal Standard	SIK0223-CAL8	20110715.D	20110715.D	NA	11/07/20 23:02
Cal Standard	SIK0223-CAL9	20110716.D	20110716.D	NA	11/07/20 23:23
Cal Standard	SIK0223-CALA	20110717.D	20110717.D	NA	11/07/20 23:44
Cal Standard	SIK0223-CALB	20110718.D	20110718.D	NA	11/08/20 00:04
Secondary Cal Check	SIK0223-SCV1	20110719.D	20110719.D	NA	11/08/20 00:25
Secondary Cal Check	SIK0223-SCV2	20110720.D	20110720.D	NA	11/08/20 00:45
Secondary Cal Check	SIK0223-SCV3	20110721.D	20110721.D	NA	11/08/20 01:06
Secondary Cal Check	SIK0223-SCV4	20110722.D	20110722.D	NA	11/08/20 01:27
Secondary Cal Check	SIK0223-SCV5	20110723.D	20110723.D	NA	11/08/20 01:47
Secondary Cal Check	SIK0223-SCV6	20110724.D	20110724.D	NA	11/08/20 02:08



ANALYSIS SEQUENCE

SIK0115

Instrument: ECD7
Calibration ID: DK00015

Element Column ID: h913h914

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0115-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0115-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0115-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0115-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0115-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0115-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0115-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0115-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0115-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0115-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0115-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0115-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0115-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0115-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0115-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0115-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0115-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020 18:13	20110701.D	1	RINSE	
2	07-NOV-2020 18:34	20110702.D	1	RINSE	
3	07-NOV-2020 18:55	20110703.D	1	RINSE	
4	07-NOV-2020 19:15	20110704.D	1	RINSE	
5	07-NOV-2020 19:36	20110705.D	1	RINSE	
6	07-NOV-2020 19:56	20110706.D	1	RINSE	
7	07-NOV-2020 20:17	20110707.D	1	IB	
8	07-NOV-2020 20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020 20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020 21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020 21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020 22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020 22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020 22:42	20110714.D	1	AR1242	
15	07-NOV-2020 23:02	20110715.D	1	AR1248	
16	07-NOV-2020 23:23	20110716.D	1	AR1254	
17	07-NOV-2020 23:44	20110717.D	1	AR2162	
18	08-NOV-2020 00:04	20110718.D	1	AR3268	
19	08-NOV-2020 00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020 00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020 01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020 01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020 01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020 02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020 02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020 02:49	20110726.D	1	BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268	1		NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1	1		NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2	1		NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3	1		NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4	1		NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5	1		NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6	1		NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS	1		NO MANUAL INTEGRATION
0249	20110726.D	BD	1		NO MANUAL INTEGRATION
1813	20110701.D	RINSE	1		NO MANUAL INTEGRATION
1834	20110702.D	RINSE	1		NO MANUAL INTEGRATION
1855	20110703.D	RINSE	1		NO MANUAL INTEGRATION
1915	20110704.D	RINSE	1		NO MANUAL INTEGRATION
1936	20110705.D	RINSE	1		NO MANUAL INTEGRATION
1956	20110706.D	RINSE	1		NO MANUAL INTEGRATION
2017	20110707.D	IB	1		NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660	1		NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	jrains, 16-Nov-2020 07:18
20110702.D	Data Locked	jrains, 16-Nov-2020 07:18
20110703.D	Data Locked	jrains, 16-Nov-2020 07:18
20110704.D	Data Locked	jrains, 16-Nov-2020 07:18
20110705.D	Data Locked	jrains, 16-Nov-2020 07:18
20110706.D	Data Locked	jrains, 16-Nov-2020 07:18
20110707.D	Data Locked	jrains, 16-Nov-2020 07:18
20110708.D	Data Locked	jrains, 16-Nov-2020 07:18
20110709.D	Data Locked	jrains, 16-Nov-2020 07:18
20110710.D	Data Locked	jrains, 16-Nov-2020 07:18
20110711.D	Data Locked	jrains, 16-Nov-2020 07:18
20110712.D	Data Locked	jrains, 16-Nov-2020 07:18
20110713.D	Data Locked	jrains, 16-Nov-2020 07:18
20110714.D	Data Locked	jrains, 16-Nov-2020 07:18
20110715.D	Data Locked	jrains, 16-Nov-2020 07:18
20110716.D	Data Locked	jrains, 16-Nov-2020 07:18
20110717.D	Data Locked	jrains, 16-Nov-2020 07:18
20110718.D	Data Locked	jrains, 16-Nov-2020 07:18
20110719.D	Data Locked	jrains, 16-Nov-2020 07:18
20110720.D	Data Locked	jrains, 16-Nov-2020 07:18
20110721.D	Data Locked	jrains, 16-Nov-2020 07:18
20110722.D	Data Locked	jrains, 16-Nov-2020 07:18
20110723.D	Data Locked	jrains, 16-Nov-2020 07:18
20110724.D	Data Locked	jrains, 16-Nov-2020 07:18
20110725.D	Data Locked	jrains, 16-Nov-2020 07:18
20110726.D	Data Locked	jrains, 16-Nov-2020 07:18



ANALYSIS SEQUENCE

SIK0223

Instrument: ECD5 Element Column ID: h4096h4097
Calibration ID: DK00033

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0223-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0223-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0223-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0223-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0223-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0223-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0223-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0223-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0223-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0223-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0223-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0223-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0223-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0223-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0223-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0223-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0223-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020 18:13	20110701.D	1	RINSE	
2	07-NOV-2020 18:34	20110702.D	1	RINSE	
3	07-NOV-2020 18:55	20110703.D	1	RINSE	
4	07-NOV-2020 19:15	20110704.D	1	RINSE	
5	07-NOV-2020 19:36	20110705.D	1	RINSE	
6	07-NOV-2020 19:56	20110706.D	1	RINSE	
7	07-NOV-2020 20:17	20110707.D	1	IB	
8	07-NOV-2020 20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020 20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020 21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020 21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020 22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020 22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020 22:42	20110714.D	1	AR1242	
15	07-NOV-2020 23:02	20110715.D	1	AR1248	
16	07-NOV-2020 23:23	20110716.D	1	AR1254	
17	07-NOV-2020 23:44	20110717.D	1	AR2162	
18	08-NOV-2020 00:04	20110718.D	1	AR3268	
19	08-NOV-2020 00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020 00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020 01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020 01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020 01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020 02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020 02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020 02:49	20110726.D	1	BD	

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	j rains, 16-Nov-2020 07:18
20110702.D	Data Locked	j rains, 16-Nov-2020 07:18
20110703.D	Data Locked	j rains, 16-Nov-2020 07:18
20110704.D	Data Locked	j rains, 16-Nov-2020 07:18
20110705.D	Data Locked	j rains, 16-Nov-2020 07:18
20110706.D	Data Locked	j rains, 16-Nov-2020 07:18
20110707.D	Data Locked	j rains, 16-Nov-2020 07:18
20110708.D	Data Locked	j rains, 16-Nov-2020 07:18
20110709.D	Data Locked	j rains, 16-Nov-2020 07:18
20110710.D	Data Locked	j rains, 16-Nov-2020 07:18
20110711.D	Data Locked	j rains, 16-Nov-2020 07:18
20110712.D	Data Locked	j rains, 16-Nov-2020 07:18
20110713.D	Data Locked	j rains, 16-Nov-2020 07:18
20110714.D	Data Locked	j rains, 16-Nov-2020 07:18
20110715.D	Data Locked	j rains, 16-Nov-2020 07:18
20110716.D	Data Locked	j rains, 16-Nov-2020 07:18
20110717.D	Data Locked	j rains, 16-Nov-2020 07:18
20110718.D	Data Locked	j rains, 16-Nov-2020 07:18
20110719.D	Data Locked	j rains, 16-Nov-2020 07:18
20110720.D	Data Locked	j rains, 16-Nov-2020 07:18
20110721.D	Data Locked	j rains, 16-Nov-2020 07:18
20110722.D	Data Locked	j rains, 16-Nov-2020 07:18
20110723.D	Data Locked	j rains, 16-Nov-2020 07:18
20110724.D	Data Locked	j rains, 16-Nov-2020 07:18
20110725.D	Data Locked	j rains, 16-Nov-2020 07:18
20110726.D	Data Locked	j rains, 16-Nov-2020 07:18

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION



Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0028

Instrument: ECD5

Calibration: DK00033

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SIL0028-ICV1	20111703ECD5.D	20111703ECD5.D	NA	11/17/20 19:45
Initial Cal Check	SIL0028-ICV2	20111704ECD5.D	20111704ECD5.D	NA	11/17/20 20:05
Blank	BIK0378-BLK1	20111705ECD5.D	20111705ECD5.D	Solid	11/17/20 20:26
LCS	BIK0378-BS1	20111706ECD5.D	20111706ECD5.D	Solid	11/17/20 20:47
PP8-5	20K0007-02	20111710ECD5.D	20111710ECD5.D	Solid	11/17/20 22:10
PP8-10	20K0007-04	20111711ECD5.D	20111711ECD5.D	Solid	11/17/20 22:30
PP11-2.5	20K0007-07	20111712ECD5.D	20111712ECD5.D	Solid	11/17/20 22:51
PP11-7.5	20K0007-09	20111713ECD5.D	20111713ECD5.D	Solid	11/17/20 23:12
PP12-2.5	20K0007-13	20111714ECD5.D	20111714ECD5.D	Solid	11/17/20 23:32
Calibration Check	SIL0028-CCV1	20111715ECD5.D	20111715ECD5.D	NA	11/17/20 23:53
Calibration Check	SIL0028-CCV2	20111716ECD5.D	20111716ECD5.D	NA	11/18/20 00:14
PP12-7.5	20K0007-15	20111717ECD5.D	20111717ECD5.D	Solid	11/18/20 00:34
PP10-2.5	BIK0378-MS1	20111719ECD5.D	20111719ECD5.D	Solid	11/18/20 01:16
PP10-2.5	BIK0378-MSD1	20111720ECD5.D	20111720ECD5.D	Solid	11/18/20 01:36
PP10-7.5	20K0007-21	20111721ECD5.D	20111721ECD5.D	Solid	11/18/20 01:57
PP9-2.5	20K0007-25	20111722ECD5.D	20111722ECD5.D	Solid	11/18/20 02:18
PP9-7.5	20K0007-27	20111723ECD5.D	20111723ECD5.D	Solid	11/18/20 02:39
PP4-2.5	20K0007-31	20111724ECD5.D	20111724ECD5.D	Solid	11/18/20 02:59
PP4-7.5	20K0007-33	20111725ECD5.D	20111725ECD5.D	Solid	11/18/20 03:20
Calibration Check	SIL0028-CCV3	20111726ECD5.D	20111726ECD5.D	NA	11/18/20 03:40
Calibration Check	SIL0028-CCV4	20111727ECD5.D	20111727ECD5.D	NA	11/18/20 04:01



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Sequence: SIL0052 Instrument: ECD5
Calibration: DK00033

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SIL0052-ICV1	20112805ECD5.D	20112805ECD5.D	NA	11/29/20 20:17
Initial Cal Check	SIL0052-ICV2	20112806ECD5.D	20112806ECD5.D	NA	11/29/20 20:38
PP10-2.5	20K0007-19	20112807ECD5.D	20112807ECD5.D	Solid	11/29/20 20:59
Calibration Check	SIL0052-CCV1	20112808ECD5.D	20112808ECD5.D	NA	11/29/20 21:19
Calibration Check	SIL0052-CCV2	20112809ECD5.D	20112809ECD5.D	NA	11/29/20 21:40



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIK0223</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0223-SCV1 (Solid)			Lab File ID: 20110719.D			Analyzed: 11/08/20 00:25		
Decachlorobiphenyl	40.000	109	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	6.099	6.097667	0.0013	N/A	
Decachlorobiphenyl [2C]	40.000	111	80 - 120	14.536	14.536	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	113	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV2 (Solid)			Lab File ID: 20110720.D			Analyzed: 11/08/20 00:45		
Decachlorobiphenyl	40.000	107	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	108	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	110	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV3 (Solid)			Lab File ID: 20110721.D			Analyzed: 11/08/20 01:06		
Decachlorobiphenyl	40.000	110	80 - 120	13.911	13.90933	0.0017	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	112	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	113	80 - 120	6.315	6.314333	0.0007	N/A	
SIK0223-SCV4 (Solid)			Lab File ID: 20110722.D			Analyzed: 11/08/20 01:27		
Decachlorobiphenyl	40.000	105	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	6.099	6.097667	0.0013	N/A	
Decachlorobiphenyl [2C]	40.000	108	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	109	80 - 120	6.315	6.314333	0.0007	N/A	
SIK0223-SCV5 (Solid)			Lab File ID: 20110723.D			Analyzed: 11/08/20 01:47		
Decachlorobiphenyl	40.000	107	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	110	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	110	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV6 (Solid)			Lab File ID: 20110724.D			Analyzed: 11/08/20 02:08		
Decachlorobiphenyl	40.000	150	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	153	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	112	80 - 120	6.316	6.314333	0.0017	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0028-ICV1 (Solid)								
Lab File ID: 20111703ECD5.D				Analyzed: 11/17/20 19:45				
Decachlorobiphenyl	40.000	102	80 - 120	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	40.000	99.0	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	99.3	80 - 120	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-ICV2 (Solid)								
Lab File ID: 20111704ECD5.D				Analyzed: 11/17/20 20:05				
Decachlorobiphenyl	40.000	101	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	97.8	80 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	40.000	96.5	80 - 120	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	6.312	6.314333	-0.0023	N/A	
BIK0378-BLK1 (Solid)								
Lab File ID: 20111705ECD5.D				Analyzed: 11/17/20 20:26				
Decachlorobiphenyl	40.000	71.0	40 - 133	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	40.000	63.2	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	73.9	40 - 133	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	68.1	53 - 120	6.312	6.314333	-0.0023	N/A	
BIK0378-BS1 (Solid)								
Lab File ID: 20111706ECD5.D				Analyzed: 11/17/20 20:47				
Decachlorobiphenyl	40.000	81.6	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	40.000	72.8	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	84.4	40 - 133	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	40.000	77.6	53 - 120	6.312	6.314333	-0.0023	N/A	
20K0007-02 (Solid)								
Lab File ID: 20111710ECD5.D				Analyzed: 11/17/20 22:10				
Decachlorobiphenyl	39.503	91.8	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.503	82.3	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.503	93.6	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.503	83.7	53 - 120	6.312	6.314333	-0.0023	N/A	
20K0007-04 (Solid)								
Lab File ID: 20111711ECD5.D				Analyzed: 11/17/20 22:30				
Decachlorobiphenyl	39.625	75.5	40 - 133	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	39.625	66.2	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	39.625	76.5	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.625	71.1	53 - 120	6.313	6.314333	-0.0013	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0007-07 (Solid)								
Lab File ID: 20111712ECD5.D				Analyzed: 11/17/20 22:51				
Decachlorobiphenyl	39.806	70.0	40 - 133	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	39.806	55.5	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.806	72.4	40 - 133	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	39.806	62.0	53 - 120	6.311	6.314333	-0.0033	N/A	
20K0007-09 (Solid)								
Lab File ID: 20111713ECD5.D				Analyzed: 11/17/20 23:12				
Decachlorobiphenyl	39.790	69.9	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.790	62.0	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.790	73.4	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.790	73.1	53 - 120	6.311	6.314333	-0.0033	N/A	
20K0007-13 (Solid)								
Lab File ID: 20111714ECD5.D				Analyzed: 11/17/20 23:32				
Decachlorobiphenyl	39.846	90.2	40 - 133	13.903	13.90933	-0.0063	N/A	
Tetrachlorometaxylene	39.846	72.5	53 - 120	6.096	6.097667	-0.0017	N/A	*
Decachlorobiphenyl [2C]	39.846	103	40 - 133	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	39.846	75.1	53 - 120	6.312	6.314333	-0.0023	N/A	*
SIL0028-CCV1 (Solid)								
Lab File ID: 20111715ECD5.D				Analyzed: 11/17/20 23:53				
Decachlorobiphenyl	40.000	99.8	80 - 120	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	40.000	98.0	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-CCV2 (Solid)								
Lab File ID: 20111716ECD5.D				Analyzed: 11/18/20 00:14				
Decachlorobiphenyl	40.000	99.5	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	96.3	80 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	96.0	80 - 120	14.532	14.536	-0.0040	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	6.313	6.314333	-0.0013	N/A	
20K0007-15 (Solid)								
Lab File ID: 20111717ECD5.D				Analyzed: 11/18/20 00:34				
Decachlorobiphenyl	39.898	107	40 - 133	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	39.898	84.3	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.898	109	40 - 133	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	39.898	87.1	53 - 120	6.312	6.314333	-0.0023	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BIK0378-MS1 (Solid) Lab File ID: 20111719ECD5.D Analyzed: 11/18/20 01:16								
Decachlorobiphenyl	39.999	75.7	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.999	57.9	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	39.999	76.4	40 - 133	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	39.999	63.1	53 - 120	6.312	6.314333	-0.0023	N/A	
BIK0378-MSD1 (Solid) Lab File ID: 20111720ECD5.D Analyzed: 11/18/20 01:36								
Decachlorobiphenyl	39.999	79.7	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.999	62.1	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.999	80.0	40 - 133	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	39.999	66.9	53 - 120	6.311	6.314333	-0.0033	N/A	
20K0007-21 (Solid) Lab File ID: 20111721ECD5.D Analyzed: 11/18/20 01:57								
Decachlorobiphenyl	39.770	70.9	40 - 133	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	39.770	59.1	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	39.770	72.3	40 - 133	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	39.770	69.1	53 - 120	6.314	6.314333	-0.0003	N/A	
20K0007-25 (Solid) Lab File ID: 20111722ECD5.D Analyzed: 11/18/20 02:18								
Decachlorobiphenyl	39.718	98.5	40 - 133	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	39.718	83.0	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.718	99.7	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.718	83.7	53 - 120	6.312	6.314333	-0.0023	N/A	
20K0007-27 (Solid) Lab File ID: 20111723ECD5.D Analyzed: 11/18/20 02:39								
Decachlorobiphenyl	39.786	50.3	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.786	45.4	53 - 120	6.097	6.097667	-0.0007	N/A	*
Decachlorobiphenyl [2C]	39.786	53.6	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.786	50.4	53 - 120	6.313	6.314333	-0.0013	N/A	*
20K0007-31 (Solid) Lab File ID: 20111724ECD5.D Analyzed: 11/18/20 02:59								
Decachlorobiphenyl	39.670	86.8	40 - 133	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	39.670	73.7	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	39.670	87.7	40 - 133	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	39.670	78.3	53 - 120	6.313	6.314333	-0.0013	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0007-33 (Solid)								
Lab File ID: 20111725ECD5.D				Analyzed: 11/18/20 03:20				
Decachlorobiphenyl	39.993	69.8	40 - 133	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	39.993	57.5	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	39.993	71.2	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.993	62.3	53 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-CCV3 (Solid)								
Lab File ID: 20111726ECD5.D				Analyzed: 11/18/20 03:40				
Decachlorobiphenyl	40.000	100	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	101	80 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	99.3	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	108	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-CCV4 (Solid)								
Lab File ID: 20111727ECD5.D				Analyzed: 11/18/20 04:01				
Decachlorobiphenyl	40.000	99.0	80 - 120	13.908	13.90933	-0.0013	N/A	
Tetrachlorometaxylene	40.000	95.0	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	95.0	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	6.312	6.314333	-0.0023	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIL0052</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0052-ICV1 (Solid) Lab File ID: 20112805ECD5.D Analyzed: 11/29/20 20:17								
Decachlorobiphenyl	40.000	94.7	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	97.2	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	98.3	80 - 120	14.534	14.536	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	6.312	6.314333	-0.0023	N/A	
SIL0052-ICV2 (Solid) Lab File ID: 20112806ECD5.D Analyzed: 11/29/20 20:38								
Decachlorobiphenyl	40.000	105	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	96.7	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	99.5	80 - 120	14.533	14.536	-0.0030	N/A	
Tetrachlorometaxylene [2C]	40.000	102	80 - 120	6.312	6.314333	-0.0023	N/A	
20K0007-19 (Solid) Lab File ID: 20112807ECD5.D Analyzed: 11/29/20 20:59								
Decachlorobiphenyl	39.716	69.7	40 - 133	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	39.716	50.2	53 - 120	6.095	6.097667	-0.0027	N/A	*
Decachlorobiphenyl [2C]	39.716	72.8	40 - 133	14.532	14.536	-0.0040	N/A	
Tetrachlorometaxylene [2C]	39.716	57.7	53 - 120	6.31	6.314333	-0.0043	N/A	
SIL0052-CCV1 (Solid) Lab File ID: 20112808ECD5.D Analyzed: 11/29/20 21:19								
Decachlorobiphenyl	40.000	99.1	80 - 120	13.908	13.90933	-0.0013	N/A	
Tetrachlorometaxylene	40.000	95.4	80 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	99.5	80 - 120	14.534	14.536	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0052-CCV2 (Solid) Lab File ID: 20112809ECD5.D Analyzed: 11/29/20 21:40								
Decachlorobiphenyl	40.000	103	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	98.5	80 - 120	14.535	14.536	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	102	80 - 120	6.313	6.314333	-0.0013	N/A	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0223

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SIK0223-SCV1)		(Solid)	Lab File ID: 20110719.D			Analyzed: 11/08/20 00:25			
1-Bromo-2-Nitrobenzene	2781002	3.817	2703006	3.815	103	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4175789	14.271	3964848	14.272	105	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2861203	4.598	2914229	4.596	98	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2797797	15.386	2801720	15.385	100	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV2)		(Solid)	Lab File ID: 20110720.D			Analyzed: 11/08/20 00:45			
1-Bromo-2-Nitrobenzene	2793790	3.817	2703006	3.815	103	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4185237	14.273	3964848	14.272	106	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2890341	4.598	2914229	4.596	99	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2818155	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV3)		(Solid)	Lab File ID: 20110721.D			Analyzed: 11/08/20 01:06			
1-Bromo-2-Nitrobenzene	2823266	3.817	2703006	3.815	104	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4141310	14.272	3964848	14.272	104	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2937664	4.598	2914229	4.596	101	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2824274	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV4)		(Solid)	Lab File ID: 20110722.D			Analyzed: 11/08/20 01:27			
1-Bromo-2-Nitrobenzene	2799459	3.817	2703006	3.815	104	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4200846	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2919916	4.597	2914229	4.596	100	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2840178	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV5)		(Solid)	Lab File ID: 20110723.D			Analyzed: 11/08/20 01:47			
1-Bromo-2-Nitrobenzene	2776223	3.818	2703006	3.815	103	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4210359	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2842470	4.599	2914229	4.596	98	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	2805318	15.385	2801720	15.385	100	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SIK0223-SCV6)		(Solid)	Lab File ID: 20110724.D			Analyzed: 11/08/20 02:08			
1-Bromo-2-Nitrobenzene	2767662	3.817	2703006	3.815	102	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4183877	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2856088	4.599	2914229	4.596	98	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	2802153	15.386	2801720	15.385	100	50 - 200	0.001	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0028

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SIL0028-ICV1)		(Solid)	Lab File ID: 20111703ECD5.D			Analyzed: 11/17/20 19:45			
1-Bromo-2-Nitrobenzene	2812481	3.815	2806320	3.813	100	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4341783	14.267	4139674	14.267	105	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2697977	4.595	2719467	4.594	99	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2885745	15.38	2823705	15.379	102	50 - 200	0.001	+/-0.50	
Initial Cal Check (SIL0028-ICV2)		(Solid)	Lab File ID: 20111704ECD5.D			Analyzed: 11/17/20 20:05			
1-Bromo-2-Nitrobenzene	2806320	3.813	2806320	3.813	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	4139674	14.267	4139674	14.267	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2719467	4.594	2719467	4.594	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	2823705	15.379	2823705	15.379	100	50 - 200	0.000	+/-0.50	
Blank (BIK0378-BLK1)		(Solid)	Lab File ID: 20111705ECD5.D			Analyzed: 11/17/20 20:26			
1-Bromo-2-Nitrobenzene	3212003	3.815	2806320	3.813	114	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	5121108	14.267	4139674	14.267	124	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	3022075	4.596	2719467	4.594	111	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	3234690	15.38	2823705	15.379	115	50 - 200	0.001	+/-0.50	
LCS (BIK0378-BS1)		(Solid)	Lab File ID: 20111706ECD5.D			Analyzed: 11/17/20 20:47			
1-Bromo-2-Nitrobenzene	3197837	3.815	2806320	3.813	114	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	5075303	14.267	4139674	14.267	123	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	3008586	4.596	2719467	4.594	111	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	3204712	15.379	2823705	15.379	113	50 - 200	0.000	+/-0.50	
PP8-5 (20K0007-02)		(Solid)	Lab File ID: 20111710ECD5.D			Analyzed: 11/17/20 22:10			
1-Bromo-2-Nitrobenzene	2904014	3.816	2806320	3.813	103	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	3817088	14.264	4139674	14.267	92	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2752904	4.595	2719467	4.594	101	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2879767	15.379	2823705	15.379	102	50 - 200	0.000	+/-0.50	
PP8-10 (20K0007-04)		(Solid)	Lab File ID: 20111711ECD5.D			Analyzed: 11/17/20 22:30			
1-Bromo-2-Nitrobenzene	3117595	3.816	2806320	3.813	111	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4804493	14.266	4139674	14.267	116	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2929013	4.597	2719467	4.594	108	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	3156868	15.38	2823705	15.379	112	50 - 200	0.001	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0028

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PP11-2.5 (20K0007-07)		(Solid)	Lab File ID: 20111712ECD5.D			Analyzed: 11/17/20 22:51			
1-Bromo-2-Nitrobenzene	3184255	3.813	2806320	3.813	113	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	4930852	14.267	4139674	14.267	119	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2861400	4.594	2719467	4.594	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	3169447	15.38	2823705	15.379	112	50 - 200	0.001	+/-0.50	
PP11-7.5 (20K0007-09)		(Solid)	Lab File ID: 20111713ECD5.D			Analyzed: 11/17/20 23:12			
1-Bromo-2-Nitrobenzene	3004343	3.815	2806320	3.813	107	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4584135	14.265	4139674	14.267	111	50 - 200	-0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2598658	4.594	2719467	4.594	96	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	3241488	15.381	2823705	15.379	115	50 - 200	0.002	+/-0.50	
PP12-2.5 (20K0007-13)		(Solid)	Lab File ID: 20111714ECD5.D			Analyzed: 11/17/20 23:32			
1-Bromo-2-Nitrobenzene	2414555	3.815	2806320	3.813	86	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3894305	14.263	4139674	14.267	94	50 - 200	-0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2035216	4.595	2719467	4.594	75	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	3002179	15.379	2823705	15.379	106	50 - 200	0.000	+/-0.50	
PP12-7.5 (20K0007-15)		(Solid)	Lab File ID: 20111717ECD5.D			Analyzed: 11/18/20 00:34			
1-Bromo-2-Nitrobenzene	2877384	3.816	2806320	3.813	103	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4558840	14.266	4139674	14.267	110	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2701252	4.596	2719467	4.594	99	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	3015307	15.382	2823705	15.379	107	50 - 200	0.003	+/-0.50	
Matrix Spike (BIK0378-MS1)		(Solid)	Lab File ID: 20111719ECD5.D			Analyzed: 11/18/20 01:16			
1-Bromo-2-Nitrobenzene	2134246	3.816	2806320	3.813	76	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4122711	14.265	4139674	14.267	100	50 - 200	-0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2008303	4.592	2719467	4.594	74	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	3008812	15.379	2823705	15.379	107	50 - 200	0.000	+/-0.50	
Matrix Spike Dup (BIK0378-MSD1)		(Solid)	Lab File ID: 20111720ECD5.D			Analyzed: 11/18/20 01:36			
1-Bromo-2-Nitrobenzene	2129630	3.816	2806320	3.813	76	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4199901	14.265	4139674	14.267	101	50 - 200	-0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1988430	4.593	2719467	4.594	73	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	3130192	15.379	2823705	15.379	111	50 - 200	0.000	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0028

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PP10-7.5 (20K0007-21)		(Solid)	Lab File ID: 20111721ECD5.D			Analyzed: 11/18/20 01:57			
1-Bromo-2-Nitrobenzene	2221666	3.818	2806320	3.813	79	50 - 200	0.005	+/-0.50	
Hexabromobiphenyl	3561335	14.268	4139674	14.267	86	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1898597	4.598	2719467	4.594	70	50 - 200	0.004	+/-0.50	
Hexabromobiphenyl [2C]	2325591	15.381	2823705	15.379	82	50 - 200	0.002	+/-0.50	
PP9-2.5 (20K0007-25)		(Solid)	Lab File ID: 20111722ECD5.D			Analyzed: 11/18/20 02:18			
1-Bromo-2-Nitrobenzene	2854829	3.816	2806320	3.813	102	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4459900	14.267	4139674	14.267	108	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2661702	4.595	2719467	4.594	98	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2955694	15.38	2823705	15.379	105	50 - 200	0.001	+/-0.50	
PP9-7.5 (20K0007-27)		(Solid)	Lab File ID: 20111723ECD5.D			Analyzed: 11/18/20 02:39			
1-Bromo-2-Nitrobenzene	3057046	3.816	2806320	3.813	109	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4659664	14.266	4139674	14.267	113	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2752290	4.596	2719467	4.594	101	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	3223413	15.379	2823705	15.379	114	50 - 200	0.000	+/-0.50	
PP4-2.5 (20K0007-31)		(Solid)	Lab File ID: 20111724ECD5.D			Analyzed: 11/18/20 02:59			
1-Bromo-2-Nitrobenzene	2897634	3.817	2806320	3.813	103	50 - 200	0.004	+/-0.50	
Hexabromobiphenyl	4801437	14.266	4139674	14.267	116	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2670392	4.597	2719467	4.594	98	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	3094372	15.38	2823705	15.379	110	50 - 200	0.001	+/-0.50	
PP4-7.5 (20K0007-33)		(Solid)	Lab File ID: 20111725ECD5.D			Analyzed: 11/18/20 03:20			
1-Bromo-2-Nitrobenzene	2980812	3.817	2806320	3.813	106	50 - 200	0.004	+/-0.50	
Hexabromobiphenyl	5007477	14.268	4139674	14.267	121	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2730479	4.596	2719467	4.594	100	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	3176130	15.38	2823705	15.379	112	50 - 200	0.001	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0052

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SIL0052-ICV1)		(Solid)	Lab File ID: 20112805ECD5.D			Analyzed: 11/29/20 20:17			
1-Bromo-2-Nitrobenzene	3030856	3.814	2566825	3.815	118	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	4857869	14.27	3888148	14.269	125	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	3260906	4.594	2864800	4.593	114	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	3488132	15.384	2943241	15.382	119	50 - 200	0.002	+/-0.50	
Initial Cal Check (SIL0052-ICV2)		(Solid)	Lab File ID: 20112806ECD5.D			Analyzed: 11/29/20 20:38			
1-Bromo-2-Nitrobenzene	2566825	3.815	2566825	3.815	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	3888148	14.269	3888148	14.269	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2864800	4.593	2864800	4.593	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	2943241	15.382	2943241	15.382	100	50 - 200	0.000	+/-0.50	
PP10-2.5 (20K0007-19)		(Solid)	Lab File ID: 20112807ECD5.D			Analyzed: 11/29/20 20:59			
1-Bromo-2-Nitrobenzene	2164932	3.815	2566825	3.815	84	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	4176574	14.266	3888148	14.269	107	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2340800	4.59	2864800	4.593	82	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	3599930	15.381	2943241	15.382	122	50 - 200	-0.001	+/-0.50	



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperation
Matrix: Soil Laboratory ID: 20K0007-25 File ID: 20111722ECD5.D
Sampled: 10/30/20 13:30 Prepared: 11/13/20 10:20 Analyzed: 11/18/20 02:18
Solids: 86.82 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0378 Sequence: SIL0028
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	9.348	9.349	0.001	91549	175	9.6
	2	10.024	10.029	0.005	42367.5	159	
Aroclor 1254	1	9.906	9.907	0.001	150774.8	311	12.4
	* 2	11.334	11.331	0.003	149646.2	352	
Aroclor 1260	1	12.36	12.36267	0.00267	611100.2	972	.8
	* 2	13.632	13.6376	0.0056	459204.5	980	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Soil</u>	Laboratory ID:	<u>20K0007-33</u>
		File ID:	<u>20111725ECD5.D</u>
Sampled:	<u>10/30/20 14:35</u>	Prepared:	<u>11/13/20 10:20</u>
		Analyzed:	<u>11/18/20 03:20</u>
Solids:	<u>75.77</u>	Preparation:	<u>EPA 3546 (Microwave)</u>
		Instrument:	<u>ECD5</u>
Batch:	<u>BIK0378</u>	Sequence:	<u>SIL0028</u>
GC Column(1):	<u>ZB5</u>	GC Column(2):	<u>ZB35</u>

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	9.347	9.349	0.002	81030.5	35.9	33.9
	2	9.992	10.029	0.037	34624	25.5	
Aroclor 1254	1	9.904	9.907	0.003	106490.4	45.5	14.7
	* 2	11.334	11.331	0.003	96442	52.7	
Aroclor 1260	1	12.36	12.36267	0.00267	425832.2	116	.9
	* 2	13.632	13.6376	0.0056	288071.8	117	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Coopperage
Matrix: Soil Laboratory ID: 20K0007-19 File ID: 20112807ECD5.D
Sampled: 10/30/20 12:35 Prepared: 11/13/20 10:20 Analyzed: 11/29/20 20:59
Solids: 88.97 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0378 Sequence: SIL0052
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	9.342	9.349	0.007	19167.75	12.2	16.9
	2	10.047	10.029	0.018	12491.25	10.3	
Aroclor 1254	1	9.9	9.907	0.007	19984	8.6	5.6
	* 2	11.328	11.331	0.003	13039	9.1	
Aroclor 1260	* 1	12.358	12.36267	0.00467	47728.2	16.7	19.
	2	13.632	13.6376	0.0056	36824.25	13.8	

* Column used for quantitation



HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP8-5 20K0007-02	10/30/20 08:50	10/31/20 12:30	11/13/20 10:20	14	14	11/17/20 22:10	4	40	
PP8-10 20K0007-04	10/30/20 09:00	10/31/20 12:30	11/13/20 10:20	14	14	11/17/20 22:30	5	40	
PP11-2.5 20K0007-07	10/30/20 09:35	10/31/20 12:30	11/13/20 10:20	14	14	11/17/20 22:51	5	40	
PP11-7.5 20K0007-09	10/30/20 09:45	10/31/20 12:30	11/13/20 10:20	14	14	11/17/20 23:12	5	40	
PP12-2.5 20K0007-13	10/30/20 10:50	10/31/20 12:30	11/13/20 10:20	13	14	11/17/20 23:32	5	40	
PP12-7.5 20K0007-15	10/30/20 11:00	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 00:34	5	40	
PP10-2.5 20K0007-19	10/30/20 12:35	10/31/20 12:30	11/13/20 10:20	13	14	11/29/20 20:59	16	40	
PP10-7.5 20K0007-21	10/30/20 12:45	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 01:57	5	40	
PP9-2.5 20K0007-25	10/30/20 13:30	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 02:18	5	40	
PP9-7.5 20K0007-27	10/30/20 13:40	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 02:39	5	40	
PP4-2.5 20K0007-31	10/30/20 14:25	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 02:59	5	40	
PP4-7.5 20K0007-33	10/30/20 14:35	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 03:20	5	40	
Matrix Spike BIK0378-MS1	10/30/20 12:35	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 01:16	5	40	
Matrix Spike Dup BIK0378-MSD1	10/30/20 12:35	10/31/20 12:30	11/13/20 10:20	13	14	11/18/20 01:36	5	40	

* Indicates hold time exceedance.



METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: ECD5

Analyte	MDL	RL	Units
Aroclor 1016	8.0	20.0	ug/kg
Aroclor 1016 [2C]	8.0	20.0	ug/kg
Aroclor 1221	8.0	20.0	ug/kg
Aroclor 1221 [2C]	8.0	20.0	ug/kg
Aroclor 1232	8.0	20.0	ug/kg
Aroclor 1232 [2C]	8.0	20.0	ug/kg
Aroclor 1242	8.0	20.0	ug/kg
Aroclor 1242 [2C]	8.0	20.0	ug/kg
Aroclor 1248	8.0	20.0	ug/kg
Aroclor 1248 [2C]	8.0	20.0	ug/kg
Aroclor 1254	8.0	20.0	ug/kg
Aroclor 1254 [2C]	8.0	20.0	ug/kg
Aroclor 1260	9.3	20.0	ug/kg
Aroclor 1260 [2C]	9.3	20.0	ug/kg
Aroclor 1262	9.3	20.0	ug/kg
Aroclor 1262 [2C]	9.3	20.0	ug/kg
Aroclor 1268	9.3	20.0	ug/kg
Aroclor 1268 [2C]	9.3	20.0	ug/kg



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP8-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-02 B SDG: 20K0007
Sampled: 10/30/20 08:50 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-014
% Solids: 77.89 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:25
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.243 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0590	1	0.00555	0.0264	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP8-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-04 B SDG: 20K0007
Sampled: 10/30/20 09:00 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-018
% Solids: 71.19 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:34
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.285 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0358	1	0.00518	0.0246	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP11-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-07 B SDG: 20K0007
Sampled: 10/30/20 09:35 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-019
% Solids: 79.50 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:36
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.287 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0247	1	0.00460	0.0219	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP11-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-09 B SDG: 20K0007
Sampled: 10/30/20 09:45 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-020
% Solids: 73.97 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:38
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.253 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0267	1	0.00561	0.0267	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP12-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0007-13 B SDG: 20K0007
Sampled: 10/30/20 10:50 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-021
% Solids: 82.69 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:41
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.257 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0957	1	0.00494	0.0235	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP12-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-15 B SDG: 20K0007
Sampled: 10/30/20 11:00 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-024
% Solids: 77.96 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:47
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.208 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0126	1	0.00648	0.0308	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP10-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-19 B SDG: 20K0007
Sampled: 10/30/20 12:35 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-025
% Solids: 88.97 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:50
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.296 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0115	1	0.00399	0.0190	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP10-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-21 B SDG: 20K0007
Sampled: 10/30/20 12:45 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-026
% Solids: 76.66 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:52
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.26 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0131	1	0.00527	0.0251	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP9-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-25 B SDG: 20K0007
Sampled: 10/30/20 13:30 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-027
% Solids: 86.82 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:54
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.265 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0447	1	0.00456	0.0217	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP9-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-27 B SDG: 20K0007
Sampled: 10/30/20 13:40 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-028
% Solids: 54.70 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:56
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.242 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0259	1	0.00793	0.0378	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP4-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-31 B SDG: 20K0007
Sampled: 10/30/20 14:25 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-029
% Solids: 88.14 Preparation: SMM EPA 7471B Analyzed: 11/13/20 12:58
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.217 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0308	1	0.00549	0.0261	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP4-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-33 B SDG: 20K0007
Sampled: 10/30/20 14:35 Prepared: 11/12/20 12:41 File ID: SMM 11-13-20-030
% Solids: 75.77 Preparation: SMM EPA 7471B Analyzed: 11/13/20 13:01
Batch: BIK0290 Sequence: SIK0224 Initial/Final: 0.274 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00034

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0144	1	0.00506	0.0241	J



PREPARATION BATCH SUMMARY

EPA 7471B

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Batch: BIK0290 Batch Matrix: Solid Preparation: SMM EPA 7471B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP8-5	20K0007-02	SMM 11-13-20-014	11/12/20 12:41	
PP8-10	20K0007-04	SMM 11-13-20-018	11/12/20 12:41	
PP11-2.5	20K0007-07	SMM 11-13-20-019	11/12/20 12:41	
PP11-7.5	20K0007-09	SMM 11-13-20-020	11/12/20 12:41	
PP12-2.5	20K0007-13	SMM 11-13-20-021	11/12/20 12:41	
PP12-7.5	20K0007-15	SMM 11-13-20-024	11/12/20 12:41	
PP10-2.5	20K0007-19	SMM 11-13-20-025	11/12/20 12:41	
PP10-7.5	20K0007-21	SMM 11-13-20-026	11/12/20 12:41	
PP9-2.5	20K0007-25	SMM 11-13-20-027	11/12/20 12:41	
PP9-7.5	20K0007-27	SMM 11-13-20-028	11/12/20 12:41	
PP4-2.5	20K0007-31	SMM 11-13-20-029	11/12/20 12:41	
PP4-7.5	20K0007-33	SMM 11-13-20-030	11/12/20 12:41	
Blank	BIK0290-BLK1	SMM 11-13-20-012	11/12/20 12:41	
LCS	BIK0290-BS1	SMM 11-13-20-013	11/12/20 12:41	
PP8-5	BIK0290-DUP1	SMM 11-13-20-015	11/12/20 12:41	
PP8-5	BIK0290-MS1	SMM 11-13-20-016	11/12/20 12:41	
PP8-5	BIK0290-MSD1	SMM 11-13-20-017	11/12/20 12:41	



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

BIK 0290

Mercury Digestion Log

Prep Code: SMM

Matrix: SOIL

Analyst: GA

Date: 11/12/20

Bath Temp: 91°C

Start Time: 1055

End Time: 1215

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) Volume (mL)	Final Volume (mL)	# KMnO ₄ Aliquots	CLP	Comments	
20K7-2	B		0.243					
-4			0.285					
-7			0.287					
-9			0.253					
-13			0.257					
-15			0.208					
-19			0.296					
-21			0.260					
-25			0.265					
-27			0.242					
-31			0.217					
↓ -33	↓		0.274					
20K120-6	B			0.244				
↓ -7	↓		0.235					
↓ -8	A		0.222					
↓ -9	↓	0.261						
BIK 290-BLK1	—							
↓ -BS1	—							
↓ -DUP1	—	0.247					20K7-2	
↓ -MS1	—	0.245						
↓ -MSD1	—	0.246					↓	
BC 11/11/20								

Chemical/Reagent ID:

HNO₃: I9356
5% K₂S₂O₈: I9312

H₂SO₄: I6551
5% KMnO₄: I9581

HCl: —
Digest Tube Lot: 2003053



Form I
METHOD BLANK DATA SHEET
EPA 7471B
Total Metals

Blank

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperae

Batch: BIK0290

Laboratory ID: BIK0290-BLK1

Prepared: 11/12/20 12:41

Matrix: Solid

Preparation: SMM EPA 7471B

Analyzed: 11/13/20 12:21

Sequence: SIK0224

Calibration: DK00034

Instrument: HYDRA

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.00590	1	0.00525	0.0250	J



LCS / LCS DUPLICATE RECOVERY

EPA 7471B

Total Metals

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Matrix: Solid Analyzed: 11/13/20 12:23
Batch: BIK0290 Laboratory ID: BIK0290-BS1
Preparation: SMM EPA 7471B Sequence Name: LCS
Initial/Final: 0.2 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Mercury	0.500	0.448		89.5	80 - 120

* Indicates values outside of QC limits



DUPLICATES

EPA 7471B

Total Metals

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Laboratory ID: BIK0290-DUP1

Batch: BIK0290

Lab Source ID: 20K0007-02

Preparation: SMM EPA 7471B

Initial/Final: 0.247 g / 50 mL

Source Sample Name: PP8-5

% Solids: 77.89

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg dry)	C	DUPLICATE CONCENTRATION (mg/kg dry)	C	RPD %	Q
Mercury	20	0.0590		0.0511		14.5	

*: Values outside of QC limits

L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD



MS / MS DUPLICATE RECOVERY
EPA 7471B
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/13/20 12:29</u>
Batch:	<u>BIK0290</u>	Laboratory ID:	<u>BIK0290-MS1</u>
Preparation:	<u>SMM EPA 7471B</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>0.245 g / 50 mL</u>	Source Sample:	<u>PP8-5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Mercury	0.131	0.0590		0.188		98.1	75 - 125

* Values outside of QC limits



MS / MS DUPLICATE RECOVERY
EPA 7471B
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/13/20 12:32</u>
Batch:	<u>BIK0290</u>	Laboratory ID:	<u>BIK0290-MSD1</u>
Preparation:	<u>SMM EPA 7471B</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>0.246 g / 50 mL</u>	Source Sample:	<u>PP8-5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Mercury	0.130	0.193		102	2.67	20	75 - 125

* Values outside of QC limits



INITIAL CALIBRATION DATA

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00034

Instrument: HYDRA

Calibration Date: 11/13/2020 11:55

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Mercury	0	0	0.0001	5070000	0.0005	5286000	0.001	4871000	0.002	5097000	0.005	5102400

SMM 11-13-20

DL00034
SIR0224

Method: ARI 5 ppb (NO 0.05)

Operator: Admin

Date of Analysis: 13 Nov 2020 11:36:57

Sample ID	Mean	Units	Date	Method
SEQ-CAL1	56	PPB	13 Nov 2020 11:55:51	ARI 5 ppb (NO 0.05)
SEQ-CAL2	507	PPB	13 Nov 2020 11:58:07	ARI 5 ppb (NO 0.05)
SEQ-CAL3	2643	PPB	13 Nov 2020 12:00:22	ARI 5 ppb (NO 0.05)
SEQ-CAL4	4871	PPB	13 Nov 2020 12:02:37	ARI 5 ppb (NO 0.05)
SEQ-CAL5	10194	PPB	13 Nov 2020 12:04:52	ARI 5 ppb (NO 0.05)
SEQ-CAL6	25512	PPB	13 Nov 2020 12:07:06	ARI 5 ppb (NO 0.05)
SEQ-ICV	98.2% 3.9283	PPB ✓	13 Nov 2020 12:09:47	ARI 5 ppb (NO 0.05)
SEQ-ICB	0.0115	PPB ✓	13 Nov 2020 12:12:00	ARI 5 ppb (NO 0.05)
SEQ-CRL	112.7% 0.1127	PPB ✓	13 Nov 2020 12:14:17	ARI 5 ppb (NO 0.05)
SEQ-CCV	96.5% 3.8595	PPB ✓	13 Nov 2020 12:16:32	ARI 5 ppb (NO 0.05)
SEQ-CCB	0.0089	PPB ✓	13 Nov 2020 12:18:45	ARI 5 ppb (NO 0.05)
BIK0290-BLK1	0.0236	PPB ✓	13 Nov 2020 12:21:01	ARI 5 ppb (NO 0.05)
BIK0290-BS1	1.7900	PPB ✓ <i>ZR=89%</i>	13 Nov 2020 12:23:14	ARI 5 ppb (NO 0.05)
20K0007-02	0.2235	PPB	13 Nov 2020 12:25:27	ARI 5 ppb (NO 0.05)
BIK0290-DUP1	0.1965	PPB ✓ <i>RPD=12</i>	13 Nov 2020 12:27:41	ARI 5 ppb (NO 0.05)
BIK0290-MS1	0.7157	PPB ✓ <i>ZR=98%</i>	13 Nov 2020 12:29:54	ARI 5 ppb (NO 0.05)
BIK0290-MSD1	0.7381	PPB ✓ <i>ZR=102%, RPD=3</i>	13 Nov 2020 12:32:07	ARI 5 ppb (NO 0.05)
20K0007-04	0.1454	PPB	13 Nov 2020 12:34:21	ARI 5 ppb (NO 0.05)
20K0007-07	0.1128	PPB	13 Nov 2020 12:36:34	ARI 5 ppb (NO 0.05)
20K0007-09	0.1001	PPB	13 Nov 2020 12:38:48	ARI 5 ppb (NO 0.05)
20K0007-13	0.4068	PPB	13 Nov 2020 12:41:02	ARI 5 ppb (NO 0.05)
SEQ-CCV	95.4% 3.8148	PPB ✓	13 Nov 2020 12:43:17	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0126	PPB ✓	13 Nov 2020 12:45:30	ARI 5 ppb (NO 0.05)
20K0007-15	0.0410	PPB	13 Nov 2020 12:47:47	ARI 5 ppb (NO 0.05)
20K0007-19	0.0608	PPB	13 Nov 2020 12:50:02	ARI 5 ppb (NO 0.05)
20K0007-21	0.0523	PPB	13 Nov 2020 12:52:17	ARI 5 ppb (NO 0.05)
20K0007-25	0.2058	PPB	13 Nov 2020 12:54:31	ARI 5 ppb (NO 0.05)
20K0007-27	0.0687	PPB	13 Nov 2020 12:56:44	ARI 5 ppb (NO 0.05)
20K0007-31	0.1178	PPB	13 Nov 2020 12:58:58	ARI 5 ppb (NO 0.05)
20K0007-33	0.0596	PPB	13 Nov 2020 13:01:11	ARI 5 ppb (NO 0.05)
20K0120-06	0.1521	PPB	13 Nov 2020 13:03:24	ARI 5 ppb (NO 0.05)
20K0120-07	0.0622	PPB	13 Nov 2020 13:05:38	ARI 5 ppb (NO 0.05)
20K0120-08	0.3533	PPB	13 Nov 2020 13:07:52	ARI 5 ppb (NO 0.05)
SEQ-CCV	94.9% 3.7950	PPB ✓	13 Nov 2020 13:10:06	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0155	PPB ✓	13 Nov 2020 13:12:18	ARI 5 ppb (NO 0.05)
20K0120-09	0.1270	PPB	13 Nov 2020 13:14:35	ARI 5 ppb (NO 0.05)
BIK0333-BLK1	0.0035	PPB ✓	13 Nov 2020 13:16:50	ARI 5 ppb (NO 0.05)
BIK0333-BS1	1.6990	PPB ✓ <i>ZR=84%</i>	13 Nov 2020 13:19:04	ARI 5 ppb (NO 0.05)
20K0117-01	0.1035	PPB	13 Nov 2020 13:21:19	ARI 5 ppb (NO 0.05)
BIK0333-DUP1	0.1125	PPB ✓ <i>DIFF < 1 RL</i>	13 Nov 2020 13:23:36	ARI 5 ppb (NO 0.05)
BIK0333-MS1	0.5980	PPB ✓ <i>ZR=99%</i>	13 Nov 2020 13:25:49	ARI 5 ppb (NO 0.05)
BIK0333-MSD1	0.6072	PPB ✓ <i>ZR=107%, RPD=1.5</i>	13 Nov 2020 13:28:03	ARI 5 ppb (NO 0.05)
20K0117-02	0.2857	PPB	13 Nov 2020 13:30:17	ARI 5 ppb (NO 0.05)
20K0117-03	0.2326	PPB	13 Nov 2020 13:32:31	ARI 5 ppb (NO 0.05)
20K0117-07	0.0796	PPB	13 Nov 2020 13:34:45	ARI 5 ppb (NO 0.05)
SEQ-CCV	95.8% 3.8320	PPB ✓	13 Nov 2020 13:36:58	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0105	PPB ✓	13 Nov 2020 13:39:11	ARI 5 ppb (NO 0.05)
20K0117-08	0.5159	PPB	13 Nov 2020 13:41:28	ARI 5 ppb (NO 0.05)
20K0117-09	0.1343	PPB	13 Nov 2020 13:43:42	ARI 5 ppb (NO 0.05)
20K0117-12	0.0549	PPB	13 Nov 2020 13:45:55	ARI 5 ppb (NO 0.05)
20K0117-13	0.1812	PPB	13 Nov 2020 13:48:10	ARI 5 ppb (NO 0.05)
20K0117-16	0.0772	PPB	13 Nov 2020 13:50:24	ARI 5 ppb (NO 0.05)
20K0117-17	0.0228	PPB	13 Nov 2020 13:52:39	ARI 5 ppb (NO 0.05)
20K0117-18	0.1839	PPB	13 Nov 2020 13:54:54	ARI 5 ppb (NO 0.05)
20K0117-19	0.1242	PPB	13 Nov 2020 13:57:08	ARI 5 ppb (NO 0.05)
20K0117-28	0.2219	PPB	13 Nov 2020 13:59:22	ARI 5 ppb (NO 0.05)
20K0117-29	0.0411	PPB	13 Nov 2020 14:01:35	ARI 5 ppb (NO 0.05)
SEQ-CCV	94.1% 3.7637	PPB ✓	13 Nov 2020 14:03:49	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0060	PPB ✓	13 Nov 2020 14:06:02	ARI 5 ppb (NO 0.05)
20K0117-30	0.1123	PPB	13 Nov 2020 14:08:18	ARI 5 ppb (NO 0.05)

SMM 11-13-20

Method: ARI 5 ppb (NO 0.05)

Operator: Admin

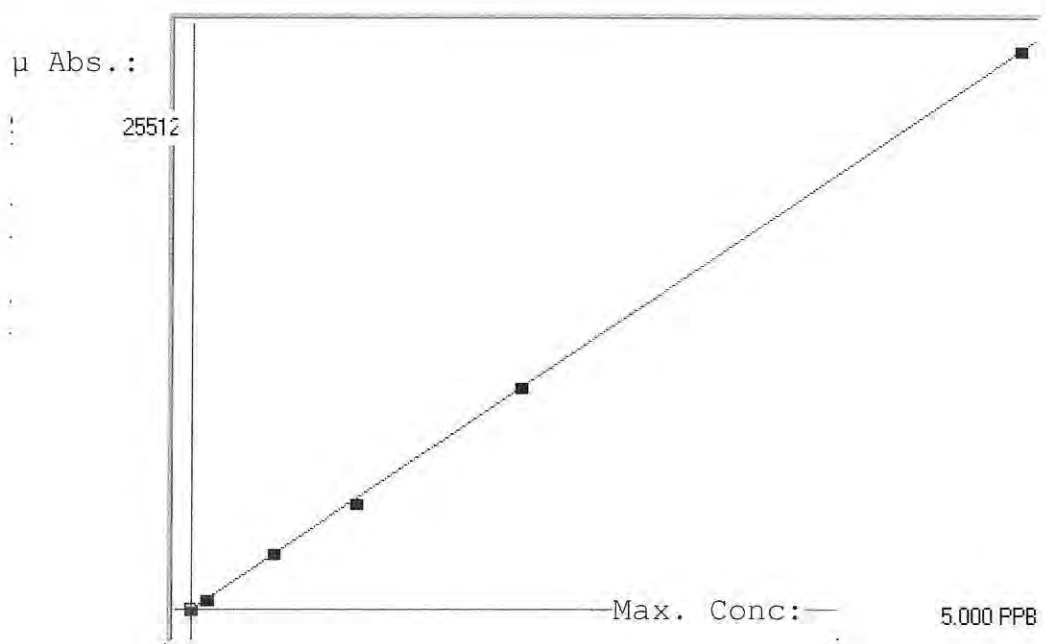
Date of Analysis: 13 Nov 2020 11:36:57

Sample ID	Mean	Units	Date	Method
20K0117-31	0.0796	PPB	13 Nov 2020 14:10:32	ARI 5 ppb (NO 0.05)
20K0117-34	0.2464	PPB	13 Nov 2020 14:12:46	ARI 5 ppb (NO 0.05)
20K0117-35	0.1250	PPB	13 Nov 2020 14:14:59	ARI 5 ppb (NO 0.05)
20K0117-36	0.0972	PPB	13 Nov 2020 14:17:14	ARI 5 ppb (NO 0.05)
20K0117-39	0.0383	PPB	13 Nov 2020 14:19:28	ARI 5 ppb (NO 0.05)
BIK0333-PS1	1.0725	PPB ✓	13 Nov 2020 14:21:42	ARI 5 ppb (NO 0.05)
SEQ-CCV	91.8% 3.6708	PPB ✓	13 Nov 2020 14:23:57	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0089	PPB ✓	13 Nov 2020 14:26:10	ARI 5 ppb (NO 0.05)

412-84%

ARI 5 ppb (NO 0.05)

Linear



A= 0.0000e+000
 B= 1.9610e-004
 C= 2.3184e-003
 Rho= 0.9999321
 Accept=Accepted
 Accepted Date=
 11/13/20 12:09

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
SEQ-CAL1 - Blank	0.000	0.013	0.013	56	3.559	51	58	59		
SEQ-CAL2 - 0.1 PPB	0.100	0.102	0.002	507	2.0 %	494	509	519		
SEQ-CAL3 - 0.5 PPB	0.500	0.521	0.021	2642	1.0 %	2623	2626	2679		
SEQ-CAL4 - 1.0 PPB	1.000	0.958	-0.042	4871	1.5 %	4771	4901	4941		
SEQ-CAL5 - 2.0 PPB	2.000	2.001	0.001	10194	0.8 %	10090	10278	10215		
SEQ-CAL6 - 5.0 PPB	5.000	5.005	0.005	25512	0.4 %	25418	25473	25645		

Mercury Analysis Log

Analyst: BC
 Instrument: HYDRA

Date: 11/13/20
 Page: 1 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
SEQ-CAL1	SUM	1X		
↓ -CAL2				
↓ -CAL3				
↓ -CAL4				
↓ -CAL5				
↓ -CAL6				
↓ -ICV			3.92	✓
↓ -ICB			0.0115	✓
↓ -CRL			0.112	✓
↓ -CCV			3.85	✓
↓ -CCB			0.0089	✓
BK290-BU1			0.0236	✓
↓ -BS1			1.79	✓ %R=89.5%
20K7-2 BK290-DU1			0.2235	
			0.1965	✓ RPD=12.8
↓ -MS1			0.71	2.12 ✓ %R=98.1%
↓ -MSD1			0.73	2.12 ✓ RPD=3
20K7-4				
↓ -7				
↓ -9				
↓ -13				
SEQ-CCV			3.81	✓
↓ -CCB			0.0126	✓
20K7-15				
↓ -19				
↓ -21				
↓ -25				
↓ -27				
↓ -31				
↓ -33				
20K120-6	↓	↓		

Chemical/Reagent ID:
 10% SnCl₂: I10555

① %R=102% BC 11/13/20

14% NH₂OH/NaCl: I8327

Standard ID:
 Standard: I10557-I10562

ICV/CCV: I10563

Mercury Analysis Log

Analyst: BC
 Instrument: HYDRA

Date: 11/13/20
 Page: 2 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
20K120-7	SMM	1X		
↓ -8				
SEQ-CCV			3.79	
-CCB			-0.0155	
20K120-9				
BWL333-BWL1			0.035	✓
↓ -BS1			1.69	✓ %R=84.9%
20K117-1			0.10	
BWL333-DUPI			0.11	✓ DIFF < 1 RL
↓ -MS1			0.59	* %R=LOW ✓ %R=99.1%
↓ -MSD1			0.60	* %R=LOW (1) RPD=1.52
20K117-2				
↓ -3				
↓ -7				
SEQ-CCV			3.83	✓
↓ -CCB			-0.0105	✓
20K117-8				
↓ -9				
↓ -12				
↓ -13				
↓ -16				
↓ -17				
↓ -18				
↓ -19				
↓ -28				
↓ -29				
SEQ-CCV			3.76	✓
↓ -CCB			-0.0060	✓
20K117-30				
↓ -31				

Chemical/Reagent ID: _____
 10% SnCl₂: _____
 Standard ID: _____
 Standard: _____

① %R = ~~102%~~ 101% BC 11/13/20
 BC 11/13/20 14% NH₂OH/NaCl: _____
 ICV/CCV: _____

Mercury Analysis Log

Analyst: BC
 Instrument: HYDRA

Date: 11/13/20
 Page: 3 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
201417-34	SMM	1X		
↓ -35	↓	↓		
↓ -36	↓	↓		
↓ -39	↓	↓		
Blk333-PS1	↓	↓	1.07	✓ IR=84.92
SEQ-CCV	↓	↓	3.67	✓
↓ -CCB	↓	↓	-0.1089	✓
<div style="position: relative; height: 400px;"> BC 11/13/20 </div>				

Chemical/Reagent ID: _____
 10% SnCl₂: _____
 Standard ID: _____
 Standard: _____

14% NH₂OH/NaCl: _____
 ICV/CCV: _____



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: HYDRA

Calibration: DK00034

Control Limit: +/- 20.00%

Sequence: SIK0224

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0224-ICV1	Mercury	0.0040000	0.00393	98.2	mg/L	EPA 7471B
SIK0224-CCV1	Mercury	0.0040000	0.00386	96.5	mg/L	EPA 7471B
SIK0224-CCV2	Mercury	0.0040000	0.00381	95.4	mg/L	EPA 7471B
SIK0224-CCV3	Mercury	0.0040000	0.00380	94.9	mg/L	EPA 7471B
SIK0224-CCV4	Mercury	0.0040000	0.00383	95.8	mg/L	EPA 7471B
SIK0224-CCV5	Mercury	0.0040000	0.00376	94.1	mg/L	EPA 7471B
SIK0224-CCV6	Mercury	0.0040000	0.00367	91.8	mg/L	EPA 7471B

* Values outside of QC limits



INSTRUMENT BLANKS EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: HYDRA

Calibration: DK00034

Sequence: SIK0224

Date Analyzed: 11/13/20 12:12

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0224-ICB1	Mercury	0.000012	0.000021	0.000100	mg/L	
SIK0224-CCB1	Mercury	0.000009	0.000021	0.000100	mg/L	
SIK0224-CCB2	Mercury	-0.000013	0.000021	0.000100	mg/L	
SIK0224-CCB3	Mercury	-0.000016	0.000021	0.000100	mg/L	
SIK0224-CCB4	Mercury	-0.000011	0.000021	0.000100	mg/L	
SIK0224-CCB5	Mercury	-0.000006	0.000021	0.000100	mg/L	
SIK0224-CCB6	Mercury	-0.000009	0.000021	0.000100	mg/L	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0224

Instrument: HYDRA

Calibration: DK00034

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SIK0224-CAL1	SMM 11-13-20-001	NA	11/13/20 11:55
Cal Standard	SIK0224-CAL2	SMM 11-13-20-002	NA	11/13/20 11:58
Cal Standard	SIK0224-CAL3	SMM 11-13-20-003	NA	11/13/20 12:00
Cal Standard	SIK0224-CAL4	SMM 11-13-20-004	NA	11/13/20 12:02
Cal Standard	SIK0224-CAL5	SMM 11-13-20-005	NA	11/13/20 12:04
Cal Standard	SIK0224-CAL6	SMM 11-13-20-006	NA	11/13/20 12:07
Initial Cal Check	SIK0224-ICV1	SMM 11-13-20-007	NA	11/13/20 12:09
Initial Cal Blank	SIK0224-ICB1	SMM 11-13-20-008	NA	11/13/20 12:12
Instrument RL Check	SIK0224-CRL1	SMM 11-13-20-009	NA	11/13/20 12:14
Calibration Check	SIK0224-CCV1	SMM 11-13-20-010	NA	11/13/20 12:16
Calibration Blank	SIK0224-CCB1	SMM 11-13-20-011	NA	11/13/20 12:18
Blank	BIK0290-BLK1	SMM 11-13-20-012	Solid	11/13/20 12:21
LCS	BIK0290-BS1	SMM 11-13-20-013	Solid	11/13/20 12:23
PP8-5	20K0007-02	SMM 11-13-20-014	Solid	11/13/20 12:25
PP8-5	BIK0290-DUP1	SMM 11-13-20-015	Solid	11/13/20 12:27
PP8-5	BIK0290-MS1	SMM 11-13-20-016	Solid	11/13/20 12:29
PP8-5	BIK0290-MSD1	SMM 11-13-20-017	Solid	11/13/20 12:32
PP8-10	20K0007-04	SMM 11-13-20-018	Solid	11/13/20 12:34
PP11-2.5	20K0007-07	SMM 11-13-20-019	Solid	11/13/20 12:36
PP11-7.5	20K0007-09	SMM 11-13-20-020	Solid	11/13/20 12:38
PP12-2.5	20K0007-13	SMM 11-13-20-021	Solid	11/13/20 12:41
Calibration Check	SIK0224-CCV2	SMM 11-13-20-022	NA	11/13/20 12:43
Calibration Blank	SIK0224-CCB2	SMM 11-13-20-023	NA	11/13/20 12:45
PP12-7.5	20K0007-15	SMM 11-13-20-024	Solid	11/13/20 12:47
PP10-2.5	20K0007-19	SMM 11-13-20-025	Solid	11/13/20 12:50
PP10-7.5	20K0007-21	SMM 11-13-20-026	Solid	11/13/20 12:52
PP9-2.5	20K0007-25	SMM 11-13-20-027	Solid	11/13/20 12:54
PP9-7.5	20K0007-27	SMM 11-13-20-028	Solid	11/13/20 12:56
PP4-2.5	20K0007-31	SMM 11-13-20-029	Solid	11/13/20 12:58
PP4-7.5	20K0007-33	SMM 11-13-20-030	Solid	11/13/20 13:01



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0224

Instrument: HYDRA

Calibration: DK00034

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SIK0224-CCV3	SMM 11-13-20-034	NA	11/13/20 13:10
Calibration Blank	SIK0224-CCB3	SMM 11-13-20-035	NA	11/13/20 13:12
Calibration Check	SIK0224-CCV4	SMM 11-13-20-046	NA	11/13/20 13:36
Calibration Blank	SIK0224-CCB4	SMM 11-13-20-047	NA	11/13/20 13:39
Calibration Check	SIK0224-CCV5	SMM 11-13-20-058	NA	11/13/20 14:03
Calibration Blank	SIK0224-CCB5	SMM 11-13-20-059	NA	11/13/20 14:06
Calibration Check	SIK0224-CCV6	SMM 11-13-20-067	NA	11/13/20 14:23
Calibration Blank	SIK0224-CCB6	SMM 11-13-20-068	NA	11/13/20 14:26



DETECTION LEVEL STANDARD
EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: HYDRA

Calibration: DK00034

Sequence: SIK0224

Lab Sample ID: SIK0224-CRL1

Analyte	True	Found	%R	Units	QC Limits
Mercury	0.000100	0.000113	113	mg/L	70 - 130

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP8-5 20K0007-02	10/30/20 08:50	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:25	14	28	
PP8-10 20K0007-04	10/30/20 09:00	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:34	14	28	
PP11-2.5 20K0007-07	10/30/20 09:35	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:36	14	28	
PP11-7.5 20K0007-09	10/30/20 09:45	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:38	14	28	
PP12-2.5 20K0007-13	10/30/20 10:50	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:41	14	28	
PP12-7.5 20K0007-15	10/30/20 11:00	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:47	14	28	
PP10-2.5 20K0007-19	10/30/20 12:35	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:50	14	28	
PP10-7.5 20K0007-21	10/30/20 12:45	10/31/20 12:30	11/12/20 12:41	12	28	11/13/20 12:52	14	28	
PP9-2.5 20K0007-25	10/30/20 13:30	10/31/20 12:30	11/12/20 12:41	12	28	11/13/20 12:54	14	28	
PP9-7.5 20K0007-27	10/30/20 13:40	10/31/20 12:30	11/12/20 12:41	12	28	11/13/20 12:56	14	28	
PP4-2.5 20K0007-31	10/30/20 14:25	10/31/20 12:30	11/12/20 12:41	12	28	11/13/20 12:58	14	28	
PP4-7.5 20K0007-33	10/30/20 14:35	10/31/20 12:30	11/12/20 12:41	12	28	11/13/20 13:01	14	28	
Duplicate BIK0290-DUP1	10/30/20 08:50	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:27	14	28	
Matrix Spike BIK0290-MS1	10/30/20 08:50	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:29	14	28	
Matrix Spike Dup BIK0290-MSD1	10/30/20 08:50	10/31/20 12:30	11/12/20 12:41	13	28	11/13/20 12:32	14	28	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: HYDRA

Analyte	MDL	RL	Units
Mercury	0.00525	0.0250	mg/kg

BIK0291



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 7 Balance ID: B116132369

Samples in Oven: Date: 11/11/20 Time: 1230 Temp: 107°C Analyst: BC

Removed from Oven: Date: 11/12/20 Time: 0630 Temp: 107°C Analyst: GA

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹
20K7-2	1.046	10.891	8.714	✓	✓
-4	1.013	10.733	7.933		
-7	1.013	10.483	8.542		
-9	1.032	10.271	7.866		
-13	1.002	10.388	8.763		
-15	0.996	10.644	8.518		
-19	0.990	10.284	9.259		
-21	0.998	10.316	8.141		
-25	1.009	10.599	9.335		
-27	1.006	10.148	6.007		
-31	1.017	10.342	9.236		
-33	1.018	10.229	8.012		
20K56-1	1.027	10.845	8.922		
-2	1.017	10.881	8.492		
-3	1.020	10.109	8.377		
-4	1.013	10.964	7.995		
-5	1.012	10.628	7.696		
-6	1.015	10.636	9.205		
-7	1.012	10.687	9.358		
-8	1.004	10.162	7.589		
20K120-6	1.015	10.940	9.339		
-7	1.023	10.565	8.906		
-8	1.011	10.689	8.542		

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

20K120-9 | 1.002 | 10.448 | 8.607 | ✓ | Revision 003
5050F



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP8-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-02 B SDG: 20K0007
Sampled: 10/30/20 08:50 Prepared: 11/09/20 12:46 File ID: I2201112-047
% Solids: 77.89 Preparation: SWC EPA 3050B Analyzed: 11/12/20 18:57
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.044 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	18.2	2	0.234	2.46	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP8-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-04 B SDG: 20K0007
Sampled: 10/30/20 09:00 Prepared: 11/09/20 12:46 File ID: I2201112-053
% Solids: 71.19 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:27
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.084 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	3.06	2	0.246	2.59	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP11-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-07 B SDG: 20K0007
Sampled: 10/30/20 09:35 Prepared: 11/09/20 12:46 File ID: I2201112-054
% Solids: 79.50 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:31
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.068 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	5.70	2	0.224	2.36	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP11-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-09 B SDG: 20K0007
Sampled: 10/30/20 09:45 Prepared: 11/09/20 12:46 File ID: I2201112-055
% Solids: 73.97 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:36
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.056 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	4.67	2	0.243	2.56	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP12-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-13 B SDG: 20K0007
Sampled: 10/30/20 10:50 Prepared: 11/09/20 12:46 File ID: I2201112-056
% Solids: 82.69 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:40
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.034 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	16.0	2	0.222	2.34	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP12-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-15 B SDG: 20K0007
Sampled: 10/30/20 11:00 Prepared: 11/09/20 12:46 File ID: I2201112-057
% Solids: 77.96 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:44
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.006 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	1.39	2	0.242	2.55	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP10-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-19 B SDG: 20K0007
Sampled: 10/30/20 12:35 Prepared: 11/09/20 12:46 File ID: I2201112-058
% Solids: 88.97 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:48
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.027 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	2.35	2	0.208	2.19	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP10-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-21 B SDG: 20K0007
Sampled: 10/30/20 12:45 Prepared: 11/09/20 12:46 File ID: I2201112-059
% Solids: 76.66 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:53
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.03 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	1.59	2	0.241	2.53	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP9-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-25 B SDG: 20K0007
Sampled: 10/30/20 13:30 Prepared: 11/09/20 12:46 File ID: I2201112-060
% Solids: 86.82 Preparation: SWC EPA 3050B Analyzed: 11/12/20 19:57
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.013 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	14.2	2	0.216	2.27	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP9-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0007-27 B SDG: 20K0007
Sampled: 10/30/20 13:40 Prepared: 11/09/20 12:46 File ID: I2201112-061
% Solids: 54.70 Preparation: SWC EPA 3050B Analyzed: 11/12/20 20:01
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.058 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	2.66	2	0.328	3.46	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP4-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-31 B SDG: 20K0007
Sampled: 10/30/20 14:25 Prepared: 11/09/20 12:46 File ID: I2201112-062
% Solids: 88.14 Preparation: SWC EPA 3050B Analyzed: 11/12/20 20:05
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.028 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	4.11	2	0.210	2.21	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP4-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0007-33 B SDG: 20K0007
Sampled: 10/30/20 14:35 Prepared: 11/09/20 12:46 File ID: I2201112-065
% Solids: 75.77 Preparation: SWC EPA 3050B Analyzed: 11/12/20 20:22
Batch: BIK0243 Sequence: SIK0194 Initial/Final: 1.025 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00032

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	1.28	2	0.245	2.58	J



PREPARATION BATCH SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Batch: BIK0243 Batch Matrix: Solid Preparation: SWC EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP8-5	20K0007-02	I2201112-047	11/09/20 12:46	
PP8-10	20K0007-04	I2201112-053	11/09/20 12:46	
PP11-2.5	20K0007-07	I2201112-054	11/09/20 12:46	
PP11-7.5	20K0007-09	I2201112-055	11/09/20 12:46	
PP12-2.5	20K0007-13	I2201112-056	11/09/20 12:46	
PP12-7.5	20K0007-15	I2201112-057	11/09/20 12:46	
PP10-2.5	20K0007-19	I2201112-058	11/09/20 12:46	
PP10-7.5	20K0007-21	I2201112-059	11/09/20 12:46	
PP9-2.5	20K0007-25	I2201112-060	11/09/20 12:46	
PP9-7.5	20K0007-27	I2201112-061	11/09/20 12:46	
PP4-2.5	20K0007-31	I2201112-062	11/09/20 12:46	
PP4-7.5	20K0007-33	I2201112-065	11/09/20 12:46	
Blank	BIK0243-BLK1	I2201112-041	11/09/20 12:46	
LCS	BIK0243-BS1	I2201112-042	11/09/20 12:46	
PP8-5	BIK0243-DUP1	I2201112-048	11/09/20 12:46	
PP8-5	BIK0243-MS1	I2201112-049	11/09/20 12:46	
PP8-5	BIK0243-MSD1	I2201112-050	11/09/20 12:46	



BIK0243

Digestion Log

Analyst: SD Date: 11/10/2020 Time: 11/10/20 1210 - 1130
 Matrix: SOIL Block ID: #3 Block Temp: 95°C Thermometer: 20-4

ARI Sample ID	Btl #	pH<2	Prep Code: <u>SWC</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
20J429-1	C		1.037	50.0			
↓ -2	D		1.016				
↓ -4	C		1.003				
20J437-1	↓		1.027				
20K7-2	B		1.044				
-4			1.084				
-7			1.068				
-9			1.056				
-13			1.084				
-15			1.006				
-19			1.027				
-21			1.030				
-25			1.013				
-27			1.058				
-31			1.028				
↓ -33	↓		1.025				
20K135-1	A		1.014				
↓ -2			1.058				
↓ -3			1.070				
20K140-1	↓		1.015				
BIK243-BLK	-		-				
-BSI	-		-				
↓ -DUPI	-		1.041				20K7-2
↓ -MSI	-		1.039				
↓ -MSDI	-		1.043				
-	-	-	-	-	-	-	-

Chemical/Reagent ID:

HNO₃: I9356 1:1 HNO₃: I10417 HCl: H10738 H₂O₂: I9826
 Tube Lot#: 2003055 Boiling Chip Lot#: - (DoD Only)



Form I
METHOD BLANK DATA SHEET
EPA 6010C
Total Metals

Blank

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperae

Batch: BIK0243

Laboratory ID: BIK0243-BLK1

Prepared: 11/09/20 12:46

Matrix: Solid

Preparation: SWC EPA 3050B

Analyzed: 11/12/20 18:24

Sequence: SIK0194

Calibration: DK00032

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	ND	2	0.190	2.00	U



LCS / LCS DUPLICATE RECOVERY

EPA 6010C

Total Metals

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0007</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Matrix: <u>Solid</u>	Analyzed: <u>11/12/20 18:28</u>
Batch: <u>BIK0243</u>	Laboratory ID: <u>BIK0243-BS1</u>
Preparation: <u>SWC EPA 3050B</u>	Sequence Name: <u>LCS</u>
Initial/Final: <u>1 g / 50 mL</u>	

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Lead	200	203		102	80 - 120

* Indicates values outside of QC limits



DUPLICATES

EPA 6010C

Total Metals

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Laboratory ID: BIK0243-DUP1

Batch: BIK0243

Lab Source ID: 20K0007-02

Preparation: SWC EPA 3050B

Initial/Final: 1.041 g / 50 mL

Source Sample Name: PP8-5

% Solids: 77.89

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg dry)	C	DUPLICATE CONCENTRATION (mg/kg dry)	C	RPD %	Q
Lead	20	18.2		23.9	*	27.5	*

*: Values outside of QC limits

L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD



MS / MS DUPLICATE RECOVERY
EPA 6010C
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/12/20 19:06</u>
Batch:	<u>BIK0243</u>	Laboratory ID:	<u>BIK0243-MS1</u>
Preparation:	<u>SWC EPA 3050B</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>1.039 g / 50 mL</u>	Source Sample:	<u>PP8-5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Lead	247	18.2		260		97.7	75 - 125

* Values outside of QC limits



MS / MS DUPLICATE RECOVERY
EPA 6010C
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/12/20 19:10</u>
Batch:	<u>BIK0243</u>	Laboratory ID:	<u>BIK0243-MSD1</u>
Preparation:	<u>SWC EPA 3050B</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>1.043 g / 50 mL</u>	Source Sample:	<u>PP8-5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Lead	246	267		101	2.65	20	75 - 125

* Values outside of QC limits



INITIAL CALIBRATION DATA

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00032

Instrument: ICP2

Calibration Date: 11/12/2020 15:03

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Lead	0	0	0		10	5920.573	0		0			



IEC Date: 11/12/20 Analysis Date: 11/12/20 Analyst: MB

LR Date: 11/12/20 Sequence: SIK0194 Page: 1 of 4

All corrections made by analyst unless otherwise noted. no 11/12/20 Cal. B: DIS00032

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CAL1	I10177		
		-CAL2	I10413		
		-CAL3	I10414		
		-CAL4	I10415		
		-CAL5	I10416		
		-ICV1	I9900		
	✓	-ICB1	—		Be+Sr ↑ + noisy
	✓	-CRL1	—		Cr ↓
		-ICB1	I10177		
	✓	-CRL1	—		Cr ↓
	✓	-CAL1	—		
		-CCV1	I9900		
		-CCB1	I10177		Sr noisy - No Sr all run
		-CRL1	I9997		
		-IFA1	I6930		
		-IFB1	I6931		
		-CCV2			
		↓ -CCB2			
		BIK0297-BLK1	TWC		Sc A st. noisy - %Rt Analytes OK
		↓ -BS1	↓		
		BIK0319-BLK	LEN	5	Bad Cr ↑
		20K0163-01	↓	↓	Cr OK to load per PM
		BIK0319-DUP1	↓	↓	↓



IEC Date: 11/12/20 Analysis Date: 11/12/20 Analyst: MB
LR Date: 11/12/20 Sequence: _____ Page: 2 of 4

All corrections made by analyst unless otherwise noted. MS 11/12/20

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		BIK0319-MS1	LEN	5	Cr NR
		ZPK0151-01	TWC	2	
		BIK0297-DUPI	↓	↓	
		↓ -MS1	↓	↓	
		SEQ-CCV3			
		↓ -CCB3			
		BIJ0600-BLK1	LEN	5	Ba ↑ - Known TELP cont.
✓		BIK0319-BLK1	↓	↓	Ba + Cr ↑
		ZPK0158-01	↓	↓	
		↓ -02	↓	↓	
		↓ -03	↓	↓	
		ZPK0140-01	↓	↓	Cr NR
		ZPJ0187-14	↓	↓	
		BIJ0600-DUPI	↓	↓	
		↓ -MS1	↓	↓	Cd STL
		SEQ-CCV4			
		↓ -CCB4			
		BIK0243-BLK1	SWC	2	
		↓ -B51	↓	↓	
		ZPJ0429-01	↓	↓	
		↓ -02	↓	↓	
		↓ -04	↓	↓	
✓		BIK319 BLK TEST		5	TEST ONLY



IEC Date: _____ Analysis Date: 11/12/20 Analyst: MS
LR Date: _____ Sequence: _____ Page: 13 of 4

All corrections made by analyst unless otherwise noted. MS 11/12/20

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		20K0007-02	SWC	2	
		BIK0243-DUP1	↓	↓	Pb RPO↑
		↓ -MS1	↓	↓	Al+Fe / Sb+Zn STL / %R↓
		↓ -MS01	↓	↓	↓ / Sb ZR↓ / Zn ZRT + RPO↑
		SEQ-CCV5			
		↓ -CCB5			
		20K0007-04	SWC	2	
		↓ -07	↓	↓	
		↓ -09	↓	↓	
		↓ -13	↓	↓	
		↓ -15	↓	↓	
		↓ -19	↓	↓	
		↓ -21	↓	↓	
		↓ -25	↓	↓	
		↓ -27	↓	↓	
		↓ -31	↓	↓	
		SEQ-CCV6			Cr+Fe↑
		↓ -CCB6			Cr↑
		20K0007-33	SWC	2	
		20J0437-01	↓	↓	
✓		20K0135-01	↓	↓	Al+Fe↑
✓		↓ -02	↓	↓	↓
✓		↓ -03	↓	↓	Fe↑



IEC Date: _____

Analysis Date: 11/12/20

Analyst: MB

LR Date: _____

Sequence: _____

Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		ZPK0140-01	SWC	50	No Cr, Fe
	✓	ZPK0153-01	TWC	100	re-run @ 20x?
		SEQ-IBL1			
		↓ -CCV7			Cr+Fe↑
		↓ -CCB7			
		Rinse/DI			
 <div data-bbox="828 1323 1006 1407" data-label="Text"> <p>MB 11/12/20</p> </div> 					

=====
Analysis Begun

Start Time: 11/12/2020 3:03:33 PM Plasma On Time: 11/12/2020 9:50:03 AM
 Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
 Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 CRISSElmt.sif

Batch ID:
 Results Data Set: I2201112
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
 Method Loaded
 Method Name: ELMT7300bcESI2FAST Method Last Saved: 10/23/2020 1:06:54 PM
 IEC File: IEC111220.iec MSF File:
 Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

=====
 Sequence No.: 1 Autosampler Location: 1
 Sample ID: SEQ-CAL1 Date Collected: 11/12/2020 3:03:41 PM
 Data Type: Original

 Nebulizer Parameters: SEQ-CAL1
 Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: SEQ-CAL1

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc.	Units
ScA 357.253	1475685.7	12590.75	0.85%	100.0	%
ScR 361.383	153341.3	920.35	0.60%	100.0	%
Ag 328.068†	-8.3	17.51	210.31%	[0.00]	mg/L
Al 308.215†	393.9	1.04	0.26%	[0.00]	mg/L
As 188.979†	-12.6	2.72	21.56%	[0.00]	mg/L
B 249.677†	-55.5	6.25	11.27%	[0.00]	mg/L
Ba 233.527†	58.6	4.06	6.93%	[0.00]	mg/L

Be 313.042†	1639.3	25.68	1.57%	[0.00]	mg/L
Ca 317.933†	38.5	17.20	44.71%	[0.00]	mg/L
Cd 228.802†	182.7	2.06	1.13%	[0.00]	mg/L
Co 228.616†	-74.8	3.53	4.72%	[0.00]	mg/L
Cr 267.716†	-308.9	3.84	1.24%	[0.00]	mg/L
Cu 324.752†	1435.5	8.53	0.59%	[0.00]	mg/L
Fe 273.955†	29.1	3.41	11.73%	[0.00]	mg/L
K 766.490†	131.2	51.67	39.39%	[0.00]	mg/L
Mg 279.077†	3.9	8.03	203.64%	[0.00]	mg/L
Mn 257.610†	395.2	3.11	0.79%	[0.00]	mg/L
Mo 202.031†	61.4	4.24	6.89%	[0.00]	mg/L
Na 589.592†	275.4	6.65	2.41%	[0.00]	mg/L
Na 330.237†	-190.0	10.98	5.78%	[0.00]	mg/L
Ni 231.604†	-12.7	9.03	70.98%	[0.00]	mg/L
Pb 220.353†	9.9	3.47	35.14%	[0.00]	mg/L
Sb 206.836†	56.3	3.39	6.02%	[0.00]	mg/L
Se 196.026†	-46.3	6.46	13.95%	[0.00]	mg/L
Si 288.158†	-30.8	2.86	9.28%	[0.00]	mg/L
Sn 189.927†	-17.0	2.11	12.41%	[0.00]	mg/L
Sr 421.552†	750.5	13.48	1.80%	[0.00]	mg/L
Ti 334.903†	114.9	23.61	20.54%	[0.00]	mg/L
Tl 190.801†	152.8	1.56	1.02%	[0.00]	mg/L
V 292.402†	107.2	22.13	20.64%	[0.00]	mg/L
Zn 206.200†	-9.0	0.78	8.65%	[0.00]	mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: SEQ-CAL2

Date Collected: 11/12/2020 3:08:03 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	1448890.1	6967.11	0.48%	98.18	%
ScR 361.383	151553.5	293.91	0.19%	98.83	%
Ba 233.527†	34133.5	63.01	0.18%	[10]	mg/L
Cd 228.802†	182698.6	239.05	0.13%	[10]	mg/L
Co 228.616†	263801.7	786.39	0.30%	[10]	mg/L
Cr 267.716†	27077.1	122.59	0.45%	[10]	mg/L
Cu 324.752†	1604036.0	2293.38	0.14%	[10]	mg/L
Mn 257.610†	326326.6	341.65	0.10%	[10]	mg/L
V 292.402†	617265.0	1982.41	0.32%	[10]	mg/L

Sequence No.: 3

Autosampler Location: 3

Sample ID: SEQ-CAL3

Date Collected: 11/12/2020 3:10:04 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL3

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	1432509.3	7157.99	0.50%	97.07	%
ScR 361.383	146552.6	692.40	0.47%	95.57	%
Ag 328.068†	132241.1	232.23	0.18%	[1.0]	mg/L
As 188.979†	9718.9	70.99	0.73%	[10]	mg/L
B 249.677†	56826.2	427.13	0.75%	[10]	mg/L
Be 313.042†	2061069.9	2455.71	0.12%	[5.0]	mg/L
Na 589.592†	407336.4	1116.40	0.27%	[50]	mg/L
Ni 231.604†	23756.3	121.04	0.51%	[10]	mg/L
Pb 220.353†	59205.7	298.58	0.50%	[10]	mg/L

Se 196.026†	8366.1	59.32	0.71%	[10] mg/L
Sr 421.552†	2138239.9	3073.91	0.14%	[5] mg/L
Tl 190.801†	14070.6	101.78	0.72%	[10] mg/L
Zn 206.200†	16654.9	140.53	0.84%	[10] mg/L

Sequence No.: 4

Autosampler Location: 4

Sample ID: SEQ-CAL4

Date Collected: 11/12/2020 3:13:22 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL4

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CAL4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	1450096.6	5306.13	0.37%	98.27 %
ScR 361.383	150040.2	999.53	0.67%	97.85 %
Mo 202.031†	128182.7	739.51	0.58%	[10] mg/L
Sb 206.836†	19792.9	49.76	0.25%	[10] mg/L
Si 288.158†	7701.9	95.43	1.24%	[10] mg/L
Sn 189.927†	28371.9	96.98	0.34%	[10] mg/L
Ti 334.903†	127828.2	394.37	0.31%	[10] mg/L

Sequence No.: 5

Autosampler Location: 5

Sample ID: SEQ-CAL5

Date Collected: 11/12/2020 3:15:51 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL5

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CAL5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	1375915.2	7135.97	0.52%	93.24 %
ScR 361.383	151782.7	352.94	0.23%	98.98 %
Al 308.215†	27952.4	190.61	0.68%	[30] mg/L
Ca 317.933†	187513.6	923.89	0.49%	[30] mg/L
Fe 273.955†	89031.0	328.00	0.37%	[100] mg/L
K 766.490†	112815.4	451.62	0.40%	[100] mg/L
Mg 279.077†	21335.0	124.47	0.58%	[30] mg/L
Na 330.237†	1761.6	7.45	0.42%	[100] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	132200	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	931.7	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	971.9	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	5683	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3413	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	412200	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	6250	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	18270	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	26380	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	2708	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	160400	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	890.3	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	1128	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	711.2	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	32630	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	12820	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	8147	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	17.62	0.00000	1.000000	

Ni 231.604	1	Lin Thru 0	0.0	2376	0.00000	1.000000
Pb 220.353	1	Lin Thru 0	0.0	5921	0.00000	1.000000
Sb 206.836	1	Lin Thru 0	0.0	1979	0.00000	1.000000
Se 196.026	1	Lin Thru 0	0.0	836.6	0.00000	1.000000
Si 288.158	1	Lin Thru 0	0.0	770.2	0.00000	1.000000
Sn 189.927	1	Lin Thru 0	0.0	2837	0.00000	1.000000
Sr 421.552	1	Lin Thru 0	0.0	427600	0.00000	1.000000
Ti 334.903	1	Lin Thru 0	0.0	12780	0.00000	1.000000
Tl 190.801	1	Lin Thru 0	0.0	1407	0.00000	1.000000
V 292.402	1	Lin Thru 0	0.0	61730	0.00000	1.000000
Zn 206.200	1	Lin Thru 0	0.0	1665	0.00000	1.000000

=====
Analysis BegunStart Time: 11/12/2020 3:18:13 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202Plasma On Time: 11/12/2020 9:50:03 AM
Technique: ICP Continuous
Autosampler: ESISample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
CRISSETelmt.sif

Batch ID:

Results Data Set: I2201112

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Sample ID: SEQ-ICV1

Autosampler Location: 7

Date Collected: 11/12/2020 3:18:23 PM

Data Type: Original

Dilution: 1X

Nebulizer Parameters: SEQ-ICV1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-ICV1

Analyte	Mean Corrected			Sample		
	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
ScA 357.253	1459488.9	98.90 %	0.492			0.50%
ScR 361.383	149991.0	97.82 %	0.888			0.91%
Ag 328.068†	134475.7	1.017 mg/L	0.0023	1.017 mg/L	0.0023	0.22%
Al 308.215†	1963.3	2.072 mg/L	0.0297	2.072 mg/L	0.0297	1.43%
As 188.979†	1916.8	2.002 mg/L	0.0120	2.002 mg/L	0.0120	0.60%
B 249.677†	5576.6	0.9605 mg/L	0.00546	0.9605 mg/L	0.00546	0.57%
Ba 233.527†	3408.5	0.9974 mg/L	0.00726	0.9974 mg/L	0.00726	0.73%
Be 313.042†	402072.9	0.9728 mg/L	0.00595	0.9728 mg/L	0.00595	0.61%
Ca 317.933†	13009.8	2.081 mg/L	0.0137	2.081 mg/L	0.0137	0.66%
Cd 228.802†	18273.2	0.9877 mg/L	0.00083	0.9877 mg/L	0.00083	0.08%
Co 228.616†	25585.3	0.9680 mg/L	0.00338	0.9680 mg/L	0.00338	0.35%
Cr 267.716†	2735.2	1.012 mg/L	0.0117	1.012 mg/L	0.0117	1.15%
Cu 324.752†	158214.4	0.9860 mg/L	0.00098	0.9860 mg/L	0.00098	0.10%
Fe 273.955†	1819.4	2.036 mg/L	0.0128	2.036 mg/L	0.0128	0.63%
K 766.490†	22237.4	19.71 mg/L	0.162	19.71 mg/L	0.162	0.82%
Mg 279.077†	1448.9	2.051 mg/L	0.0165	2.051 mg/L	0.0165	0.80%
Mn 257.610†	32527.5	0.9970 mg/L	0.00625	0.9970 mg/L	0.00625	0.63%
Mo 202.031†	12904.7	1.007 mg/L	0.0070	1.007 mg/L	0.0070	0.69%
Na 589.592†	402800.0	49.44 mg/L	0.416	49.44 mg/L	0.416	0.84%
Na 330.237†	902.3	51.05 mg/L	0.631	51.05 mg/L	0.631	1.24%
Ni 231.604†	2346.8	0.9891 mg/L	0.00799	0.9891 mg/L	0.00799	0.81%
Pb 220.353†	12020.6	2.032 mg/L	0.0160	2.032 mg/L	0.0160	0.79%
Sb 206.836†	4101.0	2.068 mg/L	0.0131	2.068 mg/L	0.0131	0.63%
Se 196.026†	1685.6	2.015 mg/L	0.0139	2.015 mg/L	0.0139	0.69%
Si 288.158†	1608.3	2.073 mg/L	0.0038	2.073 mg/L	0.0038	0.18%
Sn 189.927†	2834.0	0.9997 mg/L	0.00917	0.9997 mg/L	0.00917	0.92%
Sr 421.552†	417757.1	0.9769 mg/L	0.00640	0.9769 mg/L	0.00640	0.66%
Ti 334.903†	12699.0	0.9922 mg/L	0.00455	0.9922 mg/L	0.00455	0.46%
Tl 190.801†	2815.7	1.985 mg/L	0.0200	1.985 mg/L	0.0200	1.01%
V 292.402†	61582.9	1.005 mg/L	0.0009	1.005 mg/L	0.0009	0.09%
Zn 206.200†	1636.8	0.9824 mg/L	0.01130	0.9824 mg/L	0.01130	1.15%

Sequence No.: 2

Sample ID: SEQ-ICB1

DEL

Autosampler Location: 1

Date Collected: 11/12/2020 3:22:46 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-ICB1

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: SEQ-ICB1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1424255.2	96.51	%	0.285				0.30%
ScR 361.383	149686.7	97.62	%	0.692				0.71%
Ag 328.068†	-45.8	-0.00035	mg/L	0.000181	-0.00035	mg/L	0.000181	52.35%
Al 308.215†	25.7	0.02752	mg/L	0.011238	0.02752	mg/L	0.011238	40.83%
As 188.979†	4.7	0.00495	mg/L	0.002272	0.00495	mg/L	0.002272	45.88%
B 249.677†	56.4	0.00992	mg/L	0.002394	0.00992	mg/L	0.002394	24.12%
Ba 233.527†	4.1	0.00120	mg/L	0.000789	0.00120	mg/L	0.000789	65.53%
Be 313.042†	490.6	0.00119	mg/L	0.001756	0.00119	mg/L	0.001756	147.64%
Ca 317.933†	29.0	0.00465	mg/L	0.008578	0.00465	mg/L	0.008578	184.64%
Cd 228.802†	1.7	0.00007	mg/L	0.000258	0.00007	mg/L	0.000258	391.34%
Co 228.616†	-1.0	-0.00004	mg/L	0.000103	-0.00004	mg/L	0.000103	246.97%
Cr 267.716†	-4.5	-0.00165	mg/L	0.003513	-0.00165	mg/L	0.003513	213.30%
Cu 324.752†	77.2	0.00048	mg/L	0.000186	0.00048	mg/L	0.000186	38.73%
Fe 273.955†	4.2	0.00468	mg/L	0.012267	0.00468	mg/L	0.012267	262.38%
K 766.490†	27.7	0.02457	mg/L	0.046464	0.02457	mg/L	0.046464	189.14%
Mg 279.077†	-10.4	-0.01462	mg/L	0.011546	-0.01462	mg/L	0.011546	78.95%
Mn 257.610†	19.1	0.00058	mg/L	0.000497	0.00058	mg/L	0.000497	84.95%
Mo 202.031†	6.0	0.00047	mg/L	0.000079	0.00047	mg/L	0.000079	16.75%
Na 589.592†	99.2	0.01217	mg/L	0.059162	0.01217	mg/L	0.059162	486.01%
Na 330.237†	-11.5	-0.6505	mg/L	0.26670	-0.6505	mg/L	0.26670	41.00%
Ni 231.604†	13.8	0.00580	mg/L	0.002564	0.00580	mg/L	0.002564	44.21%
Pb 220.353†	2.3	0.00040	mg/L	0.000817	0.00040	mg/L	0.000817	205.08%
Sb 206.836†	2.1	0.00108	mg/L	0.000517	0.00108	mg/L	0.000517	47.96%
Se 196.026†	0.6	0.00072	mg/L	0.004215	0.00072	mg/L	0.004215	587.84%
Si 288.158†	-3.1	-0.00401	mg/L	0.013434	-0.00401	mg/L	0.013434	334.74%
Sn 189.927†	0.0	0.00001	mg/L	0.000383	0.00001	mg/L	0.000383	>999.9%
Sr 421.552†	486.1	0.00114	mg/L	0.001795	0.00114	mg/L	0.001795	157.91%
Ti 334.903†	33.0	0.00258	mg/L	0.002336	0.00258	mg/L	0.002336	90.45%
Tl 190.801†	5.0	0.00356	mg/L	0.001199	0.00356	mg/L	0.001199	33.65%
V 292.402†	12.6	0.00019	mg/L	0.000128	0.00019	mg/L	0.000128	66.29%
Zn 206.200†	-1.7	-0.00103	mg/L	0.000916	-0.00103	mg/L	0.000916	88.58%

Sequence No.: 3

Sample ID: SEQ-CRL1

DEL

Autosampler Location: 301

Date Collected: 11/12/2020 3:27:02 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CRL1

Analyte Back Pressure Flow
 All 240.0 kPa 0.65 L/min

Mean Data: SEQ-CRL1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1411740.8	95.67	%	0.332				0.35%
ScR 361.383	146141.7	95.30	%	0.276				0.29%
Ag 328.068†	402.4	0.00304	mg/L	0.000246	0.00304	mg/L	0.000246	8.10%
Al 308.215†	65.2	0.06984	mg/L	0.016414	0.06984	mg/L	0.016414	23.50%
As 188.979†	51.2	0.05289	mg/L	0.003381	0.05289	mg/L	0.003381	6.39%
B 249.677†	144.1	0.02517	mg/L	0.000952	0.02517	mg/L	0.000952	3.78%
Ba 233.527†	9.2	0.00268	mg/L	0.000847	0.00268	mg/L	0.000847	31.55%
Be 313.042†	447.7	0.00108	mg/L	0.000077	0.00108	mg/L	0.000077	7.15%
Ca 317.933†	315.8	0.05052	mg/L	0.002557	0.05052	mg/L	0.002557	5.06%
Cd 228.802†	43.0	0.00202	mg/L	0.000303	0.00202	mg/L	0.000303	15.05%
Co 228.616†	71.1	0.00268	mg/L	0.000231	0.00268	mg/L	0.000231	8.60%
Cr 267.716†	6.3	0.00236	mg/L	0.001338	0.00236	mg/L	0.001338	56.62%
Cu 324.752†	375.0	0.00234	mg/L	0.000108	0.00234	mg/L	0.000108	4.64%
Fe 273.955†	44.2	0.04960	mg/L	0.003438	0.04960	mg/L	0.003438	6.93%
K 766.490†	525.7	0.4660	mg/L	0.03605	0.4660	mg/L	0.03605	7.74%
Mg 279.077†	29.8	0.04194	mg/L	0.005896	0.04194	mg/L	0.005896	14.06%
Mn 257.610†	45.0	0.00138	mg/L	0.000111	0.00138	mg/L	0.000111	8.07%
Mo 202.031†	63.2	0.00493	mg/L	0.000390	0.00493	mg/L	0.000390	7.90%
Na 589.592†	3243.4	0.3981	mg/L	0.00407	0.3981	mg/L	0.00407	1.02%
Na 330.237†	-7.1	-0.4046	mg/L	0.60691	-0.4046	mg/L	0.60691	150.00%
Ni 231.604†	37.5	0.01583	mg/L	0.002100	0.01583	mg/L	0.002100	13.27%
Pb 220.353†	112.0	0.01894	mg/L	0.000362	0.01894	mg/L	0.000362	1.91%
Sb 206.836†	103.8	0.05260	mg/L	0.004277	0.05260	mg/L	0.004277	8.13%
Se 196.026†	41.1	0.04914	mg/L	0.002093	0.04914	mg/L	0.002093	4.26%
Si 288.158†	48.8	0.06310	mg/L	0.003865	0.06310	mg/L	0.003865	6.13%
Sn 189.927†	55.1	0.01942	mg/L	0.001437	0.01942	mg/L	0.001437	7.40%
Sr 421.552†	407.8	0.00095	mg/L	0.000023	0.00095	mg/L	0.000023	2.37%
Ti 334.903†	85.7	0.00670	mg/L	0.002667	0.00670	mg/L	0.002667	39.82%
Tl 190.801†	70.7	0.05016	mg/L	0.002223	0.05016	mg/L	0.002223	4.43%
V 292.402†	190.6	0.00311	mg/L	0.000380	0.00311	mg/L	0.000380	12.23%
Zn 206.200†	14.7	0.00880	mg/L	0.001060	0.00880	mg/L	0.001060	12.04%

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Analysis Begun

Start Time: 11/12/2020 3:31:49 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
CRISSElmt.sif

Batch ID:
Results Data Set: I2201112
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1
Sample ID: SEQ-ICB1
Dilution: 1X
Autosampler Location: 1
Date Collected: 11/12/2020 3:31:59 PM
Data Type: Original

Nebulizer Parameters: SEQ-ICB1
Analyte Back Pressure Flow
All 242.0 kPa 0.65 L/min

Mean Data: SEQ-ICB1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1433544.9	97.14 %		0.239			0.25%
ScR 361.383	148527.8	96.86 %		1.032			1.07%
Ag 328.068†	-32.1	-0.00024 mg/L		0.000093	-0.00024 mg/L	0.000093	38.50%
Al 308.215†	30.3	0.03255 mg/L		0.010636	0.03255 mg/L	0.010636	32.68%
As 188.979†	3.7	0.00382 mg/L		0.002160	0.00382 mg/L	0.002160	56.61%
B 249.677†	23.7	0.00419 mg/L		0.002757	0.00419 mg/L	0.002757	65.84%
Ba 233.527†	3.0	0.00086 mg/L		0.000734	0.00086 mg/L	0.000734	85.05%
Be 313.042†	45.8	0.00011 mg/L		0.000083	0.00011 mg/L	0.000083	75.69%
Ca 317.933†	6.2	0.00099 mg/L		0.000413	0.00099 mg/L	0.000413	41.50%
Cd 228.802†	-0.6	-0.00006 mg/L		0.000196	-0.00006 mg/L	0.000196	347.66%
Co 228.616†	-0.8	-0.00003 mg/L		0.000135	-0.00003 mg/L	0.000135	428.28%
Cr 267.716†	-10.8	-0.00399 mg/L		0.003603	-0.00399 mg/L	0.003603	90.25%
Cu 324.752†	38.7	0.00024 mg/L		0.000213	0.00024 mg/L	0.000213	88.28%
Fe 273.955†	-2.4	-0.00271 mg/L		0.001641	-0.00271 mg/L	0.001641	60.55%
K 766.490†	15.2	0.01351 mg/L		0.051084	0.01351 mg/L	0.051084	378.07%
Mg 279.077†	-7.6	-0.01072 mg/L		0.008340	-0.01072 mg/L	0.008340	77.83%
Mn 257.610†	13.7	0.00042 mg/L		0.000127	0.00042 mg/L	0.000127	30.42%
Mo 202.031†	-0.7	-0.00005 mg/L		0.000150	-0.00005 mg/L	0.000150	274.80%
Na 589.592†	-218.3	-0.02680 mg/L		0.005631	-0.02680 mg/L	0.005631	21.01%
Na 330.237†	-17.6	-0.9970 mg/L		1.08269	-0.9970 mg/L	1.08269	108.60%
Ni 231.604†	8.5	0.00358 mg/L		0.003951	0.00358 mg/L	0.003951	110.46%
Pb 220.353†	6.5	0.00110 mg/L		0.000905	0.00110 mg/L	0.000905	82.55%
Sb 206.836†	-2.1	-0.00100 mg/L		0.001874	-0.00100 mg/L	0.001874	186.82%
Se 196.026†	5.1	0.00616 mg/L		0.004778	0.00616 mg/L	0.004778	77.62%
Si 288.158†	1.9	0.00250 mg/L		0.011913	0.00250 mg/L	0.011913	475.98%
Sn 189.927†	-4.4	-0.00157 mg/L		0.001715	-0.00157 mg/L	0.001715	109.37%
Sr 421.552†	55.4	0.00013 mg/L		0.000053	0.00013 mg/L	0.000053	41.25%
Ti 334.903†	-0.4	-0.00003 mg/L		0.001184	-0.00003 mg/L	0.001184	>999.9%
Tl 190.801†	2.7	0.00194 mg/L		0.000705	0.00194 mg/L	0.000705	36.43%
V 292.402†	45.4	0.00071 mg/L		0.000121	0.00071 mg/L	0.000121	17.12%
Zn 206.200†	-1.4	-0.00083 mg/L		0.000896	-0.00083 mg/L	0.000896	108.00%

Sequence No.: 2
 Sample ID: SEQ-CRL1

Autosampler Location: 301
 Date Collected: 11/12/2020 3:36:21 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

DEL

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CRL1

Analyte Back Pressure Flow
 All 240.0 kPa 0.65 L/min

Mean Data: SEQ-CRL1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1411979.3	95.68	%	0.342			0.36%
ScR 361.383	148621.9	96.92	%	0.410			0.42%
Ag 328.068†	343.7	0.00260	mg/L	0.000097	0.00260	mg/L	3.72%
Al 308.215†	61.5	0.06586	mg/L	0.011814	0.06586	mg/L	17.94%
As 188.979†	46.8	0.04836	mg/L	0.003262	0.04836	mg/L	6.75%
B 249.677†	124.3	0.02169	mg/L	0.002253	0.02169	mg/L	10.39%
Ba 233.527†	13.9	0.00405	mg/L	0.000618	0.00405	mg/L	15.25%
Be 313.042†	448.9	0.00108	mg/L	0.000071	0.00108	mg/L	6.61%
Ca 317.933†	303.0	0.04848	mg/L	0.002994	0.04848	mg/L	6.18%
Cd 228.802†	42.5	0.00202	mg/L	0.000120	0.00202	mg/L	5.93%
Co 228.616†	72.2	0.00272	mg/L	0.000303	0.00272	mg/L	11.13%
Cr 267.716†	-1.7	-0.00062	mg/L	0.002582	-0.00062	mg/L	414.08%
Cu 324.752†	378.9	0.00236	mg/L	0.000021	0.00236	mg/L	0.91%
Fe 273.955†	44.9	0.05037	mg/L	0.002435	0.05037	mg/L	4.83%
K 766.490†	553.9	0.4910	mg/L	0.03796	0.4910	mg/L	7.73%
Mg 279.077†	36.3	0.05109	mg/L	0.013341	0.05109	mg/L	26.11%
Mn 257.610†	46.8	0.00144	mg/L	0.000159	0.00144	mg/L	11.09%
Mo 202.031†	61.5	0.00480	mg/L	0.000485	0.00480	mg/L	10.11%
Na 589.592†	3224.0	0.3957	mg/L	0.00616	0.3957	mg/L	1.56%
Na 330.237†	-8.2	-0.4656	mg/L	0.66611	-0.4656	mg/L	143.07%
Ni 231.604†	33.0	0.01395	mg/L	0.002725	0.01395	mg/L	19.54%
Pb 220.353†	114.2	0.01930	mg/L	0.000139	0.01930	mg/L	0.72%
Sb 206.836†	106.3	0.05392	mg/L	0.002003	0.05392	mg/L	3.72%
Se 196.026†	37.7	0.04502	mg/L	0.003176	0.04502	mg/L	7.05%
Si 288.158†	51.1	0.06606	mg/L	0.007934	0.06606	mg/L	12.01%
Sn 189.927†	52.1	0.01837	mg/L	0.000567	0.01837	mg/L	3.09%
Sr 421.552†	433.4	0.00101	mg/L	0.000019	0.00101	mg/L	1.83%
Ti 334.903†	91.0	0.00711	mg/L	0.000774	0.00711	mg/L	10.88%
Tl 190.801†	73.8	0.05237	mg/L	0.000265	0.05237	mg/L	0.51%
V 292.402†	205.7	0.00333	mg/L	0.000268	0.00333	mg/L	8.03%
Zn 206.200†	14.1	0.00849	mg/L	0.000471	0.00849	mg/L	5.54%

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Analysis Begun

Start Time: 11/12/2020 3:43:30 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
CRISETelmt.sif

Batch ID:
Results Data Set: I2201112
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Sample ID: SEQ-CAL1

Date Collected: 11/12/2020 3:43:30 PM
Data Type: Original

Nebulizer Parameters: SEQ-CAL1

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CAL1

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	
ScA 357.253	1416354.1	12070.37	0.85%	95.98 %
ScR 361.383	147124.9	846.87	0.58%	95.95 %
Ag 328.068†	-18.8	45.67	243.27%	[0.00] mg/L
Al 308.215†	412.1	13.91	3.37%	[0.00] mg/L
As 188.979†	-12.6	2.67	21.22%	[0.00] mg/L
B 249.677†	-48.5	14.37	29.60%	[0.00] mg/L
Ba 233.527†	64.7	0.92	1.41%	[0.00] mg/L
Be 313.042†	1719.3	35.38	2.06%	[0.00] mg/L
Ca 317.933†	38.1	10.23	26.84%	[0.00] mg/L
Cd 228.802†	182.7	2.44	1.33%	[0.00] mg/L
Co 228.616†	-76.8	3.60	4.68%	[0.00] mg/L
Cr 267.716†	-313.7	8.17	2.61%	[0.00] mg/L
Cu 324.752†	1485.2	16.22	1.09%	[0.00] mg/L
Fe 273.955†	27.8	2.52	9.08%	[0.00] mg/L
K 766.490†	147.6	25.96	17.59%	[0.00] mg/L
Mg 279.077†	9.3	9.14	98.46%	[0.00] mg/L
Mn 257.610†	410.5	7.68	1.87%	[0.00] mg/L
Mo 202.031†	63.3	1.79	2.82%	[0.00] mg/L
Na 589.592†	8.1	18.78	231.46%	[0.00] mg/L
Na 330.237†	-186.4	5.85	3.14%	[0.00] mg/L
Ni 231.604†	-2.0	2.90	141.76%	[0.00] mg/L
Pb 220.353†	2.9	5.43	184.83%	[0.00] mg/L
Sb 206.836†	57.9	2.60	4.50%	[0.00] mg/L
Se 196.026†	-45.4	0.77	1.69%	[0.00] mg/L
Si 288.158†	-32.9	4.73	14.40%	[0.00] mg/L
Sn 189.927†	-17.7	1.97	11.15%	[0.00] mg/L
Sr 421.552†	796.6	51.09	6.41%	[0.00] mg/L
Ti 334.903†	113.8	3.73	3.28%	[0.00] mg/L
Tl 190.801†	154.9	1.25	0.81%	[0.00] mg/L
V 292.402†	133.4	13.55	10.15%	[0.00] mg/L
Zn 206.200†	-10.4	0.78	7.50%	[0.00] mg/L

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Analysis Begun

Start Time: 11/12/2020 3:48:20 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1112.sif

Batch ID:

Results Data Set: I2201112

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: SEQ-CCV1

Date Collected: 11/12/2020 3:48:22 PM

Data Type: Original

Dilution: 1X

Nebulizer Parameters: SEQ-CCV1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CCV1

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1432617.9	97.08 %		0.294				0.30%
ScR 361.383	148802.1	97.04 %		0.287				0.30%
Ag 328.068†	135777.8	1.027 mg/L		0.0057	1.027 mg/L	0.0057		0.55%
Al 308.215†	1984.1	2.095 mg/L		0.0195	2.095 mg/L	0.0195		0.93%
As 188.979†	1907.7	1.993 mg/L		0.0044	1.993 mg/L	0.0044		0.22%
B 249.677†	5622.2	0.9684 mg/L		0.00593	0.9684 mg/L	0.00593		0.61%
Ba 233.527†	3433.2	1.005 mg/L		0.0037	1.005 mg/L	0.0037		0.37%
Be 313.042†	402227.3	0.9732 mg/L		0.00260	0.9732 mg/L	0.00260		0.27%
Ca 317.933†	12329.3	1.973 mg/L		0.0064	1.973 mg/L	0.0064		0.32%
Cd 228.802†	18433.6	0.9966 mg/L		0.00690	0.9966 mg/L	0.00690		0.69%
Co 228.616†	25660.3	0.9708 mg/L		0.00832	0.9708 mg/L	0.00832		0.86%
Cr 267.716†	2760.3	1.022 mg/L		0.0040	1.022 mg/L	0.0040		0.39%
Cu 324.752†	159900.2	0.9965 mg/L		0.00779	0.9965 mg/L	0.00779		0.78%
Fe 273.955†	1841.9	2.061 mg/L		0.0059	2.061 mg/L	0.0059		0.29%
K 766.490†	22188.9	19.67 mg/L		0.023	19.67 mg/L	0.023		0.12%
Mg 279.077†	1487.4	2.105 mg/L		0.0113	2.105 mg/L	0.0113		0.54%
Mn 257.610†	31181.2	0.9558 mg/L		0.00244	0.9558 mg/L	0.00244		0.26%
Mo 202.031†	12920.7	1.008 mg/L		0.0042	1.008 mg/L	0.0042		0.42%
Na 589.592†	404974.5	49.71 mg/L		0.267	49.71 mg/L	0.267		0.54%
Na 330.237†	904.8	51.19 mg/L		0.438	51.19 mg/L	0.438		0.86%
Ni 231.604†	2355.3	0.9927 mg/L		0.00350	0.9927 mg/L	0.00350		0.35%
Pb 220.353†	12003.7	2.029 mg/L		0.0064	2.029 mg/L	0.0064		0.32%
Sb 206.836†	4097.2	2.066 mg/L		0.0057	2.066 mg/L	0.0057		0.28%
Se 196.026†	1687.2	2.017 mg/L		0.0101	2.017 mg/L	0.0101		0.50%
Si 288.158†	1634.5	2.107 mg/L		0.0078	2.107 mg/L	0.0078		0.37%
Sn 189.927†	2832.5	0.9992 mg/L		0.00204	0.9992 mg/L	0.00204		0.20%
Sr 421.552†	417614.3	0.9765 mg/L		0.00166	0.9765 mg/L	0.00166		0.17%
Ti 334.903†	12644.8	0.9880 mg/L		0.00291	0.9880 mg/L	0.00291		0.29%
Tl 190.801†	2806.8	1.979 mg/L		0.0044	1.979 mg/L	0.0044		0.22%
V 292.402†	61310.7	1.001 mg/L		0.0123	1.001 mg/L	0.0123		1.23%
Zn 206.200†	1648.5	0.9894 mg/L		0.00502	0.9894 mg/L	0.00502		0.51%

Sequence No.: 2

Autosampler Location: 1

Sample ID: SEQ-CCB1

Date Collected: 11/12/2020 3:52:39 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB1

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCB1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1406283.6	95.30	%	0.205				0.21%
ScR 361.383	146952.2	95.83	%	0.336				0.35%
Ag 328.068†	-26.5	-0.00020	mg/L	0.000655	-0.00020	mg/L	0.000655	327.13%
Al 308.215†	17.5	0.01880	mg/L	0.018617	0.01880	mg/L	0.018617	99.03%
As 188.979†	2.0	0.00213	mg/L	0.004617	0.00213	mg/L	0.004617	216.87%
B 249.677†	22.9	0.00401	mg/L	0.000858	0.00401	mg/L	0.000858	21.43%
Ba 233.527†	-3.9	-0.00116	mg/L	0.000848	-0.00116	mg/L	0.000848	73.36%
Be 313.042†	307.3	0.00075	mg/L	0.001156	0.00075	mg/L	0.001156	154.95%
Ca 317.933†	21.1	0.00337	mg/L	0.004805	0.00337	mg/L	0.004805	142.64%
Cd 228.802†	1.7	0.00008	mg/L	0.000256	0.00008	mg/L	0.000256	329.82%
Co 228.616†	2.6	0.00009	mg/L	0.000078	0.00009	mg/L	0.000078	85.47%
Cr 267.716†	-1.2	-0.00044	mg/L	0.002136	-0.00044	mg/L	0.002136	480.68%
Cu 324.752†	0.9	0.00001	mg/L	0.000127	0.00001	mg/L	0.000127	>999.9%
Fe 273.955†	0.4	0.00051	mg/L	0.003912	0.00051	mg/L	0.003912	774.36%
K 766.490†	19.6	0.01737	mg/L	0.041779	0.01737	mg/L	0.041779	240.55%
Mg 279.077†	-3.9	-0.00548	mg/L	0.008886	-0.00548	mg/L	0.008886	162.01%
Mn 257.610†	-5.9	-0.00018	mg/L	0.000107	-0.00018	mg/L	0.000107	59.49%
Mo 202.031†	5.5	0.00043	mg/L	0.000093	0.00043	mg/L	0.000093	21.87%
Na 589.592†	316.7	0.03887	mg/L	0.049074	0.03887	mg/L	0.049074	126.24%
Na 330.237†	-18.0	-1.022	mg/L	0.6115	-1.022	mg/L	0.6115	59.82%
Ni 231.604†	0.0	0.00000	mg/L	0.001340	0.00000	mg/L	0.001340	>999.9%
Pb 220.353†	0.1	0.00002	mg/L	0.000728	0.00002	mg/L	0.000728	>999.9%
Sb 206.836†	1.4	0.00073	mg/L	0.000196	0.00073	mg/L	0.000196	26.85%
Se 196.026†	1.5	0.00180	mg/L	0.000890	0.00180	mg/L	0.000890	49.50%
Si 288.158†	0.0	0.00003	mg/L	0.009285	0.00003	mg/L	0.009285	>999.9%
Sn 189.927†	-2.9	-0.00104	mg/L	0.000845	-0.00104	mg/L	0.000845	81.57%
Sr 421.552†	343.2	0.00080	mg/L	0.001224	0.00080	mg/L	0.001224	152.46%
Ti 334.903†	37.2	0.00291	mg/L	0.001694	0.00291	mg/L	0.001694	58.19%
Tl 190.801†	2.2	0.00152	mg/L	0.002871	0.00152	mg/L	0.002871	188.44%
V 292.402†	-6.4	-0.00011	mg/L	0.000212	-0.00011	mg/L	0.000212	198.97%
Zn 206.200†	-0.5	-0.00030	mg/L	0.000626	-0.00030	mg/L	0.000626	209.20%

Sequence No.: 3

Autosampler Location: 301

Sample ID: SEQ-CRL1

Date Collected: 11/12/2020 3:56:55 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CRL1

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CRL1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1402519.2	95.04	%	0.200			0.21%
ScR 361.383	145585.4	94.94	%	0.377			0.40%
Ag 328.068†	369.7	0.00280	mg/L	0.000205	0.00280	mg/L	7.35%
Al 308.215†	41.9	0.04479	mg/L	0.014721	0.04479	mg/L	32.87%
As 188.979†	48.9	0.05052	mg/L	0.002648	0.05052	mg/L	5.24%
B 249.677†	110.7	0.01927	mg/L	0.001386	0.01927	mg/L	7.19%
Ba 233.527†	9.6	0.00281	mg/L	0.000557	0.00281	mg/L	19.83%
Be 313.042†	398.2	0.00096	mg/L	0.000035	0.00096	mg/L	3.67%
Ca 317.933†	313.1	0.05009	mg/L	0.003126	0.05009	mg/L	6.24%
Cd 228.802†	41.7	0.00195	mg/L	0.000105	0.00195	mg/L	5.39%
Co 228.616†	75.1	0.00283	mg/L	0.000117	0.00283	mg/L	4.12%
Cr 267.716†	13.7	0.00508	mg/L	0.002259	0.00508	mg/L	44.44%
Cu 324.752†	300.9	0.00188	mg/L	0.000164	0.00188	mg/L	8.72%
Fe 273.955†	46.9	0.05264	mg/L	0.002737	0.05264	mg/L	5.20%
K 766.490†	526.5	0.4667	mg/L	0.04290	0.4667	mg/L	9.19%
Mg 279.077†	30.3	0.04267	mg/L	0.011679	0.04267	mg/L	27.37%
Mn 257.610†	28.9	0.00089	mg/L	0.000150	0.00089	mg/L	16.92%
Mo 202.031†	64.1	0.00500	mg/L	0.000264	0.00500	mg/L	5.29%
Na 589.592†	3505.6	0.4303	mg/L	0.00078	0.4303	mg/L	0.18%
Na 330.237†	-9.3	-0.5280	mg/L	0.32257	-0.5280	mg/L	61.09%
Ni 231.604†	16.5	0.00701	mg/L	0.002291	0.00701	mg/L	32.69%
Pb 220.353†	123.8	0.02094	mg/L	0.001046	0.02094	mg/L	4.99%
Sb 206.836†	103.4	0.05235	mg/L	0.000849	0.05235	mg/L	1.62%
Se 196.026†	37.1	0.04434	mg/L	0.002922	0.04434	mg/L	6.59%
Si 288.158†	52.2	0.06761	mg/L	0.000833	0.06761	mg/L	1.23%
Sn 189.927†	55.5	0.01956	mg/L	0.001044	0.01956	mg/L	5.34%
Sr 421.552†	410.6	0.00096	mg/L	0.000047	0.00096	mg/L	4.89%
Ti 334.903†	84.4	0.00659	mg/L	0.001285	0.00659	mg/L	19.49%
Tl 190.801†	65.2	0.04623	mg/L	0.000617	0.04623	mg/L	1.33%
V 292.402†	157.7	0.00259	mg/L	0.000205	0.00259	mg/L	7.90%
Zn 206.200†	13.0	0.00781	mg/L	0.000958	0.00781	mg/L	12.27%

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Analysis Begun

Start Time: 11/12/2020 4:02:08 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1112.sif

Batch ID:
Results Data Set: I2201112
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1
Sample ID: SEQ-IFAL
Dilution: 1X
Autosampler Location: 302
Date Collected: 11/12/2020 4:02:17 PM
Data Type: Original

Nebulizer Parameters: SEQ-IFAL
Analyte Back Pressure Flow
All 243.0 kPa 0.65 L/min

Mean Data: SEQ-IFAL

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1457590.4	98.77 %		0.478			0.48%
ScR 361.383	150252.6	97.99 %		0.930			0.95%
Ag 328.068†	-221.1	-0.00167 mg/L		0.000141	-0.00167 mg/L	0.000141	8.39%
Al 308.215†	187265.2	201.0 mg/L		1.02	201.0 mg/L	1.02	0.51%
As 188.979†	23.5	0.01771 mg/L		0.004447	0.01771 mg/L	0.004447	25.11%
B 249.677†	-61.1	0.00571 mg/L		0.002195	0.00571 mg/L	0.002195	38.46%
Ba 233.527†	96.9	-0.00003 mg/L		0.002001	-0.00003 mg/L	0.002001	>999.9%
Be 313.042†	18.0	0.00007 mg/L		0.000095	0.00007 mg/L	0.000095	134.50%
Ca 317.933†	630138.2	100.8 mg/L		0.24	100.8 mg/L	0.24	0.23%
Cd 228.802†	23.3	-0.00099 mg/L		0.000208	-0.00099 mg/L	0.000208	21.10%
Co 228.616†	116.8	0.00066 mg/L		0.000146	0.00066 mg/L	0.000146	22.06%
Cr 267.716†	3.9	-0.00039 mg/L		0.000786	-0.00039 mg/L	0.000786	203.46%
Cu 324.752†	-1165.3	0.00032 mg/L		0.000162	0.00032 mg/L	0.000162	51.20%
Fe 273.955†	177282.6	199.1 mg/L		0.51	199.1 mg/L	0.51	0.26%
K 766.490†	35.7	0.03167 mg/L		0.014398	0.03167 mg/L	0.014398	45.46%
Mg 279.077†	74520.6	104.7 mg/L		0.47	104.7 mg/L	0.47	0.45%
Mn 257.610†	84.4	-0.00095 mg/L		0.000376	-0.00095 mg/L	0.000376	39.52%
Mo 202.031†	93.3	0.00408 mg/L		0.000383	0.00408 mg/L	0.000383	9.40%
Na 589.592†	-68.1	-0.00836 mg/L		0.002901	-0.00836 mg/L	0.002901	34.68%
Na 330.237†	-37.4	-2.117 mg/L		0.2595	-2.117 mg/L	0.2595	12.26%
Ni 231.604†	-4.5	-0.00190 mg/L		0.001236	-0.00190 mg/L	0.001236	65.15%
Pb 220.353†	-302.9	-0.00246 mg/L		0.001813	-0.00246 mg/L	0.001813	73.84%
Sb 206.836†	42.5	0.02116 mg/L		0.005516	0.02116 mg/L	0.005516	26.07%
Se 196.026†	-34.1	-0.00516 mg/L		0.009364	-0.00516 mg/L	0.009364	181.34%
Si 288.158†	-6.8	0.00364 mg/L		0.006623	0.00364 mg/L	0.006623	182.20%
Sn 189.927†	-91.1	-0.01404 mg/L		0.001750	-0.01404 mg/L	0.001750	12.47%
Sr 421.552†	382.4	0.00089 mg/L		0.000045	0.00089 mg/L	0.000045	5.00%
Ti 334.903†	119.2	0.00330 mg/L		0.001063	0.00330 mg/L	0.001063	32.18%
Tl 190.801†	201.5	0.00855 mg/L		0.004217	0.00855 mg/L	0.004217	49.32%
V 292.402†	-638.3	0.00447 mg/L		0.000399	0.00447 mg/L	0.000399	8.92%
Zn 206.200†	-11.1	-0.00544 mg/L		0.002213	-0.00544 mg/L	0.002213	40.64%

Sequence No.: 2

Autosampler Location: 303

Sample ID: SEQ-IFB1

Date Collected: 11/12/2020 4:06:56 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-IFB1

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-IFB1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1432006.1	97.04	%	0.284			0.29%
ScR 361.383	149011.7	97.18	%	0.623			0.64%
Ag 328.068†	134971.3	1.021	mg/L	0.0047	1.021	mg/L	0.46%
Al 308.215†	186515.5	200.2	mg/L	0.94	200.2	mg/L	0.47%
As 188.979†	973.2	0.9933	mg/L	0.00530	0.9933	mg/L	0.53%
B 249.677†	-50.5	0.00626	mg/L	0.001920	0.00626	mg/L	30.68%
Ba 233.527†	3405.5	0.9686	mg/L	0.00240	0.9686	mg/L	0.25%
Be 313.042†	396169.1	0.9586	mg/L	0.00427	0.9586	mg/L	0.45%
Ca 317.933†	630883.8	100.9	mg/L	0.11	100.9	mg/L	0.11%
Cd 228.802†	17563.2	0.9533	mg/L	0.00231	0.9533	mg/L	0.24%
Co 228.616†	23441.0	0.8846	mg/L	0.00562	0.8846	mg/L	0.64%
Cr 267.716†	2733.5	1.007	mg/L	0.0058	1.007	mg/L	0.58%
Cu 324.752†	157542.7	0.9899	mg/L	0.00641	0.9899	mg/L	0.65%
Fe 273.955†	176924.1	198.7	mg/L	1.17	198.7	mg/L	0.59%
K 766.490†	133.4	0.1182	mg/L	0.03289	0.1182	mg/L	27.82%
Mg 279.077†	71457.4	100.4	mg/L	0.34	100.4	mg/L	0.34%
Mn 257.610†	32045.9	0.9786	mg/L	0.00526	0.9786	mg/L	0.54%
Mo 202.031†	90.0	0.00386	mg/L	0.000478	0.00386	mg/L	12.37%
Na 589.592†	-55.1	-0.00676	mg/L	0.003639	-0.00676	mg/L	53.83%
Na 330.237†	-24.9	-1.751	mg/L	0.2428	-1.751	mg/L	13.87%
Ni 231.604†	2237.9	0.9424	mg/L	0.00346	0.9424	mg/L	0.37%
Pb 220.353†	5451.1	0.9704	mg/L	0.00210	0.9704	mg/L	0.22%
Sb 206.836†	2087.6	1.040	mg/L	0.0073	1.040	mg/L	0.70%
Se 196.026†	789.2	0.9789	mg/L	0.00129	0.9789	mg/L	0.13%
Si 288.158†	-19.3	-0.00890	mg/L	0.011752	-0.00890	mg/L	132.10%
Sn 189.927†	-96.3	-0.01586	mg/L	0.000534	-0.01586	mg/L	3.37%
Sr 421.552†	360.3	0.00084	mg/L	0.000026	0.00084	mg/L	3.04%
Ti 334.903†	122.3	0.00329	mg/L	0.001698	0.00329	mg/L	51.67%
Tl 190.801†	1519.1	0.9358	mg/L	0.00393	0.9358	mg/L	0.42%
V 292.402†	58509.7	0.9699	mg/L	0.01588	0.9699	mg/L	1.64%
Zn 206.200†	1564.0	0.9401	mg/L	0.00468	0.9401	mg/L	0.50%

Sequence No.: 3

Autosampler Location: 7

Sample ID: SEQ-CCV2

Date Collected: 11/12/2020 4:13:56 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV2

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: SEQ-CCV2

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1495135.2	101.3	%	0.67				0.66%
ScR 361.383	151453.3	98.77	%	0.630				0.64%
Ag 328.068†	132111.3	0.9993	mg/L	0.00786	0.9993	mg/L	0.00786	0.79%
Al 308.215†	1913.7	2.020	mg/L	0.0063	2.020	mg/L	0.0063	0.31%
As 188.979†	1885.8	1.970	mg/L	0.0093	1.970	mg/L	0.0093	0.47%
B 249.677†	5499.3	0.9469	mg/L	0.00416	0.9469	mg/L	0.00416	0.44%
Ba 233.527†	3335.7	0.9761	mg/L	0.00157	0.9761	mg/L	0.00157	0.16%
Be 313.042†	395709.8	0.9574	mg/L	0.00096	0.9574	mg/L	0.00096	0.10%
Ca 317.933†	12777.8	2.044	mg/L	0.0075	2.044	mg/L	0.0075	0.37%
Cd 228.802†	18065.9	0.9766	mg/L	0.00813	0.9766	mg/L	0.00813	0.83%
Co 228.616†	25048.3	0.9476	mg/L	0.00658	0.9476	mg/L	0.00658	0.69%
Cr 267.716†	2693.2	0.9968	mg/L	0.00821	0.9968	mg/L	0.00821	0.82%
Cu 324.752†	155629.4	0.9699	mg/L	0.00665	0.9699	mg/L	0.00665	0.69%
Fe 273.955†	1802.3	2.017	mg/L	0.0044	2.017	mg/L	0.0044	0.22%
K 766.490†	22280.9	19.75	mg/L	0.045	19.75	mg/L	0.045	0.23%
Mg 279.077†	1425.8	2.019	mg/L	0.0056	2.019	mg/L	0.0056	0.28%
Mn 257.610†	31975.9	0.9801	mg/L	0.00203	0.9801	mg/L	0.00203	0.21%
Mo 202.031†	12715.2	0.9919	mg/L	0.00423	0.9919	mg/L	0.00423	0.43%
Na 589.592†	403503.8	49.53	mg/L	0.256	49.53	mg/L	0.256	0.52%
Na 330.237†	892.9	50.52	mg/L	0.208	50.52	mg/L	0.208	0.41%
Ni 231.604†	2278.4	0.9603	mg/L	0.00807	0.9603	mg/L	0.00807	0.84%
Pb 220.353†	11836.8	2.001	mg/L	0.0086	2.001	mg/L	0.0086	0.43%
Sb 206.836†	4024.9	2.029	mg/L	0.0083	2.029	mg/L	0.0083	0.41%
Se 196.026†	1654.3	1.978	mg/L	0.0022	1.978	mg/L	0.0022	0.11%
Si 288.158†	1581.9	2.039	mg/L	0.0047	2.039	mg/L	0.0047	0.23%
Sn 189.927†	2783.1	0.9818	mg/L	0.00462	0.9818	mg/L	0.00462	0.47%
Sr 421.552†	412307.9	0.9641	mg/L	0.00236	0.9641	mg/L	0.00236	0.24%
Ti 334.903†	12422.1	0.9706	mg/L	0.00170	0.9706	mg/L	0.00170	0.17%
Tl 190.801†	2759.9	1.946	mg/L	0.0078	1.946	mg/L	0.0078	0.40%
V 292.402†	60356.3	0.9854	mg/L	0.00447	0.9854	mg/L	0.00447	0.45%
Zn 206.200†	1599.9	0.9602	mg/L	0.00269	0.9602	mg/L	0.00269	0.28%

Sequence No.: 4

Sample ID: SEQ-CCB2

Autosampler Location: 1

Date Collected: 11/12/2020 4:19:16 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB2

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CCB2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1501540.9	101.8	%	0.43			0.42%
ScR 361.383	155103.1	101.1	%	0.26			0.26%
Ag 328.068†	-3.5	-0.00003	mg/L	0.000196	-0.00003	mg/L	0.000196 749.68%
Al 308.215†	5.6	0.00596	mg/L	0.002221	0.00596	mg/L	0.002221 37.30%
As 188.979†	0.5	0.00054	mg/L	0.001586	0.00054	mg/L	0.001586 291.11%
B 249.677†	7.9	0.00139	mg/L	0.002774	0.00139	mg/L	0.002774 200.16%
Ba 233.527†	-7.4	-0.00218	mg/L	0.001081	-0.00218	mg/L	0.001081 49.54%
Be 313.042†	-22.5	-0.00005	mg/L	0.000027	-0.00005	mg/L	0.000027 49.73%
Ca 317.933†	17.4	0.00278	mg/L	0.000626	0.00278	mg/L	0.000626 22.49%
Cd 228.802†	1.7	0.00009	mg/L	0.000224	0.00009	mg/L	0.000224 252.42%
Co 228.616†	7.7	0.00029	mg/L	0.000133	0.00029	mg/L	0.000133 46.12%
Cr 267.716†	1.6	0.00059	mg/L	0.002071	0.00059	mg/L	0.002071 350.72%
Cu 324.752†	-33.3	-0.00021	mg/L	0.000230	-0.00021	mg/L	0.000230 110.44%
Fe 273.955†	1.3	0.00147	mg/L	0.005822	0.00147	mg/L	0.005822 395.99%
K 766.490†	-43.9	-0.03891	mg/L	0.017327	-0.03891	mg/L	0.017327 44.53%
Mg 279.077†	-6.7	-0.00936	mg/L	0.008758	-0.00936	mg/L	0.008758 93.55%
Mn 257.610†	-1.4	-0.00004	mg/L	0.000120	-0.00004	mg/L	0.000120 270.45%
Mo 202.031†	-0.4	-0.00003	mg/L	0.000323	-0.00003	mg/L	0.000323 >999.9%
Na 589.592†	-91.0	-0.01117	mg/L	0.003844	-0.01117	mg/L	0.003844 34.42%
Na 330.237†	-4.5	-0.2562	mg/L	0.62576	-0.2562	mg/L	0.62576 244.21%
Ni 231.604†	-2.2	-0.00091	mg/L	0.003162	-0.00091	mg/L	0.003162 345.89%
Pb 220.353†	6.6	0.00112	mg/L	0.000599	0.00112	mg/L	0.000599 53.31%
Sb 206.836†	-0.6	-0.00033	mg/L	0.001291	-0.00033	mg/L	0.001291 386.29%
Se 196.026†	3.1	0.00369	mg/L	0.000249	0.00369	mg/L	0.000249 6.76%
Si 288.158†	-0.2	-0.00022	mg/L	0.010943	-0.00022	mg/L	0.010943 >999.9%
Sn 189.927†	-0.5	-0.00019	mg/L	0.001044	-0.00019	mg/L	0.001044 557.84%
Sr 421.552†	-38.5	-0.00009	mg/L	0.000077	-0.00009	mg/L	0.000077 85.26%
Ti 334.903†	18.8	0.00147	mg/L	0.002049	0.00147	mg/L	0.002049 139.36%
Tl 190.801†	-1.8	-0.00131	mg/L	0.001833	-0.00131	mg/L	0.001833 140.02%
V 292.402†	3.7	0.00006	mg/L	0.000085	0.00006	mg/L	0.000085 131.44%
Zn 206.200†	0.9	0.00053	mg/L	0.001362	0.00053	mg/L	0.001362 257.52%

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Analysis Begun

Start Time: 11/12/2020 4:27:39 PM Plasma On Time: 11/12/2020 9:50:03 AM
 Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
 Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 1112.sif

Batch ID:
 Results Data Set: I2201112
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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 Sequence No.: 1 Autosampler Location: 304
 Sample ID: BIK0297-BLK1 Date Collected: 11/12/2020 4:27:50 PM
 Data Type: Original

Dilution: 1X

 Nebulizer Parameters: BIK0297-BLK1

Analyte	Back Pressure	Flow
All	246.0 kPa	0.65 L/min

 Mean Data: BIK0297-BLK1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1450948.4	98.32 %		3.557			3.62%
ScR 361.383	155509.7	101.4 %		0.67			0.66%
Ag 328.068†	-23.2	-0.00018 mg/L	0.000199	-0.00018 mg/L	0.000199	113.68%	
Al 308.215†	-23.7	-0.02543 mg/L	0.018619	-0.02543 mg/L	0.018619	73.20%	
As 188.979†	3.1	0.00314 mg/L	0.001110	0.00314 mg/L	0.001110	35.33%	
B 249.677†	11.9	0.00209 mg/L	0.001356	0.00209 mg/L	0.001356	64.83%	
Ba 233.527†	-6.3	-0.00184 mg/L	0.001434	-0.00184 mg/L	0.001434	77.97%	
Be 313.042†	-70.6	-0.00017 mg/L	0.000051	-0.00017 mg/L	0.000051	29.48%	
Ca 317.933†	40.7	0.00651 mg/L	0.002928	0.00651 mg/L	0.002928	44.97%	
Cd 228.802†	-5.3	-0.00031 mg/L	0.000272	-0.00031 mg/L	0.000272	86.60%	
Co 228.616†	-0.9	-0.00003 mg/L	0.000131	-0.00003 mg/L	0.000131	382.69%	
Cr 267.716†	12.5	0.00462 mg/L	0.002073	0.00462 mg/L	0.002073	44.88%	
Cu 324.752†	12.8	0.00008 mg/L	0.000309	0.00008 mg/L	0.000309	385.52%	
Fe 273.955†	0.3	0.00030 mg/L	0.004057	0.00030 mg/L	0.004057	>999.9%	
K 766.490†	1.6	0.00145 mg/L	0.032776	0.00145 mg/L	0.032776	>999.9%	
Mg 279.077†	-11.2	-0.01572 mg/L	0.010696	-0.01572 mg/L	0.010696	68.05%	
Mn 257.610†	-9.9	-0.00030 mg/L	0.000192	-0.00030 mg/L	0.000192	63.30%	
Mo 202.031†	-4.7	-0.00036 mg/L	0.000582	-0.00036 mg/L	0.000582	159.42%	
Na 589.592†	-112.3	-0.01378 mg/L	0.002284	-0.01378 mg/L	0.002284	16.57%	
Na 330.237†	5.4	0.3035 mg/L	0.70608	0.3035 mg/L	0.70608	232.67%	
Ni 231.604†	-8.8	-0.00369 mg/L	0.001834	-0.00369 mg/L	0.001834	49.70%	
Pb 220.353†	4.3	0.00073 mg/L	0.000656	0.00073 mg/L	0.000656	90.38%	
Sb 206.836†	-0.7	-0.00042 mg/L	0.001708	-0.00042 mg/L	0.001708	406.81%	
Se 196.026†	3.1	0.00370 mg/L	0.006835	0.00370 mg/L	0.006835	184.71%	
Si 288.158†	2.6	0.00333 mg/L	0.007151	0.00333 mg/L	0.007151	214.78%	
Sn 189.927†	-0.9	-0.00032 mg/L	0.001482	-0.00032 mg/L	0.001482	456.81%	
Sr 421.552†	-4.7	-0.00001 mg/L	0.000059	-0.00001 mg/L	0.000059	531.14%	
Ti 334.903†	5.3	0.00041 mg/L	0.000667	0.00041 mg/L	0.000667	161.82%	
Tl 190.801†	-5.5	-0.00390 mg/L	0.004543	-0.00390 mg/L	0.004543	116.53%	
V 292.402†	4.6	0.00011 mg/L	0.000076	0.00011 mg/L	0.000076	71.88%	
Zn 206.200†	2.5	0.00148 mg/L	0.001915	0.00148 mg/L	0.001915	129.69%	

Sequence No.: 2

Autosampler Location: 305

Sample ID: BIK0297-BS1

Date Collected: 11/12/2020 4:32:11 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0297-BS1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: BIK0297-BS1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1368147.9	92.71	%	0.378				0.41%
ScR 361.383	142103.8	92.67	%	0.796				0.86%
Ag 328.068†	70611.6	0.5341	mg/L	0.00090	0.5341	mg/L	0.00090	0.17%
Al 308.215†	1972.1	2.110	mg/L	0.0172	2.110	mg/L	0.0172	0.82%
As 188.979†	1966.5	2.021	mg/L	0.0112	2.021	mg/L	0.0112	0.55%
B 249.677†	-2.4	-0.00464	mg/L	0.002160	-0.00464	mg/L	0.002160	46.52%
Ba 233.527†	6893.4	2.019	mg/L	0.0160	2.019	mg/L	0.0160	0.80%
Be 313.042†	199658.8	0.4830	mg/L	0.00425	0.4830	mg/L	0.00425	0.88%
Ca 317.933†	61440.6	9.830	mg/L	0.0113	9.830	mg/L	0.0113	0.11%
Cd 228.802†	9371.6	0.4997	mg/L	0.00241	0.4997	mg/L	0.00241	0.48%
Co 228.616†	12791.7	0.4846	mg/L	0.00198	0.4846	mg/L	0.00198	0.41%
Cr 267.716†	1386.4	0.5102	mg/L	0.00690	0.5102	mg/L	0.00690	1.35%
Cu 324.752†	79722.9	0.4971	mg/L	0.00104	0.4971	mg/L	0.00104	0.21%
Fe 273.955†	1844.4	2.068	mg/L	0.0224	2.068	mg/L	0.0224	1.08%
K 766.490†	10799.5	9.573	mg/L	0.0618	9.573	mg/L	0.0618	0.65%
Mg 279.077†	7469.8	10.51	mg/L	0.087	10.51	mg/L	0.087	0.83%
Mn 257.610†	15574.8	0.4775	mg/L	0.00445	0.4775	mg/L	0.00445	0.93%
Mo 202.031†	19.8	0.00123	mg/L	0.000274	0.00123	mg/L	0.000274	22.28%
Na 589.592†	75947.7	9.322	mg/L	0.1078	9.322	mg/L	0.1078	1.16%
Na 330.237†	162.1	9.027	mg/L	0.2721	9.027	mg/L	0.2721	3.01%
Ni 231.604†	1171.7	0.4929	mg/L	0.00705	0.4929	mg/L	0.00705	1.43%
Pb 220.353†	11938.3	2.018	mg/L	0.0061	2.018	mg/L	0.0061	0.30%
Sb 206.836†	10.4	-0.00190	mg/L	0.001751	-0.00190	mg/L	0.001751	92.28%
Se 196.026†	1672.9	2.001	mg/L	0.0129	2.001	mg/L	0.0129	0.65%
Si 288.158†	-0.5	0.00282	mg/L	0.012767	0.00282	mg/L	0.012767	453.08%
Sn 189.927†	-20.3	-0.00541	mg/L	0.001778	-0.00541	mg/L	0.001778	32.88%
Sr 421.552†	208794.0	0.4882	mg/L	0.00559	0.4882	mg/L	0.00559	1.15%
Ti 334.903†	46.5	0.00292	mg/L	0.000783	0.00292	mg/L	0.000783	26.77%
Tl 190.801†	2846.6	2.014	mg/L	0.0081	2.014	mg/L	0.0081	0.40%
V 292.402†	31209.5	0.5094	mg/L	0.00359	0.5094	mg/L	0.00359	0.71%
Zn 206.200†	802.5	0.4819	mg/L	0.00423	0.4819	mg/L	0.00423	0.88%

Sequence No.: 3

Autosampler Location: 306

Sample ID: BIK0319-BLK1

Date Collected: 11/12/2020 4:36:27 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0319-BLK1

Analyte Back Pressure Flow
 All 240.0 kPa 0.65 L/min

Mean Data: BIK0319-BLK1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1326005.8	89.86	%	0.827				0.92%
ScR 361.383	137444.6	89.63	%	0.789				0.88%
Ag 328.068†	-44.9	-0.00034	mg/L	0.000144	-0.00170	mg/L	0.000721	42.48%
Al 308.215†	46.8	0.05019	mg/L	0.045121	0.2510	mg/L	0.22560	89.90%
As 188.979†	-0.8	-0.00076	mg/L	0.002073	-0.00382	mg/L	0.010363	271.60%
B 249.677†	176.2	-0.09119	mg/L	0.001582	-0.4559	mg/L	0.00791	1.74%
Ba 233.527†	18.7	0.00591	mg/L	0.001922	0.02955	mg/L	0.009611	32.53%
Be 313.042†	148.4	0.00036	mg/L	0.000095	0.00180	mg/L	0.000473	26.30%
Ca 317.933†	1345.6	0.2153	mg/L	0.00236	1.076	mg/L	0.0118	1.10%
Cd 228.802†	6.8	0.00038	mg/L	0.000314	0.00190	mg/L	0.001571	82.78%
Co 228.616†	-4.5	-0.00017	mg/L	0.000075	-0.00087	mg/L	0.000374	42.82%
Cr 267.716†	-16.9	0.01408	mg/L	0.004418	0.07038	mg/L	0.022092	31.39%
Cu 324.752†	130.2	0.00081	mg/L	0.000330	0.00405	mg/L	0.001651	40.72%
Fe 273.955†	6.0	0.00672	mg/L	0.006804	0.03358	mg/L	0.034019	101.31%
K 766.490†	156.8	0.1390	mg/L	0.01657	0.6949	mg/L	0.08283	11.92%
Mg 279.077†	35.4	0.04972	mg/L	0.004819	0.2486	mg/L	0.02410	9.69%
Mn 257.610†	35.2	0.00108	mg/L	0.000338	0.00539	mg/L	0.001689	31.33%
Mo 202.031†	-1.9	-0.00016	mg/L	0.000158	-0.00078	mg/L	0.000789	100.99%
Na 589.592†	2515688.0	308.8	mg/L	3.65	1544	mg/L	18.26	1.18%
Na 330.237†	5298.0	300.8	mg/L	1.91	1504	mg/L	9.55	0.63%
Ni 231.604†	6.2	0.00259	mg/L	0.001331	0.01295	mg/L	0.006656	51.38%
Pb 220.353†	14.1	0.00238	mg/L	0.001793	0.01189	mg/L	0.008967	75.43%
Sb 206.836†	0.4	0.00031	mg/L	0.000280	0.00156	mg/L	0.001401	89.64%
Se 196.026†	0.1	0.00013	mg/L	0.002911	0.00065	mg/L	0.014555	>999.9%
Si 288.158†	27.6	0.03582	mg/L	0.011469	0.1791	mg/L	0.05734	32.02%
Sn 189.927†	0.1	0.00007	mg/L	0.002149	0.00033	mg/L	0.010746	>999.9%
Sr 421.552†	196.9	0.00046	mg/L	0.000041	0.00230	mg/L	0.000206	8.94%
Ti 334.903†	18.8	0.00146	mg/L	0.001567	0.00730	mg/L	0.007834	107.34%
Tl 190.801†	7.8	0.00551	mg/L	0.005756	0.02755	mg/L	0.028782	104.46%
V 292.402†	15.7	0.00021	mg/L	0.000408	0.00106	mg/L	0.002039	193.14%
Zn 206.200†	6.5	0.00390	mg/L	0.001400	0.01952	mg/L	0.007002	35.87%

Sequence No.: 4

Sample ID: 20K0163-01

Autosampler Location: 307

Date Collected: 11/12/2020 4:40:59 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0163-01

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0163-01

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	1324929.7	89.78 %	%	0.486			0.54%
ScR 361.383	137862.0	89.91 %	%	0.675			0.75%
Ag 328.068†	1.3	0.00001	mg/L	0.000213	0.00005 mg/L	0.001065	>999.9%
Al 308.215†	39.9	0.04231	mg/L	0.010905	0.2115 mg/L	0.05453	25.78%
As 188.979†	1.1	0.00047	mg/L	0.002888	0.00234 mg/L	0.014442	615.97%
B 249.677†	560.4	-0.02852	mg/L	0.001291	-0.1426 mg/L	0.00646	4.53%
Ba 233.527†	5.6	0.00203	mg/L	0.000919	0.01013 mg/L	0.004595	45.37%
Be 313.042†	116.3	0.00028	mg/L	0.000095	0.00140 mg/L	0.000477	34.17%
Ca 317.933†	32795.6	5.247	mg/L	0.0169	26.23 mg/L	0.085	0.32%
Cd 228.802†	4.3	0.00023	mg/L	0.000353	0.00117 mg/L	0.001763	150.07%
Co 228.616†	19.2	0.00068	mg/L	0.000106	0.00340 mg/L	0.000530	15.56%
Cr 267.716†	29.2	0.01820	mg/L	0.002848	0.09098 mg/L	0.014242	15.65%
Cu 324.752†	44765.3	0.2785	mg/L	0.00127	1.392 mg/L	0.0063	0.46%
Fe 273.955†	3.9	0.00440	mg/L	0.005210	0.02200 mg/L	0.026049	118.40%
K 766.490†	599.5	0.5314	mg/L	0.01453	2.657 mg/L	0.0727	2.73%
Mg 279.077†	61927.4	87.08	mg/L	0.283	435.4 mg/L	1.41	0.32%
Mn 257.610†	1484.3	0.04525	mg/L	0.000260	0.2262 mg/L	0.00130	0.57%
Mo 202.031†	74.9	0.00480	mg/L	0.000512	0.02400 mg/L	0.002562	10.68%
Na 589.592†	2610472.0	320.4	mg/L	0.65	1602 mg/L	3.24	0.20%
Na 330.237†	5510.5	312.8	mg/L	1.86	1564 mg/L	9.28	0.59%
Ni 231.604†	14.4	0.00605	mg/L	0.004136	0.03026 mg/L	0.020682	68.35%
Pb 220.353†	9.0	0.00129	mg/L	0.001147	0.00645 mg/L	0.005733	88.89%
Sb 206.836†	3.6	0.00159	mg/L	0.001427	0.00794 mg/L	0.007137	89.86%
Se 196.026†	0.5	0.00144	mg/L	0.006651	0.00720 mg/L	0.033256	461.88%
Si 288.158†	456.7	0.6031	mg/L	0.01352	3.015 mg/L	0.0676	2.24%
Sn 189.927†	-15.3	-0.00445	mg/L	0.000999	-0.02225 mg/L	0.004995	22.45%
Sr 421.552†	10538.6	0.02464	mg/L	0.000034	0.1232 mg/L	0.00017	0.14%
Ti 334.903†	46.2	0.00329	mg/L	0.001323	0.01646 mg/L	0.006613	40.19%
Tl 190.801†	25.5	0.01101	mg/L	0.002349	0.05504 mg/L	0.011745	21.34%
V 292.402†	69.3	0.00123	mg/L	0.000321	0.00615 mg/L	0.001607	26.14%
Zn 206.200†	-1.5	-0.00084	mg/L	0.000849	-0.00422 mg/L	0.004243	100.65%

Sequence No.: 5

Autosampler Location: 308

Sample ID: **BIK0319-DUP1**

Date Collected: 11/12/2020 4:45:31 PM

Data Type: Original

Dilution: **5X**

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0319-DUP1

Analyte Back Pressure Flow
 All 243.0 kPa 0.65 L/min

Mean Data: BIK0319-DUP1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1349932.8	91.48	%	0.486				0.53%
ScR 361.383	139749.0	91.14	%	1.134				1.24%
Ag 328.068†	-27.9	-0.00021	mg/L	0.000184	-0.00105	mg/L	0.000920	87.50%
Al 308.215†	32.4	0.03426	mg/L	0.043155	0.1713	mg/L	0.21577	125.98%
As 188.979†	0.2	-0.00055	mg/L	0.003589	-0.00274	mg/L	0.017945	654.78%
B 249.677†	552.3	-0.03030	mg/L	0.003602	-0.1515	mg/L	0.01801	11.89%
Ba 233.527†	4.9	0.00181	mg/L	0.000699	0.00903	mg/L	0.003493	38.70%
Be 313.042†	108.2	0.00026	mg/L	0.000067	0.00130	mg/L	0.000336	25.95%
Ca 317.933†	32381.9	5.181	mg/L	0.0423	25.90	mg/L	0.212	0.82%
Cd 228.802†	-0.1	-0.00000	mg/L	0.000083	-0.00001	mg/L	0.000415	>999.9%
Co 228.616†	17.2	0.00061	mg/L	0.000167	0.00303	mg/L	0.000836	27.58%
Cr 267.716†	27.3	0.01767	mg/L	<u>0.004495</u>	0.08837	mg/L	0.022474	25.43%
Cu 324.752†	44482.7	0.2767	mg/L	0.00219	1.384	mg/L	0.0109	0.79%
Fe 273.955†	5.7	0.00646	mg/L	0.004248	0.03230	mg/L	0.021239	65.75%
K 766.490†	636.4	0.5641	mg/L	0.01524	2.820	mg/L	0.0762	2.70%
Mg 279.077†	61396.7	86.33	mg/L	0.711	431.7	mg/L	3.55	0.82%
Mn 257.610†	1464.6	0.04465	mg/L	0.000496	0.2232	mg/L	0.00248	1.11%
Mo 202.031†	72.8	0.00464	mg/L	0.000126	0.02321	mg/L	0.000628	2.71%
Na 589.592†	2617967.8	321.4	mg/L	5.23	1607	mg/L	26.13	1.63%
Na 330.237†	5438.5	308.7	mg/L	2.07	1544	mg/L	10.33	0.67%
Ni 231.604†	9.9	0.00416	mg/L	0.001256	0.02080	mg/L	0.006282	30.19%
Pb 220.353†	12.8	0.00194	mg/L	0.000971	0.00970	mg/L	0.004854	50.04%
Sb 206.836†	-2.1	-0.00129	mg/L	0.002031	-0.00645	mg/L	0.010157	157.38%
Se 196.026†	0.6	0.00151	mg/L	0.002343	0.00753	mg/L	0.011716	155.66%
Si 288.158†	460.4	0.6078	mg/L	0.01374	3.039	mg/L	0.0687	2.26%
Sn 189.927†	-13.3	-0.00376	mg/L	0.001879	-0.01881	mg/L	0.009394	49.93%
Sr 421.552†	10541.3	0.02465	mg/L	0.000187	0.1232	mg/L	0.00094	0.76%
Ti 334.903†	35.0	0.00242	mg/L	0.000661	0.01212	mg/L	0.003306	27.29%
Tl 190.801†	28.7	0.01335	mg/L	0.001507	0.06676	mg/L	0.007533	11.28%
V 292.402†	73.0	0.00128	mg/L	0.000320	0.00642	mg/L	0.001599	24.89%
Zn 206.200†	-1.2	-0.00064	mg/L	0.002654	-0.00320	mg/L	0.013271	414.28%

Sequence No.: 6

Autosampler Location: 309

Sample ID: BIK0319-MS1

Date Collected: 11/12/2020 4:50:03 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0319-MS1

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0319-MS1

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1313076.6	88.98 %	%	0.280				0.31%
ScR 361.383	142876.0	93.18 %	%	0.229				0.25%
Ag 328.068†	29613.9	0.2240	mg/L	0.00085	1.120	mg/L	0.0043	0.38%
Al 308.215†	846.6	0.9053	mg/L	0.00602	4.527	mg/L	0.0301	0.66%
As 188.979†	833.1	0.8556	mg/L	0.00124	4.278	mg/L	0.0062	0.14%
B 249.677†	563.7	-0.03117	mg/L	0.000627	-0.1559	mg/L	0.00313	2.01%
Ba 233.527†	2858.3	0.8374	mg/L	0.00628	4.187	mg/L	0.0314	0.75%
Be 313.042†	81700.1	0.1977	mg/L	0.00200	0.9883	mg/L	0.01000	1.01%
Ca 317.933†	58946.1	9.431	mg/L	0.0734	47.15	mg/L	0.367	0.78%
Cd 228.802†	4004.4	0.2136	mg/L	0.00086	1.068	mg/L	0.0043	0.40%
Co 228.616†	5270.4	0.1996	mg/L	0.00081	0.9980	mg/L	0.00407	0.41%
Cr 267.716†	612.5	0.2331	mg/L	0.00116	1.166	mg/L	0.0058	0.50%
Cu 324.752†	79666.2	0.4961	mg/L	0.00219	2.480	mg/L	0.0110	0.44%
Fe 273.955†	762.0	0.8543	mg/L	0.00396	4.272	mg/L	0.0198	0.46%
K 766.490†	5540.4	4.911	mg/L	0.0197	24.56	mg/L	0.099	0.40%
Mg 279.077†	64784.9	91.10	mg/L	0.813	455.5	mg/L	4.06	0.89%
Mn 257.610†	7740.3	0.2370	mg/L	0.00137	1.185	mg/L	0.0068	0.58%
Mo 202.031†	87.1	0.00562	mg/L	0.000384	0.02811	mg/L	0.001922	6.84%
Na 589.592†	2672634.5	328.1	mg/L	0.77	1640	mg/L	3.83	0.23%
Na 330.237†	5561.8	315.7	mg/L	1.45	1578	mg/L	7.25	0.46%
Ni 231.604†	498.2	0.2096	mg/L	0.00215	1.048	mg/L	0.0107	1.03%
Pb 220.353†	4905.7	0.8289	mg/L	0.00287	4.145	mg/L	0.0143	0.35%
Sb 206.836†	8.8	0.00119	mg/L	0.000927	0.00596	mg/L	0.004633	77.67%
Se 196.026†	719.1	0.8611	mg/L	0.00262	4.306	mg/L	0.0131	0.30%
Si 288.158†	463.3	0.6132	mg/L	0.00646	3.066	mg/L	0.0323	1.05%
Sn 189.927†	-21.5	-0.00590	mg/L	0.001142	-0.02952	mg/L	0.005709	19.34%
Sr 421.552†	95701.2	0.2238	mg/L	0.00131	1.119	mg/L	0.0065	0.58%
Ti 334.903†	46.4	0.00300	mg/L	0.000835	0.01502	mg/L	0.004177	27.81%
Tl 190.801†	1166.4	0.8182	mg/L	0.00560	4.091	mg/L	0.0280	0.68%
V 292.402†	12955.2	0.2116	mg/L	0.00111	1.058	mg/L	0.0056	0.53%
Zn 206.200†	333.6	0.2004	mg/L	0.00385	1.002	mg/L	0.0193	1.92%

Sequence No.: 7

Sample ID: 20K0151-01

Autosampler Location: 310

Date Collected: 11/12/2020 4:54:58 PM

Data Type: Original

Dilution: 2X

Wash Time: 60

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0151-01

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0151-01

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	1384428.5	93.82 %		0.246			0.26%
ScR 361.383	150804.0	98.35 %		0.293			0.30%
Ag 328.068†	12.1	0.0009 mg/L		0.000210	0.00018 mg/L	0.000420	228.69%
Al 308.215†	3.2	0.00251 mg/L		0.010683	0.00503 mg/L	0.021366	425.13%
As 188.979†	5.3	0.00499 mg/L		0.000728	0.00999 mg/L	0.001456	14.58%
B 249.677†	6289.1	0.9096 mg/L		0.00178	1.819 mg/L	0.0036	0.20%
Ba 233.527†	13.5	0.00459 mg/L		0.001143	0.00918 mg/L	0.002285	24.89%
Be 313.042†	-17.3	-0.00004 mg/L		0.000057	-0.00008 mg/L	0.000114	136.90%
Ca 317.933†	20710.2	3.313 mg/L		0.0217	6.627 mg/L	0.0434	0.65%
Cd 228.802†	2.4	0.00009 mg/L		0.000086	0.00019 mg/L	0.000172	91.83%
Co 228.616†	12.3	0.00044 mg/L		0.000050	0.00087 mg/L	0.000100	11.50%
Cr 267.716†	5.2	0.03436 mg/L		0.002668	0.06873 mg/L	0.005335	7.76%
Cu 324.752†	6650.1	0.04146 mg/L		0.000217	0.08291 mg/L	0.000434	0.52%
Fe 273.955†	115.2	0.1294 mg/L		0.00204	0.2589 mg/L	0.00408	1.57%
K 766.490†	7110.5	6.303 mg/L		0.0559	12.61 mg/L	0.112	0.89%
Mg 279.077†	569.9	0.8016 mg/L		0.01075	1.603 mg/L	0.0215	1.34%
Mn 257.610†	2746.5	0.08416 mg/L		0.000735	0.1683 mg/L	0.00147	0.87%
Mo 202.031†	35.8	0.00272 mg/L		0.000175	0.00544 mg/L	0.000350	6.43%
Na 589.592†	4041648.1	496.1 mg/L		2.30	992.2 mg/L	4.61	0.46%
Na 330.237†	8520.1	483.7 mg/L		3.88	967.3 mg/L	7.75	0.80%
Ni 231.604†	5.6	0.00236 mg/L		0.001540	0.00471 mg/L	0.003081	65.39%
Pb 220.353†	1.3	0.00025 mg/L		0.001150	0.00050 mg/L	0.002301	463.17%
Sb 206.836†	-2.0	-0.00104 mg/L		0.000797	-0.00208 mg/L	0.001595	76.72%
Se 196.026†	-0.9	-0.00053 mg/L		0.003488	-0.00106 mg/L	0.006975	659.29%
Si 288.158†	1136.8	1.476 mg/L		0.0272	2.952 mg/L	0.0543	1.84%
Sn 189.927†	-6.5	-0.00168 mg/L		0.001643	-0.00337 mg/L	0.003286	97.63%
Sr 421.552†	3503.2	0.00819 mg/L		0.000088	0.01638 mg/L	0.000176	1.07%
Ti 334.903†	21.3	0.00146 mg/L		0.001917	0.00293 mg/L	0.003833	130.84%
Tl 190.801†	1.6	0.00073 mg/L		0.002203	0.00146 mg/L	0.004406	302.09%
V 292.402†	-4.7	-0.00003 mg/L		0.000402	-0.00006 mg/L	0.000805	>999.9%
Zn 206.200†	26.7	0.01606 mg/L		0.002558	0.03212 mg/L	0.005116	15.93%

Sequence No.: 8

Autosampler Location: 311

Sample ID: BIK0297-DUP1

Date Collected: 11/12/2020 4:59:32 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0297-DUP1

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: BIK0297-DUP1

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1394863.9	94.52 %		0.569				0.60%
ScR 361.383	151609.1	98.87 %		0.502				0.51%
Ag 328.068†	-41.5	-0.00031 mg/L		0.000231	-0.00063 mg/L		0.000462	73.55%
Al 308.215†	-3.8	-0.00501 mg/L		0.013794	-0.01002 mg/L		0.027588	275.41%
As 188.979†	3.9	0.00358 mg/L		0.001959	0.00717 mg/L		0.003917	54.66%
B 249.677†	6378.8	0.9218 mg/L		0.00226	1.844 mg/L		0.0045	0.25%
Ba 233.527†	11.0	0.00384 mg/L		0.000935	0.00768 mg/L		0.001870	24.34%
Be 313.042†	-62.0	-0.00015 mg/L		0.000054	-0.00030 mg/L		0.000108	35.44%
Ca 317.933†	20758.4	3.321 mg/L		0.0224	6.642 mg/L		0.0448	0.67%
Cd 228.802†	1.2	0.00004 mg/L		0.000199	0.00009 mg/L		0.000397	463.13%
Co 228.616†	7.9	0.00027 mg/L		0.000326	0.00053 mg/L		0.000652	122.05%
Cr 267.716†	12.4	0.03762 mg/L		0.001509	0.07525 mg/L		0.003017	4.01%
Cu 324.752†	6795.1	0.04236 mg/L		0.000437	0.08472 mg/L		0.000874	1.03%
Fe 273.955†	119.3	0.1340 mg/L		0.00285	0.2680 mg/L		0.00571	2.13%
K 766.490†	7178.1	6.363 mg/L		0.0430	12.73 mg/L		0.086	0.68%
Mg 279.077†	581.2	0.8174 mg/L		0.01152	1.635 mg/L		0.0230	1.41%
Mn 257.610†	2772.3	0.08495 mg/L		0.000744	0.1699 mg/L		0.00149	0.88%
Mo 202.031†	38.8	0.00295 mg/L		0.000330	0.00590 mg/L		0.000660	11.18%
Na 589.592†	4113677.2	504.9 mg/L		5.07	1010 mg/L		10.14	1.00%
Na 330.237†	8639.2	490.4 mg/L		1.87	980.9 mg/L		3.74	0.38%
Ni 231.604†	8.1	0.00343 mg/L		0.003110	0.00685 mg/L		0.006220	90.77%
Pb 220.353†	0.3	0.00008 mg/L		0.001413	0.00016 mg/L		0.002826	>999.9%
Sb 206.836†	-0.6	-0.00041 mg/L		0.001104	-0.00082 mg/L		0.002209	269.73%
Se 196.026†	0.8	0.00154 mg/L		0.002902	0.00308 mg/L		0.005804	188.13%
Si 288.158†	1152.1	1.496 mg/L		0.0204	2.992 mg/L		0.0407	1.36%
Sn 189.927†	-9.7	-0.00284 mg/L		0.000900	-0.00568 mg/L		0.001799	31.68%
Sr 421.552†	3526.9	0.00825 mg/L		0.000139	0.01649 mg/L		0.000278	1.69%
Ti 334.903†	18.3	0.00123 mg/L		0.000876	0.00247 mg/L		0.001752	71.05%
Tl 190.801†	4.6	0.00289 mg/L		0.001583	0.00579 mg/L		0.003166	54.70%
V 292.402†	28.1	0.00052 mg/L		0.000155	0.00104 mg/L		0.000310	29.94%
Zn 206.200†	25.8	0.01554 mg/L		0.000589	0.03107 mg/L		0.001178	3.79%

Sequence No.: 9

Autosampler Location: 312

Sample ID: BIK0297-MS1

Date Collected: 11/12/2020 5:04:06 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0297-MS1

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: BIK0297-MS1

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1397574.2	94.71 %	%	0.331				0.35%
ScR 361.383	152774.3	99.63 %	%	1.587				1.59%
Ag 328.068†	36173.9	0.2736	mg/L	0.00212	0.5472	mg/L	0.00424	0.77%
Al 308.215†	1012.7	1.082	mg/L	0.0308	2.165	mg/L	0.0616	2.85%
As 188.979†	1059.4	1.089	mg/L	0.0117	2.177	mg/L	0.0235	1.08%
B 249.677†	6357.1	0.9170	mg/L	0.00383	1.834	mg/L	0.0077	0.42%
Ba 233.527†	3518.0	1.031	mg/L	0.0167	2.062	mg/L	0.0334	1.62%
Be 313.042†	102662.9	0.2484	mg/L	0.00076	0.4968	mg/L	0.00152	0.31%
Ca 317.933†	53664.4	8.586	mg/L	0.0579	17.17	mg/L	0.116	0.67%
Cd 228.802†	4896.2	0.2609	mg/L	0.00196	0.5217	mg/L	0.00392	0.75%
Co 228.616†	6660.7	0.2523	mg/L	0.00154	0.5046	mg/L	0.00308	0.61%
Cr 267.716†	724.5	0.2995	mg/L	0.00310	0.5989	mg/L	0.00621	1.04%
Cu 324.752†	48746.3	0.3040	mg/L	0.00247	0.6079	mg/L	0.00494	0.81%
Fe 273.955†	1059.8	1.188	mg/L	0.0211	2.377	mg/L	0.0422	1.77%
K 766.490†	13564.9	12.02	mg/L	0.116	24.05	mg/L	0.231	0.96%
Mg 279.077†	4387.7	6.171	mg/L	0.1050	12.34	mg/L	0.210	1.70%
Mn 257.610†	10720.0	0.3286	mg/L	0.00145	0.6572	mg/L	0.00291	0.44%
Mo 202.031†	47.4	0.00346	mg/L	0.000394	0.00691	mg/L	0.000787	11.39%
Na 589.592†	4127696.4	506.7	mg/L	4.65	1013	mg/L	9.29	0.92%
Na 330.237†	8674.3	492.3	mg/L	2.36	984.7	mg/L	4.73	0.48%
Ni 231.604†	608.7	0.2561	mg/L	0.00615	0.5122	mg/L	0.01231	2.40%
Pb 220.353†	6044.4	1.022	mg/L	0.0107	2.043	mg/L	0.0214	1.05%
Sb 206.836†	8.3	0.00042	mg/L	0.001096	0.00083	mg/L	0.002192	262.72%
Se 196.026†	892.5	1.068	mg/L	0.0018	2.136	mg/L	0.0035	0.17%
Si 288.158†	1200.9	1.561	mg/L	0.0181	3.122	mg/L	0.0362	1.16%
Sn 189.927†	-16.0	-0.00409	mg/L	0.001139	-0.00819	mg/L	0.002278	27.82%
Sr 421.552†	109582.8	0.2562	mg/L	0.00143	0.5125	mg/L	0.00287	0.56%
Ti 334.903†	41.3	0.00264	mg/L	0.000462	0.00529	mg/L	0.000925	17.49%
Tl 190.801†	1376.3	0.9732	mg/L	0.00244	1.946	mg/L	0.0049	0.25%
V 292.402†	16021.4	0.2616	mg/L	0.00310	0.5232	mg/L	0.00620	1.18%
Zn 206.200†	450.4	0.2705	mg/L	0.00350	0.5410	mg/L	0.00700	1.29%

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Analysis Begun

Start Time: 11/12/2020 5:12:19 PM
 Logged In Analyst: Metals Instrument Controller
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 1112.sif

Batch ID:

Results Data Set: I2201112

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 7

Sample ID: SEQ-CCV3

Date Collected: 11/12/2020 5:12:27 PM

Data Type: Original

Dilution: 1X

Nebulizer Parameters: SEQ-CCV3

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CCV3

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1440510.8	97.62	%	1.164			1.19%
ScR 361.383	147244.5	96.02	%	0.434			0.45%
Ag 328.068†	135961.5	1.028	mg/L	0.0062	1.028 mg/L	0.0062	0.61%
Al 308.215†	2033.2	2.147	mg/L	0.0096	2.147 mg/L	0.0096	0.45%
As 188.979†	1891.0	1.976	mg/L	0.0193	1.976 mg/L	0.0193	0.98%
B 249.677†	5740.7	0.9890	mg/L	0.00227	0.9890 mg/L	0.00227	0.23%
Ba 233.527†	3453.3	1.011	mg/L	0.0062	1.011 mg/L	0.0062	0.62%
Be 313.042†	404796.9	0.9794	mg/L	0.00395	0.9794 mg/L	0.00395	0.40%
Ca 317.933†	12348.2	1.976	mg/L	0.0090	1.976 mg/L	0.0090	0.45%
Cd 228.802†	18350.6	0.9922	mg/L	0.00908	0.9922 mg/L	0.00908	0.92%
Co 228.616†	25215.5	0.9539	mg/L	0.00487	0.9539 mg/L	0.00487	0.51%
Cr 267.716†	2851.2	1.055	mg/L	0.0099	1.055 mg/L	0.0099	0.93%
Cu 324.752†	161855.5	1.009	mg/L	0.0062	1.009 mg/L	0.0062	0.62%
Fe 273.955†	1872.7	2.096	mg/L	0.0143	2.096 mg/L	0.0143	0.68%
K 766.490†	22844.3	20.25	mg/L	0.053	20.25 mg/L	0.053	0.26%
Mg 279.077†	1490.5	2.110	mg/L	0.0073	2.110 mg/L	0.0073	0.35%
Mn 257.610†	31219.3	0.9569	mg/L	0.00177	0.9569 mg/L	0.00177	0.19%
Mo 202.031†	12910.3	1.007	mg/L	0.0108	1.007 mg/L	0.0108	1.08%
Na 589.592†	410119.5	50.34	mg/L	0.358	50.34 mg/L	0.358	0.71%
Na 330.237†	933.2	52.81	mg/L	0.180	52.81 mg/L	0.180	0.34%
Ni 231.604†	2384.7	1.005	mg/L	0.0115	1.005 mg/L	0.0115	1.14%
Pb 220.353†	11873.6	2.007	mg/L	0.0212	2.007 mg/L	0.0212	1.05%
Sb 206.836†	4093.6	2.063	mg/L	0.0236	2.063 mg/L	0.0236	1.14%
Se 196.026†	1655.7	1.980	mg/L	0.0273	1.980 mg/L	0.0273	1.38%
Si 288.158†	1638.3	2.112	mg/L	0.0186	2.112 mg/L	0.0186	0.88%
Sn 189.927†	2781.4	0.9812	mg/L	0.01108	0.9812 mg/L	0.01108	1.13%
Sr 421.552†	426573.8	0.9975	mg/L	0.00318	0.9975 mg/L	0.00318	0.32%
Ti 334.903†	12878.2	1.006	mg/L	0.0015	1.006 mg/L	0.0015	0.15%
Tl 190.801†	2763.6	1.948	mg/L	0.0210	1.948 mg/L	0.0210	1.08%
V 292.402†	61387.9	1.002	mg/L	0.0077	1.002 mg/L	0.0077	0.76%
Zn 206.200†	1637.5	0.9828	mg/L	0.00897	0.9828 mg/L	0.00897	0.91%

Sequence No.: 2
 Sample ID: SEQ-CCB3

Autosampler Location: 1
 Date Collected: 11/12/2020 5:17:53 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB3

Analyte Back Pressure Flow
 All 243.0 kPa 0.65 L/min

Mean Data: SEQ-CCB3

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1482556.0	100.5	%	0.99			0.98%
ScR 361.383	152787.9	99.64	%	0.937			0.94%
Ag 328.068†	-2.4	-0.00002	mg/L	0.000150	-0.00002	mg/L	0.000150 831.87%
Al 308.215†	-0.5	-0.00052	mg/L	0.028704	-0.00052	mg/L	0.028704 >999.9%
As 188.979†	3.0	0.00308	mg/L	0.003409	0.00308	mg/L	0.003409 110.85%
B 249.677†	20.3	0.00351	mg/L	0.001279	0.00351	mg/L	0.001279 36.40%
Ba 233.527†	-5.5	-0.00160	mg/L	0.000589	-0.00160	mg/L	0.000589 36.79%
Be 313.042†	-21.5	-0.00005	mg/L	0.000053	-0.00005	mg/L	0.000053 102.33%
Ca 317.933†	-6.3	-0.00100	mg/L	0.003624	-0.00100	mg/L	0.003624 361.45%
Cd 228.802†	-2.9	-0.00018	mg/L	0.000156	-0.00018	mg/L	0.000156 84.68%
Co 228.616†	4.3	0.00016	mg/L	0.000089	0.00016	mg/L	0.000089 55.27%
Cr 267.716†	9.4	0.00348	mg/L	0.001040	0.00348	mg/L	0.001040 29.88%
Cu 324.752†	-4.7	-0.00003	mg/L	0.000025	-0.00003	mg/L	0.000025 84.29%
Fe 273.955†	0.2	0.00026	mg/L	0.003047	0.00026	mg/L	0.003047 >999.9%
K 766.490†	-28.7	-0.02542	mg/L	0.020159	-0.02542	mg/L	0.020159 79.29%
Mg 279.077†	-9.6	-0.01343	mg/L	0.005407	-0.01343	mg/L	0.005407 40.26%
Mn 257.610†	-17.2	-0.00053	mg/L	0.000058	-0.00053	mg/L	0.000058 11.05%
Mo 202.031†	-0.8	-0.00006	mg/L	0.000410	-0.00006	mg/L	0.000410 666.62%
Na 589.592†	1124.6	0.1380	mg/L	0.00577	0.1380	mg/L	0.00577 4.18%
Na 330.237†	-6.7	-0.3788	mg/L	1.12037	-0.3788	mg/L	1.12037 295.74%
Ni 231.604†	-5.1	-0.00215	mg/L	0.001322	-0.00215	mg/L	0.001322 61.50%
Pb 220.353†	4.9	0.00084	mg/L	0.001390	0.00084	mg/L	0.001390 165.91%
Sb 206.836†	1.8	0.00083	mg/L	0.001643	0.00083	mg/L	0.001643 197.30%
Se 196.026†	-4.1	-0.00494	mg/L	0.008083	-0.00494	mg/L	0.008083 163.67%
Si 288.158†	0.7	0.00089	mg/L	0.008945	0.00089	mg/L	0.008945 >999.9%
Sn 189.927†	-0.1	-0.00004	mg/L	0.000195	-0.00004	mg/L	0.000195 540.62%
Sr 421.552†	-17.9	-0.00004	mg/L	0.000029	-0.00004	mg/L	0.000029 68.81%
Ti 334.903†	13.4	0.00105	mg/L	0.002503	0.00105	mg/L	0.002503 238.35%
Tl 190.801†	-4.5	-0.00318	mg/L	0.000600	-0.00318	mg/L	0.000600 18.86%
V 292.402†	-4.4	-0.00005	mg/L	0.000135	-0.00005	mg/L	0.000135 284.61%
Zn 206.200†	-0.9	-0.00053	mg/L	0.000548	-0.00053	mg/L	0.000548 103.02%

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Analysis Begun

Start Time: 11/12/2020 5:23:52 PM
 Logged In Analyst: Metals Instrument Controller
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\1112.sif

Batch ID:
 Results Data Set: I2201112
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
 Sequence No.: 1
 Sample ID: BIJ0600-BLK1
 Dilution: 5X
 Autosampler Location: 313
 Date Collected: 11/12/2020 5:24:00 PM
 Data Type: Original

 Nebulizer Parameters: BIJ0600-BLK1
 Analyte Back Pressure Flow
 All 237.0 kPa 0.65 L/min

 Mean Data: BIJ0600-BLK1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1451498.9	98.36 %		0.289			0.29%
ScR 361.383	149841.6	97.72 %		0.326			0.33%
Ag 328.068†	-28.2	-0.00021 mg/L		0.000273	-0.00106 mg/L	0.001365	128.15%
Al 308.215†	23.8	0.02553 mg/L		0.014728	0.1276 mg/L	0.07364	57.69%
As 188.979†	2.4	0.00246 mg/L		0.003814	0.01229 mg/L	0.019071	155.19%
B 249.677†	283.0	0.04915 mg/L		0.001051	0.2457 mg/L	0.00526	2.14%
Ba 233.527†	15.8	0.00462 mg/L		0.000232	0.02311 mg/L	0.001159	5.02%
Be 313.042†	11.1	0.00003 mg/L		0.000070	0.00013 mg/L	0.000348	258.28%
Ca 317.933†	1805.4	0.2888 mg/L		0.00364	1.444 mg/L	0.0182	1.26%
Cd 228.802†	0.2	-0.00001 mg/L		0.000323	-0.00003 mg/L	0.001617	>999.9%
Co 228.616†	9.9	0.00037 mg/L		0.000275	0.00184 mg/L	0.001376	74.68%
Cr 267.716†	2.9	0.00113 mg/L		0.002141	0.00567 mg/L	0.010704	188.73%
Cu 324.752†	0.6	0.00000 mg/L		0.000210	0.00002 mg/L	0.001052	>999.9%
Fe 273.955†	2.4	0.00266 mg/L		0.003324	0.01332 mg/L	0.016622	124.78%
K 766.490†	37.9	0.03356 mg/L		0.009772	0.1678 mg/L	0.04886	29.12%
Mg 279.077†	63.3	0.08896 mg/L		0.003998	0.4448 mg/L	0.01999	4.49%
Mn 257.610†	-8.3	-0.00026 mg/L		0.000189	-0.00128 mg/L	0.000944	73.76%
Mo 202.031†	0.7	0.00005 mg/L		0.000266	0.00025 mg/L	0.001330	533.25%
Na 589.592†	12205.9	1.498 mg/L		0.0089	7.491 mg/L	0.0446	0.59%
Na 330.237†	18.7	1.059 mg/L		0.2861	5.295 mg/L	1.4304	27.01%
Ni 231.604†	0.0	0.00000 mg/L		0.000936	0.00002 mg/L	0.004679	>999.9%
Pb 220.353†	9.3	0.00158 mg/L		0.000300	0.00792 mg/L	0.001500	18.92%
Sb 206.836†	0.1	0.00005 mg/L		0.000646	0.00027 mg/L	0.003230	>999.9%
Se 196.026†	2.3	0.00280 mg/L		0.007385	0.01401 mg/L	0.036924	263.48%
Si 288.158†	67.2	0.08729 mg/L		0.011830	0.4364 mg/L	0.05915	13.55%
Sn 189.927†	-0.8	-0.00024 mg/L		0.001224	-0.00121 mg/L	0.006122	507.76%
Sr 421.552†	70.3	0.00016 mg/L		0.000081	0.00082 mg/L	0.000407	49.46%
Ti 334.903†	20.5	0.00158 mg/L		0.001014	0.00792 mg/L	0.005068	63.97%
Tl 190.801†	-6.3	-0.00453 mg/L		0.001534	-0.02265 mg/L	0.007669	33.85%
V 292.402†	0.8	0.00002 mg/L		0.000239	0.00010 mg/L	0.001194	>999.9%
Zn 206.200†	11.4	0.00682 mg/L		0.000914	0.03411 mg/L	0.004572	13.40%

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Analysis Begun

Start Time: 11/12/2020 5:31:58 PM Plasma On Time: 11/12/2020 9:50:03 AM
Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1112.sif

Batch ID:
Results Data Set: I2201112
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1 Autosampler Location: 314
Sample ID: BIK0319-BLK1 Date Collected: 11/12/2020 5:32:06 PM
Data Type: Original

Dilution: 5X

Nebulizer Parameters: BIK0319-BLK1

Analyte Back Pressure Flow
All 242.0 kPa 0.65 L/min

Mean Data: BIK0319-BLK1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1416304.2	95.98 %		1.760			1.83%
ScR 361.383	148358.9	96.75 %		1.567			1.62%
Ag 328.068†	6.0	0.00005 mg/L		0.000212	0.00023 mg/L	0.001062	468.49%
Al 308.215†	-4.5	-0.00484 mg/L		0.022994	-0.02419 mg/L	0.114972	475.31%
As 188.979†	-0.3	-0.00033 mg/L		0.003018	-0.00163 mg/L	0.015089	924.54%
B 249.677†	197.7	-0.08640 mg/L		0.001430	-0.4320 mg/L	0.00715	1.65%
Ba 233.527†	14.0	0.00454 mg/L		0.001115	0.02268 mg/L	0.005574	24.58%
Be 313.042†	32.0	0.00008 mg/L		0.000032	0.00039 mg/L	0.000162	41.51%
Ca 317.933†	1455.2	0.2328 mg/L		0.00603	1.164 mg/L	0.0302	2.59%
Cd 228.802†	0.3	0.00002 mg/L		0.000153	0.00010 mg/L	0.000766	781.63%
Co 228.616†	2.2	0.00008 mg/L		0.000208	0.00041 mg/L	0.001041	253.89%
Cr 267.716†	0.5	0.02035 mg/L		0.000415	0.1017 mg/L	0.00208	2.04%
Cu 324.752†	62.2	0.00039 mg/L		0.000121	0.00194 mg/L	0.000607	31.34%
Fe 273.955†	1.6	0.00178 mg/L		0.004008	0.00891 mg/L	0.020038	224.90%
K 766.490†	96.8	0.08583 mg/L		0.024525	0.4291 mg/L	0.12262	28.58%
Mg 279.077†	38.9	0.05471 mg/L		0.005945	0.2735 mg/L	0.02973	10.87%
Mn 257.610†	-0.4	-0.00001 mg/L		0.000209	-0.00006 mg/L	0.001043	>999.9%
Mo 202.031†	-2.6	-0.00021 mg/L		0.000465	-0.00106 mg/L	0.002324	219.65%
Na 589.592†	2495260.3	306.3 mg/L		4.84	1531 mg/L	24.18	1.58%
Na 330.237†	5328.3	302.5 mg/L		5.92	1512 mg/L	29.62	1.96%
Ni 231.604†	1.2	0.00052 mg/L		0.003539	0.00261 mg/L	0.017697	677.91%
Pb 220.353†	6.4	0.00108 mg/L		0.001019	0.00541 mg/L	0.005094	94.18%
Sb 206.836†	-3.0	-0.00151 mg/L		0.001004	-0.00755 mg/L	0.005020	66.46%
Se 196.026†	3.4	0.00410 mg/L		0.005020	0.02052 mg/L	0.025101	122.30%
Si 288.158†	26.0	0.03374 mg/L		0.002394	0.1687 mg/L	0.01197	7.09%
Sn 189.927†	-1.2	-0.00039 mg/L		0.000863	-0.00195 mg/L	0.004313	220.65%
Sr 421.552†	72.3	0.00017 mg/L		0.000082	0.00085 mg/L	0.000408	48.22%
Ti 334.903†	5.5	0.00041 mg/L		0.000985	0.00207 mg/L	0.004925	237.85%
Tl 190.801†	3.1	0.00215 mg/L		0.004129	0.01073 mg/L	0.020643	192.38%
V 292.402†	-12.3	-0.00020 mg/L		0.000235	-0.00099 mg/L	0.001177	119.24%
Zn 206.200†	4.1	0.00249 mg/L		0.001386	0.01247 mg/L	0.006929	55.58%

Sequence No.: 2

Sample ID: 20K0158-01

Autosampler Location: 315

Date Collected: 11/12/2020 5:36:44 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0158-01

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0158-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1396755.9	94.65	%	0.916				0.97%
ScR 361.383	148284.9	96.70	%	1.608				1.66%
Ag 328.068†	-26.6	-0.00020	mg/L	0.000119	-0.00101	mg/L	0.000594	59.06%
Al 308.215†	29.4	0.03074	mg/L	0.011067	0.1537	mg/L	0.05533	36.00%
As 188.979†	20.0	0.01822	mg/L	0.001432	0.09110	mg/L	0.007161	7.86%
B 249.677†	446.3	-0.05104	mg/L	0.001093	-0.2552	mg/L	0.000546	2.14%
Ba 233.527†	189.4	0.05575	mg/L	0.001243	0.2787	mg/L	0.000622	2.23%
Be 313.042†	47.9	0.00011	mg/L	0.000134	0.00057	mg/L	0.000668	116.56%
Ca 317.933†	105933.9	16.95	mg/L	0.208	84.74	mg/L	1.038	1.23%
Cd 228.802†	9.9	0.00041	mg/L	0.000196	0.00205	mg/L	0.000981	47.77%
Co 228.616†	262.1	0.00979	mg/L	0.000182	0.04895	mg/L	0.000911	1.86%
Cr 267.716†	31.1	0.02250	mg/L	0.004601	0.1125	mg/L	0.02301	20.45%
Cu 324.752†	2380.8	0.01440	mg/L	0.000453	0.07202	mg/L	0.002264	3.14%
Fe 273.955†	32.2	0.03622	mg/L	0.001209	0.1811	mg/L	0.000605	3.34%
K 766.490†	1061.7	0.9411	mg/L	0.02364	4.705	mg/L	0.1182	2.51%
Mg 279.077†	44418.5	62.46	mg/L	1.251	312.3	mg/L	6.26	2.00%
Mn 257.610†	19694.3	0.6034	mg/L	0.01133	3.017	mg/L	0.0567	1.88%
Mo 202.031†	53.5	0.00315	mg/L	0.000151	0.01575	mg/L	0.000754	4.79%
Na 589.592†	2653679.9	325.7	mg/L	3.52	1629	mg/L	17.59	1.08%
Na 330.237†	5638.9	320.1	mg/L	6.33	1600	mg/L	31.66	1.98%
Ni 231.604†	22.0	0.00926	mg/L	0.001223	0.04631	mg/L	0.006116	13.21%
Pb 220.353†	282.7	0.04825	mg/L	0.001356	0.2412	mg/L	0.00678	2.81%
Sb 206.836†	6.7	0.00309	mg/L	0.001430	0.01547	mg/L	0.007151	46.22%
Se 196.026†	-9.4	-0.00861	mg/L	0.007851	-0.04303	mg/L	0.039257	91.23%
Si 288.158†	882.5	1.153	mg/L	0.0277	5.766	mg/L	0.1385	2.40%
Sn 189.927†	-30.1	-0.00757	mg/L	0.000913	-0.03785	mg/L	0.004567	12.07%
Sr 421.552†	44694.1	0.1045	mg/L	0.00229	0.5226	mg/L	0.01145	2.19%
Ti 334.903†	46.6	0.00263	mg/L	0.000352	0.01314	mg/L	0.001760	13.40%
Tl 190.801†	28.8	0.01413	mg/L	0.002299	0.07066	mg/L	0.011496	16.27%
V 292.402†	38.5	0.00083	mg/L	0.000547	0.00416	mg/L	0.002737	65.81%
Zn 206.200†	108.4	0.06529	mg/L	0.001304	0.3264	mg/L	0.00652	2.00%

Sequence No.: 3

Sample ID: 20K0158-02

Autosampler Location: 316

Date Collected: 11/12/2020 5:41:16 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0158-02

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0158-02

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	1366691.2	92.61 %	%	0.363			0.39%
ScR 361.383	145382.7	94.81 %	%	1.338			1.41%
Ag 328.068†	-57.0	-0.00043 mg/L	mg/L	0.000269	-0.00215 mg/L	0.001343	62.36%
Al 308.215†	10.9	0.01132 mg/L	mg/L	0.023497	0.05658 mg/L	0.117487	207.65%
As 188.979†	12.2	0.00939 mg/L	mg/L	0.000130	0.04696 mg/L	0.000652	1.39%
B 249.677†	126.4	-0.1064 mg/L	mg/L	0.00152	-0.5319 mg/L	0.00759	1.43%
Ba 233.527†	116.8	0.03445 mg/L	mg/L	0.000531	0.1722 mg/L	0.00266	1.54%
Be 313.042†	45.6	0.00011 mg/L	mg/L	0.000099	0.00055 mg/L	0.000493	90.21%
Ca 317.933†	137788.2	22.04 mg/L	mg/L	0.327	110.2 mg/L	1.64	1.48%
Cd 228.802†	5.5	0.00022 mg/L	mg/L	0.000030	0.00109 mg/L	0.000150	13.71%
Co 228.616†	168.0	0.00618 mg/L	mg/L	0.000233	0.03091 mg/L	0.001166	3.77%
Cr 267.716†	41.3	0.01947 mg/L	mg/L	0.003844	0.09736 mg/L	0.019221	19.74%
Cu 324.752†	254.4	0.00085 mg/L	mg/L	0.000225	0.00427 mg/L	0.001126	26.39%
Fe 273.955†	10.5	0.01187 mg/L	mg/L	0.001790	0.05934 mg/L	0.008952	15.09%
K 766.490†	1075.7	0.9535 mg/L	mg/L	0.00349	4.767 mg/L	0.0175	0.37%
Mg 279.077†	73875.7	103.9 mg/L	mg/L	1.63	519.4 mg/L	8.16	1.57%
Mn 257.610†	27094.3	0.8300 mg/L	mg/L	0.01287	4.150 mg/L	0.0644	1.55%
Mo 202.031†	70.7	0.00394 mg/L	mg/L	0.000512	0.01971 mg/L	0.002558	12.98%
Na 589.592†	2642573.8	324.4 mg/L	mg/L	4.06	1622 mg/L	20.32	1.25%
Na 330.237†	5616.0	318.8 mg/L	mg/L	5.13	1594 mg/L	25.66	1.61%
Ni 231.604†	6.4	0.00268 mg/L	mg/L	0.003232	0.01338 mg/L	0.016162	120.76%
Pb 220.353†	-0.0	0.00067 mg/L	mg/L	0.000702	0.00333 mg/L	0.003510	105.40%
Sb 206.836†	8.4	0.00386 mg/L	mg/L	0.002681	0.01931 mg/L	0.013404	69.41%
Se 196.026†	-4.7	-0.00224 mg/L	mg/L	0.007111	-0.01121 mg/L	0.035556	317.10%
Si 288.158†	359.3	0.4787 mg/L	mg/L	0.00711	2.394 mg/L	0.0355	1.48%
Sn 189.927†	-35.5	-0.00856 mg/L	mg/L	0.000661	-0.04279 mg/L	0.003304	7.72%
Sr 421.552†	46267.9	0.1082 mg/L	mg/L	0.00177	0.5410 mg/L	0.00886	1.64%
Ti 334.903†	63.0	0.00360 mg/L	mg/L	0.001055	0.01801 mg/L	0.005274	29.28%
Tl 190.801†	34.2	0.01440 mg/L	mg/L	0.004372	0.07202 mg/L	0.021858	30.35%
V 292.402†	34.8	0.00084 mg/L	mg/L	0.000131	0.00421 mg/L	0.000655	15.57%
Zn 206.200†	0.9	0.00083 mg/L	mg/L	0.000291	0.00413 mg/L	0.001454	35.21%

Sequence No.: 4

Sample ID: 20K0158-03

Autosampler Location: 317

Date Collected: 11/12/2020 5:45:48 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0158-03

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0158-03

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1396282.4	94.62	%	0.395			0.42%
ScR 361.383	145621.6	94.97	%	0.230			0.24%
Ag 328.068†	-13.3	-0.00010	mg/L	0.000144	-0.00050	mg/L	0.000719 143.69%
Al 308.215†	28.1	0.02952	mg/L	0.025167	0.1476	mg/L	0.12583 85.24%
As 188.979†	20.7	0.01824	mg/L	0.003441	0.09118	mg/L	0.017206 18.87%
B 249.677†	340.3	-0.06761	mg/L	0.002108	-0.3381	mg/L	0.01054 3.12%
Ba 233.527†	145.3	0.04277	mg/L	0.000946	0.2139	mg/L	0.00473 2.21%
Be 313.042†	43.3	0.00010	mg/L	0.000079	0.00052	mg/L	0.000394 76.15%
Ca 317.933†	136663.4	21.86	mg/L	0.057	109.3	mg/L	0.28 0.26%
Cd 228.802†	7.9	0.00030	mg/L	0.000062	0.00148	mg/L	0.000312 21.11%
Co 228.616†	331.8	0.01239	mg/L	0.000155	0.06195	mg/L	0.000777 1.25%
Cr 267.716†	45.0	0.02396	mg/L	0.003447	0.1198	mg/L	0.01724 14.39%
Cu 324.752†	243.4	0.00095	mg/L	0.000314	0.00475	mg/L	0.001572 33.10%
Fe 273.955†	184.6	0.2074	mg/L	0.00390	1.037	mg/L	0.0195 1.88%
K 766.490†	1163.5	1.031	mg/L	0.0552	5.157	mg/L	0.2759 5.35%
Mg 279.077†	58219.9	81.87	mg/L	0.252	409.3	mg/L	1.26 0.31%
Mn 257.610†	31268.2	0.9580	mg/L	0.00379	4.790	mg/L	0.0190 0.40%
Mo 202.031†	55.9	0.00303	mg/L	0.000131	0.01517	mg/L	0.000655 4.32%
Na 589.592†	2614439.7	320.9	mg/L	0.38	1605	mg/L	1.89 0.12%
Na 330.237†	5640.0	320.2	mg/L	1.69	1601	mg/L	8.46 0.53%
Ni 231.604†	22.1	0.00931	mg/L	0.002611	0.04657	mg/L	0.013056 28.03%
Pb 220.353†	322.6	0.05515	mg/L	0.000915	0.2758	mg/L	0.00458 1.66%
Sb 206.836†	5.8	0.00255	mg/L	0.000924	0.01276	mg/L	0.004620 36.22%
Se 196.026†	-7.5	-0.00561	mg/L	0.003327	-0.02803	mg/L	0.016635 59.35%
Si 288.158†	685.1	0.8991	mg/L	0.00547	4.496	mg/L	0.0274 0.61%
Sn 189.927†	-32.5	-0.00754	mg/L	0.001100	-0.03771	mg/L	0.005502 14.59%
Sr 421.552†	44825.1	0.1048	mg/L	0.00062	0.5241	mg/L	0.00311 0.59%
Ti 334.903†	54.4	0.00294	mg/L	0.002382	0.01472	mg/L	0.011912 80.95%
Tl 190.801†	27.5	0.01124	mg/L	0.001478	0.05619	mg/L	0.007389 13.15%
V 292.402†	41.6	0.00100	mg/L	0.000285	0.00501	mg/L	0.001425 28.47%
Zn 206.200†	47.0	0.02847	mg/L	0.000490	0.1424	mg/L	0.00245 1.72%

Sequence No.: 5

Sample ID: 20K0140-01

Autosampler Location: 318

Date Collected: 11/12/2020 5:50:21 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0140-01

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0140-01

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1394527.0	94.50	%	0.532				0.56%
ScR 361.383	146756.6	95.71	%	0.747				0.78%
Ag 328.068†	-125.5	-0.00095	mg/L	0.000076	-0.00474	mg/L	0.000380	8.01%
Al 308.215†	6.5	0.00547	mg/L	0.016031	0.02733	mg/L	0.080157	293.25%
As 188.979†	41.6	0.02160	mg/L	0.000296	0.1080	mg/L	0.00148	1.37%
B 249.677†	340.8	-0.05902	mg/L	0.000751	-0.2951	mg/L	0.00376	1.27%
Ba 233.527†	105.4	0.02953	mg/L	0.001205	0.1477	mg/L	0.00603	4.08%
Be 313.042†	67.7	0.00016	mg/L	0.000050	0.00082	mg/L	0.000251	30.68%
Ca 317.933†	922606.4	147.6	mg/L	0.85	738.0	mg/L	4.24	0.57%
Cd 228.802†	-3.4	-0.00044	mg/L	0.000197	-0.00221	mg/L	0.000985	44.56%
Co 228.616†	134.1	0.00386	mg/L	0.000377	0.01929	mg/L	0.001885	9.77%
Cr 267.716†	6.3	0.01689	mg/L	0.003826	0.08447	mg/L	0.019130	22.65%
Cu 324.752†	119.2	0.00076	mg/L	0.000157	0.00382	mg/L	0.000785	20.56%
Fe 273.955†	1659.3	1.864	mg/L	0.0202	9.319	mg/L	0.1009	1.08%
K 766.490†	394.4	0.3496	mg/L	0.03785	1.748	mg/L	0.1892	10.83%
Mg 279.077†	5327.2	7.492	mg/L	0.0857	37.46	mg/L	0.429	1.14%
Mn 257.610†	34769.1	1.065	mg/L	0.0154	5.327	mg/L	0.0770	1.45%
Mo 202.031†	96.5	0.00441	mg/L	0.000387	0.02206	mg/L	0.001934	8.77%
Na 589.592†	2425408.4	297.7	mg/L	1.51	1489	mg/L	7.53	0.51%
Na 330.237†	5148.3	292.3	mg/L	3.40	1461	mg/L	16.98	1.16%
Ni 231.604†	109.6	0.04613	mg/L	0.000456	0.2306	mg/L	0.00228	0.99%
Pb 220.353†	-49.9	-0.00427	mg/L	0.000664	-0.02133	mg/L	0.003319	15.56%
Sb 206.836†	19.5	0.00953	mg/L	0.002496	0.04763	mg/L	0.012481	26.20%
Se 196.026†	-37.1	-0.02129	mg/L	0.003722	-0.1065	mg/L	0.01861	17.48%
Si 288.158†	1719.8	2.234	mg/L	0.0627	11.17	mg/L	0.313	2.81%
Sn 189.927†	-94.5	-0.00687	mg/L	0.000354	-0.03434	mg/L	0.001770	5.15%
Sr 421.552†	82808.8	0.1936	mg/L	0.00029	0.9682	mg/L	0.00147	0.15%
Ti 334.903†	174.8	0.00487	mg/L	0.001193	0.02433	mg/L	0.005967	24.53%
Tl 190.801†	48.8	0.02081	mg/L	0.001288	0.1041	mg/L	0.00644	6.19%
V 292.402†	9.5	0.00053	mg/L	0.000044	0.00264	mg/L	0.000220	8.31%
Zn 206.200†	19.3	0.01341	mg/L	0.002662	0.06703	mg/L	0.013312	19.86%

Sequence No.: 6

Sample ID: 20J0187-14

Autosampler Location: 319

Date Collected: 11/12/2020 5:54:54 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0187-14

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: 20J0187-14

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	1375300.7	93.20 %	%	0.490				0.53%
ScR 361.383	149518.8	97.51 %	%	0.283				0.29%
Ag 328.068†	1969.2	0.01541	mg/L	0.000345	0.07705	mg/L	0.001725	2.24%
Al 308.215†	170.2	0.1550	mg/L	0.00217	0.7748	mg/L	0.01084	1.40%
As 188.979†	7046.0	7.249	mg/L	0.0327	36.25	mg/L	0.164	0.45%
B 249.677†	106.7	-0.1169	mg/L	0.00398	-0.5845	mg/L	0.01989	3.40%
Ba 233.527†	10594.8	3.103	mg/L	0.0233	15.51	mg/L	0.116	0.75%
Be 313.042†	2489.1	0.00082	mg/L	0.000087	0.00410	mg/L	0.000435	10.60%
Ca 317.933†	36139.3	5.782	mg/L	0.0511	28.91	mg/L	0.255	0.88%
Cd 228.802†	159748.7	8.695	mg/L	0.0544	43.47	mg/L	0.272	0.63%
Co 228.616†	23332.4	0.8842	mg/L	0.00465	4.421	mg/L	0.0232	0.53%
Cr 267.716†	964.9	0.3777	mg/L	0.00393	1.889	mg/L	0.0197	1.04%
Cu 324.752†	1434.6	0.00911	mg/L	0.000137	0.04555	mg/L	0.000686	1.51%
Fe 273.955†	26.9	0.01142	mg/L	0.002134	0.05709	mg/L	0.010671	18.69%
K 766.490†	694.5	0.6156	mg/L	0.02760	3.078	mg/L	0.1380	4.48%
Mg 279.077†	649.1	0.9147	mg/L	0.00636	4.573	mg/L	0.0318	0.70%
Mn 257.610†	535.8	0.01646	mg/L	0.000362	0.08229	mg/L	0.001808	2.20%
Mo 202.031†	17.4	0.00123	mg/L	0.000253	0.00616	mg/L	0.001267	20.56%
Na 589.592†	2754779.4	338.1	mg/L	3.62	1691	mg/L	18.11	1.07%
Na 330.237†	5779.4	328.1	mg/L	0.65	1640	mg/L	3.27	0.20%
Ni 231.604†	13.9	0.00537	mg/L	0.002556	0.02687	mg/L	0.012782	47.57%
Pb 220.353†	1914.1	0.3245	mg/L	0.00284	1.623	mg/L	0.0142	0.88%
Sb 206.836†	1.7	0.00226	mg/L	0.001646	0.01130	mg/L	0.008228	72.83%
Se 196.026†	5873.0	7.021	mg/L	0.0575	35.10	mg/L	0.288	0.82%
Si 288.158†	764.2	1.020	mg/L	0.0013	5.101	mg/L	0.0067	0.13%
Sn 189.927†	-10.6	-0.00268	mg/L	0.000559	-0.01341	mg/L	0.002793	20.82%
Sr 421.552†	10261.0	0.02399	mg/L	0.000110	0.1200	mg/L	0.00055	0.46%
Ti 334.903†	30.1	0.00192	mg/L	0.000735	0.00958	mg/L	0.003676	38.39%
Tl 190.801†	3616.4	2.556	mg/L	0.0155	12.78	mg/L	0.078	0.61%
V 292.402†	124328.4	2.017	mg/L	0.0163	10.08	mg/L	0.082	0.81%
Zn 206.200†	15.4	0.00611	mg/L	0.001314	0.03053	mg/L	0.006570	21.51%

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Analysis Begun

Start Time: 11/12/2020 6:02:02 PM
 Logged In Analyst: Metals Instrument Controller
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 1112.sif

Batch ID:

Results Data Set: I2201112

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 320

Sample ID: BIJ0600-DUP1

Date Collected: 11/12/2020 6:02:09 PM

Data Type: Original

Dilution: 5X

Nebulizer Parameters: BIJ0600-DUP1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIJ0600-DUP1

Analyte	Mean Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1405466.2	95.24 %		1.752			1.84%
ScR 361.383	150438.8	98.11 %		1.225			1.25%
Ag 328.068†	1975.5	0.01545 mg/L		0.000518	0.07725 mg/L	0.002590	3.35%
Al 308.215†	157.7	0.1419 mg/L		0.01298	0.7097 mg/L	0.06492	9.15%
As 188.979†	6912.3	7.112 mg/L		0.1818	35.56 mg/L	0.909	2.56%
B 249.677†	104.6	-0.1141 mg/L		0.00205	-0.5704 mg/L	0.01026	1.80%
Ba 233.527†	10167.9	2.978 mg/L		0.0397	14.89 mg/L	0.199	1.33%
Be 313.042†	2331.9	0.00052 mg/L		0.000153	0.00259 mg/L	0.000765	29.51%
Ca 317.933†	34563.7	5.530 mg/L		0.0984	27.65 mg/L	0.492	1.78%
Cd 228.802†	157108.0	8.551 mg/L		0.1463	42.76 mg/L	0.732	1.71%
Co 228.616†	22881.7	0.8671 mg/L		0.01997	4.335 mg/L	0.0999	2.30%
Cr 267.716†	948.5	0.3711 mg/L		0.00053	1.856 mg/L	0.0027	0.14%
Cu 324.752†	1373.0	0.00872 mg/L		0.000503	0.04362 mg/L	0.002513	5.76%
Fe 273.955†	25.5	0.01019 mg/L		0.005010	0.05093 mg/L	0.025050	49.18%
K 766.490†	657.3	0.5826 mg/L		0.02325	2.913 mg/L	0.1163	3.99%
Mg 279.077†	619.0	0.8723 mg/L		0.01218	4.361 mg/L	0.0609	1.40%
Mn 257.610†	499.7	0.01535 mg/L		0.000208	0.07676 mg/L	0.001040	1.35%
Mo 202.031†	21.0	0.00152 mg/L		0.000199	0.00759 mg/L	0.000997	13.13%
Na 589.592†	2689836.0	330.2 mg/L		2.96	1651 mg/L	14.80	0.90%
Na 330.237†	5629.1	319.5 mg/L		4.09	1598 mg/L	20.43	1.28%
Ni 231.604†	11.0	0.00414 mg/L		0.002707	0.02068 mg/L	0.013534	65.46%
Pb 220.353†	1874.3	0.3178 mg/L		0.00692	1.589 mg/L	0.0346	2.18%
Sb 206.836†	-6.2	-0.00171 mg/L		0.000206	-0.00855 mg/L	0.001031	12.06%
Se 196.026†	5778.7	6.908 mg/L		0.1710	34.54 mg/L	0.855	2.47%
Si 288.158†	752.3	1.004 mg/L		0.0226	5.021 mg/L	0.1128	2.25%
Sn 189.927†	-10.5	-0.00271 mg/L		0.000543	-0.01353 mg/L	0.002715	20.07%
Sr 421.552†	9945.1	0.02326 mg/L		0.000341	0.1163 mg/L	0.00171	1.47%
Ti 334.903†	32.1	0.00209 mg/L		0.000375	0.01045 mg/L	0.001877	17.96%
Tl 190.801†	3550.2	2.509 mg/L		0.0577	12.55 mg/L	0.288	2.30%
V 292.402†	122437.2	1.986 mg/L		0.0385	9.930 mg/L	0.1925	1.94%
Zn 206.200†	15.2	0.00605 mg/L		0.001159	0.03027 mg/L	0.005796	19.15%

Sequence No.: 2

Autosampler Location: 321

Sample ID: BIJ0600-MS1

Date Collected: 11/12/2020 6:07:11 PM

Data Type: Original

Dilution: 5X

Wash Time: 60

Auto Dilution Factor: 1

Nebulizer Parameters: BIJ0600-MS1

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIJ0600-MS1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1423580.6	96.47	%	1.097				1.14%
ScR 361.383	154455.7	100.7	%	1.80				1.79%
Ag 328.068†	30465.2	0.2309	mg/L	0.00165	1.155	mg/L	0.0083	0.71%
Al 308.215†	938.3	0.9733	mg/L	0.02833	4.866	mg/L	0.1416	2.91%
As 188.979†	7643.2	7.862	mg/L	0.0730	39.31	mg/L	0.365	0.93%
B 249.677†	112.1	-0.1119	mg/L	0.00097	-0.5595	mg/L	0.00487	0.87%
Ba 233.527†	12905.5	3.779	mg/L	0.0491	18.90	mg/L	0.245	1.30%
Be 313.042†	83340.7	0.1965	mg/L	0.00235	0.9826	mg/L	0.01176	1.20%
Ca 317.933†	61031.7	9.764	mg/L	0.1267	48.82	mg/L	0.634	1.30%
Cd 228.802†	159438.6	STL 8.674	mg/L	0.0823	43.37	mg/L	0.412	0.95%
Co 228.616†	28176.1	1.068	mg/L	0.0084	5.338	mg/L	0.0421	0.79%
Cr 267.716†	1514.9	0.5792	mg/L	0.01183	2.896	mg/L	0.0592	2.04%
Cu 324.752†	34306.8	0.2140	mg/L	0.00217	1.070	mg/L	0.0108	1.01%
Fe 273.955†	771.5	0.8465	mg/L	0.01880	4.233	mg/L	0.0940	2.22%
K 766.490†	5479.4	4.857	mg/L	0.0991	24.28	mg/L	0.495	2.04%
Mg 279.077†	3612.2	5.084	mg/L	0.1017	25.42	mg/L	0.508	2.00%
Mn 257.610†	6592.9	0.2022	mg/L	0.00275	1.011	mg/L	0.0138	1.36%
Mo 202.031†	2674.0	0.2083	mg/L	0.00180	1.042	mg/L	0.0090	0.86%
Na 589.592†	2672407.8	328.0	mg/L	4.12	1640	mg/L	20.60	1.26%
Na 330.237†	5662.5	321.4	mg/L	5.90	1607	mg/L	29.49	1.84%
Ni 231.604†	488.0	0.2056	mg/L	0.00398	1.028	mg/L	0.0199	1.94%
Pb 220.353†	6675.5	1.129	mg/L	0.0112	5.646	mg/L	0.0560	0.99%
Sb 206.836†	1696.6	0.8556	mg/L	0.00787	4.278	mg/L	0.0394	0.92%
Se 196.026†	6556.0	7.838	mg/L	0.0690	39.19	mg/L	0.345	0.88%
Si 288.158†	760.4	1.016	mg/L	0.0171	5.080	mg/L	0.0856	1.68%
Sn 189.927†	-21.2	-0.00573	mg/L	0.001017	-0.02867	mg/L	0.005087	17.74%
Sr 421.552†	93771.7	0.2193	mg/L	0.00369	1.096	mg/L	0.0185	1.68%
Ti 334.903†	31.2	0.00155	mg/L	0.000539	0.00773	mg/L	0.002696	34.88%
Tl 190.801†	4634.9	3.277	mg/L	0.0326	16.38	mg/L	0.163	1.00%
V 292.402†	134702.5	2.186	mg/L	0.0384	10.93	mg/L	0.192	1.76%
Zn 206.200†	345.2	0.2042	mg/L	0.00541	1.021	mg/L	0.0270	2.65%

Sequence No.: 3

Autosampler Location: 7

Sample ID: SEQ-CCV4

Date Collected: 11/12/2020 6:14:28 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV4

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: SEQ-CCV4

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1434012.1	97.18	%	2.436			2.51%	
ScR 361.383	146035.1	95.24	%	1.931			2.03%	
Ag 328.068†	135386.2	1.024	mg/L	0.0197	1.024	mg/L	0.0197	1.92%
Al 308.215†	1967.4	2.076	mg/L	0.0695	2.076	mg/L	0.0695	3.35%
As 188.979†	1903.8	1.989	mg/L	0.0303	1.989	mg/L	0.0303	1.52%
B 249.677†	5581.5	0.9612	mg/L	0.02305	0.9612	mg/L	0.02305	2.40%
Ba 233.527†	3376.3	0.9880	mg/L	0.01728	0.9880	mg/L	0.01728	1.75%
Be 313.042†	403575.9	0.9764	mg/L	0.01784	0.9764	mg/L	0.01784	1.83%
Ca 317.933†	12853.1	2.056	mg/L	0.0276	2.056	mg/L	0.0276	1.34%
Cd 228.802†	18540.3	1.002	mg/L	0.0180	1.002	mg/L	0.0180	1.80%
Co 228.616†	25175.7	0.9524	mg/L	0.01949	0.9524	mg/L	0.01949	2.05%
Cr 267.716†	2802.0	1.037	mg/L	0.0150	1.037	mg/L	0.0150	1.45%
Cu 324.752†	161642.1	1.007	mg/L	0.0206	1.007	mg/L	0.0206	2.04%
Fe 273.955†	1833.9	2.052	mg/L	0.0330	2.052	mg/L	0.0330	1.61%
K 766.490†	22894.4	20.29	mg/L	0.392	20.29	mg/L	0.392	1.93%
Mg 279.077†	1423.7	2.016	mg/L	0.0310	2.016	mg/L	0.0310	1.54%
Mn 257.610†	31967.7	0.9799	mg/L	0.01593	0.9799	mg/L	0.01593	1.63%
Mo 202.031†	12982.2	1.013	mg/L	0.0159	1.013	mg/L	0.0159	1.57%
Na 589.592†	408055.7	50.09	mg/L	1.074	50.09	mg/L	1.074	2.14%
Na 330.237†	931.3	52.71	mg/L	1.065	52.71	mg/L	1.065	2.02%
Ni 231.604†	2325.0	0.9799	mg/L	0.01158	0.9799	mg/L	0.01158	1.18%
Pb 220.353†	11931.5	2.017	mg/L	0.0281	2.017	mg/L	0.0281	1.39%
Sb 206.836†	4104.9	2.069	mg/L	0.0371	2.069	mg/L	0.0371	1.79%
Se 196.026†	1646.0	1.968	mg/L	0.0377	1.968	mg/L	0.0377	1.92%
Si 288.158†	1567.7	2.021	mg/L	0.0363	2.021	mg/L	0.0363	1.80%
Sn 189.927†	2775.3	0.9790	mg/L	0.01650	0.9790	mg/L	0.01650	1.69%
Sr 421.552†	427000.1	0.9985	mg/L	0.02025	0.9985	mg/L	0.02025	2.03%
Ti 334.903†	12851.7	1.004	mg/L	0.0187	1.004	mg/L	0.0187	1.86%
Tl 190.801†	2777.9	1.958	mg/L	0.0317	1.958	mg/L	0.0317	1.62%
V 292.402†	62465.5	1.020	mg/L	0.0130	1.020	mg/L	0.0130	1.28%
Zn 206.200†	1590.5	0.9546	mg/L	0.01336	0.9546	mg/L	0.01336	1.40%

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Sequence No.: 4                               Autosampler Location: 1
Sample ID: SEQ-CCB4                           Date Collected: 11/12/2020 6:19:48 PM
                                              Data Type: Original
Dilution: 1X                                  Auto Dilution Factor: 1
Wash Time: 100
    
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Nebulizer Parameters: SEQ-CCB4
Analyte      Back Pressure      Flow
All          240.0 kPa           0.65 L/min
    
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Mean Data: SEQ-CCB4

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1436006.6	97.31	%	0.183				0.19%
ScR 361.383	148721.8	96.99	%	0.242				0.25%
Ag 328.068†	21.5	0.00016	mg/L	0.000208	0.00016	mg/L	0.000208	127.80%
Al 308.215†	8.9	0.00957	mg/L	0.019512	0.00957	mg/L	0.019512	203.78%
As 188.979†	1.6	0.00174	mg/L	0.001818	0.00174	mg/L	0.001818	104.79%
B 249.677†	10.9	0.00186	mg/L	0.001243	0.00186	mg/L	0.001243	66.70%
Ba 233.527†	-5.6	-0.00164	mg/L	0.000312	-0.00164	mg/L	0.000312	18.99%
Be 313.042†	7.6	0.00002	mg/L	0.000053	0.00002	mg/L	0.000053	281.02%
Ca 317.933†	16.2	0.00260	mg/L	0.003344	0.00260	mg/L	0.003344	128.84%
Cd 228.802†	0.8	0.00003	mg/L	0.000204	0.00003	mg/L	0.000204	613.30%
Co 228.616†	4.7	0.00017	mg/L	0.000253	0.00017	mg/L	0.000253	145.13%
Cr 267.716†	6.2	0.00231	mg/L	0.001547	0.00231	mg/L	0.001547	66.93%
Cu 324.752†	-5.2	-0.00003	mg/L	0.000110	-0.00003	mg/L	0.000110	338.15%
Fe 273.955†	-0.2	-0.00027	mg/L	0.000963	-0.00027	mg/L	0.000963	360.83%
K 766.490†	16.1	0.01426	mg/L	0.024225	0.01426	mg/L	0.024225	169.90%
Mg 279.077†	-8.2	-0.01153	mg/L	0.006150	-0.01153	mg/L	0.006150	53.32%
Mn 257.610†	-14.5	-0.00044	mg/L	0.000108	-0.00044	mg/L	0.000108	24.37%
Mo 202.031†	0.2	0.00002	mg/L	0.000824	0.00002	mg/L	0.000824	>999.9%
Na 589.592†	1071.9	0.1316	mg/L	0.00292	0.1316	mg/L	0.00292	2.22%
Na 330.237†	-13.7	-0.7774	mg/L	0.05096	-0.7774	mg/L	0.05096	6.55%
Ni 231.604†	-0.9	-0.00037	mg/L	0.004460	-0.00037	mg/L	0.004460	>999.9%
Pb 220.353†	-0.1	-0.00000	mg/L	0.000852	-0.00000	mg/L	0.000852	>999.9%
Sb 206.836†	-0.9	-0.00050	mg/L	0.001070	-0.00050	mg/L	0.001070	214.69%
Se 196.026†	-0.9	-0.00112	mg/L	0.002684	-0.00112	mg/L	0.002684	239.68%
Si 288.158†	-3.3	-0.00436	mg/L	0.004580	-0.00436	mg/L	0.004580	105.05%
Sn 189.927†	0.6	0.00021	mg/L	0.000208	0.00021	mg/L	0.000208	98.06%
Sr 421.552†	-9.6	-0.00002	mg/L	0.000101	-0.00002	mg/L	0.000101	448.94%
Ti 334.903†	19.4	0.00151	mg/L	0.000540	0.00151	mg/L	0.000540	35.68%
Tl 190.801†	-1.6	-0.00118	mg/L	0.002796	-0.00118	mg/L	0.002796	237.70%
V 292.402†	-6.0	-0.00008	mg/L	0.000323	-0.00008	mg/L	0.000323	393.72%
Zn 206.200†	-0.8	-0.00051	mg/L	0.000545	-0.00051	mg/L	0.000545	107.55%

Sequence No.: 5

Autosampler Location: 322

Sample ID: BIK0243-BLK1

Date Collected: 11/12/2020 6:24:04 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0243-BLK1

Analyte Back Pressure Flow
 All 238.0 kPa 0.65 L/min

Mean Data: BIK0243-BLK1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1454200.6	98.54	%	0.328			0.33%
ScR 361.383	151738.2	98.95	%	0.332			0.34%
Ag 328.068†	-4.0	-0.00003	mg/L	0.000216	-0.00006	mg/L	0.000432 711.98%
Al 308.215†	16.3	0.01744	mg/L	0.008697	0.03488	mg/L	0.017394 49.86%
As 188.979†	1.9	0.00199	mg/L	0.003161	0.00398	mg/L	0.006321 158.78%
B 249.677†	-2.7	-0.00052	mg/L	0.001073	-0.00103	mg/L	0.002146 207.81%
Ba 233.527†	-6.4	-0.00187	mg/L	0.001015	-0.00375	mg/L	0.002030 54.19%
Be 313.042†	-0.9	-0.00000	mg/L	0.000096	-0.00000	mg/L	0.000193 >999.9%
Ca 317.933†	43.3	0.00692	mg/L	0.002227	0.01384	mg/L	0.004454 32.18%
Cd 228.802†	0.6	0.00002	mg/L	0.000356	0.00004	mg/L	0.000712 >999.9%
Co 228.616†	1.4	0.00005	mg/L	0.000022	0.00010	mg/L	0.000044 43.64%
Cr 267.716†	8.5	0.00316	mg/L	0.002236	0.00633	mg/L	0.004471 70.68%
Cu 324.752†	-15.2	-0.00009	mg/L	0.000116	-0.00019	mg/L	0.000232 122.98%
Fe 273.955†	1.8	0.00203	mg/L	0.002723	0.00405	mg/L	0.005445 134.38%
K 766.490†	-5.0	-0.00444	mg/L	0.030183	-0.00889	mg/L	0.060365 679.36%
Mg 279.077†	-13.0	-0.01834	mg/L	0.006729	-0.03667	mg/L	0.013459 36.70%
Mn 257.610†	-15.2	-0.00046	mg/L	0.000083	-0.00093	mg/L	0.000165 17.79%
Mo 202.031†	-6.1	-0.00047	mg/L	0.000403	-0.00094	mg/L	0.000807 85.47%
Na 589.592†	853.9	0.1048	mg/L	0.00590	0.2096	mg/L	0.01181 5.63%
Na 330.237†	-8.2	-0.4628	mg/L	0.20670	-0.9256	mg/L	0.41341 44.66%
Ni 231.604†	-0.6	-0.00025	mg/L	0.000869	-0.00049	mg/L	0.001738 351.67%
Pb 220.353†	8.0	0.00136	mg/L	0.000911	0.00272	mg/L	0.001823 67.09%
Sb 206.836†	-3.4	-0.00176	mg/L	0.001980	-0.00352	mg/L	0.003961 112.40%
Se 196.026†	-1.1	-0.00133	mg/L	0.004598	-0.00267	mg/L	0.009196 344.50%
Si 288.158†	7.4	0.00961	mg/L	0.002340	0.01923	mg/L	0.004680 24.34%
Sn 189.927†	-2.5	-0.00088	mg/L	0.000163	-0.00176	mg/L	0.000327 18.59%
Sr 421.552†	-20.8	-0.00005	mg/L	0.000040	-0.00010	mg/L	0.000081 83.21%
Ti 334.903†	26.5	0.00207	mg/L	0.000180	0.00414	mg/L	0.000361 8.70%
Tl 190.801†	-6.5	-0.00465	mg/L	0.001571	-0.00929	mg/L	0.003141 33.81%
V 292.402†	2.7	0.00007	mg/L	0.000253	0.00013	mg/L	0.000506 383.61%
Zn 206.200†	0.3	0.00017	mg/L	0.000171	0.00034	mg/L	0.000342 101.18%

Sequence No.: 6

Autosampler Location: 323

Sample ID: BIK0243-BS1

Date Collected: 11/12/2020 6:28:21 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0243-BS1

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: BIK0243-BS1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1391628.5	94.30	%	0.208				0.22%
ScR 361.383	145959.4	95.19	%	0.121				0.13%
Ag 328.068†	71190.2	0.5385	mg/L	0.00081	1.077	mg/L	0.0016	0.15%
Al 308.215†	1981.9	2.120	mg/L	0.0064	4.240	mg/L	0.0128	0.30%
As 188.979†	1981.0	2.036	mg/L	0.0106	4.072	mg/L	0.0211	0.52%
B 249.677†	3.6	-0.00365	mg/L	0.001322	-0.00730	mg/L	0.002645	36.22%
Ba 233.527†	6905.2	2.022	mg/L	0.0073	4.044	mg/L	0.0147	0.36%
Be 313.042†	202012.3	0.4887	mg/L	0.00160	0.9774	mg/L	0.00319	0.33%
Ca 317.933†	63005.5	10.08	mg/L	0.040	20.16	mg/L	0.080	0.40%
Cd 228.802†	9519.1	0.5077	mg/L	0.00259	1.015	mg/L	0.0052	0.51%
Co 228.616†	12843.4	0.4865	mg/L	0.00409	0.9730	mg/L	0.00818	0.84%
Cr 267.716†	1456.7	0.5361	mg/L	0.00567	1.072	mg/L	0.0113	1.06%
Cu 324.752†	81405.1	0.5076	mg/L	0.00144	1.015	mg/L	0.0029	0.28%
Fe 273.955†	1884.5	2.113	mg/L	0.0102	4.225	mg/L	0.0205	0.48%
K 766.490†	11111.5	9.849	mg/L	0.0347	19.70	mg/L	0.069	0.35%
Mg 279.077†	7495.6	10.54	mg/L	0.046	21.08	mg/L	0.092	0.43%
Mn 257.610†	15537.4	0.4763	mg/L	0.00187	0.9527	mg/L	0.00374	0.39%
Mo 202.031†	18.2	0.00110	mg/L	0.000070	0.00220	mg/L	0.000139	6.35%
Na 589.592†	77217.3	9.478	mg/L	0.0504	18.96	mg/L	0.101	0.53%
Na 330.237†	172.2	9.604	mg/L	0.1310	19.21	mg/L	0.262	1.36%
Ni 231.604†	1179.8	0.4982	mg/L	0.00344	0.9964	mg/L	0.00688	0.69%
Pb 220.353†	12017.4	2.031	mg/L	0.0199	4.062	mg/L	0.0398	0.98%
Sb 206.836†	4269.4	2.149	mg/L	0.0087	4.299	mg/L	0.0175	0.41%
Se 196.026†	1657.0	1.982	mg/L	0.0144	3.965	mg/L	0.0289	0.73%
Si 288.158†	-6.6	-0.00500	mg/L	0.013778	-0.01001	mg/L	0.027556	275.31%
Sn 189.927†	-21.0	-0.00559	mg/L	0.001379	-0.01117	mg/L	0.002758	24.69%
Sr 421.552†	213622.8	0.4995	mg/L	0.00128	0.9991	mg/L	0.00256	0.26%
Ti 334.903†	55.2	0.00358	mg/L	0.000742	0.00717	mg/L	0.001485	20.72%
Tl 190.801†	2850.5	2.017	mg/L	0.0173	4.034	mg/L	0.0346	0.86%
V 292.402†	32381.7	0.5286	mg/L	0.00651	1.057	mg/L	0.0130	1.23%
Zn 206.200†	791.6	0.4754	mg/L	0.00554	0.9508	mg/L	0.01108	1.17%

Sequence No.: 7

Sample ID: 20J0429-01

Autosampler Location: 324

Date Collected: 11/12/2020 6:32:37 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0429-01

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20J0429-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1455065.6	98.60	%	1.059				1.07%
ScR 361.383	150100.5	97.89	%	0.668				0.68%
Ag 328.068†	-112.9	-0.00078	mg/L	0.000248	-0.00155	mg/L	0.000496	31.92%
Al 308.215†	76022.6	81.57	mg/L	0.186	163.1	mg/L	0.37	0.23%
As 188.979†	-118.4	0.07832	mg/L	0.003357	0.1566	mg/L	0.00671	4.29%
B 249.677†	184.7	0.04392	mg/L	0.000650	0.08784	mg/L	0.001300	1.48%
Ba 233.527†	4553.1	1.310	mg/L	0.0050	2.620	mg/L	0.0100	0.38%
Be 313.042†	1009.2	0.00168	mg/L	0.000016	0.00335	mg/L	0.000032	0.96%
Ca 317.933†	424059.0	67.84	mg/L	0.250	135.7	mg/L	0.50	0.37%
Cd 228.802†	82.8	0.00377	mg/L	0.000043	0.00754	mg/L	0.000086	1.14%
Co 228.616†	1773.1	0.05401	mg/L	0.000634	0.1080	mg/L	0.00127	1.17%
Cr 267.716†	1094.4	0.4085	mg/L	0.00052	0.8170	mg/L	0.00105	0.13%
Cu 324.752†	130578.8	0.8199	mg/L	0.00724	1.640	mg/L	0.0145	0.88%
Fe 273.955†	149860.6	168.3	mg/L	0.13	336.6	mg/L	0.25	0.07%
K 766.490†	5557.1	4.926	mg/L	0.0291	9.852	mg/L	0.0582	0.59%
Mg 279.077†	26282.3	36.88	mg/L	0.177	73.76	mg/L	0.353	0.48%
Mn 257.610†	114075.2	3.493	mg/L	0.0006	6.987	mg/L	0.0012	0.02%
Mo 202.031†	520.2	0.03879	mg/L	0.000548	0.07758	mg/L	0.001095	1.41%
Na 589.592†	37100.7	4.554	mg/L	0.0099	9.108	mg/L	0.0198	0.22%
Na 330.237†	67.7	3.757	mg/L	0.0639	7.515	mg/L	0.1277	1.70%
Ni 231.604†	541.7	0.2280	mg/L	0.00108	0.4560	mg/L	0.00217	0.47%
Pb 220.353†	2147.5	0.3787	mg/L	0.00255	0.7574	mg/L	0.00509	0.67%
Sb 206.836†	45.6	0.02530	mg/L	0.002634	0.05059	mg/L	0.005269	10.41%
Se 196.026†	-27.1	-0.00503	mg/L	0.004170	-0.01006	mg/L	0.008340	82.91%
Si 288.158†	816.7	1.005	mg/L	0.0165	2.009	mg/L	0.0331	1.65%
Sn 189.927†	46.9	0.03125	mg/L	0.001073	0.06249	mg/L	0.002147	3.44%
Sr 421.552†	207615.7	0.4855	mg/L	0.00107	0.9710	mg/L	0.00214	0.22%
Ti 334.903†	70875.1	5.540	mg/L	0.0076	11.08	mg/L	0.015	0.14%
Tl 190.801†	135.1	0.00722	mg/L	0.004187	0.01443	mg/L	0.008374	58.02%
V 292.402†	18375.4	0.3132	mg/L	0.00466	0.6264	mg/L	0.00932	1.49%
Zn 206.200†	5200.1	3.123	mg/L	0.0092	6.246	mg/L	0.0184	0.29%

Sequence No.: 8

Autosampler Location: 325

Sample ID: 20J0429-02

Date Collected: 11/12/2020 6:36:53 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0429-02

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20J0429-02

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1490545.8	101.0	%	1.52			1.51%	
ScR 361.383	157280.3	102.6	%	0.83			0.81%	
Ag 328.068†	-186.0	-0.00132	mg/L	0.000107	-0.00263	mg/L	0.000215	8.15%
Al 308.215†	92862.4	99.65	mg/L	1.154	199.3	mg/L	2.31	1.16%
As 188.979†	-146.5	0.05411	mg/L	0.006180	0.1082	mg/L	0.01236	11.42%
B 249.677†	76.2	0.02516	mg/L	0.001420	0.05032	mg/L	0.002839	5.64%
Ba 233.527†	1958.7	0.5501	mg/L	0.00564	1.100	mg/L	0.0113	1.03%
Be 313.042†	1282.3	0.00221	mg/L	0.000051	0.00442	mg/L	0.000103	2.32%
Ca 317.933†	294211.1	47.07	mg/L	0.448	94.14	mg/L	0.897	0.95%
Cd 228.802†	52.6	0.00232	mg/L	0.000173	0.00465	mg/L	0.000346	7.45%
Co 228.616†	1962.8	0.06137	mg/L	0.001256	0.1227	mg/L	0.00251	2.05%
Cr 267.716†	684.4	0.2564	mg/L	0.00240	0.5127	mg/L	0.00481	0.94%
Cu 324.752†	66524.4	0.4204	mg/L	0.00676	0.8409	mg/L	0.01352	1.61%
Fe 273.955†	148836.9	167.2	mg/L	0.98	334.3	mg/L	1.95	0.58%
K 766.490†	6049.1	5.362	mg/L	0.0955	10.72	mg/L	0.191	1.78%
Mg 279.077†	32694.5	45.90	mg/L	0.358	91.79	mg/L	0.716	0.78%
Mn 257.610†	97056.9	2.972	mg/L	0.0347	5.944	mg/L	0.0694	1.17%
Mo 202.031†	166.3	0.01151	mg/L	0.000176	0.02302	mg/L	0.000351	1.53%
Na 589.592†	29799.3	3.658	mg/L	0.0533	7.316	mg/L	0.1066	1.46%
Na 330.237†	47.9	3.015	mg/L	0.4479	6.030	mg/L	0.8959	14.86%
Ni 231.604†	525.1	0.2210	mg/L	0.00028	0.4420	mg/L	0.00055	0.12%
Pb 220.353†	1149.8	0.2149	mg/L	0.00266	0.4298	mg/L	0.00533	1.24%
Sb 206.836†	26.0	0.01815	mg/L	0.003035	0.03630	mg/L	0.006070	16.72%
Se 196.026†	-29.2	-0.01083	mg/L	0.006342	-0.02166	mg/L	0.012684	58.56%
Si 288.158†	661.2	0.8035	mg/L	0.01528	1.607	mg/L	0.0306	1.90%
Sn 189.927†	-11.7	0.00691	mg/L	0.001161	0.01382	mg/L	0.002321	16.80%
Sr 421.552†	97561.2	0.2281	mg/L	0.00298	0.4563	mg/L	0.00596	1.31%
Ti 334.903†	71283.3	5.574	mg/L	0.0562	11.15	mg/L	0.112	1.01%
Tl 190.801†	145.0	0.00727	mg/L	0.000538	0.01455	mg/L	0.001075	7.39%
V 292.402†	21403.2	0.3610	mg/L	0.00455	0.7220	mg/L	0.00911	1.26%
Zn 206.200†	3472.3	2.085	mg/L	0.0108	4.171	mg/L	0.0216	0.52%

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Analysis Begun

Start Time: 11/12/2020 6:45:57 PM
 Logged In Analyst: Metals Instrument Controller
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/12/2020 9:50:03 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 1112.sif

Batch ID:

Results Data Set: I2201112

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1

Autosampler Location: 326

Sample ID: 20J0429-04

Date Collected: 11/12/2020 6:46:05 PM

Data Type: Original

Dilution: 2X

Nebulizer Parameters: 20J0429-04

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0429-04

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1459575.6	98.91	%	1.597			1.61%
ScR 361.383	154220.0	100.6	%	0.95			0.95%
Ag 328.068†	39.2	0.00039	mg/L	0.000152	0.00078 mg/L	0.000304	38.92%
Al 308.215†	73446.6	78.81	mg/L	0.590	157.6 mg/L	1.18	0.75%
As 188.979†	-116.1	0.07378	mg/L	0.007912	0.1476 mg/L	0.01582	10.72%
B 249.677†	263.9	0.05551	mg/L	0.000883	0.1110 mg/L	0.00177	1.59%
Ba 233.527†	6570.6	1.902	mg/L	0.0262	3.803 mg/L	0.0525	1.38%
Be 313.042†	1002.1	0.00149	mg/L	0.000086	0.00298 mg/L	0.000171	5.73%
Ca 317.933†	262078.1	41.93	mg/L	0.379	83.86 mg/L	0.757	0.90%
Cd 228.802†	265.0	0.01372	mg/L	0.000558	0.02745 mg/L	0.001117	4.07%
Co 228.616†	1644.8	0.04988	mg/L	0.000973	0.09976 mg/L	0.001947	1.95%
Cr 267.716†	1076.7	0.4044	mg/L	0.00455	0.8088 mg/L	0.00910	1.12%
Cu 324.752†	181274.0	1.136	mg/L	0.0295	2.272 mg/L	0.0590	2.60%
Fe 273.955†	146098.6	164.1	mg/L	0.79	328.2 mg/L	1.58	0.48%
K 766.490†	5758.8	5.105	mg/L	0.0328	10.21 mg/L	0.066	0.64%
Mg 279.077†	22901.2	32.12	mg/L	0.471	64.25 mg/L	0.942	1.47%
Mn 257.610†	54353.3	1.663	mg/L	0.0161	3.327 mg/L	0.0322	0.97%
Mo 202.031†	687.2	0.05241	mg/L	0.000933	0.1048 mg/L	0.00187	1.78%
Na 589.592†	78896.0	9.684	mg/L	0.1233	19.37 mg/L	0.247	1.27%
Na 330.237†	186.8	9.477	mg/L	0.5868	18.95 mg/L	1.174	6.19%
Ni 231.604†	490.7	0.2065	mg/L	0.00439	0.4131 mg/L	0.00878	2.13%
Pb 220.353†	2460.5	0.4298	mg/L	0.00749	0.8596 mg/L	0.01497	1.74%
Sb 206.836†	59.1	0.03238	mg/L	0.002000	0.06477 mg/L	0.004000	6.18%
Se 196.026†	-31.5	-0.01468	mg/L	0.010579	-0.02935 mg/L	0.021158	72.08%
Si 288.158†	810.1	0.9984	mg/L	0.01527	1.997 mg/L	0.0305	1.53%
Sn 189.927†	142.1	0.06005	mg/L	0.001252	0.1201 mg/L	0.00250	2.09%
Sr 421.552†	122667.3	0.2868	mg/L	0.00317	0.5737 mg/L	0.00634	1.11%
Ti 334.903†	67232.6	5.257	mg/L	0.0312	10.51 mg/L	0.062	0.59%
Tl 190.801†	122.7	0.00358	mg/L	0.002225	0.00716 mg/L	0.004451	62.14%
V 292.402†	22383.9	0.3775	mg/L	0.01154	0.7549 mg/L	0.02307	3.06%
Zn 206.200†	9735.3	5.846	mg/L	0.0790	11.69 mg/L	0.158	1.35%

Sequence No.: 2
 Sample ID: BIK319 BLK TEST

Autosampler Location: 348
 Date Collected: 11/12/2020 6:53:10 PM
 Data Type: Original

Dilution: 5X
 Wash Time: 200

DEL

Auto Dilution Factor: 1

Nebulizer Parameters: BIK319 BLK TEST

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: BIK319 BLK TEST

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1446273.6	98.01	%	1.298			1.32%
ScR 361.383	153364.5	100.0	%	1.96			1.96%
Ag 328.068†	-20.7	-0.00016	mg/L	0.000093	-0.00078	mg/L	0.000465 59.47%
Al 308.215†	11.1	0.01186	mg/L	0.023375	0.05931	mg/L	0.116877 197.05%
As 188.979†	1.5	0.00169	mg/L	0.001943	0.00843	mg/L	0.009714 115.29%
B 249.677†	-3.4	-0.1284	mg/L	0.00103	-0.6422	mg/L	0.00517 0.81%
Ba 233.527†	-5.3	-0.00112	mg/L	0.000114	-0.00558	mg/L	0.000569 10.20%
Be 313.042†	11.6	0.00003	mg/L	0.000127	0.00014	mg/L	0.000634 450.83%
Ca 317.933†	164.9	0.02638	mg/L	0.001948	0.1319	mg/L	0.00974 7.39%
Cd 228.802†	1.2	0.00006	mg/L	0.000070	0.00031	mg/L	0.000348 113.06%
Co 228.616†	3.2	0.00011	mg/L	0.000038	0.00056	mg/L	0.000191 34.15%
Cr 267.716†	13.7	0.02636	mg/L	0.001986	0.1318	mg/L	0.00993 7.54%
Cu 324.752†	48.4	0.00030	mg/L	0.000018	0.00151	mg/L	0.000088 5.84%
Fe 273.955†	5.1	0.00578	mg/L	0.004139	0.02888	mg/L	0.020696 71.66%
K 766.490†	44.0	0.03900	mg/L	0.031750	0.1950	mg/L	0.15875 81.42%
Mg 279.077†	-15.2	-0.02132	mg/L	0.008404	-0.1066	mg/L	0.04202 39.42%
Mn 257.610†	-16.0	-0.00049	mg/L	0.000123	-0.00244	mg/L	0.000616 25.21%
Mo 202.031†	1.1	0.00009	mg/L	0.000097	0.00044	mg/L	0.000484 109.67%
Na 589.592†	2632618.7	323.2	mg/L	3.96	1616	mg/L	19.80 1.23%
Na 330.237†	5670.9	321.9	mg/L	4.74	1610	mg/L	23.71 1.47%
Ni 231.604†	9.9	0.00419	mg/L	0.002037	0.02095	mg/L	0.010187 48.63%
Pb 220.353†	3.9	0.00068	mg/L	0.000855	0.00340	mg/L	0.004275 125.74%
Sb 206.836†	3.6	0.00173	mg/L	0.000605	0.00866	mg/L	0.003026 34.93%
Se 196.026†	3.1	0.00374	mg/L	0.005318	0.01872	mg/L	0.026589 142.03%
Si 288.158†	1.8	0.00231	mg/L	0.002061	0.01156	mg/L	0.010306 89.14%
Sn 189.927†	-0.2	-0.00006	mg/L	0.000893	-0.00030	mg/L	0.004467 >999.9%
Sr 421.552†	6.3	0.00001	mg/L	0.000111	0.00007	mg/L	0.000556 755.03%
Ti 334.903†	68.2	0.00534	mg/L	0.001567	0.02668	mg/L	0.007836 29.37%
Tl 190.801†	5.0	0.00356	mg/L	0.002363	0.01778	mg/L	0.011815 66.44%
V 292.402†	-1.9	0.00000	mg/L	0.000250	0.00002	mg/L	0.001250 >999.9%
Zn 206.200†	9.6	0.00577	mg/L	0.001635	0.02886	mg/L	0.008176 28.33%

Sequence No.: 3

Sample ID: 20K0007-02

Autosampler Location: 328

Date Collected: 11/12/2020 6:57:42 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-02

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: 20K0007-02

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1471410.0	99.71	%	0.787				0.79%
ScR 361.383	153597.0	100.2	%	0.38				0.38%
Ag 328.068†	-199.9	-0.00144	mg/L	0.000320	-0.00289	mg/L	0.000641	22.20%
Al 308.215†	68406.6	73.40	mg/L	0.313	146.8	mg/L	0.63	0.43%
As 188.979†	-158.4	0.03555	mg/L	0.005021	0.07110	mg/L	0.010042	14.12%
B 249.677†	42.9	0.00943	mg/L	0.000730	0.01886	mg/L	0.001460	7.74%
Ba 233.527†	1118.9	0.3144	mg/L	0.00152	0.6289	mg/L	0.00303	0.48%
Be 313.042†	794.4	0.00123	mg/L	0.000024	0.00247	mg/L	0.000047	1.92%
Ca 317.933†	194173.4	31.07	mg/L	0.202	62.13	mg/L	0.404	0.65%
Cd 228.802†	15.3	0.00099	mg/L	0.000156	0.00198	mg/L	0.000312	15.74%
Co 228.616†	1249.3	0.03589	mg/L	0.000738	0.07178	mg/L	0.001475	2.06%
Cr 267.716†	419.4	0.1591	mg/L	0.00306	0.3183	mg/L	0.00612	1.92%
Cu 324.752†	15928.6	0.1021	mg/L	0.00163	0.2043	mg/L	0.00326	1.60%
Fe 273.955†	82963.5	93.18	mg/L	0.324	186.4	mg/L	0.65	0.35%
K 766.490†	4875.1	4.321	mg/L	0.0149	8.643	mg/L	0.0298	0.34%
Mg 279.077†	12978.4	18.21	mg/L	0.090	36.41	mg/L	0.180	0.49%
Mn 257.610†	19721.7	0.6029	mg/L	0.00250	1.206	mg/L	0.0050	0.42%
Mo 202.031†	62.7	0.00406	mg/L	0.000061	0.00811	mg/L	0.000121	1.49%
Na 589.592†	102563.9	12.59	mg/L	0.074	25.18	mg/L	0.148	0.59%
Na 330.237†	212.9	12.82	mg/L	0.229	25.64	mg/L	0.457	1.78%
Ni 231.604†	159.4	0.06708	mg/L	0.001858	0.1342	mg/L	0.00372	2.77%
Pb 220.353†	774.9	0.1477	mg/L	0.00204	0.2955	mg/L	0.00408	1.38%
Sb 206.836†	3.1	0.00771	mg/L	0.001898	0.01543	mg/L	0.003796	24.60%
Se 196.026†	-13.2	-0.00159	mg/L	0.001037	-0.00319	mg/L	0.002075	65.07%
Si 288.158†	979.0	1.215	mg/L	0.0151	2.429	mg/L	0.0301	1.24%
Sn 189.927†	-27.4	-0.00159	mg/L	0.001545	-0.00318	mg/L	0.003090	97.28%
Sr 421.552†	136776.6	0.3198	mg/L	0.00155	0.6397	mg/L	0.00309	0.48%
Ti 334.903†	69210.6	5.412	mg/L	0.0233	10.82	mg/L	0.047	0.43%
Tl 190.801†	97.5	0.00009	mg/L	0.004769	0.00018	mg/L	0.009538	>999.9%
V 292.402†	16547.7	0.2756	mg/L	0.00338	0.5513	mg/L	0.00675	1.23%
Zn 206.200†	1312.8	0.7886	mg/L	0.00509	1.577	mg/L	0.0102	0.65%

Sequence No.: 4

Sample ID: BIK0243-DUP1

Autosampler Location: 329

Date Collected: 11/12/2020 7:01:58 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0243-DUP1

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: BIK0243-DUP1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1475451.9	99.98	%	1.388			1.39%
ScR 361.383	151296.6	98.67	%	0.895			0.91%
Ag 328.068†	-171.3	-0.00123	mg/L	0.000270	-0.00246	mg/L	0.000541 22.00%
Al 308.215†	66370.6	71.22	mg/L	0.284	142.4	mg/L	0.57 0.40%
As 188.979†	-155.0	0.03167	mg/L	0.003183	0.06334	mg/L	0.006366 10.05%
B 249.677†	52.0	0.01100	mg/L	0.001344	0.02200	mg/L	0.002688 12.22%
Ba 233.527†	1107.2	0.3115	mg/L	0.00223	0.6230	mg/L	0.00446 0.72%
Be 313.042†	749.6	0.00114	mg/L	0.000076	0.00229	mg/L	0.000152 6.63%
Ca 317.933†	186201.3	29.79	mg/L	0.171	59.58	mg/L	0.342 0.57%
Cd 228.802†	12.0	0.00082	mg/L	0.000253	0.00164	mg/L	0.000507 30.85%
Co 228.616†	1182.6	0.03378	mg/L	0.000667	0.06756	mg/L	0.001334 1.97%
Cr 267.716†	441.2	0.1669	mg/L	0.00045	0.3338	mg/L	0.00089 0.27%
Cu 324.752†	14941.8	0.09589	mg/L	0.001369	0.1918	mg/L	0.00274 1.43%
Fe 273.955†	80191.5	90.07	mg/L	0.678	180.1	mg/L	1.36 0.75%
K 766.490†	4811.7	4.265	mg/L	0.0515	8.530	mg/L	0.1031 1.21%
Mg 279.077†	13264.4	18.61	mg/L	0.147	37.22	mg/L	0.294 0.79%
Mn 257.610†	19366.9	0.5921	mg/L	0.00221	1.184	mg/L	0.0044 0.37%
Mo 202.031†	59.2	0.00381	mg/L	0.000680	0.00762	mg/L	0.001360 17.85%
Na 589.592†	101231.3	12.43	mg/L	0.049	24.85	mg/L	0.098 0.39%
Na 330.237†	215.5	12.98	mg/L	0.456	25.96	mg/L	0.912 3.51%
Ni 231.604†	167.8	0.07063	mg/L	0.001676	0.1413	mg/L	0.00335 2.37%
Pb 220.353†	1052.5	0.1942	mg/L	0.00245	0.3883	mg/L	0.00489 1.26%
Sb 206.836†	0.2	0.00582	mg/L	0.001631	0.01164	mg/L	0.003262 28.02%
Se 196.026†	-22.7	-0.01344	mg/L	0.004367	-0.02688	mg/L	0.008734 32.49%
Si 288.158†	792.1	0.9742	mg/L	0.00799	1.948	mg/L	0.0160 0.82%
Sn 189.927†	-24.4	-0.00083	mg/L	0.000897	-0.00166	mg/L	0.001793 107.89%
Sr 421.552†	134246.5	0.3139	mg/L	0.00151	0.6278	mg/L	0.00302 0.48%
Ti 334.903†	66643.7	5.212	mg/L	0.0206	10.42	mg/L	0.041 0.40%
Tl 190.801†	94.6	0.00022	mg/L	0.001454	0.00045	mg/L	0.002909 648.34%
V 292.402†	16072.8	0.2678	mg/L	0.00304	0.5356	mg/L	0.00608 1.14%
Zn 206.200†	1108.3	0.6659	mg/L	0.00558	1.332	mg/L	0.0112 0.84%

Sequence No.: 5

Autosampler Location: 330

Sample ID: BIK0243-MS1

Date Collected: 11/12/2020 7:06:14 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0243-MS1

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0243-MS1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1486839.6	100.8	%	1.02				1.02%
ScR 361.383	154082.2	100.5	%	1.02				1.01%
Ag 328.068†	65159.7	0.4929	mg/L	0.00218	0.9858	mg/L	0.00435	0.44%
Al 308.215†	70864.8	STL 76.04	mg/L	1.214	152.1	mg/L	2.43	1.60%
As 188.979†	1712.7	1.936	mg/L	0.0157	3.872	mg/L	0.0313	0.81%
B 249.677†	52.0	0.00577	mg/L	0.001513	0.01154	mg/L	0.003025	26.23%
Ba 233.527†	7507.2	2.187	mg/L	0.0357	4.374	mg/L	0.0714	1.63%
Be 313.042†	187003.3	0.4518	mg/L	0.00776	0.9036	mg/L	0.01551	1.72%
Ca 317.933†	255360.8	40.85	mg/L	0.751	81.71	mg/L	1.503	1.84%
Cd 228.802†	9090.9	0.4852	mg/L	0.00255	0.9705	mg/L	0.00510	0.53%
Co 228.616†	13109.3	0.4864	mg/L	0.00291	0.9728	mg/L	0.00581	0.60%
Cr 267.716†	1748.6	0.6476	mg/L	0.00642	1.295	mg/L	0.0128	0.99%
Cu 324.752†	91211.5	0.5712	mg/L	0.00287	1.142	mg/L	0.0057	0.50%
Fe 273.955†	75257.6	STL 84.52	mg/L	1.609	169.0	mg/L	3.22	1.90%
K 766.490†	15296.3	13.56	mg/L	0.240	27.12	mg/L	0.480	1.77%
Mg 279.077†	19986.4	28.07	mg/L	0.491	56.13	mg/L	0.982	1.75%
Mn 257.610†	32866.0	1.006	mg/L	0.0165	2.012	mg/L	0.0331	1.64%
Mo 202.031†	74.6	0.00468	mg/L	0.000325	0.00936	mg/L	0.000651	6.95%
Na 589.592†	186452.4	22.89	mg/L	0.369	45.77	mg/L	0.737	1.61%
Na 330.237†	395.0	22.95	mg/L	0.308	45.90	mg/L	0.616	1.34%
Ni 231.604†	1233.7	0.5196	mg/L	0.00910	1.039	mg/L	0.0182	1.75%
Pb 220.353†	12329.4	2.101	mg/L	0.0092	4.203	mg/L	0.0185	0.44%
Sb 206.836†	1318.8	0.6646	mg/L	0.00622	1.329	mg/L	0.0124	0.94%
Se 196.026†	1522.7	1.835	mg/L	0.0136	3.670	mg/L	0.0272	0.74%
Si 288.158†	747.2	0.9236	mg/L	0.02146	1.847	mg/L	0.0429	2.32%
Sn 189.927†	-37.5	-0.00366	mg/L	0.001430	-0.00731	mg/L	0.002859	39.10%
Sr 421.552†	343701.6	0.8037	mg/L	0.01152	1.607	mg/L	0.0230	1.43%
Ti 334.903†	61422.7	4.802	mg/L	0.0811	9.605	mg/L	0.1622	1.69%
Tl 190.801†	2674.1	1.826	mg/L	0.0122	3.652	mg/L	0.0243	0.67%
V 292.402†	44732.9	0.7352	mg/L	0.00613	1.470	mg/L	0.0123	0.83%
Zn 206.200†	1746.9	1.049	mg/L	0.0175	2.099	mg/L	0.0351	1.67%

Sequence No.: 6

Autosampler Location: 331

Sample ID: BIK0243-MSD1

Date Collected: 11/12/2020 7:10:54 PM

Data Type: Original

Dilution: 2X

Wash Time: 60

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0243-MSD1

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: BIK0243-MSD1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1492395.7	101.1	%	0.40				0.39%
ScR 361.383	155379.7	101.3	%	1.83				1.81%
Ag 328.068†	65089.5	0.4924	mg/L	0.00361	0.9848	mg/L	0.00722	0.73%
Al 308.215†	71880.4	STL 77.13	mg/L	1.306	154.3	mg/L	2.61	1.69%
As 188.979†	1717.6	1.946	mg/L	0.0132	3.892	mg/L	0.0264	0.68%
B 249.677†	59.4	0.00760	mg/L	0.001290	0.01520	mg/L	0.002580	16.98%
Ba 233.527†	7685.5	2.238	mg/L	0.0484	4.476	mg/L	0.0968	2.16%
Be 313.042†	190372.9	0.4599	mg/L	0.00730	0.9199	mg/L	0.01461	1.59%
Ca 317.933†	262861.6	42.05	mg/L	0.731	84.11	mg/L	1.462	1.74%
Cd 228.802†	8849.8	0.4720	mg/L	0.00088	0.9439	mg/L	0.00175	0.19%
Co 228.616†	13178.4	0.4887	mg/L	0.00411	0.9773	mg/L	0.00821	0.84%
Cr 267.716†	1786.0	0.6617	mg/L	0.01521	1.323	mg/L	0.0304	2.30%
Cu 324.752†	93438.3	0.5854	mg/L	0.00298	1.171	mg/L	0.0060	0.51%
Fe 273.955†	81053.5	STL 91.03	mg/L	1.053	182.1	mg/L	2.11	1.16%
K 766.490†	15582.2	13.81	mg/L	0.269	27.62	mg/L	0.539	1.95%
Mg 279.077†	20864.7	29.30	mg/L	0.648	58.60	mg/L	1.296	2.21%
Mn 257.610†	33193.0	1.016	mg/L	0.0207	2.032	mg/L	0.0413	2.03%
Mo 202.031†	77.6	0.00487	mg/L	0.000147	0.00975	mg/L	0.000295	3.02%
Na 589.592†	187165.3	22.97	mg/L	0.527	45.95	mg/L	1.055	2.30%
Na 330.237†	409.4	23.65	mg/L	0.520	47.31	mg/L	1.041	2.20%
Ni 231.604†	1277.3	0.5379	mg/L	0.01508	1.076	mg/L	0.0302	2.80%
Pb 220.353†	12712.1	2.166	mg/L	0.0104	4.332	mg/L	0.0208	0.48%
Sb 206.836†	1267.6	0.6387	mg/L	0.00675	1.277	mg/L	0.0135	1.06%
Se 196.026†	1528.3	1.842	mg/L	0.0109	3.685	mg/L	0.0219	0.59%
Si 288.158†	703.7	0.8657	mg/L	0.01902	1.731	mg/L	0.0380	2.20%
Sn 189.927†	-37.0	-0.00321	mg/L	0.000852	-0.00643	mg/L	0.001703	26.50%
Sr 421.552†	351970.0	0.8230	mg/L	0.01344	1.646	mg/L	0.0269	1.63%
Ti 334.903†	63198.8	4.941	mg/L	0.0777	9.883	mg/L	0.1554	1.57%
Tl 190.801†	2692.1	1.837	mg/L	0.0147	3.674	mg/L	0.0295	0.80%
V 292.402†	45335.9	0.7455	mg/L	0.00095	1.491	mg/L	0.0019	0.13%
Zn 206.200†	2397.4	1.440	mg/L	0.0321	2.880	mg/L	0.0642	2.23%

Sequence No.: 7

Autosampler Location: 7

Sample ID: SEQ-CCV5

Date Collected: 11/12/2020 7:17:54 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV5

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: SEQ-CCV5

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1446450.4	98.02	%	0.478			0.49%
ScR 361.383	152652.3	99.55	%	0.467			0.47%
Ag 328.068†	135768.3	1.027	mg/L	0.0063	1.027	mg/L	0.61%
Al 308.215†	1915.8	2.021	mg/L	0.0051	2.021	mg/L	0.25%
As 188.979†	1922.1	2.007	mg/L	0.0134	2.007	mg/L	0.67%
B 249.677†	5519.7	0.9507	mg/L	0.00066	0.9507	mg/L	0.07%
Ba 233.527†	3344.2	0.9786	mg/L	0.00542	0.9786	mg/L	0.55%
Be 313.042†	398037.9	0.9629	mg/L	0.00192	0.9629	mg/L	0.20%
Ca 317.933†	12690.6	2.030	mg/L	0.0128	2.030	mg/L	0.63%
Cd 228.802†	18737.8	1.013	mg/L	0.0044	1.013	mg/L	0.44%
Co 228.616†	25398.0	0.9609	mg/L	0.00611	0.9609	mg/L	0.64%
Cr 267.716†	2811.8	1.041	mg/L	0.0068	1.041	mg/L	0.65%
Cu 324.752†	162373.6	1.012	mg/L	0.0049	1.012	mg/L	0.48%
Fe 273.955†	1836.8	2.055	mg/L	0.0125	2.055	mg/L	0.61%
K 766.490†	22447.5	19.90	mg/L	0.119	19.90	mg/L	0.60%
Mg 279.077†	1414.9	2.004	mg/L	0.0170	2.004	mg/L	0.85%
Mn 257.610†	31425.3	0.9632	mg/L	0.00121	0.9632	mg/L	0.13%
Mo 202.031†	13096.9	1.022	mg/L	0.0060	1.022	mg/L	0.59%
Na 589.592†	399367.3	49.02	mg/L	0.071	49.02	mg/L	0.15%
Na 330.237†	905.1	51.22	mg/L	0.079	51.22	mg/L	0.15%
Ni 231.604†	2324.1	0.9796	mg/L	0.00570	0.9796	mg/L	0.58%
Pb 220.353†	12044.1	2.036	mg/L	0.0092	2.036	mg/L	0.45%
Sb 206.836†	4136.7	2.085	mg/L	0.0081	2.085	mg/L	0.39%
Se 196.026†	1652.0	1.975	mg/L	0.0009	1.975	mg/L	0.04%
Si 288.158†	1522.7	1.962	mg/L	0.0042	1.962	mg/L	0.22%
Sn 189.927†	2784.1	0.9821	mg/L	0.00324	0.9821	mg/L	0.33%
Sr 421.552†	419146.3	0.9801	mg/L	0.00133	0.9801	mg/L	0.14%
Ti 334.903†	12695.4	0.9919	mg/L	0.00183	0.9919	mg/L	0.18%
Tl 190.801†	2783.2	1.962	mg/L	0.0072	1.962	mg/L	0.37%
V 292.402†	63380.2	1.035	mg/L	0.0153	1.035	mg/L	1.48%
Zn 206.200†	1589.8	0.9542	mg/L	0.00228	0.9542	mg/L	0.24%

Sequence No.: 8

Sample ID: SEQ-CCB5

Autosampler Location: 1

Date Collected: 11/12/2020 7:23:14 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB5

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: SEQ-CCB5

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1464124.1	99.22	%	1.728				1.74%
ScR 361.383	150424.9	98.10	%	0.369				0.38%
Ag 328.068†	-30.6	-0.00023	mg/L	0.000077	-0.00023	mg/L	0.000077	33.27%
Al 308.215†	14.7	0.01580	mg/L	0.010225	0.01580	mg/L	0.010225	64.73%
As 188.979†	-0.5	-0.00038	mg/L	0.003243	-0.00038	mg/L	0.003243	856.40%
B 249.677†	4.4	0.00078	mg/L	0.001676	0.00078	mg/L	0.001676	215.50%
Ba 233.527†	-6.8	-0.00199	mg/L	0.001421	-0.00199	mg/L	0.001421	71.51%
Be 313.042†	0.2	0.00000	mg/L	0.000080	0.00000	mg/L	0.000080	>999.9%
Ca 317.933†	3.9	0.00062	mg/L	0.001802	0.00062	mg/L	0.001802	291.05%
Cd 228.802†	-3.5	-0.00019	mg/L	0.000176	-0.00019	mg/L	0.000176	92.86%
Co 228.616†	7.7	0.00029	mg/L	0.000097	0.00029	mg/L	0.000097	33.84%
Cr 267.716†	5.9	0.00218	mg/L	0.002094	0.00218	mg/L	0.002094	95.90%
Cu 324.752†	-35.4	-0.00022	mg/L	0.000163	-0.00022	mg/L	0.000163	74.05%
Fe 273.955†	2.7	0.00306	mg/L	0.001830	0.00306	mg/L	0.001830	59.75%
K 766.490†	-38.4	-0.03401	mg/L	0.037332	-0.03401	mg/L	0.037332	109.78%
Mg 279.077†	-5.1	-0.00723	mg/L	0.014560	-0.00723	mg/L	0.014560	201.39%
Mn 257.610†	-11.3	-0.00035	mg/L	0.000181	-0.00035	mg/L	0.000181	52.18%
Mo 202.031†	-0.0	-0.00000	mg/L	0.000101	-0.00000	mg/L	0.000101	>999.9%
Na 589.592†	-23.0	-0.00282	mg/L	0.002170	-0.00282	mg/L	0.002170	76.89%
Na 330.237†	-11.0	-0.6232	mg/L	0.20191	-0.6232	mg/L	0.20191	32.40%
Ni 231.604†	-5.3	-0.00222	mg/L	0.002862	-0.00222	mg/L	0.002862	129.10%
Pb 220.353†	-2.4	-0.00040	mg/L	0.000557	-0.00040	mg/L	0.000557	138.48%
Sb 206.836†	2.7	0.00133	mg/L	0.002351	0.00133	mg/L	0.002351	177.33%
Se 196.026†	-1.4	-0.00169	mg/L	0.003735	-0.00169	mg/L	0.003735	220.47%
Si 288.158†	0.8	0.00103	mg/L	0.002879	0.00103	mg/L	0.002879	279.94%
Sn 189.927†	1.3	0.00046	mg/L	0.001040	0.00046	mg/L	0.001040	224.34%
Sr 421.552†	9.0	0.00002	mg/L	0.000067	0.00002	mg/L	0.000067	319.53%
Ti 334.903†	35.0	0.00273	mg/L	0.000536	0.00273	mg/L	0.000536	19.60%
Tl 190.801†	-3.2	-0.00229	mg/L	0.002455	-0.00229	mg/L	0.002455	107.23%
V 292.402†	4.0	0.00008	mg/L	0.000181	0.00008	mg/L	0.000181	228.22%
Zn 206.200†	0.6	0.00037	mg/L	0.001747	0.00037	mg/L	0.001747	467.01%

Sequence No.: 9

Autosampler Location: 327

Sample ID: 20K0007-04

Date Collected: 11/12/2020 7:27:30 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-04

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: 20K0007-04

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1474503.4	99.92	%	0.314			0.31%	
ScR 361.383	155183.5	101.2	%	0.09			0.09%	
Ag 328.068†	-230.7	-0.00164	mg/L	0.000107	-0.00328	mg/L	0.000214	6.53%
Al 308.215†	104804.1	112.5	mg/L	0.39	224.9	mg/L	0.77	0.34%
As 188.979†	-150.4	0.08384	mg/L	0.004334	0.1677	mg/L	0.00867	5.17%
B 249.677†	95.9	0.01821	mg/L	0.001247	0.03643	mg/L	0.002493	6.84%
Ba 233.527†	884.1	0.2442	mg/L	0.00166	0.4884	mg/L	0.00332	0.68%
Be 313.042†	1112.9	0.00167	mg/L	0.000042	0.00334	mg/L	0.000084	2.51%
Ca 317.933†	269571.3	43.13	mg/L	0.179	86.26	mg/L	0.357	0.41%
Cd 228.802†	13.0	0.00071	mg/L	0.000108	0.00142	mg/L	0.000217	15.26%
Co 228.616†	1912.2	0.05875	mg/L	0.000451	0.1175	mg/L	0.00090	0.77%
Cr 267.716†	363.2	0.1380	mg/L	0.00281	0.2759	mg/L	0.00563	2.04%
Cu 324.752†	27826.4	0.1765	mg/L	0.00249	0.3529	mg/L	0.00499	1.41%
Fe 273.955†	91118.3	102.3	mg/L	0.95	204.7	mg/L	1.91	0.93%
K 766.490†	6774.9	6.005	mg/L	0.0410	12.01	mg/L	0.082	0.68%
Mg 279.077†	17157.9	24.08	mg/L	0.126	48.16	mg/L	0.251	0.52%
Mn 257.610†	22543.5	0.6890	mg/L	0.00135	1.378	mg/L	0.0027	0.20%
Mo 202.031†	133.6	0.00927	mg/L	0.000224	0.01855	mg/L	0.000448	2.41%
Na 589.592†	123443.6	15.15	mg/L	0.027	30.31	mg/L	0.054	0.18%
Na 330.237†	246.9	15.17	mg/L	0.292	30.34	mg/L	0.583	1.92%
Ni 231.604†	186.7	0.07853	mg/L	0.000929	0.1571	mg/L	0.00186	1.18%
Pb 220.353†	-22.3	0.02365	mg/L	0.001372	0.04730	mg/L	0.002744	5.80%
Sb 206.836†	6.5	0.01189	mg/L	0.002585	0.02378	mg/L	0.005170	21.74%
Se 196.026†	-17.0	-0.00338	mg/L	0.007237	-0.00677	mg/L	0.014474	213.85%
Si 288.158†	1311.2	1.634	mg/L	0.0204	3.269	mg/L	0.0407	1.25%
Sn 189.927†	-56.2	-0.00905	mg/L	0.000754	-0.01811	mg/L	0.001508	8.33%
Sr 421.552†	228498.5	0.5343	mg/L	0.00140	1.069	mg/L	0.0028	0.26%
Ti 334.903†	83580.0	6.536	mg/L	0.0347	13.07	mg/L	0.069	0.53%
Tl 190.801†	138.3	0.00448	mg/L	0.002012	0.00897	mg/L	0.004025	44.88%
V 292.402†	24585.8	0.4063	mg/L	0.00584	0.8126	mg/L	0.01167	1.44%
Zn 206.200†	372.1	0.2240	mg/L	0.00026	0.4480	mg/L	0.00052	0.12%

Sequence No.: 10

Autosampler Location: 332

Sample ID: 20K0007-07

Date Collected: 11/12/2020 7:31:47 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-07

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0007-07

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1452402.3	98.42	%	0.263			0.27%	
ScR 361.383	152106.0	99.19	%	0.368			0.37%	
Ag 328.068†	-225.5	-0.00160	mg/L	0.000099	-0.00320	mg/L	0.000198	6.19%
Al 308.215†	78765.8	84.52	mg/L	0.271	169.0	mg/L	0.54	0.32%
As 188.979†	-158.3	0.05230	mg/L	0.002136	0.1046	mg/L	0.00427	4.08%
B 249.677†	56.6	0.01679	mg/L	0.000805	0.03359	mg/L	0.001611	4.80%
Ba 233.527†	1266.6	0.3531	mg/L	0.00148	0.7061	mg/L	0.00297	0.42%
Be 313.042†	967.2	0.00131	mg/L	0.000075	0.00262	mg/L	0.000151	5.75%
Ca 317.933†	274765.3	43.96	mg/L	0.171	87.92	mg/L	0.342	0.39%
Cd 228.802†	111.0	0.00589	mg/L	0.000094	0.01179	mg/L	0.000188	1.59%
Co 228.616†	1426.0	0.04115	mg/L	0.000271	0.08230	mg/L	0.000542	0.66%
Cr 267.716†	374.0	0.1428	mg/L	0.00317	0.2856	mg/L	0.00633	2.22%
Cu 324.752†	25669.7	0.1641	mg/L	0.00084	0.3282	mg/L	0.00167	0.51%
Fe 273.955†	111532.8	125.3	mg/L	0.72	250.5	mg/L	1.44	0.58%
K 766.490†	5446.3	4.828	mg/L	0.0424	9.655	mg/L	0.0848	0.88%
Mg 279.077†	14418.6	20.22	mg/L	0.094	40.44	mg/L	0.188	0.46%
Mn 257.610†	77666.3	2.378	mg/L	0.0082	4.756	mg/L	0.0165	0.35%
Mo 202.031†	129.7	0.00900	mg/L	0.000335	0.01799	mg/L	0.000671	3.73%
Na 589.592†	53349.6	6.549	mg/L	0.0279	13.10	mg/L	0.056	0.43%
Na 330.237†	82.1	5.655	mg/L	0.0230	11.31	mg/L	0.046	0.41%
Ni 231.604†	205.2	0.08634	mg/L	0.002907	0.1727	mg/L	0.00581	3.37%
Pb 220.353†	176.4	0.04837	mg/L	0.001800	0.09674	mg/L	0.003600	3.72%
Sb 206.836†	12.7	0.01404	mg/L	0.002179	0.02809	mg/L	0.004359	15.52%
Se 196.026†	-22.3	-0.00730	mg/L	0.009305	-0.01461	mg/L	0.018611	127.42%
Si 288.158†	1094.5	1.360	mg/L	0.0146	2.719	mg/L	0.0292	1.08%
Sn 189.927†	-43.8	-0.00481	mg/L	0.001996	-0.00962	mg/L	0.003993	41.50%
Sr 421.552†	204259.6	0.4776	mg/L	0.00203	0.9553	mg/L	0.00406	0.42%
Ti 334.903†	75200.6	5.880	mg/L	0.0297	11.76	mg/L	0.059	0.51%
Tl 190.801†	115.5	0.00013	mg/L	0.001825	0.00027	mg/L	0.003650	>999.9%
V 292.402†	24639.4	0.4093	mg/L	0.00755	0.8187	mg/L	0.01510	1.84%
Zn 206.200†	534.2	0.3213	mg/L	0.00209	0.6426	mg/L	0.00417	0.65%

Sequence No.: 11

Sample ID: 20K0007-09

Autosampler Location: 333

Date Collected: 11/12/2020 7:36:04 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-09

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0007-09

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1508012.7	102.2	%	1.03				1.01%
ScR 361.383	155225.6	101.2	%	1.36				1.35%
Ag 328.068†	-199.9	-0.00138	mg/L	0.000375	-0.00277	mg/L	0.000751	27.12%
Al 308.215†	77058.0	82.68	mg/L	0.444	165.4	mg/L	0.89	0.54%
As 188.979†	-143.7	0.06806	mg/L	0.006340	0.1361	mg/L	0.01268	9.32%
B 249.677†	77.7	0.01332	mg/L	0.002718	0.02664	mg/L	0.005436	20.41%
Ba 233.527†	864.8	0.2429	mg/L	0.00260	0.4859	mg/L	0.00520	1.07%
Be 313.042†	1010.1	0.00116	mg/L	0.000007	0.00233	mg/L	0.000013	0.57%
Ca 317.933†	230010.7	36.80	mg/L	0.215	73.60	mg/L	0.429	0.58%
Cd 228.802†	18.5	0.00128	mg/L	0.000202	0.00255	mg/L	0.000404	15.80%
Co 228.616†	947.1	0.02379	mg/L	0.000293	0.04758	mg/L	0.000585	1.23%
Cr 267.716†	353.1	0.1328	mg/L	0.00079	0.2656	mg/L	0.00157	0.59%
Cu 324.752†	27423.0	0.1728	mg/L	0.00272	0.3455	mg/L	0.00544	1.57%
Fe 273.955†	62662.4	70.38	mg/L	0.524	140.8	mg/L	1.05	0.74%
K 766.490†	5315.0	4.711	mg/L	0.0602	9.422	mg/L	0.1203	1.28%
Mg 279.077†	11601.8	16.28	mg/L	0.140	32.56	mg/L	0.279	0.86%
Mn 257.610†	19630.4	0.6003	mg/L	0.00274	1.201	mg/L	0.0055	0.46%
Mo 202.031†	131.6	0.00933	mg/L	0.000342	0.01866	mg/L	0.000685	3.67%
Na 589.592†	110654.5	13.58	mg/L	0.077	27.17	mg/L	0.154	0.57%
Na 330.237†	229.0	14.05	mg/L	0.375	28.10	mg/L	0.750	2.67%
Ni 231.604†	147.1	0.06191	mg/L	0.000881	0.1238	mg/L	0.00176	1.42%
Pb 220.353†	94.1	0.03645	mg/L	0.000552	0.07290	mg/L	0.001103	1.51%
Sb 206.836†	-2.9	0.00670	mg/L	0.006040	0.01340	mg/L	0.012081	90.19%
Se 196.026†	-16.5	-0.00696	mg/L	0.002869	-0.01392	mg/L	0.005739	41.23%
Si 288.158†	963.4	1.188	mg/L	0.0231	2.377	mg/L	0.0461	1.94%
Sn 189.927†	-46.5	-0.00705	mg/L	0.001001	-0.01411	mg/L	0.002003	14.20%
Sr 421.552†	176246.3	0.4121	mg/L	0.00282	0.8243	mg/L	0.00564	0.68%
Ti 334.903†	75845.2	5.931	mg/L	0.0360	11.86	mg/L	0.072	0.61%
Tl 190.801†	100.8	-0.00142	mg/L	0.003903	-0.00284	mg/L	0.007807	274.72%
V 292.402†	30652.3	0.5022	mg/L	0.00633	1.004	mg/L	0.0127	1.26%
Zn 206.200†	323.3	0.1946	mg/L	0.00086	0.3892	mg/L	0.00172	0.44%

Sequence No.: 12

Autosampler Location: 334

Sample ID: 20K0007-13

Date Collected: 11/12/2020 7:40:21 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-13

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0007-13

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1525852.6	103.4	%	1.34				1.29%
ScR 361.383	158956.7	103.7	%	0.97				0.94%
Ag 328.068†	-200.6	-0.00143	mg/L	0.000187	-0.00287	mg/L	0.000375	13.07%
Al 308.215†	76389.1	81.97	mg/L	0.407	163.9	mg/L	0.81	0.50%
As 188.979†	-160.1	0.04848	mg/L	0.008098	0.09696	mg/L	0.016197	16.70%
B 249.677†	40.2	0.01365	mg/L	0.000762	0.02731	mg/L	0.001524	5.58%
Ba 233.527†	954.1	0.2631	mg/L	0.00187	0.5261	mg/L	0.00374	0.71%
Be 313.042†	735.9	0.00096	mg/L	0.000090	0.00191	mg/L	0.000181	9.45%
Ca 317.933†	239518.3	38.32	mg/L	0.237	76.64	mg/L	0.475	0.62%
Cd 228.802†	25.7	0.00135	mg/L	0.000310	0.00271	mg/L	0.000620	22.89%
Co 228.616†	1449.9	0.04238	mg/L	0.000908	0.08475	mg/L	0.001815	2.14%
Cr 267.716†	416.8	0.1589	mg/L	0.00262	0.3178	mg/L	0.00524	1.65%
Cu 324.752†	18411.6	0.1184	mg/L	0.00184	0.2368	mg/L	0.00368	1.55%
Fe 273.955†	102354.1	115.0	mg/L	0.54	229.9	mg/L	1.07	0.47%
K 766.490†	4728.3	4.191	mg/L	0.0202	8.382	mg/L	0.0403	0.48%
Mg 279.077†	14460.6	20.28	mg/L	0.047	40.56	mg/L	0.095	0.23%
Mn 257.610†	27208.4	0.8321	mg/L	0.00176	1.664	mg/L	0.0035	0.21%
Mo 202.031†	747.5	0.05731	mg/L	0.000793	0.1146	mg/L	0.00159	1.38%
Na 589.592†	49370.8	6.060	mg/L	0.0386	12.12	mg/L	0.077	0.64%
Na 330.237†	84.9	5.794	mg/L	0.2190	11.59	mg/L	0.438	3.78%
Ni 231.604†	203.6	0.08569	mg/L	0.001045	0.1714	mg/L	0.00209	1.22%
Pb 220.353†	699.4	0.1365	mg/L	0.00223	0.2729	mg/L	0.00445	1.63%
Sb 206.836†	5.9	0.00998	mg/L	0.001912	0.01995	mg/L	0.003823	19.16%
Se 196.026†	-24.0	-0.01123	mg/L	0.005473	-0.02245	mg/L	0.010945	48.75%
Si 288.158†	643.3	0.7745	mg/L	0.00909	1.549	mg/L	0.0182	1.17%
Sn 189.927†	-30.9	-0.00132	mg/L	0.001599	-0.00263	mg/L	0.003199	121.61%
Sr 421.552†	157143.5	0.3675	mg/L	0.00230	0.7349	mg/L	0.00460	0.63%
Ti 334.903†	74453.7	5.822	mg/L	0.0272	11.64	mg/L	0.054	0.47%
Tl 190.801†	109.4	-0.00068	mg/L	0.005199	-0.00135	mg/L	0.010399	768.61%
V 292.402†	19737.7	0.3290	mg/L	0.00488	0.6579	mg/L	0.00976	1.48%
Zn 206.200†	557.4	0.3352	mg/L	0.00191	0.6703	mg/L	0.00381	0.57%

Sequence No.: 13

Sample ID: 20K0007-15

Autosampler Location: 335

Date Collected: 11/12/2020 7:44:37 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-15

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0007-15

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1491790.0	101.1	%	0.62				0.61%
ScR 361.383	157353.9	102.6	%	1.89				1.84%
Ag 328.068†	-181.4	-0.00131	mg/L	0.000069	-0.00261	mg/L	0.000138	5.28%
Al 308.215†	49565.3	53.18	mg/L	1.075	106.4	mg/L	2.15	2.02%
As 188.979†	-143.0	0.04661	mg/L	0.003561	0.09322	mg/L	0.007123	7.64%
B 249.677†	37.8	0.00895	mg/L	0.002062	0.01789	mg/L	0.004124	23.05%
Ba 233.527†	615.6	0.1716	mg/L	0.00403	0.3431	mg/L	0.00807	2.35%
Be 313.042†	546.9	0.00068	mg/L	0.000101	0.00135	mg/L	0.000202	14.93%
Ca 317.933†	164402.9	26.30	mg/L	0.553	52.61	mg/L	1.105	2.10%
Cd 228.802†	2.7	0.00051	mg/L	0.000125	0.00102	mg/L	0.000251	24.51%
Co 228.616†	766.6	0.01833	mg/L	0.000521	0.03667	mg/L	0.001043	2.84%
Cr 267.716†	283.4	0.1068	mg/L	0.00457	0.2137	mg/L	0.00914	4.28%
Cu 324.752†	10980.5	0.06998	mg/L	0.000295	0.1400	mg/L	0.00059	0.42%
Fe 273.955†	53846.8	60.48	mg/L	1.361	121.0	mg/L	2.72	2.25%
K 766.490†	3324.1	2.947	mg/L	0.1047	5.893	mg/L	0.2095	3.55%
Mg 279.077†	8788.5	12.33	mg/L	0.255	24.66	mg/L	0.511	2.07%
Mn 257.610†	15463.1	0.4729	mg/L	0.00988	0.9458	mg/L	0.01976	2.09%
Mo 202.031†	73.2	0.00503	mg/L	0.000235	0.01007	mg/L	0.000469	4.66%
Na 589.592†	43081.4	5.288	mg/L	0.1014	10.58	mg/L	0.203	1.92%
Na 330.237†	70.5	4.947	mg/L	0.0490	9.893	mg/L	0.0980	0.99%
Ni 231.604†	93.7	0.03944	mg/L	0.001565	0.07888	mg/L	0.003129	3.97%
Pb 220.353†	-10.5	0.01088	mg/L	0.001514	0.02177	mg/L	0.003028	13.91%
Sb 206.836†	-7.4	0.00307	mg/L	0.002186	0.00615	mg/L	0.004372	71.11%
Se 196.026†	-12.5	-0.00485	mg/L	0.002041	-0.00969	mg/L	0.004082	42.12%
Si 288.158†	722.2	0.8817	mg/L	0.01078	1.763	mg/L	0.0216	1.22%
Sn 189.927†	-37.5	-0.00605	mg/L	0.001085	-0.01211	mg/L	0.002169	17.91%
Sr 421.552†	110824.4	0.2591	mg/L	0.00530	0.5183	mg/L	0.01060	2.05%
Ti 334.903†	67746.5	5.298	mg/L	0.1082	10.60	mg/L	0.216	2.04%
Tl 190.801†	73.7	-0.00176	mg/L	0.000639	-0.00352	mg/L	0.001278	36.29%
V 292.402†	15492.0	0.2557	mg/L	0.00266	0.5115	mg/L	0.00532	1.04%
Zn 206.200†	243.0	0.1462	mg/L	0.00221	0.2925	mg/L	0.00443	1.51%

Sequence No.: 14

Sample ID: 20K0007-19

Autosampler Location: 336

Date Collected: 11/12/2020 7:48:53 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-19

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0007-19

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1493565.9	101.2	%	0.24				0.24%
ScR 361.383	155653.1	101.5	%	0.42				0.41%
Ag 328.068†	-202.1	-0.00144	mg/L	0.000125	-0.00288	mg/L	0.000250	8.68%
Al 308.215†	67822.7	72.77	mg/L	0.229	145.5	mg/L	0.46	0.32%
As 188.979†	-163.3	0.04414	mg/L	0.003229	0.08828	mg/L	0.006459	7.32%
B 249.677†	34.6	0.01232	mg/L	0.001960	0.02465	mg/L	0.003920	15.90%
Ba 233.527†	850.9	0.2339	mg/L	0.00179	0.4677	mg/L	0.00358	0.76%
Be 313.042†	753.5	0.00095	mg/L	0.000049	0.00190	mg/L	0.000098	5.17%
Ca 317.933†	210899.2	33.74	mg/L	0.085	67.48	mg/L	0.170	0.25%
Cd 228.802†	6.8	0.00041	mg/L	0.000184	0.00082	mg/L	0.000367	44.80%
Co 228.616†	1293.6	0.03668	mg/L	0.000072	0.07336	mg/L	0.000144	0.20%
Cr 267.716†	322.2	0.1234	mg/L	0.00305	0.2468	mg/L	0.00610	2.47%
Cu 324.752†	12050.8	0.07849	mg/L	0.000387	0.1570	mg/L	0.00077	0.49%
Fe 273.955†	95811.2	107.6	mg/L	0.27	215.2	mg/L	0.53	0.25%
K 766.490†	4592.9	4.071	mg/L	0.0475	8.142	mg/L	0.0951	1.17%
Mg 279.077†	14116.7	19.80	mg/L	0.066	39.60	mg/L	0.132	0.33%
Mn 257.610†	28904.3	0.8842	mg/L	0.00331	1.768	mg/L	0.0066	0.37%
Mo 202.031†	78.1	0.00519	mg/L	0.000240	0.01037	mg/L	0.000480	4.63%
Na 589.592†	40166.6	4.930	mg/L	0.0194	9.861	mg/L	0.0388	0.39%
Na 330.237†	63.4	4.619	mg/L	0.2503	9.238	mg/L	0.5005	5.42%
Ni 231.604†	176.2	0.07416	mg/L	0.001140	0.1483	mg/L	0.00228	1.54%
Pb 220.353†	32.3	0.02144	mg/L	0.001897	0.04288	mg/L	0.003795	8.85%
Sb 206.836†	2.9	0.00904	mg/L	0.001231	0.01808	mg/L	0.002462	13.62%
Se 196.026†	-20.6	-0.00861	mg/L	0.006651	-0.01722	mg/L	0.013303	77.26%
Si 288.158†	820.1	1.005	mg/L	0.0097	2.009	mg/L	0.0194	0.97%
Sn 189.927†	-41.6	-0.00593	mg/L	0.000095	-0.01186	mg/L	0.000190	1.60%
Sr 421.552†	142348.4	0.3329	mg/L	0.00063	0.6657	mg/L	0.00126	0.19%
Ti 334.903†	73837.7	5.774	mg/L	0.0222	11.55	mg/L	0.044	0.38%
Tl 190.801†	100.7	-0.00105	mg/L	0.003058	-0.00210	mg/L	0.006117	291.56%
V 292.402†	20873.9	0.3466	mg/L	0.00157	0.6932	mg/L	0.00314	0.45%
Zn 206.200†	328.6	0.1977	mg/L	0.00282	0.3954	mg/L	0.00564	1.43%

Sequence No.: 15

Sample ID: 20K0007-21

Autosampler Location: 337

Date Collected: 11/12/2020 7:53:09 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-21

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: 20K0007-21

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1503087.8	101.9	%	0.33			0.32%
ScR 361.383	156405.3	102.0	%	0.41			0.40%
Ag 328.068†	-161.8	-0.00114	mg/L	0.000223	-0.00227	mg/L	0.000446 19.60%
Al 308.215†	76424.2	82.01	mg/L	0.220	164.0	mg/L	0.44 0.27%
As 188.979†	-156.8	0.04132	mg/L	0.002974	0.08265	mg/L	0.005949 7.20%
B 249.677†	67.6	0.01405	mg/L	0.001277	0.02810	mg/L	0.002554 9.09%
Ba 233.527†	742.1	0.2075	mg/L	0.00046	0.4151	mg/L	0.00091 0.22%
Be 313.042†	862.6	0.00121	mg/L	0.000031	0.00243	mg/L	0.000061 2.52%
Ca 317.933†	197997.5	31.68	mg/L	0.051	63.35	mg/L	0.102 0.16%
Cd 228.802†	3.4	0.00061	mg/L	0.000188	0.00122	mg/L	0.000376 30.88%
Co 228.616†	1170.7	0.03303	mg/L	0.000061	0.06607	mg/L	0.000123 0.19%
Cr 267.716†	324.6	0.1220	mg/L	0.00106	0.2440	mg/L	0.00212 0.87%
Cu 324.752†	12816.1	0.08165	mg/L	0.000054	0.1633	mg/L	0.00011 0.07%
Fe 273.955†	59956.5	67.34	mg/L	0.365	134.7	mg/L	0.73 0.54%
K 766.490†	3914.0	3.469	mg/L	0.0483	6.939	mg/L	0.0967 1.39%
Mg 279.077†	10985.8	15.42	mg/L	0.028	30.83	mg/L	0.057 0.18%
Mn 257.610†	16516.9	0.5049	mg/L	0.00280	1.010	mg/L	0.0056 0.55%
Mo 202.031†	70.5	0.00468	mg/L	0.000065	0.00936	mg/L	0.000130 1.39%
Na 589.592†	54718.4	6.717	mg/L	0.0245	13.43	mg/L	0.049 0.36%
Na 330.237†	100.4	6.597	mg/L	0.2033	13.19	mg/L	0.407 3.08%
Ni 231.604†	190.6	0.08018	mg/L	0.001989	0.1604	mg/L	0.00398 2.48%
Pb 220.353†	-46.9	0.01255	mg/L	0.000622	0.02511	mg/L	0.001244 4.96%
Sb 206.836†	-4.9	0.00473	mg/L	0.001505	0.00946	mg/L	0.003009 31.83%
Se 196.026†	-13.2	-0.00412	mg/L	0.001274	-0.00824	mg/L	0.002549 30.95%
Si 288.158†	869.7	1.071	mg/L	0.0105	2.142	mg/L	0.0209 0.98%
Sn 189.927†	-43.8	-0.00719	mg/L	0.000439	-0.01438	mg/L	0.000878 6.11%
Sr 421.552†	143740.2	0.3361	mg/L	0.00088	0.6722	mg/L	0.00175 0.26%
Ti 334.903†	71030.1	5.555	mg/L	0.0125	11.11	mg/L	0.025 0.22%
Tl 190.801†	100.9	0.00171	mg/L	0.001799	0.00342	mg/L	0.003599 105.13%
V 292.402†	20944.2	0.3447	mg/L	0.00124	0.6893	mg/L	0.00247 0.36%
Zn 206.200†	705.7	0.4241	mg/L	0.00052	0.8482	mg/L	0.00104 0.12%

Sequence No.: 16

Sample ID: 20K0007-25

Autosampler Location: 338

Date Collected: 11/12/2020 7:57:25 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-25

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: 20K0007-25

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1503693.3	101.9	%	0.63			0.61%
ScR 361.383	158175.7	103.2	%	0.51			0.50%
Ag 328.068†	-192.0	-0.00137	mg/L	0.000296	-0.00273	mg/L	0.000591 21.64%
Al 308.215†	70803.6	75.97	mg/L	0.363	151.9	mg/L	0.73 0.48%
As 188.979†	-113.5	0.07959	mg/L	0.003379	0.1592	mg/L	0.00676 4.25%
B 249.677†	20.4	0.00890	mg/L	0.001391	0.01780	mg/L	0.002783 15.64%
Ba 233.527†	1059.4	0.2961	mg/L	0.00251	0.5921	mg/L	0.00503 0.85%
Be 313.042†	938.0	0.00141	mg/L	0.000014	0.00281	mg/L	0.000028 0.99%
Ca 317.933†	233665.0	37.38	mg/L	0.066	74.77	mg/L	0.131 0.18%
Cd 228.802†	30.6	0.00145	mg/L	0.000125	0.00291	mg/L	0.000250 8.59%
Co 228.616†	1272.9	0.03672	mg/L	0.000209	0.07344	mg/L	0.000418 0.57%
Cr 267.716†	321.3	0.1225	mg/L	0.00282	0.2450	mg/L	0.00563 2.30%
Cu 324.752†	17482.7	0.1121	mg/L	0.00113	0.2242	mg/L	0.00227 1.01%
Fe 273.955†	88313.0	99.19	mg/L	0.116	198.4	mg/L	0.23 0.12%
K 766.490†	4558.8	4.041	mg/L	0.0318	8.082	mg/L	0.0637 0.79%
Mg 279.077†	13296.7	18.65	mg/L	0.023	37.30	mg/L	0.047 0.12%
Mn 257.610†	26860.5	0.8216	mg/L	0.00400	1.643	mg/L	0.0080 0.49%
Mo 202.031†	92.0	0.00621	mg/L	0.000911	0.01241	mg/L	0.001822 14.68%
Na 589.592†	42691.7	5.240	mg/L	0.0173	10.48	mg/L	0.035 0.33%
Na 330.237†	76.8	5.148	mg/L	0.1817	10.30	mg/L	0.363 3.53%
Ni 231.604†	177.8	0.07480	mg/L	0.003203	0.1496	mg/L	0.00641 4.28%
Pb 220.353†	634.4	0.1245	mg/L	0.00150	0.2490	mg/L	0.00300 1.20%
Sb 206.836†	0.9	0.00738	mg/L	0.001857	0.01476	mg/L	0.003713 25.16%
Se 196.026†	-16.1	-0.00347	mg/L	0.008773	-0.00695	mg/L	0.017545 252.49%
Si 288.158†	956.4	1.186	mg/L	0.0066	2.371	mg/L	0.0132 0.56%
Sn 189.927†	-47.9	-0.00767	mg/L	0.001029	-0.01534	mg/L	0.002058 13.42%
Sr 421.552†	165277.4	0.3865	mg/L	0.00130	0.7730	mg/L	0.00261 0.34%
Ti 334.903†	68677.7	5.370	mg/L	0.0154	10.74	mg/L	0.031 0.29%
Tl 190.801†	106.0	0.00345	mg/L	0.001569	0.00689	mg/L	0.003139 45.52%
V 292.402†	20698.0	0.3431	mg/L	0.00411	0.6863	mg/L	0.00822 1.20%
Zn 206.200†	1043.1	0.6268	mg/L	0.00281	1.254	mg/L	0.0056 0.45%

Sequence No.: 17

Sample ID: 20K0007-27

Autosampler Location: 339

Date Collected: 11/12/2020 8:01:41 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-27

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0007-27

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1499511.3	101.6	%	0.28				0.28%
ScR 361.383	156798.5	102.3	%	0.41				0.40%
Ag 328.068†	-143.5	-0.00101	mg/L	0.000196	-0.00201	mg/L	0.000392	19.50%
Al 308.215†	71473.0	76.69	mg/L	0.215	153.4	mg/L	0.43	0.28%
As 188.979†	-114.1	0.04675	mg/L	0.001909	0.09349	mg/L	0.003817	4.08%
B 249.677†	108.7	0.02135	mg/L	0.000551	0.04271	mg/L	0.001101	2.58%
Ba 233.527†	681.2	0.1875	mg/L	0.00091	0.3751	mg/L	0.00182	0.48%
Be 313.042†	878.1	0.00133	mg/L	0.000073	0.00266	mg/L	0.000145	5.46%
Ca 317.933†	196033.5	31.36	mg/L	0.255	62.73	mg/L	0.511	0.81%
Cd 228.802†	11.6	0.00060	mg/L	0.000068	0.00119	mg/L	0.000136	11.39%
Co 228.616†	1545.4	0.04893	mg/L	0.000093	0.09786	mg/L	0.000186	0.19%
Cr 267.716†	245.6	0.09461	mg/L	0.003437	0.1892	mg/L	0.00687	3.63%
Cu 324.752†	21616.7	0.1374	mg/L	0.00094	0.2748	mg/L	0.00188	0.68%
Fe 273.955†	74242.2	83.39	mg/L	0.802	166.8	mg/L	1.60	0.96%
K 766.490†	4720.8	4.185	mg/L	0.0104	8.369	mg/L	0.0208	0.25%
Mg 279.077†	10264.0	14.39	mg/L	0.027	28.79	mg/L	0.054	0.19%
Mn 257.610†	17010.4	0.5199	mg/L	0.00168	1.040	mg/L	0.0034	0.32%
Mo 202.031†	122.8	0.00878	mg/L	0.000298	0.01756	mg/L	0.000595	3.39%
Na 589.592†	81762.9	10.04	mg/L	0.053	20.07	mg/L	0.105	0.53%
Na 330.237†	168.7	10.36	mg/L	0.306	20.72	mg/L	0.612	2.95%
Ni 231.604†	197.9	0.08326	mg/L	0.000660	0.1665	mg/L	0.00132	0.79%
Pb 220.353†	-15.8	0.01538	mg/L	0.001317	0.03076	mg/L	0.002634	8.56%
Sb 206.836†	-0.1	0.00601	mg/L	0.000490	0.01202	mg/L	0.000981	8.16%
Se 196.026†	-16.9	-0.00697	mg/L	0.004460	-0.01393	mg/L	0.008920	64.02%
Si 288.158†	773.0	0.9567	mg/L	0.02831	1.913	mg/L	0.0566	2.96%
Sn 189.927†	-41.9	-0.00704	mg/L	0.000736	-0.01409	mg/L	0.001472	10.45%
Sr 421.552†	158679.4	0.3711	mg/L	0.00234	0.7421	mg/L	0.00468	0.63%
Ti 334.903†	57416.8	4.490	mg/L	0.0168	8.980	mg/L	0.0336	0.37%
Tl 190.801†	91.5	-0.00114	mg/L	0.003200	-0.00227	mg/L	0.006400	281.59%
V 292.402†	19091.7	0.3158	mg/L	0.00120	0.6315	mg/L	0.00240	0.38%
Zn 206.200†	284.7	0.1713	mg/L	0.00355	0.3426	mg/L	0.00709	2.07%

Sequence No.: 18

Autosampler Location: 340

Sample ID: 20K0007-31

Date Collected: 11/12/2020 8:05:57 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-31

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0007-31

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1503335.8	101.9	%	0.77				0.76%
ScR 361.383	156298.0	101.9	%	0.37				0.36%
Ag 328.068†	-228.4	-0.00163	mg/L	0.000099	-0.00326	mg/L	0.000198	6.07%
Al 308.215†	80386.3	86.26	mg/L	0.005	172.5	mg/L	0.01	0.01%
As 188.979†	-159.4	0.05818	mg/L	0.002894	0.1164	mg/L	0.00579	4.97%
B 249.677†	132.3	0.02859	mg/L	0.000618	0.05718	mg/L	0.001237	2.16%
Ba 233.527†	1423.6	0.4019	mg/L	0.00270	0.8038	mg/L	0.00540	0.67%
Be 313.042†	974.0	0.00140	mg/L	0.000072	0.00279	mg/L	0.000145	5.19%
Ca 317.933†	257909.4	41.26	mg/L	0.102	82.53	mg/L	0.204	0.25%
Cd 228.802†	13.1	0.00076	mg/L	0.000185	0.00151	mg/L	0.000369	24.39%
Co 228.616†	1676.1	0.05059	mg/L	0.000750	0.1012	mg/L	0.00150	1.48%
Cr 267.716†	355.5	0.1353	mg/L	0.00273	0.2707	mg/L	0.00545	2.01%
Cu 324.752†	16305.7	0.1049	mg/L	0.00130	0.2097	mg/L	0.00259	1.24%
Fe 273.955†	93558.4	105.1	mg/L	0.46	210.2	mg/L	0.93	0.44%
K 766.490†	4505.5	3.994	mg/L	0.0290	7.987	mg/L	0.0580	0.73%
Mg 279.077†	14506.9	20.35	mg/L	0.024	40.70	mg/L	0.048	0.12%
Mn 257.610†	25215.8	0.7711	mg/L	0.00042	1.542	mg/L	0.0008	0.05%
Mo 202.031†	136.0	0.00954	mg/L	0.000126	0.01908	mg/L	0.000252	1.32%
Na 589.592†	51090.0	6.271	mg/L	0.0146	12.54	mg/L	0.029	0.23%
Na 330.237†	90.3	6.171	mg/L	0.1571	12.34	mg/L	0.314	2.55%
Ni 231.604†	206.0	0.08668	mg/L	0.002259	0.1734	mg/L	0.00452	2.61%
Pb 220.353†	101.6	0.03721	mg/L	0.000708	0.07443	mg/L	0.001417	1.90%
Sb 206.836†	3.7	0.00982	mg/L	0.001492	0.01964	mg/L	0.002984	15.20%
Se 196.026†	-20.2	-0.00723	mg/L	0.003745	-0.01446	mg/L	0.007489	51.78%
Si 288.158†	1024.5	1.267	mg/L	0.0069	2.533	mg/L	0.0137	0.54%
Sn 189.927†	-40.3	-0.00399	mg/L	0.001544	-0.00799	mg/L	0.003088	38.67%
Sr 421.552†	210224.2	0.4916	mg/L	0.00042	0.9832	mg/L	0.00084	0.09%
Ti 334.903†	77770.7	6.081	mg/L	0.0096	12.16	mg/L	0.019	0.16%
Tl 190.801†	111.2	-0.00127	mg/L	0.002339	-0.00254	mg/L	0.004678	184.12%
V 292.402†	23040.5	0.3815	mg/L	0.00407	0.7630	mg/L	0.00813	1.07%
Zn 206.200†	468.9	0.2821	mg/L	0.00301	0.5641	mg/L	0.00601	1.07%

Sequence No.: 19
Sample ID: SEQ-CCV6

Autosampler Location: 7
Date Collected: 11/12/2020 8:12:56 PM
Data Type: Original

Dilution: 1X
Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV6

Analyte	Back Pressure	Flow
All	245.0 kPa	0.65 L/min

Mean Data: SEQ-CCV6

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1507996.4	102.2	%	0.25			0.25%
ScR 361.383	156207.3	101.9	%	0.15			0.15%
Ag 328.068†	136513.4	1.033	mg/L	0.0058	1.033	mg/L	0.56%
Al 308.215†	2013.2	2.124	mg/L	0.0066	2.124	mg/L	0.31%
As 188.979†	2007.5	2.097	mg/L	0.0143	2.097	mg/L	0.68%
B 249.677†	5811.0	1.002	mg/L	0.0037	1.002	mg/L	0.37%
Ba 233.527†	3577.8	1.047	mg/L	0.0014	1.047	mg/L	0.13%
Be 313.042†	417356.1	1.010	mg/L	0.0013	1.010	mg/L	0.13%
Ca 317.933†	13612.3	2.178	mg/L	0.0038	2.178	mg/L	0.17%
Cd 228.802†	19252.5	1.041	mg/L	0.0090	1.041	mg/L	0.86%
Co 228.616†	26201.8	0.9912	mg/L	0.00713	0.9912	mg/L	0.72%
Cr 267.716†	3041.3	1.125	mg/L	0.0024	1.125	mg/L	0.22%
Cu 324.752†	163364.6	1.018	mg/L	0.0071	1.018	mg/L	0.69%
Fe 273.955†	1979.7	2.216	mg/L	0.0094	2.216	mg/L	0.43%
K 766.490†	22948.9	20.34	mg/L	0.082	20.34	mg/L	0.40%
Mg 279.077†	1519.0	2.150	mg/L	0.0133	2.150	mg/L	0.62%
Mn 257.610†	31937.2	0.9789	mg/L	0.00067	0.9789	mg/L	0.07%
Mo 202.031†	13464.1	1.050	mg/L	0.0082	1.050	mg/L	0.78%
Na 589.592†	402083.1	49.36	mg/L	0.093	49.36	mg/L	0.19%
Na 330.237†	936.3	52.97	mg/L	0.410	52.97	mg/L	0.77%
Ni 231.604†	2530.0	1.066	mg/L	0.0021	1.066	mg/L	0.20%
Pb 220.353†	12486.0	2.111	mg/L	0.0158	2.111	mg/L	0.75%
Sb 206.836†	4246.6	2.140	mg/L	0.0201	2.140	mg/L	0.94%
Se 196.026†	1697.8	2.030	mg/L	0.0103	2.030	mg/L	0.51%
Si 288.158†	1583.7	2.041	mg/L	0.0163	2.041	mg/L	0.80%
Sn 189.927†	2879.7	1.016	mg/L	0.0073	1.016	mg/L	0.72%
Sr 421.552†	429649.8	1.005	mg/L	0.0026	1.005	mg/L	0.26%
Ti 334.903†	13310.6	1.040	mg/L	0.0020	1.040	mg/L	0.20%
Tl 190.801†	2844.5	2.005	mg/L	0.0115	2.005	mg/L	0.58%
V 292.402†	65810.7	1.075	mg/L	0.0114	1.075	mg/L	1.06%
Zn 206.200†	1743.4	1.046	mg/L	0.0006	1.046	mg/L	0.06%

Sequence No.: 20
 Sample ID: SEQ-CCB6

Autosampler Location: 1
 Date Collected: 11/12/2020 8:18:16 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB6

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: SEQ-CCB6

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1449453.9	98.22	%	0.268				0.27%
ScR 361.383	155573.2	101.5	%	0.64				0.63%
Ag 328.068†	-17.7	-0.00013	mg/L	0.000244	-0.00013	mg/L	0.000244	181.85%
Al 308.215†	2.8	0.00302	mg/L	0.017056	0.00302	mg/L	0.017056	564.61%
As 188.979†	3.3	0.00339	mg/L	0.001435	0.00339	mg/L	0.001435	42.29%
B 249.677†	6.9	0.00121	mg/L	0.000818	0.00121	mg/L	0.000818	67.42%
Ba 233.527†	-3.0	-0.00088	mg/L	0.001350	-0.00088	mg/L	0.001350	153.47%
Be 313.042†	5.8	0.00001	mg/L	0.000052	0.00001	mg/L	0.000052	361.50%
Ca 317.933†	8.8	0.00140	mg/L	0.000467	0.00140	mg/L	0.000467	33.37%
Cd 228.802†	-5.9	-0.00035	mg/L	0.000295	-0.00035	mg/L	0.000295	84.64%
Co 228.616†	4.6	0.00017	mg/L	0.000245	0.00017	mg/L	0.000245	142.26%
Cr 267.716†	14.4	0.00532	mg/L	0.003894	0.00532	mg/L	0.003894	73.14%
Cu 324.752†	-78.2	-0.00049	mg/L	0.000116	-0.00049	mg/L	0.000116	23.83%
Fe 273.955†	-2.5	-0.00280	mg/L	0.005636	-0.00280	mg/L	0.005636	200.96%
K 766.490†	-21.0	-0.01857	mg/L	0.035381	-0.01857	mg/L	0.035381	190.51%
Mg 279.077†	-4.5	-0.00638	mg/L	0.006235	-0.00638	mg/L	0.006235	97.79%
Mn 257.610†	-24.3	-0.00075	mg/L	0.000109	-0.00075	mg/L	0.000109	14.56%
Mo 202.031†	2.6	0.00020	mg/L	0.000428	0.00020	mg/L	0.000428	214.66%
Na 589.592†	-141.5	-0.01737	mg/L	0.002668	-0.01737	mg/L	0.002668	15.35%
Na 330.237†	3.5	0.2010	mg/L	0.84227	0.2010	mg/L	0.84227	419.01%
Ni 231.604†	-0.9	-0.00036	mg/L	0.000904	-0.00036	mg/L	0.000904	249.73%
Pb 220.353†	5.7	0.00097	mg/L	0.001319	0.00097	mg/L	0.001319	135.41%
Sb 206.836†	5.2	0.00255	mg/L	0.001276	0.00255	mg/L	0.001276	50.06%
Se 196.026†	0.8	0.00090	mg/L	0.005869	0.00090	mg/L	0.005869	653.42%
Si 288.158†	4.3	0.00563	mg/L	0.003439	0.00563	mg/L	0.003439	61.04%
Sn 189.927†	-1.2	-0.00041	mg/L	0.001157	-0.00041	mg/L	0.001157	279.06%
Sr 421.552†	-4.2	-0.00001	mg/L	0.000055	-0.00001	mg/L	0.000055	559.75%
Ti 334.903†	5.5	0.00043	mg/L	0.000610	0.00043	mg/L	0.000610	141.67%
Tl 190.801†	-2.0	-0.00144	mg/L	0.001476	-0.00144	mg/L	0.001476	102.52%
V 292.402†	-7.8	-0.00009	mg/L	0.000352	-0.00009	mg/L	0.000352	391.24%
Zn 206.200†	1.2	0.00072	mg/L	0.000719	0.00072	mg/L	0.000719	99.48%

Sequence No.: 21

Autosampler Location: 341

Sample ID: 20K0007-33

Date Collected: 11/12/2020 8:22:32 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0007-33

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0007-33

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	1496318.9		101.4 %	0.40				0.40%
ScR 361.383	156781.7		102.2 %	0.17				0.17%
Ag 328.068†	-139.3	-0.00099	mg/L	0.000108	-0.00198	mg/L	0.000216	10.89%
Al 308.215†	56810.3	60.96	mg/L	0.128	121.9	mg/L	0.26	0.21%
As 188.979†	-135.6	0.05752	mg/L	0.005203	0.1150	mg/L	0.01041	9.05%
B 249.677†	54.0	0.01145	mg/L	0.001368	0.02290	mg/L	0.002737	11.95%
Ba 233.527†	640.2	0.1795	mg/L	0.00151	0.3591	mg/L	0.00302	0.84%
Be 313.042†	659.5	0.00097	mg/L	0.000041	0.00194	mg/L	0.000082	4.23%
Ca 317.933†	163589.3	26.17	mg/L	0.144	52.34	mg/L	0.289	0.55%
Cd 228.802†	7.5	0.00079	mg/L	0.000223	0.00159	mg/L	0.000447	28.16%
Co 228.616†	953.2	0.02532	mg/L	0.000059	0.05064	mg/L	0.000118	0.23%
Cr 267.716†	258.1	0.09696	mg/L	0.000797	0.1939	mg/L	0.00159	0.82%
Cu 324.752†	17671.1	0.1114	mg/L	0.00039	0.2229	mg/L	0.00078	0.35%
Fe 273.955†	48825.9	54.84	mg/L	0.168	109.7	mg/L	0.34	0.31%
K 766.490†	3641.2	3.228	mg/L	0.0313	6.455	mg/L	0.0626	0.97%
Mg 279.077†	8943.7	12.55	mg/L	0.052	25.10	mg/L	0.104	0.42%
Mn 257.610†	14383.0	0.4398	mg/L	0.00135	0.8796	mg/L	0.00271	0.31%
Mo 202.031†	54.4	0.00357	mg/L	0.000080	0.00714	mg/L	0.000159	2.23%
Na 589.592†	39294.1	4.823	mg/L	0.0201	9.647	mg/L	0.0402	0.42%
Na 330.237†	66.2	4.723	mg/L	0.3538	9.447	mg/L	0.7077	7.49%
Ni 231.604†	113.1	0.04760	mg/L	0.000486	0.09520	mg/L	0.000971	1.02%
Pb 220.353†	-29.8	0.00996	mg/L	0.000682	0.01993	mg/L	0.001363	6.84%
Sb 206.836†	-6.1	0.00396	mg/L	0.003197	0.00793	mg/L	0.006395	80.67%
Se 196.026†	-12.8	-0.00575	mg/L	0.002239	-0.01150	mg/L	0.004479	38.94%
Si 288.158†	785.1	0.9624	mg/L	0.00422	1.925	mg/L	0.0084	0.44%
Sn 189.927†	-37.9	-0.00614	mg/L	0.000187	-0.01229	mg/L	0.000375	3.05%
Sr 421.552†	114019.7	0.2666	mg/L	0.00027	0.5332	mg/L	0.00054	0.10%
Ti 334.903†	68957.9	5.393	mg/L	0.0127	10.79	mg/L	0.025	0.24%
Tl 190.801†	73.4	-0.00500	mg/L	0.007252	-0.00999	mg/L	0.014505	145.17%
V 292.402†	14965.6	0.2467	mg/L	0.00281	0.4934	mg/L	0.00562	1.14%
Zn 206.200†	229.2	0.1380	mg/L	0.00096	0.2760	mg/L	0.00193	0.70%

Sequence No.: 22

Autosampler Location: 342

Sample ID: 20J0437-01

Date Collected: 11/12/2020 8:26:48 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0437-01

Analyte	Back Pressure	Flow
All	244.0 kPa	0.65 L/min

Mean Data: 20J0437-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1514536.3	102.6	%	0.23				0.23%
ScR 361.383	161825.7	105.5	%	2.00				1.89%
Ag 328.068†	-41.3	-0.00025	mg/L	0.000363	-0.00049	mg/L	0.000726	146.85%
Al 308.215†	61977.9	66.50	mg/L	0.969	133.0	mg/L	1.94	1.46%
As 188.979†	-97.7	0.05334	mg/L	0.003348	0.1067	mg/L	0.00670	6.28%
B 249.677†	152.9	0.03335	mg/L	0.002318	0.06671	mg/L	0.004636	6.95%
Ba 233.527†	1790.1	0.5090	mg/L	0.00711	1.018	mg/L	0.0142	1.40%
Be 313.042†	790.9	0.00126	mg/L	0.000107	0.00252	mg/L	0.000215	8.53%
Ca 317.933†	404067.4	64.65	mg/L	0.967	129.3	mg/L	1.93	1.50%
Cd 228.802†	51.5	0.00250	mg/L	0.000193	0.00500	mg/L	0.000386	7.72%
Co 228.616†	1389.4	0.04269	mg/L	0.000480	0.08538	mg/L	0.000961	1.13%
Cr 267.716†	476.5	0.1780	mg/L	0.00028	0.3560	mg/L	0.00056	0.16%
Cu 324.752†	100867.2	0.6323	mg/L	0.00157	1.265	mg/L	0.0031	0.25%
Fe 273.955†	94336.8	106.0	mg/L	1.77	211.9	mg/L	3.53	1.67%
K 766.490†	4138.4	3.668	mg/L	0.0568	7.337	mg/L	0.1136	1.55%
Mg 279.077†	19322.3	27.12	mg/L	0.418	54.24	mg/L	0.835	1.54%
Mn 257.610†	51394.2	1.573	mg/L	0.0189	3.147	mg/L	0.0378	1.20%
Mo 202.031†	176.6	0.01216	mg/L	0.000574	0.02431	mg/L	0.001149	4.72%
Na 589.592†	34298.9	4.210	mg/L	0.0746	8.420	mg/L	0.1492	1.77%
Na 330.237†	65.5	3.793	mg/L	0.2212	7.586	mg/L	0.4424	5.83%
Ni 231.604†	340.7	0.1434	mg/L	0.00089	0.2868	mg/L	0.00179	0.62%
Pb 220.353†	2034.3	0.3581	mg/L	0.00068	0.7163	mg/L	0.00136	0.19%
Sb 206.836†	29.9	0.01931	mg/L	0.001709	0.03861	mg/L	0.003418	8.85%
Se 196.026†	-27.8	-0.01260	mg/L	0.006115	-0.02521	mg/L	0.012231	48.52%
Si 288.158†	737.9	0.9144	mg/L	0.01076	1.829	mg/L	0.0215	1.18%
Sn 189.927†	-1.2	0.01315	mg/L	0.001680	0.02631	mg/L	0.003361	12.78%
Sr 421.552†	115614.6	0.2703	mg/L	0.00432	0.5407	mg/L	0.00864	1.60%
Ti 334.903†	55293.7	4.322	mg/L	0.0660	8.643	mg/L	0.1320	1.53%
Tl 190.801†	109.7	0.01001	mg/L	0.004354	0.02002	mg/L	0.008708	43.49%
V 292.402†	15706.8	0.2635	mg/L	0.00255	0.5269	mg/L	0.00510	0.97%
Zn 206.200†	3411.7	2.049	mg/L	0.0249	4.099	mg/L	0.0498	1.21%

Sequence No.: 23

Sample ID: 20K0135-01

Autosampler Location: 343

Date Collected: 11/12/2020 8:31:04 PM

Data Type: Original

Dilution: 2X

DEL

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0135-01

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0135-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1534057.9	104.0	%	1.67				1.61%
ScR 361.383	164697.5	107.4	%	0.26				0.24%
Ag 328.068†	-407.1	-0.00292	mg/L	0.000108	-0.00583	mg/L	0.000215	3.69%
Al 308.215†	247792.3	265.9	mg/L	1.92	531.8	mg/L	3.84	0.72%
As 188.979†	-261.4	0.09460	mg/L	0.006956	0.1892	mg/L	0.01391	7.35%
B 249.677†	117.9	0.04514	mg/L	0.001878	0.09028	mg/L	0.003756	4.16%
Ba 233.527†	4146.0	1.171	mg/L	0.0056	2.342	mg/L	0.0111	0.47%
Be 313.042†	2481.0	0.00440	mg/L	0.000063	0.00880	mg/L	0.000125	1.43%
Ca 317.933†	260264.5	41.64	mg/L	0.198	83.28	mg/L	0.396	0.48%
Cd 228.802†	44.7	0.00150	mg/L	0.000113	0.00300	mg/L	0.000225	7.51%
Co 228.616†	3809.6	0.1217	mg/L	0.00255	0.2434	mg/L	0.00511	2.10%
Cr 267.716†	1448.8	0.5435	mg/L	0.00505	1.087	mg/L	0.0101	0.93%
Cu 324.752†	51078.0	0.3292	mg/L	0.00682	0.6584	mg/L	0.01364	2.07%
Fe 273.955†	276956.0	311.1	mg/L	1.23	622.1	mg/L	2.46	0.40%
K 766.490†	16818.5	14.91	mg/L	0.054	29.82	mg/L	0.107	0.36%
Mg 279.077†	60273.0	84.61	mg/L	0.336	169.2	mg/L	0.67	0.40%
Mn 257.610†	139735.0	4.277	mg/L	0.0280	8.554	mg/L	0.0559	0.65%
Mo 202.031†	70.1	0.00370	mg/L	0.000578	0.00740	mg/L	0.001156	15.62%
Na 589.592†	12593.1	1.546	mg/L	0.0157	3.092	mg/L	0.0314	1.02%
Na 330.237†	-19.8	0.5127	mg/L	0.37963	1.025	mg/L	0.7593	74.05%
Ni 231.604†	1334.7	0.5617	mg/L	0.00452	1.123	mg/L	0.0090	0.80%
Pb 220.353†	-13.3	0.05806	mg/L	0.001910	0.1161	mg/L	0.00382	3.29%
Sb 206.836†	23.6	0.01892	mg/L	0.002011	0.03783	mg/L	0.004022	10.63%
Se 196.026†	-30.7	0.00091	mg/L	0.010778	0.00182	mg/L	0.021555	>999.9%
Si 288.158†	633.4	0.7274	mg/L	0.00506	1.455	mg/L	0.0101	0.70%
Sn 189.927†	-67.9	-0.01197	mg/L	0.002383	-0.02393	mg/L	0.004765	19.91%
Sr 421.552†	145657.4	0.3406	mg/L	0.00213	0.6812	mg/L	0.00426	0.63%
Ti 334.903†	124205.8	9.714	mg/L	0.0546	19.43	mg/L	0.109	0.56%
Tl 190.801†	287.2	-0.00396	mg/L	0.008291	-0.00791	mg/L	0.016582	209.60%
V 292.402†	38550.1	0.6512	mg/L	0.01289	1.302	mg/L	0.0258	1.98%
Zn 206.200†	888.9	0.5343	mg/L	0.00462	1.069	mg/L	0.0092	0.87%

Sequence No.: 24
 Sample ID: 20K0135-02

Autosampler Location: 344
 Date Collected: 11/12/2020 8:35:06 PM
 Data Type: Original

Dilution: 2X
 Wash Time: 37

DEL

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0135-02

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: 20K0135-02

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1502509.7	101.8	%	0.23				0.22%
ScR 361.383	161070.9	105.0	%	1.45				1.38%
Ag 328.068†	-262.3	-0.00185	mg/L	0.000119	-0.00369	mg/L	0.000238	6.45%
Al 308.215†	220868.5	237.0	mg/L	3.33	474.0	mg/L	6.66	1.41%
As 188.979†	-258.5	0.07720	mg/L	0.007078	0.1544	mg/L	0.01416	9.17%
B 249.677†	133.2	0.04227	mg/L	0.000341	0.08455	mg/L	0.000682	0.81%
Ba 233.527†	4051.3	1.152	mg/L	0.0184	2.304	mg/L	0.0368	1.60%
Be 313.042†	2092.8	0.00370	mg/L	0.000134	0.00740	mg/L	0.000269	3.63%
Ca 317.933†	382520.3	61.20	mg/L	0.762	122.4	mg/L	1.52	1.24%
Cd 228.802†	40.7	0.00184	mg/L	0.000217	0.00369	mg/L	0.000434	11.77%
Co 228.616†	3258.1	0.1023	mg/L	0.00050	0.2047	mg/L	0.00100	0.49%
Cr 267.716†	1258.6	0.4706	mg/L	0.00331	0.9412	mg/L	0.00661	0.70%
Cu 324.752†	31939.1	0.2074	mg/L	0.00045	0.4147	mg/L	0.00091	0.22%
Fe 273.955†	219471.7	246.5	mg/L	1.99	493.0	mg/L	3.98	0.81%
K 766.490†	10303.6	9.133	mg/L	0.1337	18.27	mg/L	0.267	1.46%
Mg 279.077†	47448.9	66.61	mg/L	0.805	133.2	mg/L	1.61	1.21%
Mn 257.610†	124014.0	3.796	mg/L	0.0579	7.592	mg/L	0.1158	1.52%
Mo 202.031†	86.1	0.00474	mg/L	0.000100	0.00948	mg/L	0.000199	2.10%
Na 589.592†	13855.0	1.701	mg/L	0.0343	3.401	mg/L	0.0687	2.02%
Na 330.237†	-9.3	1.018	mg/L	0.2084	2.036	mg/L	0.4169	20.48%
Ni 231.604†	1095.5	0.4611	mg/L	0.00845	0.9221	mg/L	0.01690	1.83%
Pb 220.353†	127.1	0.07753	mg/L	0.003449	0.1551	mg/L	0.00690	4.45%
Sb 206.836†	21.8	0.01831	mg/L	0.002721	0.03661	mg/L	0.005443	14.87%
Se 196.026†	-28.7	-0.00008	mg/L	0.004524	-0.00015	mg/L	0.009048	>999.9%
Si 288.158†	866.6	1.032	mg/L	0.0116	2.065	mg/L	0.0231	1.12%
Sn 189.927†	-70.1	-0.00940	mg/L	0.000362	-0.01881	mg/L	0.000724	3.85%
Sr 421.552†	118582.3	0.2773	mg/L	0.00395	0.5546	mg/L	0.00789	1.42%
Ti 334.903†	118991.2	9.305	mg/L	0.1110	18.61	mg/L	0.222	1.19%
Tl 190.801†	261.1	0.00086	mg/L	0.003353	0.00172	mg/L	0.006705	390.94%
V 292.402†	32768.8	0.5522	mg/L	0.00107	1.104	mg/L	0.0021	0.19%
Zn 206.200†	969.6	0.5830	mg/L	0.00546	1.166	mg/L	0.0109	0.94%

Sequence No.: 25

Sample ID: 20K0135-03

Autosampler Location: 345

Date Collected: 11/12/2020 8:39:08 PM

Data Type: Original

Dilution: 2X

DEL

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0135-03

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: 20K0135-03

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1516957.8	102.8	%	0.28			0.27%
ScR 361.383	159207.9	103.8	%	0.23			0.22%
Ag 328.068†	-267.1	-0.00189	mg/L	0.000121	-0.00377	mg/L	0.000242 6.42%
Al 308.215†	207735.2	222.9	mg/L	0.58	445.9	mg/L	1.15 0.26%
As 188.979†	-244.5	0.08481	mg/L	0.004574	0.1696	mg/L	0.00915 5.39%
B 249.677†	90.9	0.03521	mg/L	0.002350	0.07041	mg/L	0.004700 6.68%
Ba 233.527†	4177.5	1.188	mg/L	0.0016	2.375	mg/L	0.0032 0.14%
Be 313.042†	1959.6	0.00340	mg/L	0.000066	0.00680	mg/L	0.000132 1.94%
Ca 317.933†	355582.3	56.89	mg/L	0.205	113.8	mg/L	0.41 0.36%
Cd 228.802†	37.5	0.00145	mg/L	0.000308	0.00289	mg/L	0.000617 21.32%
Co 228.616†	3300.1	0.1042	mg/L	0.00069	0.2084	mg/L	0.00138 0.66%
Cr 267.716†	1230.2	0.4599	mg/L	0.00124	0.9198	mg/L	0.00247 0.27%
Cu 324.752†	34612.7	0.2244	mg/L	0.00137	0.4488	mg/L	0.00274 0.61%
Fe 273.955†	227449.6	255.5	mg/L	0.37	510.9	mg/L	0.74 0.14%
K 766.490†	11437.0	10.14	mg/L	0.048	20.28	mg/L	0.096 0.47%
Mg 279.077†	49462.1	69.43	mg/L	0.152	138.9	mg/L	0.30 0.22%
Mn 257.610†	154240.9	4.722	mg/L	0.0251	9.445	mg/L	0.0503 0.53%
Mo 202.031†	79.6	0.00429	mg/L	0.000264	0.00858	mg/L	0.000529 6.16%
Na 589.592†	14709.8	1.806	mg/L	0.0169	3.611	mg/L	0.0337 0.93%
Na 330.237†	-8.9	1.022	mg/L	0.3051	2.044	mg/L	0.6101 29.85%
Ni 231.604†	1039.7	0.4376	mg/L	0.00266	0.8752	mg/L	0.00531 0.61%
Pb 220.353†	339.0	0.1088	mg/L	0.00107	0.2176	mg/L	0.00215 0.99%
Sb 206.836†	22.2	0.01842	mg/L	0.000855	0.03683	mg/L	0.001710 4.64%
Se 196.026†	-22.2	0.00783	mg/L	0.005542	0.01566	mg/L	0.011084 70.76%
Si 288.158†	1269.7	1.558	mg/L	0.0151	3.117	mg/L	0.0302 0.97%
Sn 189.927†	-41.8	-0.00029	mg/L	0.001018	-0.00059	mg/L	0.002036 348.03%
Sr 421.552†	119940.0	0.2805	mg/L	0.00093	0.5609	mg/L	0.00186 0.33%
Ti 334.903†	116281.4	9.093	mg/L	0.0161	18.19	mg/L	0.032 0.18%
Tl 190.801†	250.7	-0.00051	mg/L	0.006226	-0.00103	mg/L	0.012452 >999.9%
V 292.402†	32312.3	0.5456	mg/L	0.00530	1.091	mg/L	0.0106 0.97%
Zn 206.200†	865.6	0.5204	mg/L	0.00095	1.041	mg/L	0.0019 0.18%

Sequence No.: 26

Sample ID: 20K0140-01

Autosampler Location: 346

Date Collected: 11/12/2020 8:43:33 PM

Data Type: Original

Dilution: 50X

Wash Time: 60

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0140-01

Analyte Back Pressure Flow
 All 245.0 kPa 0.65 L/min

Mean Data: 20K0140-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1537155.8	104.2	%	0.26				0.25%
ScR 361.383	160293.1	104.5	%	0.37				0.35%
Ag 328.068†	-66.2	-0.00050	mg/L	0.000174	-0.02505	mg/L	0.008708	34.76%
Al 308.215†	398.1	0.4272	mg/L	0.00398	21.36	mg/L	0.199	0.93%
As 188.979†	8.0	0.00711	mg/L	0.000416	0.3555	mg/L	0.02080	5.85%
B 249.677†	4.0	0.00305	mg/L	0.000667	0.1526	mg/L	0.03335	21.86%
Ba 233.527†	192.3	0.05223	mg/L	0.000721	2.612	mg/L	0.0360	1.38%
Be 313.042†	101.2	0.00025	mg/L	0.000012	0.01241	mg/L	0.000578	4.66%
Ca 317.933†	96240.6	15.40	mg/L	0.060	769.9	mg/L	2.99	0.39%
Cd 228.802†	83.8	0.00426	mg/L	0.000151	0.2129	mg/L	0.00753	3.54%
Co 228.616†	78.5	0.00239	mg/L	0.000354	0.1197	mg/L	0.01772	14.80%
Cr 267.716†	813.0	0.3021	mg/L	0.00259	15.10	mg/L	0.130	0.86%
Cu 324.752†	3376.2	0.02224	mg/L	0.000086	1.112	mg/L	0.0043	0.39%
Fe 273.955†	25446.8	28.58	mg/L	0.078	1429	mg/L	3.90	0.27%
K 766.490†	0.2	0.00014	mg/L	0.014071	0.00706	mg/L	0.703533	>999.9%
Mg 279.077†	454.0	0.6244	mg/L	0.00817	31.22	mg/L	0.409	1.31%
Mn 257.610†	6704.9	0.2052	mg/L	0.00045	10.26	mg/L	0.023	0.22%
Mo 202.031†	27.2	0.00180	mg/L	0.000186	0.08978	mg/L	0.009323	10.38%
Na 589.592†	-89.3	-0.01096	mg/L	0.005334	-0.5482	mg/L	0.26669	48.65%
Na 330.237†	-7.1	-0.5717	mg/L	0.31017	-28.58	mg/L	15.508	54.25%
Ni 231.604†	64.0	0.02694	mg/L	0.000463	1.347	mg/L	0.0231	1.72%
Pb 220.353†	14.1	0.00223	mg/L	0.000562	0.1114	mg/L	0.02811	25.25%
Sb 206.836†	12.2	0.00081	mg/L	0.000914	0.04048	mg/L	0.045678	112.85%
Se 196.026†	-7.5	-0.00375	mg/L	0.004537	-0.1876	mg/L	0.22687	120.95%
Si 288.158†	13.5	0.01778	mg/L	0.006379	0.8888	mg/L	0.31894	35.88%
Sn 189.927†	-19.0	-0.00395	mg/L	0.000862	-0.1973	mg/L	0.04312	21.86%
Sr 421.552†	15434.8	0.03609	mg/L	0.000088	1.805	mg/L	0.0044	0.24%
Ti 334.903†	268.0	0.01997	mg/L	0.000650	0.9985	mg/L	0.03251	3.26%
Tl 190.801†	6.8	-0.00101	mg/L	0.001304	-0.05068	mg/L	0.065205	128.67%
V 292.402†	-63.3	0.00322	mg/L	0.000200	0.1609	mg/L	0.01002	6.23%
Zn 206.200†	801.6	0.4815	mg/L	0.00121	24.07	mg/L	0.061	0.25%

Sequence No.: 27
 Sample ID: 20K0153-01

Autosampler Location: 347
 Date Collected: 11/12/2020 8:50:32 PM
 Data Type: Original

Dilution: 100X
 Wash Time: 200

DEL

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0153-01

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: 20K0153-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1487766.4	100.8	%	0.20			0.20%
ScR 361.383	156848.1	102.3	%	0.30			0.29%
Ag 328.068†	-27.5	-0.00021	mg/L	0.000228	-0.02081	mg/L	0.022789 109.50%
Al 308.215†	72.6	0.07784	mg/L	0.022621	7.784	mg/L	2.2621 29.06%
As 188.979†	-0.5	-0.00051	mg/L	0.000569	-0.05080	mg/L	0.056936 112.07%
B 249.677†	74.2	0.01268	mg/L	0.001360	1.268	mg/L	0.1360 10.72%
Ba 233.527†	-1.5	-0.00046	mg/L	0.000653	-0.04595	mg/L	0.065342 142.21%
Be 313.042†	29.9	0.00007	mg/L	0.000039	0.00727	mg/L	0.003856 53.06%
Ca 317.933†	3757.6	0.6012	mg/L	0.00139	60.12	mg/L	0.139 0.23%
Cd 228.802†	-4.9	-0.00026	mg/L	0.000082	-0.02609	mg/L	0.008246 31.60%
Co 228.616†	40.4	0.00152	mg/L	0.000179	0.1520	mg/L	0.01789 11.77%
Cr 267.716†	15.3	0.00495	mg/L	0.001757	0.4949	mg/L	0.17570 35.50%
Cu 324.752†	19.4	0.00009	mg/L	0.000111	0.00855	mg/L	0.011097 129.83%
Fe 273.955†	36.5	0.04096	mg/L	0.001678	4.096	mg/L	0.1678 4.10%
K 766.490†	9188.2	8.144	mg/L	0.0494	814.4	mg/L	4.94 0.61%
Mg 279.077†	3712.3	5.220	mg/L	0.0312	522.0	mg/L	3.12 0.60%
Mn 257.610†	803.9	0.02462	mg/L	0.000185	2.462	mg/L	0.0185 0.75%
Mo 202.031†	2.6	0.00014	mg/L	0.000141	0.01379	mg/L	0.014147 102.57%
Na 589.592†	7011.0	0.8606	mg/L	0.00241	86.06	mg/L	0.241 0.28%
Na 330.237†	17.5	0.9768	mg/L	0.45813	97.68	mg/L	45.813 46.90%
Ni 231.604†	9.7	0.00406	mg/L	0.000835	0.4063	mg/L	0.08346 20.54%
Pb 220.353†	7.6	0.00133	mg/L	0.001212	0.1327	mg/L	0.12124 91.36%
Sb 206.836†	-0.2	-0.00022	mg/L	0.002905	-0.02226	mg/L	0.290526 >999.9%
Se 196.026†	1.5	0.00193	mg/L	0.005444	0.1935	mg/L	0.54440 281.36%
Si 288.158†	43.4	0.05695	mg/L	0.015543	5.695	mg/L	1.5543 27.29%
Sn 189.927†	-3.0	-0.00095	mg/L	0.000882	-0.09490	mg/L	0.088187 92.92%
Sr 421.552†	1293.4	0.00302	mg/L	0.000058	0.3024	mg/L	0.00582 1.92%
Ti 334.903†	39.3	0.00304	mg/L	0.001232	0.3040	mg/L	0.12317 40.51%
Tl 190.801†	-2.6	-0.00238	mg/L	0.002699	-0.2380	mg/L	0.26988 113.38%
V 292.402†	-3.9	-0.00002	mg/L	0.000244	-0.00160	mg/L	0.024355 >999.9%
Zn 206.200†	67.8	0.04071	mg/L	0.002175	4.071	mg/L	0.2175 5.34%

Sequence No.: 28
 Sample ID: SEQ-IBL1

Autosampler Location: 9
 Date Collected: 11/12/2020 8:57:31 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-IBL1

Analyte Back Pressure Flow
 All 243.0 kPa 0.65 L/min

Mean Data: SEQ-IBL1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1480230.4	100.3	%	0.90				0.90%
ScR 361.383	153564.8	100.1	%	1.10				1.10%
Ag 328.068†	-53.8	-0.00041	mg/L	0.000190	-0.00041	mg/L	0.000190	46.73%
Al 308.215†	-1.9	-0.00201	mg/L	0.013590	-0.00201	mg/L	0.013590	677.25%
As 188.979†	1.6	0.00167	mg/L	0.002727	0.00167	mg/L	0.002727	163.50%
B 249.677†	-4.0	-0.00070	mg/L	0.001151	-0.00070	mg/L	0.001151	164.41%
Ba 233.527†	-2.8	-0.00083	mg/L	0.000919	-0.00083	mg/L	0.000919	110.97%
Be 313.042†	51.2	0.00012	mg/L	0.000133	0.00012	mg/L	0.000133	106.33%
Ca 317.933†	25.3	0.00405	mg/L	0.002220	0.00405	mg/L	0.002220	54.79%
Cd 228.802†	-4.0	-0.00023	mg/L	0.000069	-0.00023	mg/L	0.000069	29.91%
Co 228.616†	11.6	0.00044	mg/L	0.000124	0.00044	mg/L	0.000124	28.31%
Cr 267.716†	2.1	0.00079	mg/L	0.000813	0.00079	mg/L	0.000813	103.53%
Cu 324.752†	-50.4	-0.00031	mg/L	0.000077	-0.00031	mg/L	0.000077	24.39%
Fe 273.955†	1.3	0.00149	mg/L	0.002166	0.00149	mg/L	0.002166	145.25%
K 766.490†	-4.7	-0.00416	mg/L	0.010867	-0.00416	mg/L	0.010867	261.37%
Mg 279.077†	-7.1	-0.00995	mg/L	0.003539	-0.00995	mg/L	0.003539	35.57%
Mn 257.610†	-10.6	-0.00032	mg/L	0.000134	-0.00032	mg/L	0.000134	41.58%
Mo 202.031†	-3.6	-0.00028	mg/L	0.000270	-0.00028	mg/L	0.000270	96.57%
Na 589.592†	-201.1	-0.02469	mg/L	0.003662	-0.02469	mg/L	0.003662	14.83%
Na 330.237†	9.7	0.5505	mg/L	0.84584	0.5505	mg/L	0.84584	153.64%
Ni 231.604†	-3.6	-0.00151	mg/L	0.001848	-0.00151	mg/L	0.001848	122.71%
Pb 220.353†	2.0	0.00035	mg/L	0.000100	0.00035	mg/L	0.000100	28.86%
Sb 206.836†	1.1	0.00055	mg/L	0.000473	0.00055	mg/L	0.000473	85.82%
Se 196.026†	0.2	0.00021	mg/L	0.005106	0.00021	mg/L	0.005106	>999.9%
Si 288.158†	2.3	0.00301	mg/L	0.010101	0.00301	mg/L	0.010101	335.51%
Sn 189.927†	-5.0	-0.00177	mg/L	0.000592	-0.00177	mg/L	0.000592	33.41%
Sr 421.552†	8.1	0.00002	mg/L	0.000055	0.00002	mg/L	0.000055	287.51%
Ti 334.903†	17.3	0.00136	mg/L	0.001998	0.00136	mg/L	0.001998	147.38%
Tl 190.801†	-0.8	-0.00059	mg/L	0.003111	-0.00059	mg/L	0.003111	527.62%
V 292.402†	-11.4	-0.00018	mg/L	0.000184	-0.00018	mg/L	0.000184	102.14%
Zn 206.200†	2.6	0.00159	mg/L	0.001470	0.00159	mg/L	0.001470	92.50%

Sequence No.: 29

Autosampler Location: 7

Sample ID: SEQ-CCV7

Date Collected: 11/12/2020 9:02:50 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV7

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: SEQ-CCV7

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1478444.3	100.2	%	1.00			1.00%	
ScR 361.383	152157.6	99.23	%	0.446			0.45%	
Ag 328.068†	135936.1	1.028	mg/L	0.0104	1.028	mg/L	0.0104	1.01%
Al 308.215†	2036.8	2.150	mg/L	0.0166	2.150	mg/L	0.0166	0.77%
As 188.979†	1975.2	2.064	mg/L	0.0201	2.064	mg/L	0.0201	0.97%
B 249.677†	5843.1	1.007	mg/L	0.0051	1.007	mg/L	0.0051	0.50%
Ba 233.527†	3599.1	1.053	mg/L	0.0057	1.053	mg/L	0.0057	0.54%
Be 313.042†	420740.5	1.018	mg/L	0.0049	1.018	mg/L	0.0049	0.48%
Ca 317.933†	13624.5	2.180	mg/L	0.0068	2.180	mg/L	0.0068	0.31%
Cd 228.802†	19158.2	1.036	mg/L	0.0103	1.036	mg/L	0.0103	0.99%
Co 228.616†	25904.7	0.9800	mg/L	0.01090	0.9800	mg/L	0.01090	1.11%
Cr 267.716†	3053.4	1.130	mg/L	0.0033	1.130	mg/L	0.0033	0.29%
Cu 324.752†	162750.0	1.014	mg/L	0.0094	1.014	mg/L	0.0094	0.93%
Fe 273.955†	1992.6	2.230	mg/L	0.0133	2.230	mg/L	0.0133	0.60%
K 766.490†	23227.4	20.59	mg/L	0.093	20.59	mg/L	0.093	0.45%
Mg 279.077†	1511.2	2.139	mg/L	0.0175	2.139	mg/L	0.0175	0.82%
Mn 257.610†	32269.6	0.9891	mg/L	0.00743	0.9891	mg/L	0.00743	0.75%
Mo 202.031†	13326.2	1.040	mg/L	0.0099	1.040	mg/L	0.0099	0.96%
Na 589.592†	405242.2	49.74	mg/L	0.569	49.74	mg/L	0.569	1.14%
Na 330.237†	946.2	53.53	mg/L	0.764	53.53	mg/L	0.764	1.43%
Ni 231.604†	2536.9	1.069	mg/L	0.0043	1.069	mg/L	0.0043	0.40%
Pb 220.353†	12323.7	2.083	mg/L	0.0215	2.083	mg/L	0.0215	1.03%
Sb 206.836†	4190.9	2.112	mg/L	0.0225	2.112	mg/L	0.0225	1.07%
Se 196.026†	1681.7	2.011	mg/L	0.0248	2.011	mg/L	0.0248	1.23%
Si 288.158†	1578.7	2.034	mg/L	0.0216	2.034	mg/L	0.0216	1.06%
Sn 189.927†	2840.1	1.002	mg/L	0.0106	1.002	mg/L	0.0106	1.06%
Sr 421.552†	431834.9	1.010	mg/L	0.0047	1.010	mg/L	0.0047	0.47%
Ti 334.903†	13355.6	1.044	mg/L	0.0033	1.044	mg/L	0.0033	0.32%
Tl 190.801†	2819.2	1.987	mg/L	0.0167	1.987	mg/L	0.0167	0.84%
V 292.402†	65233.4	1.065	mg/L	0.0116	1.065	mg/L	0.0116	1.09%
Zn 206.200†	1749.0	1.050	mg/L	0.0053	1.050	mg/L	0.0053	0.50%

Sequence No.: 30
 Sample ID: SEQ-CCB7

Autosampler Location: 1
 Date Collected: 11/12/2020 9:08:10 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB7

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: SEQ-CCB7

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1434854.2	97.23	%	0.134			0.14%
ScR 361.383	151780.2	98.98	%	1.228			1.24%
Ag 328.068†	-1.8	-0.00001	mg/L	0.000182	-0.00001	mg/L	0.000182 >999.9%
Al 308.215†	4.3	0.00457	mg/L	0.032663	0.00457	mg/L	0.032663 714.54%
As 188.979†	3.7	0.00390	mg/L	0.003321	0.00390	mg/L	0.003321 85.17%
B 249.677†	6.4	0.00114	mg/L	0.001239	0.00114	mg/L	0.001239 108.47%
Ba 233.527†	-4.1	-0.00120	mg/L	0.002298	-0.00120	mg/L	0.002298 190.76%
Be 313.042†	46.1	0.00011	mg/L	0.000077	0.00011	mg/L	0.000077 68.82%
Ca 317.933†	-10.2	-0.00163	mg/L	0.003288	-0.00163	mg/L	0.003288 202.17%
Cd 228.802†	-5.7	-0.00034	mg/L	0.000273	-0.00034	mg/L	0.000273 80.10%
Co 228.616†	7.1	0.00027	mg/L	0.000196	0.00027	mg/L	0.000196 73.88%
Cr 267.716†	5.5	0.00205	mg/L	0.003055	0.00205	mg/L	0.003055 149.11%
Cu 324.752†	-58.1	-0.00036	mg/L	0.000197	-0.00036	mg/L	0.000197 54.31%
Fe 273.955†	2.2	0.00243	mg/L	0.001040	0.00243	mg/L	0.001040 42.82%
K 766.490†	-18.6	-0.01646	mg/L	0.012541	-0.01646	mg/L	0.012541 76.18%
Mg 279.077†	-10.8	-0.01512	mg/L	0.015443	-0.01512	mg/L	0.015443 102.17%
Mn 257.610†	-6.7	-0.00021	mg/L	0.000298	-0.00021	mg/L	0.000298 144.14%
Mo 202.031†	2.6	0.00021	mg/L	0.000154	0.00021	mg/L	0.000154 74.75%
Na 589.592†	-240.8	-0.02956	mg/L	0.004580	-0.02956	mg/L	0.004580 15.49%
Na 330.237†	1.1	0.06407	mg/L	0.957260	0.06407	mg/L	0.957260 >999.9%
Ni 231.604†	-2.3	-0.00096	mg/L	0.000776	-0.00096	mg/L	0.000776 81.15%
Pb 220.353†	4.2	0.00072	mg/L	0.000531	0.00072	mg/L	0.000531 74.30%
Sb 206.836†	3.8	0.00190	mg/L	0.000725	0.00190	mg/L	0.000725 38.20%
Se 196.026†	1.8	0.00210	mg/L	0.006720	0.00210	mg/L	0.006720 319.59%
Si 288.158†	1.3	0.00169	mg/L	0.004459	0.00169	mg/L	0.004459 263.44%
Sn 189.927†	1.4	0.00048	mg/L	0.001452	0.00048	mg/L	0.001452 300.71%
Sr 421.552†	-20.2	-0.00005	mg/L	0.000050	-0.00005	mg/L	0.000050 106.43%
Ti 334.903†	29.9	0.00234	mg/L	0.000982	0.00234	mg/L	0.000982 42.04%
Tl 190.801†	-3.6	-0.00260	mg/L	0.000631	-0.00260	mg/L	0.000631 24.30%
V 292.402†	3.0	0.00006	mg/L	0.000295	0.00006	mg/L	0.000295 466.95%
Zn 206.200†	1.3	0.00076	mg/L	0.002349	0.00076	mg/L	0.002349 308.66%

Sequence No.: 31
 Sample ID: RINSE - 1

Autosampler Location: 9
 Date Collected: 11/12/2020 9:12:26 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 1

Analyte Back Pressure Flow
 All 243.0 kPa 0.65 L/min

Mean Data: RINSE - 1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1464206.5	99.22	%	0.916				0.92%
ScR 361.383	152532.9	99.47	%	0.975				0.98%
Ag 328.068†	-34.3	-0.00026	mg/L	0.000513	-0.00026	mg/L	0.000513	197.69%
Al 308.215†	-10.7	-0.01148	mg/L	0.020975	-0.01148	mg/L	0.020975	182.73%
As 188.979†	1.7	0.00178	mg/L	0.002284	0.00178	mg/L	0.002284	127.96%
B 249.677†	-4.4	-0.00075	mg/L	0.000777	-0.00075	mg/L	0.000777	102.91%
Ba 233.527†	-5.0	-0.00147	mg/L	0.000380	-0.00147	mg/L	0.000380	25.83%
Be 313.042†	37.0	0.00009	mg/L	0.000127	0.00009	mg/L	0.000127	140.95%
Ca 317.933†	26.5	0.00424	mg/L	0.002096	0.00424	mg/L	0.002096	49.40%
Cd 228.802†	-1.4	-0.00009	mg/L	0.000105	-0.00009	mg/L	0.000105	115.06%
Co 228.616†	-2.8	-0.00011	mg/L	0.000167	-0.00011	mg/L	0.000167	151.05%
Cr 267.716†	8.7	0.00320	mg/L	0.001002	0.00320	mg/L	0.001002	31.29%
Cu 324.752†	-57.4	-0.00036	mg/L	0.000075	-0.00036	mg/L	0.000075	20.93%
Fe 273.955†	4.6	0.00519	mg/L	0.000719	0.00519	mg/L	0.000719	13.85%
K 766.490†	-34.4	-0.03046	mg/L	0.041836	-0.03046	mg/L	0.041836	137.33%
Mg 279.077†	-18.1	-0.02546	mg/L	0.013613	-0.02546	mg/L	0.013613	53.47%
Mn 257.610†	-15.6	-0.00048	mg/L	0.000117	-0.00048	mg/L	0.000117	24.45%
Mo 202.031†	-3.5	-0.00027	mg/L	0.000402	-0.00027	mg/L	0.000402	147.05%
Na 589.592†	-205.0	-0.02517	mg/L	0.008902	-0.02517	mg/L	0.008902	35.37%
Na 330.237†	1.6	0.09083	mg/L	0.467652	0.09083	mg/L	0.467652	514.88%
Ni 231.604†	-1.9	-0.00079	mg/L	0.002591	-0.00079	mg/L	0.002591	326.48%
Pb 220.353†	3.5	0.00060	mg/L	0.000362	0.00060	mg/L	0.000362	60.09%
Sb 206.836†	-3.1	-0.00164	mg/L	0.000862	-0.00164	mg/L	0.000862	52.50%
Se 196.026†	-2.6	-0.00305	mg/L	0.002333	-0.00305	mg/L	0.002333	76.48%
Si 288.158†	-5.3	-0.00690	mg/L	0.003886	-0.00690	mg/L	0.003886	56.29%
Sn 189.927†	-1.4	-0.00048	mg/L	0.001571	-0.00048	mg/L	0.001571	329.08%
Sr 421.552†	-40.0	-0.00009	mg/L	0.000109	-0.00009	mg/L	0.000109	116.52%
Ti 334.903†	20.6	0.00161	mg/L	0.001650	0.00161	mg/L	0.001650	102.55%
Tl 190.801†	-4.8	-0.00343	mg/L	0.001574	-0.00343	mg/L	0.001574	45.83%
V 292.402†	-3.2	-0.00003	mg/L	0.000358	-0.00003	mg/L	0.000358	>999.9%
Zn 206.200†	2.2	0.00135	mg/L	0.000661	0.00135	mg/L	0.000661	49.09%

Sequence No.: 32

Autosampler Location: 9

Sample ID: RINSE - 2

Date Collected: 11/12/2020 9:16:42 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 2

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: RINSE - 2

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1476130.3	100.0	%	1.12				1.12%
ScR 361.383	154178.1	100.5	%	0.89				0.88%
Ag 328.068†	-19.6	-0.00015	mg/L	0.000191	-0.00015	mg/L	0.000191	128.74%
Al 308.215†	18.1	0.01947	mg/L	0.013841	0.01947	mg/L	0.013841	71.09%
As 188.979†	2.2	0.00229	mg/L	0.002565	0.00229	mg/L	0.002565	112.15%
B 249.677†	-6.6	-0.00115	mg/L	0.001369	-0.00115	mg/L	0.001369	119.25%
Ba 233.527†	-9.0	-0.00263	mg/L	0.000506	-0.00263	mg/L	0.000506	19.27%
Be 313.042†	75.4	0.00018	mg/L	0.000077	0.00018	mg/L	0.000077	42.32%
Ca 317.933†	48.2	0.00771	mg/L	0.001497	0.00771	mg/L	0.001497	19.42%
Cd 228.802†	-5.2	-0.00030	mg/L	0.000232	-0.00030	mg/L	0.000232	76.50%
Co 228.616†	5.5	0.00021	mg/L	0.000135	0.00021	mg/L	0.000135	65.33%
Cr 267.716†	5.8	0.00214	mg/L	0.002013	0.00214	mg/L	0.002013	94.11%
Cu 324.752†	-51.9	-0.00032	mg/L	0.000043	-0.00032	mg/L	0.000043	13.34%
Fe 273.955†	0.8	0.00090	mg/L	0.002006	0.00090	mg/L	0.002006	224.01%
K 766.490†	-77.3	-0.06848	mg/L	0.037464	-0.06848	mg/L	0.037464	54.71%
Mg 279.077†	-9.7	-0.01357	mg/L	0.011830	-0.01357	mg/L	0.011830	87.18%
Mn 257.610†	-6.1	-0.00019	mg/L	0.000323	-0.00019	mg/L	0.000323	174.08%
Mo 202.031†	-4.3	-0.00033	mg/L	0.000214	-0.00033	mg/L	0.000214	63.92%
Na 589.592†	-272.1	-0.03340	mg/L	0.002196	-0.03340	mg/L	0.002196	6.57%
Na 330.237†	1.7	0.09895	mg/L	0.443551	0.09895	mg/L	0.443551	448.27%
Ni 231.604†	-8.2	-0.00345	mg/L	0.000158	-0.00345	mg/L	0.000158	4.57%
Pb 220.353†	1.5	0.00027	mg/L	0.000406	0.00027	mg/L	0.000406	152.64%
Sb 206.836†	-0.7	-0.00037	mg/L	0.001666	-0.00037	mg/L	0.001666	452.20%
Se 196.026†	-0.5	-0.00060	mg/L	0.002096	-0.00060	mg/L	0.002096	352.08%
Si 288.158†	-3.0	-0.00390	mg/L	0.003175	-0.00390	mg/L	0.003175	81.46%
Sn 189.927†	0.1	0.00005	mg/L	0.000507	0.00005	mg/L	0.000507	>999.9%
Sr 421.552†	-1.6	-0.00000	mg/L	0.000065	-0.00000	mg/L	0.000065	>999.9%
Ti 334.903†	24.1	0.00189	mg/L	0.001589	0.00189	mg/L	0.001589	84.28%
Tl 190.801†	-2.6	-0.00185	mg/L	0.002185	-0.00185	mg/L	0.002185	118.37%
V 292.402†	-0.9	0.00000	mg/L	0.000539	0.00000	mg/L	0.000539	>999.9%
Zn 206.200†	0.5	0.00029	mg/L	0.002394	0.00029	mg/L	0.002394	814.29%

Sequence No.: 33
 Sample ID: RINSE - 3

Autosampler Location: 9
 Date Collected: 11/12/2020 9:20:58 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 3

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: RINSE - 3

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1443982.9	97.85	%	1.632			1.67%
ScR 361.383	153181.8	99.90	%	0.295			0.30%
Ag 328.068†	-0.5	-0.00000	mg/L	0.000348	-0.00000	mg/L	0.000348 >999.9%
Al 308.215†	18.7	0.02010	mg/L	0.017655	0.02010	mg/L	0.017655 87.85%
As 188.979†	2.5	0.00264	mg/L	0.001538	0.00264	mg/L	0.001538 58.34%
B 249.677†	-2.8	-0.00049	mg/L	0.001486	-0.00049	mg/L	0.001486 306.13%
Ba 233.527†	-3.2	-0.00093	mg/L	0.001873	-0.00093	mg/L	0.001873 202.45%
Be 313.042†	27.9	0.00007	mg/L	0.000013	0.00007	mg/L	0.000013 19.20%
Ca 317.933†	36.9	0.00590	mg/L	0.002182	0.00590	mg/L	0.002182 37.00%
Cd 228.802†	-4.8	-0.00028	mg/L	0.000123	-0.00028	mg/L	0.000123 43.78%
Co 228.616†	5.7	0.00021	mg/L	0.000221	0.00021	mg/L	0.000221 104.77%
Cr 267.716†	2.9	0.00109	mg/L	0.001099	0.00109	mg/L	0.001099 101.27%
Cu 324.752†	-71.7	-0.00045	mg/L	0.000248	-0.00045	mg/L	0.000248 55.52%
Fe 273.955†	-2.3	-0.00255	mg/L	0.005298	-0.00255	mg/L	0.005298 207.73%
K 766.490†	-43.5	-0.03858	mg/L	0.010647	-0.03858	mg/L	0.010647 27.59%
Mg 279.077†	-4.2	-0.00590	mg/L	0.004993	-0.00590	mg/L	0.004993 84.64%
Mn 257.610†	-5.3	-0.00016	mg/L	0.000145	-0.00016	mg/L	0.000145 88.89%
Mo 202.031†	-3.2	-0.00025	mg/L	0.000178	-0.00025	mg/L	0.000178 70.74%
Na 589.592†	-216.1	-0.02652	mg/L	0.006172	-0.02652	mg/L	0.006172 23.27%
Na 330.237†	3.4	0.1910	mg/L	0.63912	0.1910	mg/L	0.63912 334.70%
Ni 231.604†	-1.8	-0.00077	mg/L	0.002095	-0.00077	mg/L	0.002095 272.87%
Pb 220.353†	6.3	0.00107	mg/L	0.000298	0.00107	mg/L	0.000298 27.75%
Sb 206.836†	-0.4	-0.00022	mg/L	0.001132	-0.00022	mg/L	0.001132 524.91%
Se 196.026†	2.6	0.00310	mg/L	0.006893	0.00310	mg/L	0.006893 222.02%
Si 288.158†	0.3	0.00031	mg/L	0.003552	0.00031	mg/L	0.003552 >999.9%
Sn 189.927†	-4.3	-0.00150	mg/L	0.000140	-0.00150	mg/L	0.000140 9.33%
Sr 421.552†	-6.5	-0.00002	mg/L	0.000132	-0.00002	mg/L	0.000132 869.21%
Ti 334.903†	32.2	0.00252	mg/L	0.000246	0.00252	mg/L	0.000246 9.76%
Tl 190.801†	-1.8	-0.00131	mg/L	0.002574	-0.00131	mg/L	0.002574 196.73%
V 292.402†	3.8	0.00007	mg/L	0.000386	0.00007	mg/L	0.000386 562.15%
Zn 206.200†	0.7	0.00041	mg/L	0.001458	0.00041	mg/L	0.001458 354.39%

Sequence No.: 34
 Sample ID: RINSE - 4

Autosampler Location: 9
 Date Collected: 11/12/2020 9:25:14 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 4

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: RINSE - 4

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1431012.7	96.97	%	0.560				0.58%
ScR 361.383	150044.7	97.85	%	0.964				0.98%
Ag 328.068†	-52.0	-0.00039	mg/L	0.000335	-0.00039	mg/L	0.000335	85.09%
Al 308.215†	-9.8	-0.01049	mg/L	0.031008	-0.01049	mg/L	0.031008	295.71%
As 188.979†	3.6	0.00372	mg/L	0.002079	0.00372	mg/L	0.002079	55.88%
B 249.677†	3.5	0.00063	mg/L	0.002443	0.00063	mg/L	0.002443	385.53%
Ba 233.527†	-3.7	-0.00108	mg/L	0.001241	-0.00108	mg/L	0.001241	114.38%
Be 313.042†	73.2	0.00018	mg/L	0.000073	0.00018	mg/L	0.000073	40.82%
Ca 317.933†	52.0	0.00832	mg/L	0.002251	0.00832	mg/L	0.002251	27.06%
Cd 228.802†	-2.1	-0.00014	mg/L	0.000067	-0.00014	mg/L	0.000067	46.24%
Co 228.616†	2.7	0.00010	mg/L	0.000252	0.00010	mg/L	0.000252	251.10%
Cr 267.716†	-0.4	-0.00015	mg/L	0.004251	-0.00015	mg/L	0.004251	>999.9%
Cu 324.752†	-70.5	-0.00044	mg/L	0.000085	-0.00044	mg/L	0.000085	19.35%
Fe 273.955†	-1.9	-0.00213	mg/L	0.003504	-0.00213	mg/L	0.003504	164.36%
K 766.490†	-13.0	-0.01156	mg/L	0.021760	-0.01156	mg/L	0.021760	188.19%
Mg 279.077†	-15.4	-0.02161	mg/L	0.004245	-0.02161	mg/L	0.004245	19.65%
Mn 257.610†	-10.4	-0.00032	mg/L	0.000125	-0.00032	mg/L	0.000125	39.12%
Mo 202.031†	1.1	0.00009	mg/L	0.000297	0.00009	mg/L	0.000297	346.57%
Na 589.592†	-257.1	-0.03156	mg/L	0.002035	-0.03156	mg/L	0.002035	6.45%
Na 330.237†	6.3	0.3599	mg/L	0.82369	0.3599	mg/L	0.82369	228.89%
Ni 231.604†	-8.0	-0.00336	mg/L	0.001333	-0.00336	mg/L	0.001333	39.67%
Pb 220.353†	8.3	0.00140	mg/L	0.001804	0.00140	mg/L	0.001804	129.20%
Sb 206.836†	-0.6	-0.00031	mg/L	0.000723	-0.00031	mg/L	0.000723	235.37%
Se 196.026†	2.2	0.00258	mg/L	0.002035	0.00258	mg/L	0.002035	78.92%
Si 288.158†	-5.8	-0.00748	mg/L	0.001723	-0.00748	mg/L	0.001723	23.03%
Sn 189.927†	-0.6	-0.00022	mg/L	0.000682	-0.00022	mg/L	0.000682	306.21%
Sr 421.552†	15.1	0.00004	mg/L	0.000026	0.00004	mg/L	0.000026	72.58%
Ti 334.903†	12.1	0.00094	mg/L	0.000325	0.00094	mg/L	0.000325	34.37%
Tl 190.801†	-6.8	-0.00481	mg/L	0.002256	-0.00481	mg/L	0.002256	46.88%
V 292.402†	-10.5	-0.00017	mg/L	0.000280	-0.00017	mg/L	0.000280	162.82%
Zn 206.200†	0.2	0.00010	mg/L	0.002568	0.00010	mg/L	0.002568	>999.9%

Sequence No.: 35
 Sample ID: DI - 1

Autosampler Location: 10
 Date Collected: 11/12/2020 9:29:30 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 1

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: DI - 1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1502206.6	101.8	%	0.84			0.83%
ScR 361.383	158909.1	103.6	%	0.72			0.69%
Ag 328.068†	10.9	0.00008	mg/L	0.000168	0.00008	mg/L	0.000168 204.24%
Al 308.215†	-15.1	-0.01625	mg/L	0.008289	-0.01625	mg/L	0.008289 51.02%
As 188.979†	3.7	0.00385	mg/L	0.001107	0.00385	mg/L	0.001107 28.78%
B 249.677†	-20.0	-0.00352	mg/L	0.001225	-0.00352	mg/L	0.001225 34.81%
Ba 233.527†	-6.9	-0.00201	mg/L	0.001351	-0.00201	mg/L	0.001351 67.10%
Be 313.042†	-43.4	-0.00010	mg/L	0.000084	-0.00010	mg/L	0.000084 80.10%
Ca 317.933†	-3.9	-0.00062	mg/L	0.000794	-0.00062	mg/L	0.000794 127.73%
Cd 228.802†	-7.5	-0.00044	mg/L	0.000158	-0.00044	mg/L	0.000158 35.64%
Co 228.616†	13.8	0.00052	mg/L	0.000157	0.00052	mg/L	0.000157 30.02%
Cr 267.716†	19.9	0.00736	mg/L	0.002517	0.00736	mg/L	0.002517 34.21%
Cu 324.752†	-136.1	-0.00085	mg/L	0.000144	-0.00085	mg/L	0.000144 16.95%
Fe 273.955†	-0.9	-0.00104	mg/L	0.001447	-0.00104	mg/L	0.001447 138.68%
K 766.490†	-26.4	-0.02340	mg/L	0.035063	-0.02340	mg/L	0.035063 149.87%
Mg 279.077†	-20.6	-0.02897	mg/L	0.005898	-0.02897	mg/L	0.005898 20.36%
Mn 257.610†	-28.5	-0.00087	mg/L	0.000180	-0.00087	mg/L	0.000180 20.58%
Mo 202.031†	-9.4	-0.00073	mg/L	0.000388	-0.00073	mg/L	0.000388 53.12%
Na 589.592†	-100.7	-0.01236	mg/L	0.007427	-0.01236	mg/L	0.007427 60.09%
Na 330.237†	-12.5	-0.7098	mg/L	0.69121	-0.7098	mg/L	0.69121 97.38%
Ni 231.604†	-10.0	-0.00421	mg/L	0.004556	-0.00421	mg/L	0.004556 108.18%
Pb 220.353†	7.4	0.00126	mg/L	0.001454	0.00126	mg/L	0.001454 115.14%
Sb 206.836†	-4.8	-0.00257	mg/L	0.000524	-0.00257	mg/L	0.000524 20.42%
Se 196.026†	1.4	0.00173	mg/L	0.006896	0.00173	mg/L	0.006896 398.86%
Si 288.158†	8.9	0.01151	mg/L	0.004416	0.01151	mg/L	0.004416 38.37%
Sn 189.927†	-0.1	-0.00003	mg/L	0.001771	-0.00003	mg/L	0.001771 >999.9%
Sr 421.552†	-54.9	-0.00013	mg/L	0.000045	-0.00013	mg/L	0.000045 35.14%
Ti 334.903†	3.1	0.00024	mg/L	0.001586	0.00024	mg/L	0.001586 649.98%
Tl 190.801†	-7.0	-0.00496	mg/L	0.002778	-0.00496	mg/L	0.002778 56.02%
V 292.402†	-15.3	-0.00020	mg/L	0.000234	-0.00020	mg/L	0.000234 118.36%
Zn 206.200†	0.6	0.00039	mg/L	0.001188	0.00039	mg/L	0.001188 304.14%

Sequence No.: 36
 Sample ID: DI - 2

Autosampler Location: 10
 Date Collected: 11/12/2020 9:33:45 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 2

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: DI - 2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1498170.4	101.5	%	1.84			1.82%
ScR 361.383	156795.9	102.3	%	0.86			0.84%
Ag 328.068†	-20.4	-0.00015	mg/L	0.000289	-0.00015	mg/L	0.000289 187.63%
Al 308.215†	7.5	0.00808	mg/L	0.014269	0.00808	mg/L	0.014269 176.60%
As 188.979†	3.8	0.00389	mg/L	0.003873	0.00389	mg/L	0.003873 99.53%
B 249.677†	-14.5	-0.00256	mg/L	0.001236	-0.00256	mg/L	0.001236 48.26%
Ba 233.527†	-2.7	-0.00079	mg/L	0.000818	-0.00079	mg/L	0.000818 104.16%
Be 313.042†	50.7	0.00012	mg/L	0.000106	0.00012	mg/L	0.000106 85.50%
Ca 317.933†	4.5	0.00072	mg/L	0.002156	0.00072	mg/L	0.002156 300.01%
Cd 228.802†	-5.9	-0.00035	mg/L	0.000312	-0.00035	mg/L	0.000312 89.19%
Co 228.616†	17.1	0.00065	mg/L	0.000058	0.00065	mg/L	0.000058 8.93%
Cr 267.716†	7.2	0.00265	mg/L	0.001074	0.00265	mg/L	0.001074 40.46%
Cu 324.752†	-115.0	-0.00072	mg/L	0.000032	-0.00072	mg/L	0.000032 4.47%
Fe 273.955†	-1.3	-0.00149	mg/L	0.003069	-0.00149	mg/L	0.003069 205.47%
K 766.490†	-20.2	-0.01793	mg/L	0.027117	-0.01793	mg/L	0.027117 151.26%
Mg 279.077†	-12.9	-0.01810	mg/L	0.015626	-0.01810	mg/L	0.015626 86.32%
Mn 257.610†	-15.6	-0.00048	mg/L	0.000192	-0.00048	mg/L	0.000192 40.24%
Mo 202.031†	-8.7	-0.00068	mg/L	0.000202	-0.00068	mg/L	0.000202 29.85%
Na 589.592†	-90.6	-0.01112	mg/L	0.003684	-0.01112	mg/L	0.003684 33.12%
Na 330.237†	-10.8	-0.6155	mg/L	1.05998	-0.6155	mg/L	1.05998 172.22%
Ni 231.604†	-3.3	-0.00139	mg/L	0.004181	-0.00139	mg/L	0.004181 300.29%
Pb 220.353†	2.4	0.00042	mg/L	0.000400	0.00042	mg/L	0.000400 96.08%
Sb 206.836†	-4.6	-0.00236	mg/L	0.003195	-0.00236	mg/L	0.003195 135.34%
Se 196.026†	7.5	0.00892	mg/L	0.004145	0.00892	mg/L	0.004145 46.47%
Si 288.158†	9.1	0.01180	mg/L	0.004833	0.01180	mg/L	0.004833 40.94%
Sn 189.927†	-1.2	-0.00041	mg/L	0.001200	-0.00041	mg/L	0.001200 289.49%
Sr 421.552†	-14.5	-0.00003	mg/L	0.000102	-0.00003	mg/L	0.000102 302.85%
Ti 334.903†	7.7	0.00060	mg/L	0.002606	0.00060	mg/L	0.002606 431.85%
Tl 190.801†	-8.2	-0.00587	mg/L	0.001509	-0.00587	mg/L	0.001509 25.71%
V 292.402†	-14.2	-0.00021	mg/L	0.000075	-0.00021	mg/L	0.000075 35.17%
Zn 206.200†	-0.7	-0.00042	mg/L	0.000869	-0.00042	mg/L	0.000869 204.64%

Sequence No.: 37
Sample ID: DI - 3

Autosampler Location: 10
Date Collected: 11/12/2020 9:38:01 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 3

Analyte Back Pressure Flow
All 239.0 kPa 0.65 L/min

Mean Data: DI - 3

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	1455119.6		98.61 %	0.999			1.01%
ScR 361.383	155022.1		101.1 %	1.31			1.30%
Ag 328.068†	-12.6	-0.00010	mg/L	0.000180	-0.00010	mg/L	0.000180 188.18%
Al 308.215†	-4.5	-0.00482	mg/L	0.029636	-0.00482	mg/L	0.029636 614.43%
As 188.979†	-0.3	-0.00032	mg/L	0.002473	-0.00032	mg/L	0.002473 776.11%
B 249.677†	-15.7	-0.00276	mg/L	0.001573	-0.00276	mg/L	0.001573 56.95%
Ba 233.527†	-7.7	-0.00227	mg/L	0.000568	-0.00227	mg/L	0.000568 25.02%
Be 313.042†	59.6	0.00014	mg/L	0.000060	0.00014	mg/L	0.000060 41.72%
Ca 317.933†	4.9	0.00078	mg/L	0.002111	0.00078	mg/L	0.002111 270.77%
Cd 228.802†	-6.6	-0.00036	mg/L	0.000169	-0.00036	mg/L	0.000169 46.43%
Co 228.616†	14.7	0.00056	mg/L	0.000062	0.00056	mg/L	0.000062 11.07%
Cr 267.716†	10.8	0.00399	mg/L	0.002255	0.00399	mg/L	0.002255 56.50%
Cu 324.752†	-107.7	-0.00067	mg/L	0.000033	-0.00067	mg/L	0.000033 4.89%
Fe 273.955†	1.7	0.00190	mg/L	0.003231	0.00190	mg/L	0.003231 169.75%
K 766.490†	-17.8	-0.01575	mg/L	0.041501	-0.01575	mg/L	0.041501 263.57%
Mg 279.077†	-10.5	-0.01475	mg/L	0.007872	-0.01475	mg/L	0.007872 53.38%
Mn 257.610†	-16.2	-0.00050	mg/L	0.000140	-0.00050	mg/L	0.000140 28.22%
Mo 202.031†	-9.2	-0.00072	mg/L	0.000078	-0.00072	mg/L	0.000078 10.87%
Na 589.592†	-101.8	-0.01249	mg/L	0.005900	-0.01249	mg/L	0.005900 47.23%
Na 330.237†	-12.0	-0.6816	mg/L	0.89739	-0.6816	mg/L	0.89739 131.66%
Ni 231.604†	-5.8	-0.00244	mg/L	0.002032	-0.00244	mg/L	0.002032 83.28%
Pb 220.353†	3.6	0.00061	mg/L	0.000896	0.00061	mg/L	0.000896 145.74%
Sb 206.836†	-4.7	-0.00243	mg/L	0.000266	-0.00243	mg/L	0.000266 10.93%
Se 196.026†	7.9	0.00947	mg/L	0.002365	0.00947	mg/L	0.002365 24.98%
Si 288.158†	5.1	0.00660	mg/L	0.011697	0.00660	mg/L	0.011697 177.33%
Sn 189.927†	-0.9	-0.00033	mg/L	0.001093	-0.00033	mg/L	0.001093 327.67%
Sr 421.552†	21.8	0.00005	mg/L	0.000137	0.00005	mg/L	0.000137 269.26%
Ti 334.903†	-0.7	-0.00006	mg/L	0.000626	-0.00006	mg/L	0.000626 >999.9%
Tl 190.801†	-12.5	-0.00890	mg/L	0.003157	-0.00890	mg/L	0.003157 35.47%
V 292.402†	4.2	0.00010	mg/L	0.000431	0.00010	mg/L	0.000431 450.48%
Zn 206.200†	2.7	0.00164	mg/L	0.001409	0.00164	mg/L	0.001409 85.74%

Sequence No.: 38
Sample ID: DI - 4

Autosampler Location: 10
Date Collected: 11/12/2020 9:42:17 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 4

Analyte Back Pressure Flow
All 240.0 kPa 0.65 L/min

Mean Data: DI - 4

Analyte	Mean Corrected			Std.Dev.	Sample		RSD
	Intensity	Conc.	Calib. Units		Conc.	Units	
ScA 357.253	1467270.9	99.43	%	0.905			0.91%
ScR 361.383	153823.6	100.3	%	0.70			0.70%
Ag 328.068†	-3.8	-0.00003	mg/L	0.000460	-0.00003	mg/L	0.000460 >999.9%
Al 308.215†	6.2	0.00666	mg/L	0.001783	0.00666	mg/L	0.001783 26.78%
As 188.979†	-0.2	-0.00019	mg/L	0.001386	-0.00019	mg/L	0.001386 722.13%
B 249.677†	-5.5	-0.00095	mg/L	0.001663	-0.00095	mg/L	0.001663 174.33%
Ba 233.527†	-6.9	-0.00202	mg/L	0.000431	-0.00202	mg/L	0.000431 21.31%
Be 313.042†	40.4	0.00010	mg/L	0.000084	0.00010	mg/L	0.000084 85.48%
Ca 317.933†	1.2	0.00019	mg/L	0.000950	0.00019	mg/L	0.000950 497.61%
Cd 228.802†	-4.1	-0.00022	mg/L	0.000282	-0.00022	mg/L	0.000282 125.52%
Co 228.616†	15.7	0.00060	mg/L	0.000187	0.00060	mg/L	0.000187 31.37%
Cr 267.716†	15.7	0.00578	mg/L	0.001003	0.00578	mg/L	0.001003 17.36%
Cu 324.752†	-118.4	-0.00074	mg/L	0.000081	-0.00074	mg/L	0.000081 10.98%
Fe 273.955†	0.3	0.00031	mg/L	0.005304	0.00031	mg/L	0.005304 >999.9%
K 766.490†	3.7	0.00328	mg/L	0.031594	0.00328	mg/L	0.031594 964.11%
Mg 279.077†	-0.9	-0.00121	mg/L	0.005876	-0.00121	mg/L	0.005876 487.33%
Mn 257.610†	-21.0	-0.00064	mg/L	0.000096	-0.00064	mg/L	0.000096 14.91%
Mo 202.031†	-7.8	-0.00061	mg/L	0.000248	-0.00061	mg/L	0.000248 40.60%
Na 589.592†	-101.8	-0.01249	mg/L	0.007541	-0.01249	mg/L	0.007541 60.37%
Na 330.237†	-12.8	-0.7281	mg/L	0.72785	-0.7281	mg/L	0.72785 99.96%
Ni 231.604†	-1.2	-0.00049	mg/L	0.002827	-0.00049	mg/L	0.002827 574.60%
Pb 220.353†	8.0	0.00136	mg/L	0.000308	0.00136	mg/L	0.000308 22.62%
Sb 206.836†	-3.1	-0.00168	mg/L	0.000611	-0.00168	mg/L	0.000611 36.28%
Se 196.026†	3.9	0.00469	mg/L	0.001653	0.00469	mg/L	0.001653 35.24%
Si 288.158†	-3.1	-0.00408	mg/L	0.003834	-0.00408	mg/L	0.003834 94.01%
Sn 189.927†	-2.3	-0.00082	mg/L	0.001144	-0.00082	mg/L	0.001144 139.01%
Sr 421.552†	-51.9	-0.00012	mg/L	0.000041	-0.00012	mg/L	0.000041 33.91%
Ti 334.903†	7.6	0.00060	mg/L	0.000476	0.00060	mg/L	0.000476 79.68%
Tl 190.801†	-8.9	-0.00635	mg/L	0.001774	-0.00635	mg/L	0.001774 27.92%
V 292.402†	-10.9	-0.00014	mg/L	0.000112	-0.00014	mg/L	0.000112 81.73%
Zn 206.200†	-0.2	-0.00010	mg/L	0.001809	-0.00010	mg/L	0.001809 >999.9%



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: ICP2

Calibration: DK00032

Control Limit: +/- 10.00%

Sequence: SIK0194

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0194-ICV1	Lead	2.0000	2.03	102	mg/L	EPA 6010C
SIK0194-CCV1	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0194-CCV2	Lead	2.0000	2.00	100	mg/L	EPA 6010C
SIK0194-CCV3	Lead	2.0000	2.01	100	mg/L	EPA 6010C
SIK0194-CCV4	Lead	2.0000	2.02	101	mg/L	EPA 6010C
SIK0194-CCV5	Lead	2.0000	2.04	102	mg/L	EPA 6010C
SIK0194-CCV6	Lead	2.0000	2.11	106	mg/L	EPA 6010C
SIK0194-CCV7	Lead	2.0000	2.08	104	mg/L	EPA 6010C

* Values outside of QC limits



INSTRUMENT BLANKS EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: ICP2

Calibration: DK00032

Sequence: SIK0194

Date Analyzed: 11/12/20 15:31

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0194-ICB1	Lead	0.0011	0.0024	0.0200	mg/L	
SIK0194-CCB1	Lead	0.00002	0.0024	0.0200	mg/L	
SIK0194-CCB2	Lead	0.0011	0.0024	0.0200	mg/L	
SIK0194-CCB3	Lead	0.0008	0.0024	0.0200	mg/L	
SIK0194-CCB4	Lead	-0.000002	0.0024	0.0200	mg/L	
SIK0194-CCB5	Lead	-0.0004	0.0024	0.0200	mg/L	
SIK0194-CCB6	Lead	0.0010	0.0024	0.0200	mg/L	
SIK0194-IBL1	Lead	0.0003	0.0024	0.0200	mg/L	
SIK0194-CCB7	Lead	0.0007	0.0024	0.0200	mg/L	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0194</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00032</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SIK0194-CCV4	I2201112-039	NA	11/12/20 18:14
Calibration Blank	SIK0194-CCB4	I2201112-040	NA	11/12/20 18:19
Blank	BIK0243-BLK1	I2201112-041	Solid	11/12/20 18:24
LCS	BIK0243-BS1	I2201112-042	Solid	11/12/20 18:28
ZZZZZ	20J0429-01	I2201112-043	Solid	11/12/20 18:32
ZZZZZ	20J0429-01	I2201112-043	Solid	11/12/20 18:32
ZZZZZ	20J0429-01	I2201112-043	Solid	11/12/20 18:32
ZZZZZ	20J0429-01	I2201112-043	Solid	11/12/20 18:32
ZZZZZ	20J0429-02	I2201112-044	Solid	11/12/20 18:36
ZZZZZ	20J0429-02	I2201112-044	Solid	11/12/20 18:36
ZZZZZ	20J0429-02	I2201112-044	Solid	11/12/20 18:36
ZZZZZ	20J0429-02	I2201112-044	Solid	11/12/20 18:36
ZZZZZ	20J0429-04	I2201112-045	Solid	11/12/20 18:46
ZZZZZ	20J0429-04	I2201112-045	Solid	11/12/20 18:46
ZZZZZ	20J0429-04	I2201112-045	Solid	11/12/20 18:46
ZZZZZ	20J0429-04	I2201112-045	Solid	11/12/20 18:46
PP8-5	20K0007-02	I2201112-047	Solid	11/12/20 18:57
PP8-5	BIK0243-DUP1	I2201112-048	Solid	11/12/20 19:01
PP8-5	BIK0243-MS1	I2201112-049	Solid	11/12/20 19:06
PP8-5	BIK0243-MSD1	I2201112-050	Solid	11/12/20 19:10
Calibration Check	SIK0194-CCV5	I2201112-051	NA	11/12/20 19:17
Calibration Blank	SIK0194-CCB5	I2201112-052	NA	11/12/20 19:23
PP8-10	20K0007-04	I2201112-053	Solid	11/12/20 19:27
PP11-2.5	20K0007-07	I2201112-054	Solid	11/12/20 19:31
PP11-7.5	20K0007-09	I2201112-055	Solid	11/12/20 19:36
PP12-2.5	20K0007-13	I2201112-056	Solid	11/12/20 19:40
PP12-7.5	20K0007-15	I2201112-057	Solid	11/12/20 19:44
PP10-2.5	20K0007-19	I2201112-058	Solid	11/12/20 19:48
PP10-7.5	20K0007-21	I2201112-059	Solid	11/12/20 19:53
PP9-2.5	20K0007-25	I2201112-060	Solid	11/12/20 19:57



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0007</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperae</u>
Sequence:	<u>SIK0194</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00032</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
PP9-7.5	20K0007-27	I2201112-061	Solid	11/12/20 20:01
PP4-2.5	20K0007-31	I2201112-062	Solid	11/12/20 20:05
Calibration Check	SIK0194-CCV6	I2201112-063	NA	11/12/20 20:12
Calibration Blank	SIK0194-CCB6	I2201112-064	NA	11/12/20 20:18
PP4-7.5	20K0007-33	I2201112-065	Solid	11/12/20 20:22
ZZZZZ	20J0437-01	I2201112-066	Solid	11/12/20 20:26
ZZZZZ	20J0437-01	I2201112-066	Solid	11/12/20 20:26
ZZZZZ	20J0437-01	I2201112-066	Solid	11/12/20 20:26
ZZZZZ	20J0437-01	I2201112-066	Solid	11/12/20 20:26
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
ZZZZZ	20K0140-01	I2201112-070	Solid	11/12/20 20:43
RINSE	SIK0194-IBL1	I2201112-072	NA	11/12/20 20:57



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: ICP2

Calibration: DK00032

Sequence: SIK0194

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0194-IFA1	Lead	0	-0.0025		mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00032

Sequence: SIK0194

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0194-IFB1	Lead	1.0000	0.9704	97.0	mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument: ICP2

IEC Date: 11/12/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>As</u>	<u>Ba</u>	<u>Cd</u>	<u>Cr</u>	<u>Co</u>
Aluminum	308.22					
Antimony	206.84				17.69744	
Arsenic	188.98				2.513798	-1.087237
Barium	233.53					-0.114796
Beryllium	313.04					
Cadmium	228.8	6.722971	0.021764			0.143886
Chromium	267.72			-0.190956		-0.055331
Cobalt	228.62		0.083876		-0.039425	
Copper	324.75				-0.026552	-0.184679
Iron	273.96				-2.137146	
Lead	220.35				-2.470239	-0.158195
Magnesium	279.08				-1.502598	-1.569871
Manganese	257.61					
Nickel	231.6					0.55802
Selenium	196.03					
Silver	328.07					
Sodium	330.24					
Thallium	190.8				0.719964	5.827324
Vanadium	292.4				-6.912466	
Zinc	206.2			0.372293	-0.08264	



INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc. SDG: 20K0007
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument: ICP2 IEC Date: 11/12/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Cu</u>	<u>Pb</u>	<u>Mn</u>	<u>Mo</u>	<u>Ni</u>
Aluminum	308.22				18.04214	
Antimony	206.84					
Arsenic	188.98				4.915605	
Barium	233.53				0.085885	0.138308
Beryllium	313.04					
Cadmium	228.8					-1.107258
Chromium	267.72	0.116659	0.010747	0.652367	-0.135316	-0.041675
Cobalt	228.62				-0.123132	0.153182
Copper	324.75				0.387322	
Iron	273.96					
Lead	220.35	1.484893				
Magnesium	279.08			-2.28207	-8.958754	
Manganese	257.61		-0.13271			
Nickel	231.6					
Selenium	196.03					
Silver	328.07					
Sodium	330.24					
Thallium	190.8		0.365317			
Vanadium	292.4	-0.074956		-0.205084	-0.360713	
Zinc	206.2		-0.05132		0.229132	



INTER-ELEMENT CORRECTION FACTORS

Laboratory:	Analytical Resources, Inc.	SDG:	20K0007
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Instrument:	ICP2	IEC Date:	11/12/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:			
		<u>Ti</u>	<u>V</u>	<u>Zn</u>	
Aluminum	308.22	2.078551	13.45847		
Antimony	206.84	-1.469687	-3.846055		
Arsenic	188.98	-36.8786			
Barium	233.53		0.785611		
Beryllium	313.04		2.590738		
Cadmium	228.8		0.091837		
Chromium	267.72	0.057397	0.649516		
Cobalt	228.62	1.811921			
Copper	324.75	0.173939			
Iron	273.96		9.704588		
Lead	220.35				
Magnesium	279.08	-0.602322			
Manganese	257.61				
Nickel	231.6				
Selenium	196.03				
Silver	328.07		-0.257563		
Sodium	330.24	-188.605		362.0867	
Thallium	190.8	3.28386	3.821526		
Vanadium	292.4	0.104463			
Zinc	206.2				



DETECTION LEVEL STANDARD
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00032

Sequence: SIK0194

Lab Sample ID: SIK0194-CRL1

Analyte	True	Found	%R	Units	QC Limits
Lead	0.0200	0.0209	105	mg/L	50 - 150

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP8-5 20K0007-02	10/30/20 08:50	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 18:57	13	180	
PP8-10 20K0007-04	10/30/20 09:00	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:27	13	180	
PP11-2.5 20K0007-07	10/30/20 09:35	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:31	13	180	
PP11-7.5 20K0007-09	10/30/20 09:45	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:36	13	180	
PP12-2.5 20K0007-13	10/30/20 10:50	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:40	13	180	
PP12-7.5 20K0007-15	10/30/20 11:00	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:44	13	180	
PP10-2.5 20K0007-19	10/30/20 12:35	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:48	13	180	
PP10-7.5 20K0007-21	10/30/20 12:45	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:53	13	180	
PP9-2.5 20K0007-25	10/30/20 13:30	10/31/20 12:30	11/09/20 12:46	9	180	11/12/20 19:57	13	180	
PP9-7.5 20K0007-27	10/30/20 13:40	10/31/20 12:30	11/09/20 12:46	9	180	11/12/20 20:01	13	180	
PP4-2.5 20K0007-31	10/30/20 14:25	10/31/20 12:30	11/09/20 12:46	9	180	11/12/20 20:05	13	180	
PP4-7.5 20K0007-33	10/30/20 14:35	10/31/20 12:30	11/09/20 12:46	9	180	11/12/20 20:22	13	180	
Duplicate BIK0243-DUP1	10/30/20 08:50	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:01	13	180	
Matrix Spike BIK0243-MS1	10/30/20 08:50	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:06	13	180	
Matrix Spike Dup BIK0243-MSD1	10/30/20 08:50	10/31/20 12:30	11/09/20 12:46	10	180	11/12/20 19:10	13	180	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.240	2.00	mg/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0007

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.0024	0.0200	mg/L



09 December 2020

Matt Dalton
Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

RE: ICS-Former NW Cooperage

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
20K0008

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Amanda Volgardsen Johnson, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20K0007	Turn-around Requested: Normal	Date: 10/30/20
ARI Client Company: Dalton Olmsted & Fuglevand	Phone: 206-660-3466	Page: 1 of 3
Client Contact: Matt Dalton / Dave Cooper		No. of Coolers: 4 Cooler Temps: See CRF



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Client Project Name: ICS/Former NW Cooperaage	Analysis Requested										Notes/Comments	
Client Project #: SUM-008-03	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)						ARCHIVE	

Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)										
PP17-2	10/29/2020	0850	soil	1-8oz 2-4oz	X	X	X	X											
PP17-5	10/29/2020	0855	soil	1-8oz 2-4oz															X
PP17-7.5	10/29/2020	0900	soil	1-8oz 2-4oz	X	X	X	X											
PP17-10	10/29/2020	0905	soil	1-8oz 2-4oz															X
PP17-12.5	10/29/2020	0910	soil	1-8oz 2-4oz															X
PP17-14	10/29/2020	0915	soil	1-8oz 2-4oz															X
PP22-2.5	10/29/2020	1015	soil	1-8oz 2-4oz	X	X	X	X											
PP22-5	10/29/2020	1020	soil	1-8oz 2-4oz															X
PP22-7.5	10/29/2020	1025	soil	1-8oz 2-4oz	X	X	X	X											
PP22-10	10/29/2020	1030	soil	1-8oz 2-4oz															
PP22-12.5	10/29/2020	1035	soil	1-8oz 2-4oz															
PP22-15	10/29/2020	1040	soil	1-8oz 2-4oz															

Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: ANTHONY CERRUTI	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: DOF	Company: ARI	Company:	Company:
	Date & Time: 10/30/2020 1145	Date & Time: 10/30/2020 1145	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20K0008	Turn-around Requested: Normal	Date: 10/30/20
ARI Client Company: Dalton Olmsted & Fuglevand	Phone: 206-660-3466	Page: 2 of 3
Client Contact: Matt Dalton / Dave Cooper		No. of Coolers: 4 Cooler Temps: See CRF



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Client Project Name: ICS/Former NW Cooverage	Analysis Requested							Notes/Comments
Client Project #: SUM-008-03	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)			


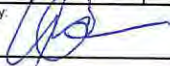

Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)						ARCHIVE	Notes/Comments
PP18-2.5	10/29/2020	1115	soil	1-8oz 2-4oz											X	
PP18-5	10/29/2020	1120	soil	1-8oz 2-4oz	X	X	X	X								
PP18-7.5	10/29/2020	1125	soil	1-8oz 2-4oz											X	
PP18-10	10/29/2020	1130	soil	1-8oz 2-4oz	X	X	X	X								
PP18-12.5	10/29/2020	1135	soil	1-8oz 2-4oz											X	
PP18-15	10/29/2020	1140	soil	1-8oz 2-4oz											X	
PP19-1	10/29/2020	1325	soil	1-8oz											X	
PP19-2.5	10/29/2020	1330	soil	1-8oz 2-4oz	X	X	X	X								
PP19-5	10/29/2020	1335	soil	1-8oz 2-4oz											X	
PP19-7.5	10/29/2020	1340	soil	1-8oz 2-4oz	X	X	X	X								
PP19-10	10/29/2020	1345	soil	1-8oz 2-4oz											X	
PP19-12.5	10/29/2020	1350	soil	1-8oz 2-4oz											X	

Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: ANTHONY CERRUTI	Printed Name: Jacob Laite	Printed Name:	Printed Name:
	Company: DOF	Company: ARZ	Company:	Company:
	Date & Time: 10/30/2020 1145	Date & Time: 10/30/2020 1145	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20K0008		Turn-around Requested: Normal			Date: 10/30/20				Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)							
ARI Client Company: Dalton Olmsted & Fuglevand		Phone: 206-660-3466			Page: 3 of 3											
Client Contact: Matt Dalton / Dave Cooper		Client Project Name: ICS/Former NW Cooperage			No. of Coolers: 4								Cooler Temps: See CRF			
Client Project #: SUM-008-03		Samplers: DG Cooper, A Cerruti			Analysis Requested							Notes/Comments				
Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)						ARCHIVE	
PP19-15	10/29/2020	1355	soil	1-8oz 2-4oz											X	
PP20-5	10/29/2020	1430	soil	1-8oz 2-4oz	X	X	X	X								
PP20-7.5	10/29/2020	1435	soil	1-8oz 2-4oz											X	
PP20-10	10/29/2020	1440	soil	1-8oz 2-4oz	X	X	X	X								
PP20-12.5	10/29/2020	1445	soil	1-8oz 2-4oz											X	
PP20-15	10/29/2020	1450	soil	1-8oz 2-4oz											X	
31 PP22-2.5	10/29/2020	1525	soil	1-8oz 2-4oz	X	X	X	X								
31 PP22-5	10/29/2020	1530	soil	1-8oz 2-4oz											X	
31 PP22-7.5	10/29/2020	1535	soil	1-8oz 2-4oz	X	X	X	X								
31 PP22-10	10/29/2020	1540	soil	1-8oz 2-4oz											X	
31 PP22-12.5	10/29/2020	1545	soil	1-8oz 2-4oz											X	
31 PP22-15	10/29/2020	1550	soil	1-8oz 2-4oz											X	
Comments/Special Instructions (1) Based on total metals		Relinquished by: (Signature) 			Received by: (Signature) 			Relinquished by: (Signature)			Received by: (Signature)					
		Printed Name: ANTHONY CERRUTI			Printed Name: Jacob Walter			Printed Name:			Printed Name:					
		Company: DOF			Company: ARI			Company:			Company:					
		Date & Time: 10/30/2020 1145			Date & Time: 10/30/2020 1145			Date & Time:			Date & Time:					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: DOF

Project Name: ICS / Farmer NW Coverage

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 20K0008

Tracking No: _____ NA

Preliminary Examination Phase:

- Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
- Were custody papers included with the cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.) YES NO
- Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1145 1.0 2.9 3.1 2.6
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JS Date: 10/30/2020 Time: 1145

Complete custody forms and attach all shipping documents

Log-In Phase:

- Was a temperature blank included in the cooler? YES NO
- What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
- Was sufficient ice used (if appropriate)? NA YES NO
- How were bottles sealed in plastic bags? Individually Grouped Not
- Did all bottles arrive in good condition (unbroken)? YES NO
- Were all bottle labels complete and legible? YES NO
- Did the number of containers listed on COC match with the number of containers received? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were all bottles used correct for the requested analyses? YES NO
- Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
- Were all VOC vials free of air bubbles? NA YES NO
- Was sufficient amount of sample sent in each bottle? YES NO
- Date VOC Trip Blank was made at ARI NA
- Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: KD Date: 11/2/2020 Time: 1333 Labels checked by: KD

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

- Received 1 8oz Jar for sample "PP20-6", did not receive other 2 4oz jars according to COC. 1 8oz jar will be shared.
- Analysis portion left blank for samples "PP22-10, PP22-12.S, and PP22-15"

By: KD Date: 11/2/2020



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
12/09/2020 13:22

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
20K0008-01	PP17-2	Solid	10/29/20 08:50	10/30/20 11:45
20K0008-02	PP17-5	Solid	10/29/20 08:55	10/30/20 11:45
20K0008-03	PP17-7.5	Solid	10/29/20 09:00	10/30/20 11:45
20K0008-04	PP17-10	Solid	10/29/20 09:05	10/30/20 11:45
20K0008-05	PP17-12.5	Solid	10/29/20 09:10	10/30/20 11:45
20K0008-06	PP17-14	Solid	10/29/20 09:15	10/30/20 11:45
20K0008-07	PP22-2.5	Solid	10/29/20 10:15	10/30/20 11:45
20K0008-08	PP22-5	Solid	10/29/20 10:20	10/30/20 11:45
20K0008-09	PP22-7.5	Solid	10/29/20 10:25	10/30/20 11:45
20K0008-10	PP22-10	Solid	10/29/20 10:30	10/30/20 11:45
20K0008-11	PP22-12.5	Solid	10/29/20 10:35	10/30/20 11:45
20K0008-12	PP22-15	Solid	10/29/20 10:40	10/30/20 11:45
20K0008-13	PP18-2.5	Solid	10/29/20 11:15	10/30/20 11:45
20K0008-14	PP18-5	Solid	10/29/20 11:20	10/30/20 11:45
20K0008-15	PP18-7.5	Solid	10/29/20 11:25	10/30/20 11:45
20K0008-16	PP18-10	Solid	10/29/20 11:30	10/30/20 11:45
20K0008-17	PP18-12.5	Solid	10/29/20 11:35	10/30/20 11:45
20K0008-18	PP18-15	Solid	10/29/20 11:40	10/30/20 11:45
20K0008-19	PP19-1	Solid	10/29/20 13:25	10/30/20 11:45
20K0008-20	PP19-2.5	Solid	10/29/20 13:30	10/30/20 11:45
20K0008-21	PP19-5	Solid	10/29/20 13:35	10/30/20 11:45
20K0008-22	PP19-7.5	Solid	10/29/20 13:40	10/30/20 11:45
20K0008-23	PP19-10	Solid	10/29/20 13:45	10/30/20 11:45
20K0008-24	PP19-12.5	Solid	10/29/20 13:50	10/30/20 11:45
20K0008-25	PP19-15	Solid	10/29/20 13:55	10/30/20 11:45
20K0008-26	PP20-5	Solid	10/29/20 14:30	10/30/20 11:45
20K0008-27	PP20-7.5	Solid	10/29/20 14:35	10/30/20 11:45
20K0008-28	PP20-10	Solid	10/29/20 14:40	10/30/20 11:45
20K0008-29	PP20-12.5	Solid	10/29/20 14:45	10/30/20 11:45
20K0008-30	PP20-15	Solid	10/29/20 14:50	10/30/20 11:45
20K0008-31	PP31-2.5	Solid	10/29/20 15:25	10/30/20 11:45
20K0008-32	PP31-5	Solid	10/29/20 15:30	10/30/20 11:45
20K0008-33	PP31-7.5	Solid	10/29/20 15:35	10/30/20 11:45
20K0008-34	PP31-10	Solid	10/29/20 15:40	10/30/20 11:45
20K0008-35	PP31-12.5	Solid	10/29/20 15:45	10/30/20 11:45
20K0008-36	PP31-15	Solid	10/29/20 15:50	10/30/20 11:45



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
09-Dec-2020 13:22

Case Narrative

Sample receipt

Samples as listed on the preceding page were received 30-Oct-2020 11:45 under ARI work order 20K0008. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception of SIK0381-ICV2/CCV2 and SIL0065-CCV2 which are outside of control limits high for the motor oil range. The calibrations were reanalyzed. No further corrective action was taken.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike and matrix spike duplicate were prepared in conjunction with sample PP 22-2.5. The matrix spike and matrix spike duplicate have low spike recoveries for Aroclor 1260. The results are advisory. No corrective action was taken.

Total Hg - EPA Method 7471B

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike, matrix spike duplicate and duplicate were prepared in conjunction with sample PP17-7.5. The duplicate has a concentration ≤ 5 times the reporting limit and the replicate control limit defaults to +/- the reporting limit instead of 20% of the RPD. The duplicate has been flagged with an "L" qualifier. The results are advisory. No further corrective action has been taken.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
09-Dec-2020 13:22

Case Narrative

Total Lead - EPA Method 6010C

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike, matrix spike duplicate and duplicate were prepared in conjunction with sample PP17-7.5. The matrix spike and matrix spike duplicate have high spike recoveries. The results are advisory. No corrective action was taken.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: ICS-NW Cooperage
Project Manager: Matt Dalton

Reported:
09-Dec-2020 13:22

Case Narrative



QUALIFIERS AND NOTES

<u>Qualifier</u>	<u>Definition</u>
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
NRS	This surrogate not reported due to chromatographic interference
L	Analyte concentration is ≤ 5 times the reporting limit and the replicate control limit defaults to \pm RL instead of 20% RPD
J	Estimated concentration value detected below the reporting limit.
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0008-01 A SDG: 20K0008
 Sampled: 10/29/20 08:50 Prepared: 11/12/20 14:55 File ID: 420K2416.D
 % Solids: 76.64 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 12:44
 Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.04 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	100	8010	D	304	650
RRO	Motor Oil Range Organics (C24-C38)	100	13700	D	389	1300

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.621	18.2	124	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2416.D

Date: 24-NOV-2020 12:44

Client ID:

Sample Info: 20K0008-01RE.100

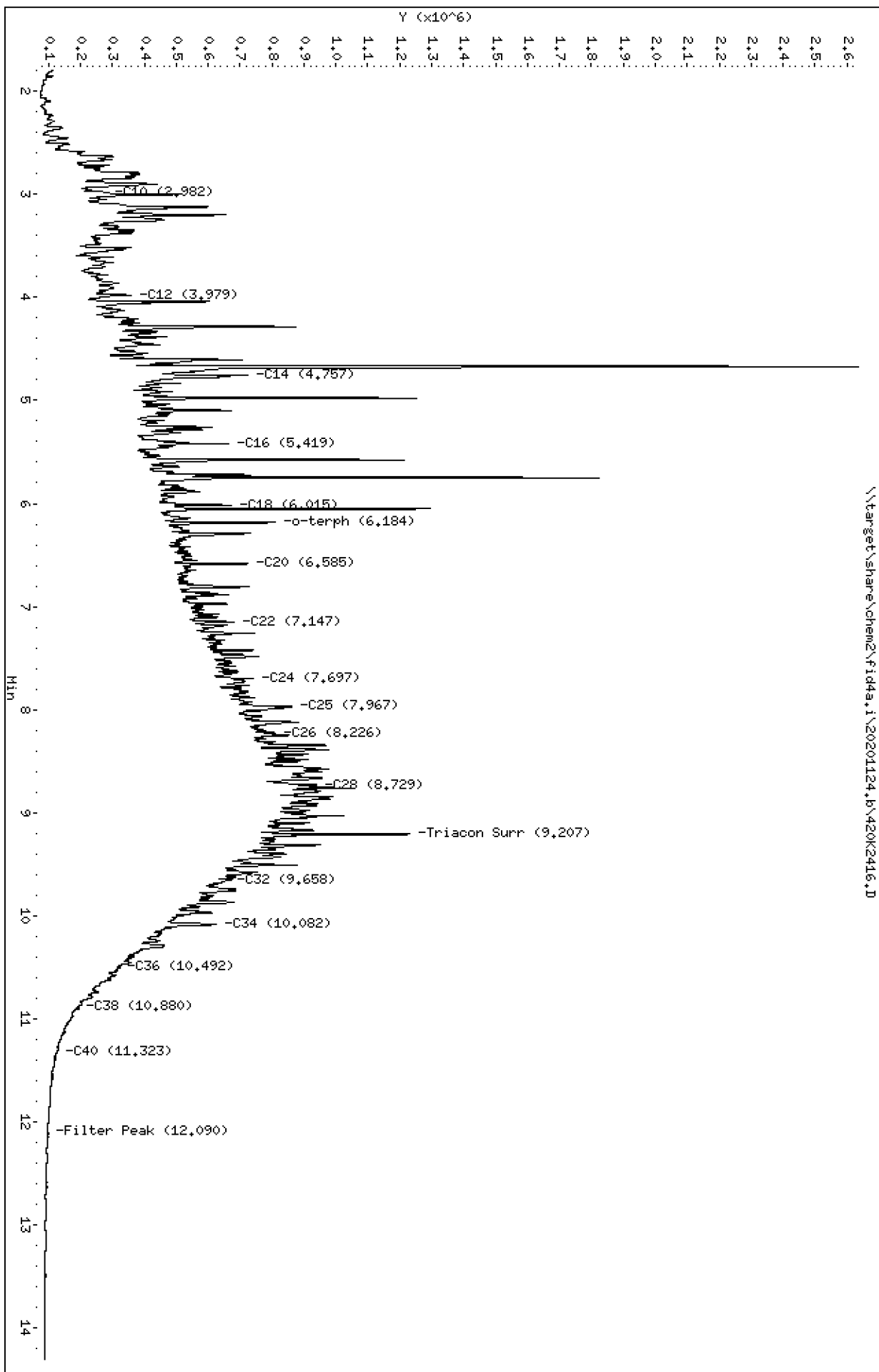
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2416.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-01RE
Client ID:
Injection: 24-NOV-2020 12:44
Dilution Factor: 100
RT Std: 419H1603.D

FID:4A RESULTS

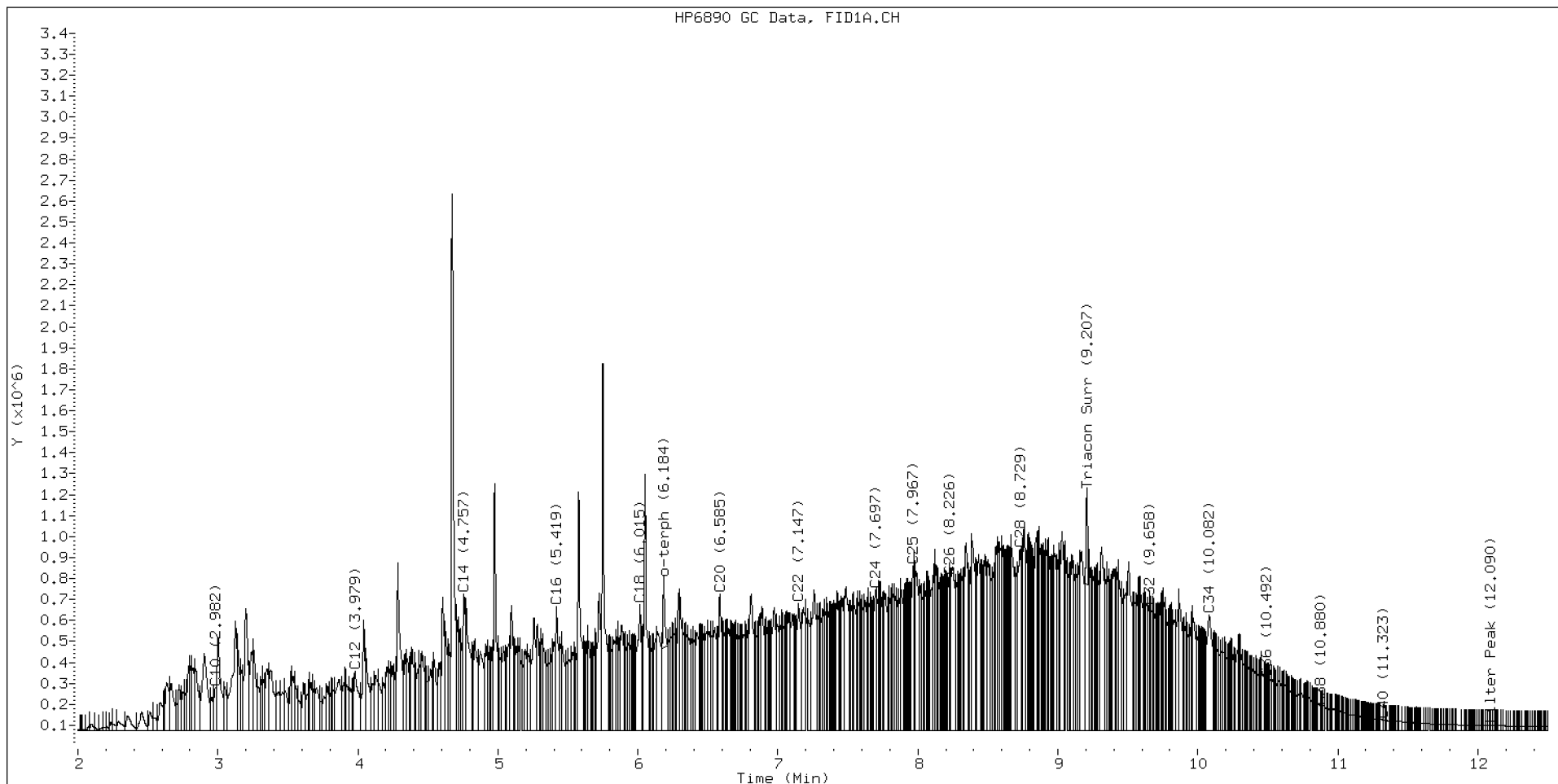
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.882	-0.011	18126	21890	WATPHD	(C12-C24)	98199224	616.3
C10	2.982	0.001	205244	227394	WATPHM	(C24-C38)	106667778	1054.4
C12	3.979	0.008	284441	680654	AK102	(C10-C25)	118511469	606.2
C14	4.757	0.003	650226	708007	AK103	(C25-C36)	97248897	1328.4
C16	5.419	-0.001	589150	812485	OR.DIES	(C10-C28)	157293187	802.5
C18	6.015	-0.005	599206	1091440				
C20	6.585	-0.006	650830	887701	JET-A	(C10-C18)	62569405	377.3
C22	7.147	-0.006	604491	1052278				
C24	7.697	-0.004	667829	866658				
C25	7.967	-0.002	786242	716686				
C26	8.226	-0.005	735957	289546				
C28	8.729	-0.005	865020	1325778				
C32	9.658	-0.004	590354	318122				
C34	10.082	-0.004	550400	1522960				
Filter Peak	12.090	0.001	22872	13589	BUNKERC	(C10-C38)	219050882	5548.8
C36	10.492	0.004	246655	73518				
C38	10.880	0.003	115010	62993				
C40	11.323	0.007	50510	58237				
o-terph	6.184	-0.021	339847	289251				
Triacon Surr	9.207	-0.031	459965	367107	NAS DIES	(C10-C24)	112383104	575.9

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	289251	1.4 M
Triacontane	367107	2.5 M

M Indicates the peak was manually integrated

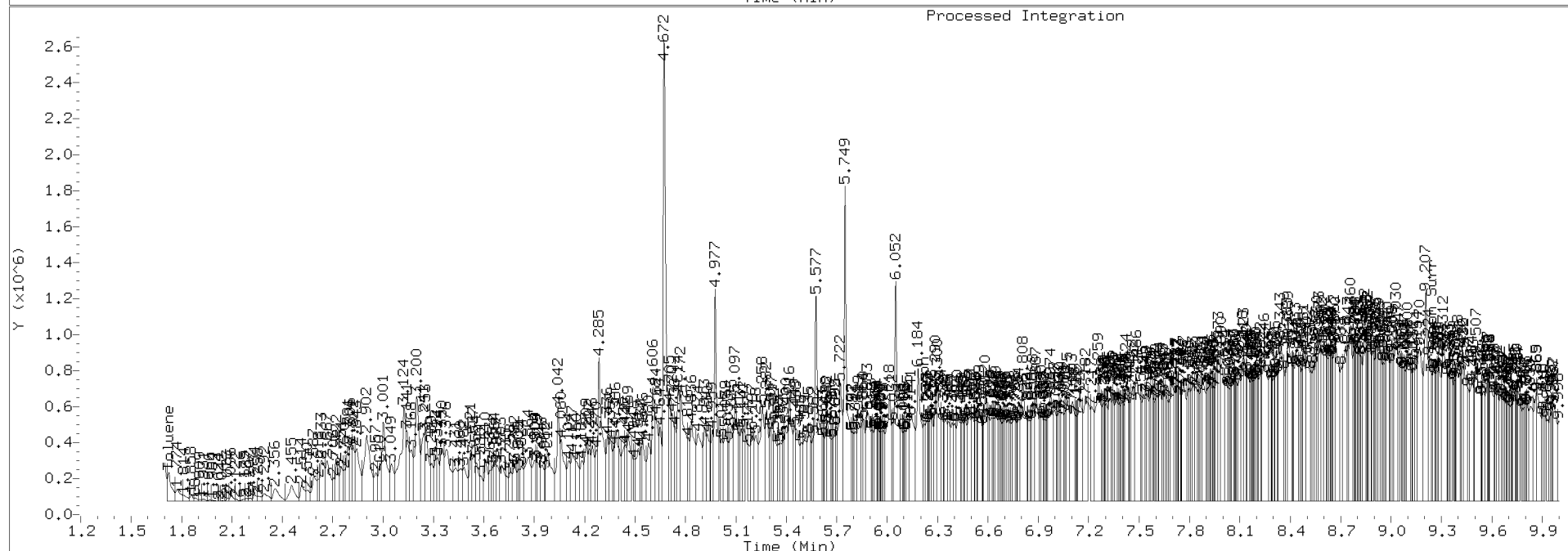
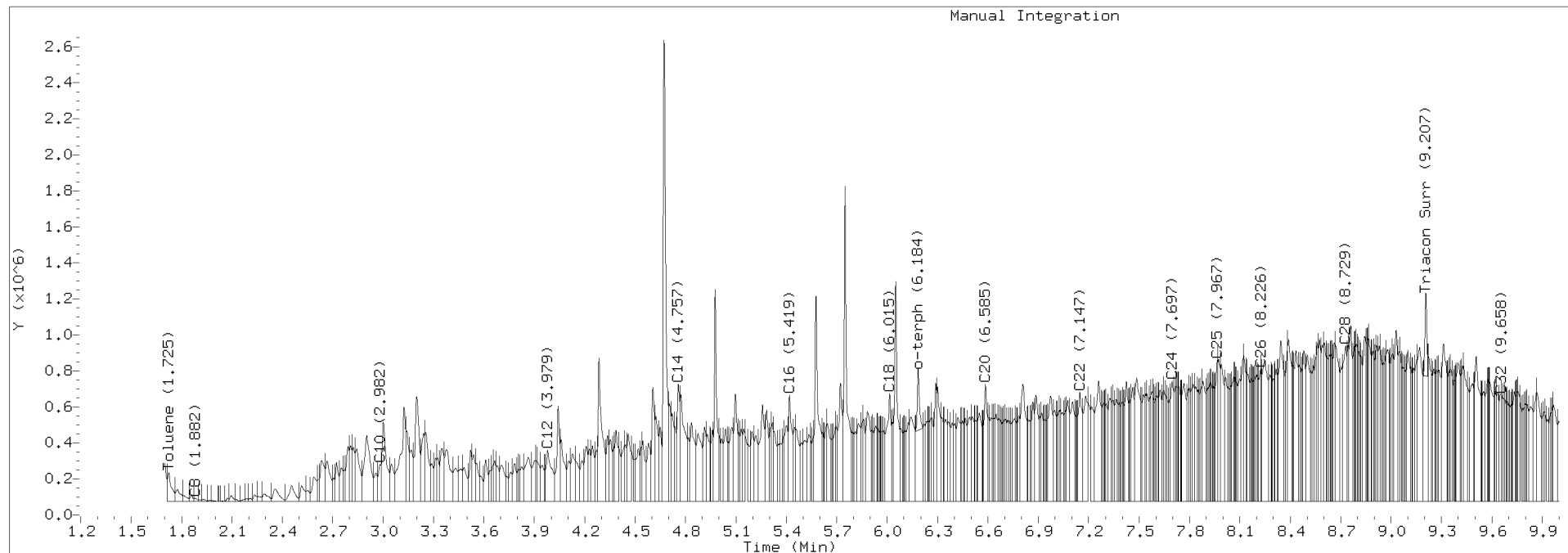
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2416.D Injection: 24-NOV-2020 12:44

Lab ID:20K0008-01RE





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-03 A SDG: 20K0008
Sampled: 10/29/20 09:00 Prepared: 11/12/20 14:55 File ID: 420K2968.D
% Solids: 65.90 Preparation: EPA 3546 (Microwave) Analyzed: 11/30/20 20:42
Batch: BIK0337 Sequence: SIL0065 Initial/Final: 10.01 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

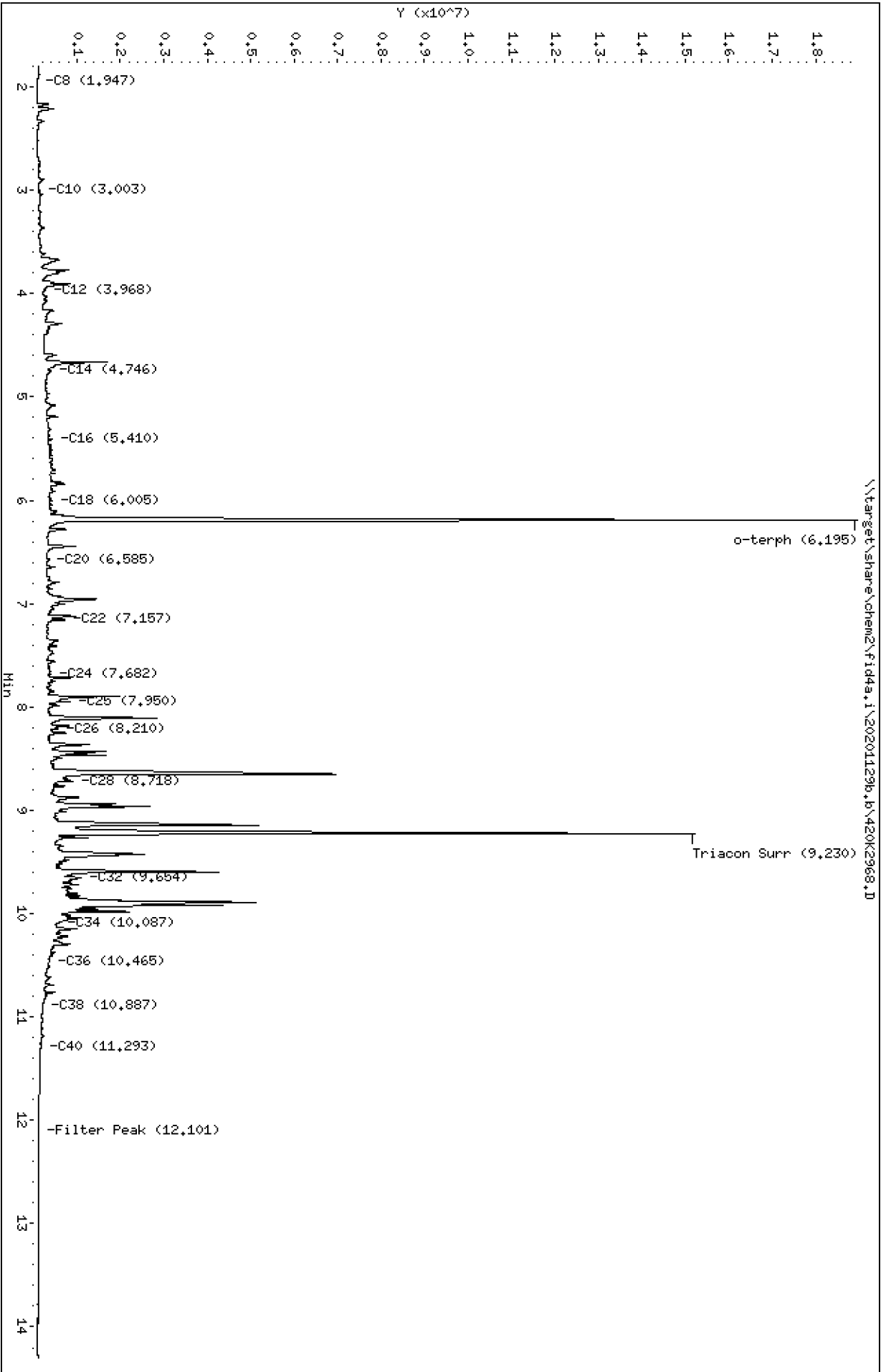
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	64.0		3.55	7.58
RRO	Motor Oil Range Organics (C24-C38)	1	201		4.53	15.2

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	17.054	15.7	91.9	50 - 150	

Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2968.D
Date: 30-NOV-2020 20:42
Client ID:
Sample Info: 20K0008-03

Column phase: RTX-1

Instrument: fid4a.i
Operator: JGR/CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2968.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-03
Client ID:
Injection: 30-NOV-2020 20:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

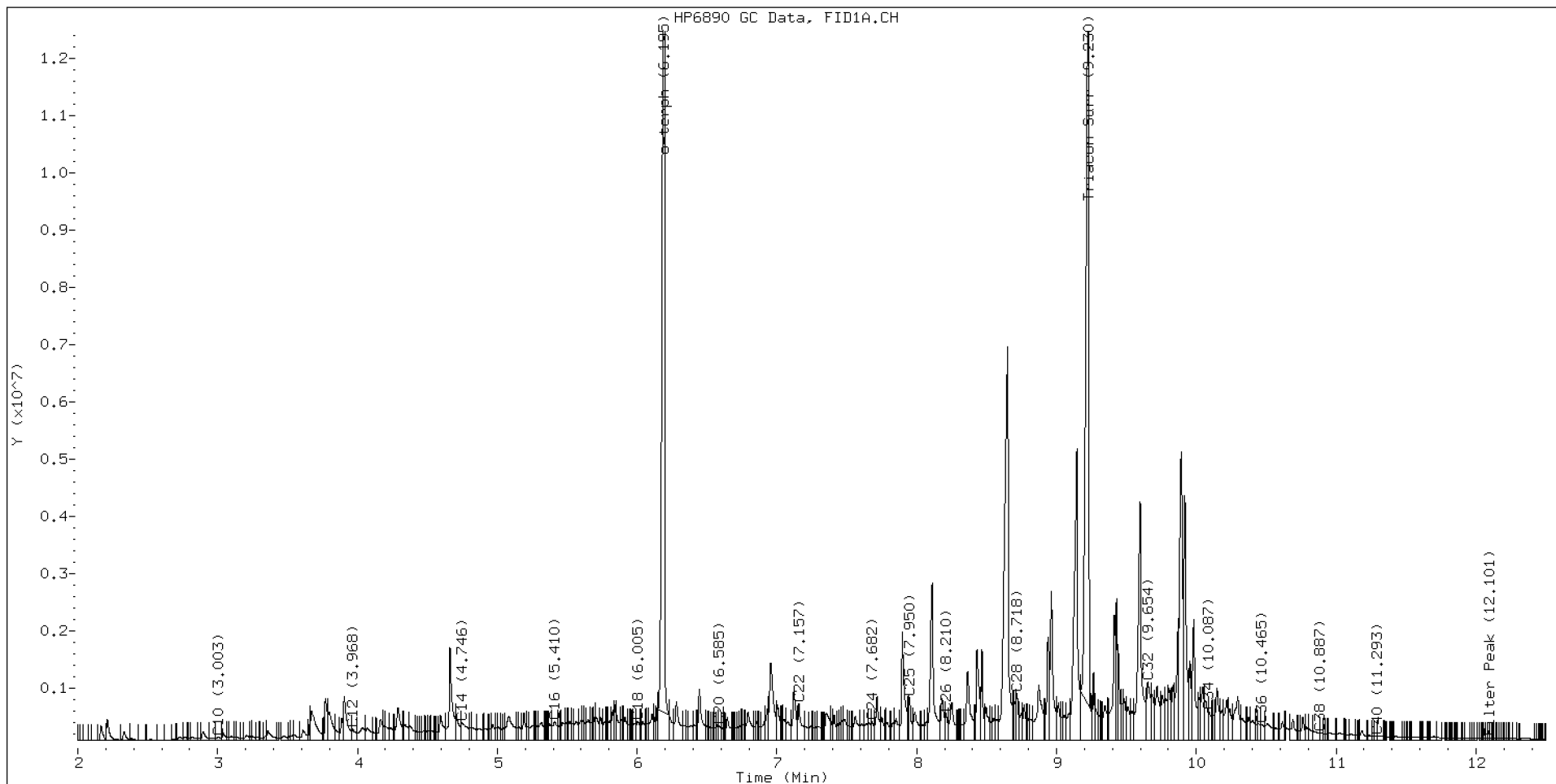
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.947	0.034	8923	7685	WATPHD	(C12-C24)	67274799	422.2
C10	3.003	0.024	55601	117721	WATPHM	(C24-C38)	134210354	1326.6
C12	3.968	0.004	197313	339765	AK102	(C10-C25)	81303067	415.9
C14	4.746	0.000	309696	944326	AK103	(C25-C36)	125040923	1708.1
C16	5.410	-0.001	337181	675457	OR.DIES	(C10-C28)	118328734	603.7
C18	6.005	-0.005	333596	453743				
C20	6.585	0.004	254033	315915	JET-A	(C10-C18)	42181413	254.3
C22	7.157	0.014	647114	1116854				
C24	7.682	-0.010	331820	393705				
C25	7.950	-0.010	751434	877912				
C26	8.210	-0.011	469188	668533				
C28	8.718	-0.007	818074	973308				
C32	9.654	0.001	1025643	1789151				
C34	10.087	0.011	507661	721192				
Filter Peak	12.101	0.004	36508	29130	BUNKERC	(C10-C38)	210387884	5329.4
C36	10.465	-0.012	283609	495729				
C38	10.887	0.022	129647	188951				
C40	11.293	-0.009	80584	202697				
o-terph	6.195	-0.003	18388475	21172844				
Triacon Surr	9.230	-0.001	14526652	19575886	NAS DIES	(C10-C24)	76177530	390.4

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	21172844	103.4 M
Triacontane	19575886	131.9 M

M Indicates the peak was manually integrated

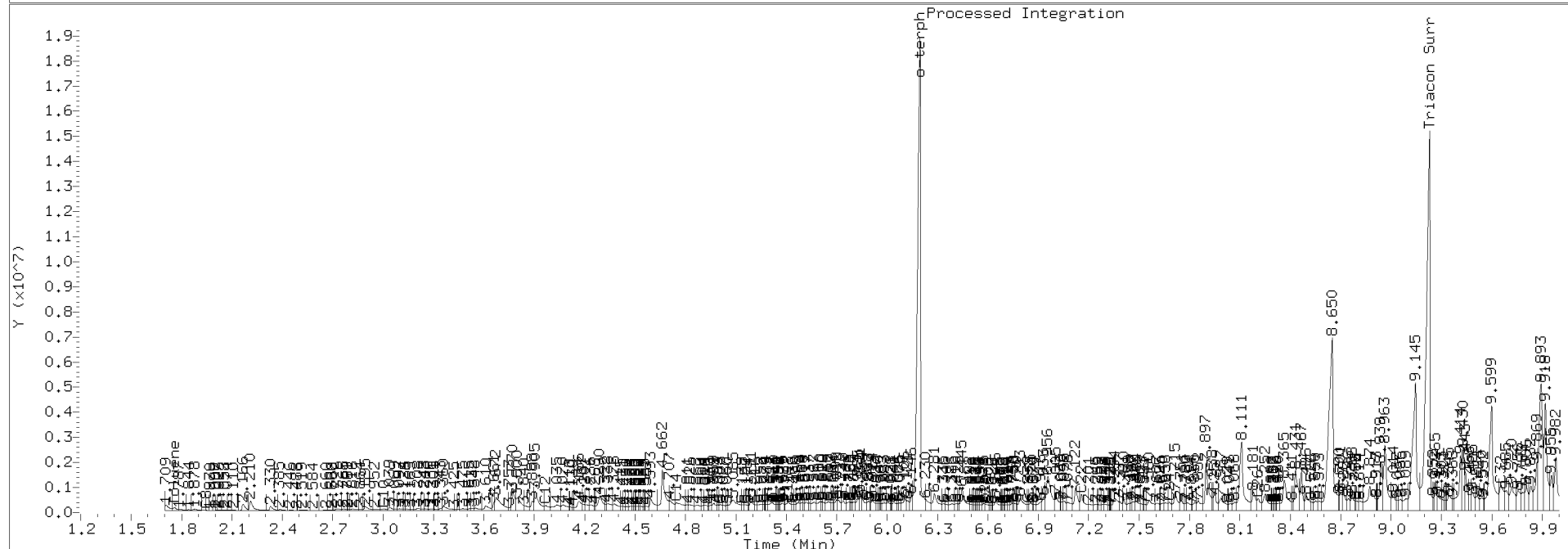
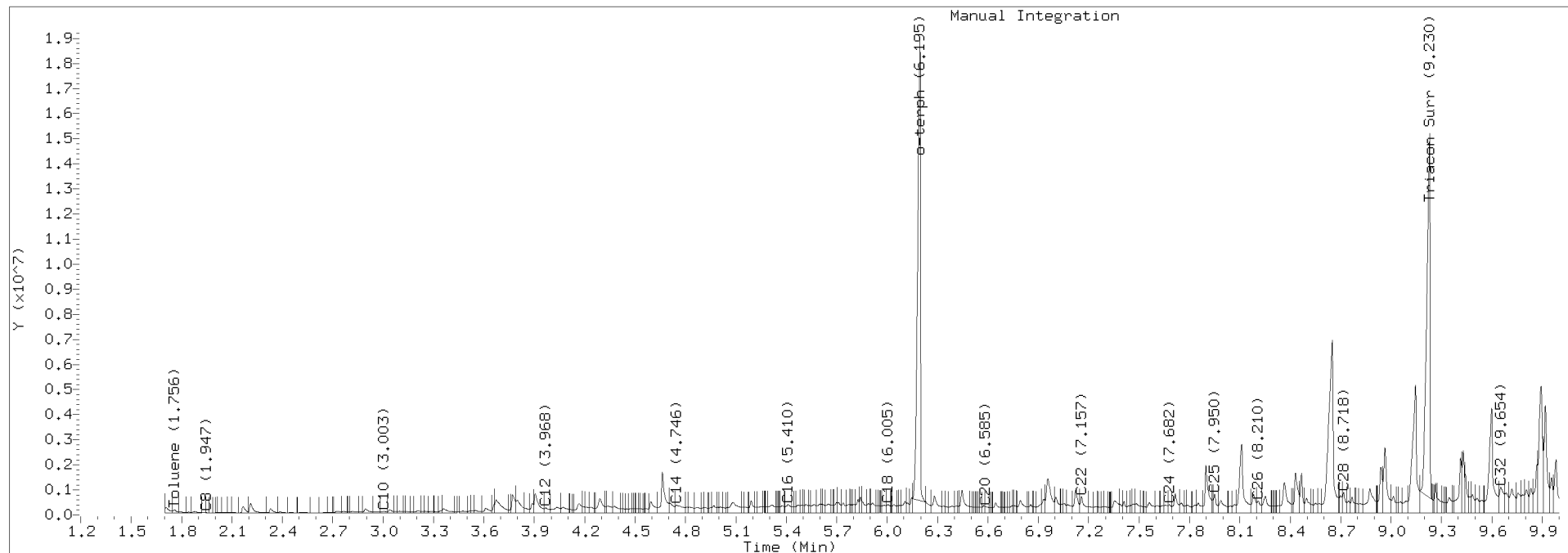
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2968.D Injection: 30-NOV-2020 20:42

Lab ID:20K0008-03





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0008-03RE1 A SDG: 20K0008
 Sampled: 10/29/20 09:00 Prepared: 11/12/20 14:55 File ID: 420L0440.D
 % Solids: 65.90 Preparation: EPA 3546 (Microwave) Analyzed: 12/04/20 23:35
 Batch: BIK0337 Sequence: SIL0055 Initial/Final: 10.01 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

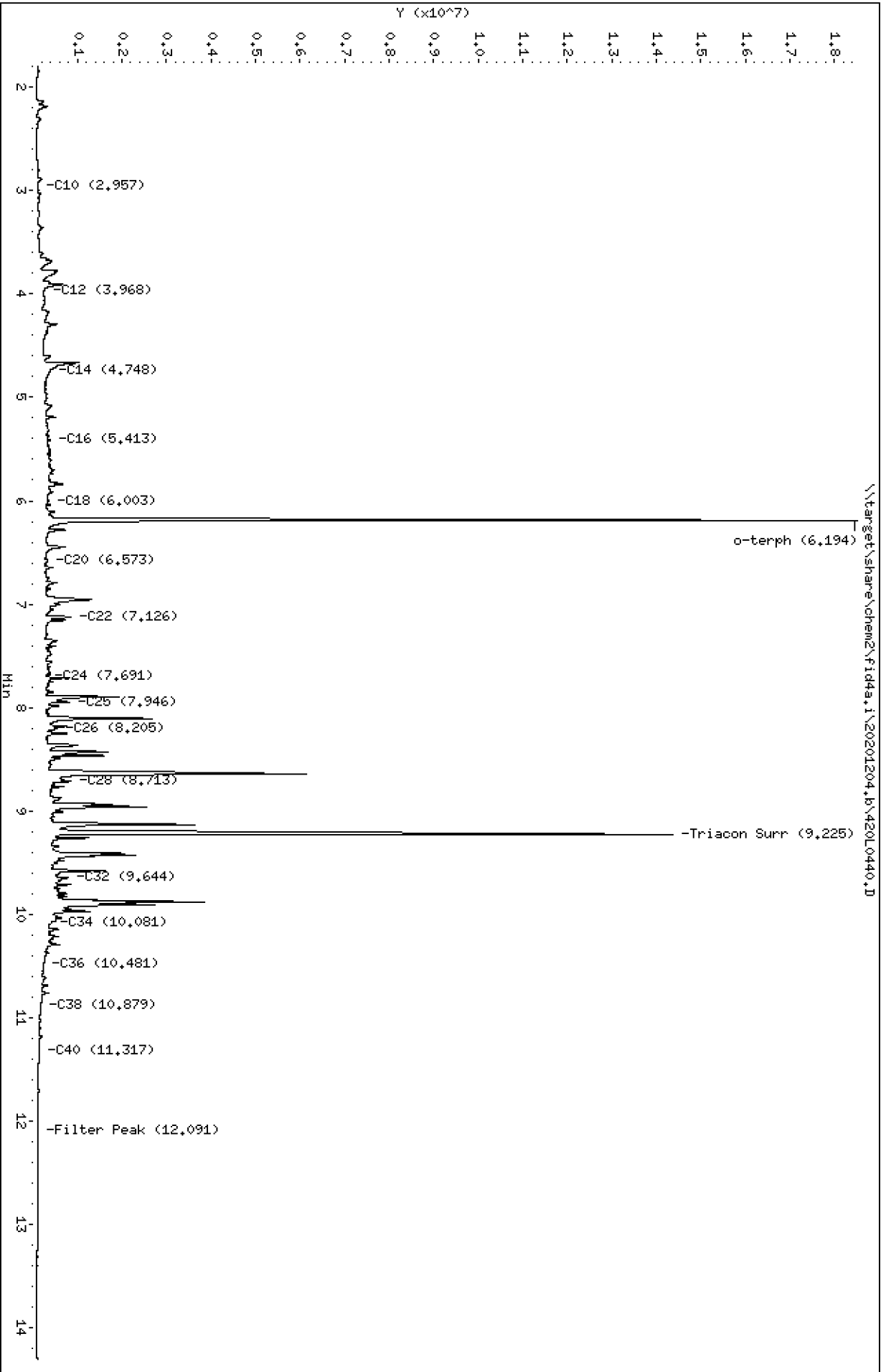
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	58.3		3.55	7.58
RRO	Motor Oil Range Organics (C24-C38)	1	151		4.53	15.2

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	17.054	15.7	92.3	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201204,b\42010440.D
Date: 04-DEC-2020 23:35
Client ID:
Sample Info: 20K0008-03

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR/CTO/VTS
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0440.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-03RE1
Client ID:
Injection: 04-DEC-2020 23:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

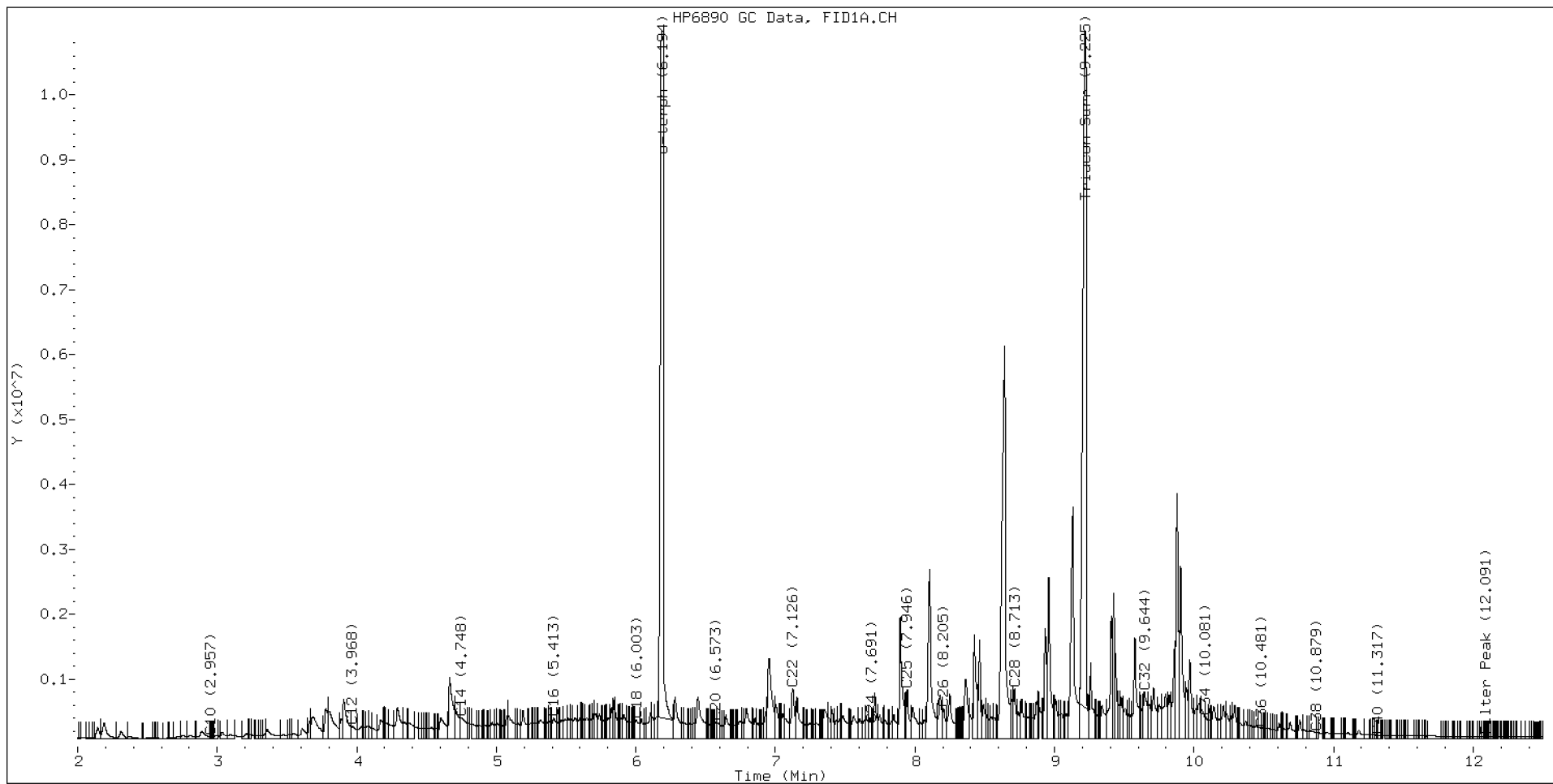
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.849	-0.014	74244	169997	WATPHD	(C12-C24)	61290189	384.7
C10	2.957	-0.003	34262	8533	WATPHM	(C24-C38)	100453375	993.0
C12	3.968	0.009	187647	429443	AK102	(C10-C25)	73783634	377.4
C14	4.748	0.002	318055	897158	AK103	(C25-C36)	92543398	1264.1
C16	5.413	0.002	309741	619757	OR.DIES	(C10-C28)	106496602	543.4
C18	6.003	-0.002	282549	522517				
C20	6.573	-0.001	260370	283806	JET-A	(C10-C18)	38581233	232.6
C22	7.126	-0.010	763921	1245925				
C24	7.691	0.006	228817	57067				
C25	7.946	-0.007	756194	908927				
C26	8.205	-0.008	462579	669401				
C28	8.713	-0.004	763032	954475				
C32	9.644	-0.001	716489	1319572				
C34	10.081	0.011	332462	99339				
Filter Peak	12.091	-0.007	26751	22600	BUNKERC	(C10-C38)	169440216	4292.1
C36	10.481	0.005	161648	48391				
C38	10.879	0.009	91944	77127				
C40	11.317	-0.000	51881	68390				
o-terph	6.194	0.004	18114540	21246159				
Triacon Surr	9.225	0.004	13825615	19206764	NAS DIES	(C10-C24)	68986840	353.5

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	21246159	103.8 M
Triacontane	19206764	129.4 M

M Indicates the peak was manually integrated

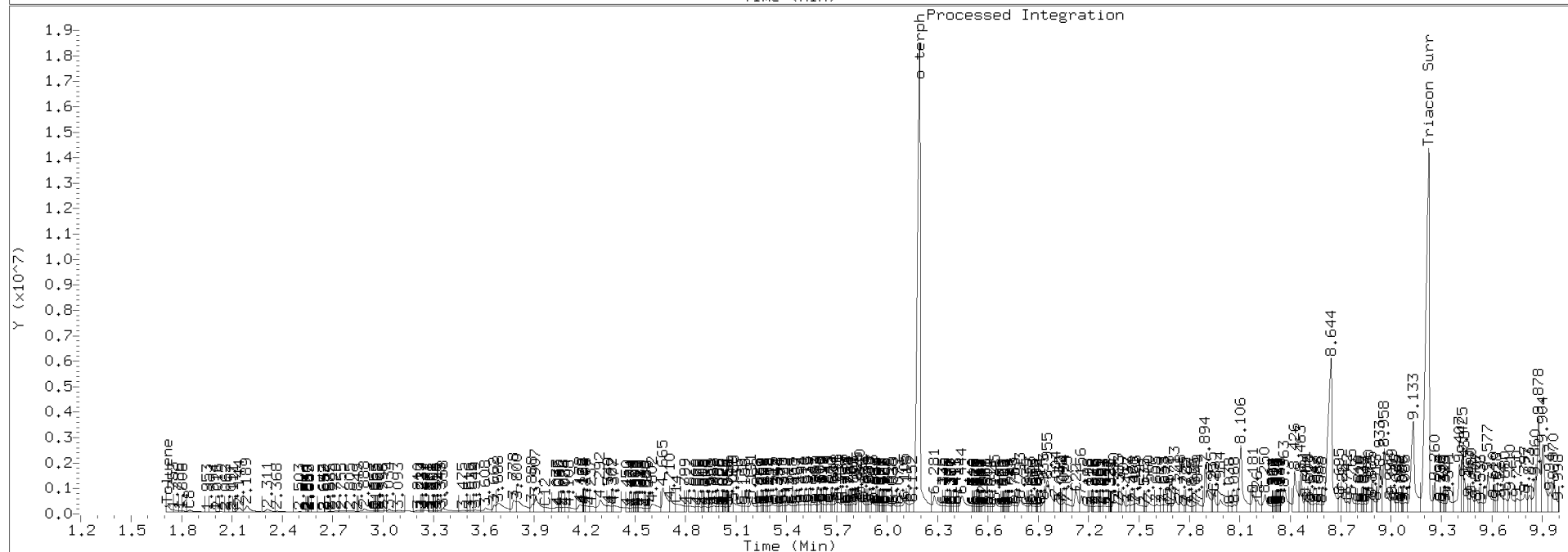
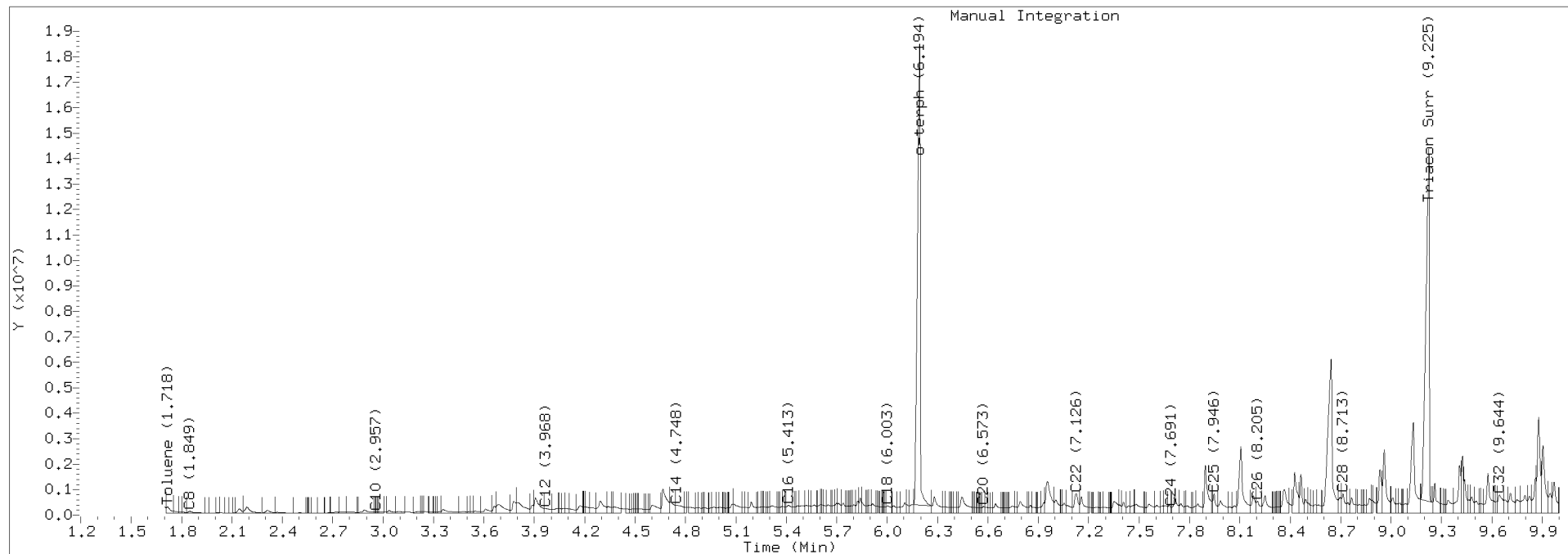
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0440.D Injection: 04-DEC-2020 23:35

Lab ID:20K0008-03RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-07 A SDG: 20K0008
Sampled: 10/29/20 10:15 Prepared: 11/12/20 14:55 File ID: 420K2419.D
% Solids: 93.03 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 13:46
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.04 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

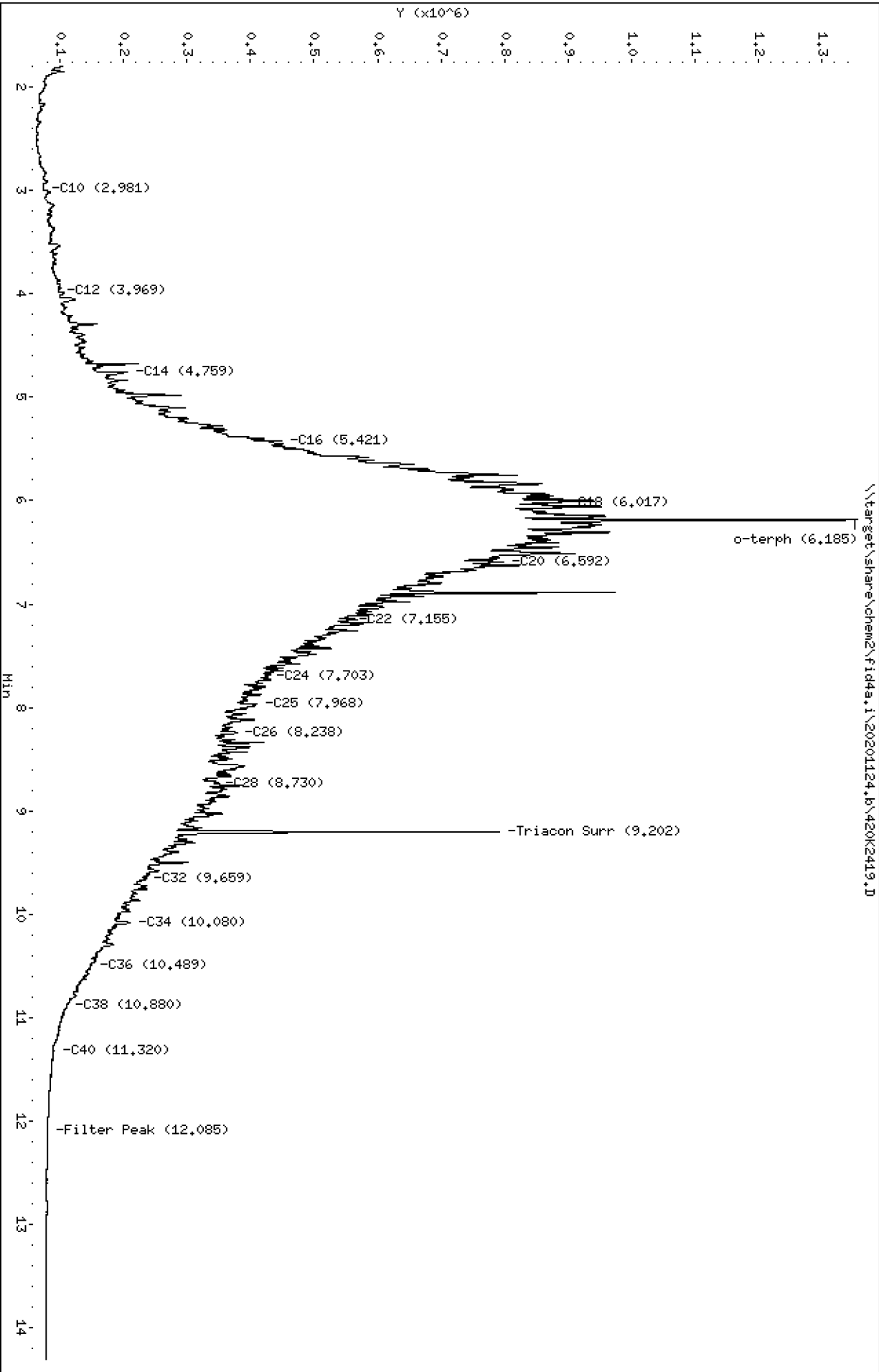
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	50	3170	D	125	268
RRO	Motor Oil Range Organics (C24-C38)	50	2010	D	160	535

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.045	9.64	80.0	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2419.D
Date: 24-NOV-2020 13:46
Client ID:
Sample Info: 20K0008-07REL,50

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2419.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-07RE1
Client ID:
Injection: 24-NOV-2020 13:46
Dilution Factor: 50
RT Std: 419H1603.D

FID:4A RESULTS

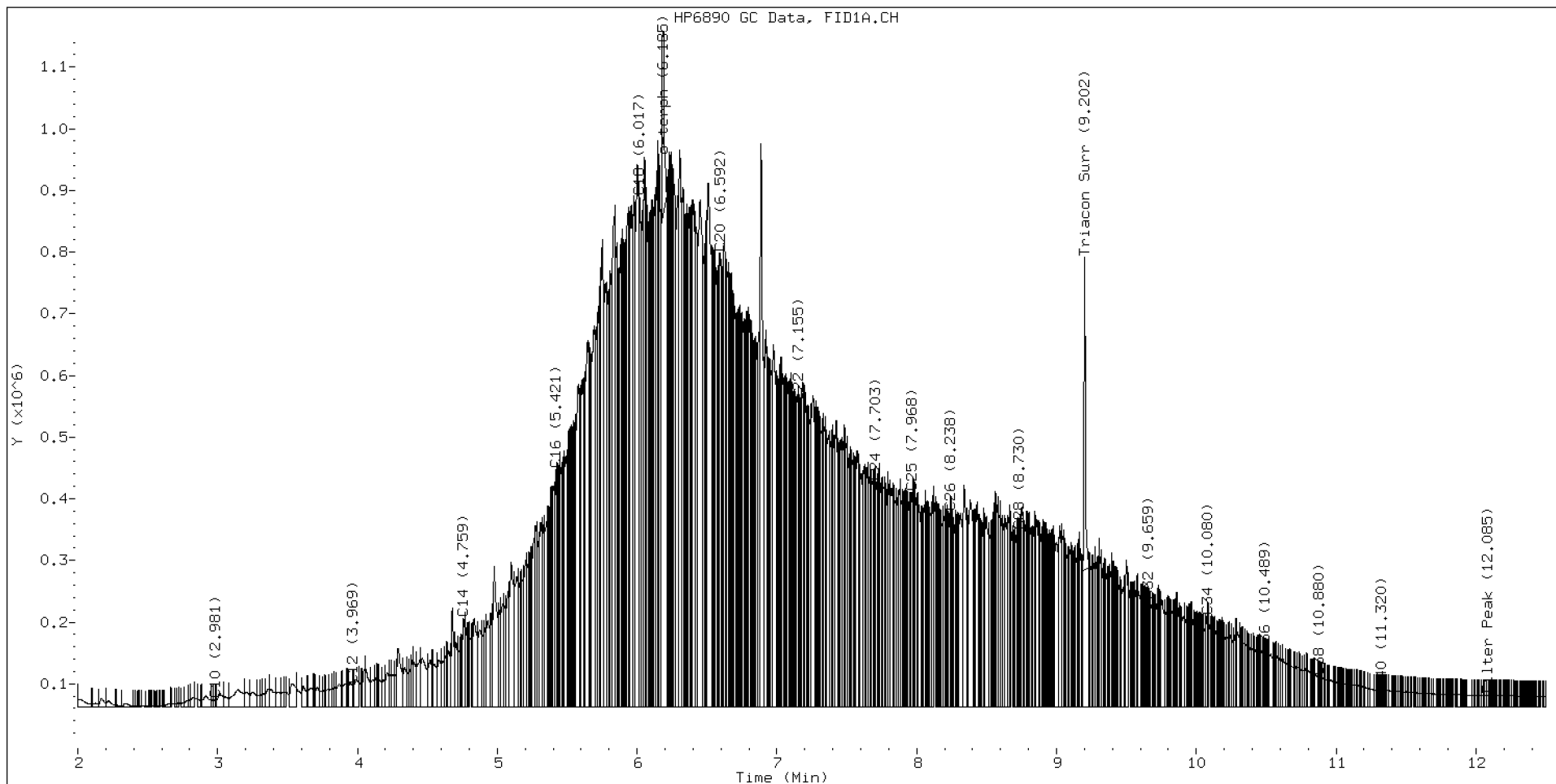
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.040	43235	142699	WATPHD	(C12-C24)	94223360	591.3
C10	2.981	-0.000	11186	12438	WATPHM	(C24-C38)	38043079	376.0
C12	3.969	-0.003	34468	18851	AK102	(C10-C25)	99073135	506.8
C14	4.759	0.005	142659	171535	AK103	(C25-C36)	33294666	454.8
C16	5.421	0.001	385284	384127	OR.DIES	(C10-C28)	114205619	582.7
C18	6.017	-0.003	826257	676984				
C20	6.592	0.001	734979	647828	JET-A	(C10-C18)	36368990	219.3
C22	7.155	0.002	494204	244785				
C24	7.703	0.002	364823	90857				
C25	7.968	-0.001	347768	287872				
C26	8.238	0.007	315419	227211				
C28	8.730	-0.004	284750	141456				
C32	9.659	-0.004	172397	110847				
C34	10.080	-0.006	146859	72831				
Filter Peak	12.085	-0.004	17713	15867	BUNKERC	(C10-C38)	133780435	3388.8
C36	10.489	0.001	85916	25566				
C38	10.880	0.002	48281	14442				
C40	11.320	0.004	27196	16195				
o-terph	6.185	-0.019	498757	371587				
Triacon Surr	9.202	-0.035	506044	364650	NAS DIES	(C10-C24)	95737355	490.6

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	371587	1.8 M
Triacontane	364650	2.5 M

M Indicates the peak was manually integrated

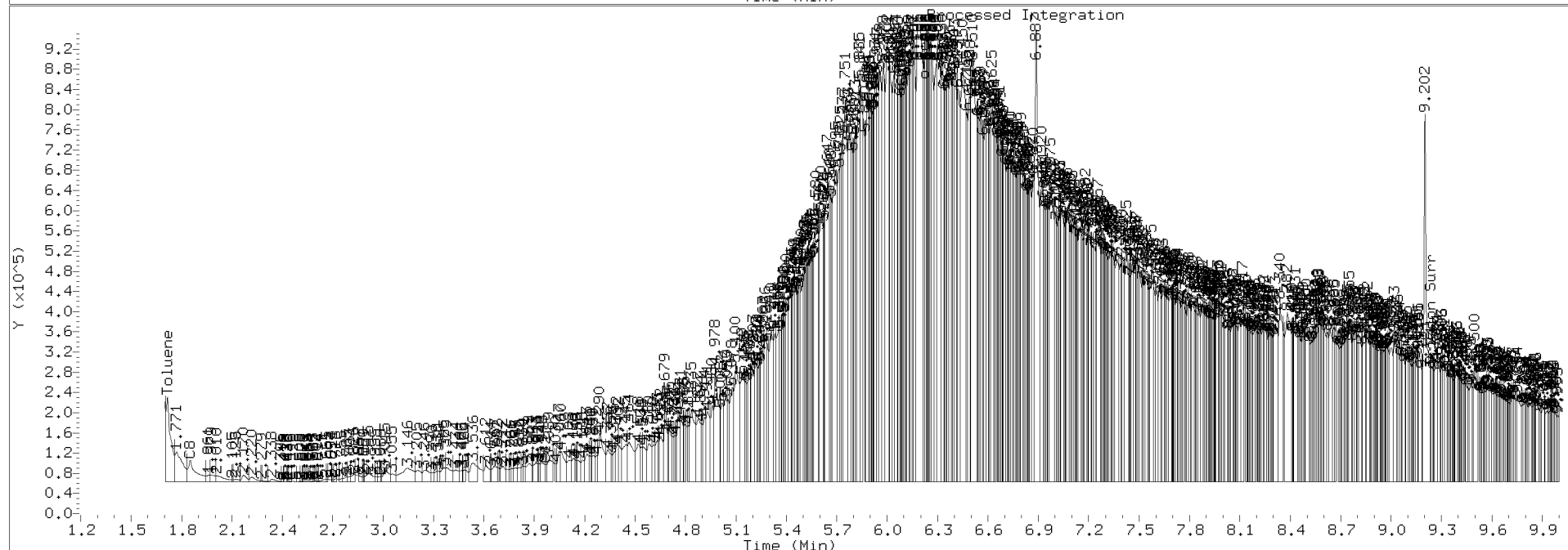
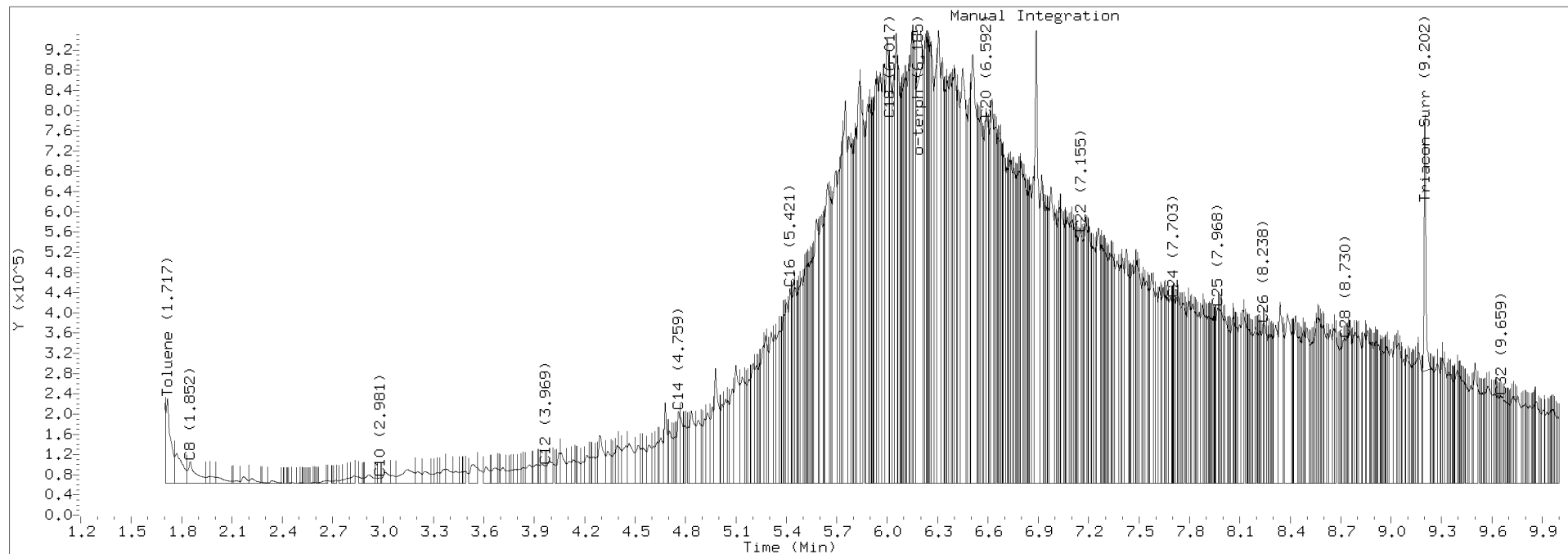
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2419.D Injection: 24-NOV-2020 13:46

Lab ID:20K0008-07RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-09 A SDG: 20K0008
Sampled: 10/29/20 10:25 Prepared: 11/12/20 14:55 File ID: 420K2969.D
% Solids: 72.37 Preparation: EPA 3546 (Microwave) Analyzed: 11/30/20 21:02
Batch: BIK0337 Sequence: SIL0065 Initial/Final: 10.02 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	17.3		3.23	6.90
RRO	Motor Oil Range Organics (C24-C38)	1	28.4		4.12	13.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.514	15.1	97.2	50 - 150	

Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2969.D

Date: 30-NOV-2020 21:02

Client ID:

Sample Info: 20K0008-09

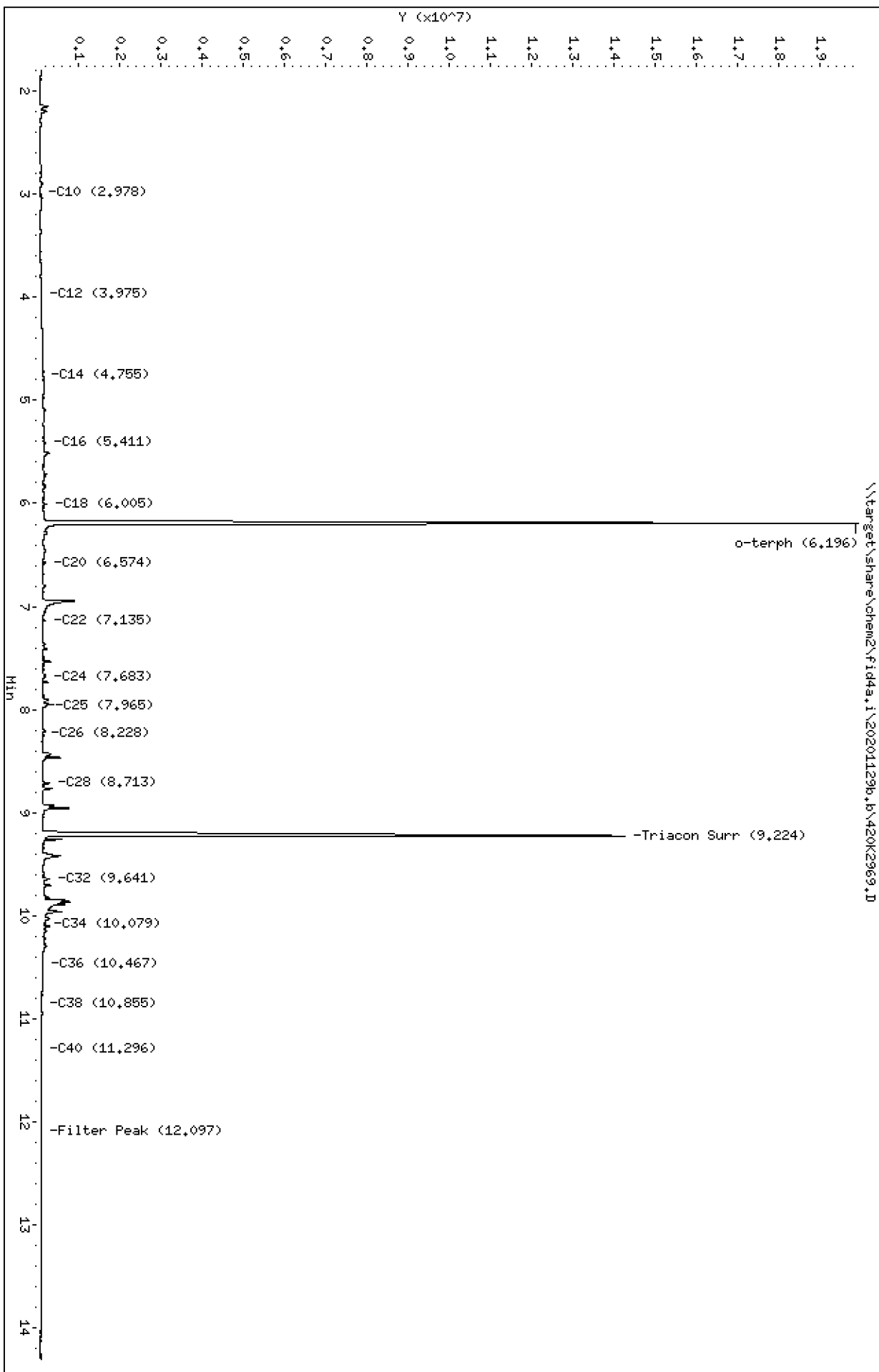
Instrument: fid4a.1

Operator: JGR/CTO

Column diameter: 0.25

Column phase: RTX-1

\\target\share\chem2\fid4a.i\20201129b.b\420K2969.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2969.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-09
Client ID:
Injection: 30-NOV-2020 21:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

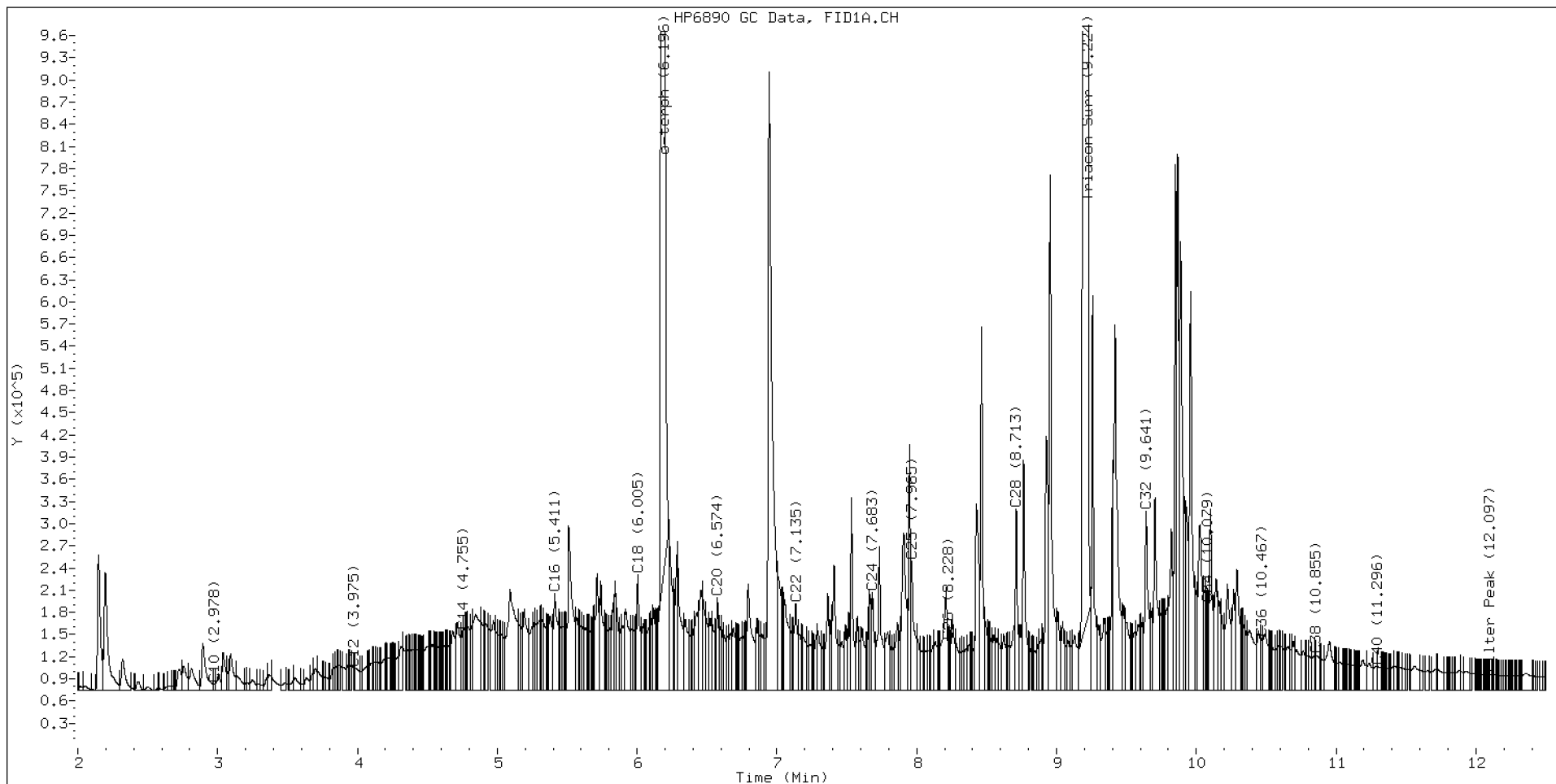
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.896	-0.018	16548	31735	WATPHD	(C12-C24)	19928349	125.1
C10	2.978	-0.000	9718	6209	WATPHM	(C24-C38)	20819835	205.8
C12	3.975	0.011	30791	10732	AK102	(C10-C25)	21940867	112.2
C14	4.755	0.009	81300	65454	AK103	(C25-C36)	18744110	256.0
C16	5.411	-0.001	131197	242556	OR.DIES	(C10-C28)	26585997	135.6
C18	6.005	-0.005	156758	229343				
C20	6.574	-0.007	126090	146189	JET-A	(C10-C18)	10468703	63.1
C22	7.135	-0.009	117633	190865				
C24	7.683	-0.009	133405	173651				
C25	7.965	0.006	175671	269027				
C26	8.228	0.007	66271	19713				
C28	8.713	-0.012	245439	272606				
C32	9.641	-0.012	243488	380528				
C34	10.079	0.003	117727	40903				
Filter Peak	12.097	0.001	21404	7486	BUNKERC	(C10-C38)	41840776	1059.9
C36	10.467	-0.011	70493	51836				
C38	10.855	-0.010	48048	94452				
C40	11.296	-0.006	32795	65261				
o-terph	6.196	-0.003	19694796	22365470				
Triacon Surr	9.224	-0.006	14108760	19534944	NAS DIES	(C10-C24)	21020941	107.7

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22365470	109.3 M
Triacontane	19534944	131.7 M

M Indicates the peak was manually integrated

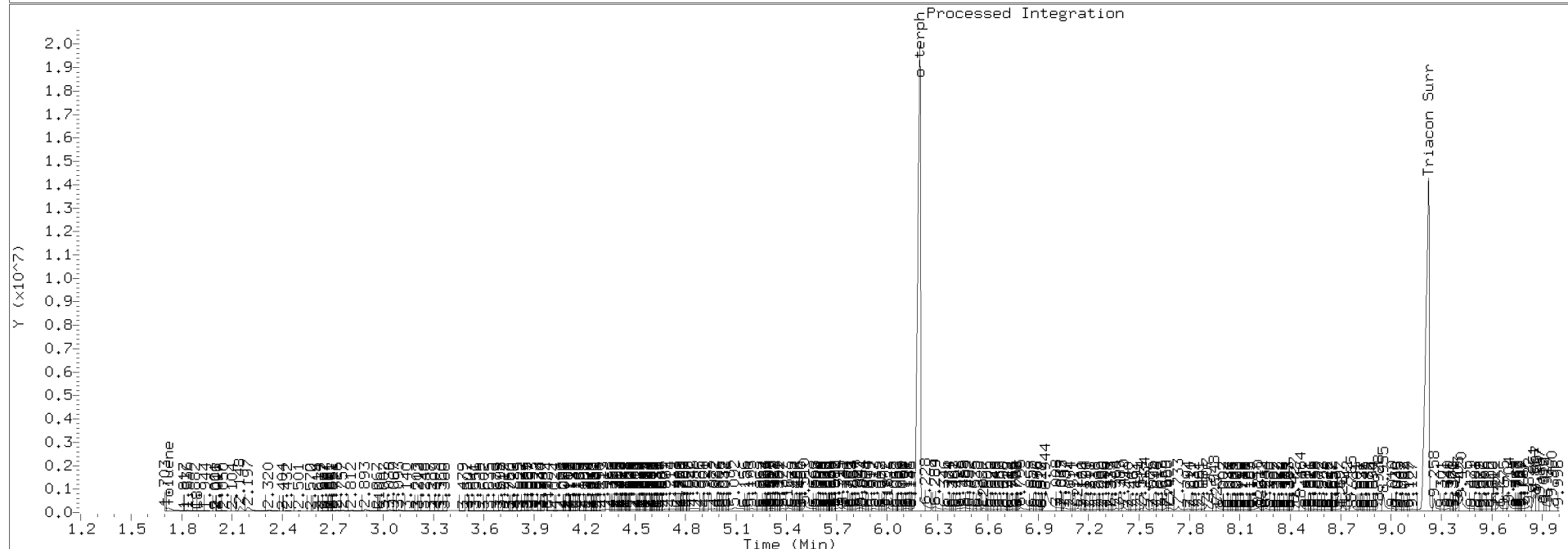
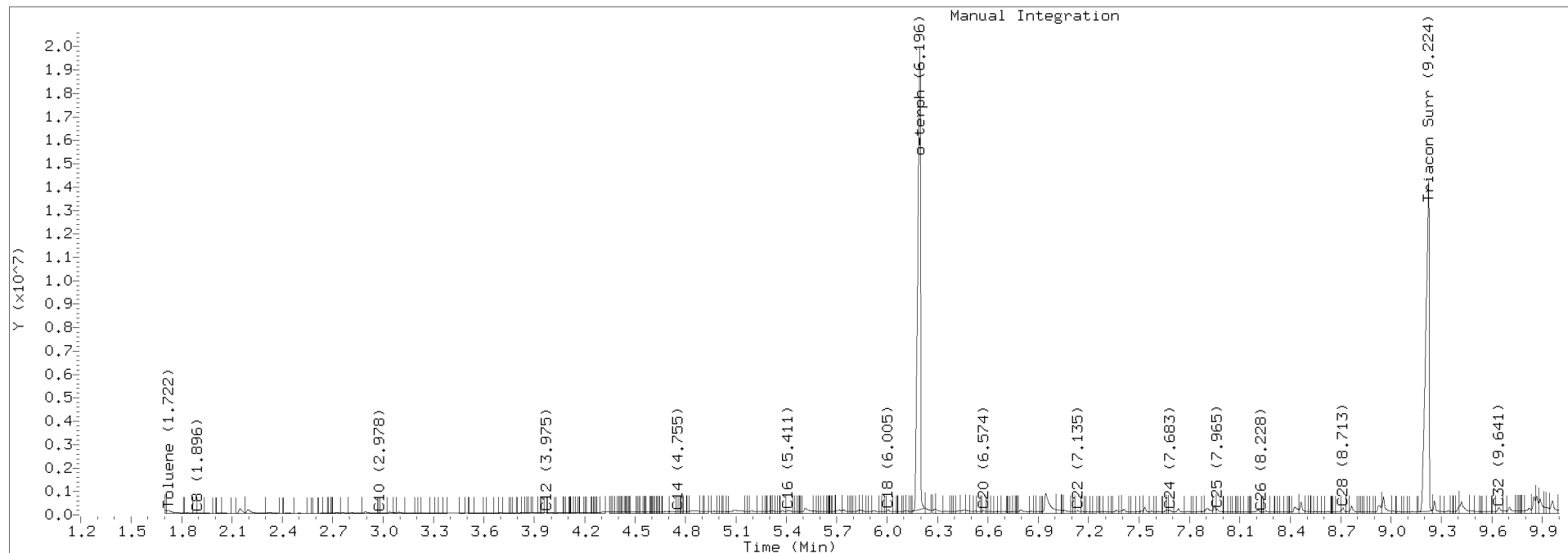
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2969.D Injection: 30-NOV-2020 21:02

Lab ID:20K0008-09





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-09RE1 A SDG: 20K0008
Sampled: 10/29/20 10:25 Prepared: 11/12/20 14:55 File ID: 420L0441.D
% Solids: 72.37 Preparation: EPA 3546 (Microwave) Analyzed: 12/04/20 23:55
Batch: BIK0337 Sequence: SIL0055 Initial/Final: 10.02 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	15.4		3.23	6.90
RRO	Motor Oil Range Organics (C24-C38)	1	20.4		4.12	13.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.514	14.1	90.7	50 - 150	

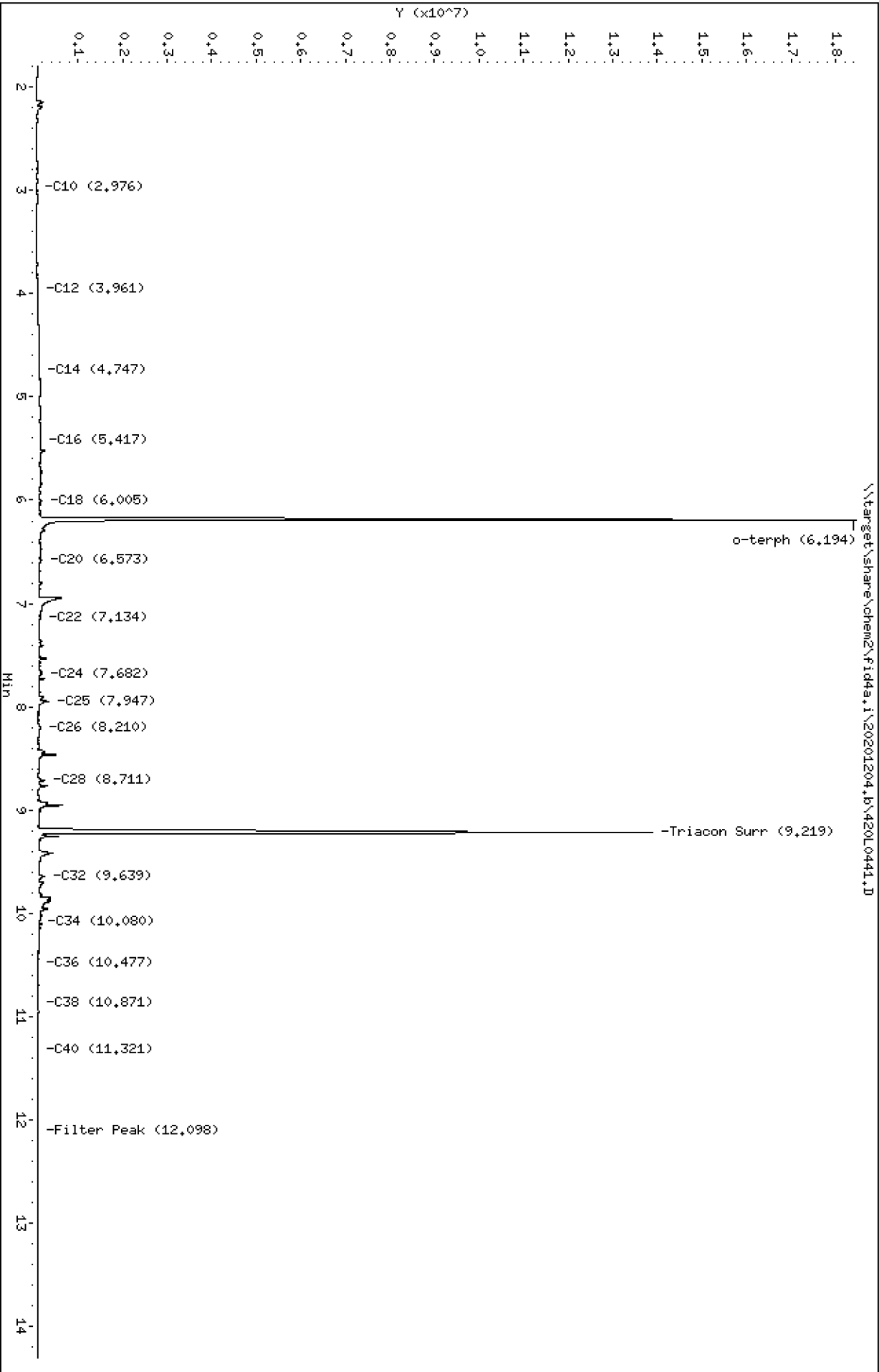
Data File: \\target\share\chem2\fid4a,1\20201204,b\42010441.D
Date : 04-DEC-2020 23:55
Client ID:
Sample Info: 20K0008-09

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR/CTO/VTS
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0441.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-09RE1
Client ID:
Injection: 04-DEC-2020 23:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

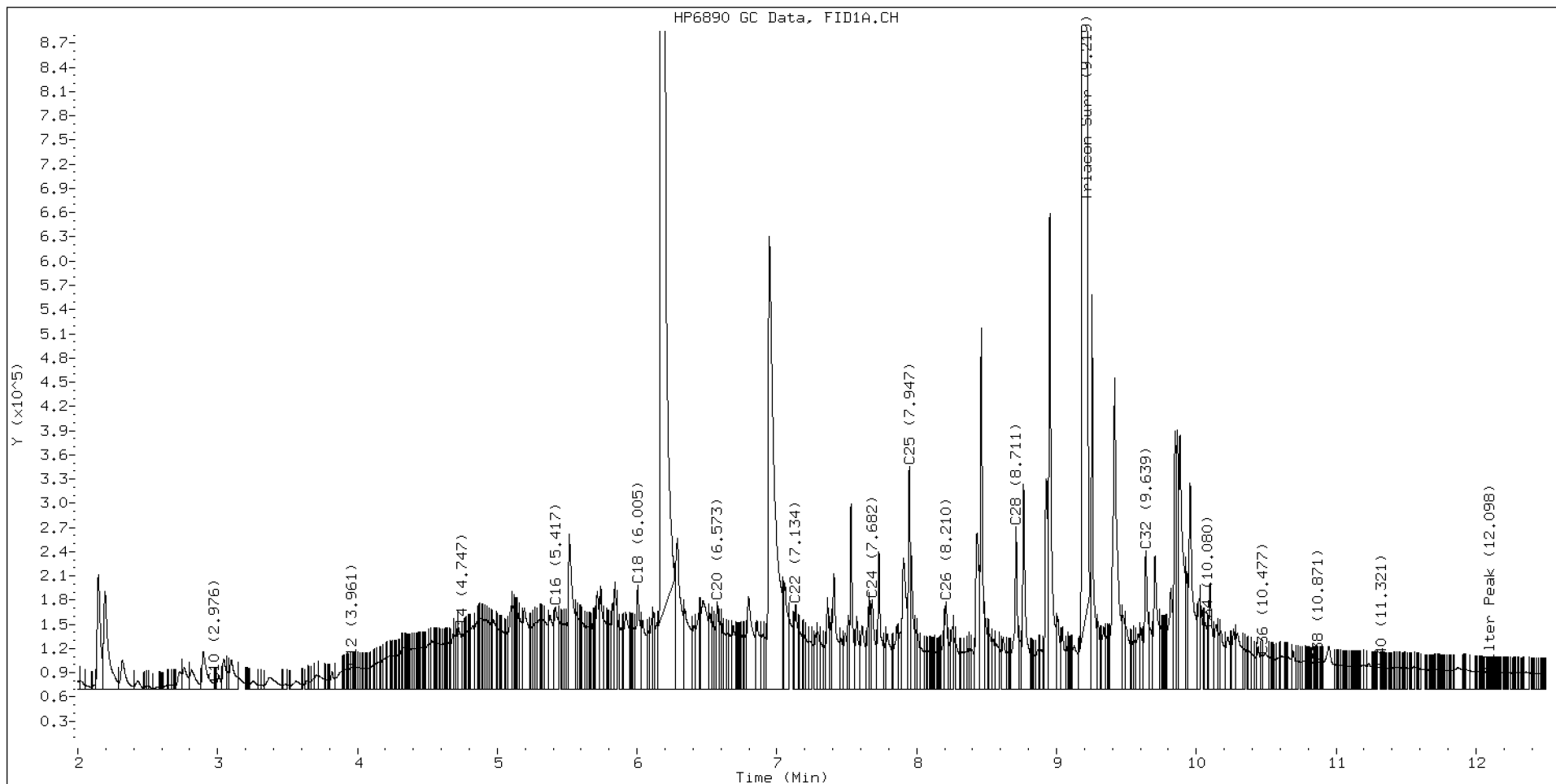
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.849	-0.015	40298	84171	WATPHD	(C12-C24)	17801644	111.7
C10	2.976	0.015	7208	3941	WATPHM	(C24-C38)	14942468	147.7
C12	3.961	0.002	26944	19855	AK102	(C10-C25)	19042607	97.4
C14	4.747	0.001	64756	12926	AK103	(C25-C36)	13726590	187.5
C16	5.417	0.006	101411	229889	OR.DIES	(C10-C28)	23276943	118.8
C18	6.005	-0.000	128786	240328				
C20	6.573	-0.001	108413	132525	JET-A	(C10-C18)	9268510	55.9
C22	7.134	-0.002	104814	160042				
C24	7.682	-0.003	110487	175343				
C25	7.947	-0.005	276137	257492				
C26	8.210	-0.004	107790	144740				
C28	8.711	-0.007	200555	329537				
C32	9.639	-0.006	171810	284143				
C34	10.080	0.010	74836	36947				
Filter Peak	12.098	0.000	21162	10544	BUNKERC	(C10-C38)	33539193	849.6
C36	10.477	0.001	41832	14581				
C38	10.871	0.000	33309	29779				
C40	11.321	0.004	27049	6745				
o-terph	6.194	0.004	18291790	20874048				
Triacon Surr	9.219	-0.002	13716615	18210515	NAS DIES	(C10-C24)	18596725	95.3

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	20874048	102.0 M
Triacontane	18210515	122.7 M

M Indicates the peak was manually integrated

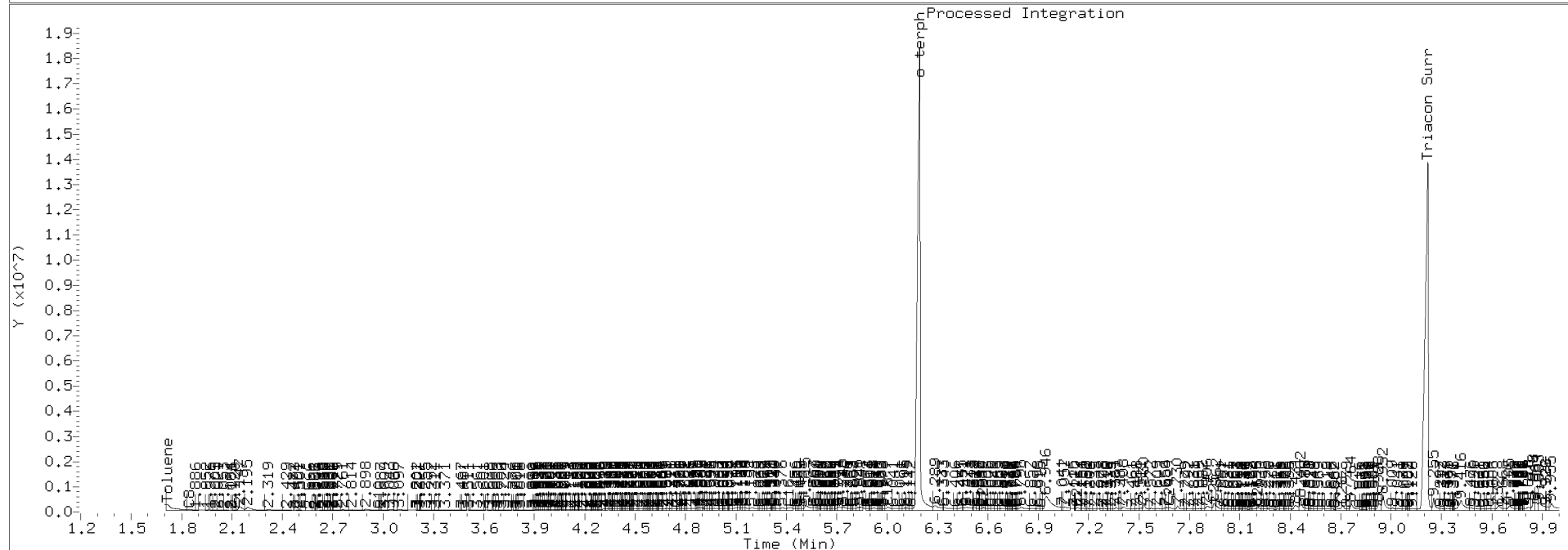
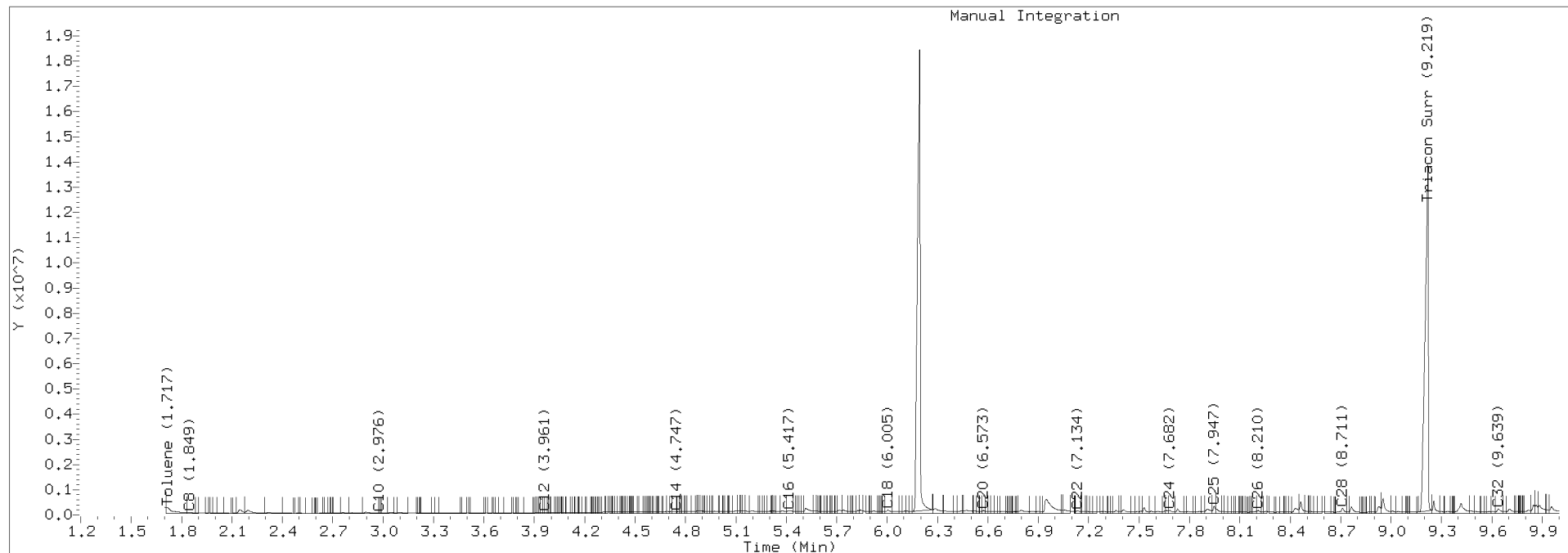
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0441.D Injection: 04-DEC-2020 23:55

Lab ID:20K0008-09RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-14 A SDG: 20K0008
Sampled: 10/29/20 11:20 Prepared: 11/12/20 14:55 File ID: 420K2407.D
% Solids: 80.03 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 09:41
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.05 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

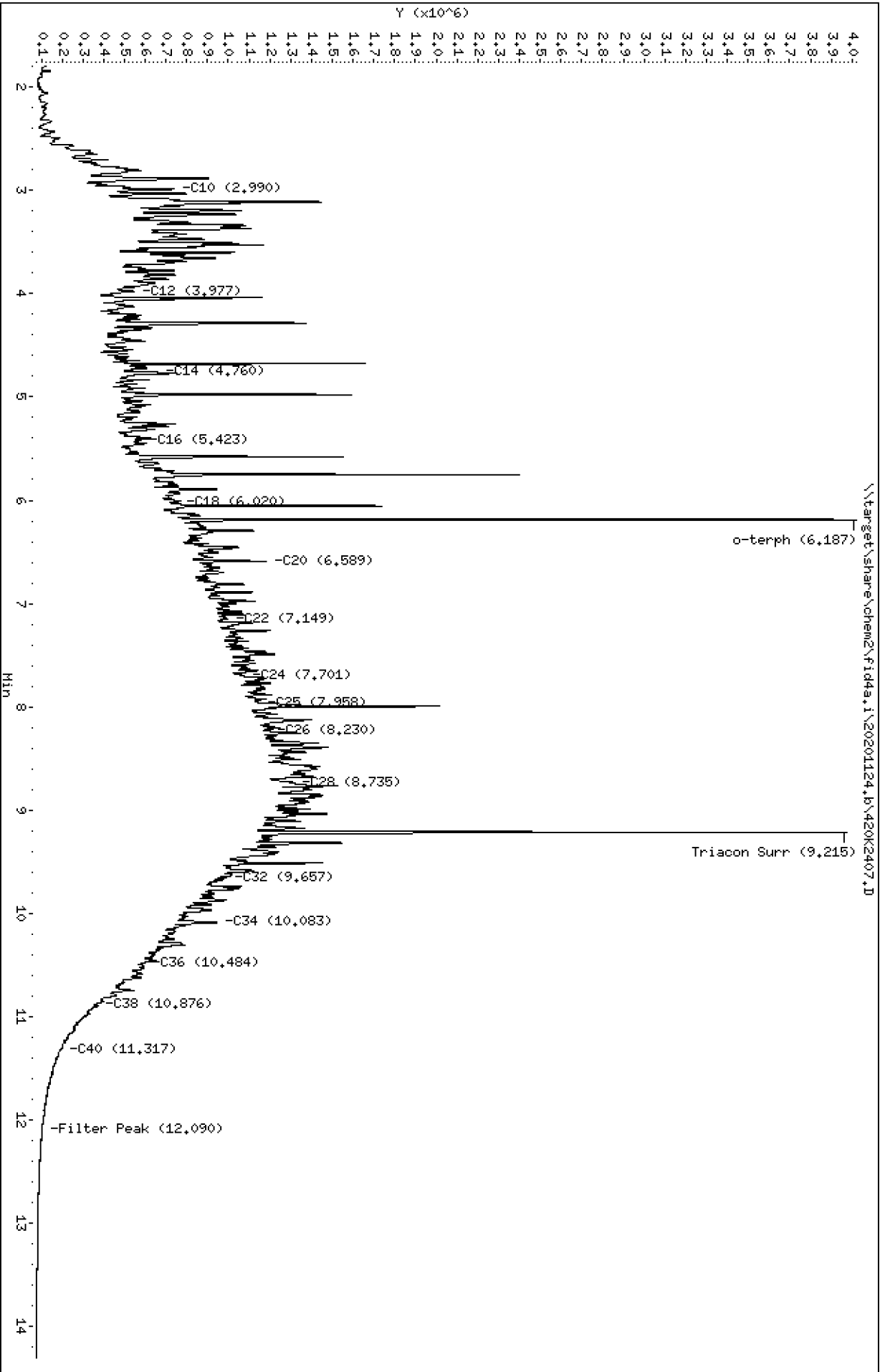
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	1180	D	29.1	62.2
RRO	Motor Oil Range Organics (C24-C38)	10	2130	D	37.2	124

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.987	12.6	89.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2407.D
Date: 24-NOV-2020 09:41
Client ID:
Sample Info: 20K0008-14REL.10

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2407.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-14RE1
Client ID:
Injection: 24-NOV-2020 09:41
Dilution Factor: 10
RT Std: 419H1603.D

FID:4A RESULTS

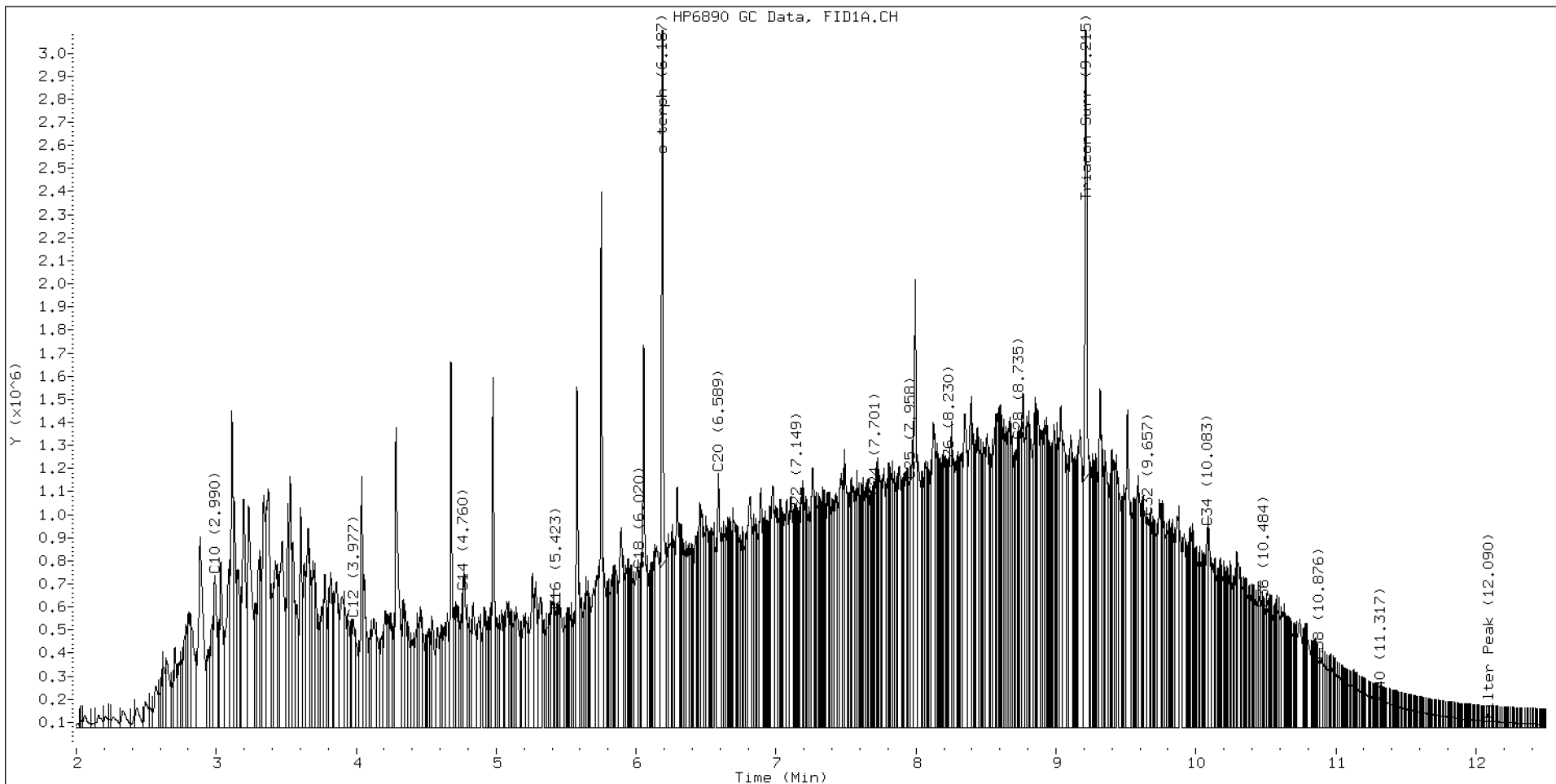
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.893	0.001	27754	47202	WATPHD	(C12-C24)	151768023	952.5
C10	2.990	0.008	661314	1025361	WATPHM	(C24-C38)	173643320	1716.4
C12	3.977	0.006	471411	777510	AK102	(C10-C25)	201426320	1030.4
C14	4.760	0.006	585378	478794	AK103	(C25-C36)	154794999	2114.5
C16	5.423	0.003	506215	586747	OR.DIES	(C10-C28)	262920710	1341.4
C18	6.020	0.000	683348	534852				
C20	6.589	-0.002	1102174	1978092	JET-A	(C10-C18)	103705149	625.3
C22	7.149	-0.004	918761	634168				
C24	7.701	0.000	1001111	349559				
C25	7.958	-0.011	1069637	318379				
C26	8.230	-0.001	1121097	499001				
C28	8.735	0.001	1240500	491881				
C32	9.657	-0.005	911325	979382				
C34	10.083	-0.003	865163	1048954				
Filter Peak	12.090	0.001	28121	12404	BUNKERC	(C10-C38)	365129377	9249.1
C36	10.484	-0.004	513036	377200				
C38	10.876	-0.002	290724	199289				
C40	11.317	0.000	117714	68851				
o-terph	6.187	-0.017	3239162	2059326				
Triacon Surr	9.215	-0.022	2820279	2096930	NAS DIES	(C10-C24)	191486057	981.2

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	2059326	10.1 M
Triacontane	2096930	14.1 M

M Indicates the peak was manually integrated

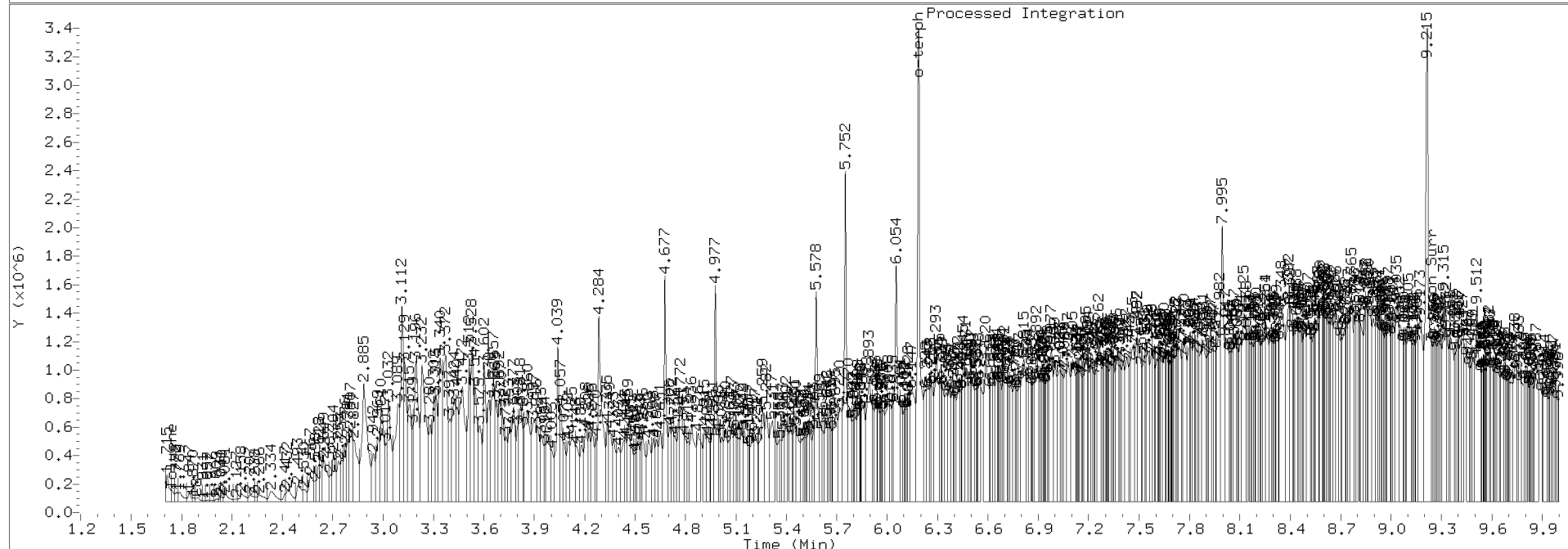
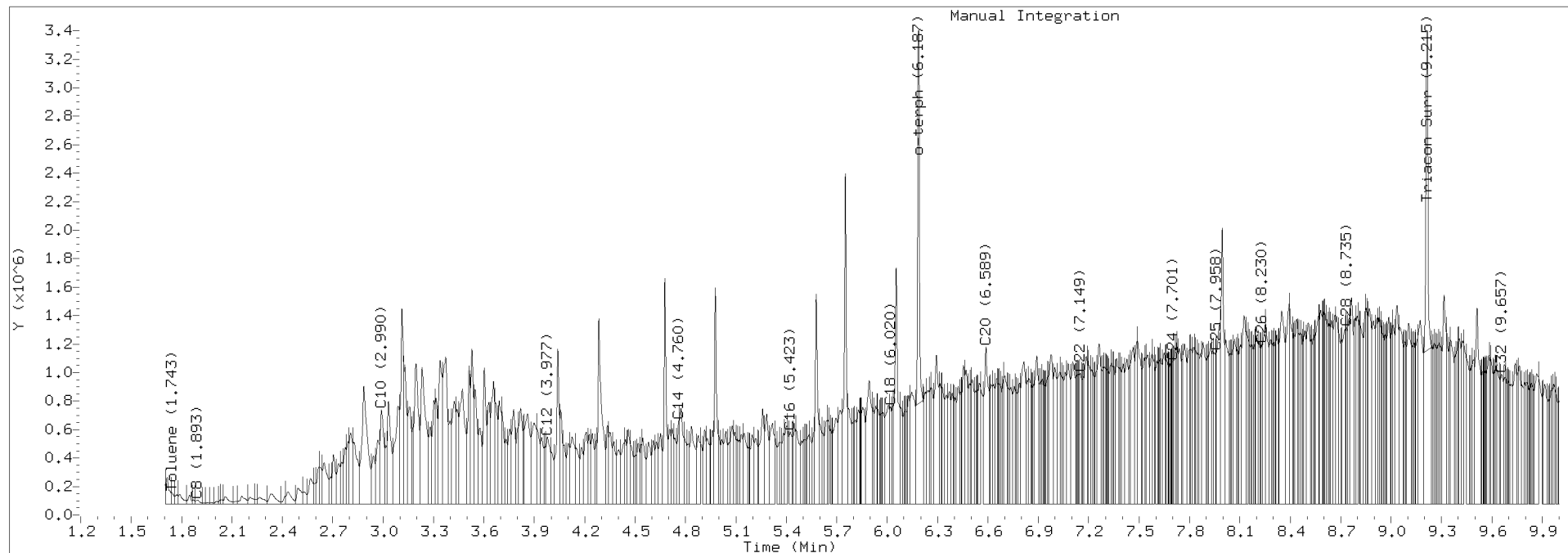
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2407.D Injection: 24-NOV-2020 09:41

Lab ID:20K0008-14RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-16 A SDG: 20K0008
Sampled: 10/29/20 11:30 Prepared: 11/12/20 14:55 File ID: 420K2736.D
% Solids: 70.06 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 23:09
Batch: BIK0337 Sequence: SIK0381 Initial/Final: 10.07 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	5	443	D	16.6	35.4
RRO	Motor Oil Range Organics (C24-C38)	5	944	D	21.2	70.9

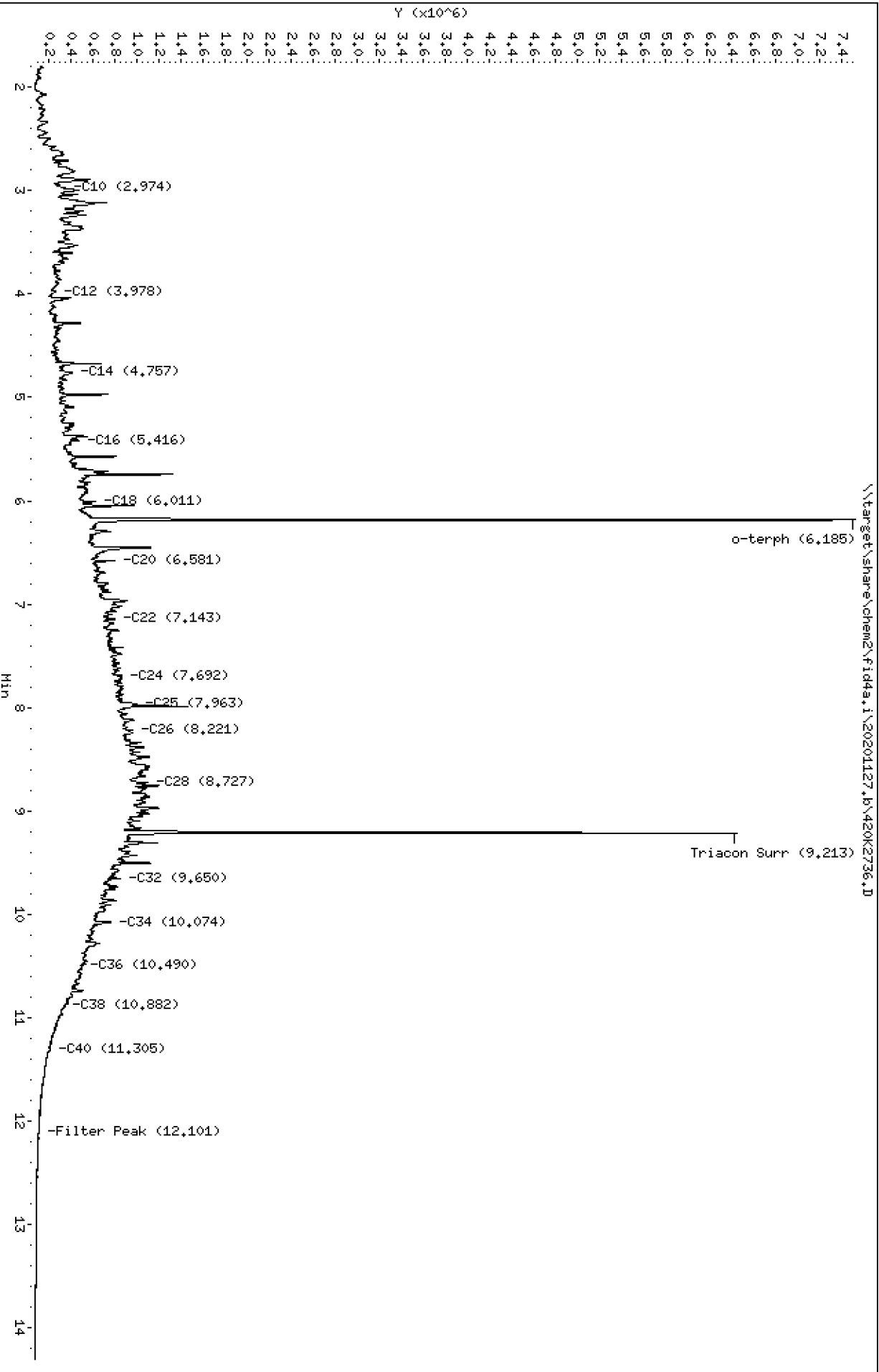
SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.946	17.1	107	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2736.D
Date : 27-NOV-2020 23:09
Client ID:
Sample Info: 20K008-16,5

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0,25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2736.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K008-16
Client ID:
Injection: 27-NOV-2020 23:09
Dilution Factor: 5
RT Std: 419H1603.D

FID:4A RESULTS

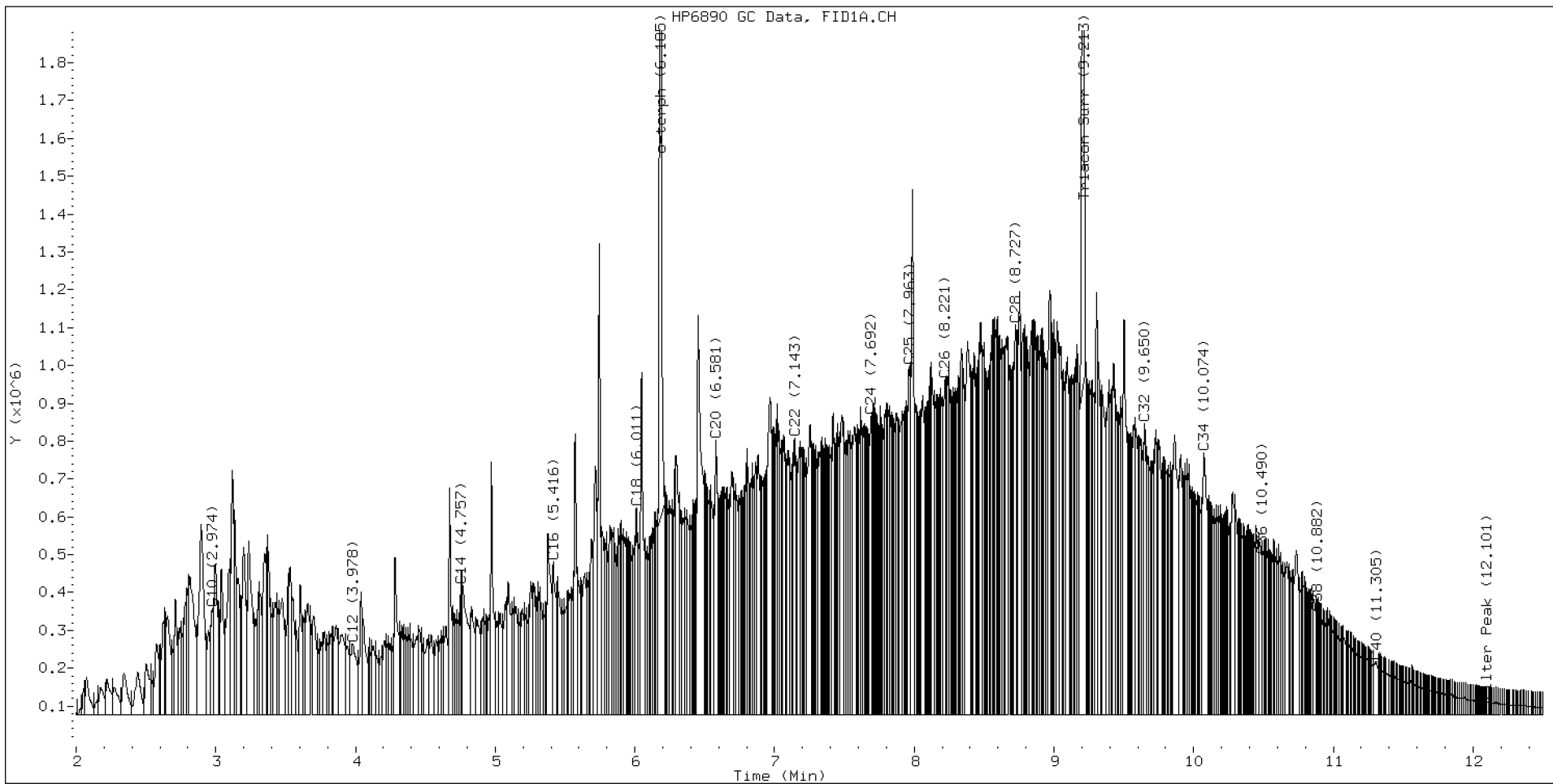
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.865	-0.001	44433	47811	WATPHD	(C12-C24)	99536200	624.7
C10	2.974	0.004	280649	389490	WATPHM	(C24-C38)	134708736	1331.6
C12	3.978	0.014	187252	542420	AK102	(C10-C25)	124503044	636.9
C14	4.757	0.009	340276	292617	AK103	(C25-C36)	119270653	1629.2
C16	5.416	0.002	403445	620725	OR.DIES	(C10-C28)	169509931	864.9
C18	6.011	-0.003	547519	714808				
C20	6.581	-0.003	723978	1118449	JET-A	(C10-C18)	53935745	325.2
C22	7.143	-0.004	730087	788663				
C24	7.692	-0.003	788888	972255				
C25	7.963	0.001	919179	967804				
C26	8.221	-0.004	885367	1261494				
C28	8.727	-0.003	1029632	1393298				
C32	9.650	-0.007	768648	826046				
C34	10.074	-0.008	691250	1704814				
Filter Peak	12.101	0.003	32275	28757	BUNKERC	(C10-C38)	251596728	6373.2
C36	10.490	0.007	421253	104932				
C38	10.882	0.008	267864	106693				
C40	11.305	-0.008	139544	314606				
o-terph	6.185	-0.014	6925794	4927936				
Triacon Surr	9.213	-0.016	5500571	4652280	NAS DIES	(C10-C24)	116887992	599.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	4927936	24.1 M
Triacontane	4652280	31.4 M

M Indicates the peak was manually integrated

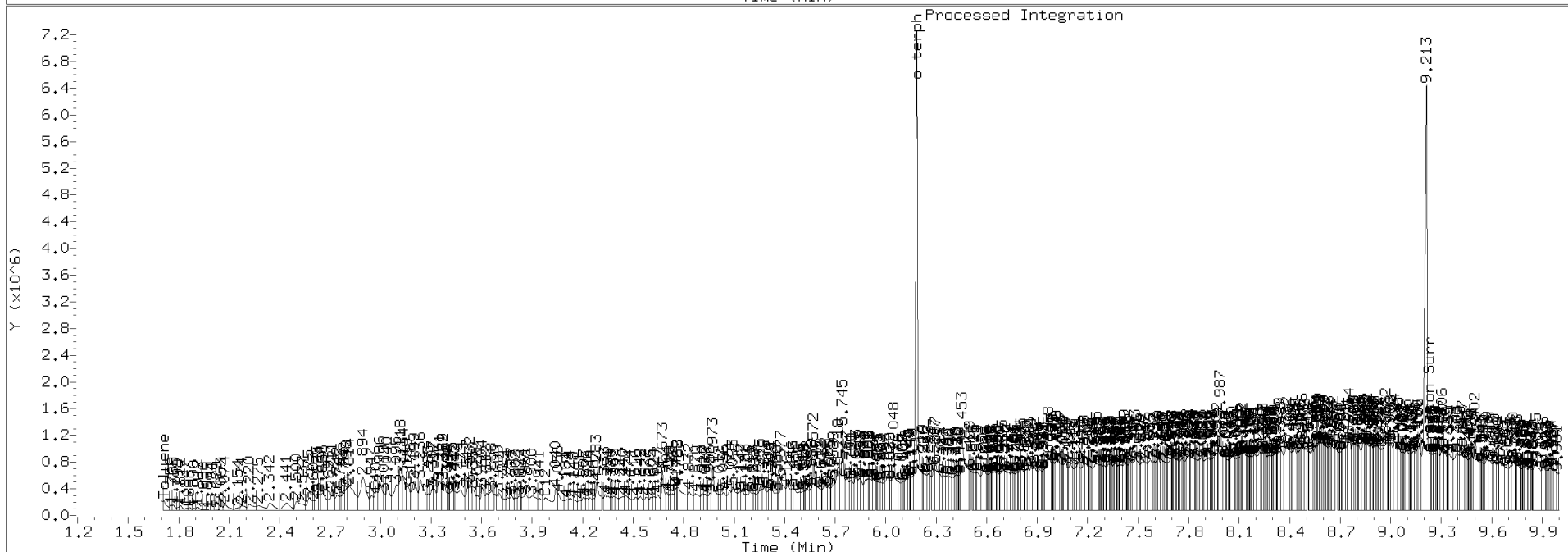
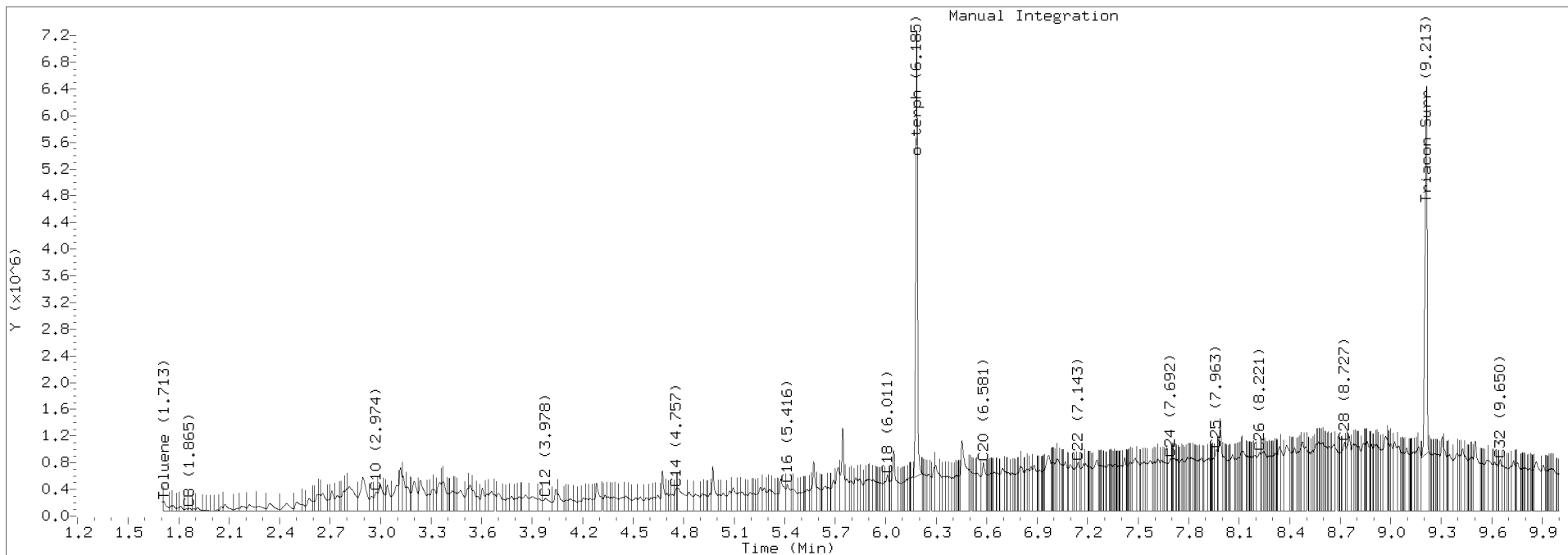
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2736.D Injection: 27-NOV-2020 23:09

Lab ID:20K008-16





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-20 A SDG: 20K0008
Sampled: 10/29/20 13:30 Prepared: 11/12/20 14:55 File ID: 420K2408.D
% Solids: 77.62 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 10:01
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	1540	D	30.1	64.4
RRO	Motor Oil Range Organics (C24-C38)	10	2110	D	38.5	129

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.494	14.0	96.9	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2408.D

Date: 24-NOV-2020 10:01

Client ID:

Sample Info: 20K0008-20REL,10

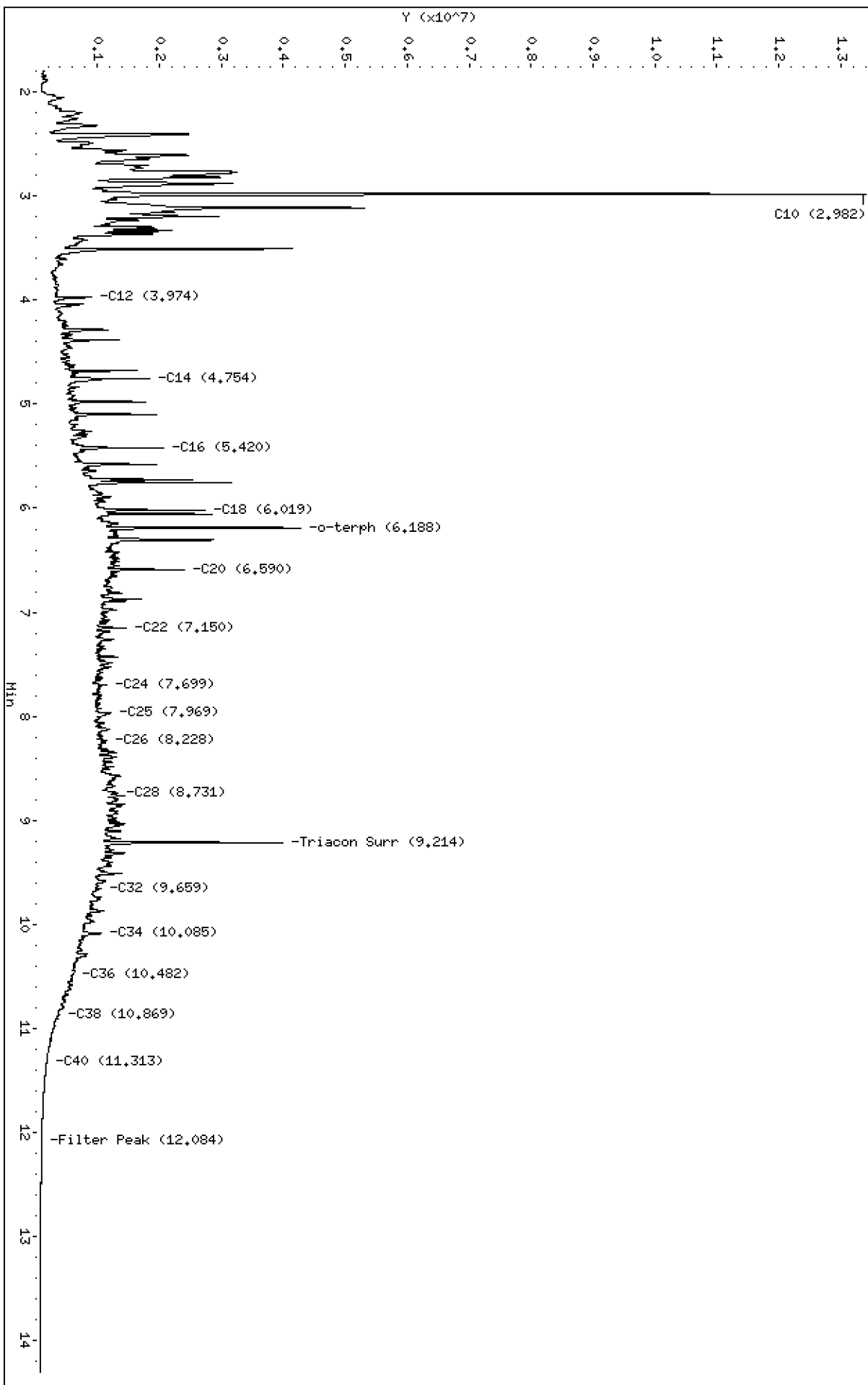
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201124,b\420K2408.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2408.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-20RE1
Client ID:
Injection: 24-NOV-2020 10:01
Dilution Factor: 10
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.887	-0.005	115904	196232	WATPHD	(C12-C24)	190419084	1195.1
C10	2.982	0.001	13331466	16695850	WATPHM	(C24-C38)	166021559	1641.1
C12	3.974	0.003	823357	1386089	AK102	(C10-C25)	269330796	1377.7
C14	4.754	0.000	1777102	1806778	AK103	(C25-C36)	148312253	2025.9
C16	5.420	-0.001	1984435	2124302	OR.DIES	(C10-C28)	323844147	1652.3
C18	6.019	-0.001	2654233	3641666				
C20	6.590	-0.001	2335677	3267001	JET-A	(C10-C18)	151387028	912.8
C22	7.150	-0.003	1387799	2101232				
C24	7.699	-0.001	1080295	1538914				
C25	7.969	0.000	1151296	1685529				
C26	8.228	-0.002	1065108	1212622				
C28	8.731	-0.003	1245522	1182035				
C32	9.659	-0.003	981563	1074378				
C34	10.085	-0.001	978992	2417967				
Filter Peak	12.084	-0.005	21565	10654	BUNKERC	(C10-C38)	426507438	10803.9
C36	10.482	-0.006	530321	463431				
C38	10.869	-0.008	302213	284285				
C40	11.313	-0.003	111596	87023				
o-terph	6.188	-0.016	3122141	2234883				
Triacon Surr	9.214	-0.023	2846590	2193354	NAS DIES	(C10-C24)	260485879	1334.8

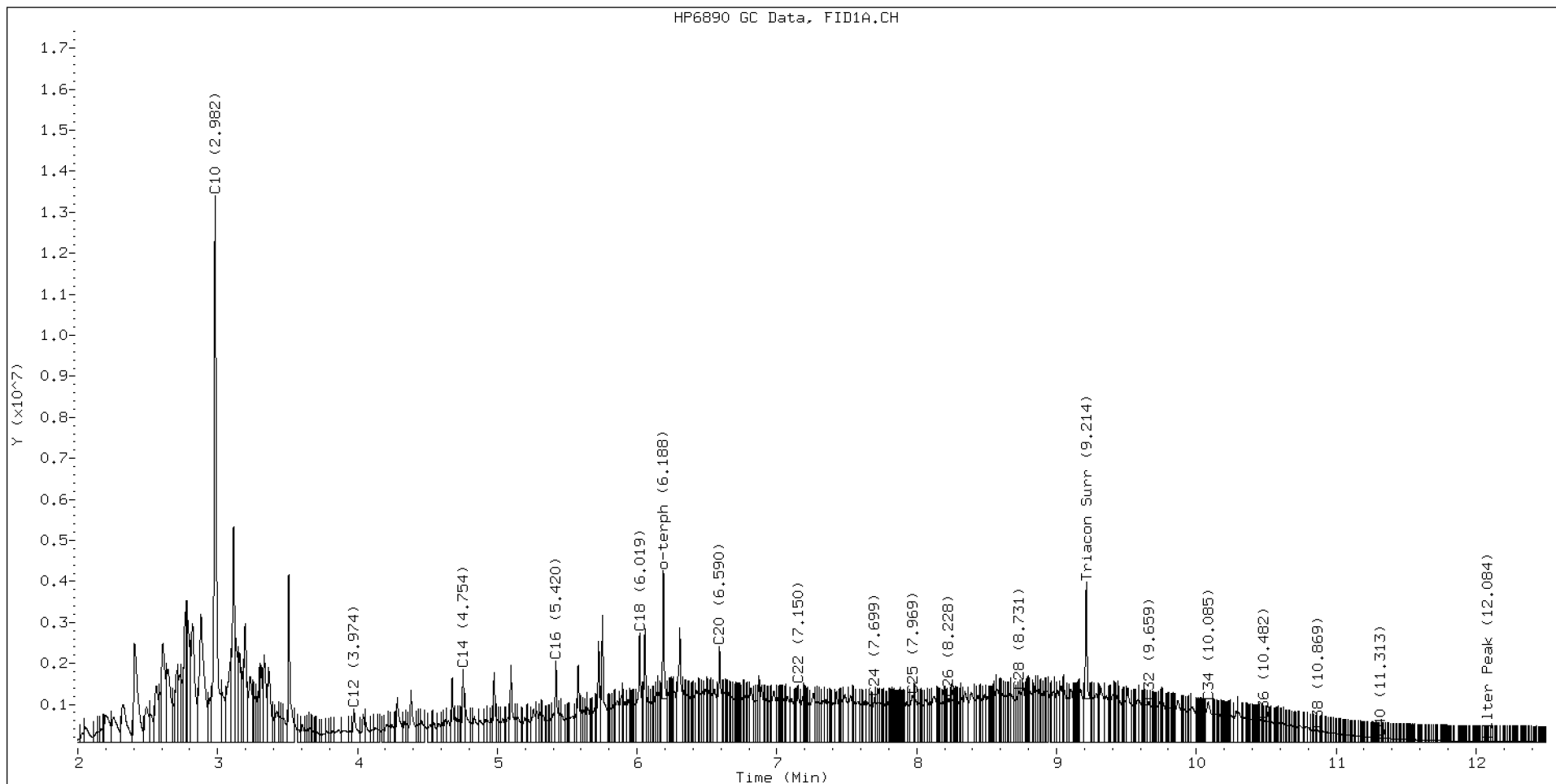
Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	2234883	10.9 M
Triacontane	2193354	14.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020

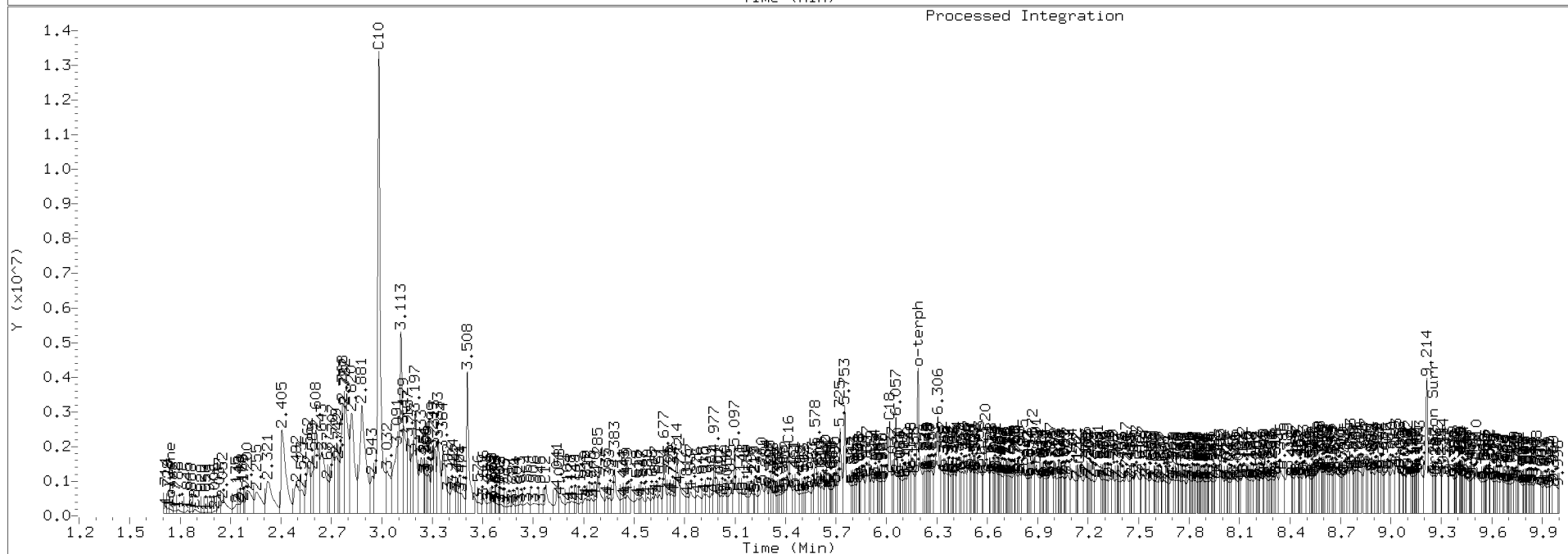
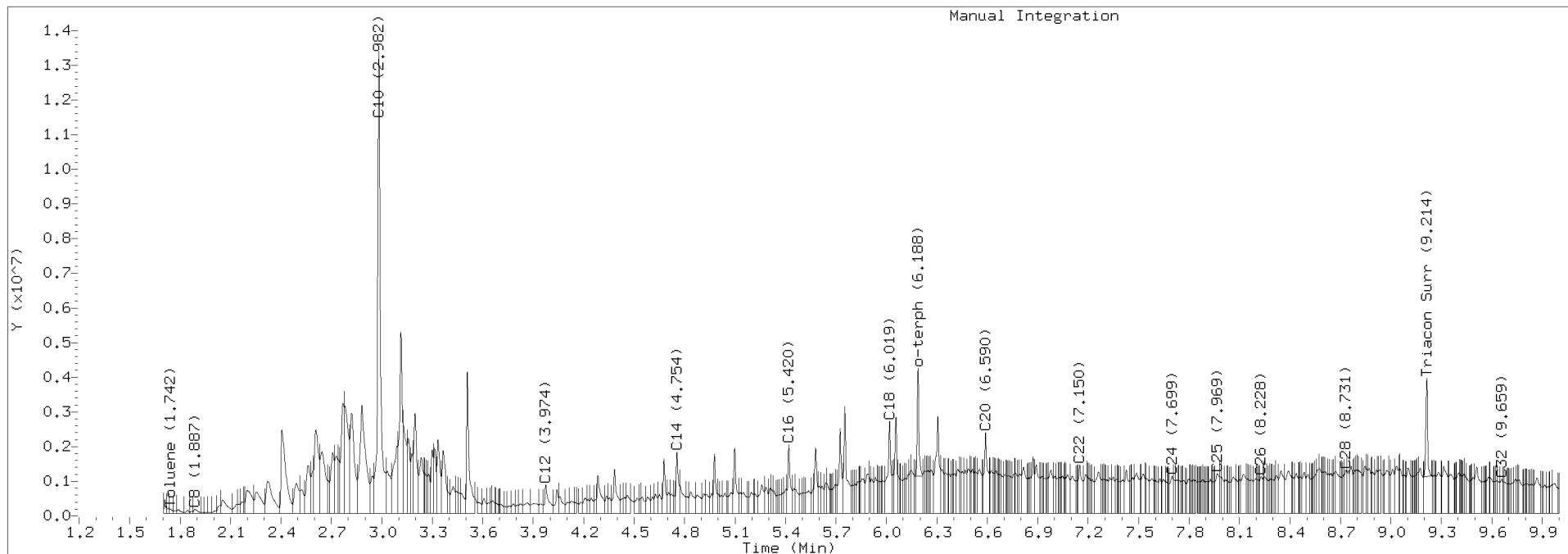
HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2408.D Injection: 24-NOV-2020 10:01

Lab ID:20K0008-20RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-22 A SDG: 20K0008
Sampled: 10/29/20 13:40 Prepared: 11/12/20 14:55 File ID: 420K2410.D
% Solids: 73.98 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 10:42
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.02 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

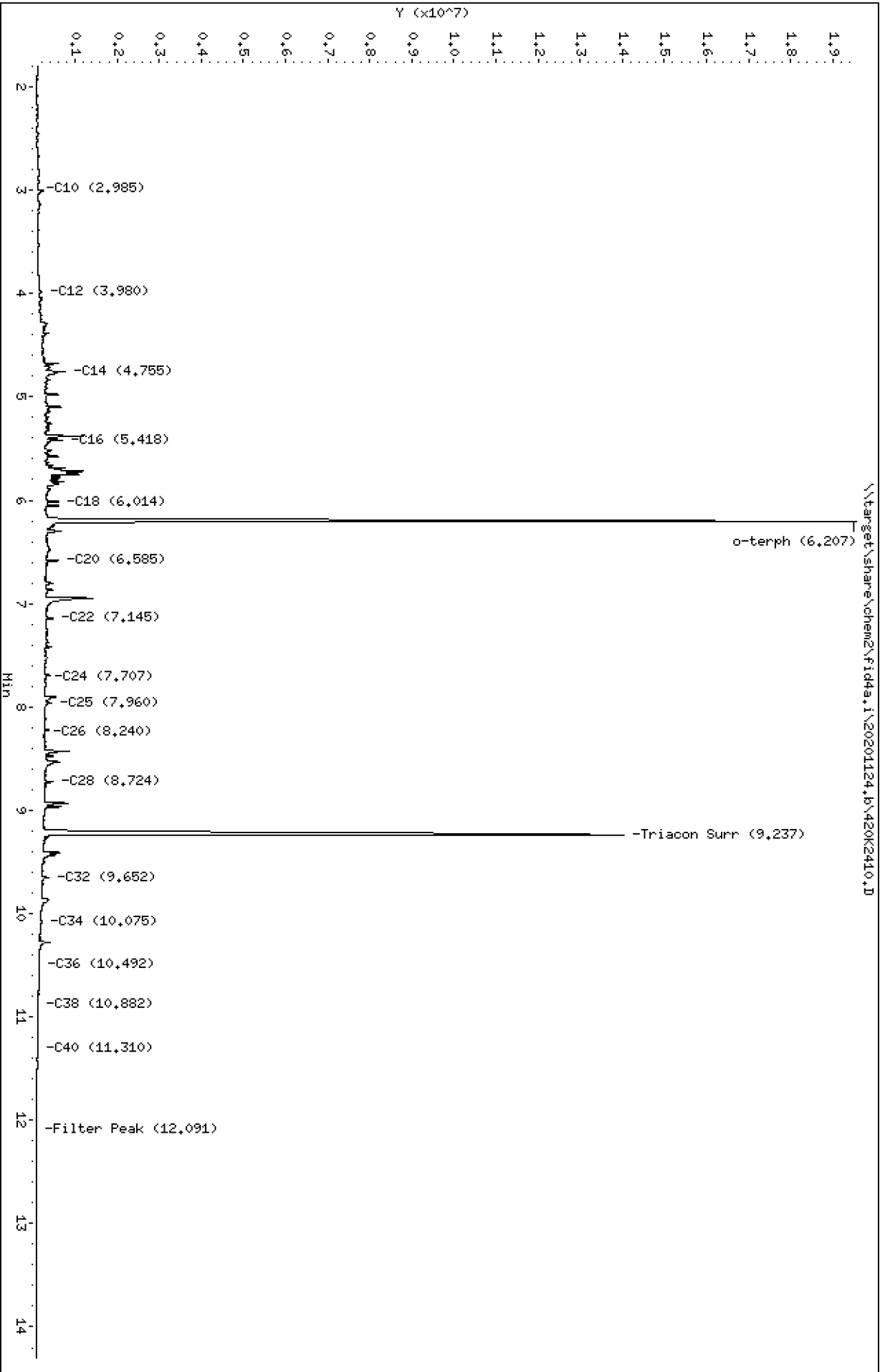
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	49.8		3.16	6.75
RRO	Motor Oil Range Organics (C24-C38)	1	43.3		4.03	13.5

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.176	15.6	103	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2410.D
Date: 24-NOV-2020 10:42
Client ID:
Sample Info: 20K0008-22

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2410.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-22
Client ID:
Injection: 24-NOV-2020 10:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

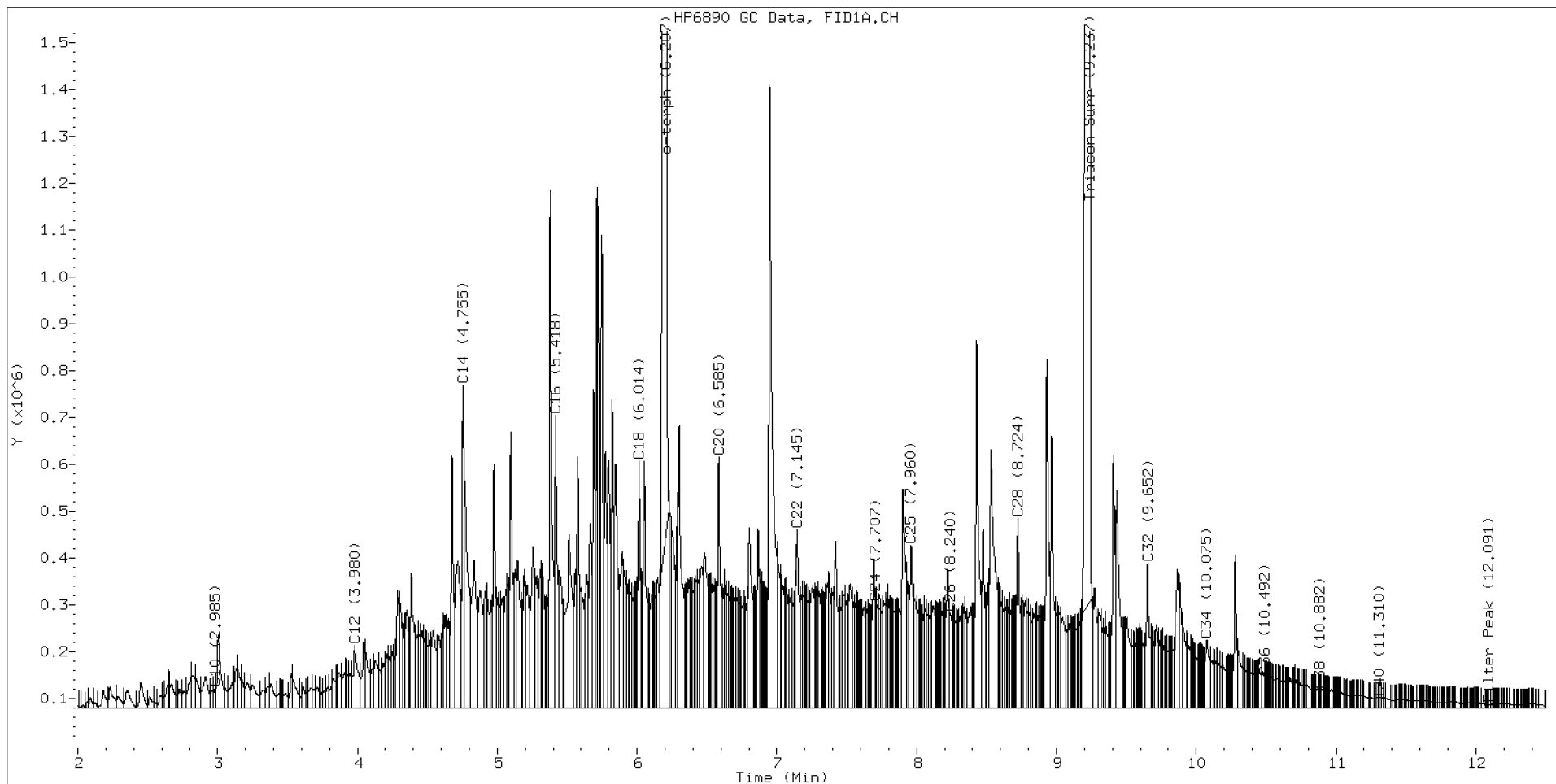
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.904	0.012	12612	9174	WATPHD	(C12-C24)	58787030	368.9
C10	2.985	0.003	40890	37613	WATPHM	(C24-C38)	32460063	320.9
C12	3.980	0.009	133135	310665	AK102	(C10-C25)	64509370	330.0
C14	4.755	0.001	688551	643662	AK103	(C25-C36)	28674795	391.7
C16	5.418	-0.003	624416	712692	OR.DIES	(C10-C28)	76537833	390.5
C18	6.014	-0.006	526033	632488				
C20	6.585	-0.006	535224	739127	JET-A	(C10-C18)	35422357	213.6
C22	7.145	-0.008	380438	518859				
C24	7.707	0.007	224690	88926				
C25	7.960	-0.008	346408	545560				
C26	8.240	0.009	201806	242729				
C28	8.724	-0.010	405098	591249				
C32	9.652	-0.010	307545	493415				
C34	10.075	-0.011	144870	328285				
Filter Peak	12.091	0.002	7239	2499	BUNKERC	(C10-C38)	94341571	2389.8
C36	10.492	0.004	66886	23207				
C38	10.882	0.005	37923	9439				
C40	11.310	-0.006	22399	27513				
o-terph	6.207	0.002	19110170	23616222				
Triacon Surr	9.237	-0.000	13737440	20650981	NAS DIES	(C10-C24)	61881508	317.1

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	23616222	115.4 M
Triacontane	20650981	139.2

M Indicates the peak was manually integrated

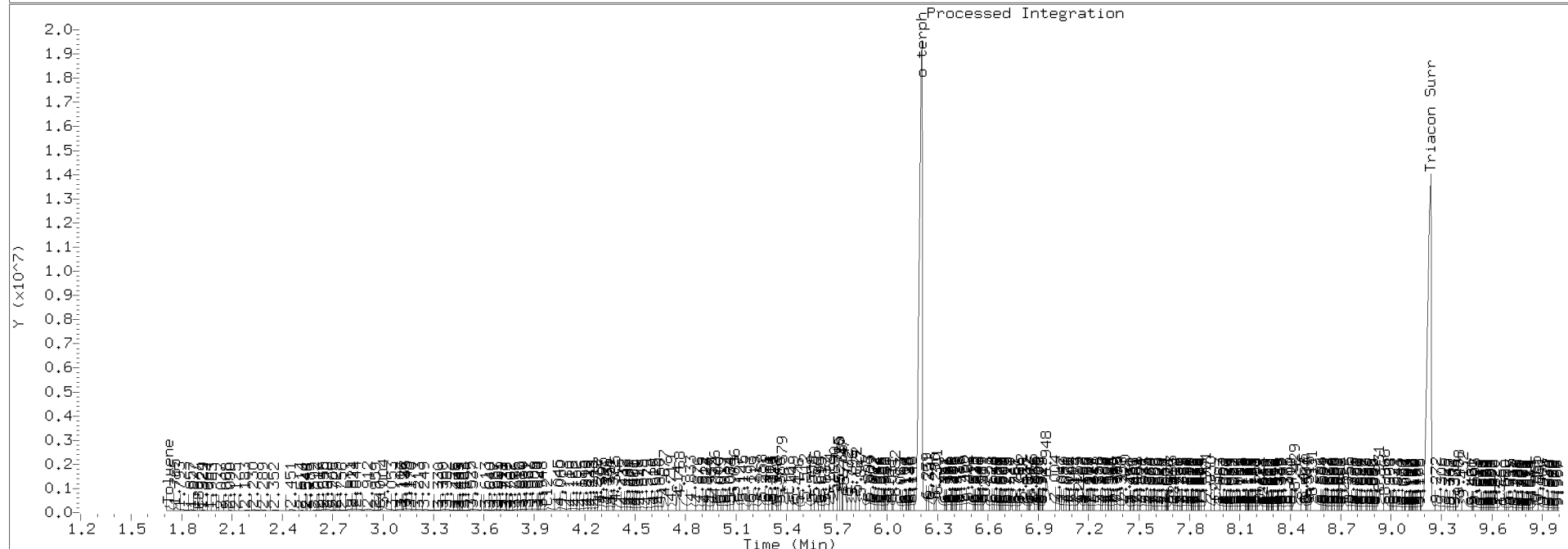
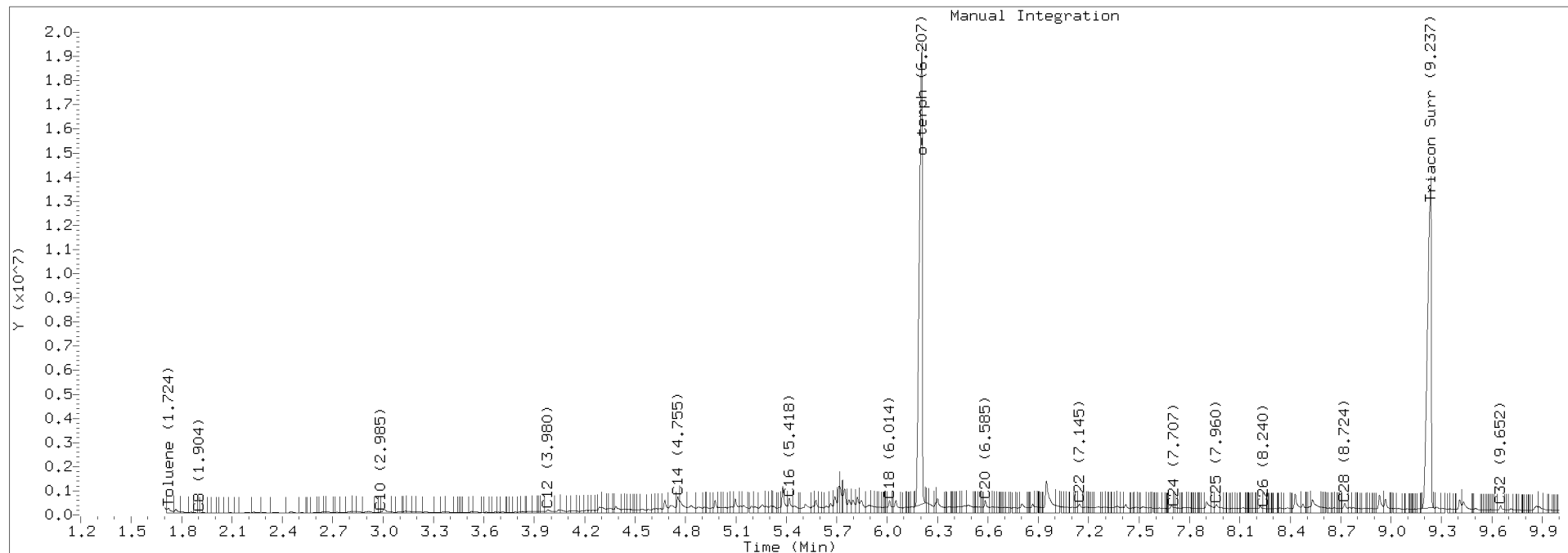
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2410.D Injection: 24-NOV-2020 10:42

Lab ID:20K0008-22





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-26 A SDG: 20K0008
Sampled: 10/29/20 14:30 Prepared: 11/12/20 14:55 File ID: 420K2411.D
% Solids: 80.12 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 11:02
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.05 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

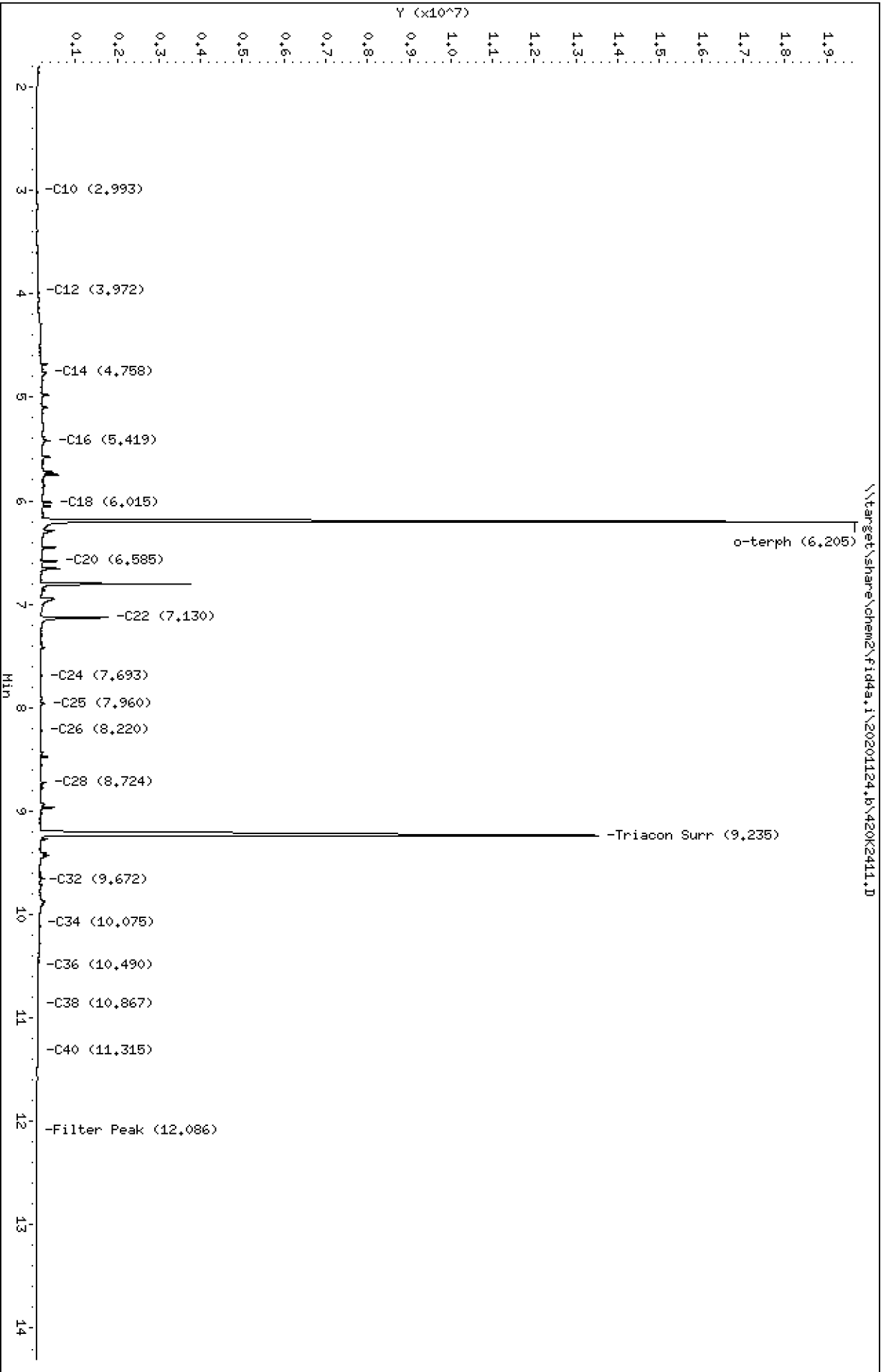
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	26.0		2.91	6.21
RRO	Motor Oil Range Organics (C24-C38)	1	20.3		3.71	12.4

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.972	13.2	94.5	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2411.D
Date: 24-NOV-2020 11:02
Client ID:
Sample Info: 20K0008-26

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2411.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-26
Client ID:
Injection: 24-NOV-2020 11:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

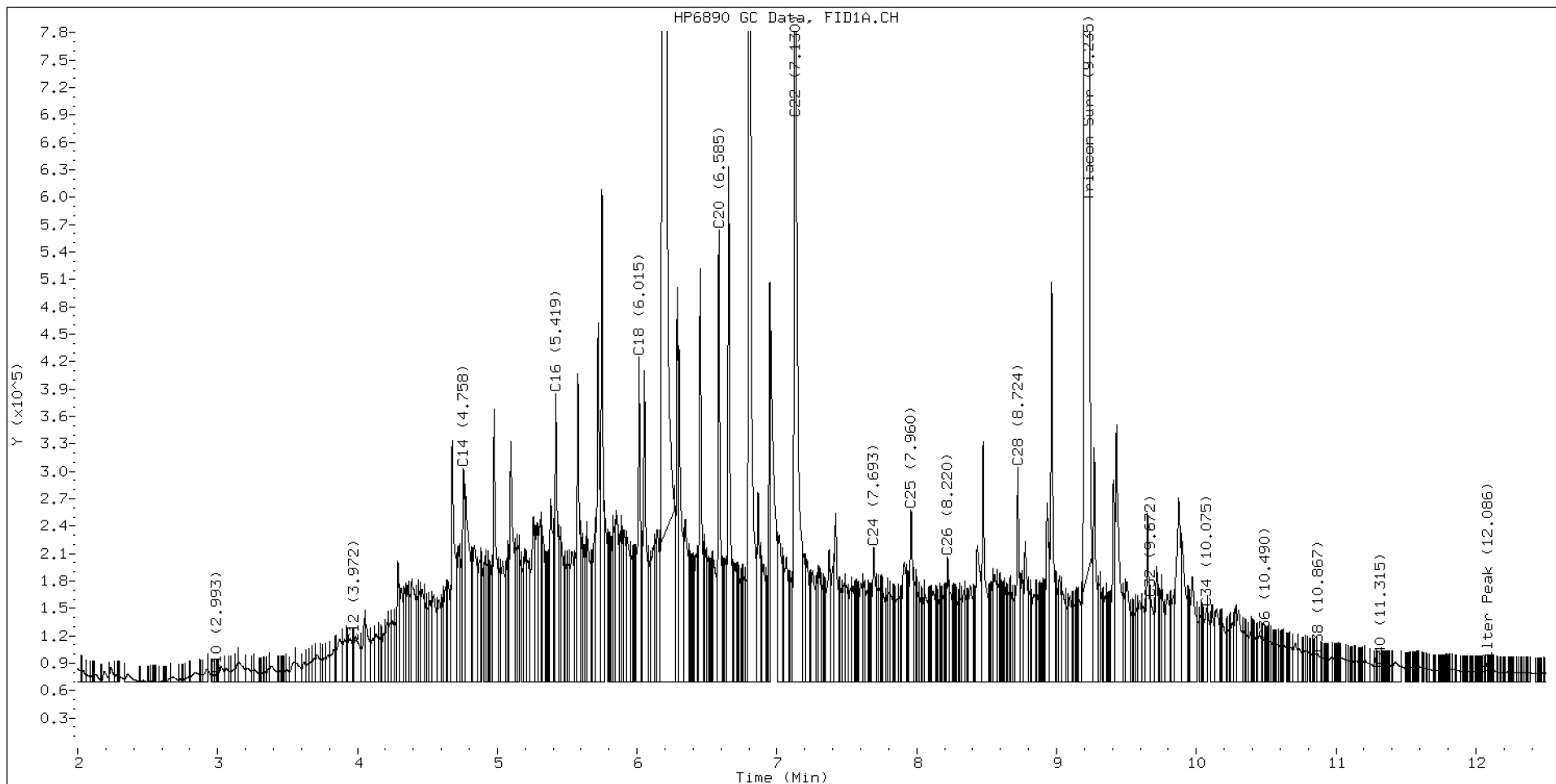
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.881	-0.011	36513	66156	WATPHD	(C12-C24)	33391036	209.6
C10	2.993	0.011	8571	7277	WATPHM	(C24-C38)	16535626	163.5
C12	3.972	0.001	42157	16778	AK102	(C10-C25)	35767078	183.0
C14	4.758	0.004	233839	259712	AK103	(C25-C36)	14828262	202.6
C16	5.419	-0.002	315887	402247	OR.DIES	(C10-C28)	41178781	210.1
C18	6.015	-0.005	356311	485503				
C20	6.585	-0.006	494935	527760	JET-A	(C10-C18)	17274966	104.2
C22	7.130	-0.024	1714226	2060734				
C24	7.693	-0.008	147573	258856				
C25	7.960	-0.009	188303	288487				
C26	8.220	-0.010	136838	173458				
C28	8.724	-0.010	234656	339881				
C32	9.672	0.010	91498	145295				
C34	10.075	-0.012	81604	130646				
Filter Peak	12.086	-0.003	12443	7454	BUNKERC	(C10-C38)	51288288	1299.2
C36	10.490	0.001	45885	18262				
C38	10.867	-0.010	31140	43853				
C40	11.315	-0.001	17704	11414				
o-terph	6.205	-0.000	19507364	21751807				
Triacon Surr	9.235	-0.003	13345186	18577808	NAS DIES	(C10-C24)	34752662	178.1

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	21751807	106.3 M
Triacontane	18577808	125.2 M

M Indicates the peak was manually integrated

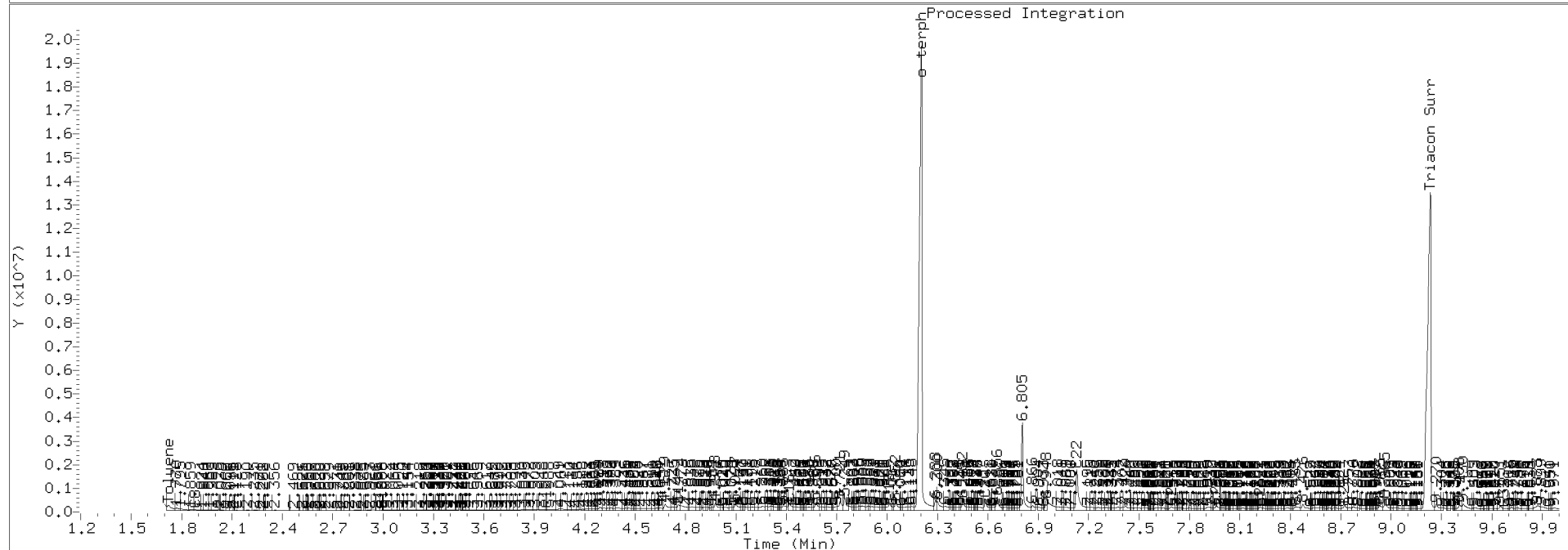
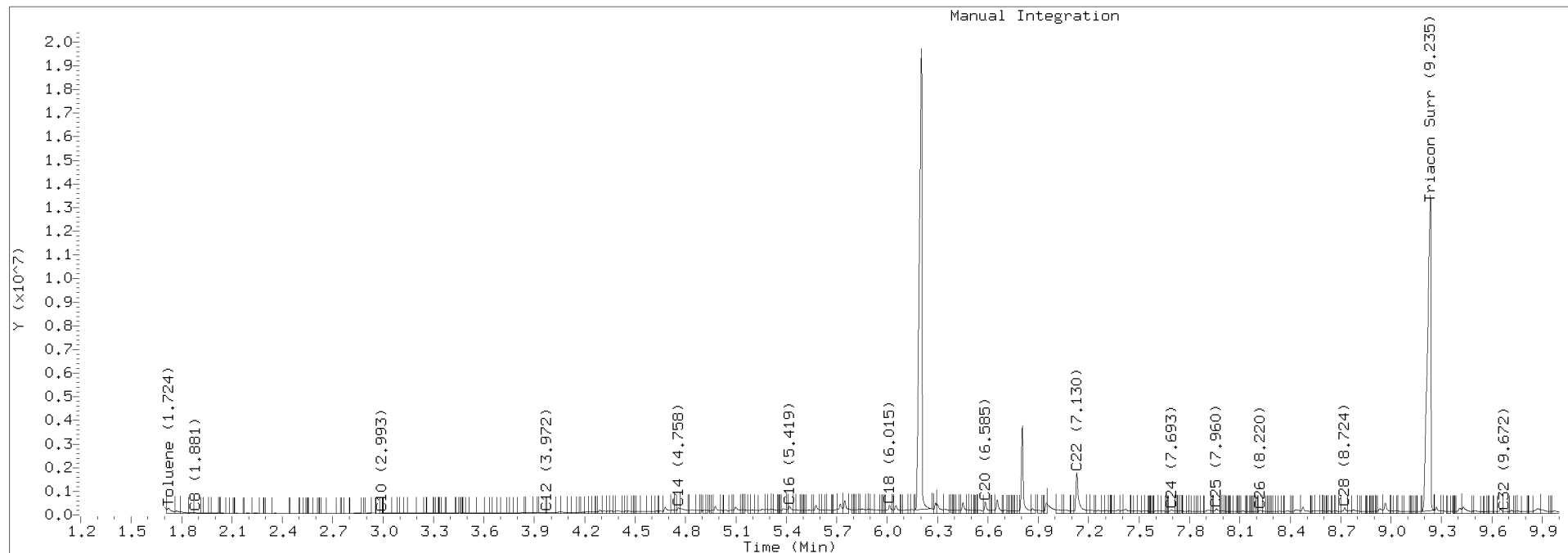
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2411.D Injection: 24-NOV-2020 11:02

Lab ID:20K0008-26





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0008-28 A SDG: 20K0008
 Sampled: 10/29/20 14:40 Prepared: 11/12/20 14:55 File ID: 420K2412.D
 % Solids: 72.00 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 11:23
 Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.06 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

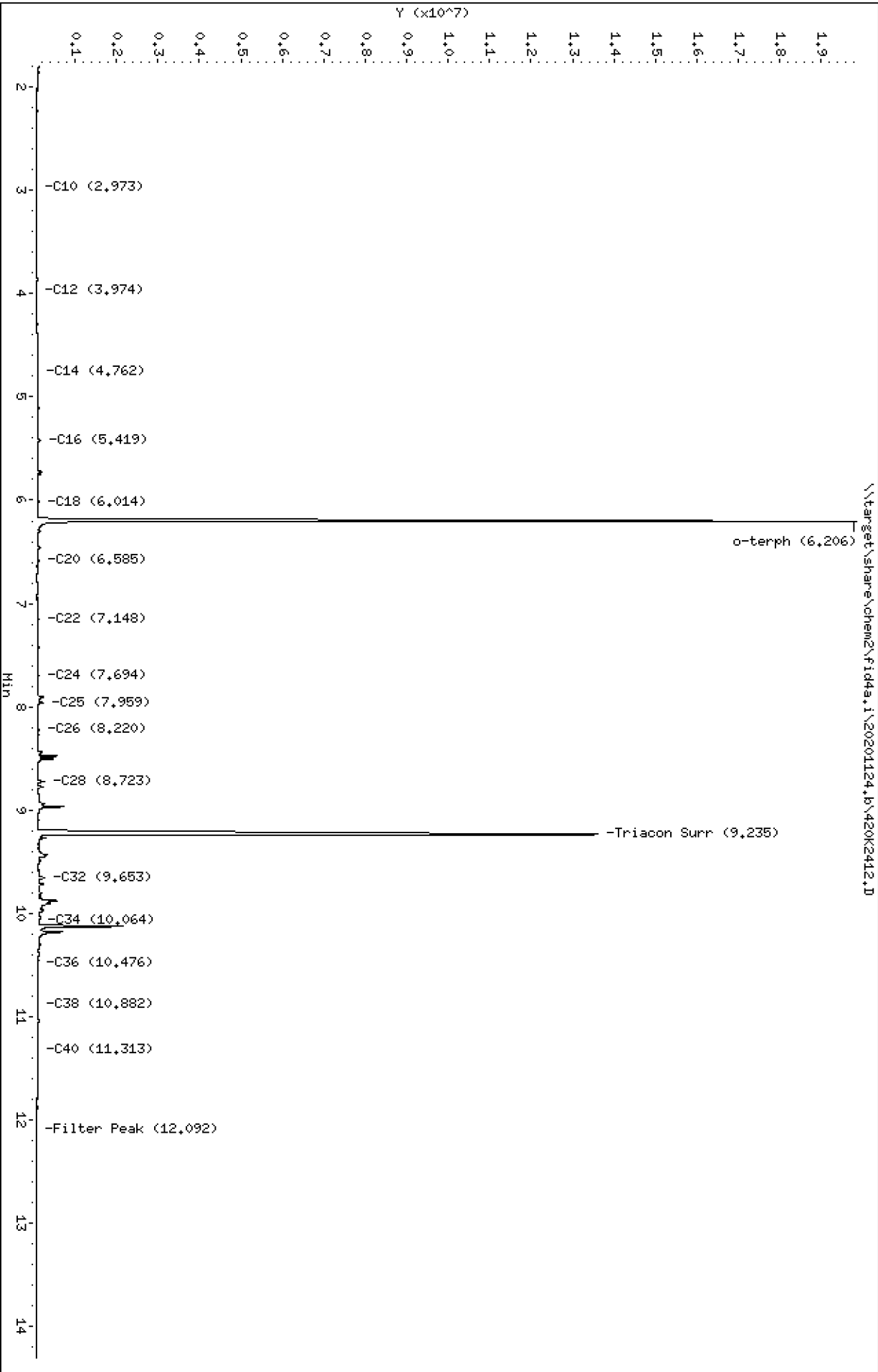
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	6.90	U	3.23	6.90
RRO	Motor Oil Range Organics (C24-C38)	1	21.1		4.13	13.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	15.532	15.4	99.5	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2412.D
Date: 24-NOV-2020 11:23
Client ID:
Sample Info: 20K0008-28

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2412.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-28
Client ID:
Injection: 24-NOV-2020 11:23
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

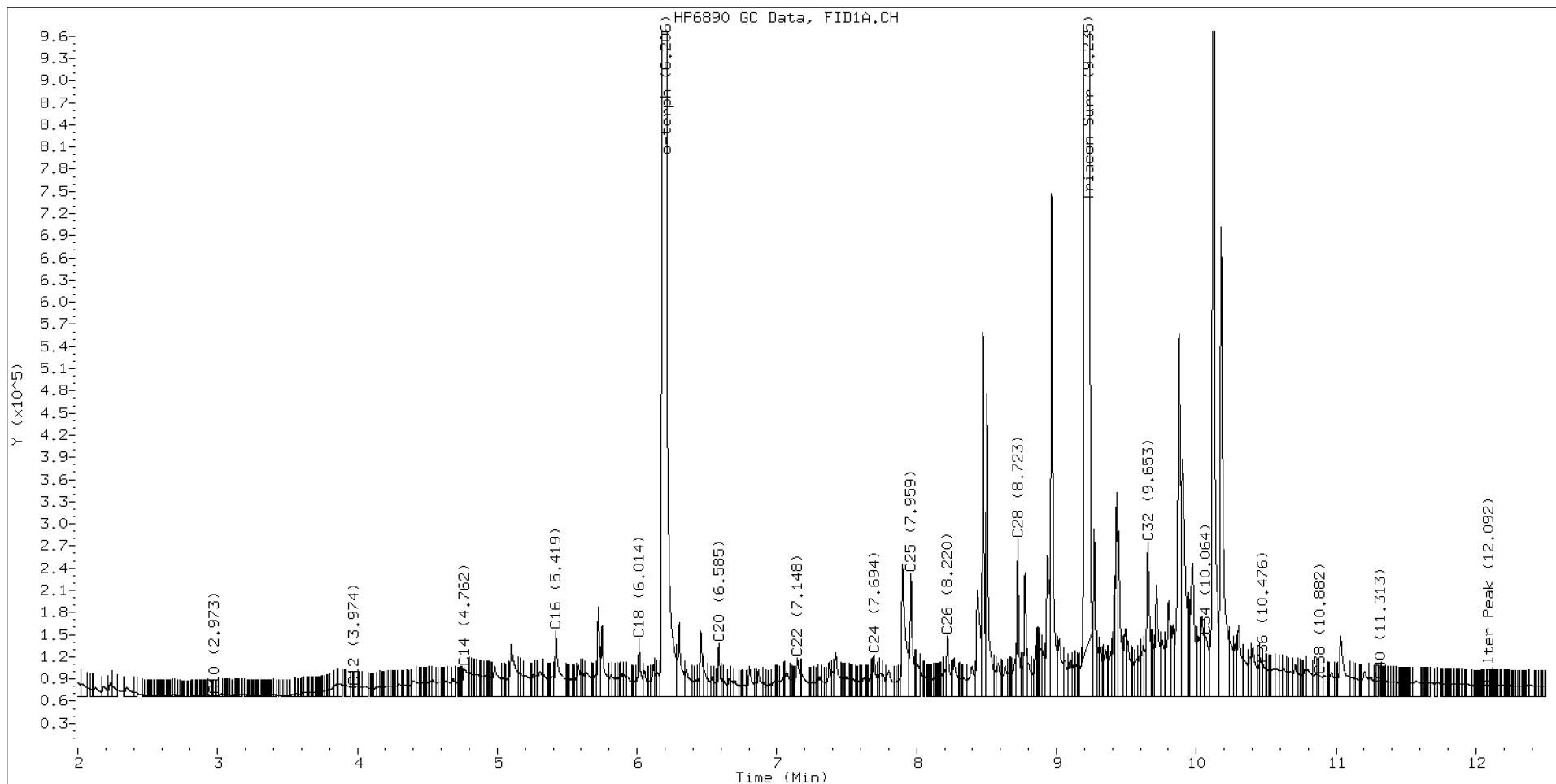
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.877	-0.016	42045	79140	WATPHD	(C12-C24)	5444594	34.2
C10	2.973	-0.008	1689	1239	WATPHM	(C24-C38)	15468033	152.9
C12	3.974	0.003	12383	5555	AK102	(C10-C25)	6271110	32.1
C14	4.762	0.008	39846	86964	AK103	(C25-C36)	14174107	193.6
C16	5.419	-0.001	87981	197880	OR.DIES	(C10-C28)	9090291	46.4
C18	6.014	-0.006	77436	105391				
C20	6.585	-0.006	71843	68231	JET-A	(C10-C18)	3382885	20.4
C22	7.148	-0.005	51415	89651				
C24	7.694	-0.006	56549	82492				
C25	7.959	-0.010	166237	206140				
C26	8.220	-0.011	81677	113133				
C28	8.723	-0.011	212164	213155				
C32	9.653	-0.009	207778	294065				
C34	10.064	-0.022	82262	136894				
Filter Peak	12.092	0.003	14842	10320	BUNKERC	(C10-C38)	21220658	537.5
C36	10.476	-0.012	43253	63944				
C38	10.882	0.005	28530	42964				
C40	11.313	-0.003	20494	13221				
o-terph	6.206	0.001	19788933	22903650				
Triacon Surr	9.235	-0.002	13459681	19603918	NAS DIES	(C10-C24)	5752625	29.5

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22903650	111.9
Triacontane	19603918	132.1 M

M Indicates the peak was manually integrated

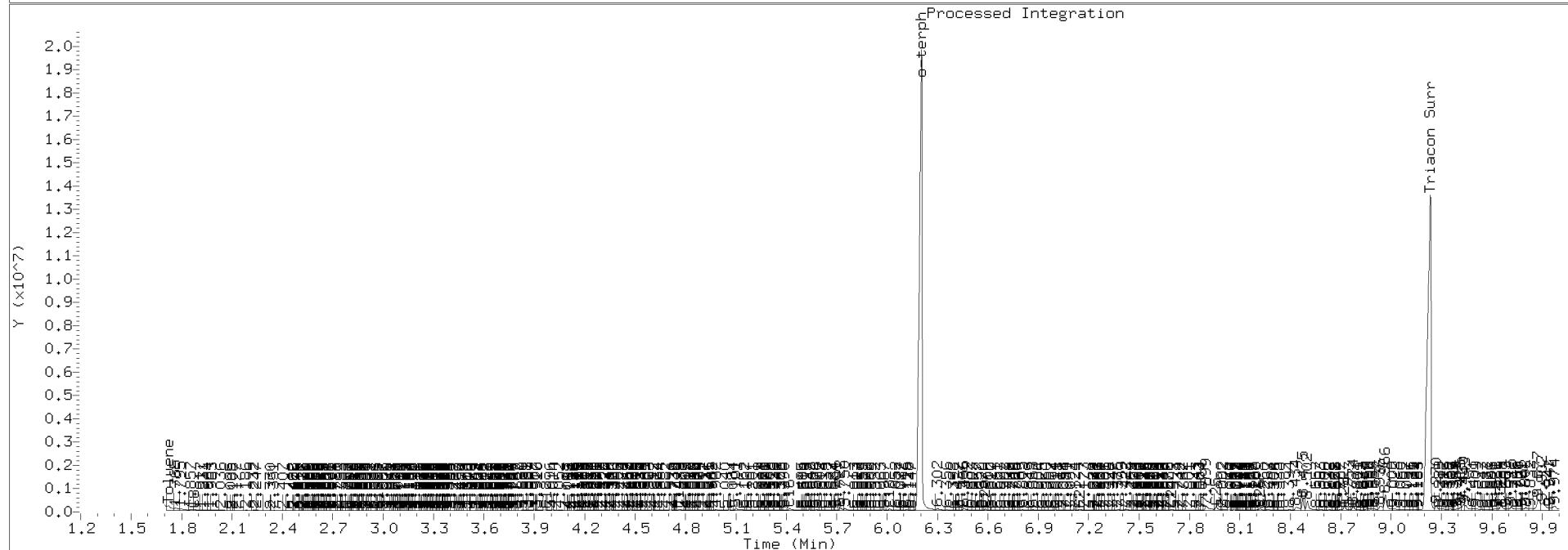
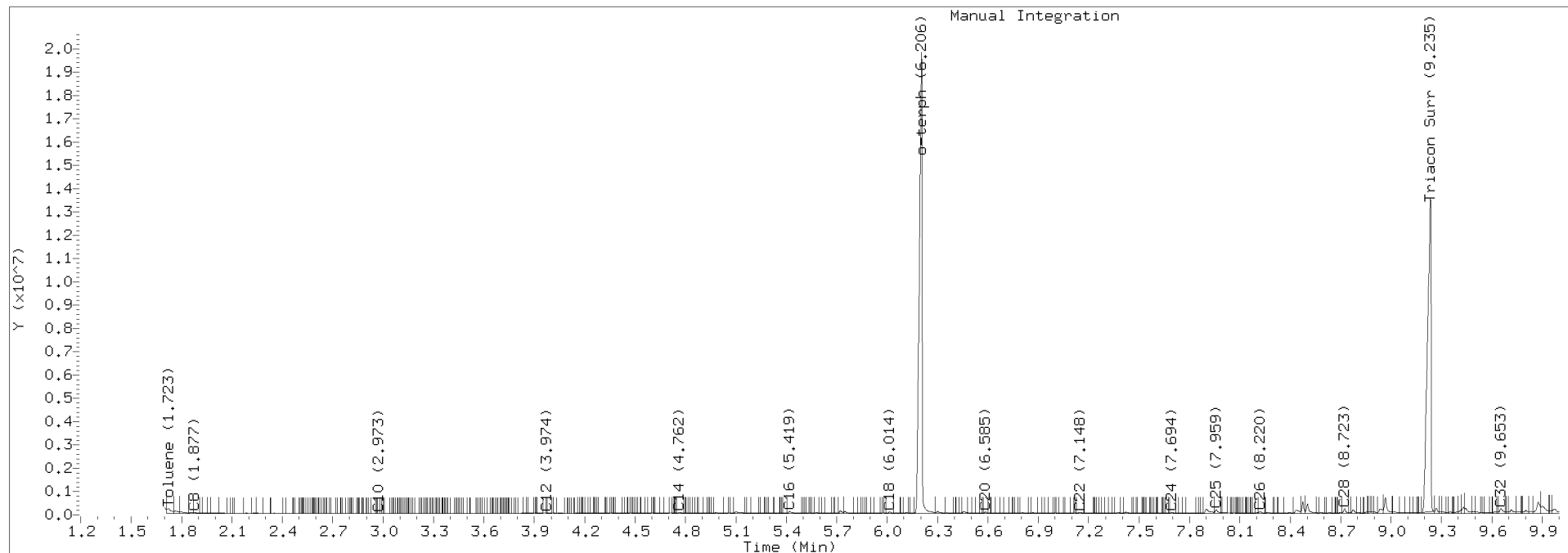
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2412.D Injection: 24-NOV-2020 11:23

Lab ID:20K0008-28





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-31 A SDG: 20K0008
Sampled: 10/29/20 15:25 Prepared: 11/12/20 14:55 File ID: 420K2413.D
% Solids: 84.56 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 11:43
Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10.02 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

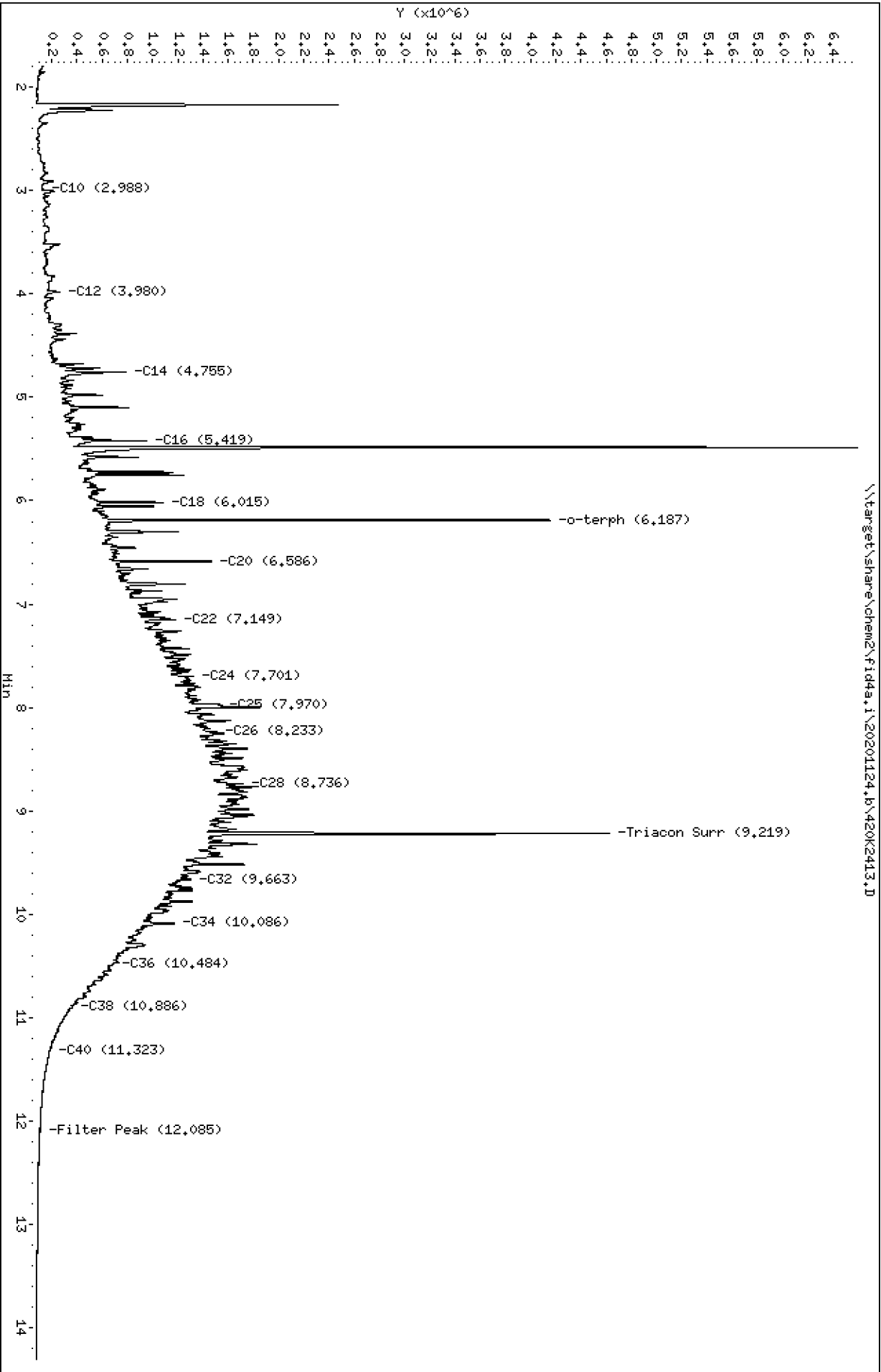
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	915	D	27.6	59.0
RRO	Motor Oil Range Organics (C24-C38)	10	2490	D	35.3	118

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.278	13.5	101	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2413.D
Date: 24-NOV-2020 11:43
Client ID:
Sample Info: 20K0008-31REL.10

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2413.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-31RE1
Client ID:
Injection: 24-NOV-2020 11:43
Dilution Factor: 10
RT Std: 419H1603.D

FID:4A RESULTS

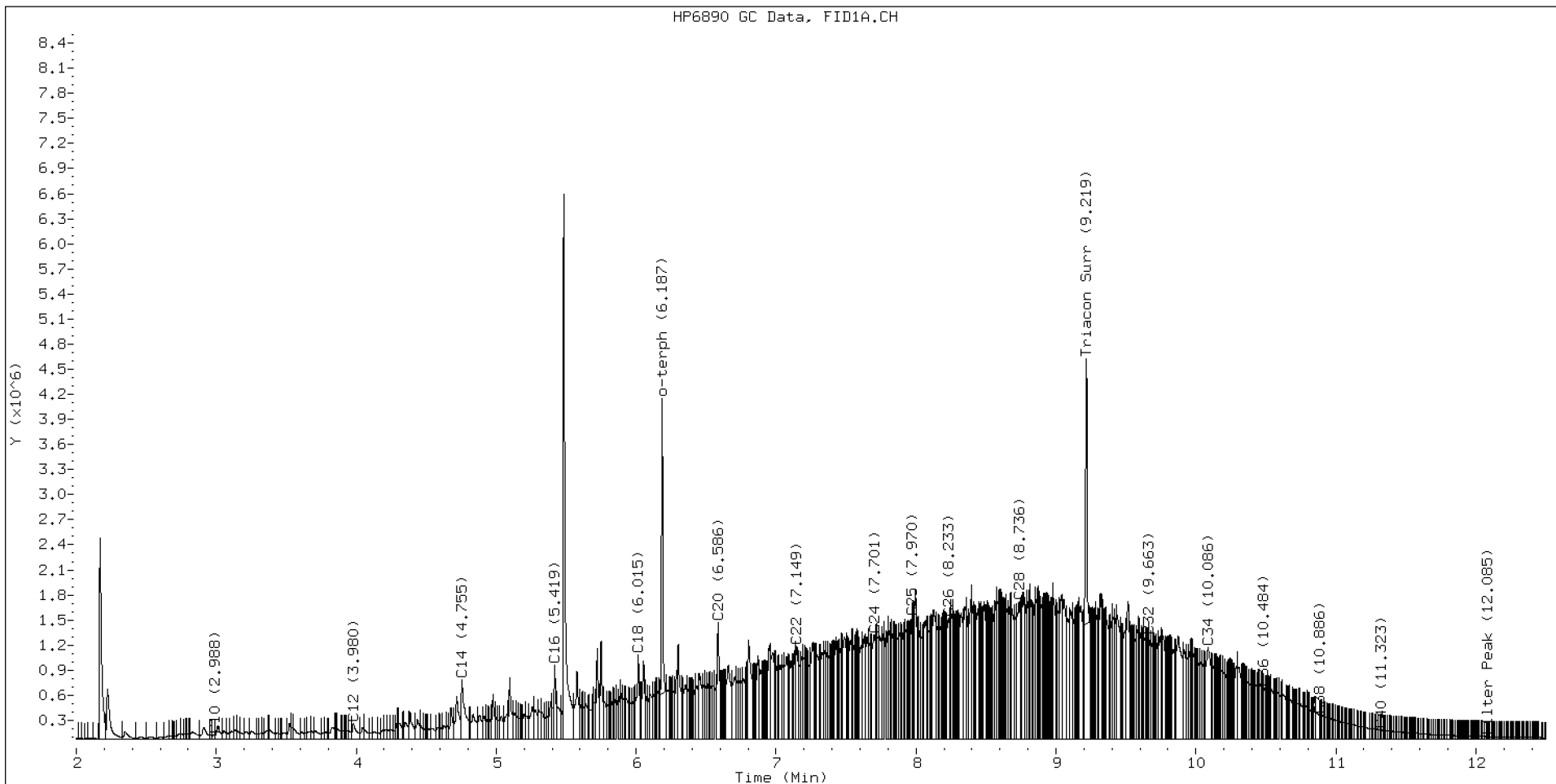
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.881	-0.011	29868	36261	WATPHD	(C12-C24)	123464492	774.9
C10	2.988	0.007	49568	61612	WATPHM	(C24-C38)	213054700	2106.0
C12	3.980	0.009	186922	379474	AK102	(C10-C25)	140107949	716.7
C14	4.755	0.002	712641	1405793	AK103	(C25-C36)	192560694	2630.4
C16	5.419	-0.002	875608	900943	OR.DIES	(C10-C28)	213135047	1087.4
C18	6.015	-0.004	1010231	1397299				
C20	6.586	-0.004	1392686	1760829	JET-A	(C10-C18)	45501746	274.4
C22	7.149	-0.004	1102799	1251344				
C24	7.701	0.001	1245079	2074956				
C25	7.970	0.002	1460689	1172160				
C26	8.233	0.002	1437009	1458195				
C28	8.736	0.002	1636684	2524183				
C32	9.663	0.001	1228194	1104036				
C34	10.086	-0.000	1098511	2805634				
Filter Peak	12.085	-0.004	27463	18938	BUNKERC	(C10-C38)	341824670	8658.8
C36	10.484	-0.004	612213	591441				
C38	10.886	0.009	284280	84443				
C40	11.323	0.007	104433	31010				
o-terph	6.187	-0.018	3532463	2328064				
Triacon Surr	9.219	-0.018	3169780	2396772	NAS DIES	(C10-C24)	128769970	659.9

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	2328064	11.4 M
Triacontane	2396772	16.2 M

M Indicates the peak was manually integrated

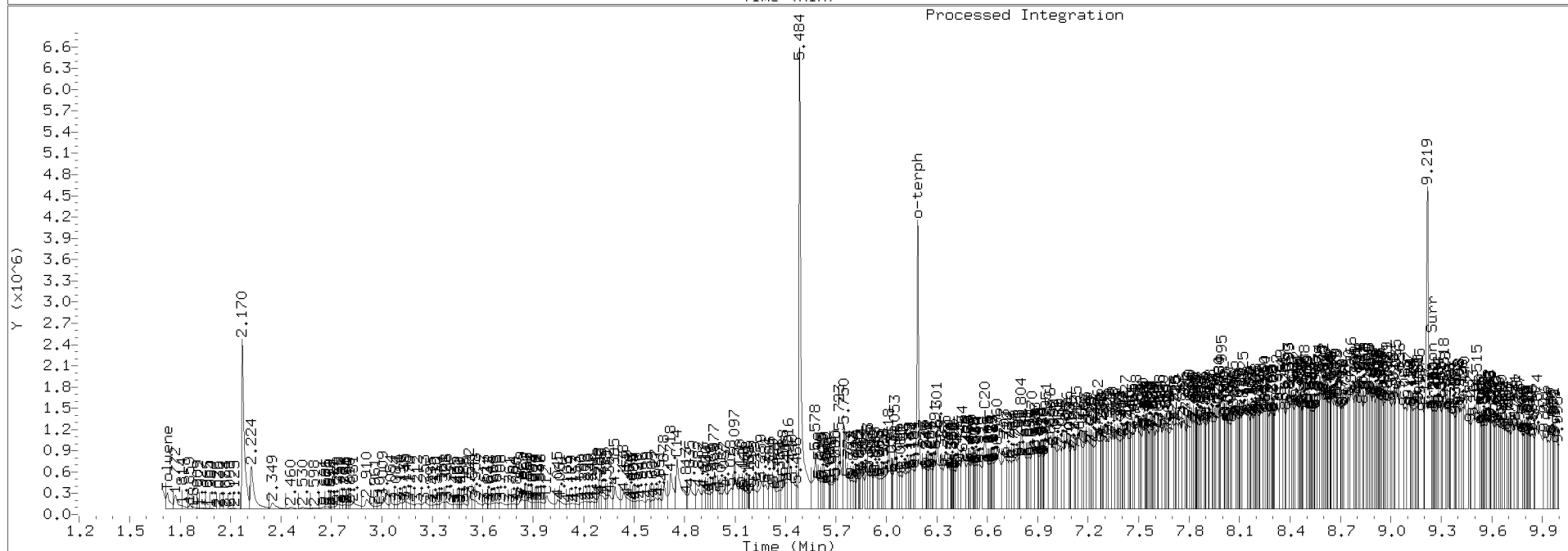
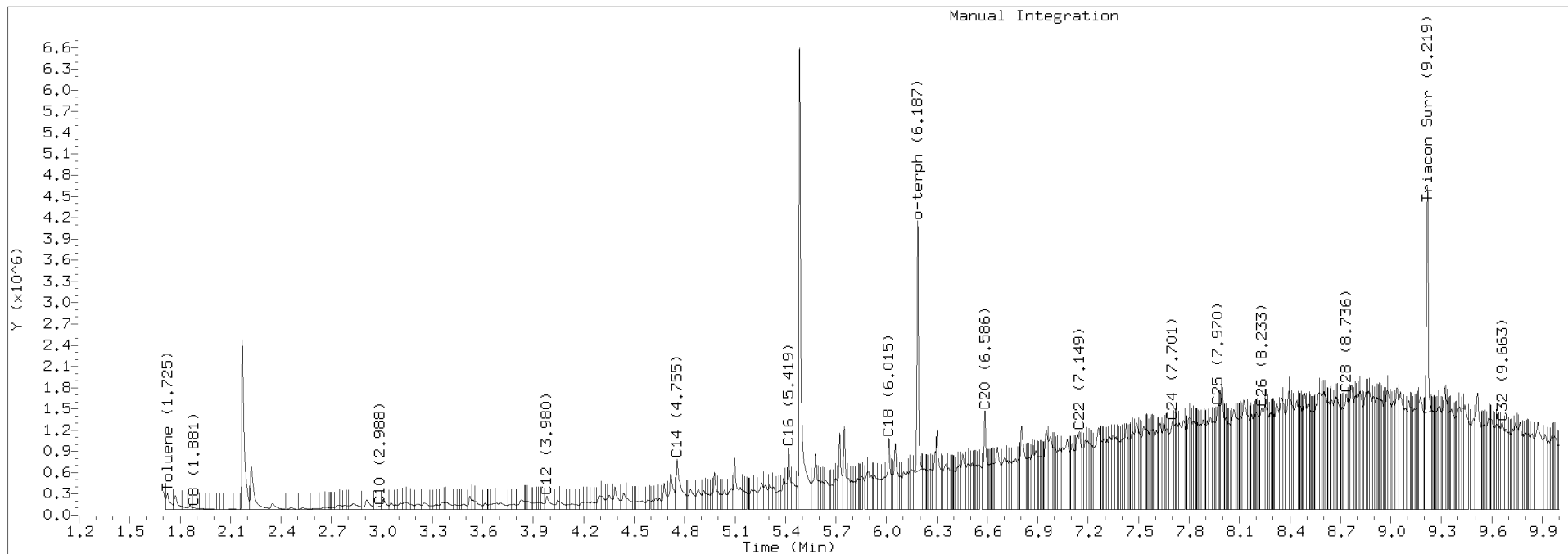
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2413.D Injection: 24-NOV-2020 11:43

Lab ID:20K0008-31RE1





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0008-33 A SDG: 20K0008
 Sampled: 10/29/20 15:35 Prepared: 11/12/20 14:55 File ID: 420K2414.D
 % Solids: 84.43 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 12:04
 Batch: BIK0337 Sequence: SIL0016 Initial/Final: 10 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

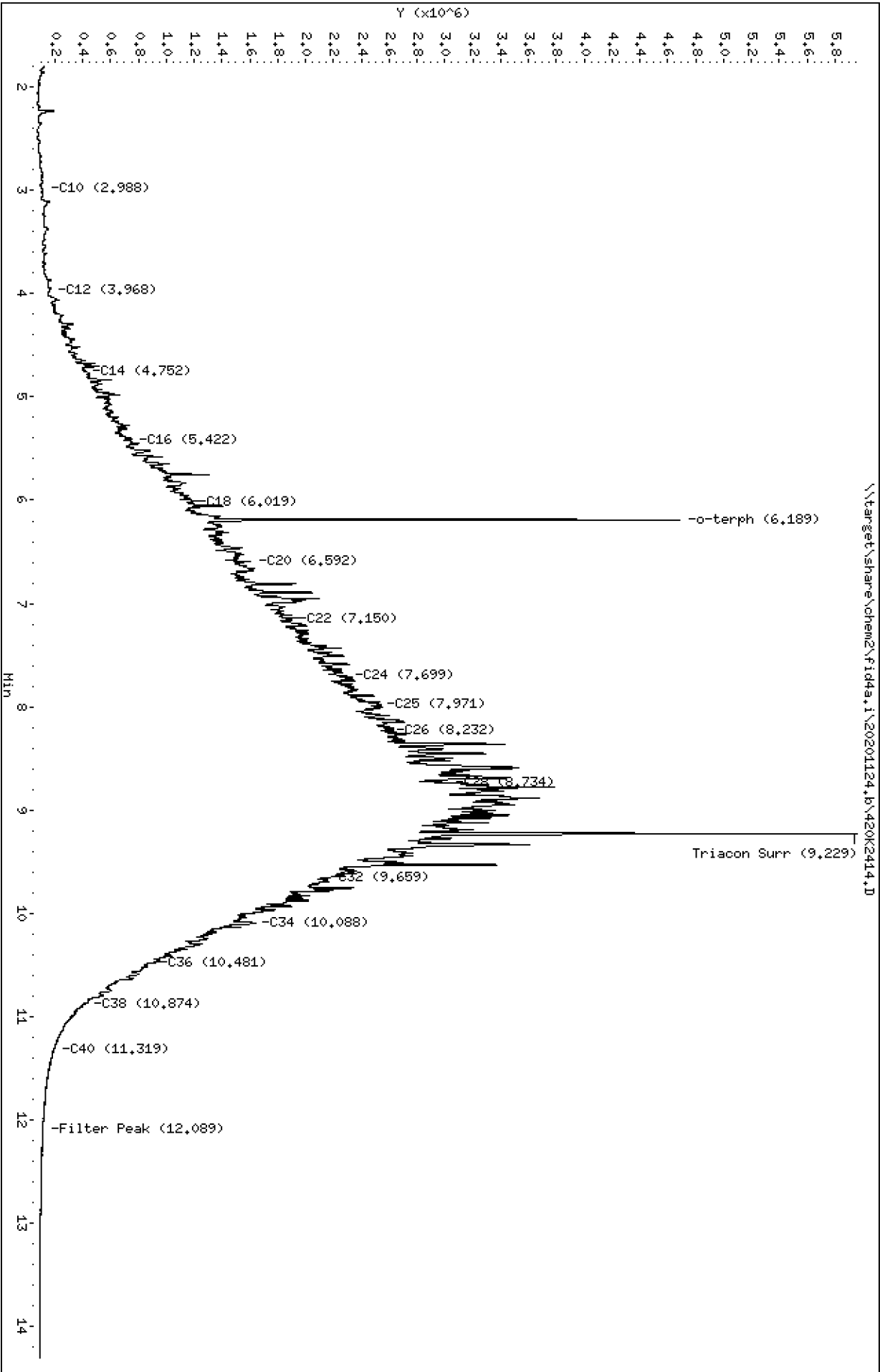
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	1720	D	27.7	59.2
RRO	Motor Oil Range Organics (C24-C38)	10	4610	D	35.4	118

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.325	12.0	89.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2414.D
Date: 24-NOV-2020 12:04
Client ID:
Sample Info: 20K0008-33REL,10

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2414.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0008-33RE1
Client ID:
Injection: 24-NOV-2020 12:04
Dilution Factor: 10
RT Std: 419H1603.D

FID:4A RESULTS

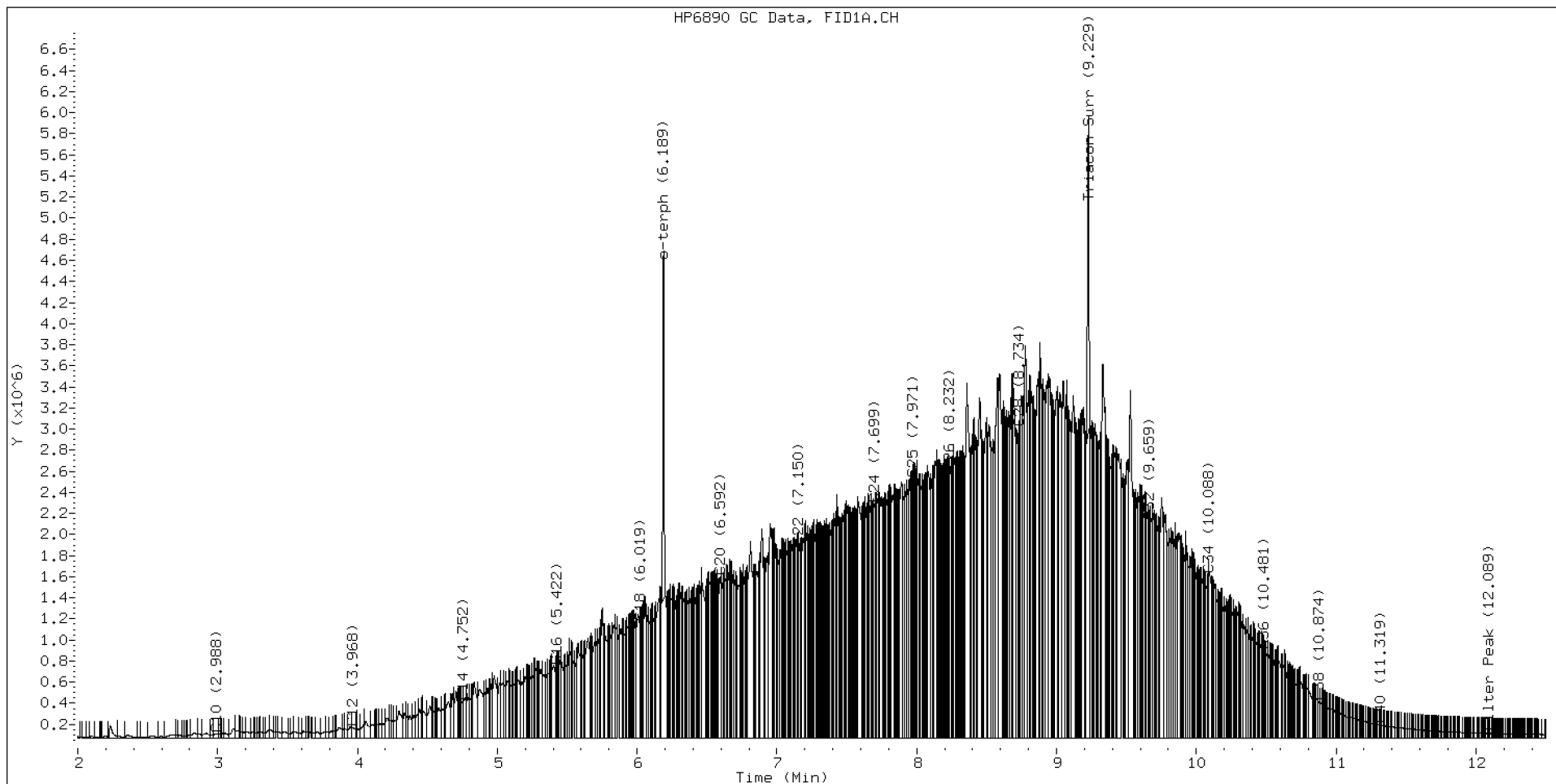
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.883	-0.009	30673	43797	WATPHD	(C12-C24)	231345444	1451.9
C10	2.988	0.006	39880	68056	WATPHM	(C24-C38)	393861511	3893.2
C12	3.968	-0.004	92875	151130	AK102	(C10-C25)	256241737	1310.8
C14	4.752	-0.002	338696	184301	AK103	(C25-C36)	360587060	4925.6
C16	5.422	0.001	674265	426103	OR.DIES	(C10-C28)	397735084	2029.3
C18	6.019	-0.000	1091538	271503				
C20	6.592	0.001	1529963	1530382	JET-A	(C10-C18)	66558888	401.3
C22	7.150	-0.003	1815473	451731				
C24	7.699	-0.001	2219257	2291875				
C25	7.971	0.002	2454624	850528				
C26	8.232	0.001	2514414	748665				
C28	8.734	0.001	2940862	1164761				
C32	9.659	-0.003	2048192	712985				
C34	10.088	0.001	1545964	1042596				
Filter Peak	12.089	-0.000	40812	12112	BUNKERC	(C10-C38)	628618725	15923.6
C36	10.481	-0.007	824230	520102				
C38	10.874	-0.004	345520	336226				
C40	11.319	0.002	121392	59851				
o-terph	6.189	-0.015	3307308	2066877				
Triacon Surr	9.229	-0.008	3005737	2234284	NAS DIES	(C10-C24)	234757213	1203.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	2066877	10.1 M
Triacontane	2234284	15.1 M

M Indicates the peak was manually integrated

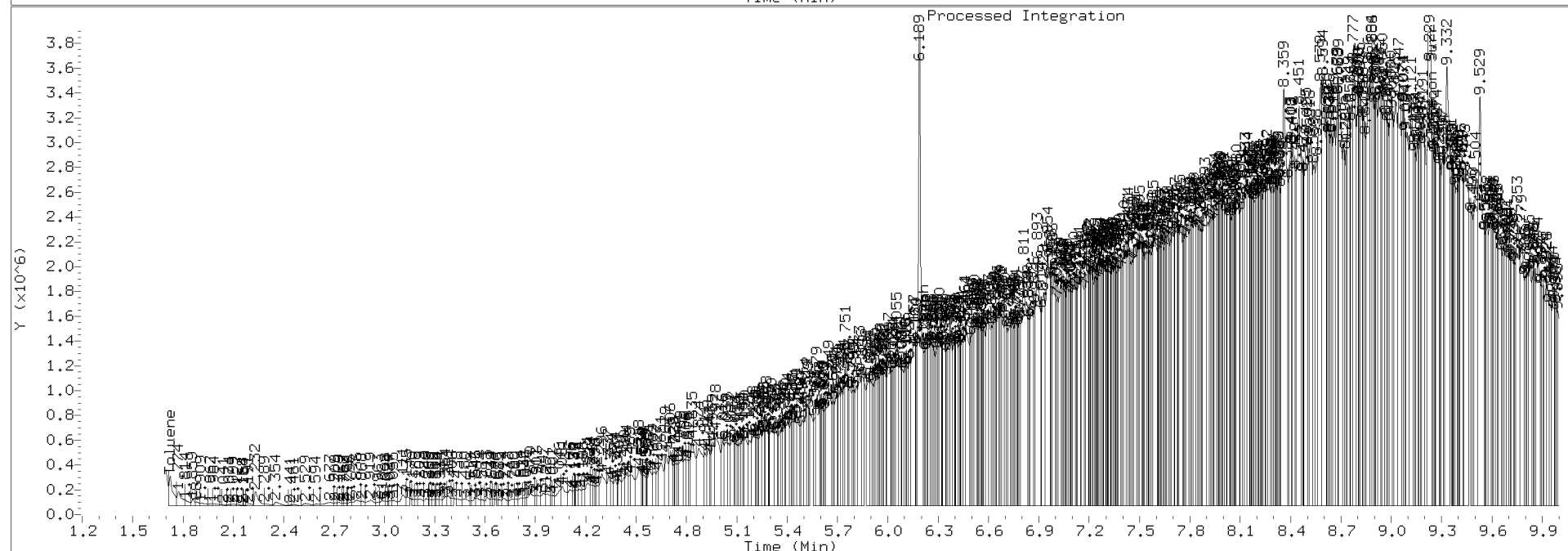
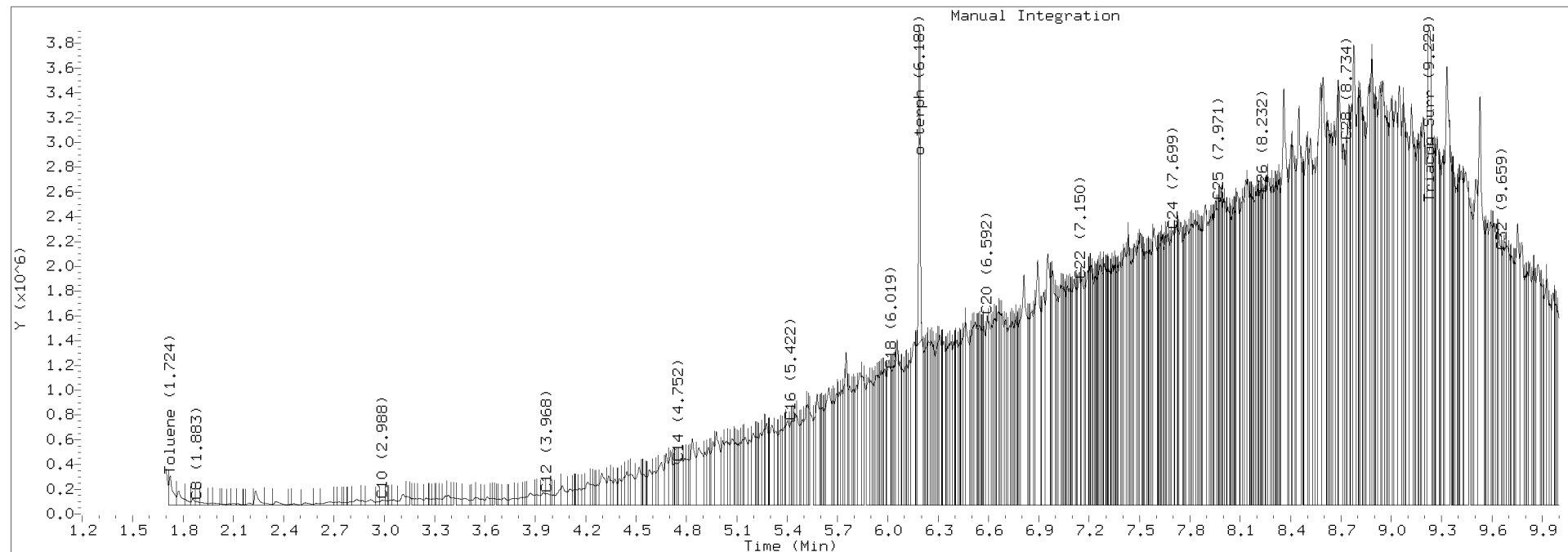
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2414.D Injection: 24-NOV-2020 12:04

Lab ID:20K0008-33RE1





PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Batch: BIK0337 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP17-2	20K0008-01	420K2416.D	11/12/20 14:55	
PP17-7.5	20K0008-03	420K2968.D	11/12/20 14:55	
PP17-7.5	20K0008-03RE1	420L0440.D	11/12/20 14:55	Added 12/5/2020 by VTS
PP22-2.5	20K0008-07	420K2419.D	11/12/20 14:55	
PP22-7.5	20K0008-09	420K2969.D	11/12/20 14:55	
PP22-7.5	20K0008-09RE1	420L0441.D	11/12/20 14:55	Added 12/5/2020 by VTS
PP18-5	20K0008-14	420K2407.D	11/12/20 14:55	
PP18-10	20K0008-16	420K2736.D	11/12/20 14:55	
PP19-2.5	20K0008-20	420K2408.D	11/12/20 14:55	
PP19-7.5	20K0008-22	420K2410.D	11/12/20 14:55	
PP20-5	20K0008-26	420K2411.D	11/12/20 14:55	
PP20-10	20K0008-28	420K2412.D	11/12/20 14:55	
PP31-2.5	20K0008-31	420K2413.D	11/12/20 14:55	
PP31-7.5	20K0008-33	420K2414.D	11/12/20 14:55	
Blank	BIK0337-BLK1	420K2257.D	11/12/20 14:55	
LCS	BIK0337-BS1	420K2258.D	11/12/20 14:55	
LCS Dup	BIK0337-BSD1	420K2259.D	11/12/20 14:55	



Batch: BIK0337

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Matrix: Solid

Date Prepared: 11/12/20

Balance ID: B146462614

Set Up By: CTD 11/11/20

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (g)		Acid C/U (1:1) Y <input checked="" type="checkbox"/> N	Silica Gel C/U (1:1) Y <input checked="" type="checkbox"/> N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
20J0420-04 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	
20J0420-05 A	(10.000)	10.04	(1:1) Y/N	(1:1) Y/N	1	1.0	
20J0420-06 A	(10.000)	10.04	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-01 A	(10.000)	10.04	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-03 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-07 A	(10.000)	10.04	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-09 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-14 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-16 A	(10.000)	10.07	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-20 A	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-22 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-26 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-28 A	(10.000)	10.06	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-31 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0008-33 A	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	

Batch QC

Lab Number	Initial (g)		Acid C/U (1:1) Y <input checked="" type="checkbox"/> N	Silica Gel C/U (1:1) Y <input checked="" type="checkbox"/> N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
BIK0337-BLK1	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0337-BS1	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0337-BSD1	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0337-MS1	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0008-33
BIK0337-MSD1	(10.000)	10.09	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0008-33

Client Verified By: [Signature]

Date

Preparation Reviewed By: DM

Date

Extraction Date and Time: 11-14-20 14:55



Batch: BIK0337

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Steps	Reagents Used	Surrogates & Spike Standards Used																									
Microwave DP 2 3 11/12/20 Analyst/Date	Station/Reagent Standard ID Microwave Analyst: <u>DP</u> Date: <u>11/12/20</u>	<table border="1"> <thead> <tr> <th>Type</th> <th>Vial ID / Standard ID</th> <th>Vol uL</th> <th>Analyst</th> <th>Witness</th> </tr> </thead> <tbody> <tr> <td>Surrogate</td> <td>P 1009824 Exp: 04/19/2021</td> <td>100µL</td> <td>DP</td> <td>Y</td> </tr> <tr> <td>1125µg/mL</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Spike</td> <td>II 1009822 Exp: 04/20/2021</td> <td>100µL</td> <td>DP</td> <td>MA</td> </tr> <tr> <td>15000µg/mL</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness	Surrogate	P 1009824 Exp: 04/19/2021	100µL	DP	Y	1125µg/mL					Spike	II 1009822 Exp: 04/20/2021	100µL	DP	MA	15000µg/mL				
	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness																						
Surrogate	P 1009824 Exp: 04/19/2021	100µL	DP	Y																							
1125µg/mL																											
Spike	II 1009822 Exp: 04/20/2021	100µL	DP	MA																							
15000µg/mL																											
TurboVap Pre Acid/Silica Clean 1 2 3 4 5 6 11-14-20 Analyst/Date	Anhydrous Sodium Sulfate I010438 Neutral Glass Wool I0106096 Vialing Analyst: Date: Methylene Chloride I010361 Concentrated Sulfuric Acid 0% Silica Gel	<p>(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.</p> <p>If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).</p>																									
Vialing 11-14-20 Analyst/Date																											



Batch: BIK0337

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. Weigh into 100mL beakers-dry with Sodium Sulfate.2. Transfer to microwave vessel.3. Add DCM to the vessel until the solvent is 1 inch above soil layer after homogenization.4. Add surr/spike.5. Microwave on appropriate power setting determined by # of samples.6. After microwave-Re-homogenize while hot then let cool 15 min. in Refridgerator 05. Re-homogenize while cool.7. Collect into turbo tube with sm. funnel containing glasswool and 1 Inch sodium sulfate.8. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube.9. TurboVap.10. Acid/Silica Clean-up?= Y / <input type="checkbox"/> N11. Vial in DCM. <p>A. Need Total Solids Y / <input type="checkbox"/> N</p> <p>B. Archive/Freeze Y / <input checked="" type="checkbox"/> N</p>	



Extraction Parameter: PCB TPHD Extraction Batch: BEK0338 BEK0337
11/12/20 *11/12/20*

Total Solids Batch: N/A Work Order(s): 20K0008

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <i>008-01,03,07,09,14,16,20,22,26,28,31,33</i>	<i>BT 11/12/20</i>
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input checked="" type="checkbox"/> Share Samples <i>008-26</i>	<i>BT 11/12/20</i>
<input checked="" type="checkbox"/> Multiple Jars <i>008-01,03,07,09,14,16,20,23,28,31,33</i>	<i>BT 11/12/20</i>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Extraction Parameter: Gamma Extraction Batch: Bik0337

Total Solids Batch: Bik Q103 Work Order(s): 2020420

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <u>pb</u>	<u>11/04/20</u>
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	<u>11/04/20</u>
<input checked="" type="checkbox"/> Rocks (%+size)? = <u>30.0% - 4"</u> <u>φ4, φ5</u>	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input checked="" type="checkbox"/> Share Samples Y / <u>(N)</u>	<u>11/04/20 DXP</u>
<input checked="" type="checkbox"/> Multiple Jars Y / <u>(N)</u>	<u>DXP 11/04/20</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Batch: BIK0337

Batch Comment: **NONE**

Project: ICS-Former NW Cooperage

Project Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Work Order:20K0008

Work Order Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Sample: 20K0008-01

Sample Comments: **NONE**

Sample: 20K0008-03

Sample Comments: **NONE**

Sample: 20K0008-07

Sample Comments: **NONE**

Sample: 20K0008-09

Sample Comments: **NONE**

Sample: 20K0008-14

Sample Comments: **NONE**

Sample: 20K0008-16

Sample Comments: **NONE**

Sample: 20K0008-20

Sample Comments: **NONE**

Sample: 20K0008-22

Sample Comments: **NONE**

Sample: 20K0008-26

Sample Comments: **NONE**

Sample: 20K0008-28

Sample Comments: **NONE**

Sample: 20K0008-31

Sample Comments: **NONE**

Sample: 20K0008-33

Sample Comments: **NONE**

Project: Fredrickson Phase II

Project Comments: **NONE**

Work Order:20J0420

Work Order Comments: <E> BS/BSD</E>

Sample: 20J0420-04

Sample Comments: **NONE**

Sample: 20J0420-05

Sample Comments: **NONE**

Sample: 20J0420-06

Sample Comments: **NONE**



Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BIK0337-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>11/12/20 14:55</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0337</u>	Sequence:	<u>SIK0409</u>
Instrument:	<u>FID4</u>	Column:	<u>RTX-1</u>
		File ID:	<u>420K2257.D</u>
		Analyzed:	<u>11/23/20 05:01</u>
		Initial/Final:	<u>10 g / 1 mL</u>
		Calibration:	<u>DA00022</u>

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg wet)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.00	U	2.34	5.00
RRO	Motor Oil Range Organics (C24-C38)	1	10.0	U	2.99	10.0
SURROGATES		ADDED: (mg/kg wet)	FOUND: (mg/kg wet)	% REC	QC LIMITS	Q
o-Terphenyl		11.250	9.98	88.7	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201122,bl\420K2257.D

Date: 23-NOV-2020 05:01

Client ID:

Sample Info: BIK0337-BLK1

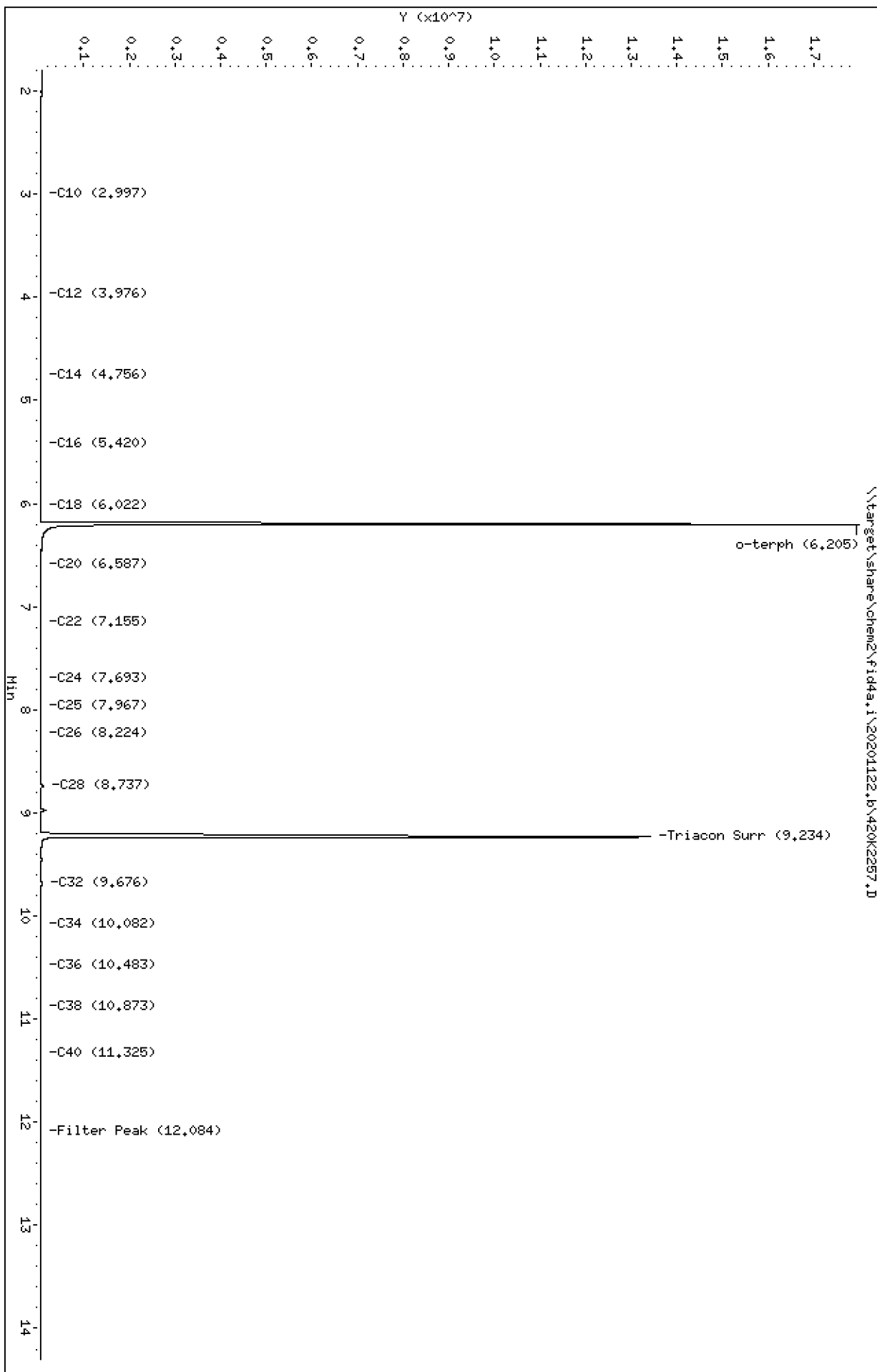
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2257.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0337-BLK1
Client ID:
Injection: 23-NOV-2020 05:01
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

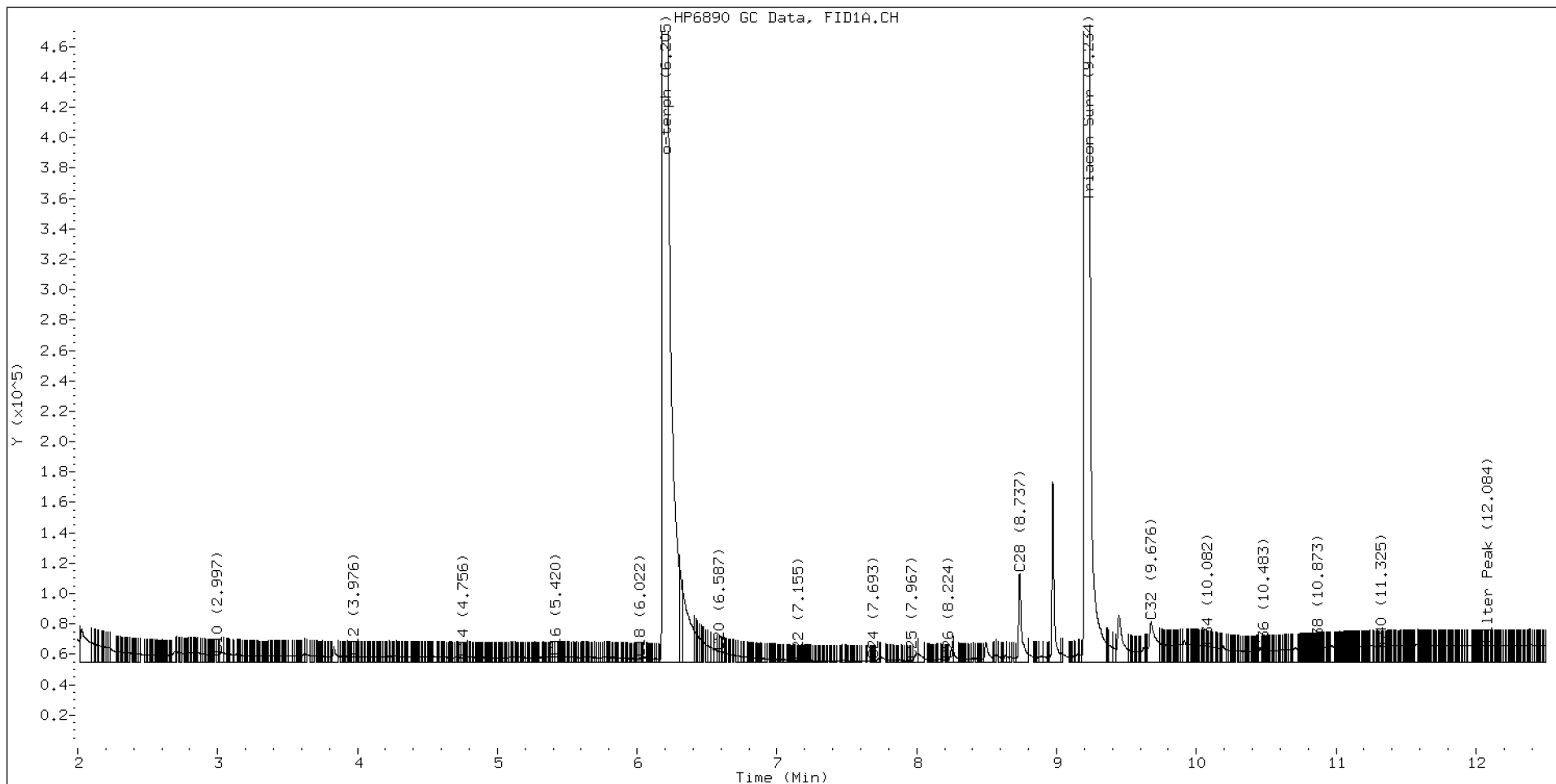
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.918	0.019	22280	23400	WATPHD	(C12-C24)	736955	4.6
C10	2.997	0.011	4628	4057	WATPHM	(C24-C38)	1240401	12.3
C12	3.976	0.000	3233	3255	AK102	(C10-C25)	968261	5.0
C14	4.756	-0.001	2744	1763	AK103	(C25-C36)	1050946	14.4
C16	5.420	-0.005	2988	2896	OR.DIES	(C10-C28)	1170242	6.0
C18	6.022	0.000	2211	2375				
C20	6.587	-0.006	6827	5945	JET-A	(C10-C18)	542985	3.3
C22	7.155	0.000	645	187				
C24	7.693	-0.011	721	419				
C25	7.967	-0.006	749	486				
C26	8.224	-0.011	1006	198				
C28	8.737	-0.001	57833	89206				
C32	9.676	0.014	26338	90617				
C34	10.082	-0.004	10174	5540				
Filter Peak	12.084	-0.007	10601	7389	BUNKERC	(C10-C38)	2201018	55.8
C36	10.483	-0.003	6927	4148				
C38	10.873	-0.001	9149	4527				
C40	11.325	0.002	10248	6643				
o-terph	6.205	-0.002	17942007	20420889				
Triacon Surr	9.234	-0.004	13356078	16668677	NAS DIES	(C10-C24)	960617	4.9

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	20420889	99.8
Triacontane	16668677	112.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





LCS / LCS DUPLICATE RECOVERY
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/23/20 05:22</u>
Batch:	<u>BIK0337</u>	Laboratory ID:	<u>BIK0337-BS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>10 g / 1 mL</u>		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	150	153		102	63 - 120

* Indicates values outside of QC limits

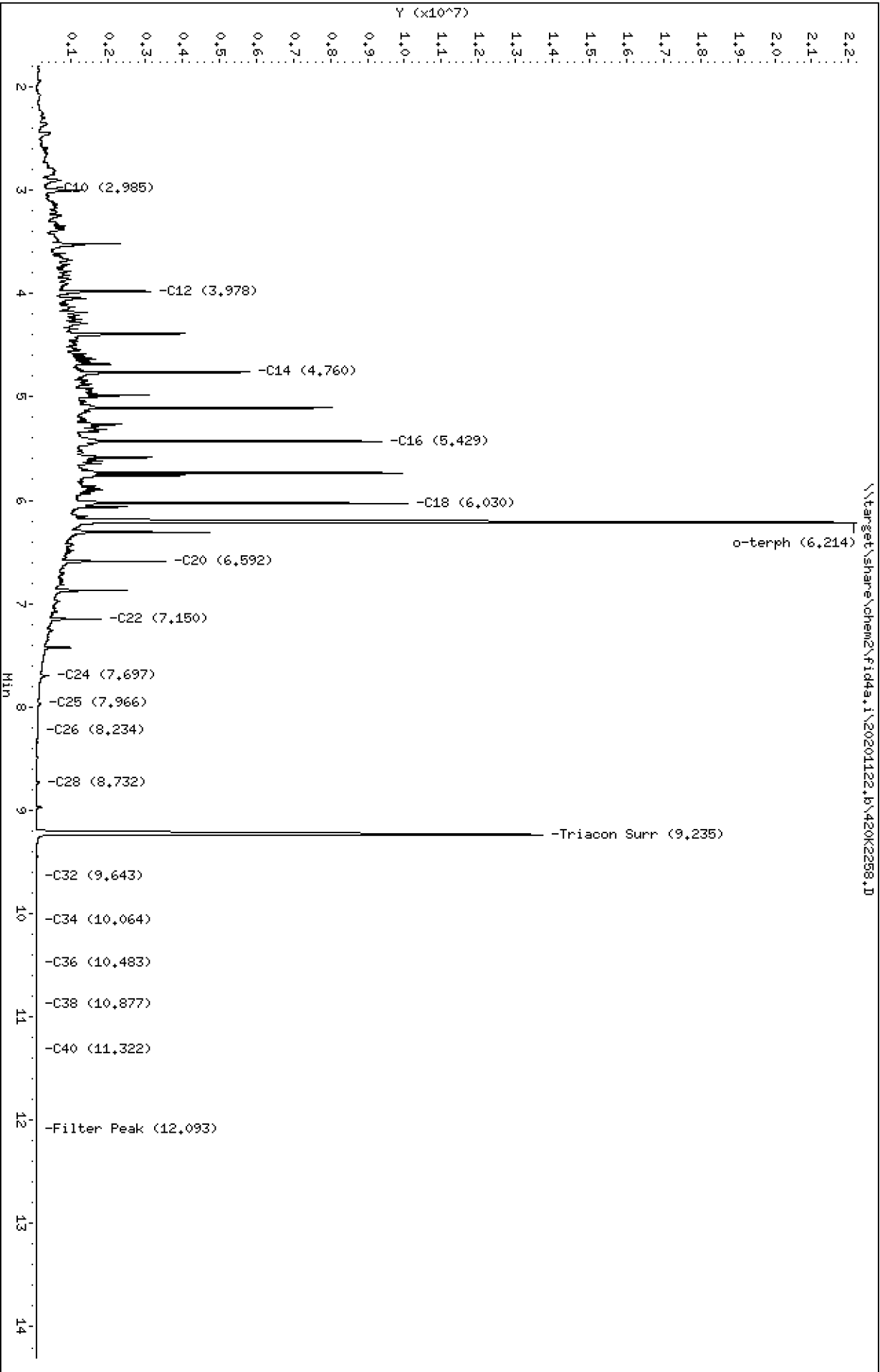
COMPOUND	SPIKE ADDED (mg/kg wet)	LCSD CONCENTRATION (mg/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Diesel Range Organics (C12-C24)	150	148		98.4	3.75	30	63 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201122,6\420K2258.D
Date: 23-NOV-2020 05:22
Client ID:
Sample Info: BIK0337-BS1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2258.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0337-BS1
Client ID:
Injection: 23-NOV-2020 05:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

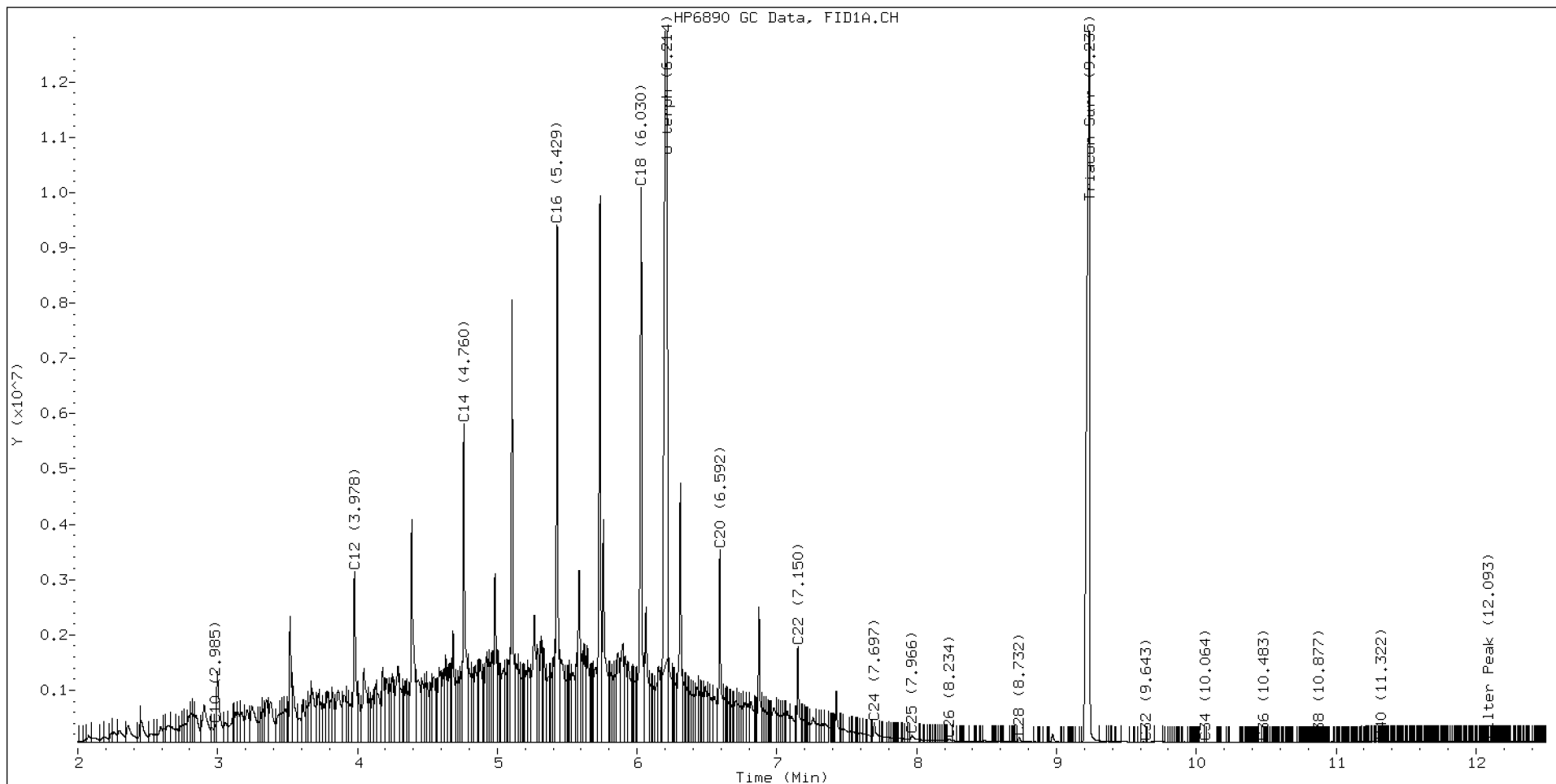
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.888	-0.010	51164	91945	WATPHD	(C12-C24)	244157941	1532.3
C10	2.985	-0.000	307671	247179	WATPHM	(C24-C38)	2416404	23.9
C12	3.978	0.002	3090956	3518283	AK102	(C10-C25)	285035708	1458.0
C14	4.760	0.003	5755647	6367445	AK103	(C25-C36)	1608533	22.0
C16	5.429	0.005	9344942	8319002	OR.DIES	(C10-C28)	286304626	1460.7
C18	6.030	0.009	10025633	10640129				
C20	6.592	-0.000	3474882	3634269	JET-A	(C10-C18)	220425140	1329.1
C22	7.150	-0.005	1734014	1680338				
C24	7.697	-0.006	347593	563982				
C25	7.966	-0.006	122026	269613				
C26	8.234	-0.000	53715	91839				
C28	8.732	-0.005	81296	94560				
C32	9.643	-0.020	506	241				
C34	10.064	-0.022	286	120				
Filter Peak	12.093	0.002	4732	3978	BUNKERC	(C10-C38)	286691083	7262.2
C36	10.483	-0.003	860	252				
C38	10.877	0.003	3120	1540				
C40	11.322	-0.001	4453	883				
o-terph	6.214	0.006	20683349	23950038				
Triacon Surr	9.235	-0.002	13661502	19241343	NAS DIES	(C10-C24)	284274678	1456.7

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	23950038	117.0 M
Triacontane	19241343	129.7

M Indicates the peak was manually integrated

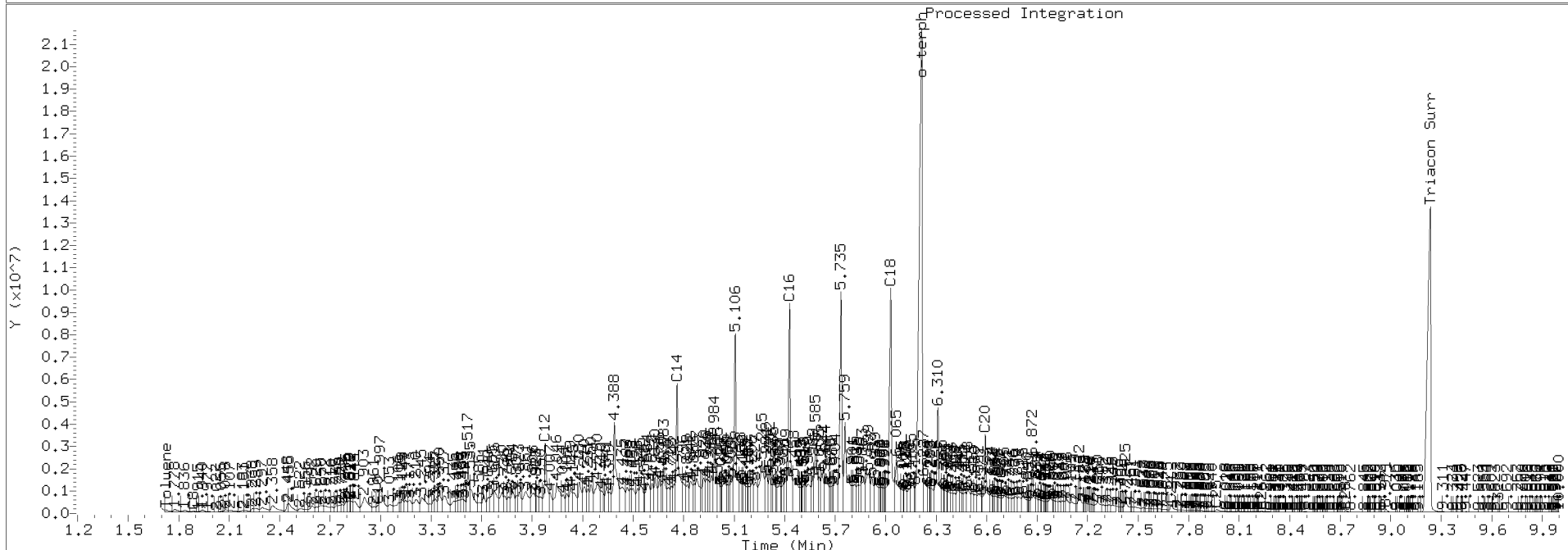
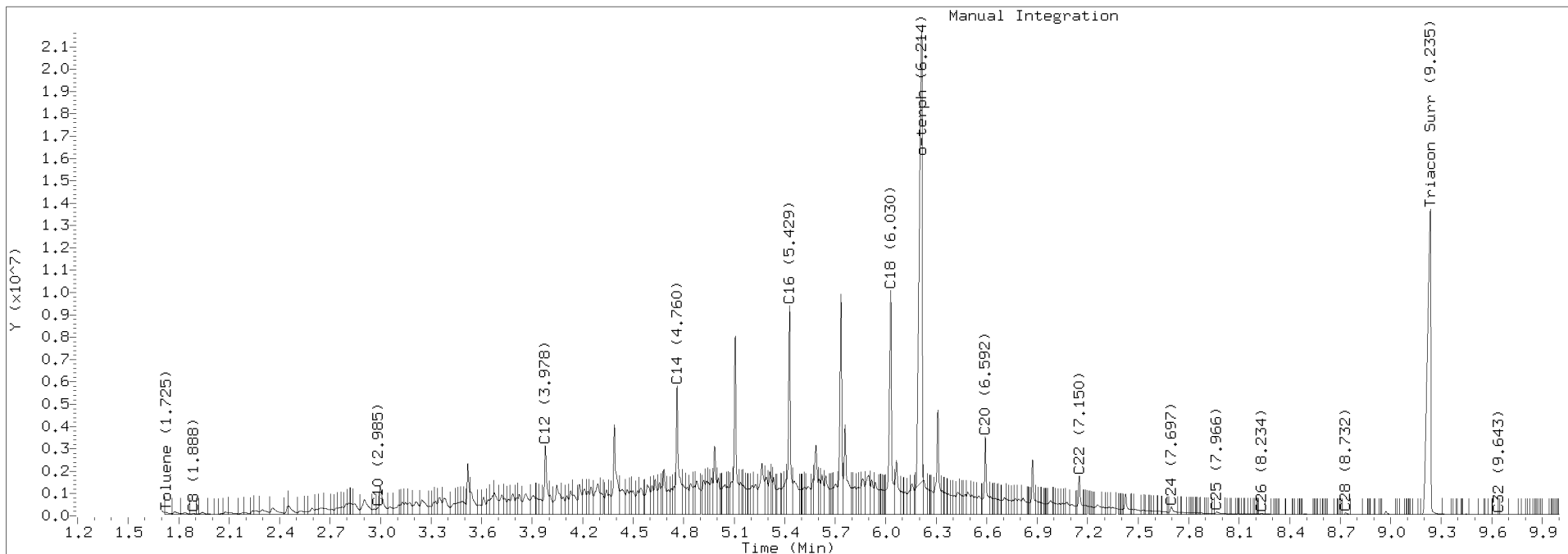
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2258.D Injection: 23-NOV-2020 05:22

Lab ID:BIK0337-BS1



Data File: \\target\share\chem2\fid4a,1\20201122_b\420k2259.D

Date: 23-NOV-2020 05:42

Client ID:

Sample Info: BIK0337-BSM1

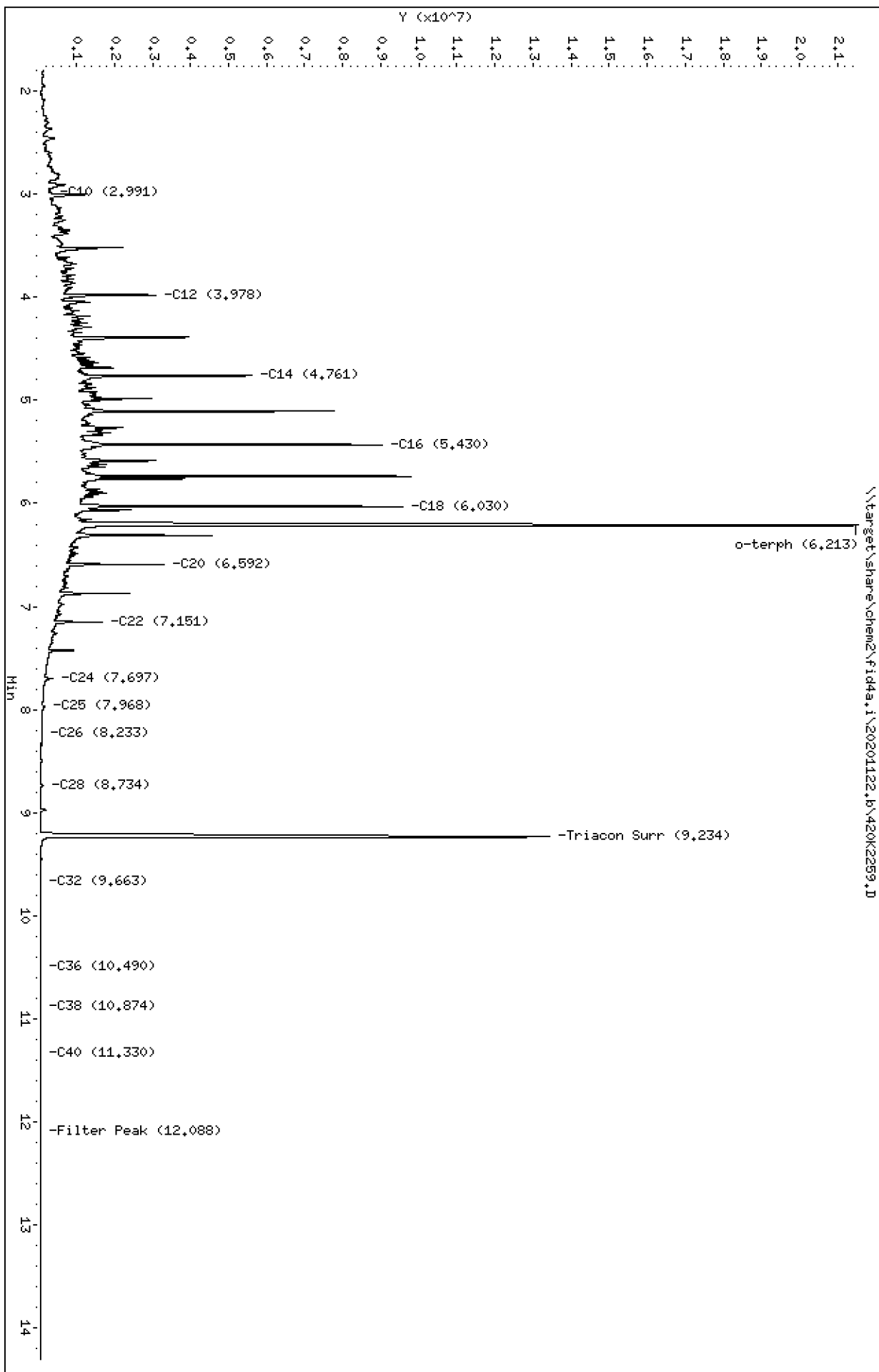
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2259.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0337-BSD1
Client ID:
Injection: 23-NOV-2020 05:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

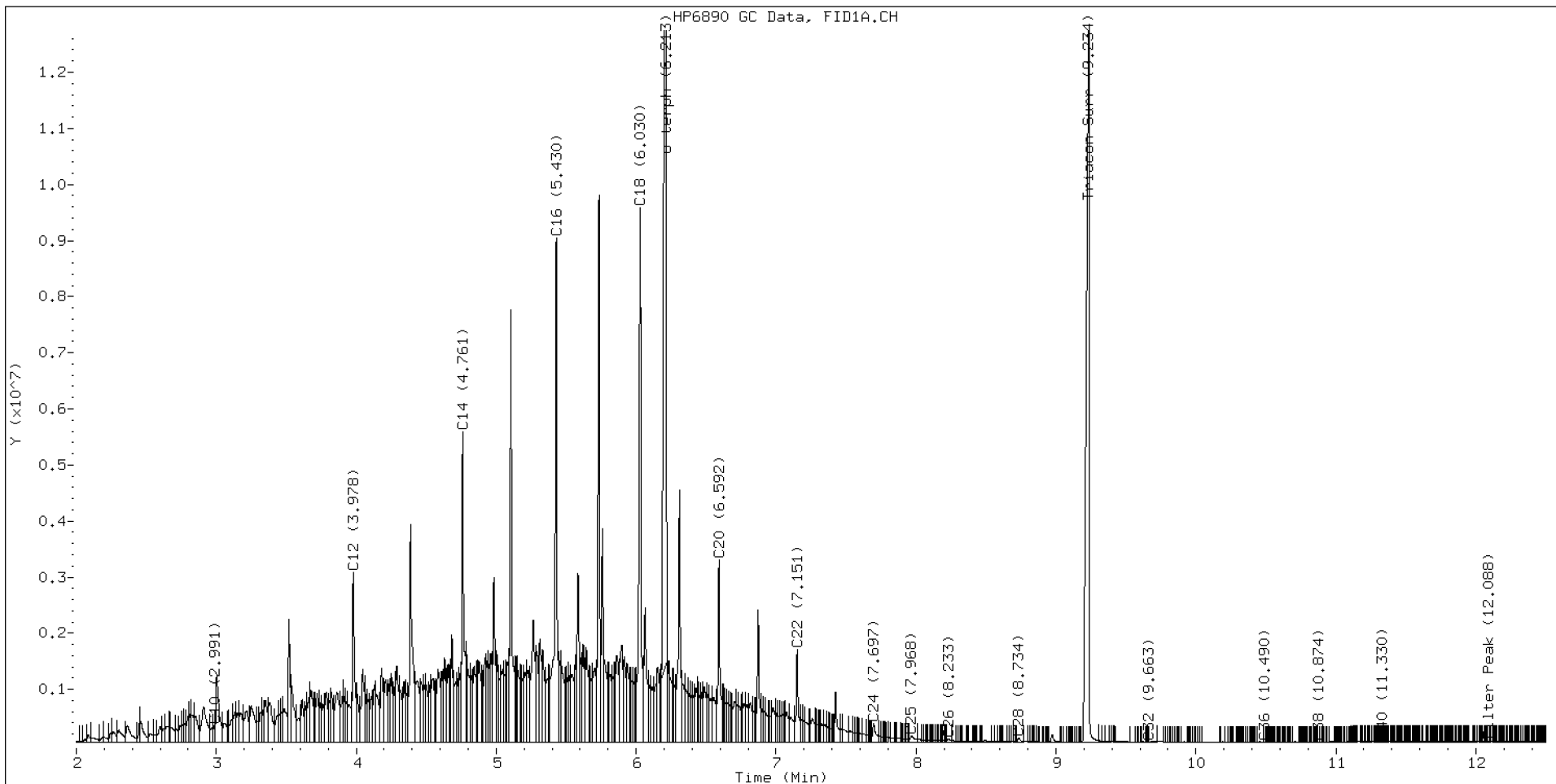
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.900	0.001	48416	92582	WATPHD	(C12-C24)	235159380	1475.9
C10	2.991	0.005	300028	241236	WATPHM	(C24-C38)	2427653	24.0
C12	3.978	0.002	3024379	3287146	AK102	(C10-C25)	274564778	1404.5
C14	4.761	0.003	5534974	5173890	AK103	(C25-C36)	1667173	22.8
C16	5.430	0.005	8992721	10437222	OR.DIES	(C10-C28)	275838106	1407.3
C18	6.030	0.008	9530980	10059651				
C20	6.592	-0.000	3248029	3391784	JET-A	(C10-C18)	211848911	1277.4
C22	7.151	-0.005	1639865	1676989				
C24	7.697	-0.006	333803	534745				
C25	7.968	-0.005	113824	250261				
C26	8.233	-0.001	49480	94308				
C28	8.734	-0.004	75765	95991				
C32	9.663	0.000	803	327				
C34	----							
Filter Peak	12.088	-0.003	4577	3605	BUNKERC	(C10-C38)	276293272	6998.8
C36	10.490	0.004	1276	1212				
C38	10.874	-0.000	3468	2719				
C40	11.330	0.006	4681	1622				
o-terph	6.213	0.005	20125677	22621650				
Triacon Surr	9.234	-0.004	13392050	18012723	NAS DIES	(C10-C24)	273865620	1403.4

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	22621650	110.5 M
Triacontane	18012723	121.4

M Indicates the peak was manually integrated

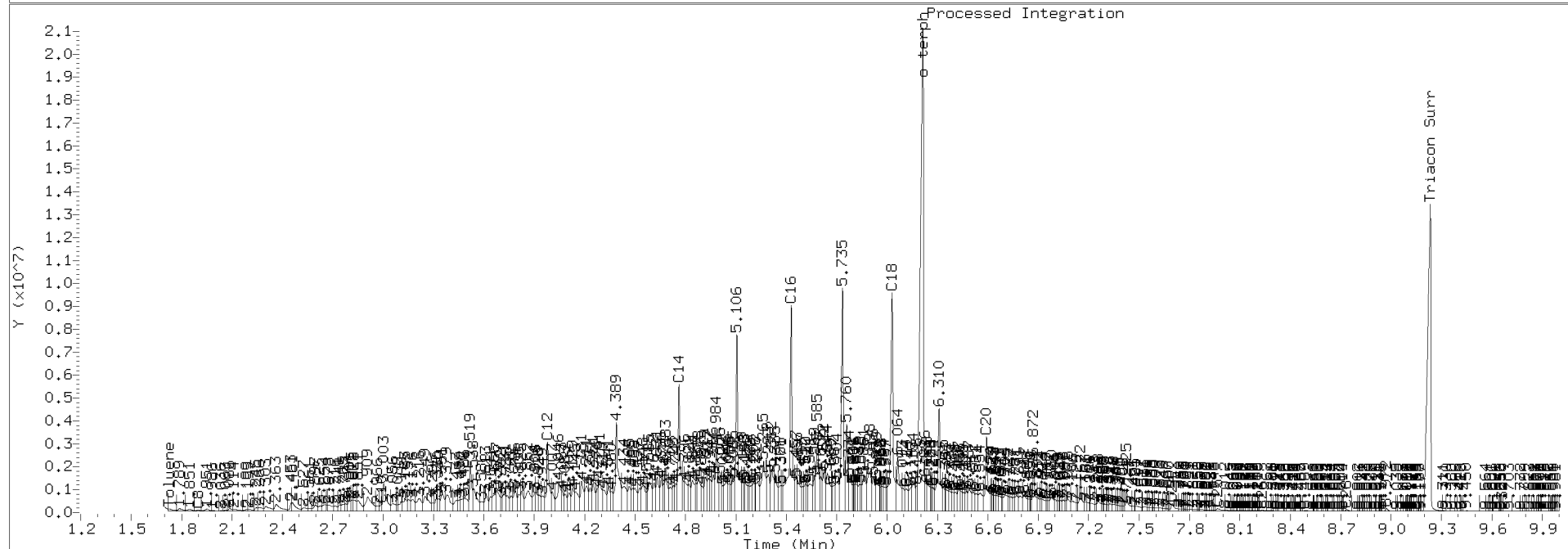
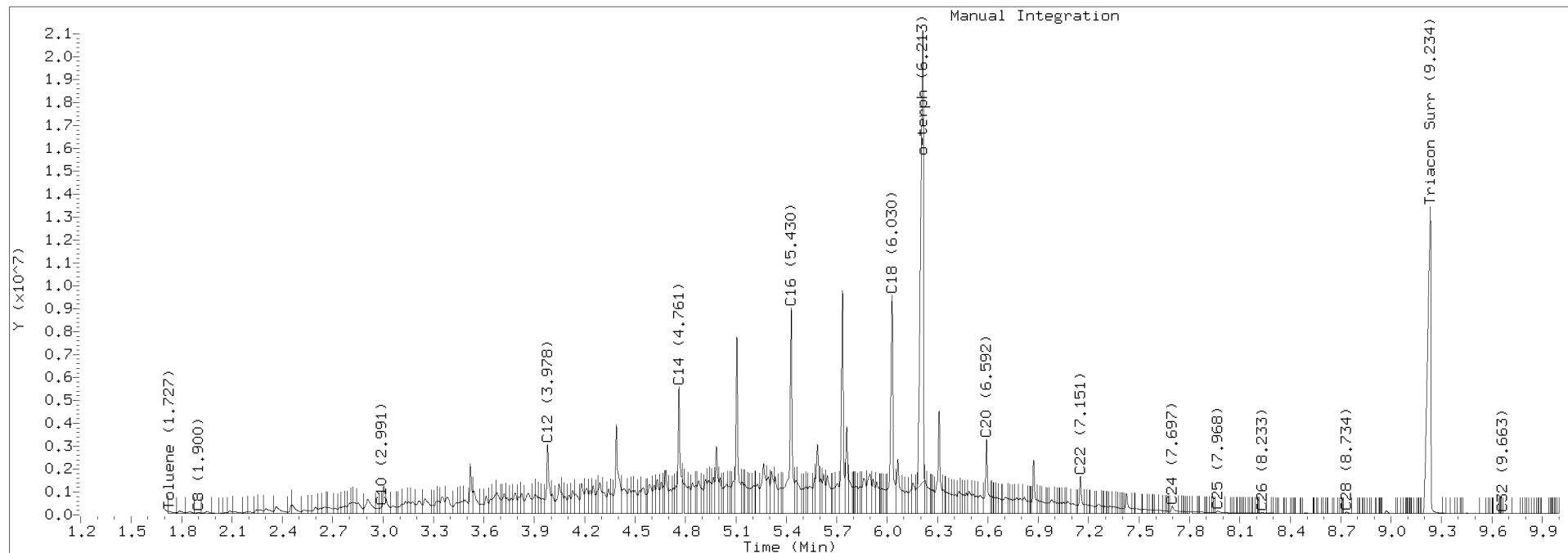
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2259.D Injection: 23-NOV-2020 05:42

Lab ID:BIK0337-BSD1





Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Calibration: CJ00089 Instrument: FID4
Calibration Date: 10/29/2019 Column (1): RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	182114.3	100	162168.4	250	151655.3	500	152220	1000	153066.8	2500	154795.4
o-Terphenyl	9	207237.8	18	202348.9	45	199293.8	90	202627.8	180	206915.5	450	209787.6



INITIAL CALIBRATION DATA

NWTPH-D_x

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Calibration: CJ00089 Instrument: FID4
Calibration Date: 10/29/2019 Column (1): RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	135784.6	250	138615.1	500	128616.3	1000	130458.6	2500	132749.3	5000	129568.6



INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0008
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	CJ00089	Instrument:	FID4
Calibration Date:	10/29/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	132632.1	2.9			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SHJ0406

Printed: 10/30/2019 7:24:06AM

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

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2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
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1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
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2316	419J2535.D	19J0373-04		1	Triacon Surr,

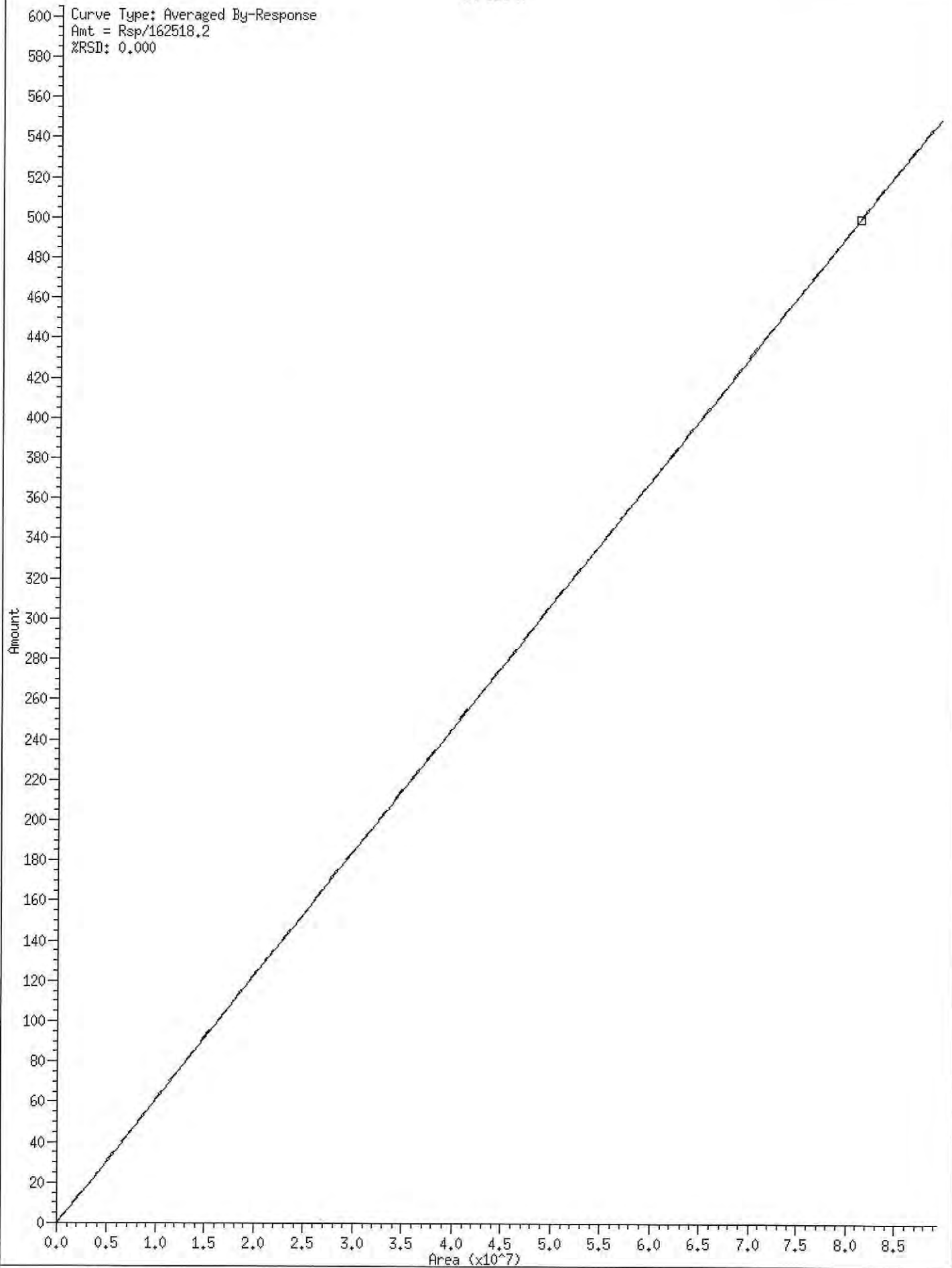
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2357	419J2537.D	19J0373-06		1	Triacon Surr,
0017	419J2538.D	19J0373-07		1	Triacon Surr,
0037	419J2539.D	19J0373-08		1	Triacon Surr,
0058	419J2540.D	SHJ0406-CCV1		1	o-terph,
0118	419J2541.D	SHJ0406-CCV2		1	Triacon Surr,

Security Status Report

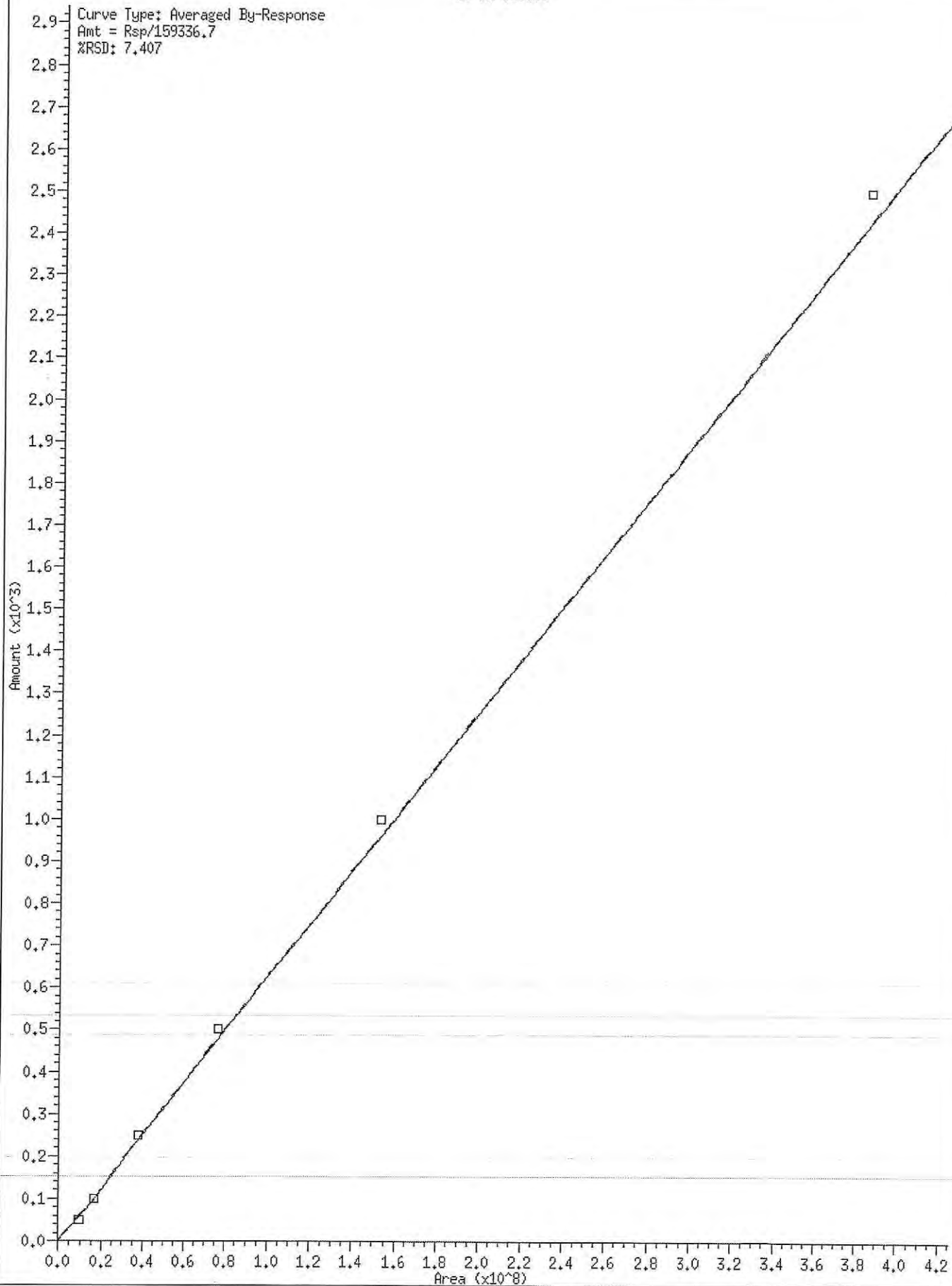
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419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
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419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
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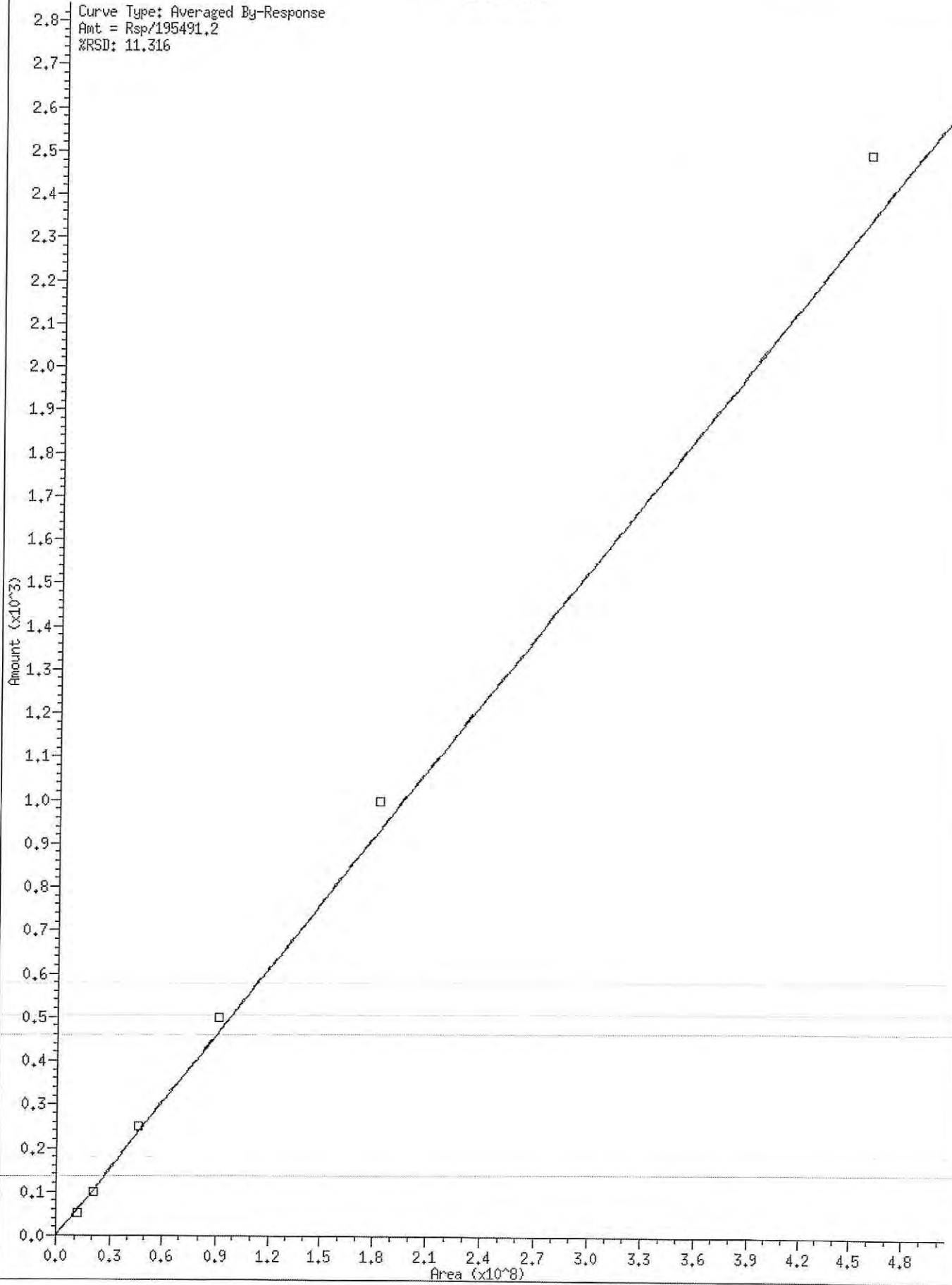


29 MW Diesel

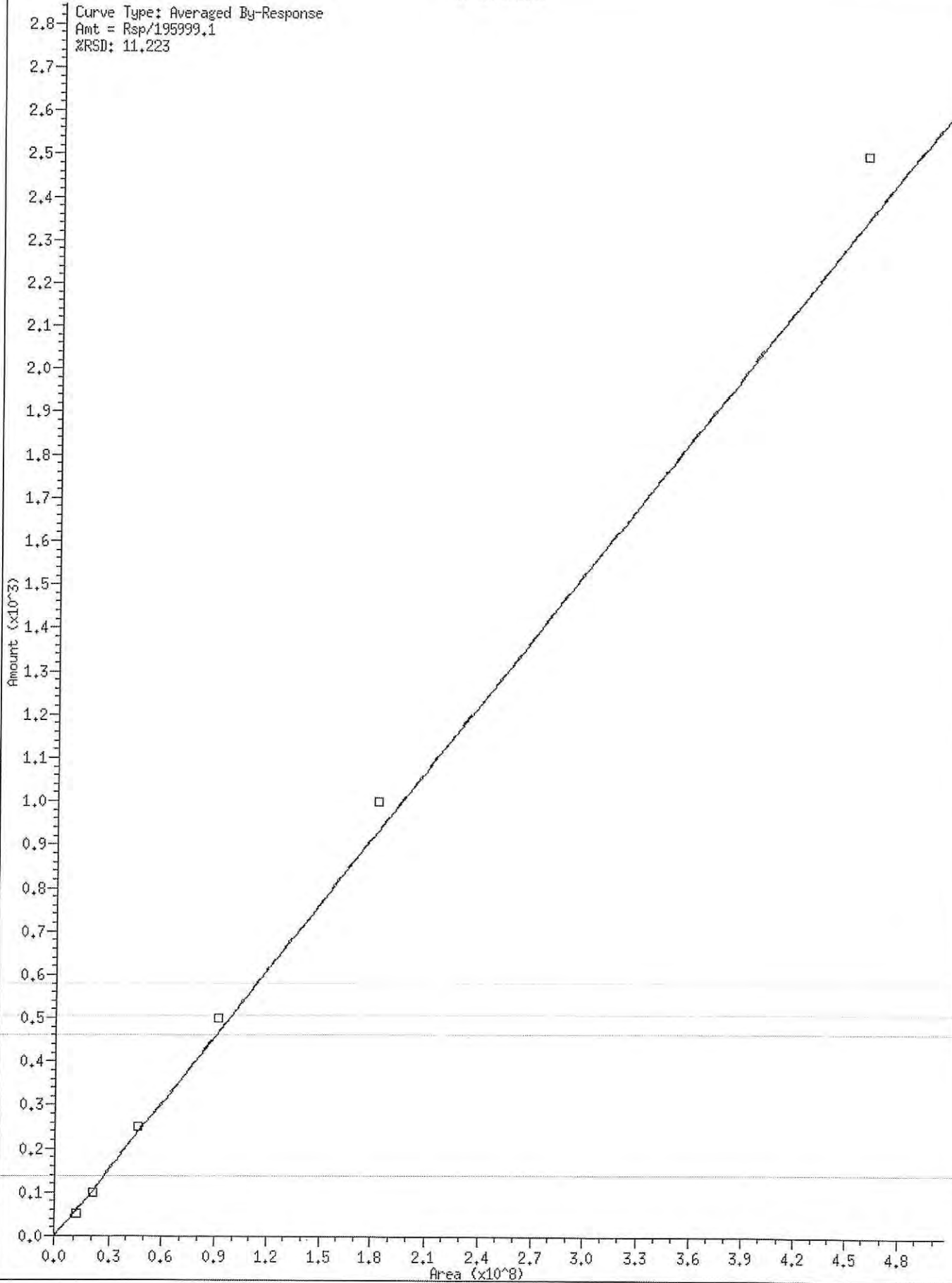
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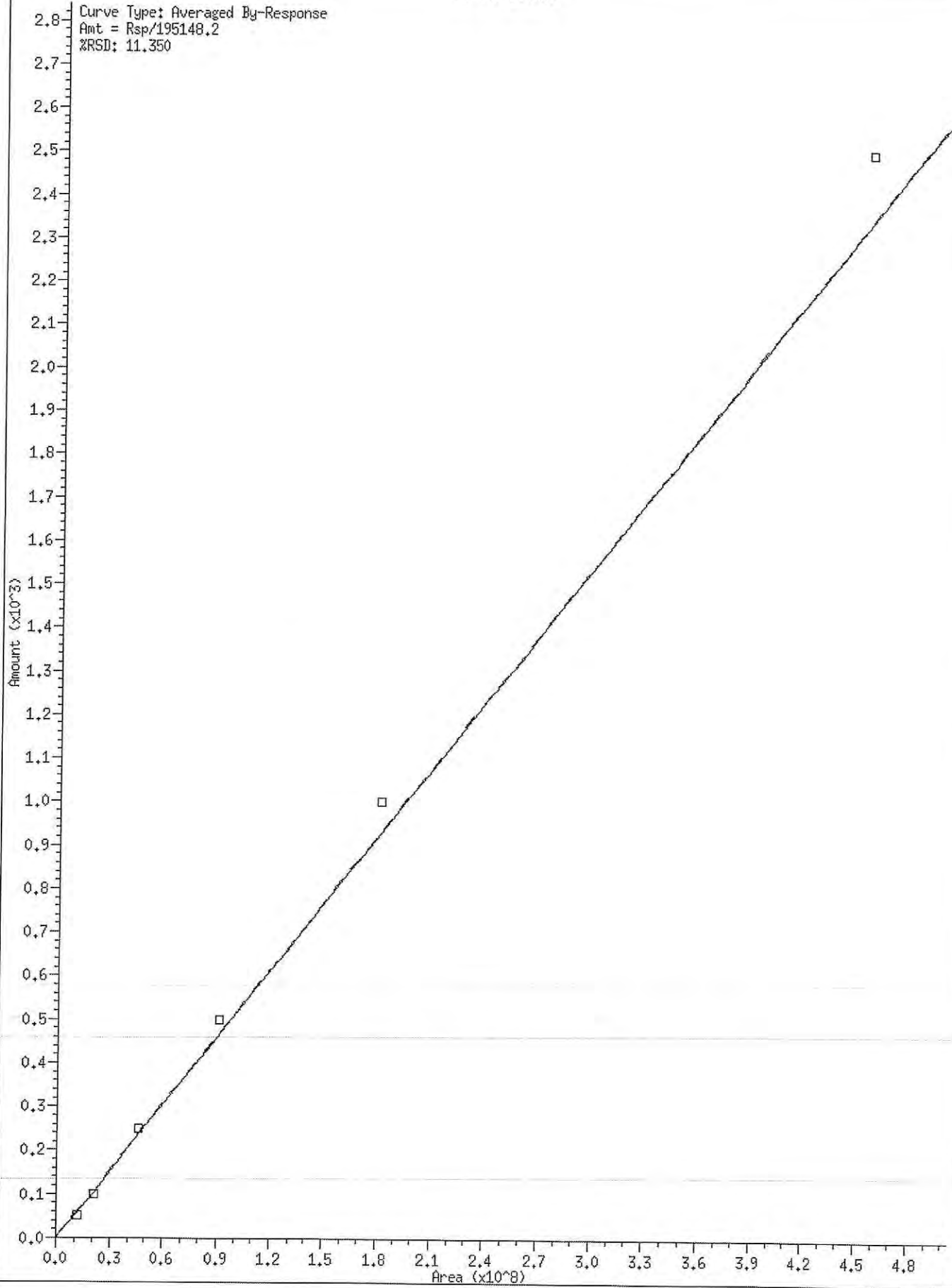
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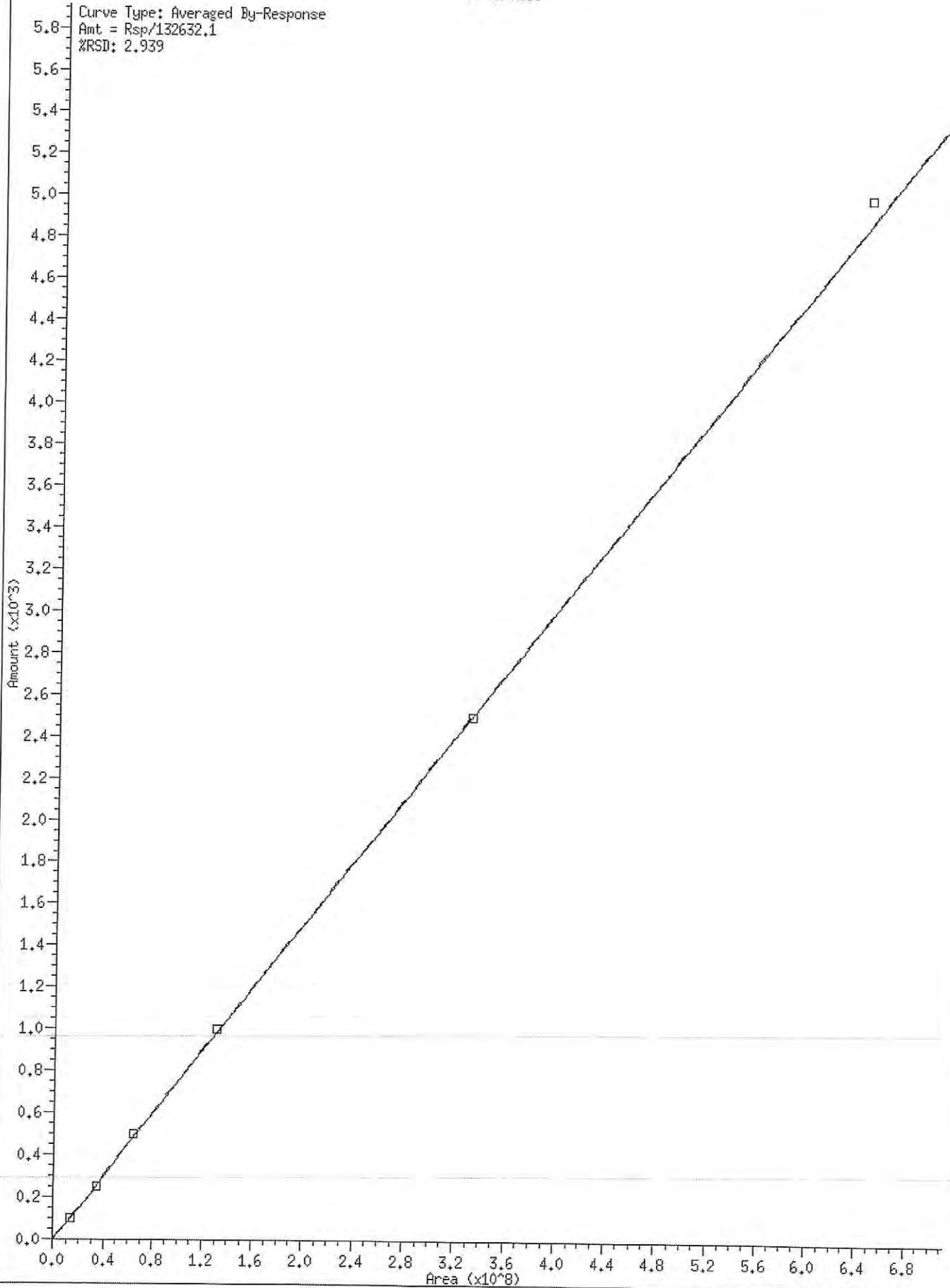
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%RSD: 11.223



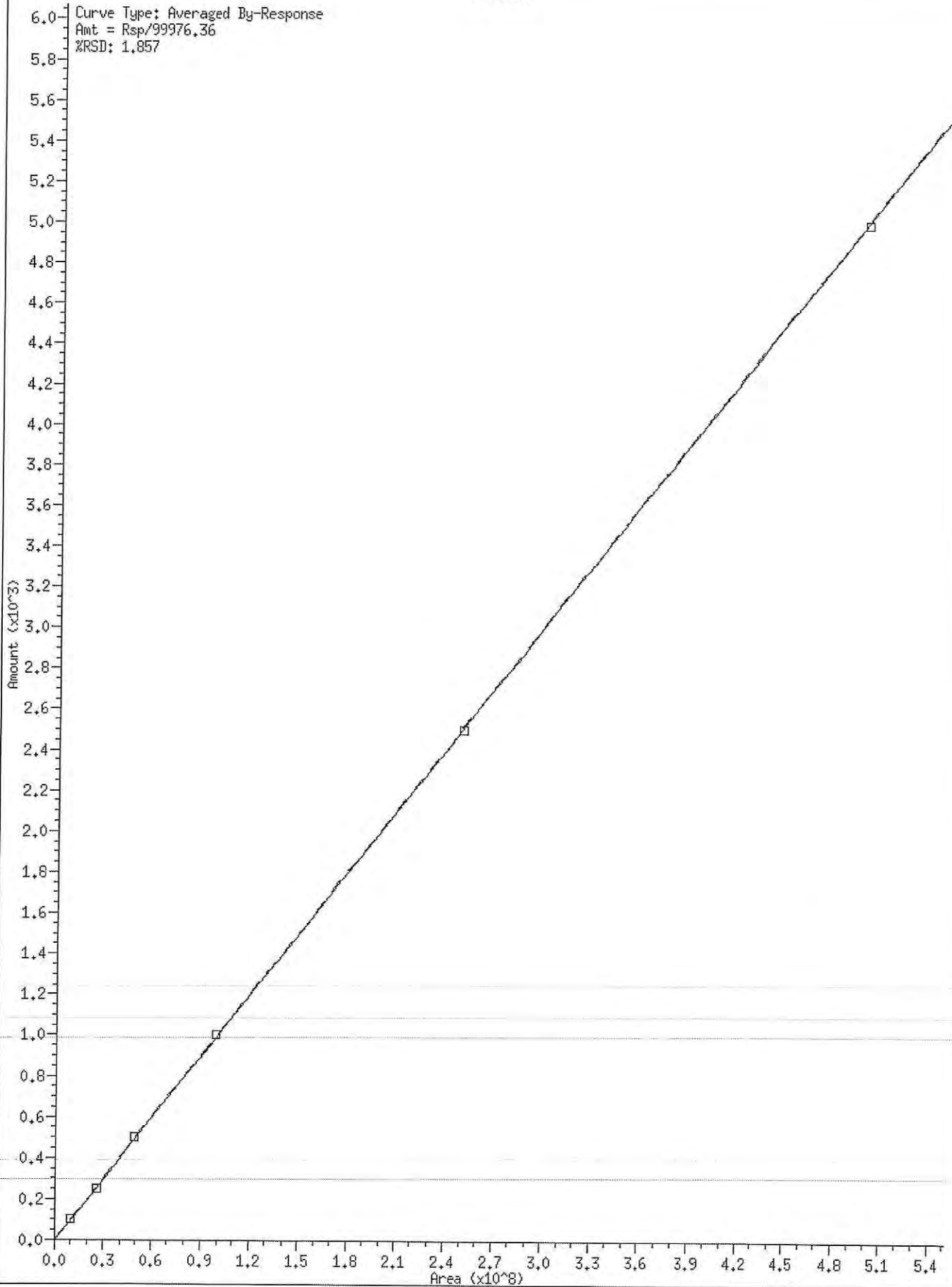
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%RSD: 11.350



Curve Type: Averaged By-Response
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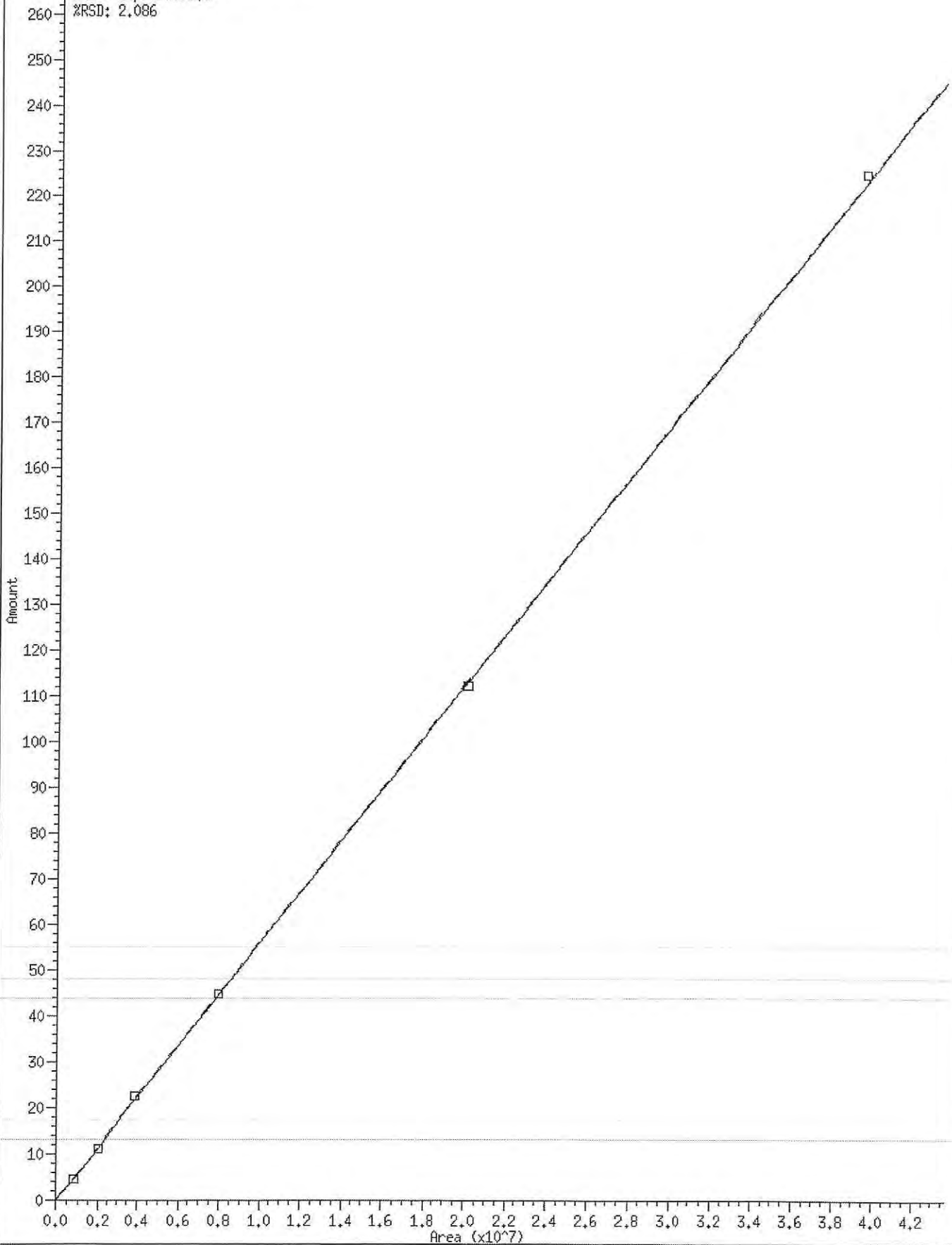


Curve Type: Averaged By-Response
Amt = Rsp/99976,36
%RSD: 1,857



15 Triacon Surr

Curve Type: Averaged By-Response
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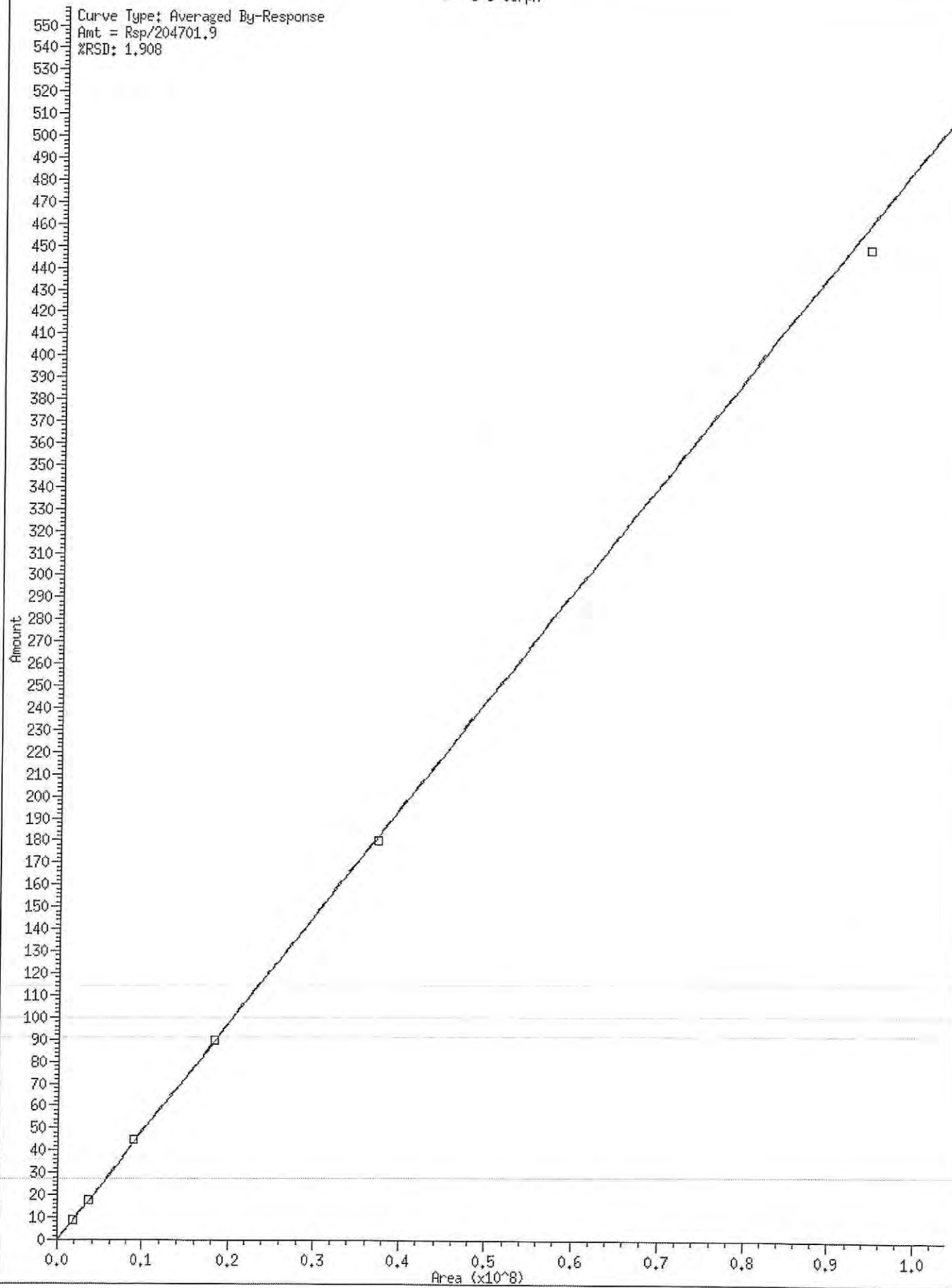


* 8 o-terph

Curve Type: Averaged By-Response

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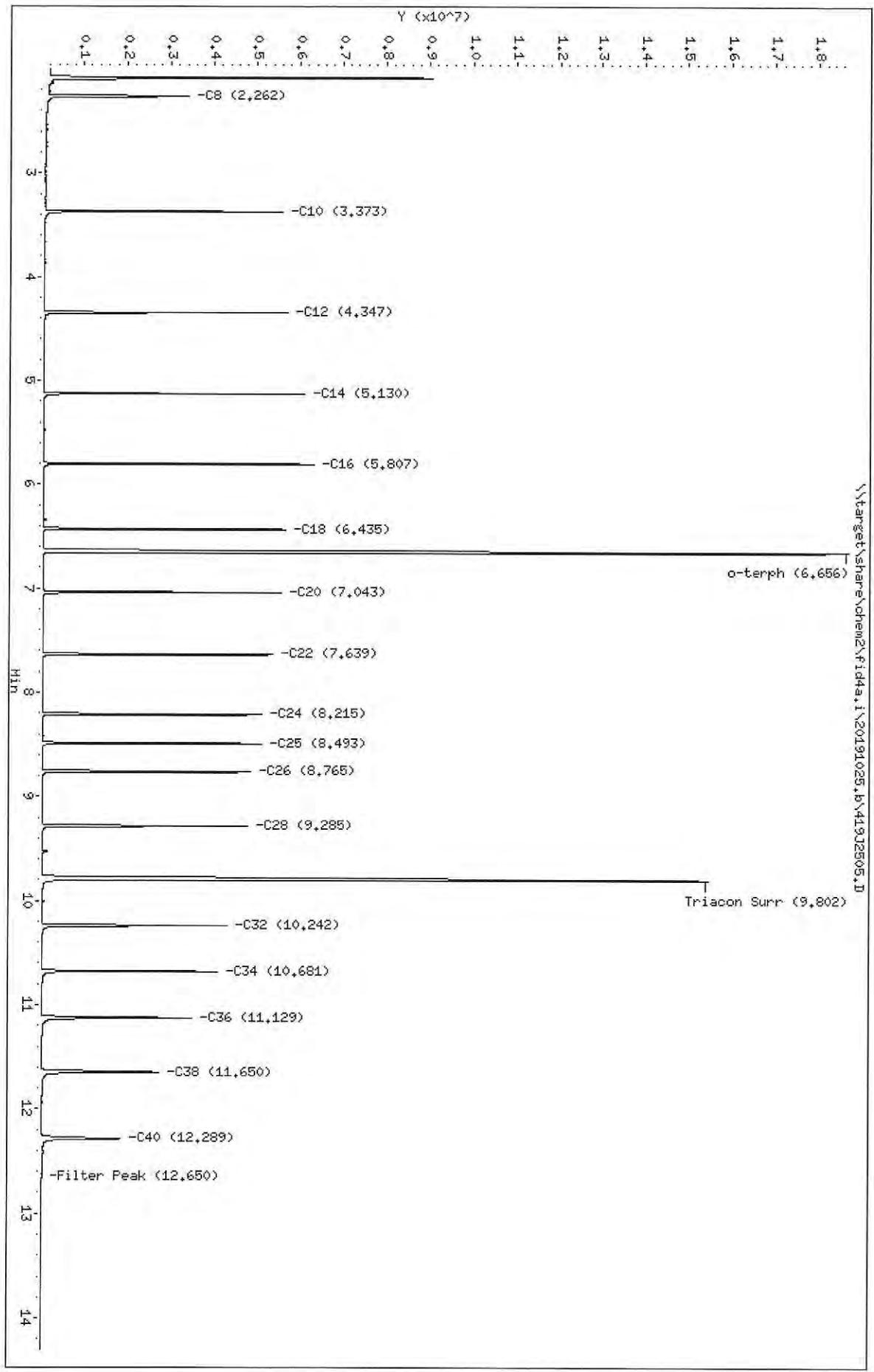
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Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SH00406-IBL1

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

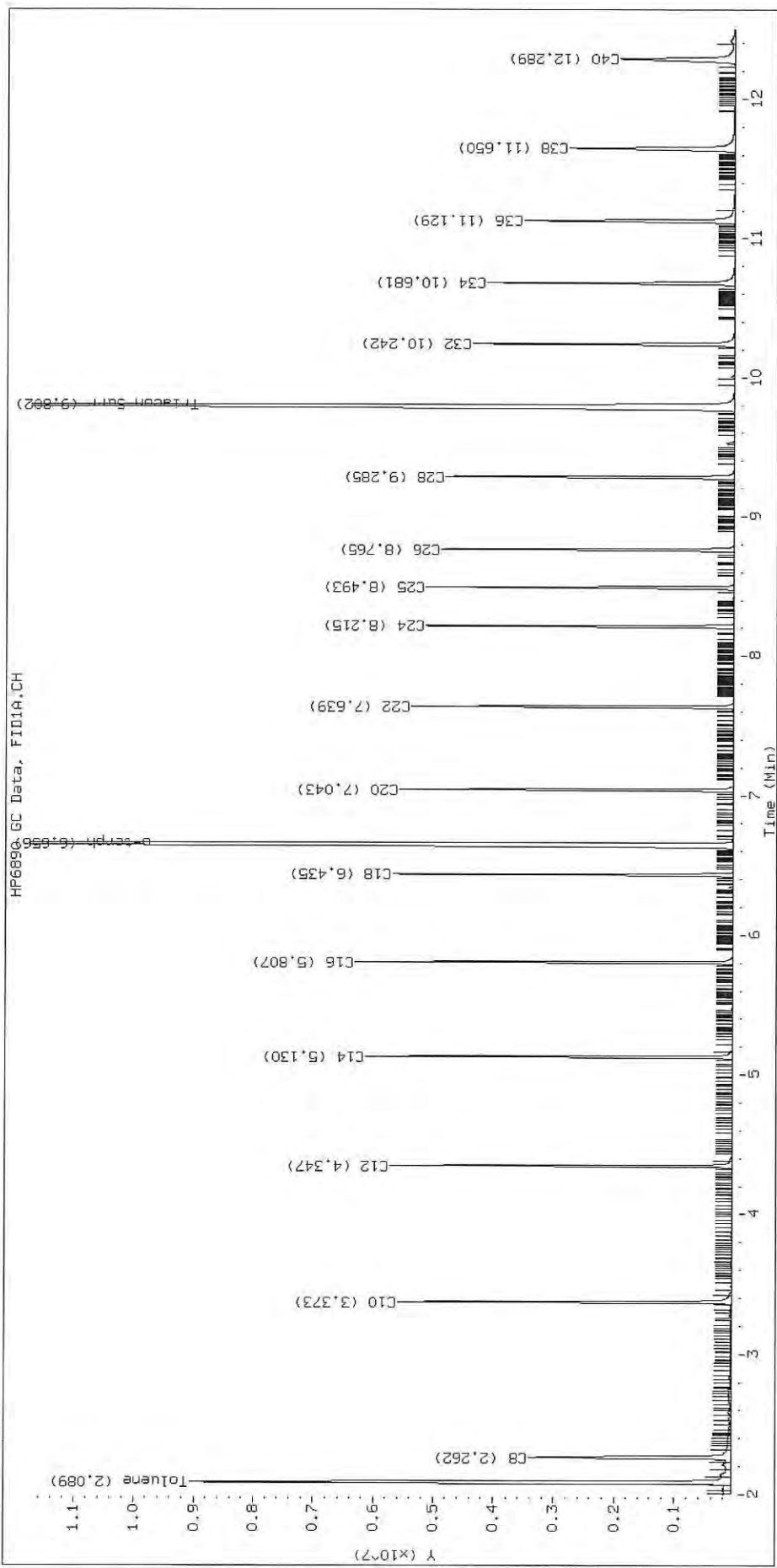
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacontane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

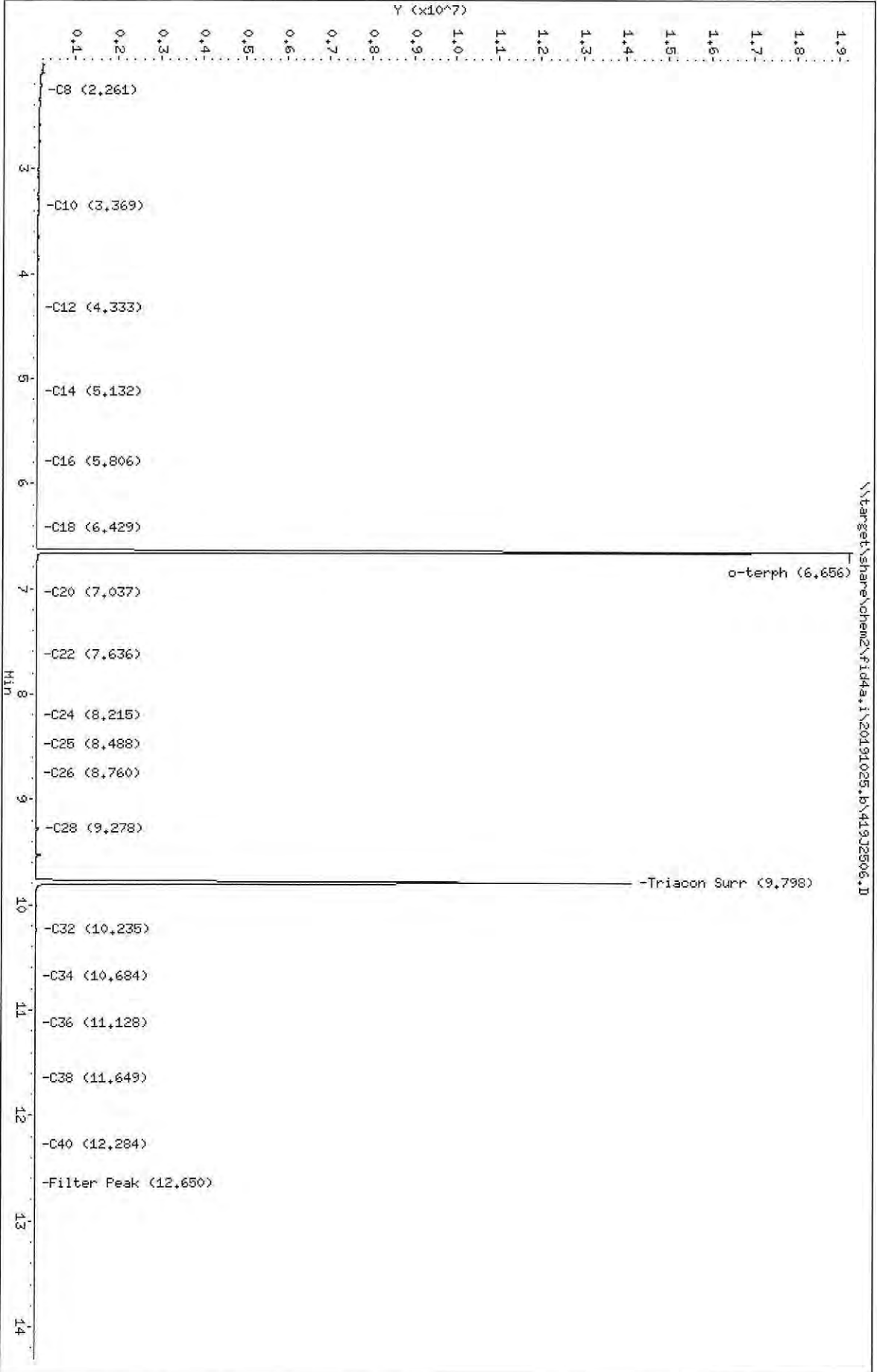
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Date : 25-OCT-2019 13:31
Client ID:
Sample Info: SH00406-IBL2

Column phase: RTX-1

Instrument: fida.i
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

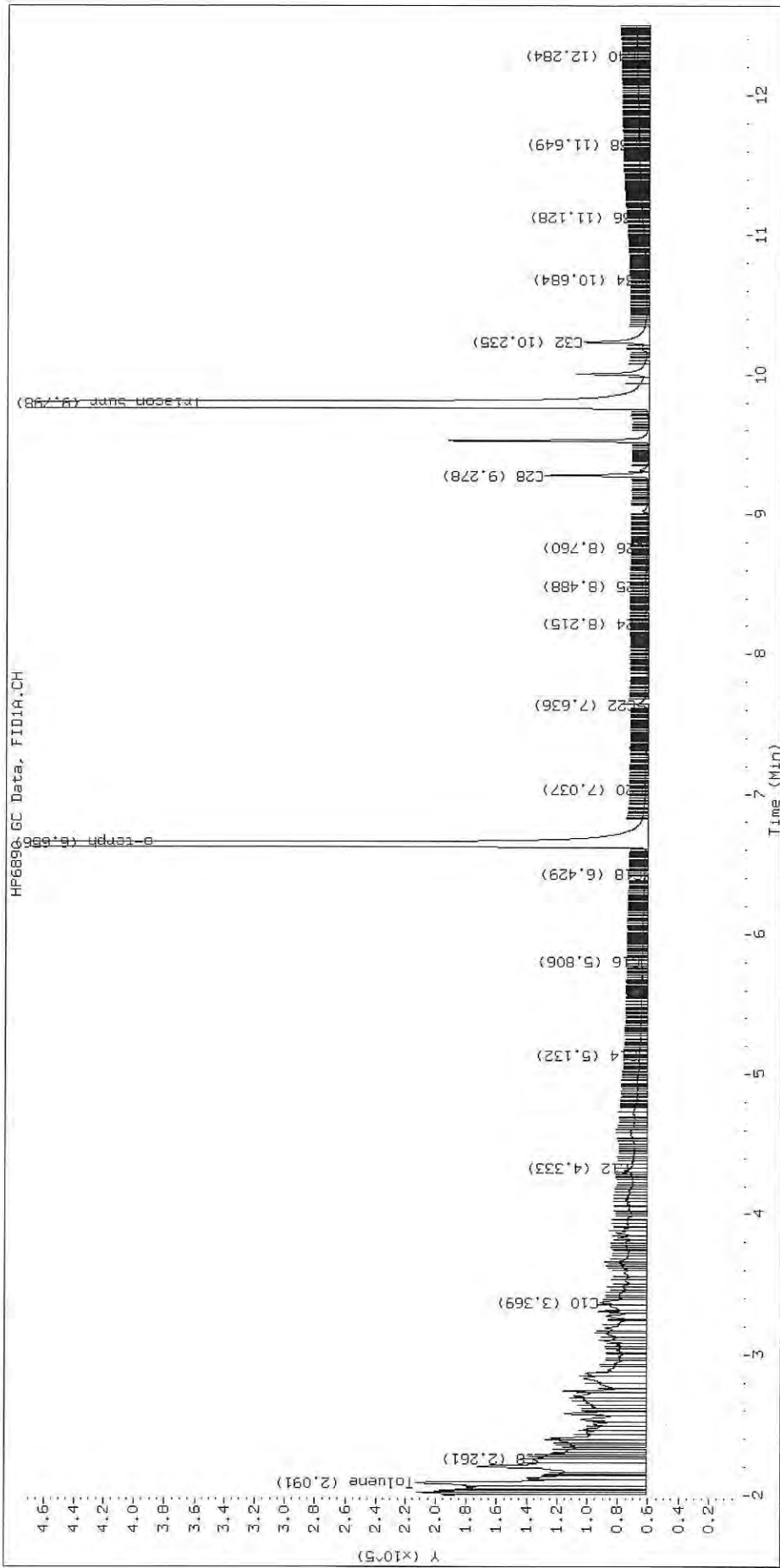
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacotane	17993211	101.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

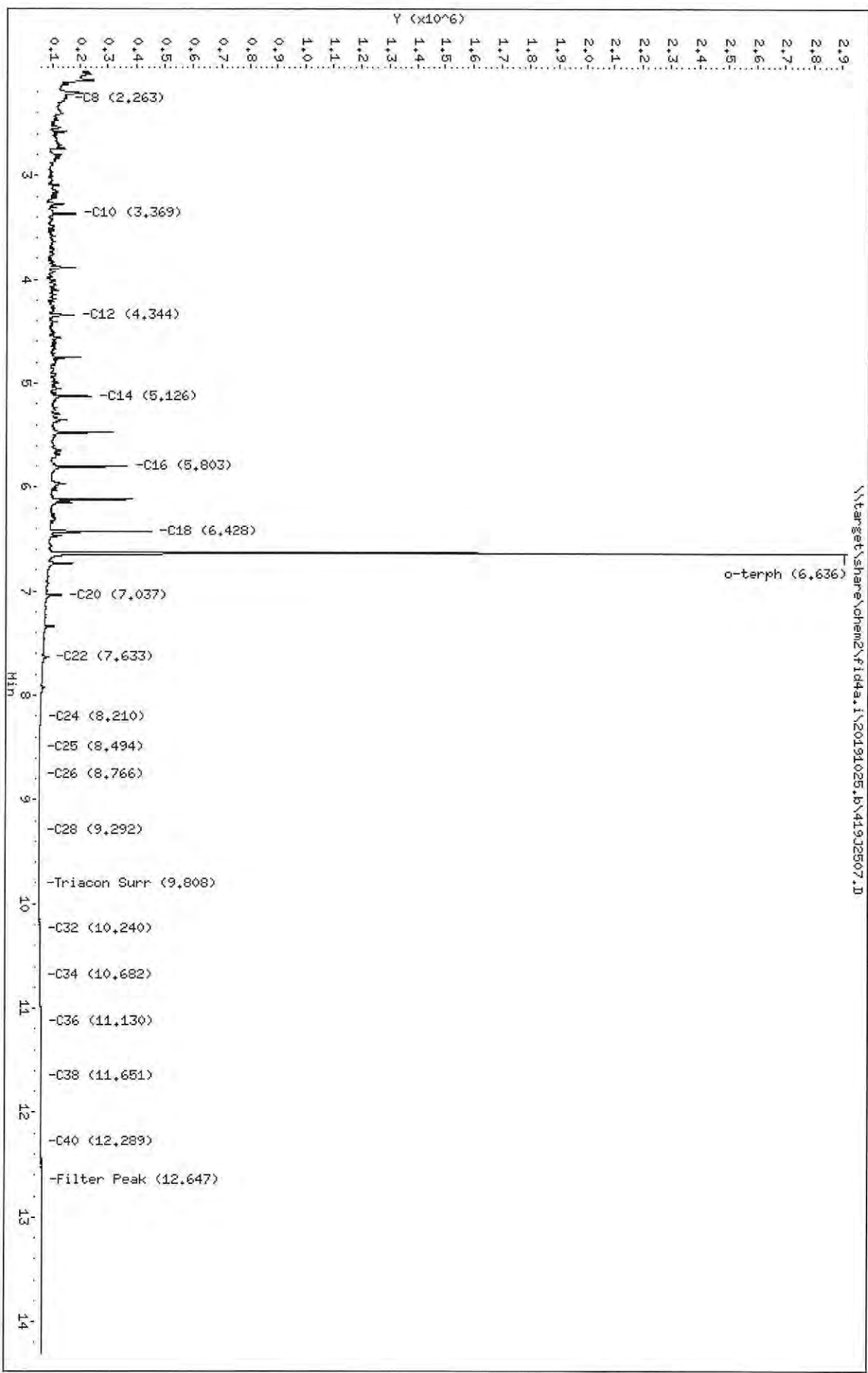
Datafile: FID4A, 20191025.b/419J2506.D SHJ0406-IBL2



Data File: \\target\share\chem2\fid4a.i\20191025.b\41932507.D
Date: 25-OCT-2019 13:52
Client ID:
Sample Info: SHJ0406-CALL

Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

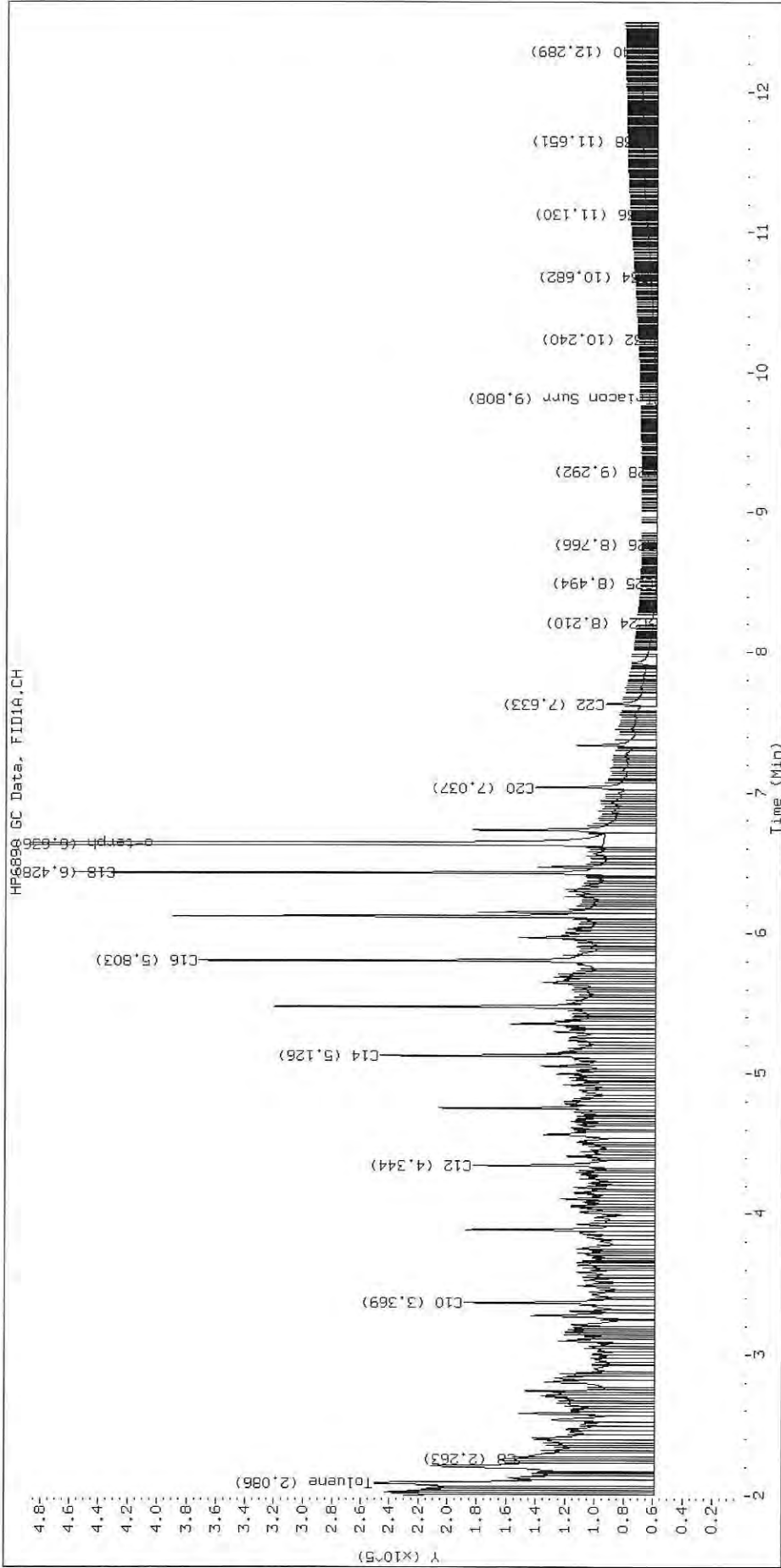
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacontane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CAL1



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TTPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.084	2.085	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd 31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.368	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.128	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.678	10.683	10.684	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.648	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACresote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
 Batch File: \\target\share\chem2\fid4a.i\20191025.b
 Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT06
FILENAME:	419J2514	419J2515	419J2516	419J2517	419J2518	419J2519	419J2519
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.015	0.965-1.065	+++++	+++++
41 Mineral Spirits	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.259	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.333	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C25	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C26	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____ Date: _____
 Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

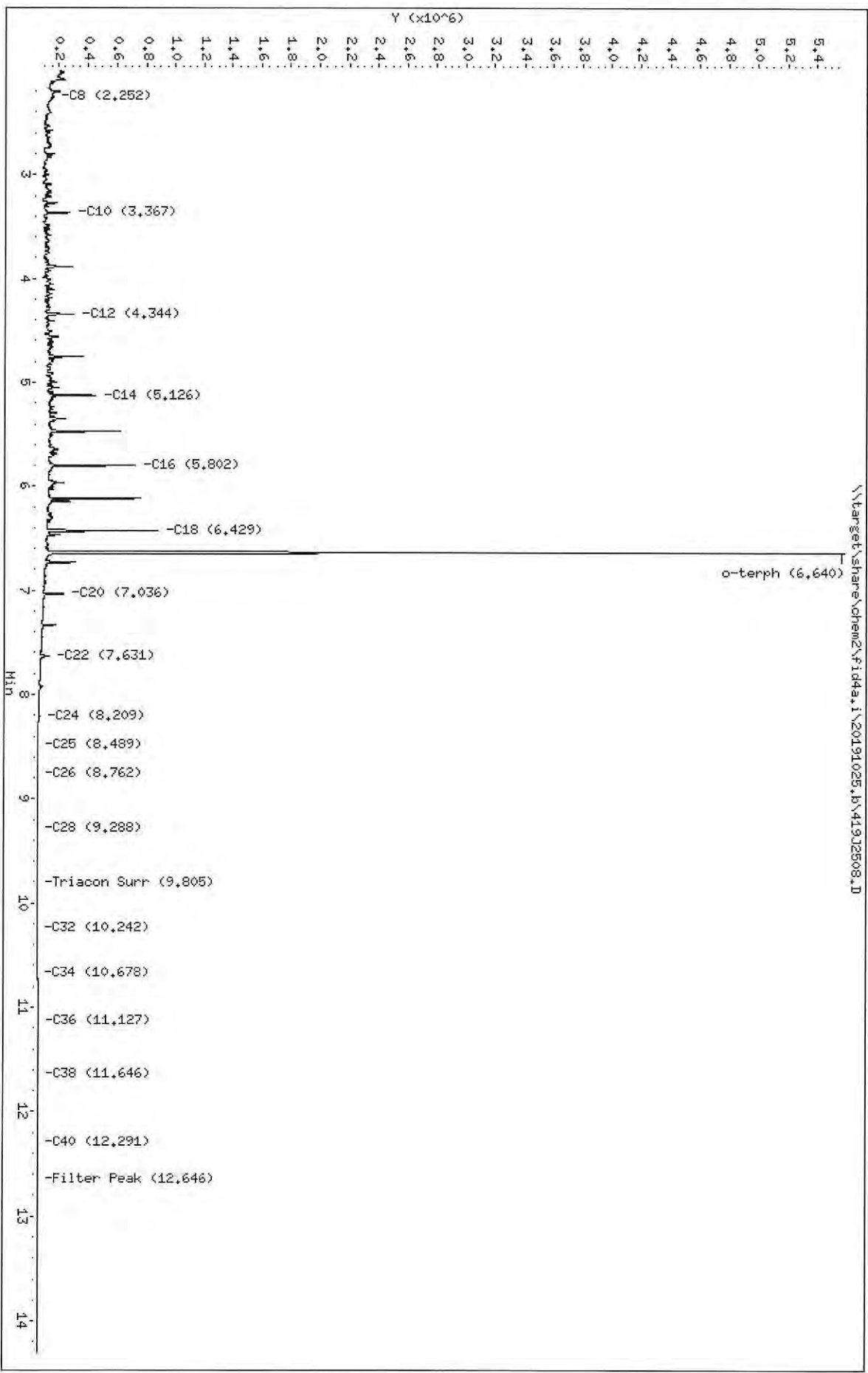
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Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.791	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACresosote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

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Date: 25-OCT-2019 14:12
Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

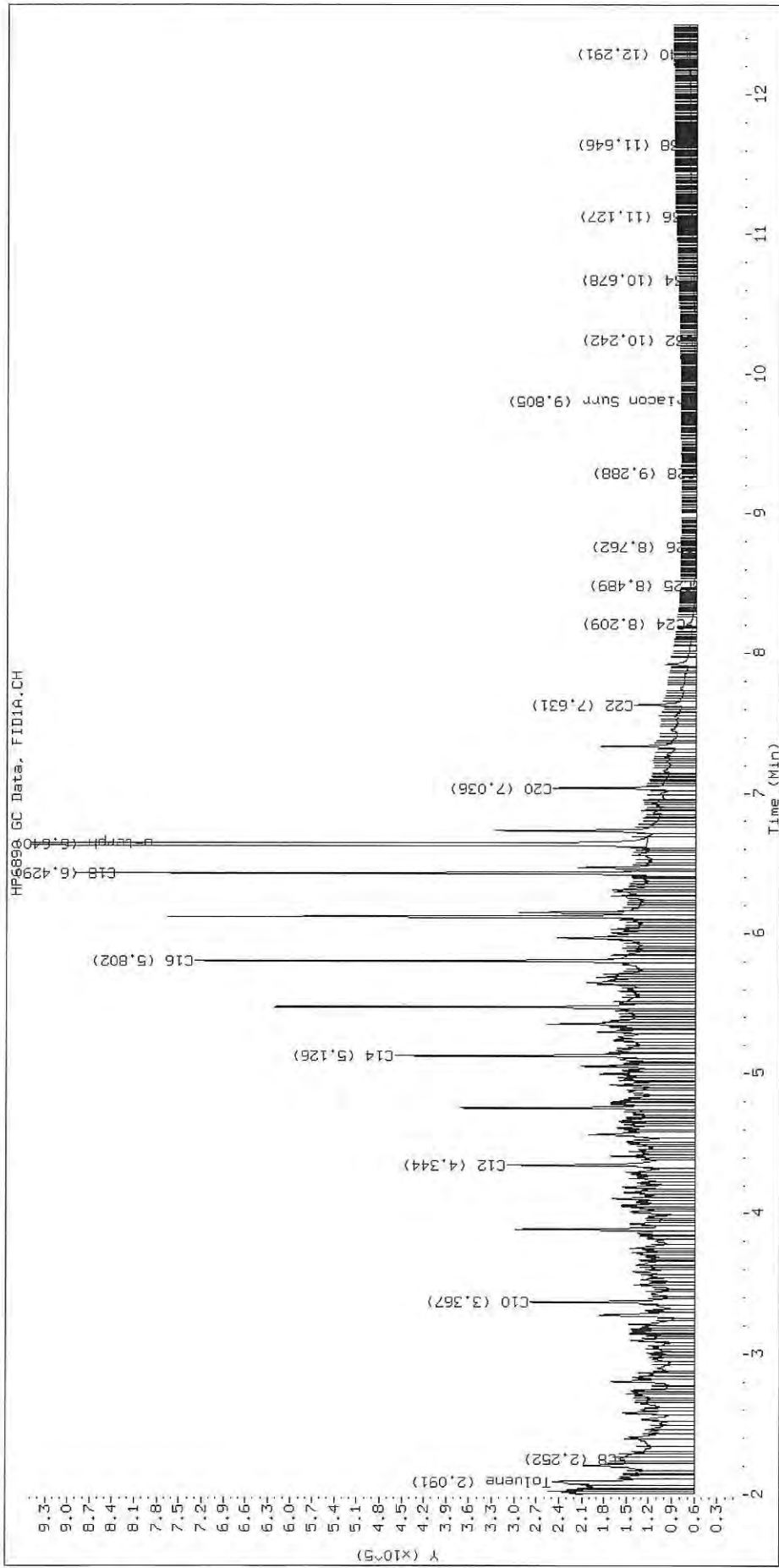
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

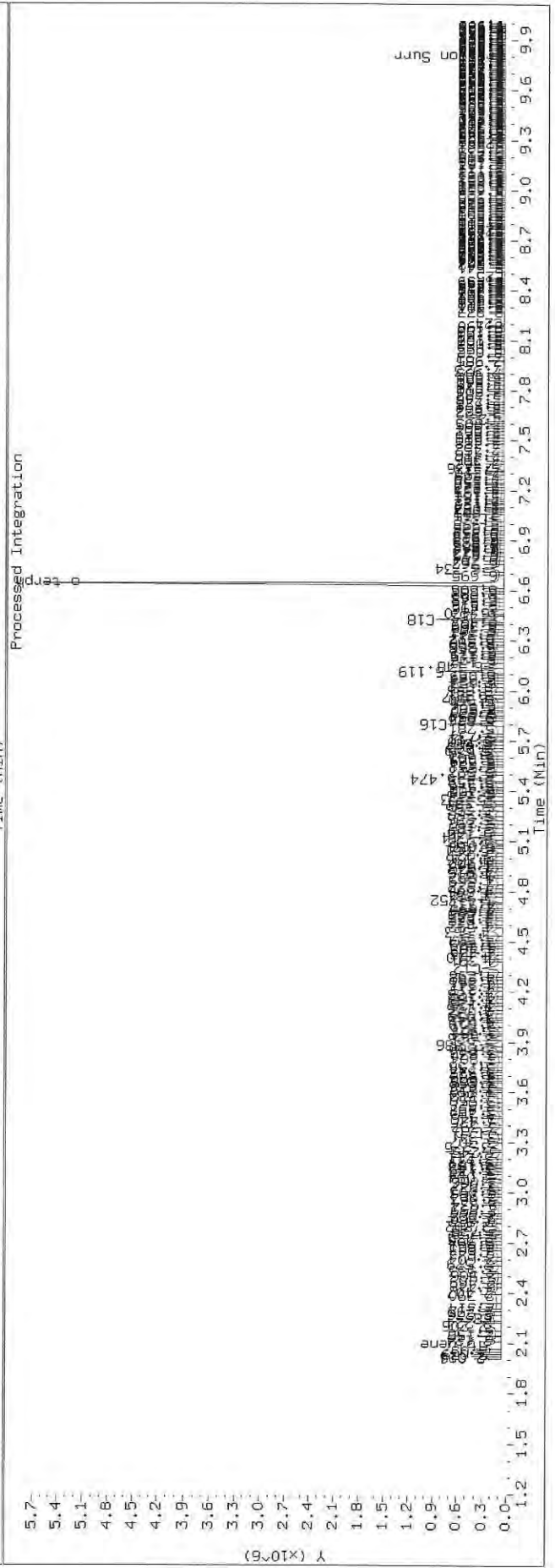
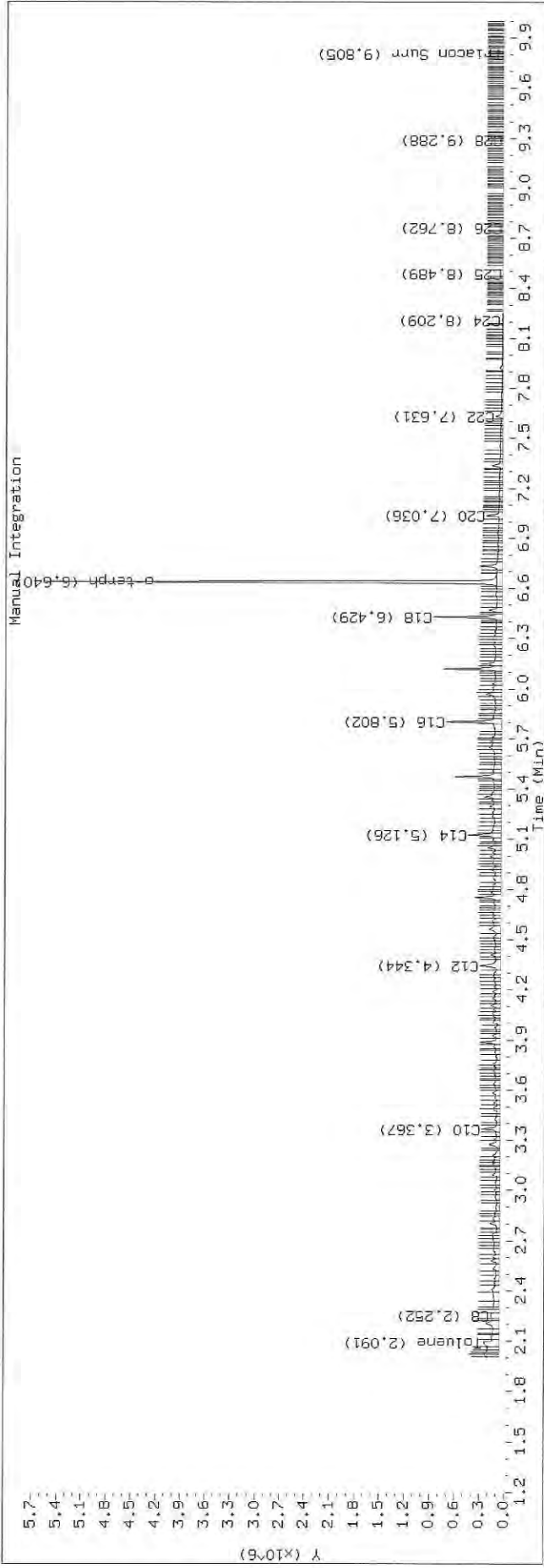
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacontane	368	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

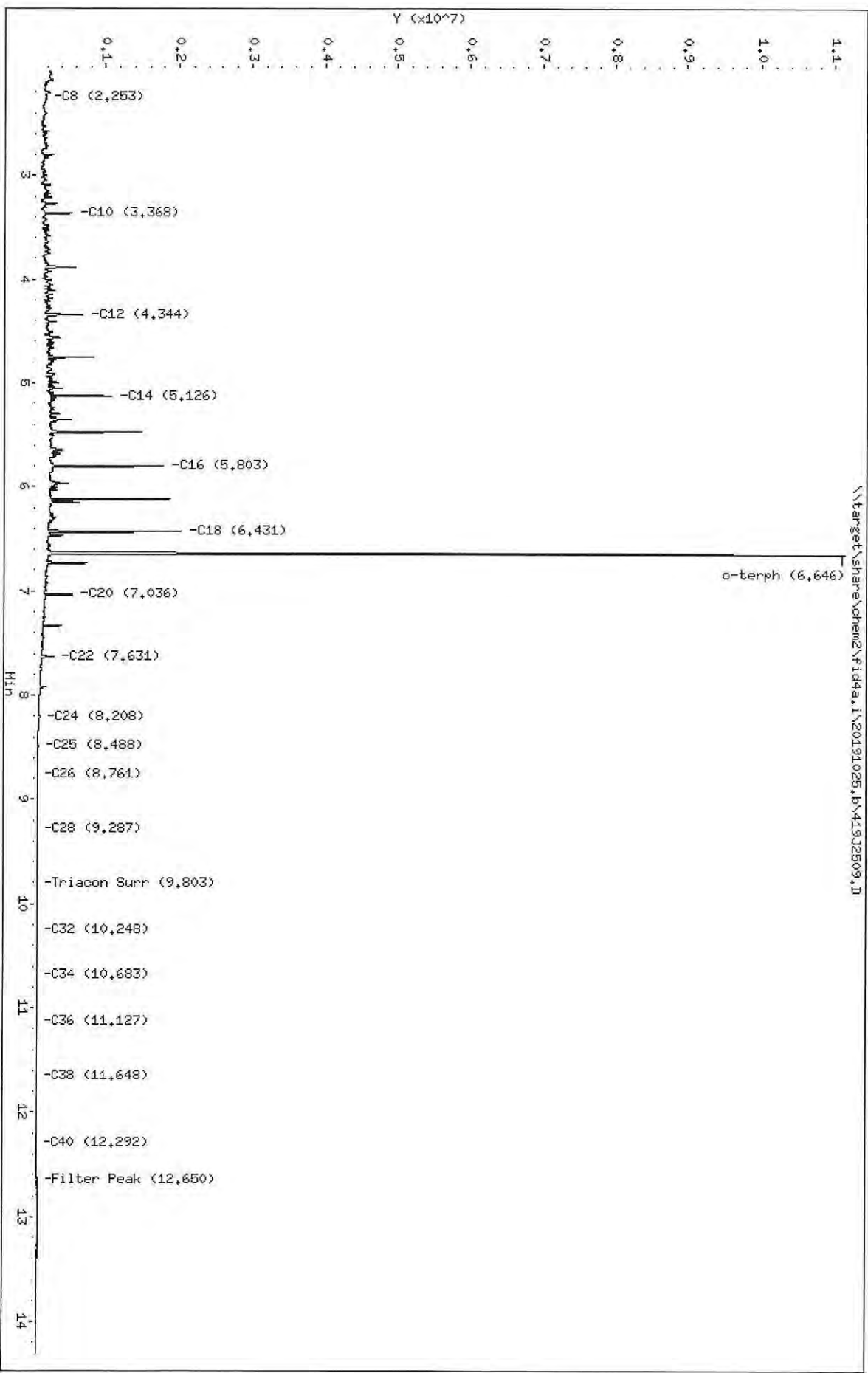




Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

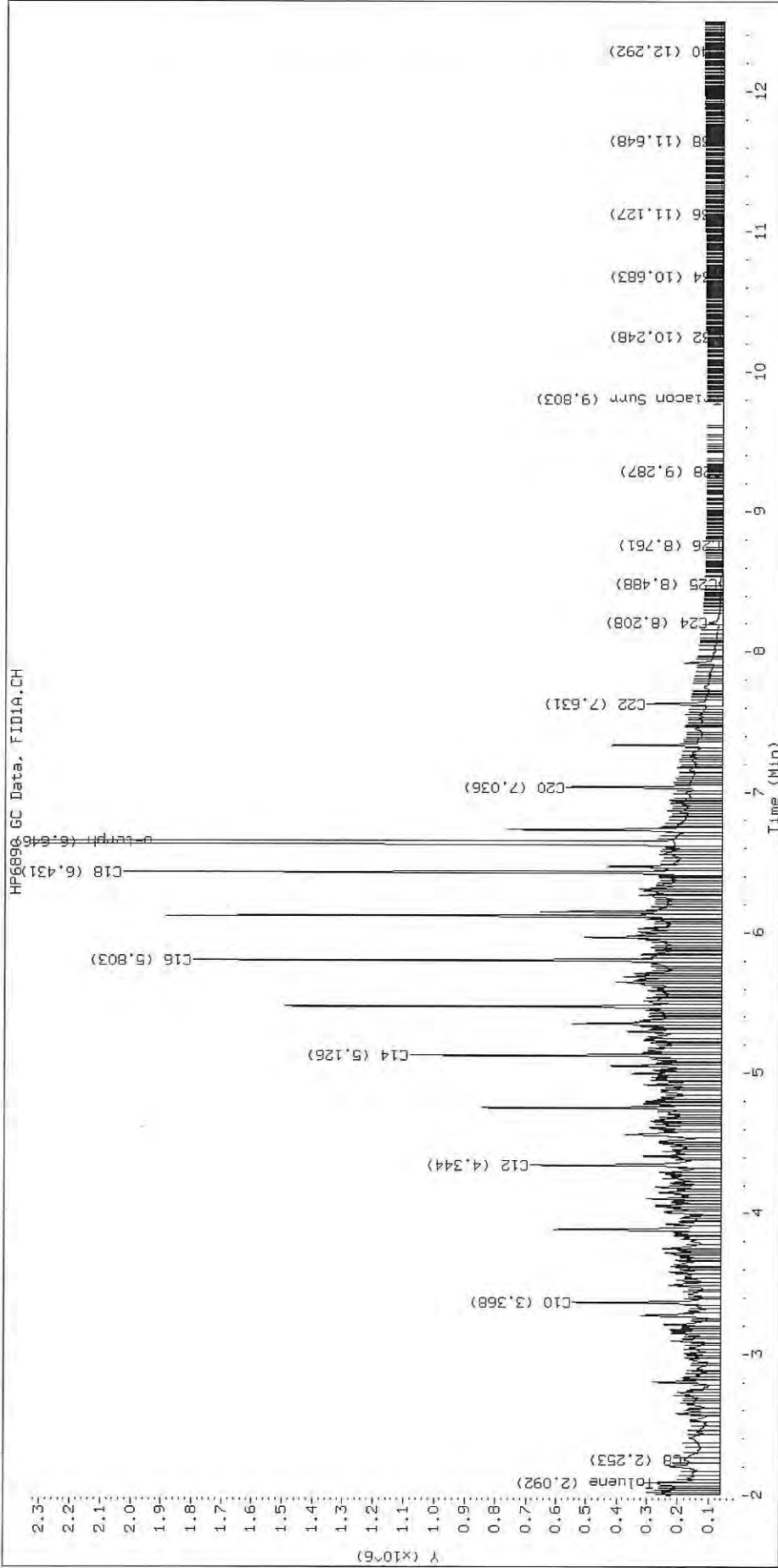
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacontane	103	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

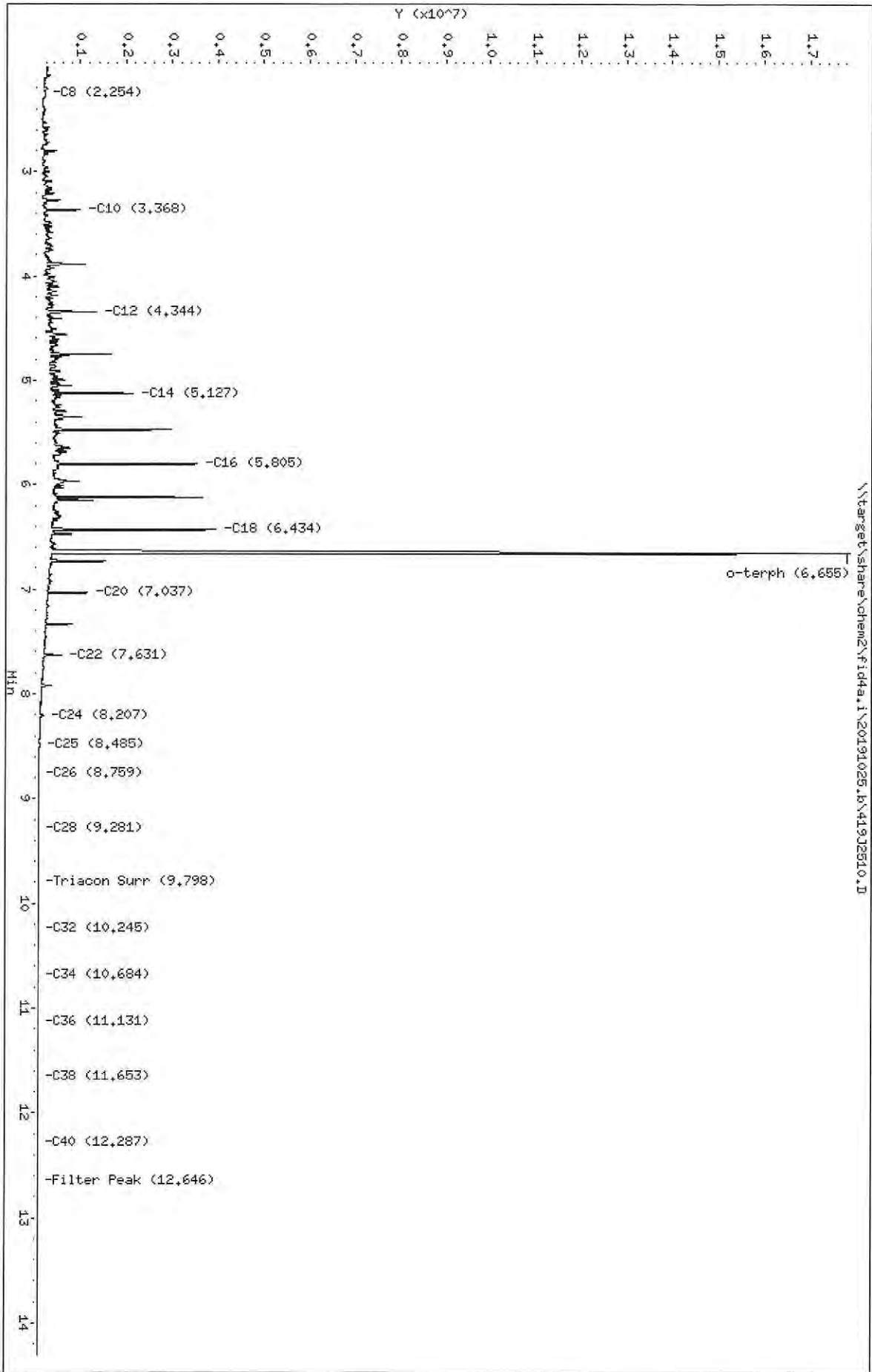
Datafile: FID4A, 20191025.b/419J2509.D SHJ0406-CAL3



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SHJ0406-CAL4

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/MTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

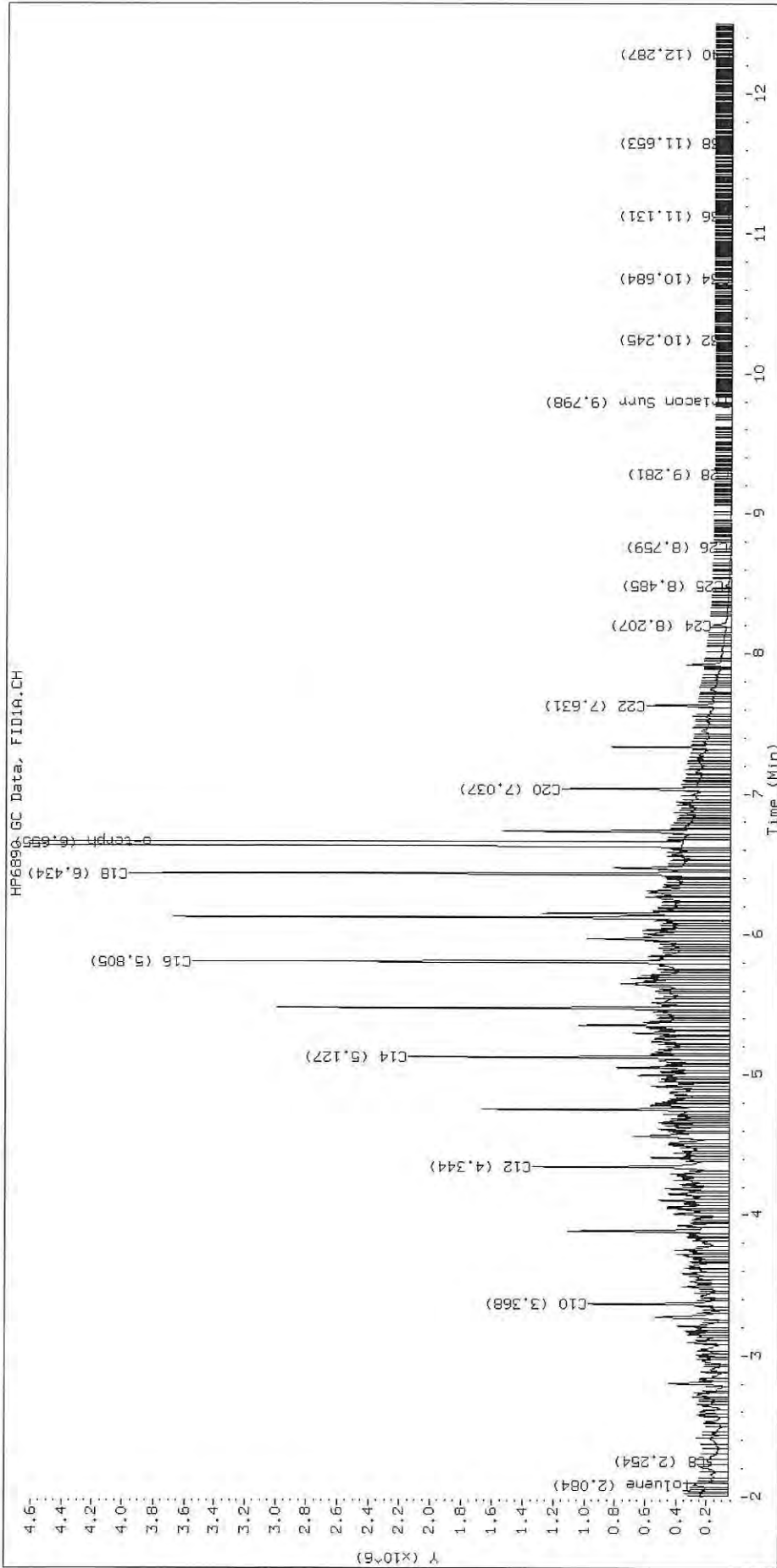
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

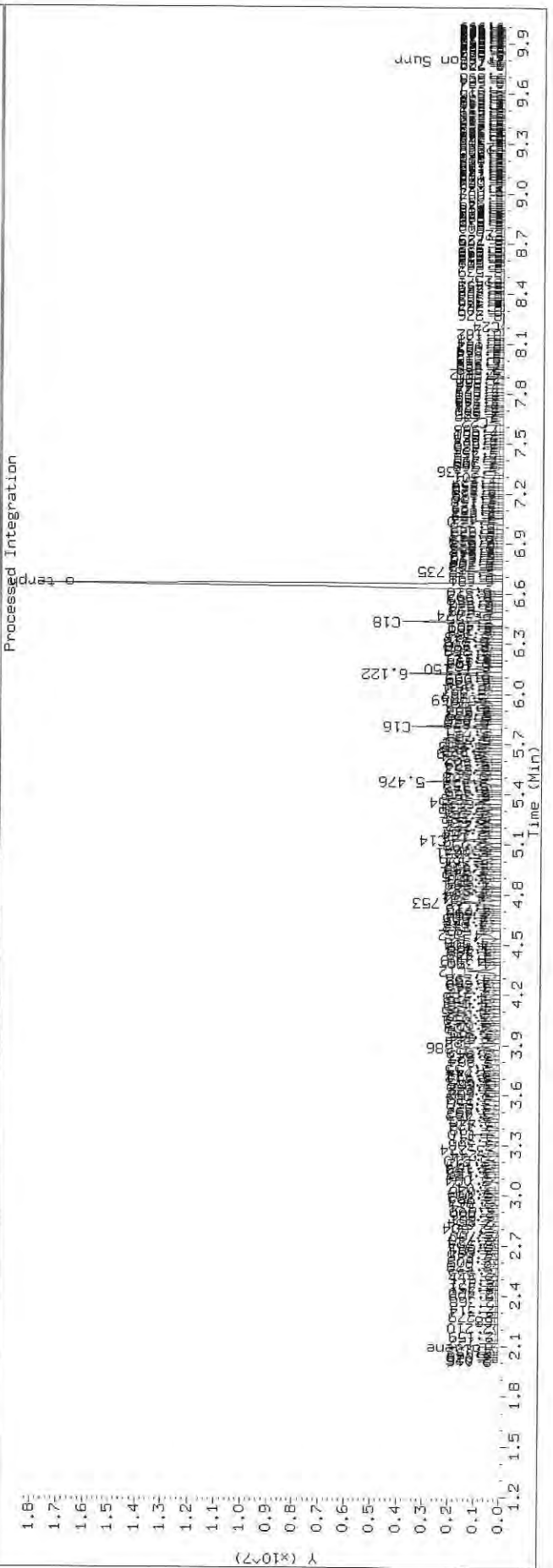
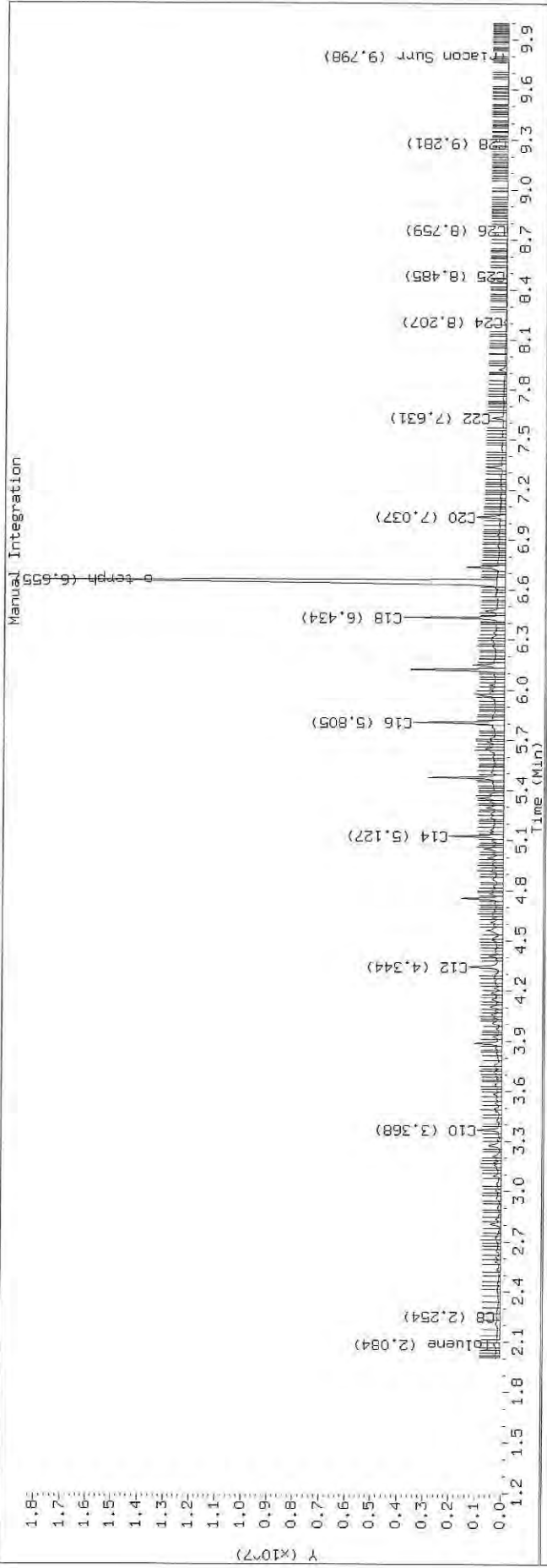
Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacontane	112	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.q/419J2510.D SHJ0406-CAL4

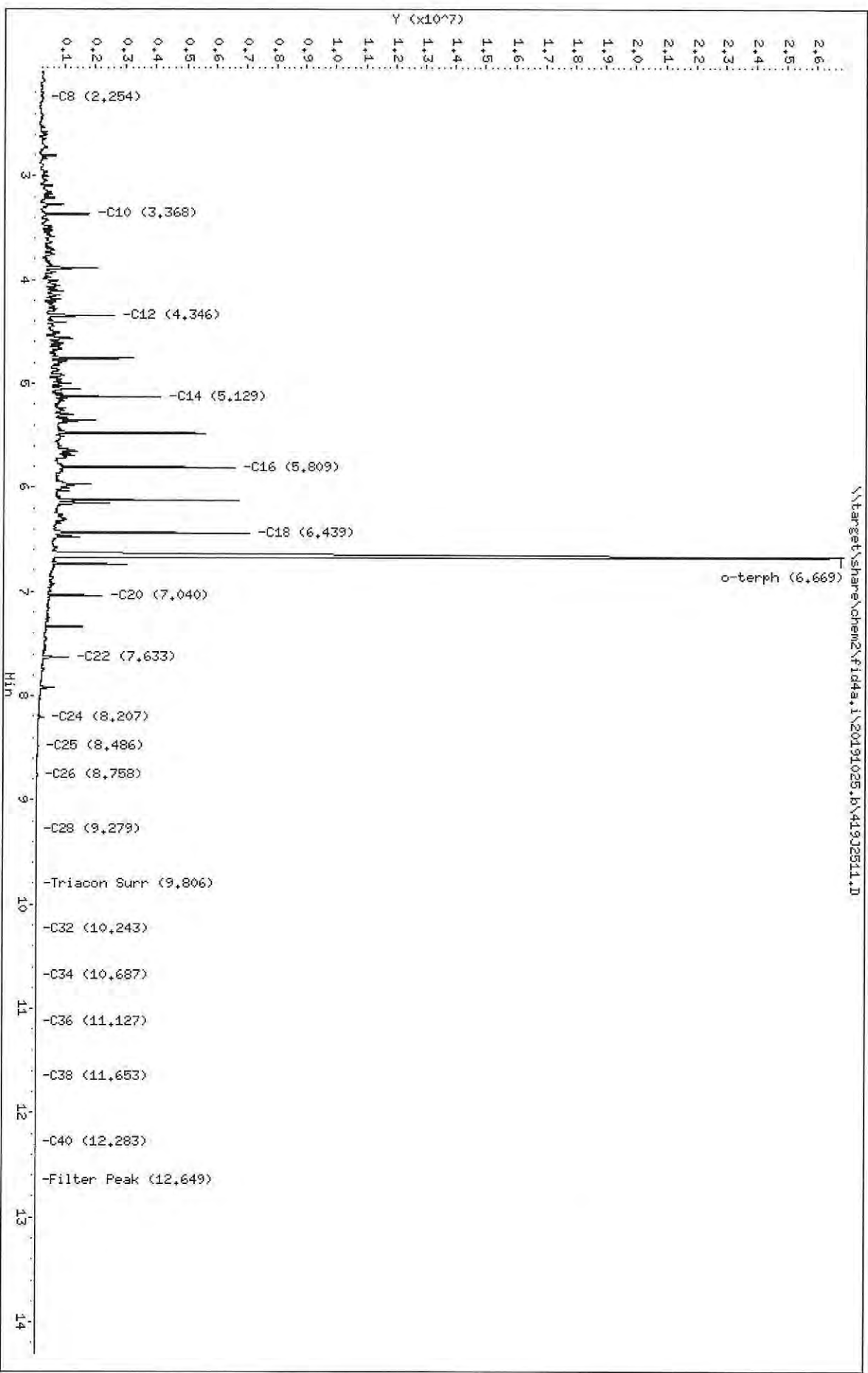




Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2511.D
Date: 25-OCT-2019 15:13
Client ID:
Sample Info: SHJ0406-CALLS

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALS
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

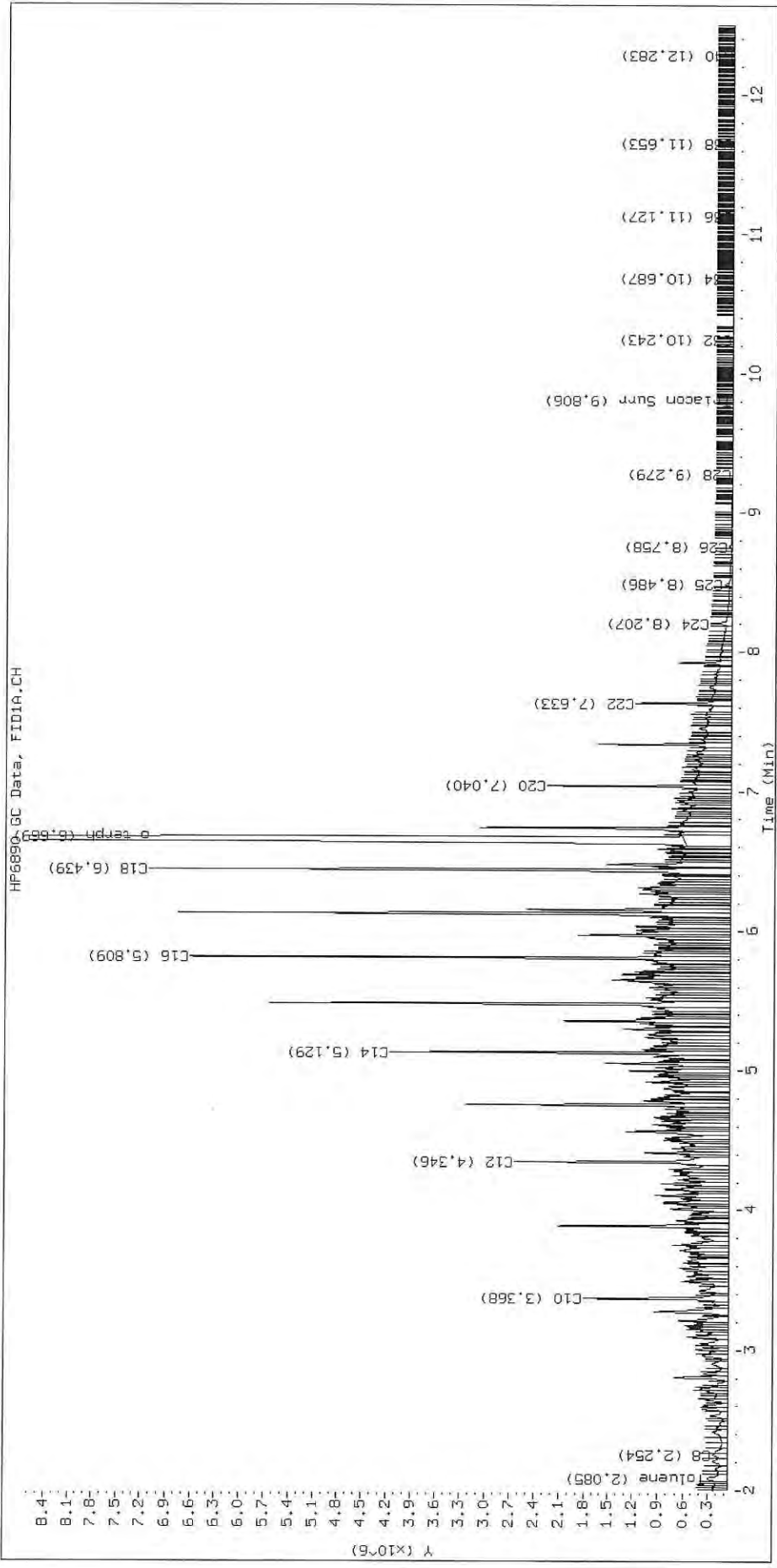
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

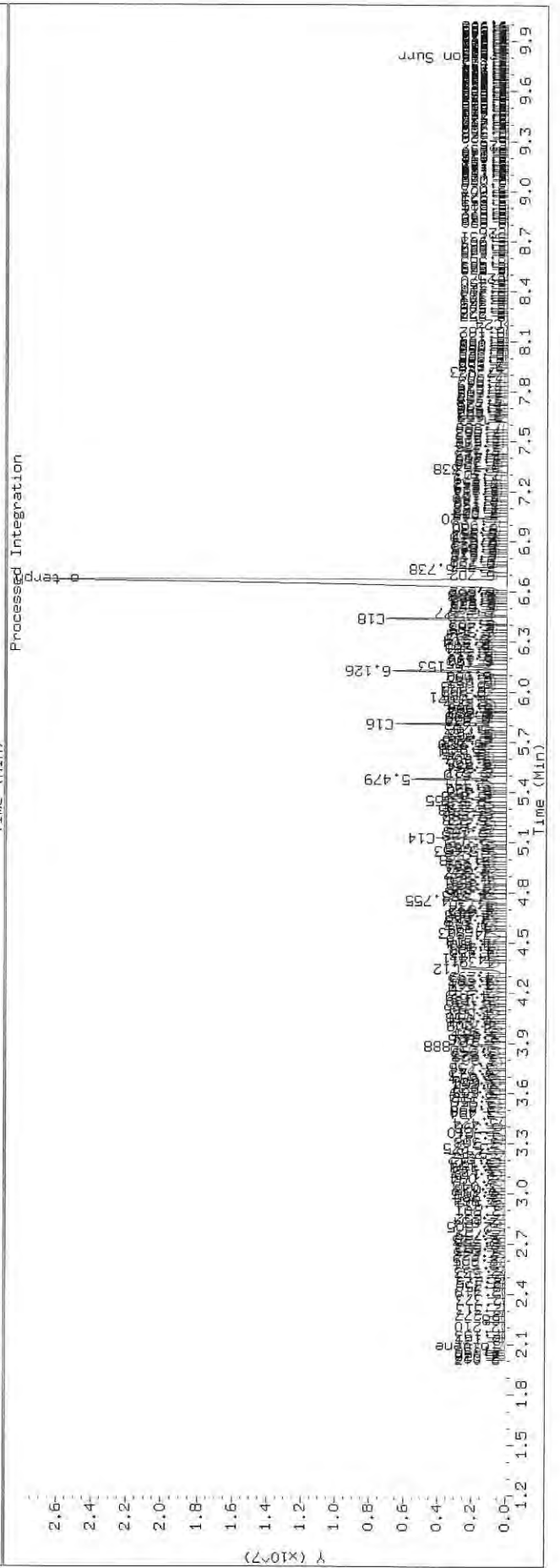
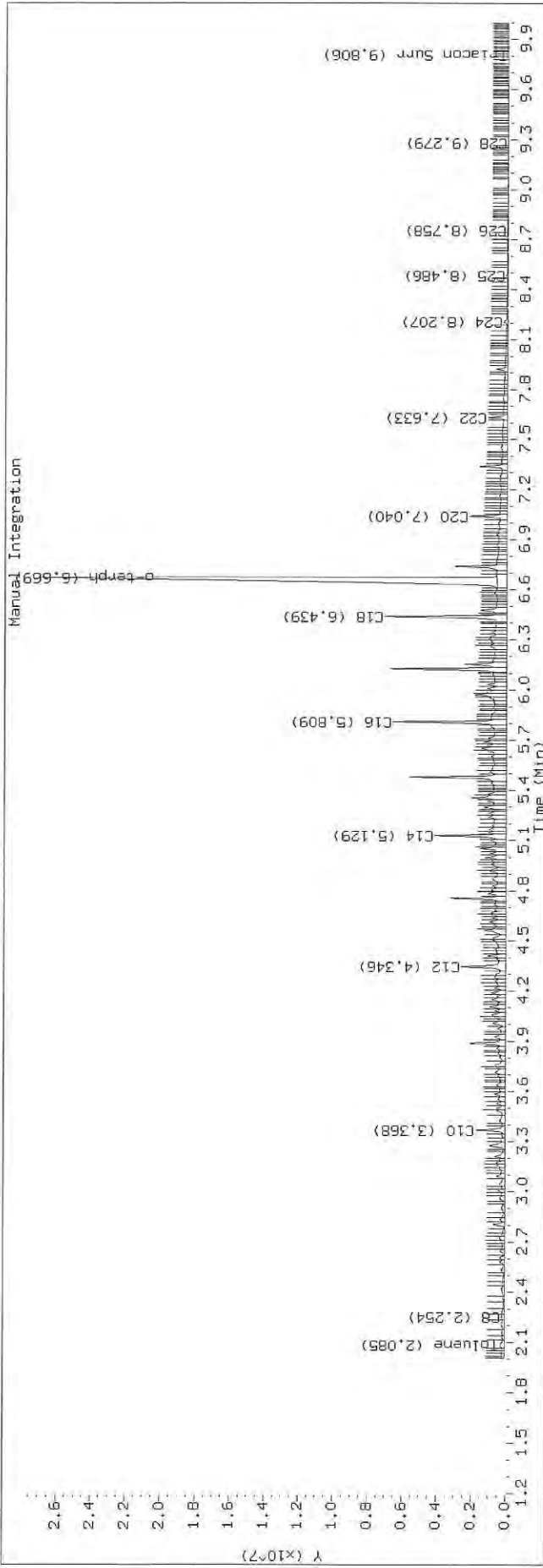
Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacontane	1069	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5

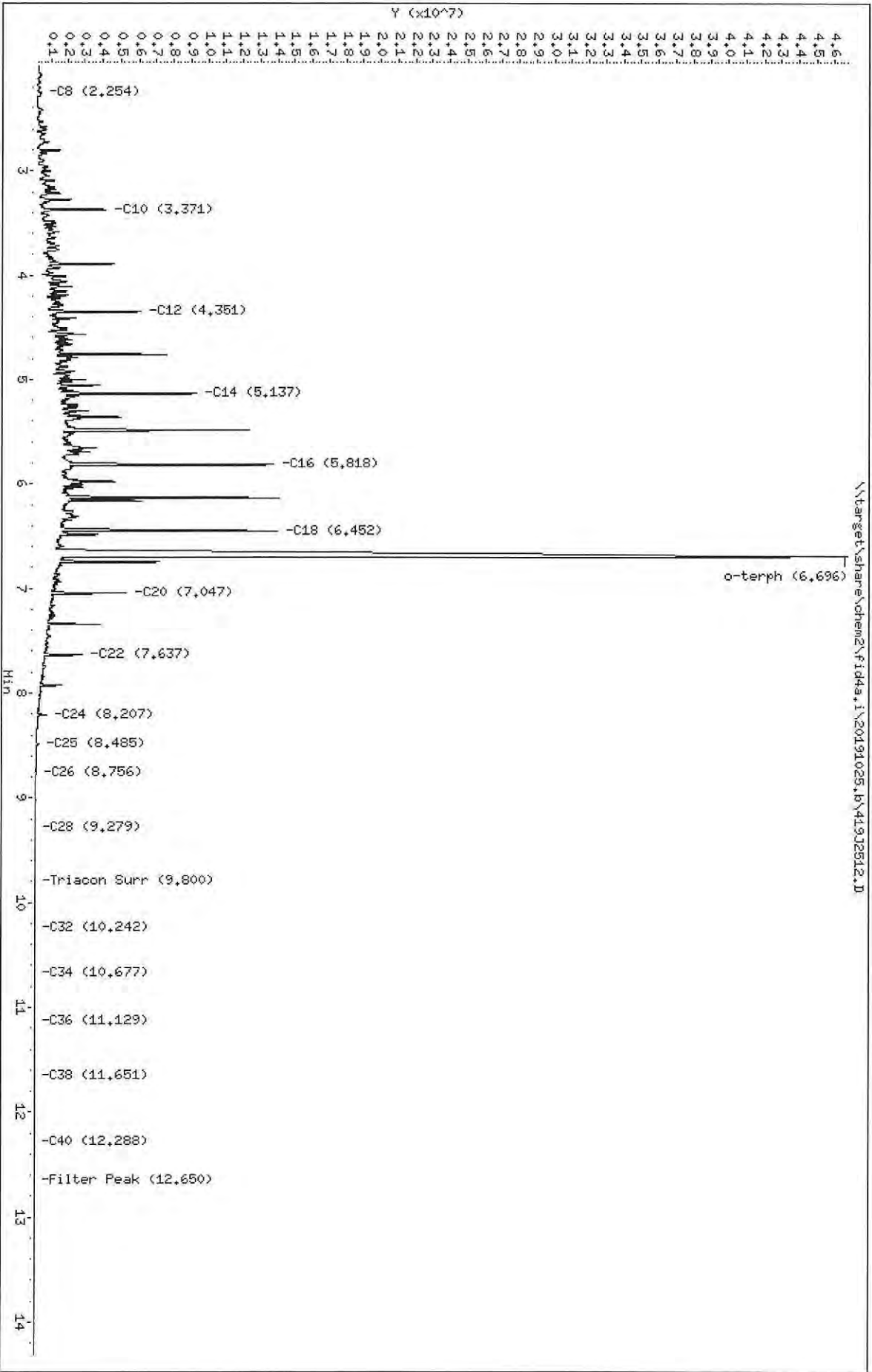




Data File: \\target\share\chem2\Fid4a.I\20191025_b\419J2512.D
Date: 26-OCT-2019 15:32
Client ID:
Sample Info: SHJ0406-CAL6

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

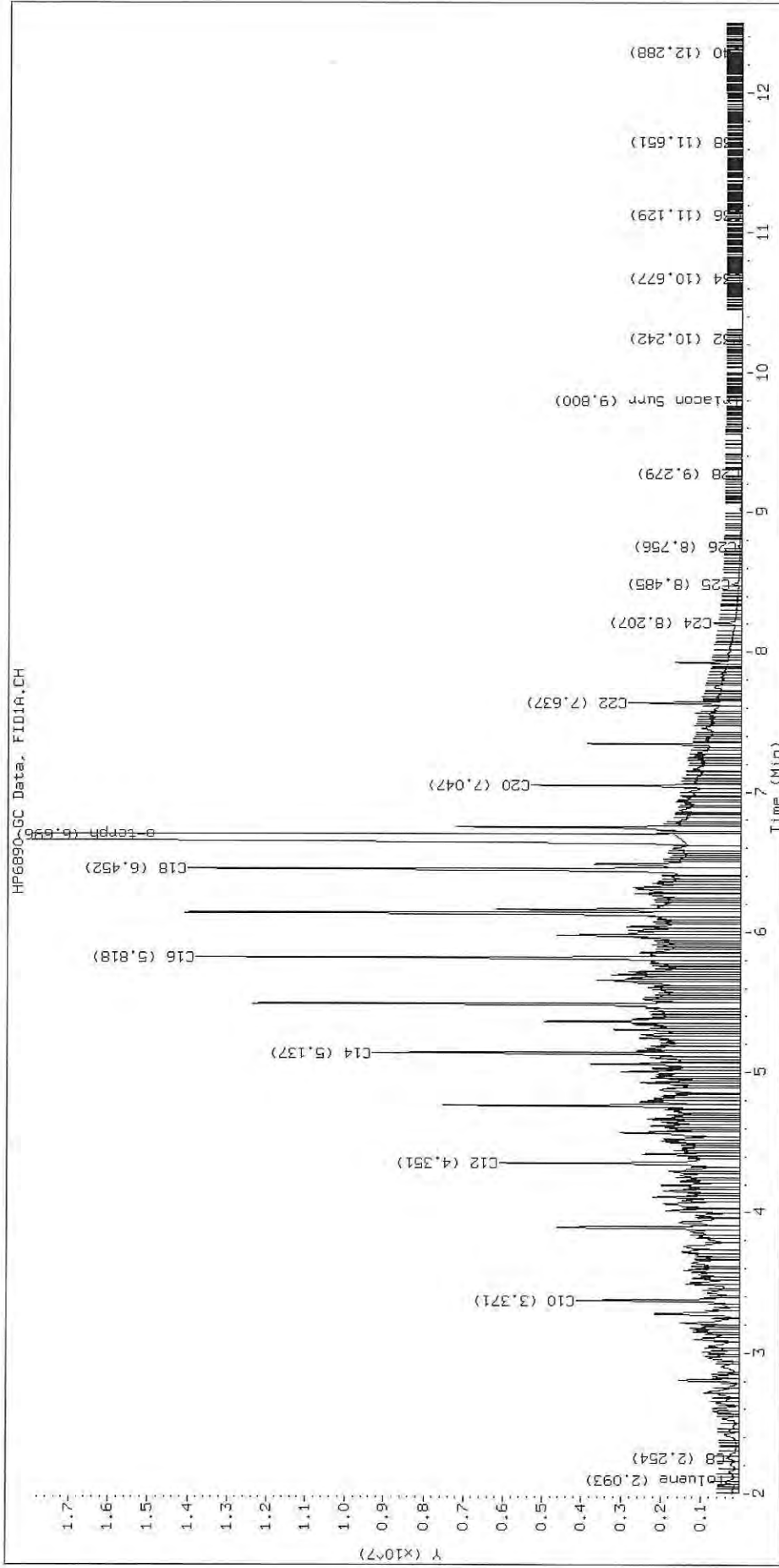
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

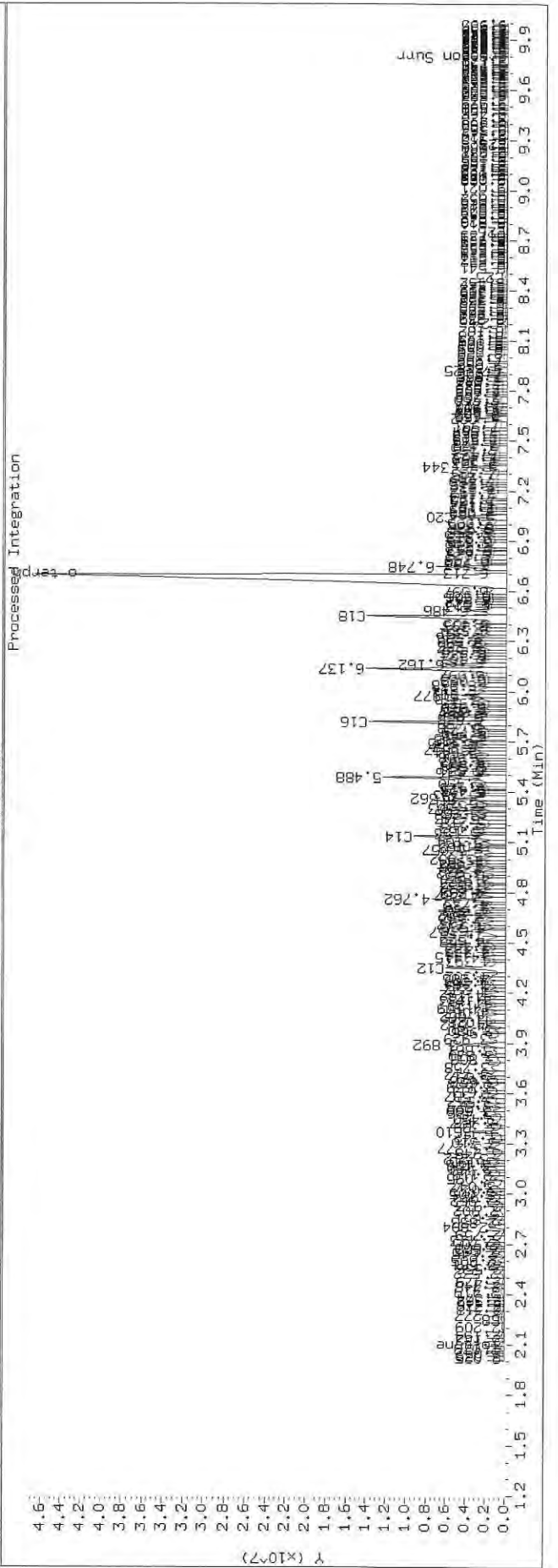
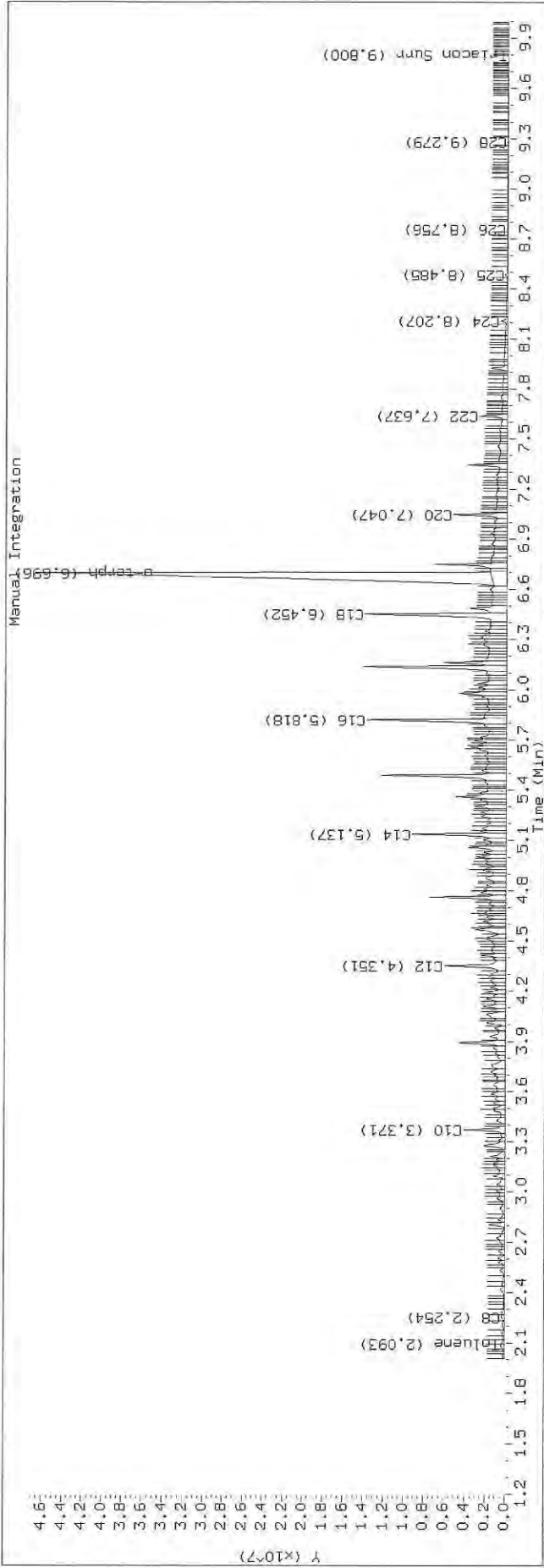
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacotane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2512.D SHJ0406-CAL6

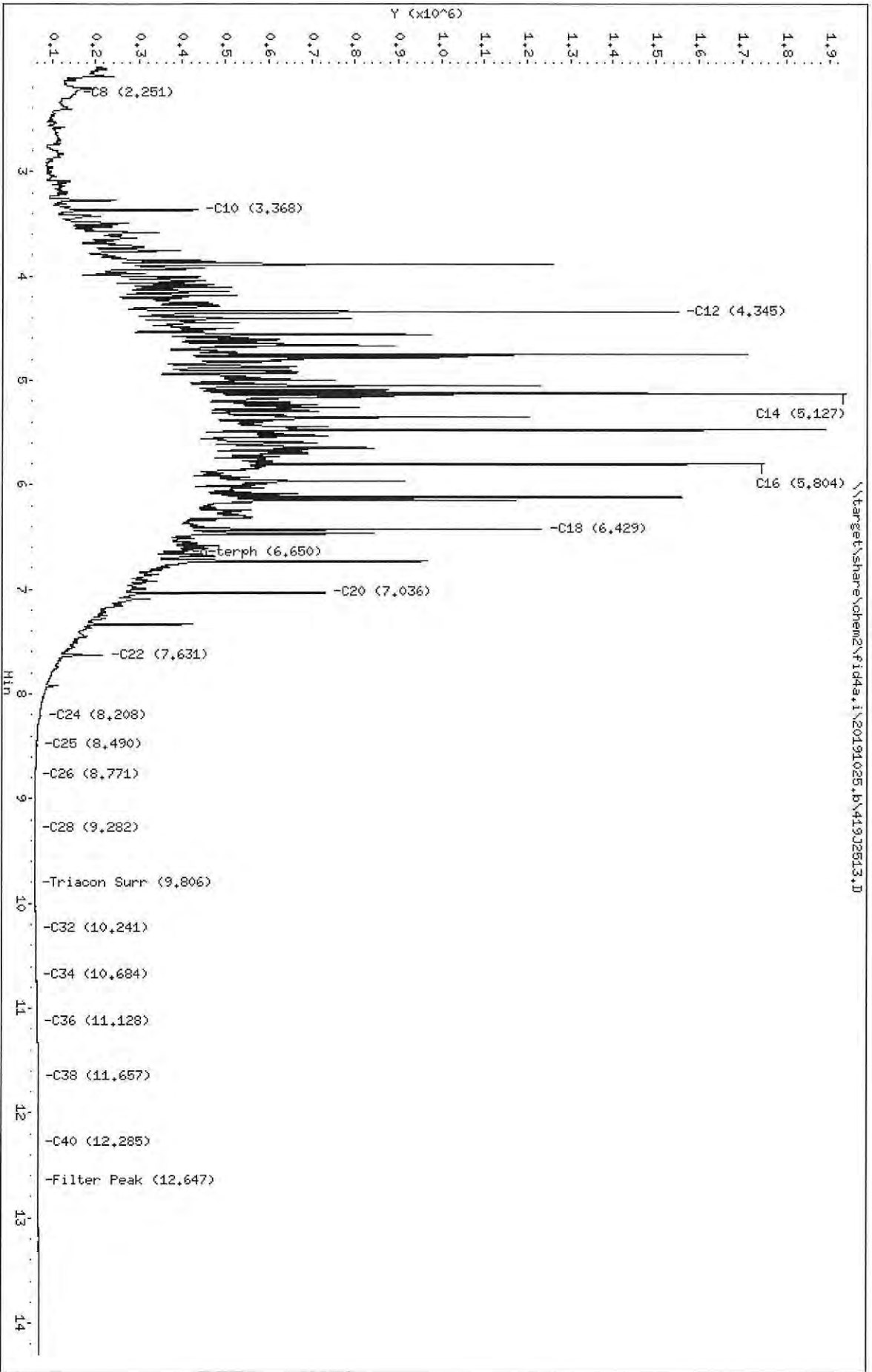




Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2513.D
Date: 25-OCT-2019 15:52
Client ID:
Sample Info: SHJ0406-SCV1

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/MTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

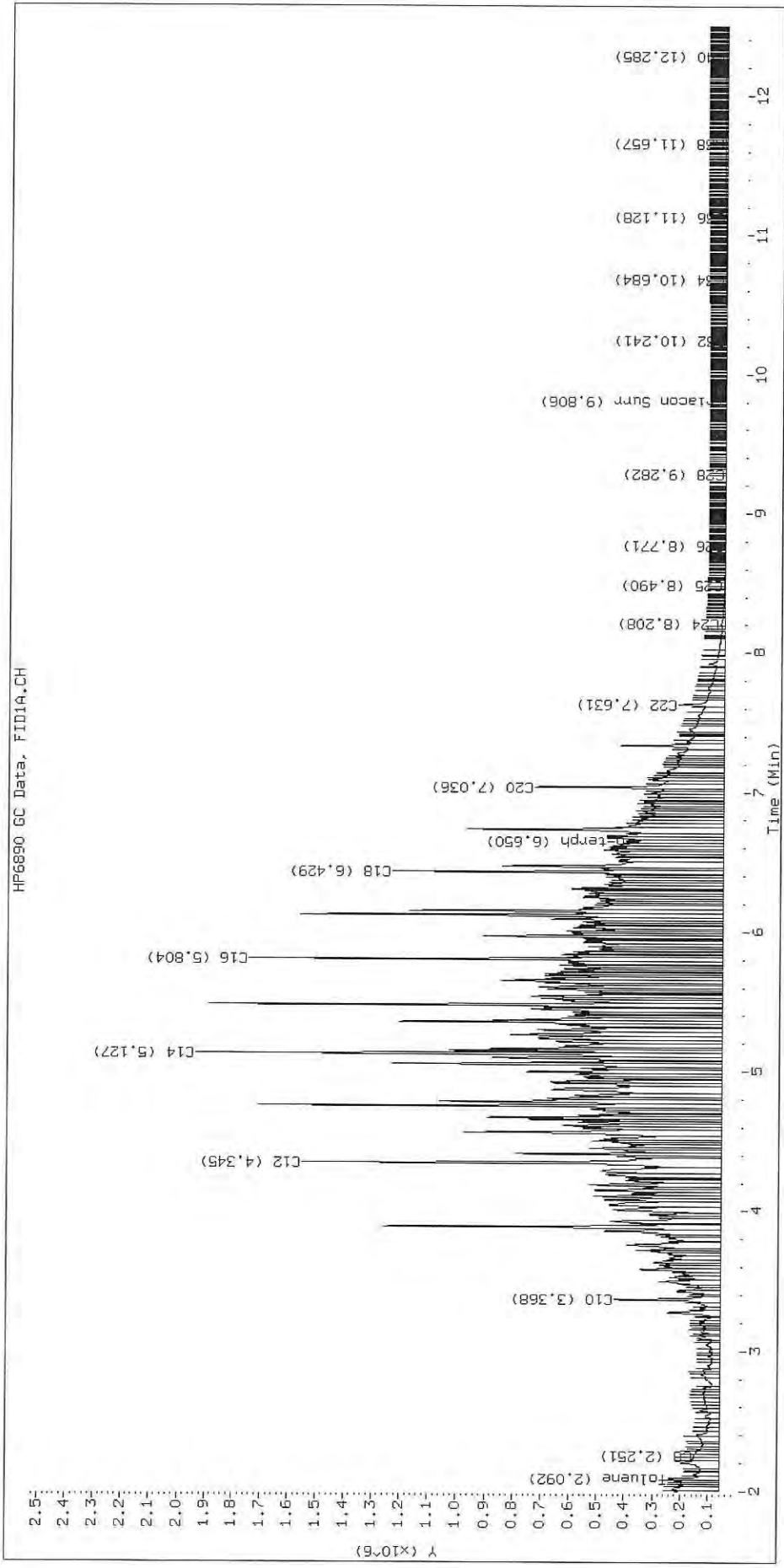
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacotane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCV1

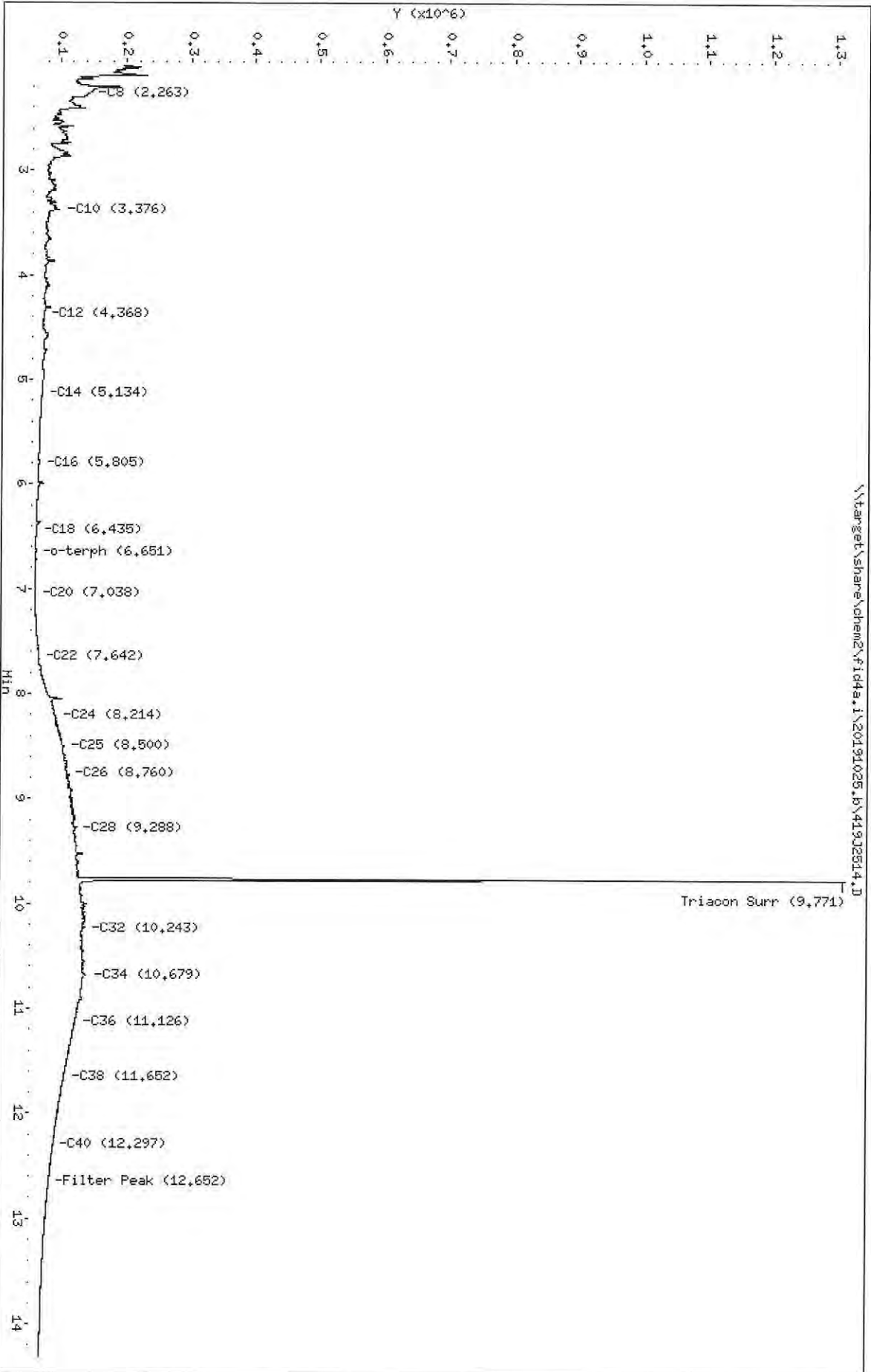
HF6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.bv41932614.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

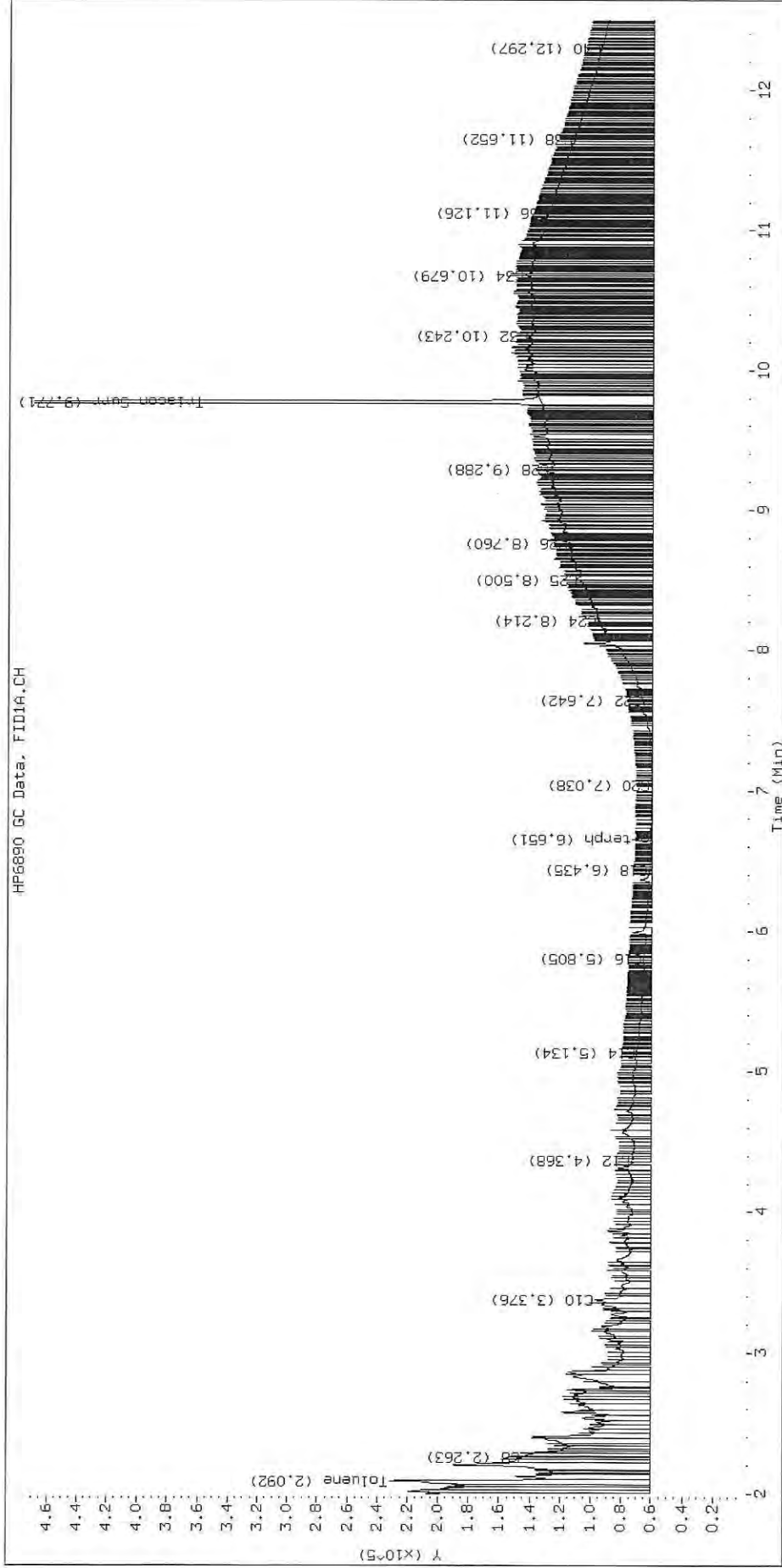
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacontane	816812	4.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

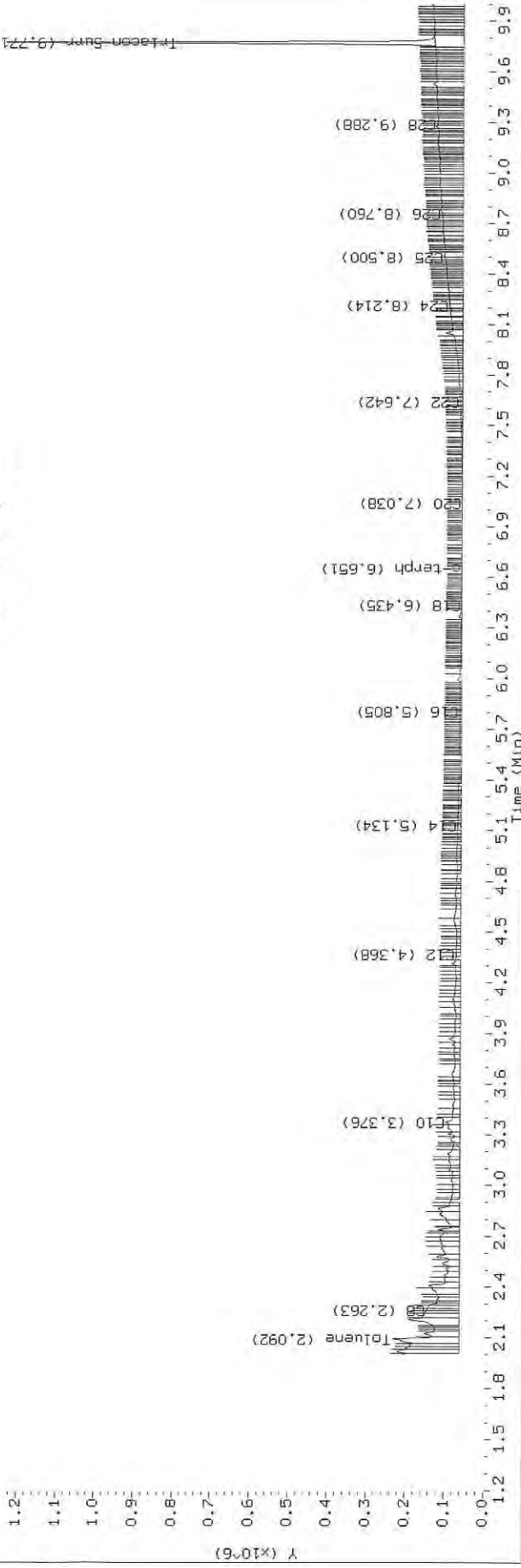
Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH

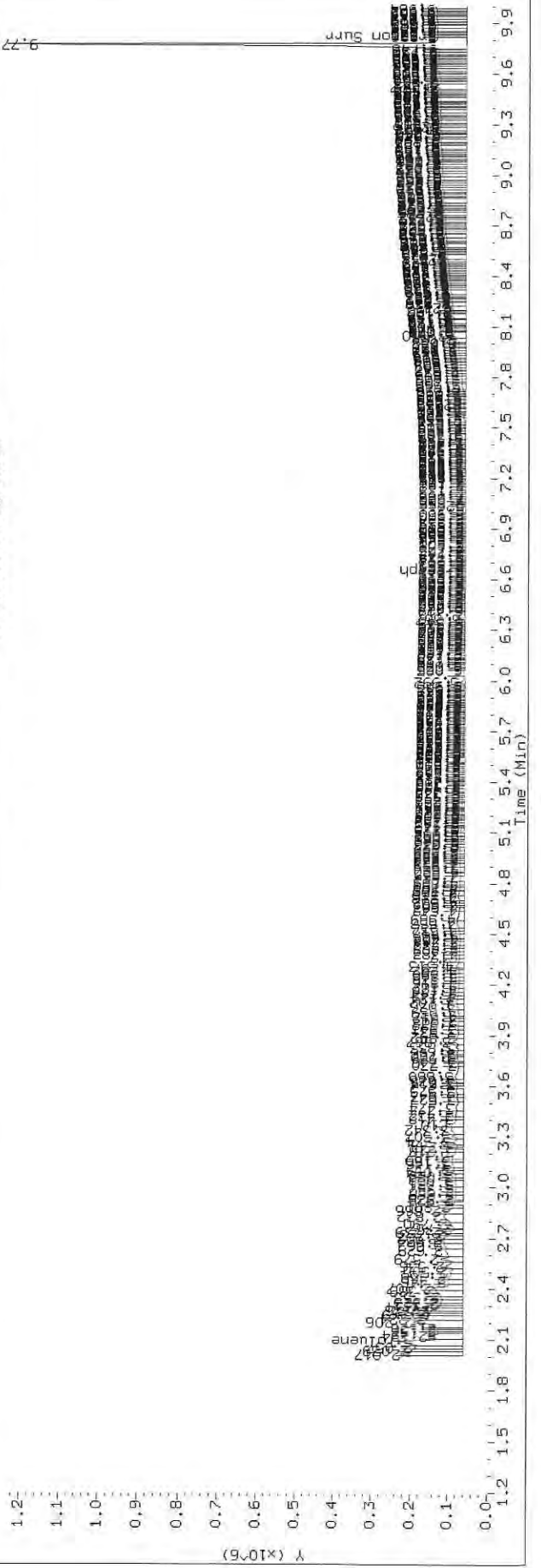


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2514.D Injection: 25-OCT-2019 16:12
 Lab ID: SHJ0406-CAL7

Manual Integration



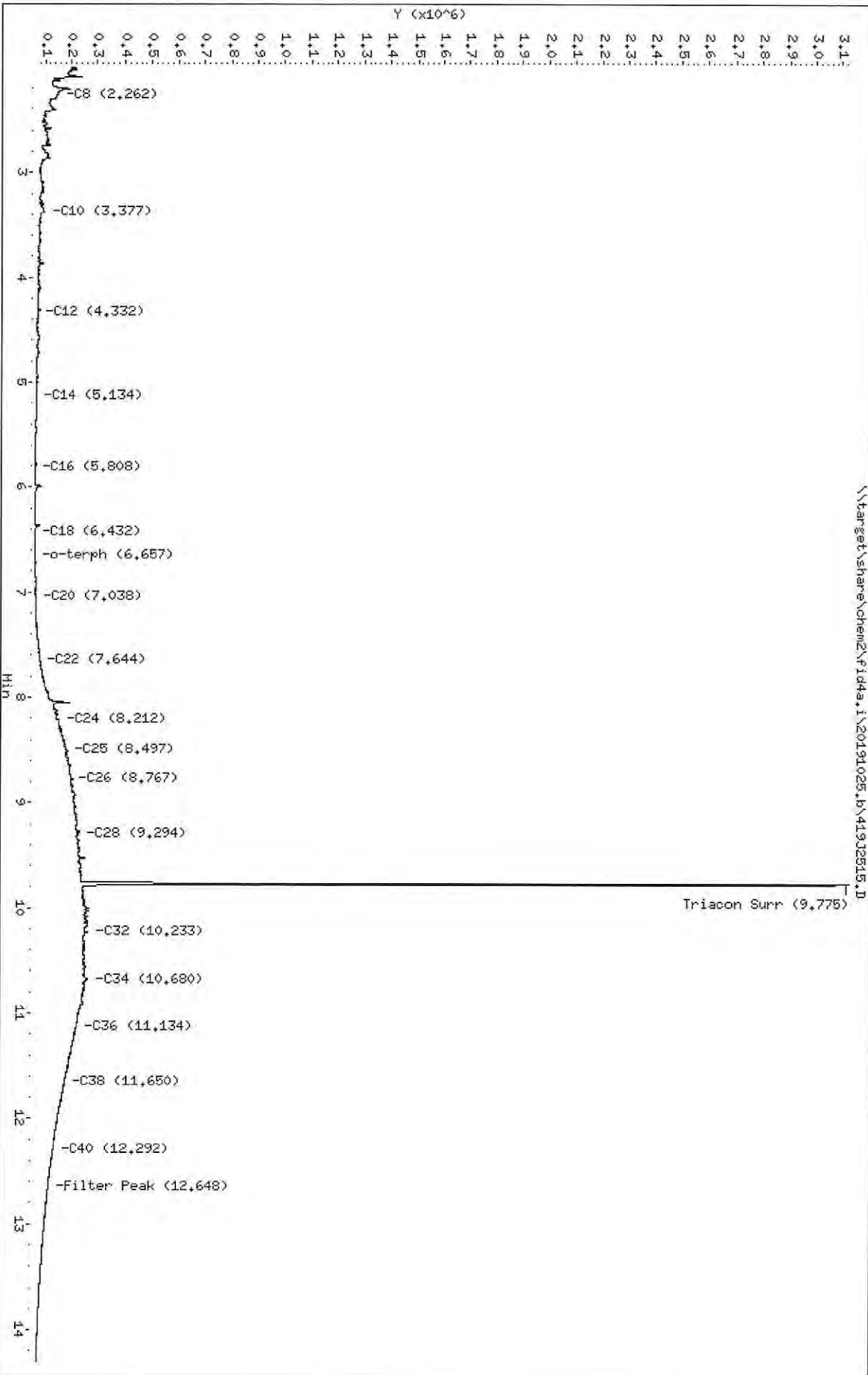
Processed Integration



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Info: SHJ0406-CAL8

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

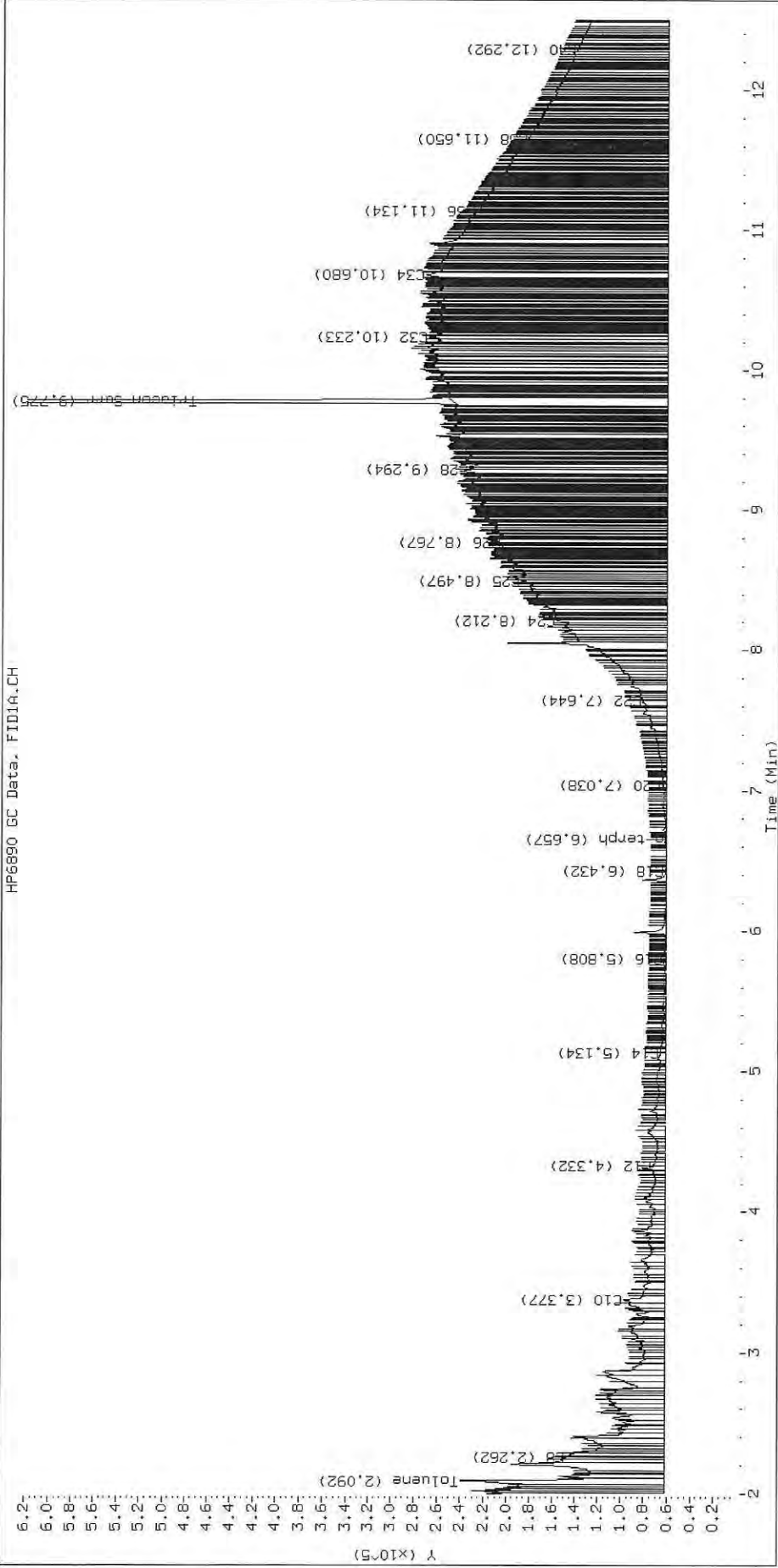
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacontane	2052387	11.5 M

M Indicates the peak was manually integrated

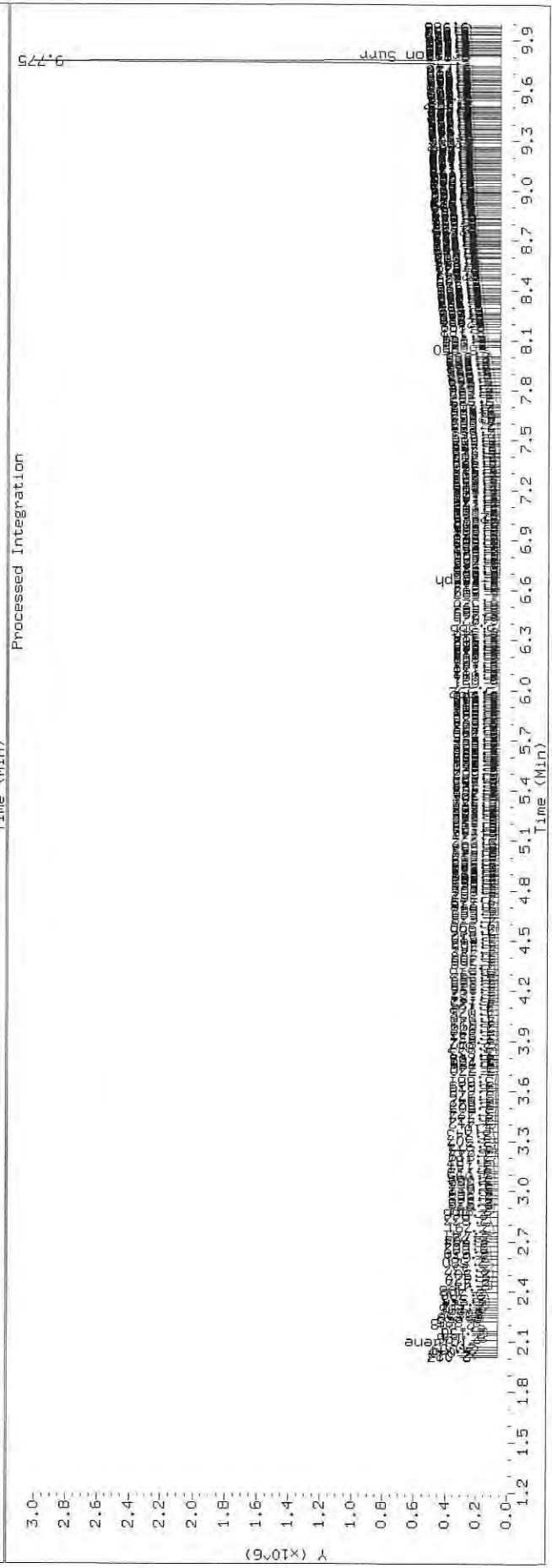
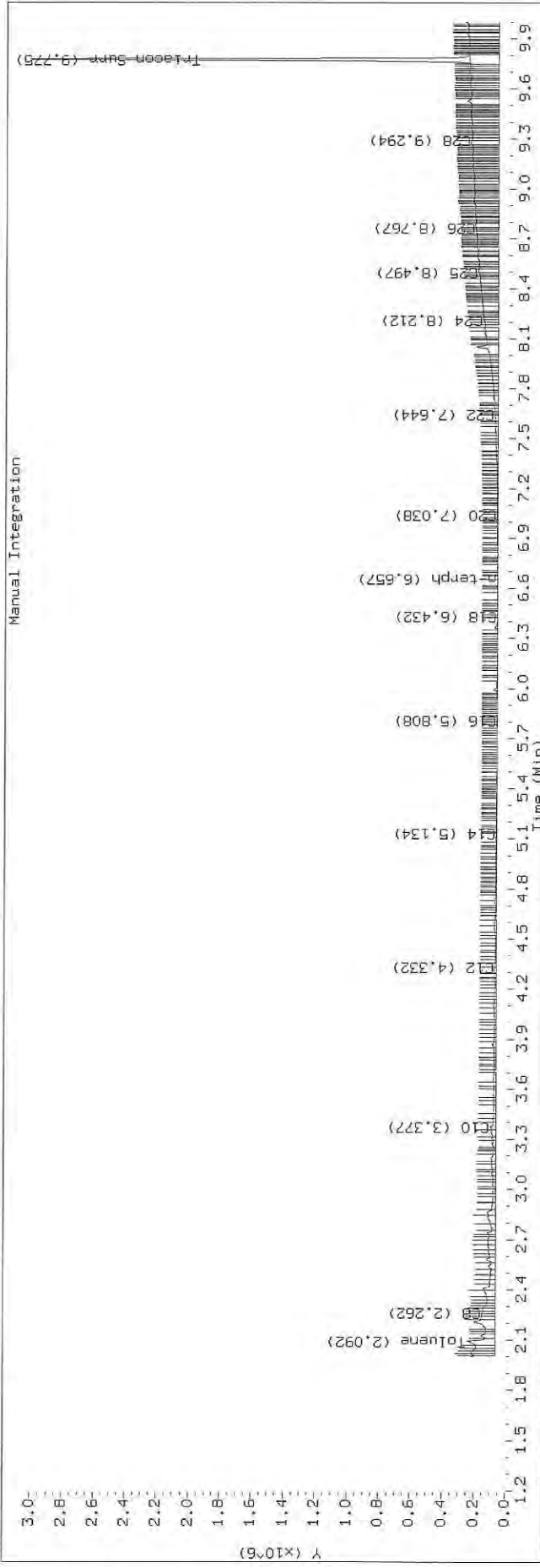
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data. FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2515.D Injection: 25-OCT-2019 16:33
 Lab ID:SHJ0406-CAL8



Data File: \\target\share\chem2\Fid4a.I\20191025.B\419J2516.D

Date: 25-OCT-2019 16:53

Client ID:

Sample Info: SHJ0406-CAL9

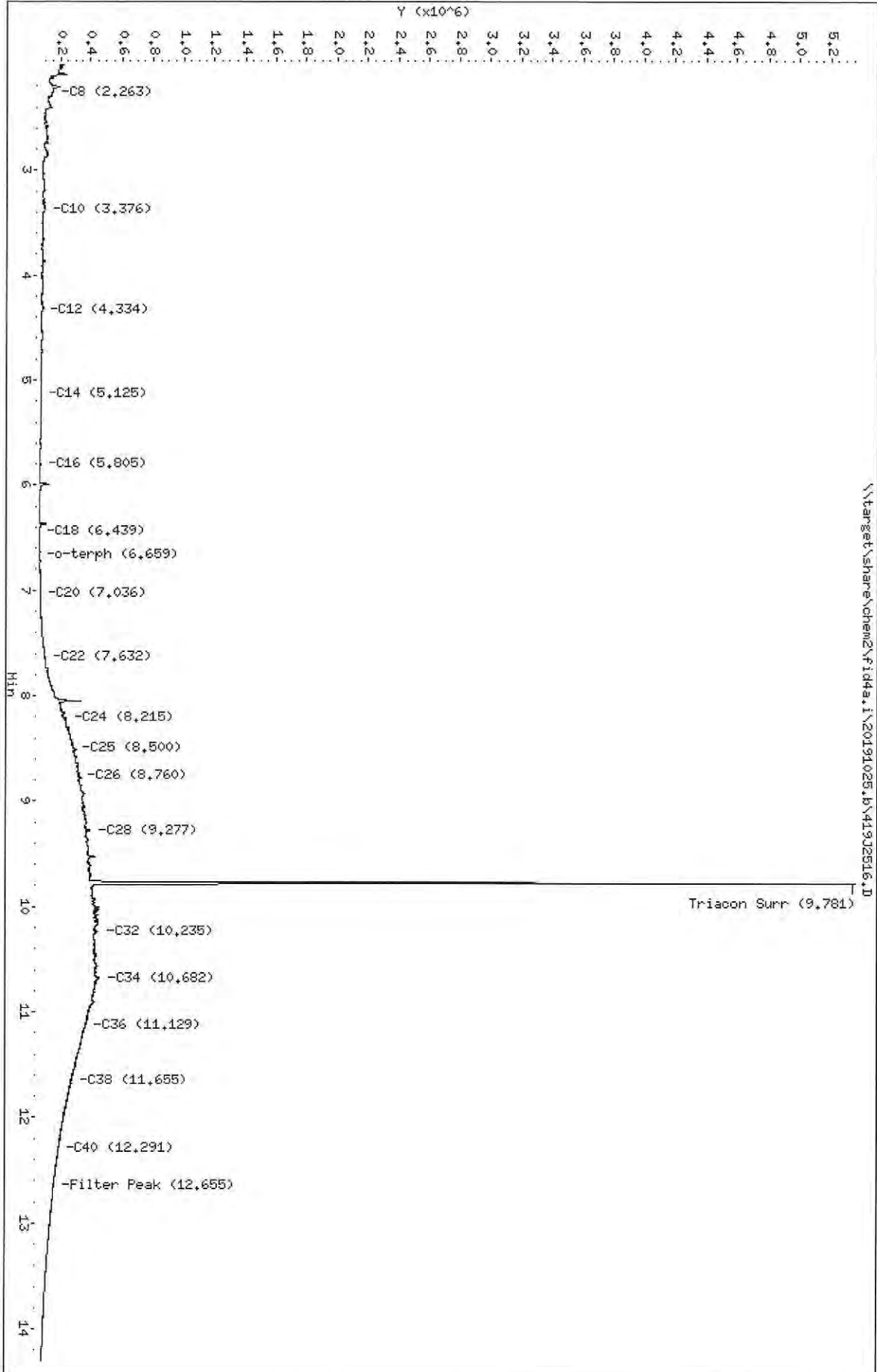
Column Phase: RTX-1

Instrument: fid4a.i

Operator: CTD/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fid4a.I\20191025.B\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

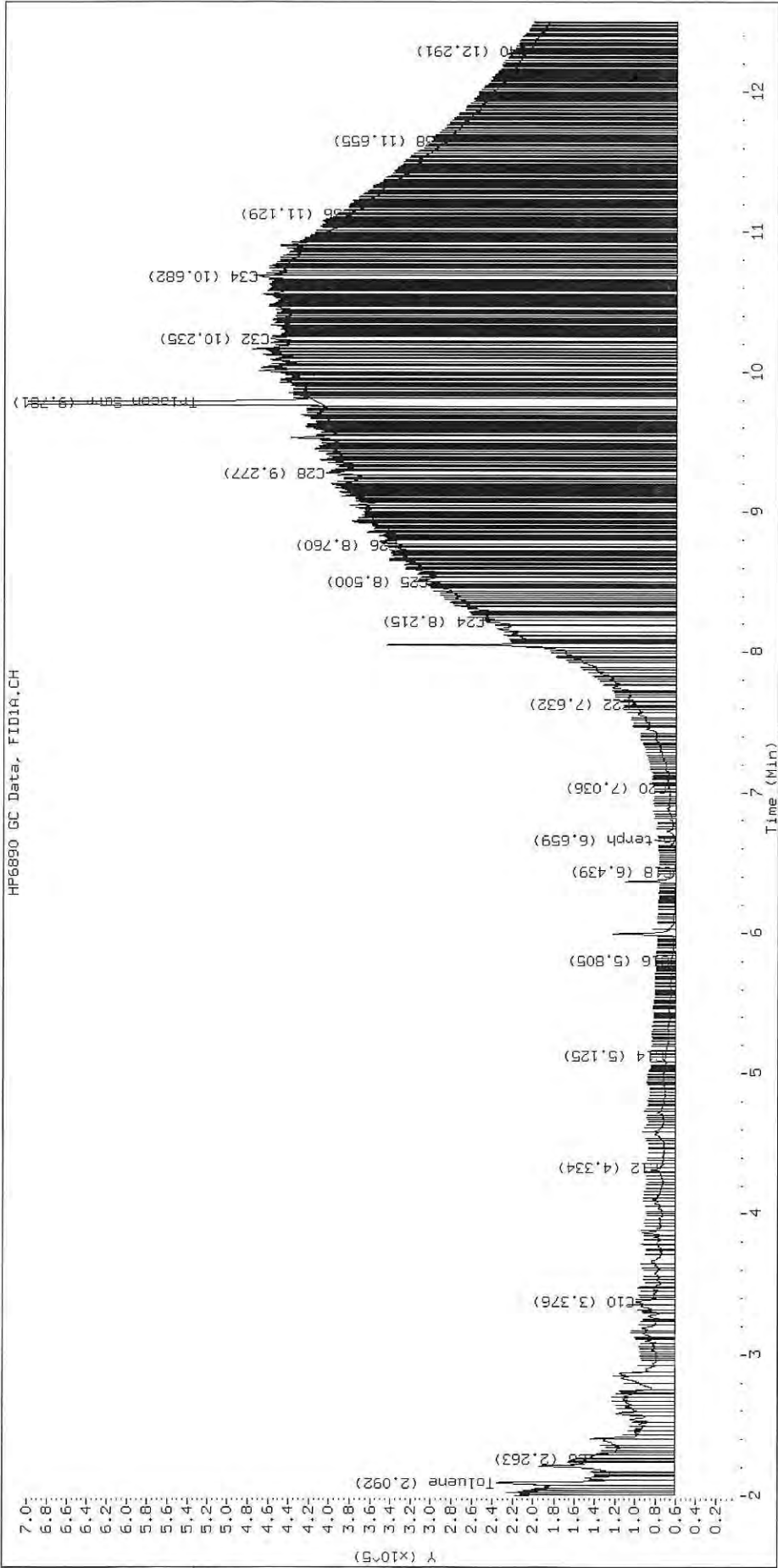
Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacontane	3881047	21.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

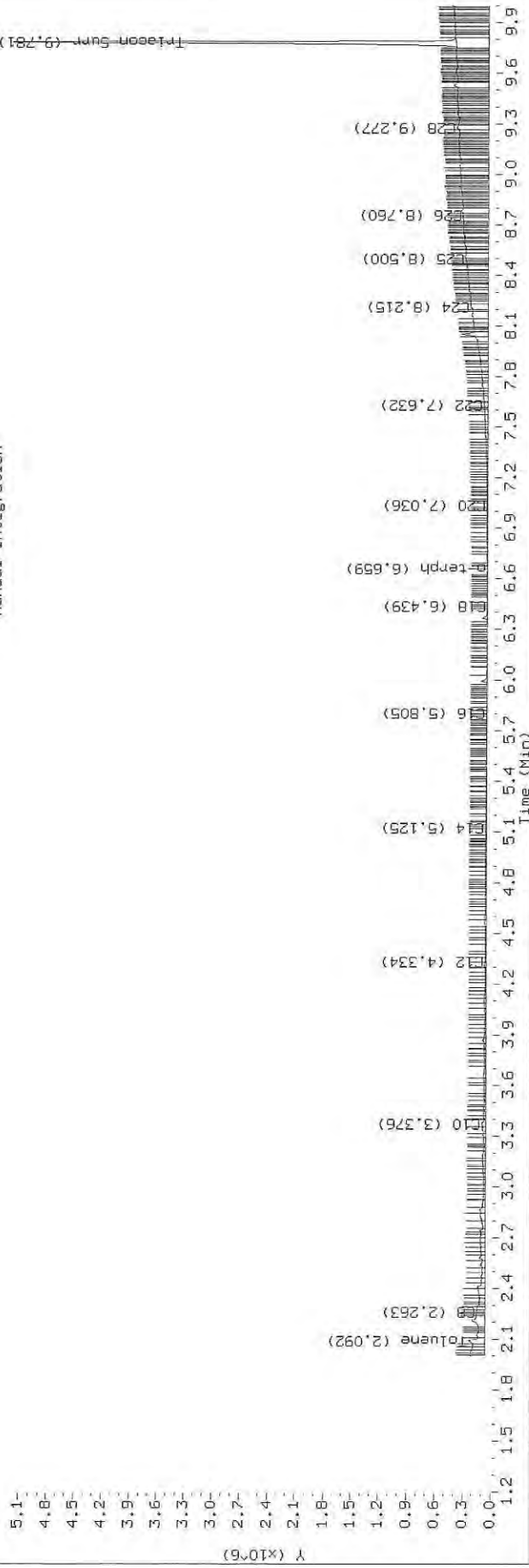
Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

HP6890 GC Data, FID1A.CH

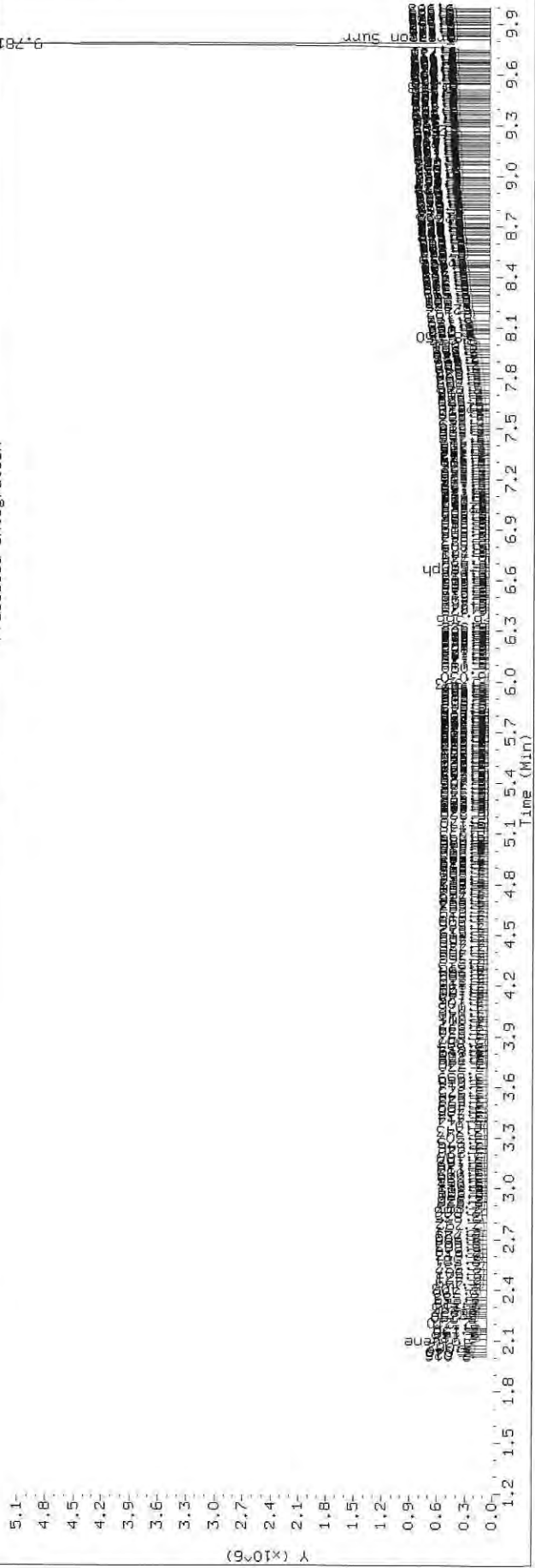


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/41902516.D Injection: 25-OCT-2019 16:53
 Lab ID: SHJ0406-CAL9

Manual Integration



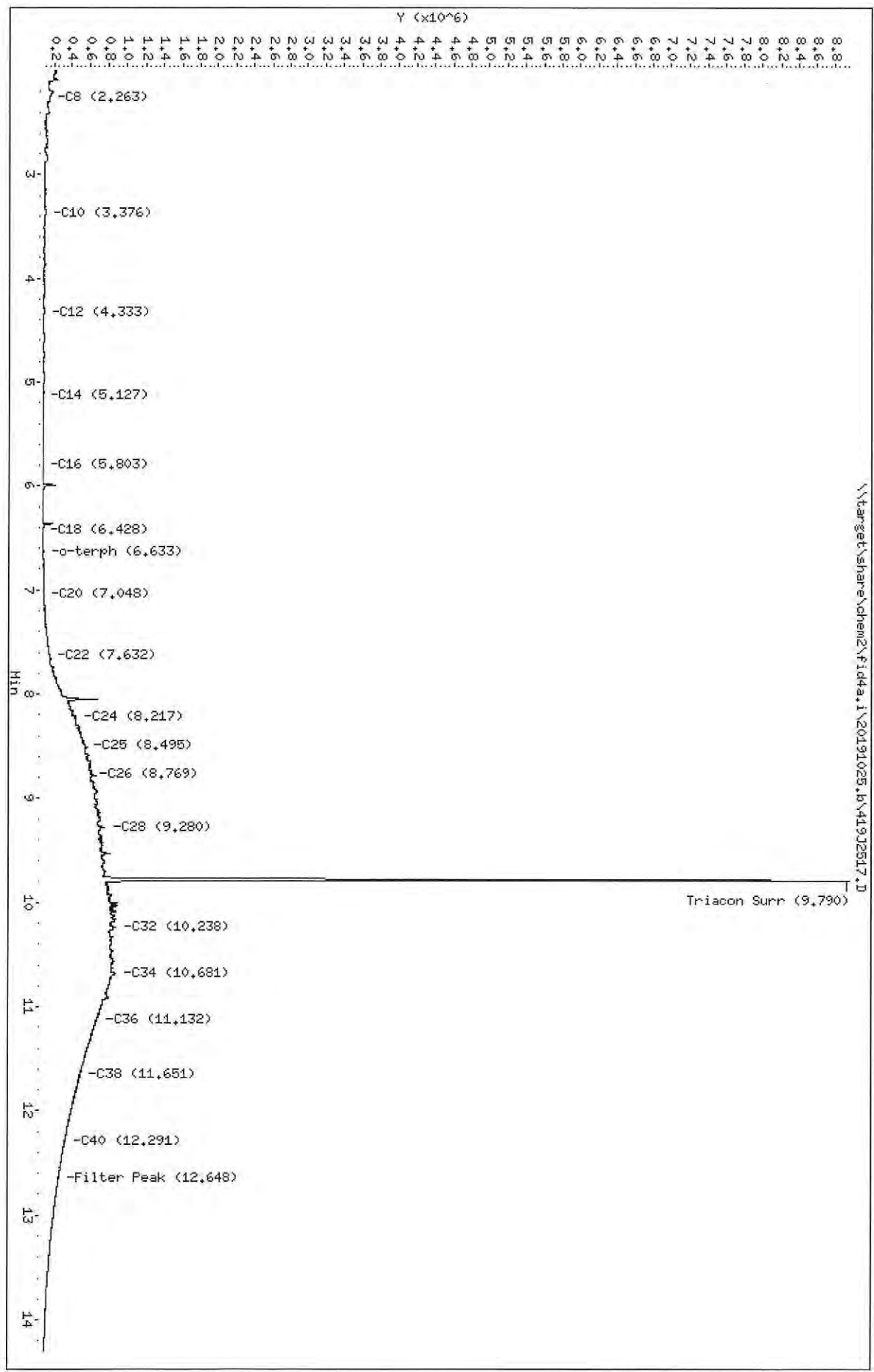
Processed Integration



Data File: \\target\share\chem2\Fidda.I\20191025.B\419J2517.D
Date: 25-OCT-2019 17:13
Client ID:
Sample Info: SHJ0406-CALA

Column phase: RTX-1

Instrument: Fidda.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

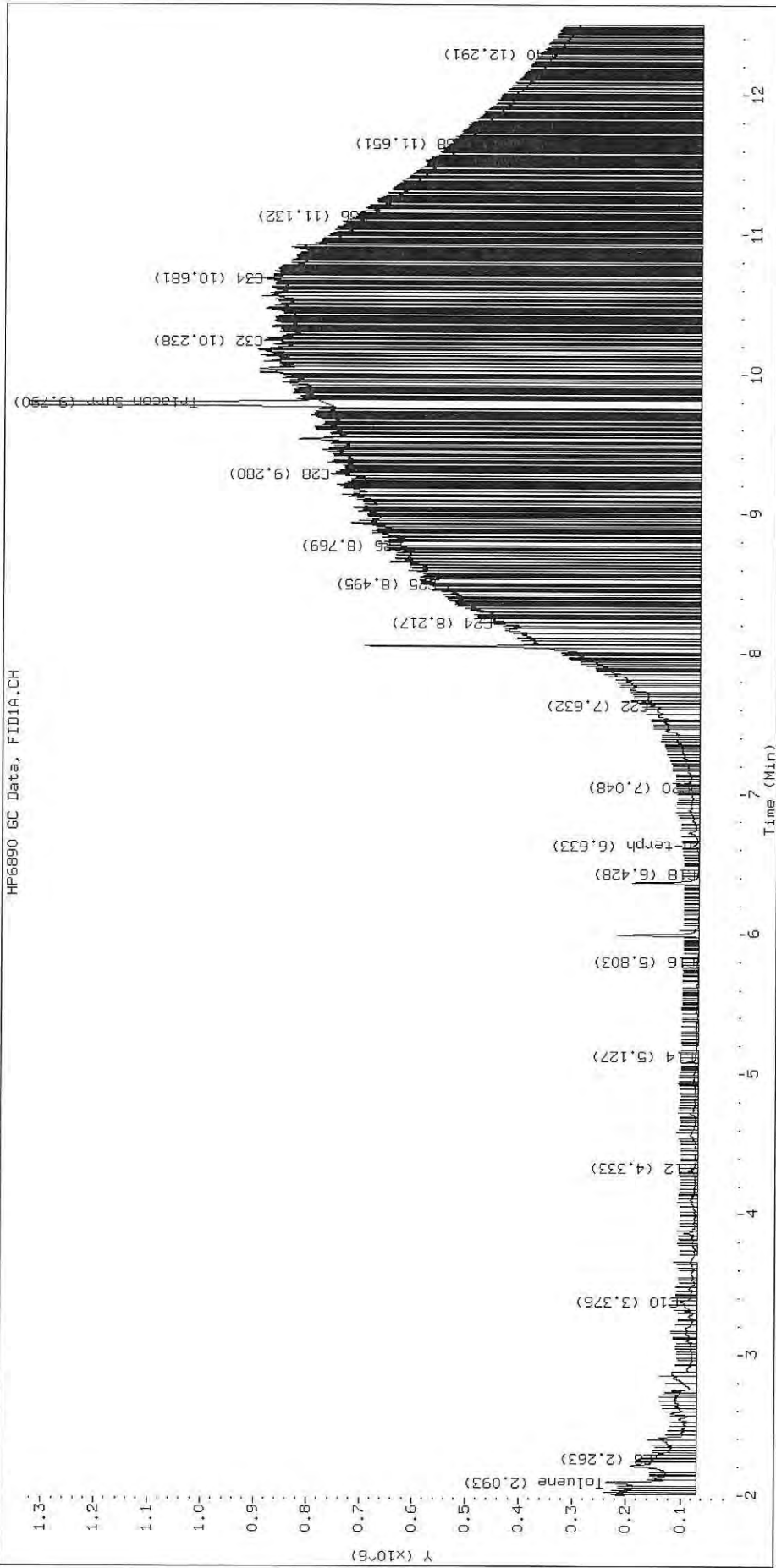
Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacotane	7927188	44.5 M

M Indicates the peak was manually integrated

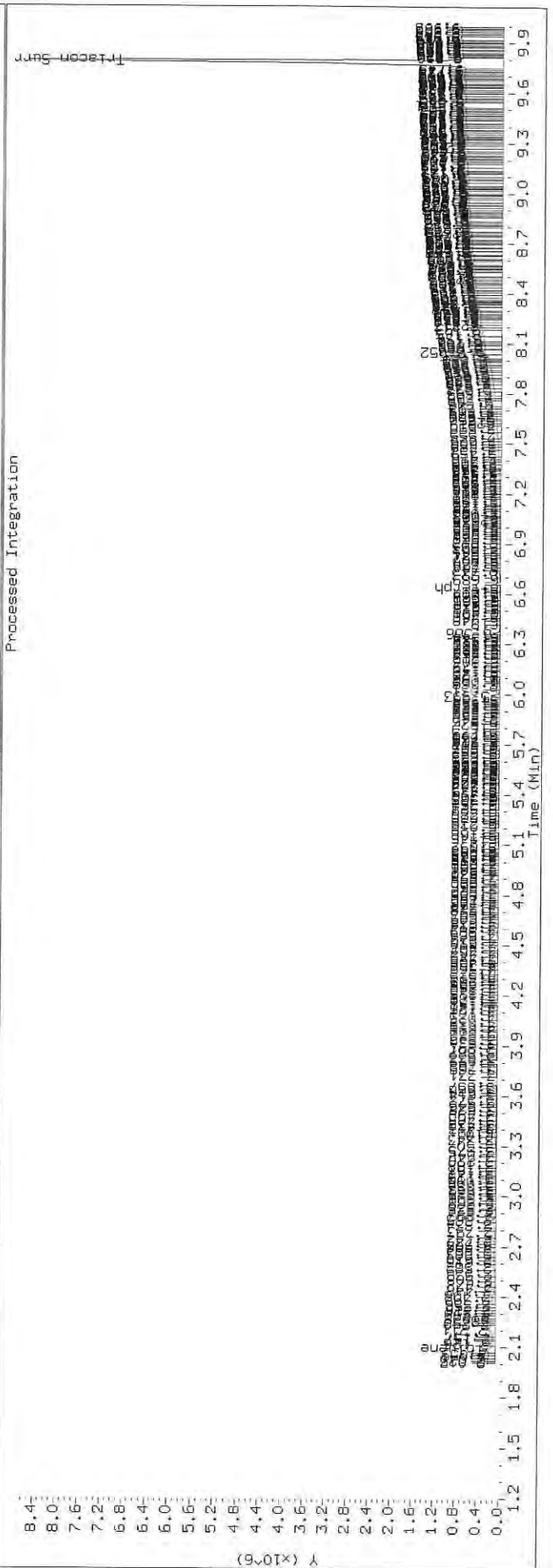
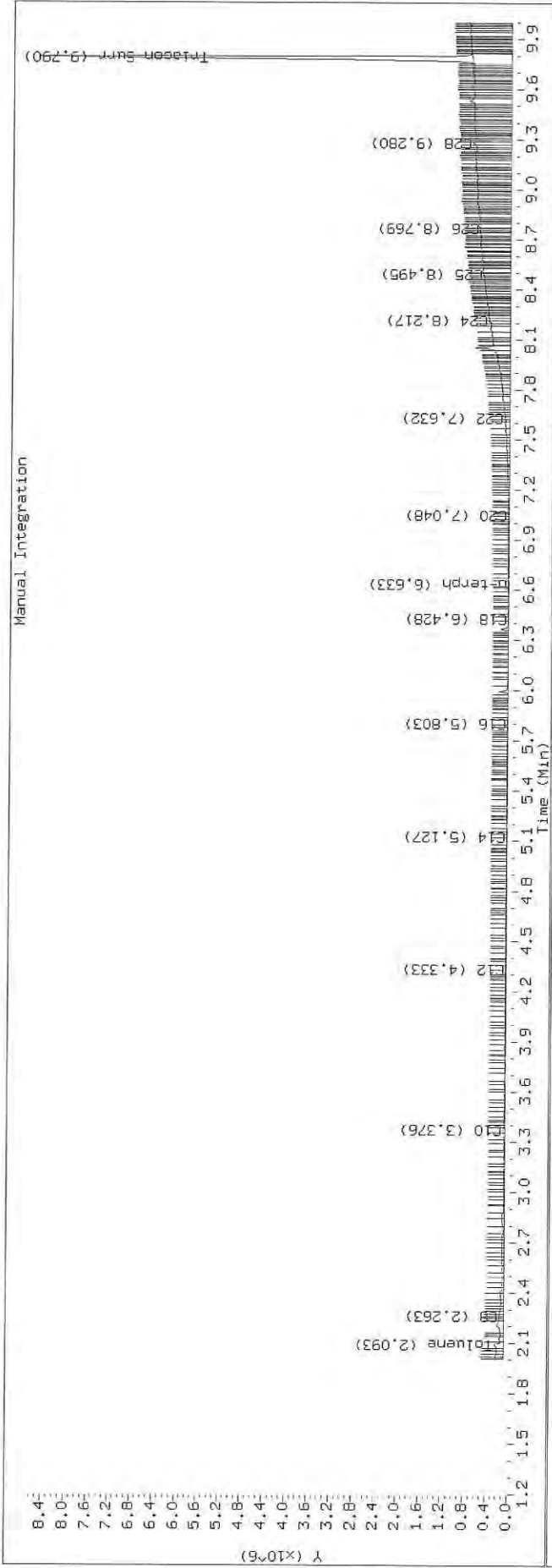
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2517.D SHJ0406-CALA

HF6890 GC Data, FID1A.CH



TPH Manual Integrations Report



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2518.D

Date: 25-OCT-2019 17:34

Client ID:

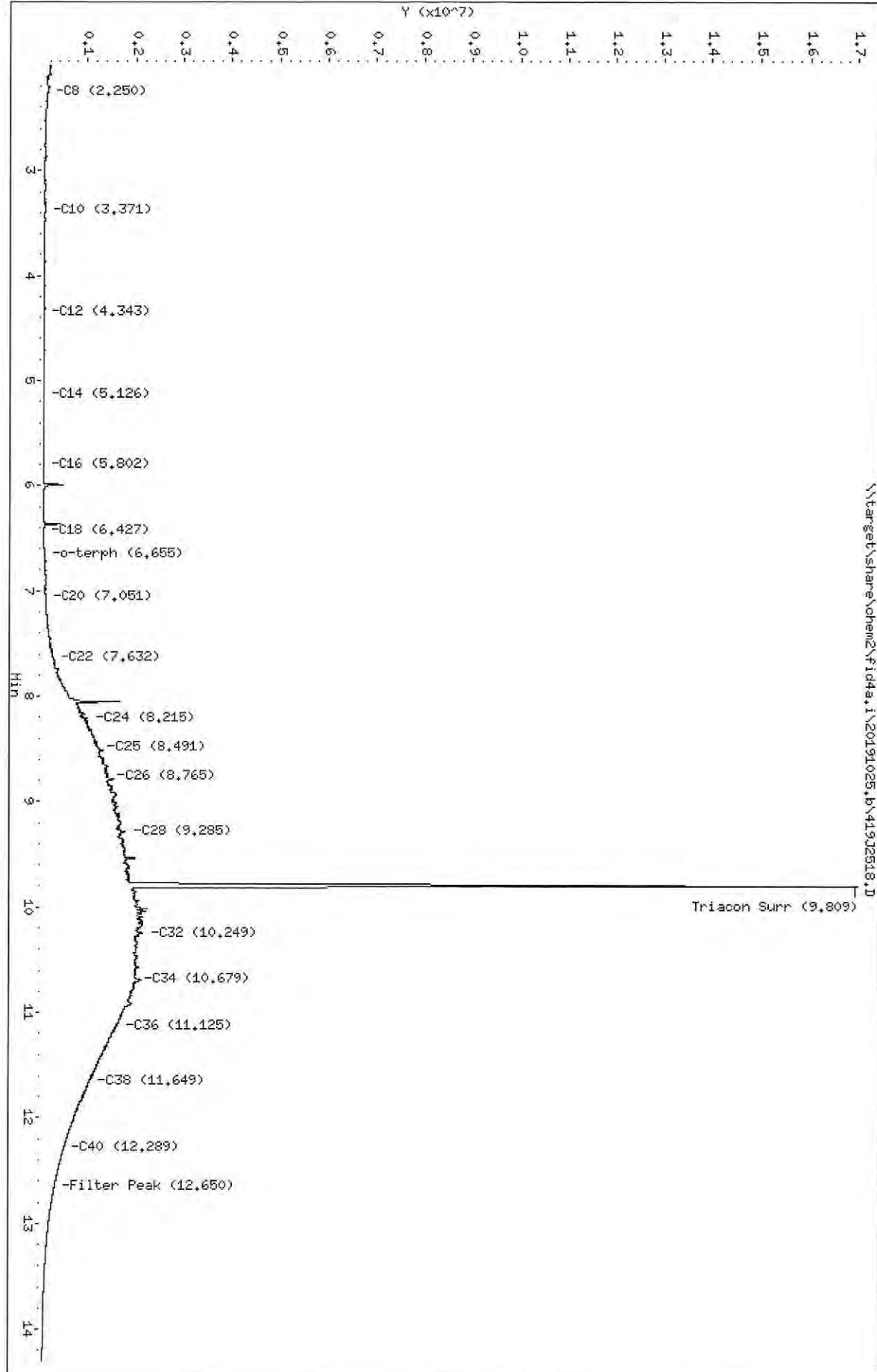
Sample Info: SHJ0406-C9LB

Column Phase: RTX-1

Instrument: fid4a.1

Operator: CTD/SH/WTS/JCR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

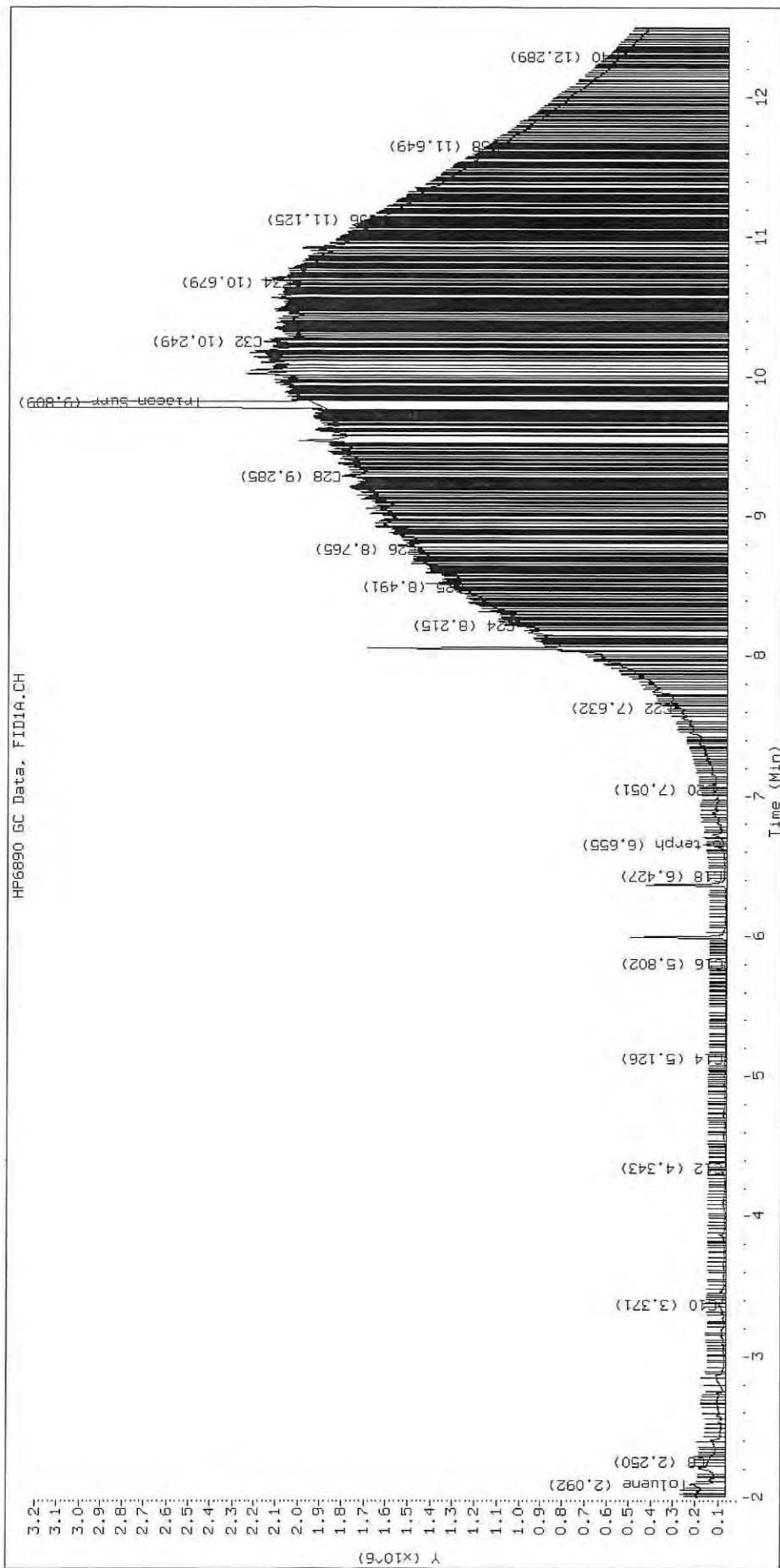
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacotane	20120024	113.0 M

M Indicates the peak was manually integrated

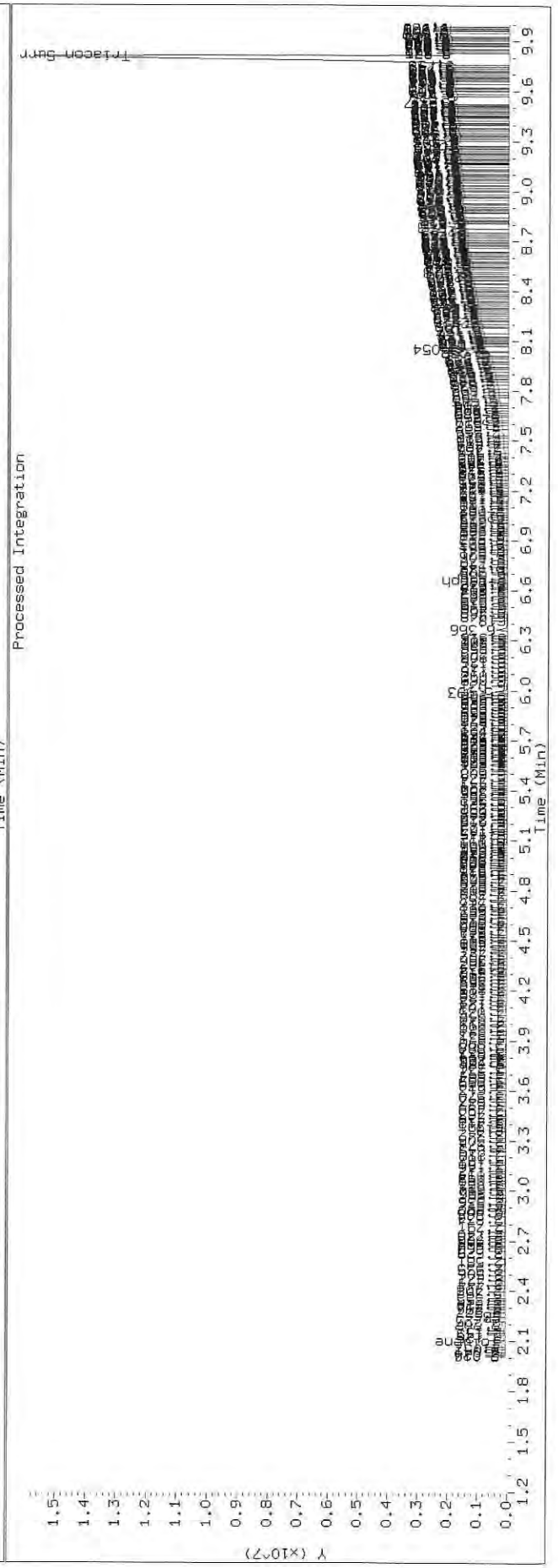
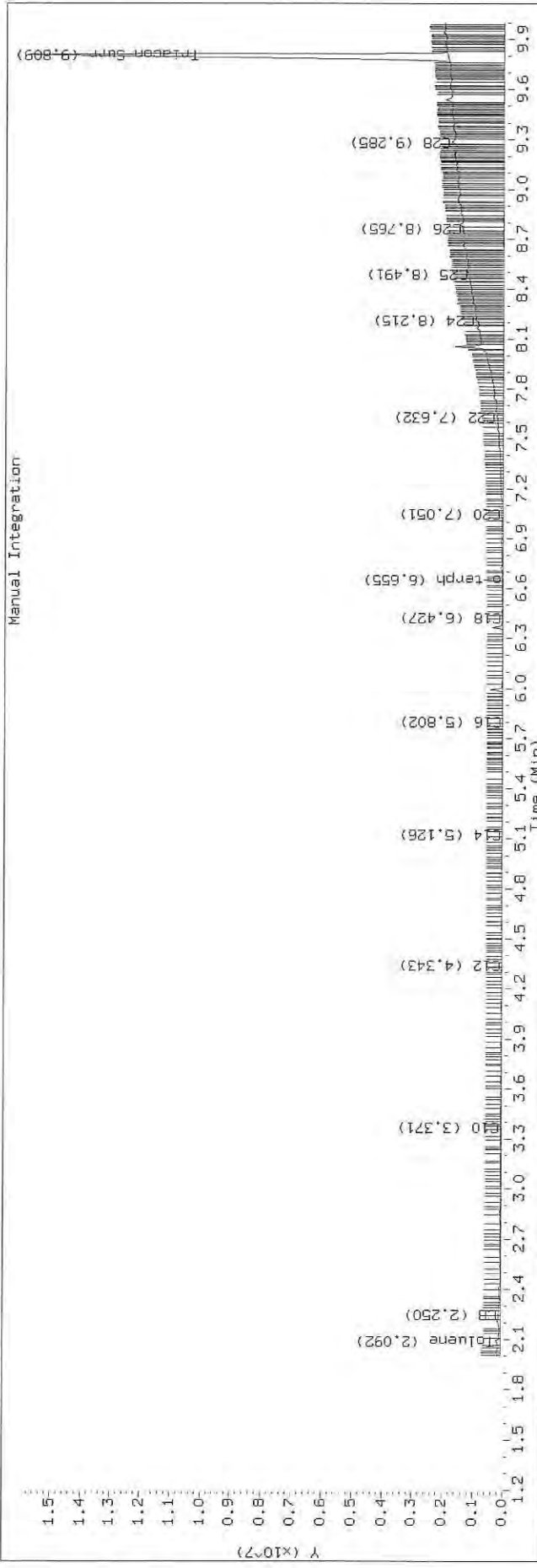
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

HP6890 GC Data, FID1A.CH



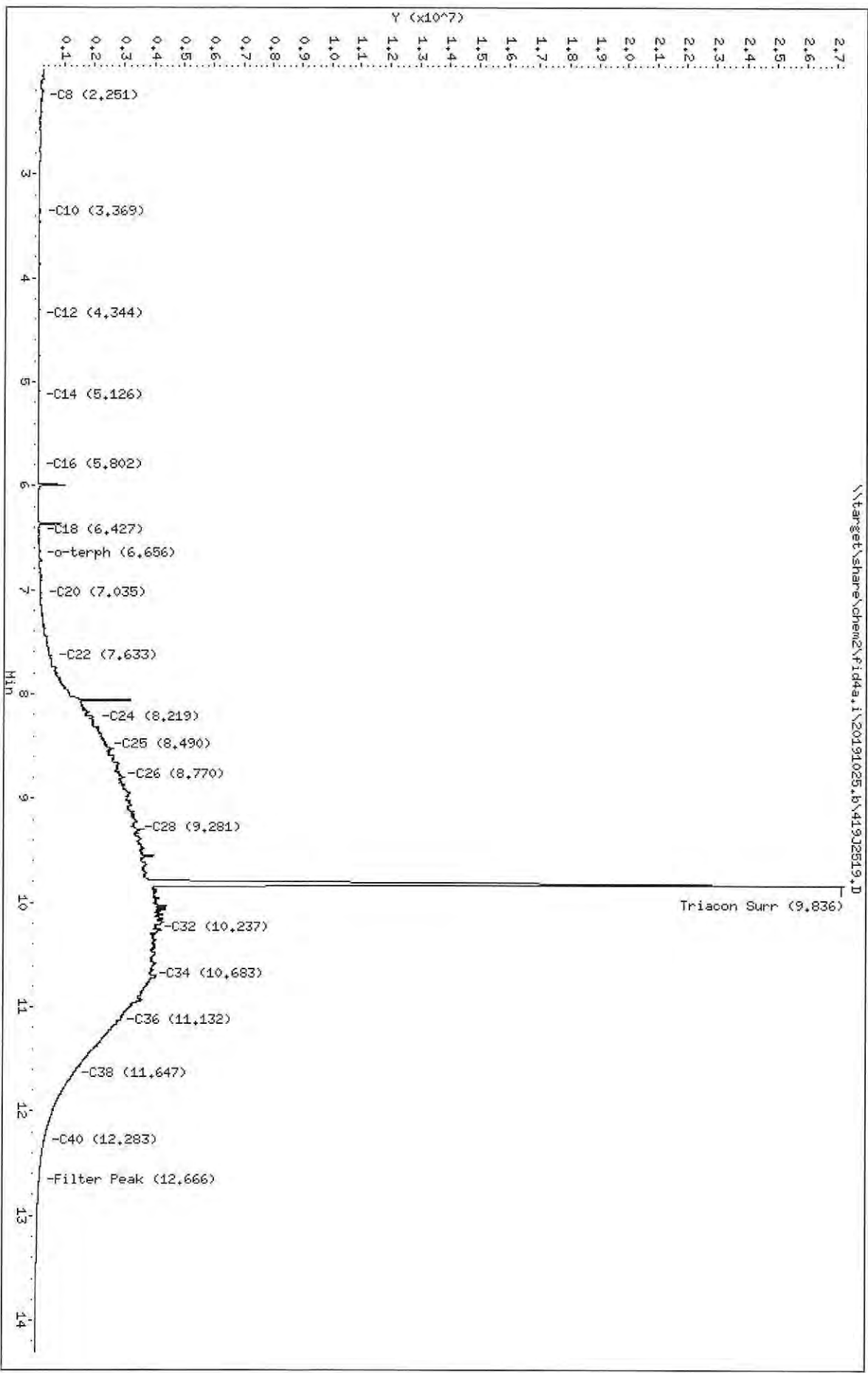
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2518.D Injection: 25-OCT-2019 17:34
 Lab ID: SHJ0406-CALB



Data File: \\target\share\chem2\fid4a.1\20191025.6\419J2519.D
Date: 25-OCT-2019 17:54
Client ID:
Sample Info: SHJ0406-CHLC

Column phase: RTX-1

Instrument: fid4a.1
Operator: CT0/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

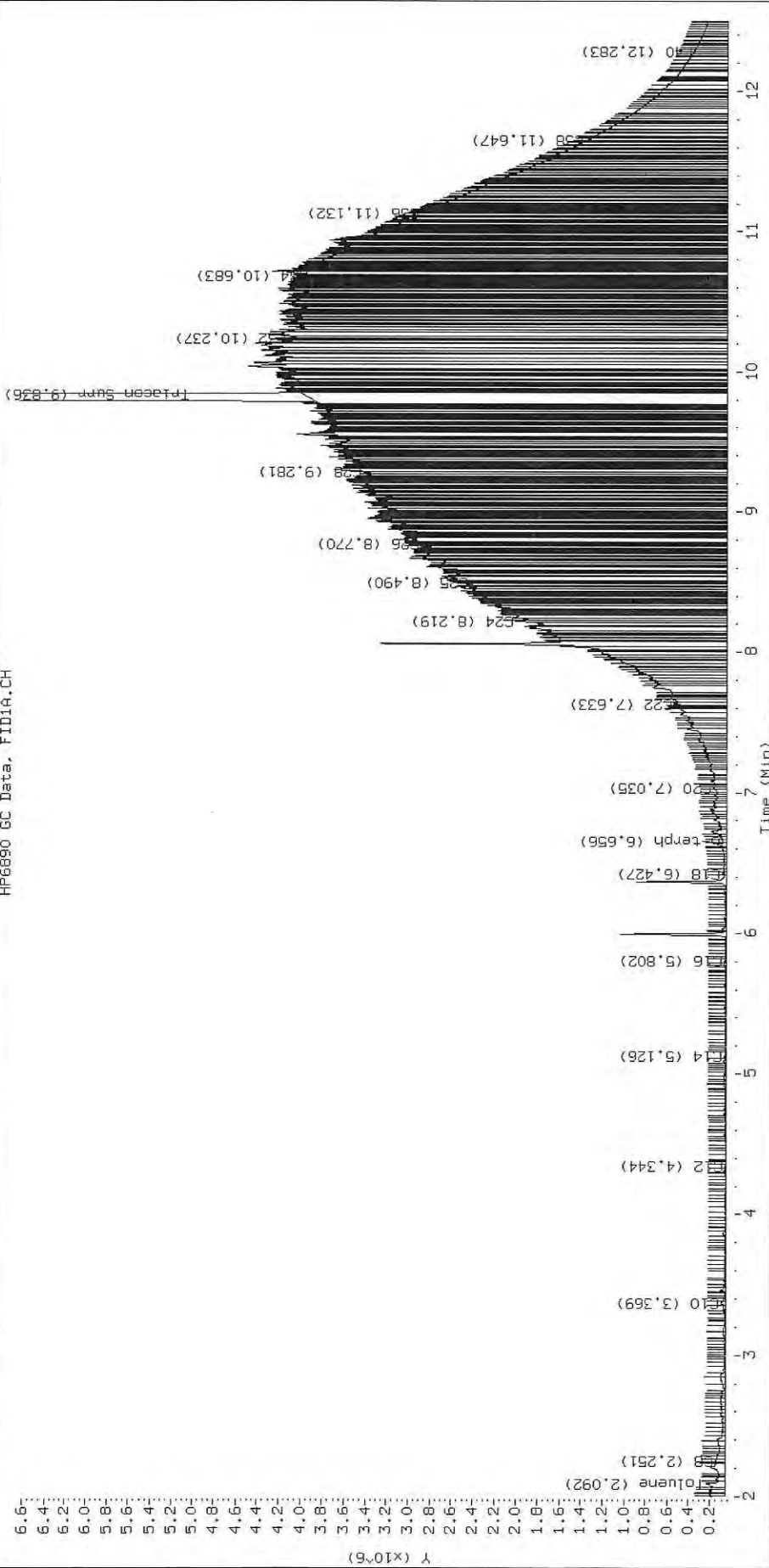
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacotane	39698048	223.0 M

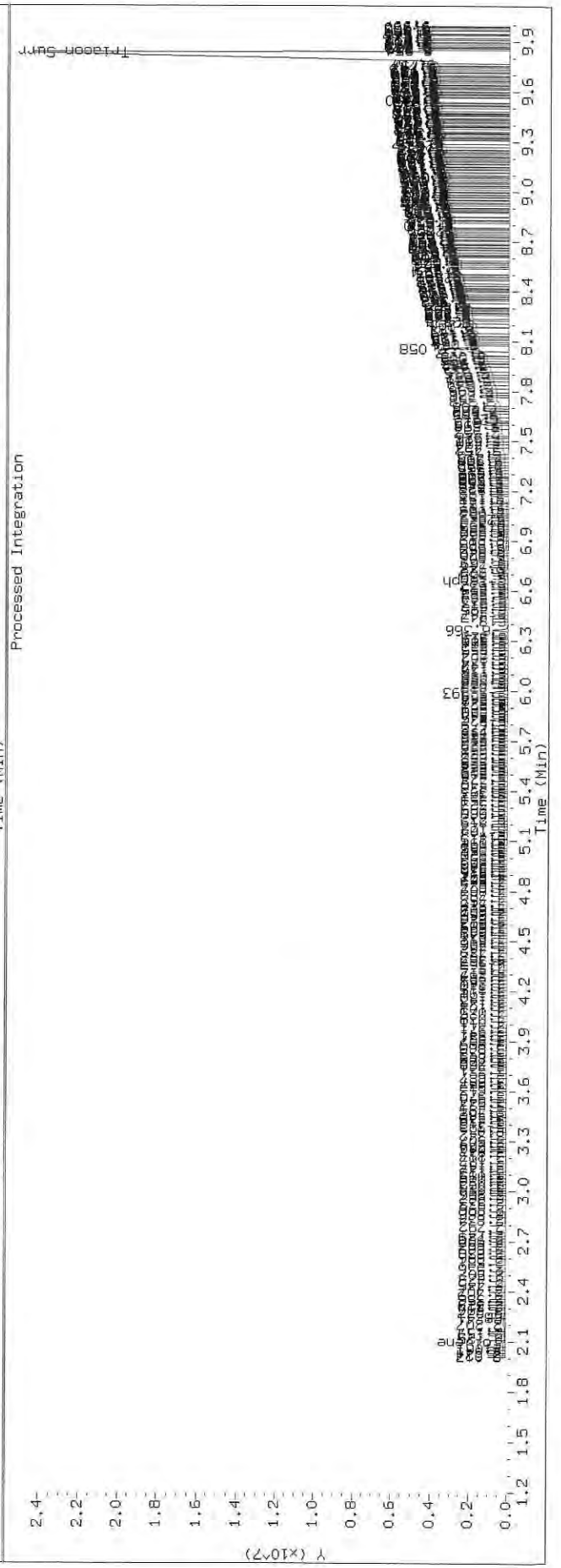
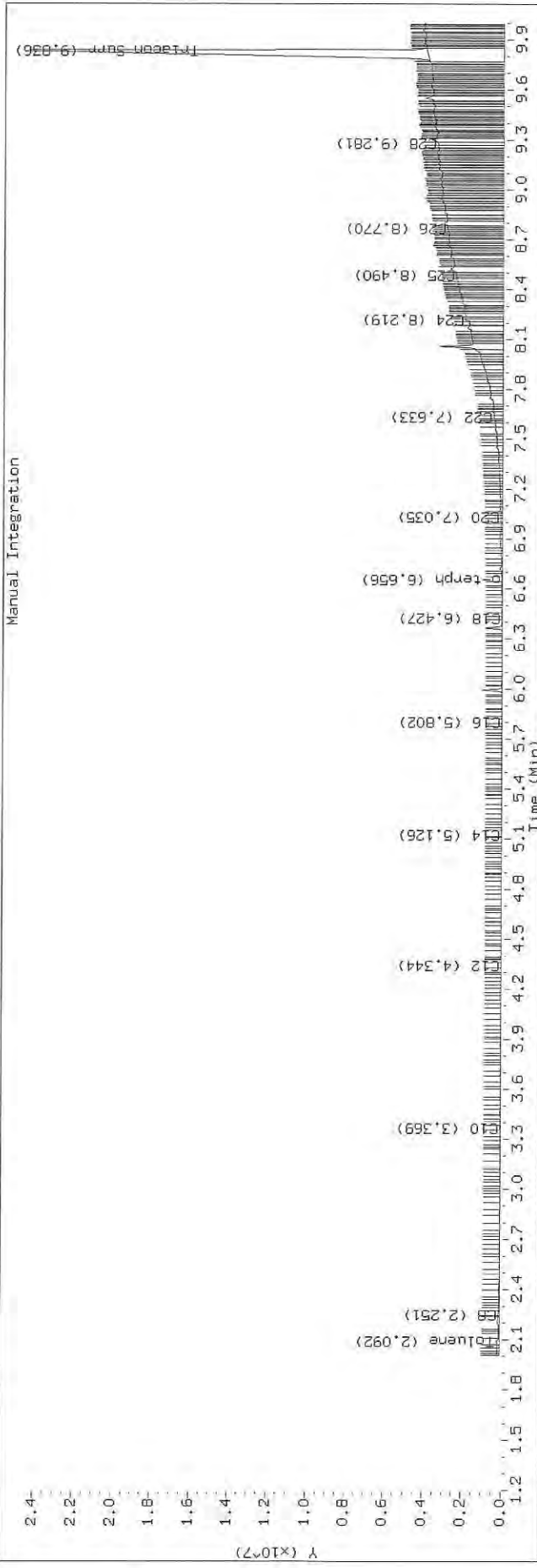
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

HP6890 GC Data, FID1A.CH



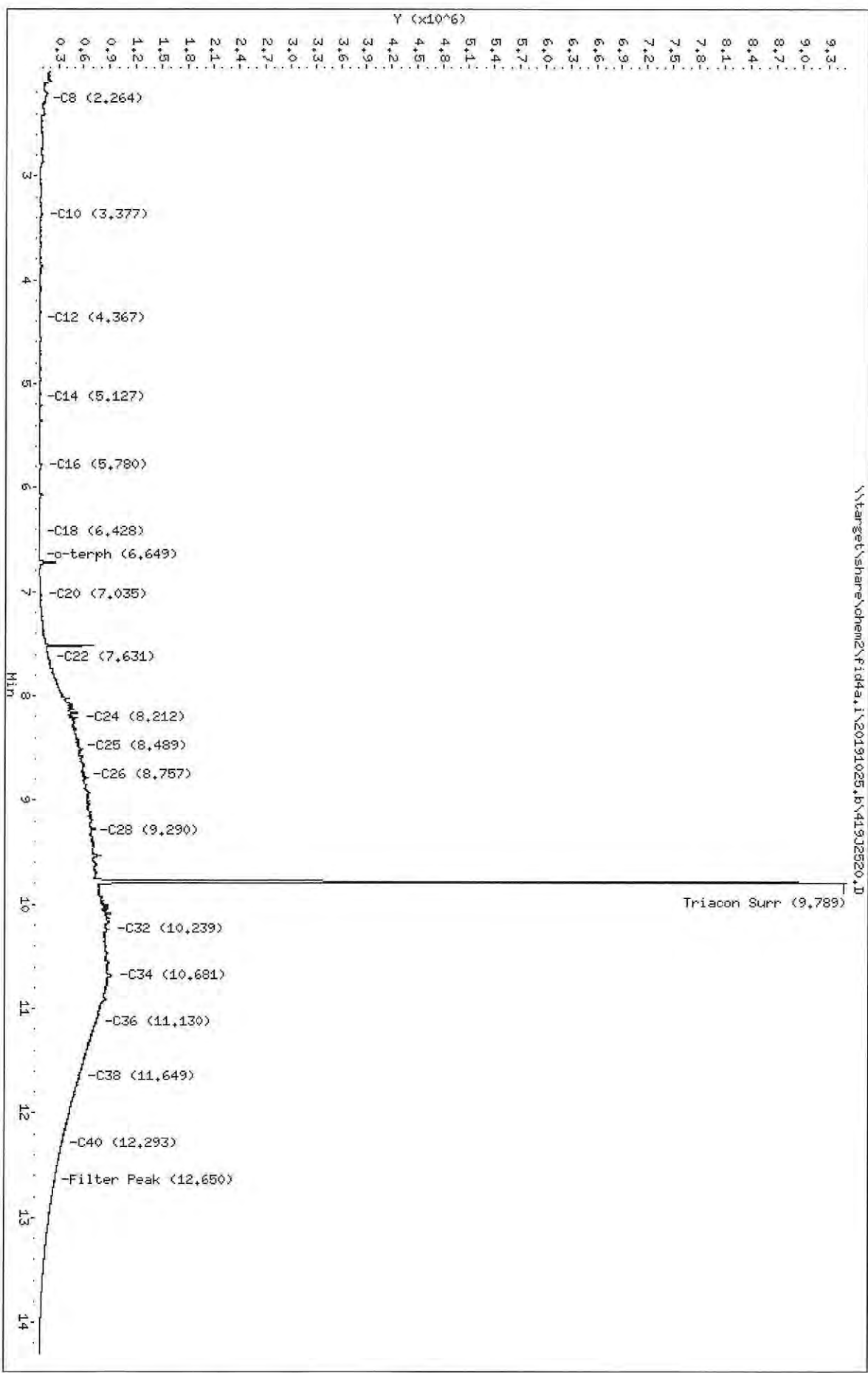


Data File: \\target\share\chem2\fid4a.1\20191025 JB\419J2520.D
Date: 25-OCT-2019 18:14
Client ID:
Sample Info: SHJ0406-SCV2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.1\20191025 JB\419J2520.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

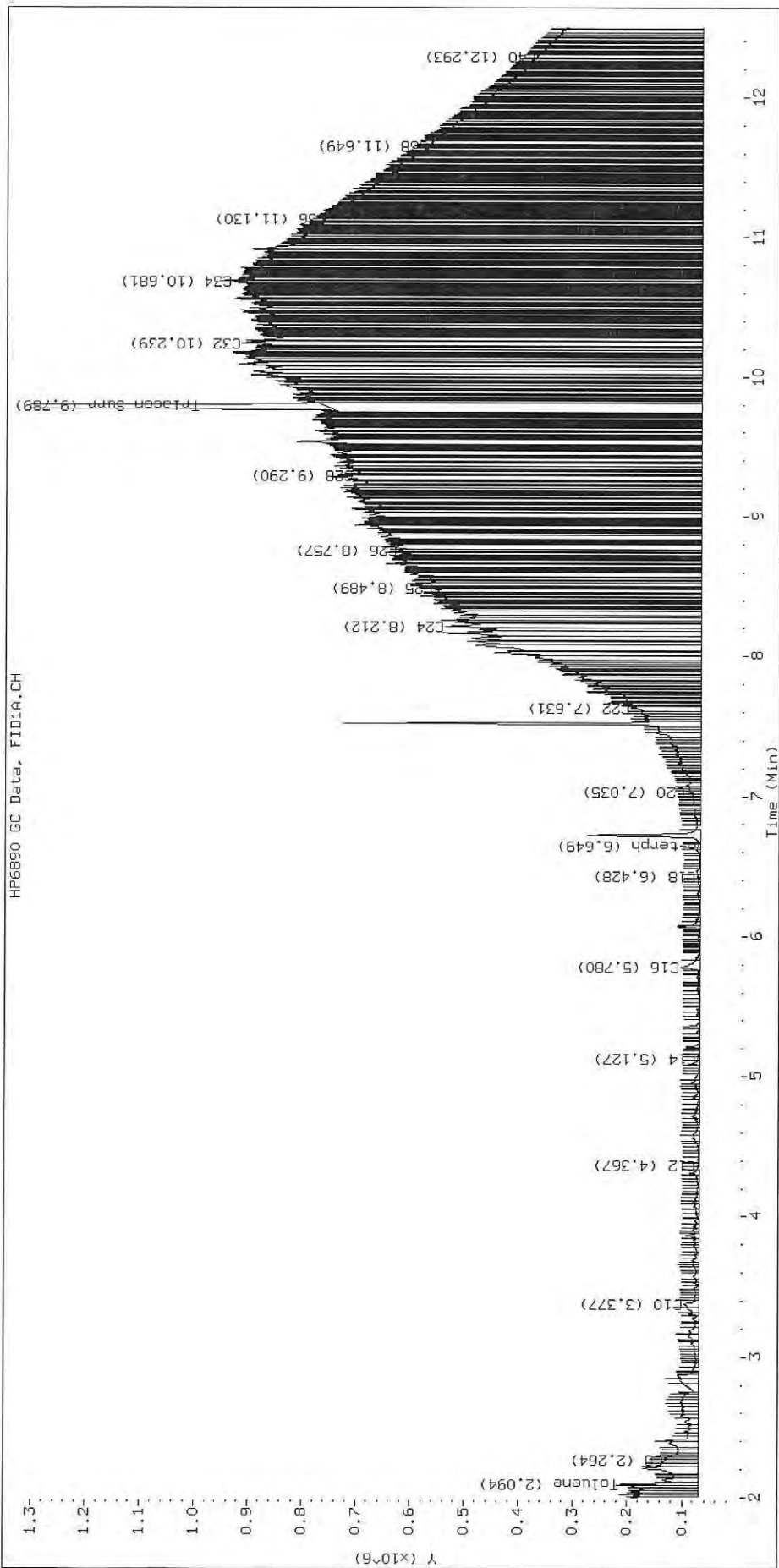
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

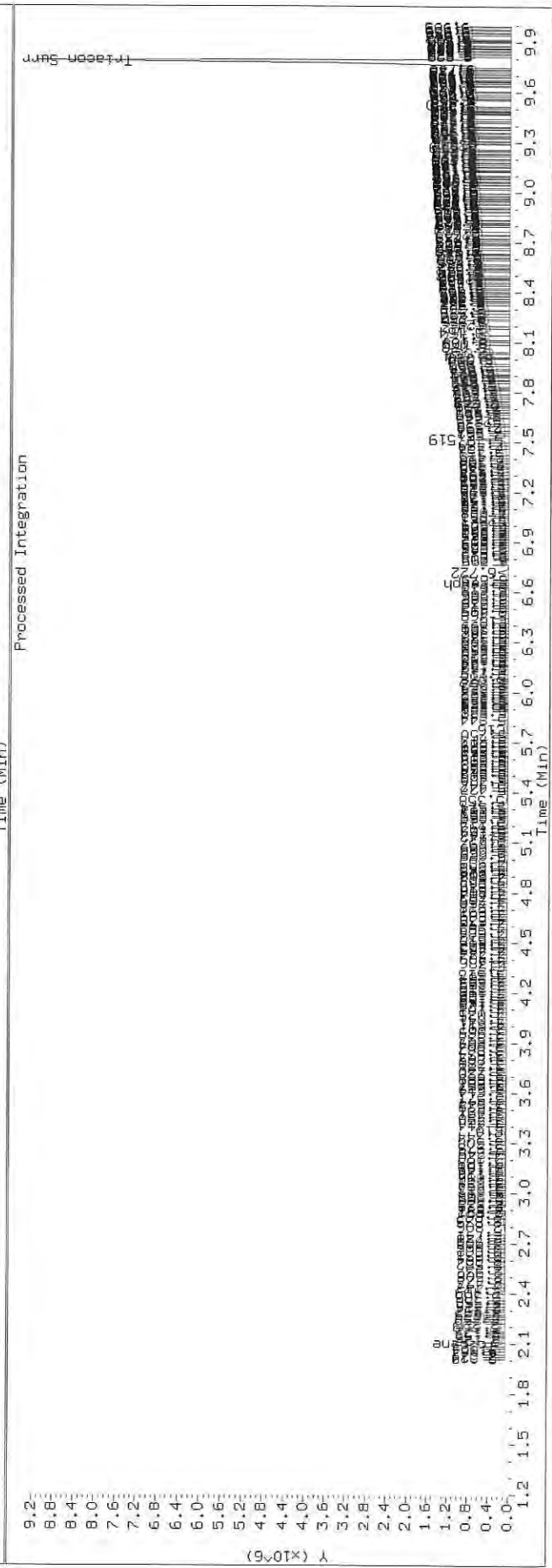
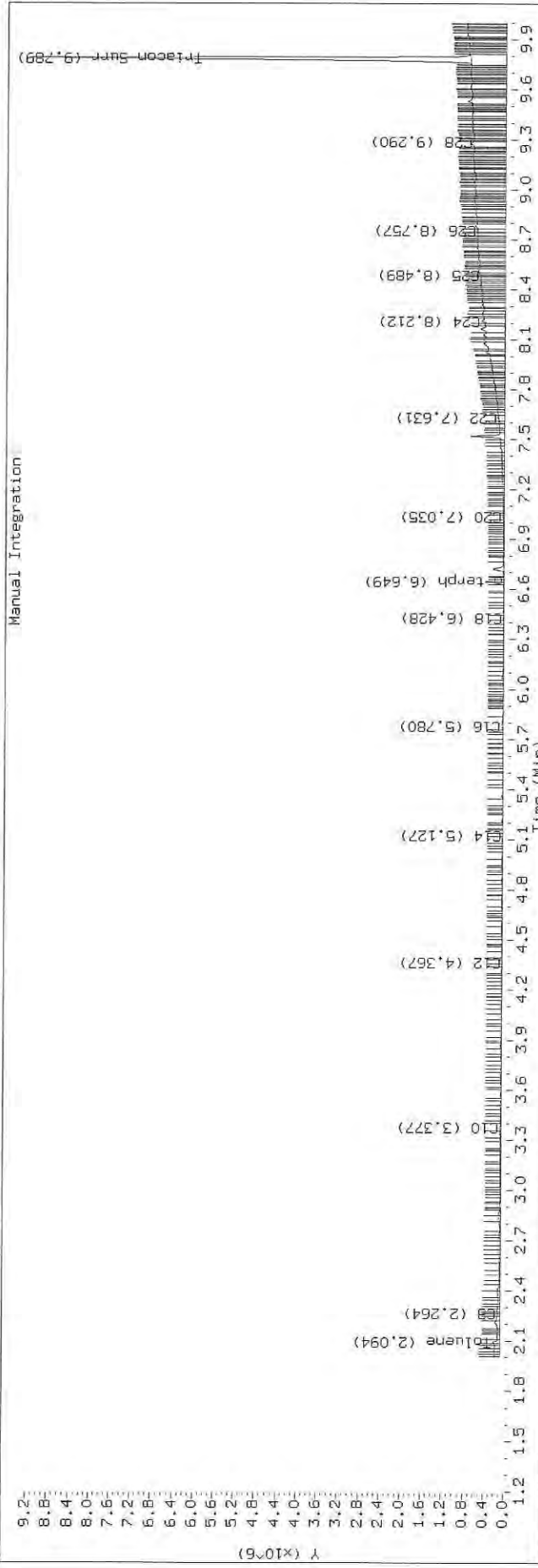
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14
 Lab ID:SHJ0406-SCV2



Data File: \\target\share\chem2\Fidda.i\20191025.b\41932521.D

Date: 25-OCT-2019 18:36

Client ID:

Sample Info: SH00406-CALD

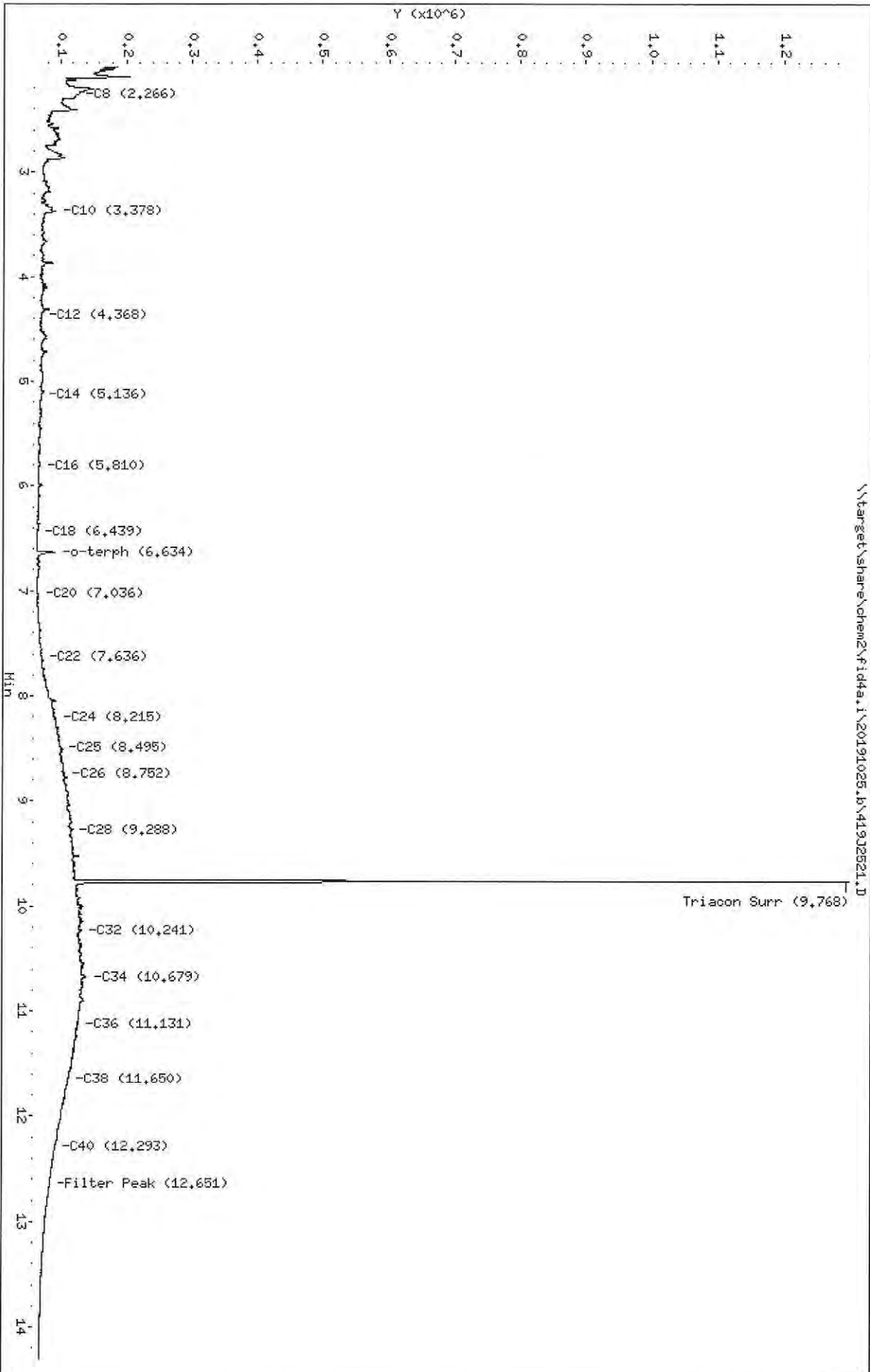
Column phase: RTX-1

Instrument: fidda.i

Operator: CTG/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fidda.i\20191025.b\41932521.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

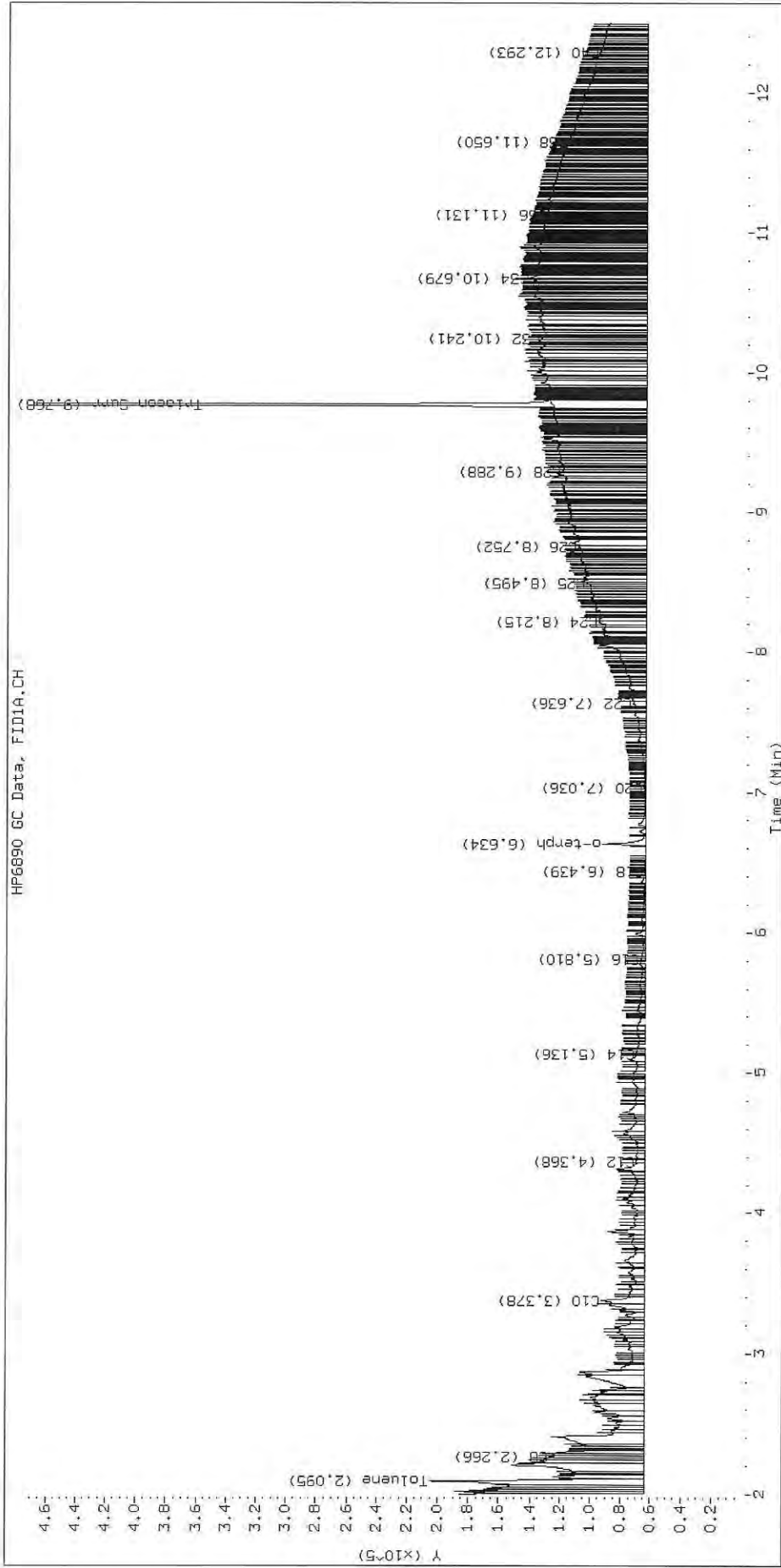
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacontane	818277	4.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

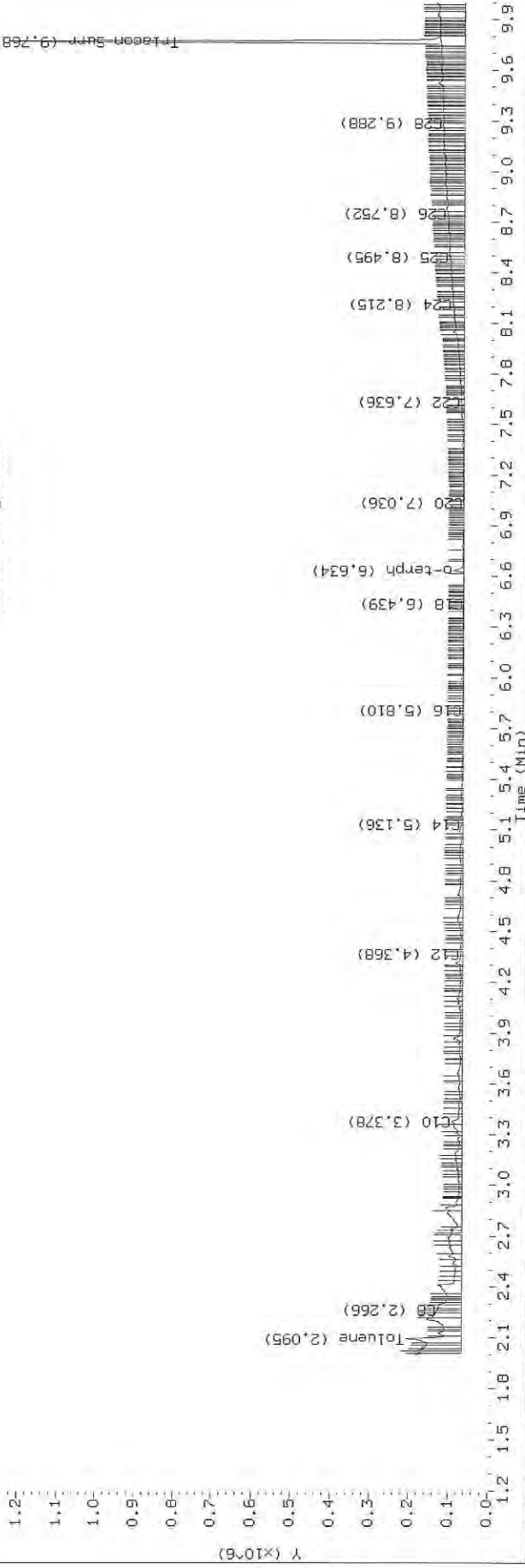
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HP6890 GC Data, FID1A.CH

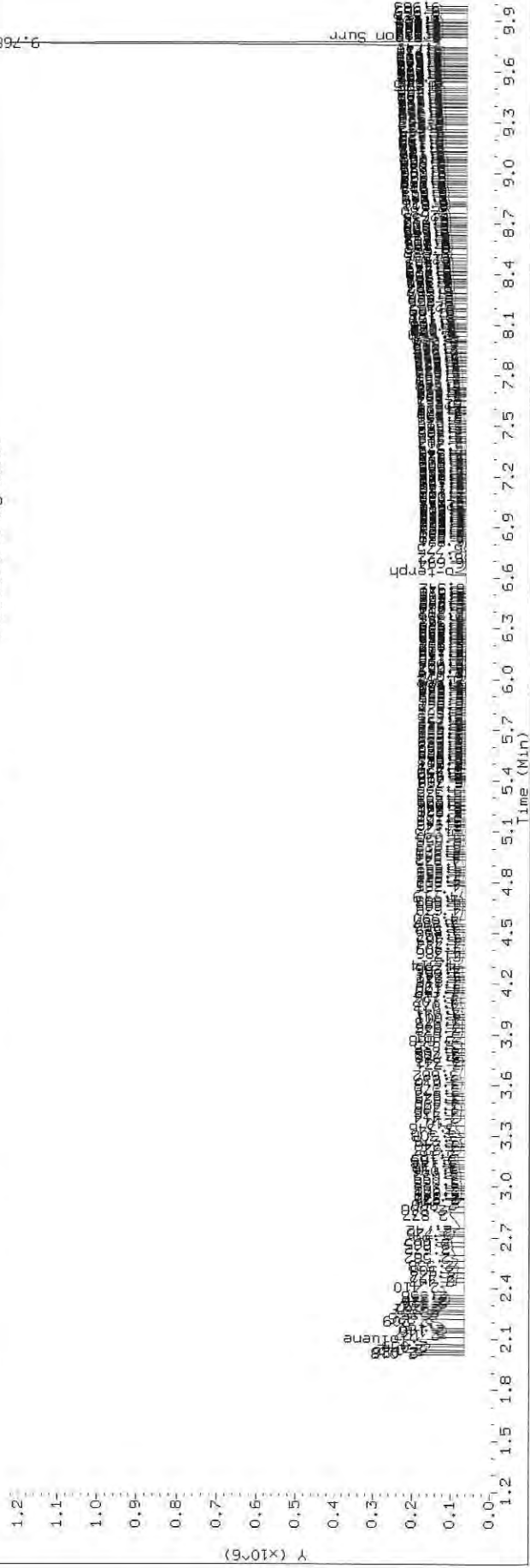


Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD

Manual Integration



Processed Integration



Data File: \\target\share\chem2\Fid4a.I\20191025.B\41932522.D

Date: 25-OCT-2019 18:55

Client ID:

Sample Info: SHJ0406-CALC

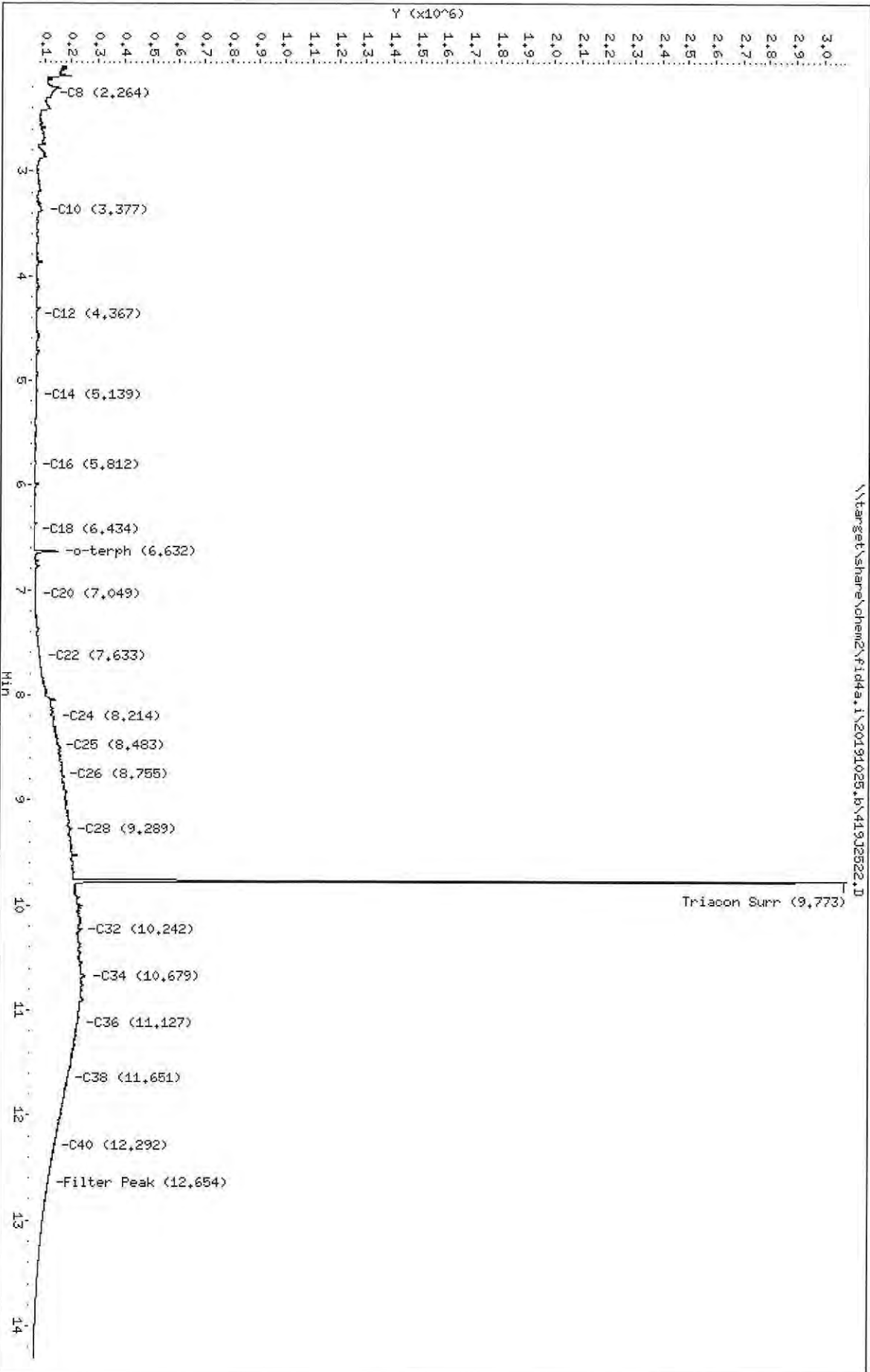
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTU/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

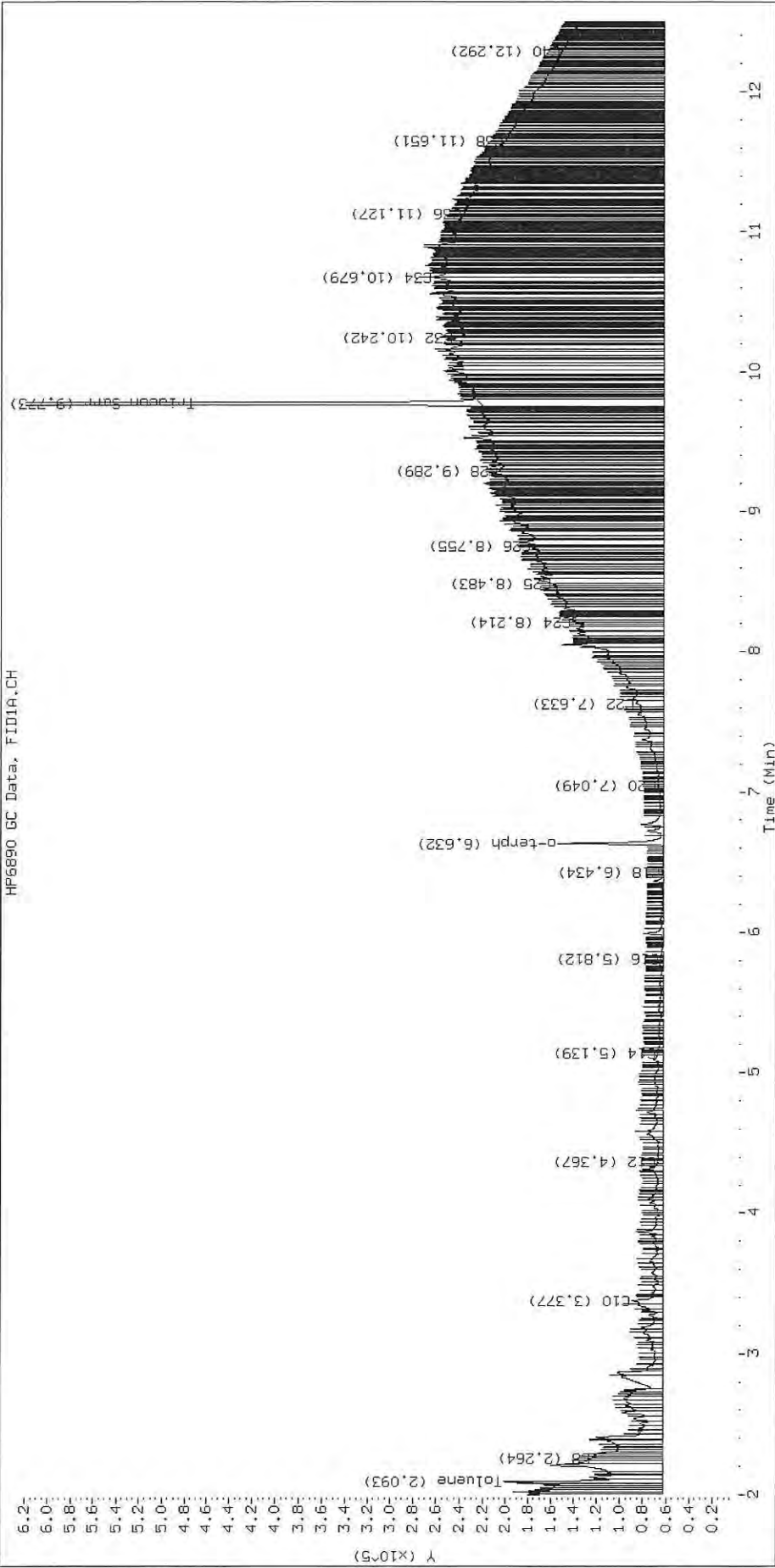
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacotane	2058184	11.6 M

M Indicates the peak was manually integrated

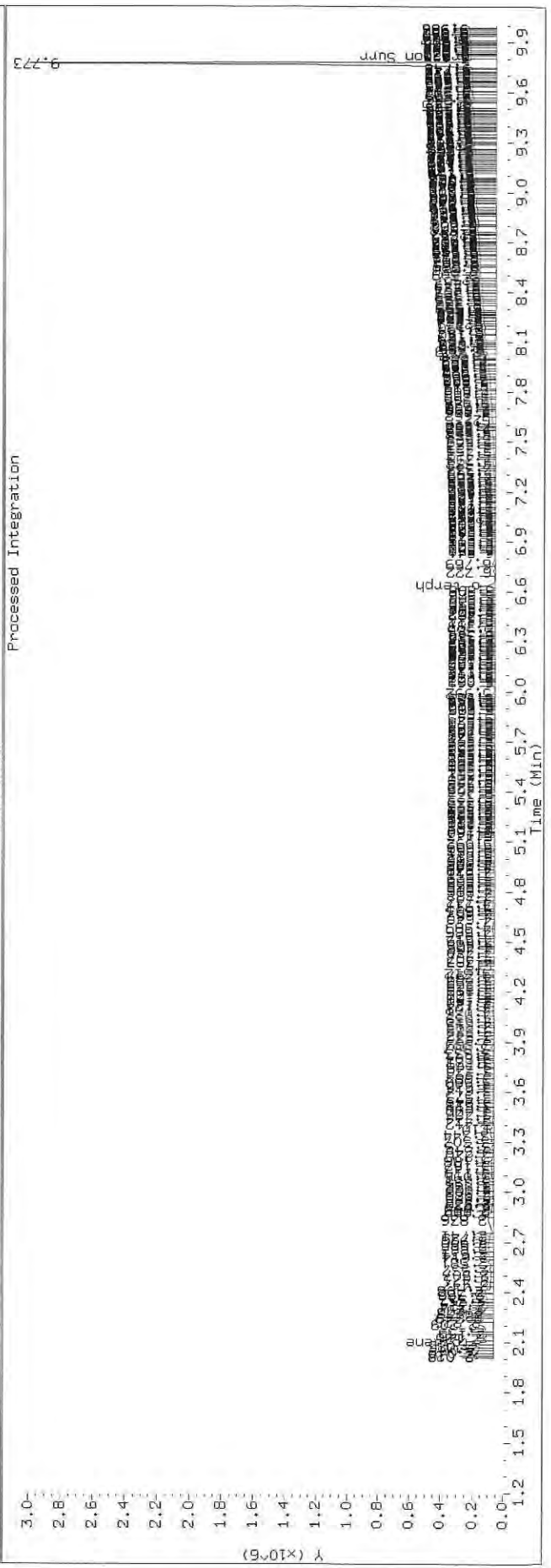
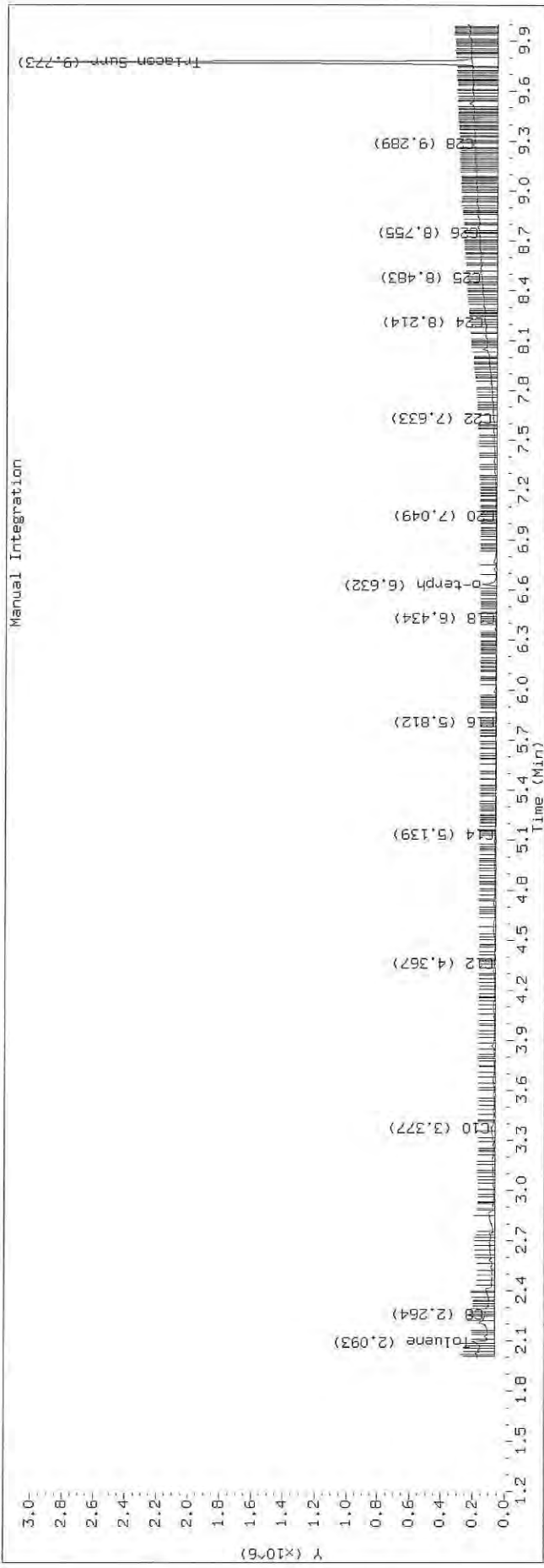
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

HF6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2522.D Injection: 25-OCT-2019 18:55
 Lab ID: SHJ0406-CALE



Data File: \\target\share\chem2\Fidda.I\20191025.B\41932623.D

Date: 25-OCT-2019 13:15

Client ID:

Sample Info: SHJ0406-CALF

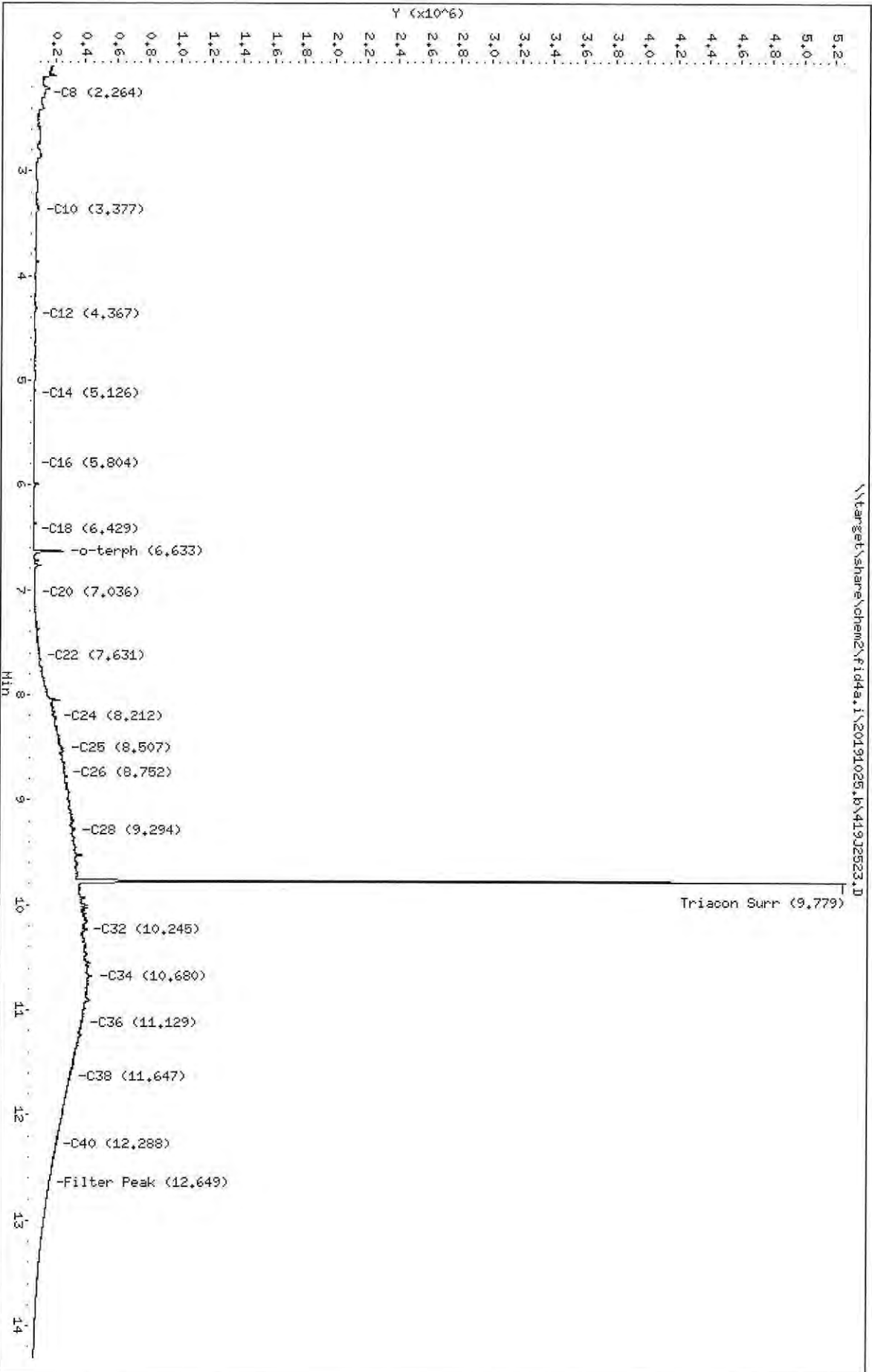
Column phase: RTX-1

Instrument: fidda.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

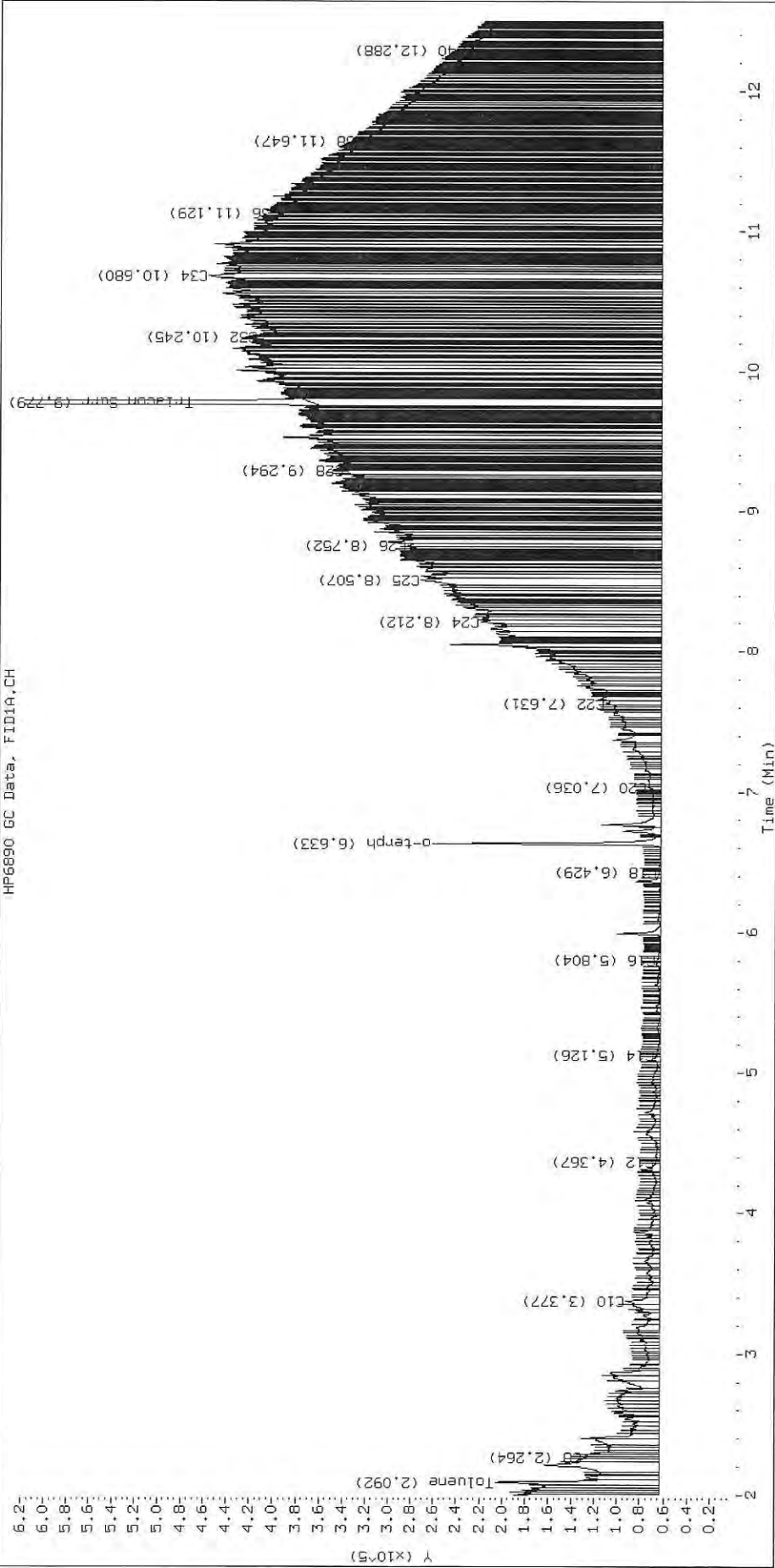
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacotane	3941895	22.1 M

M Indicates the peak was manually integrated

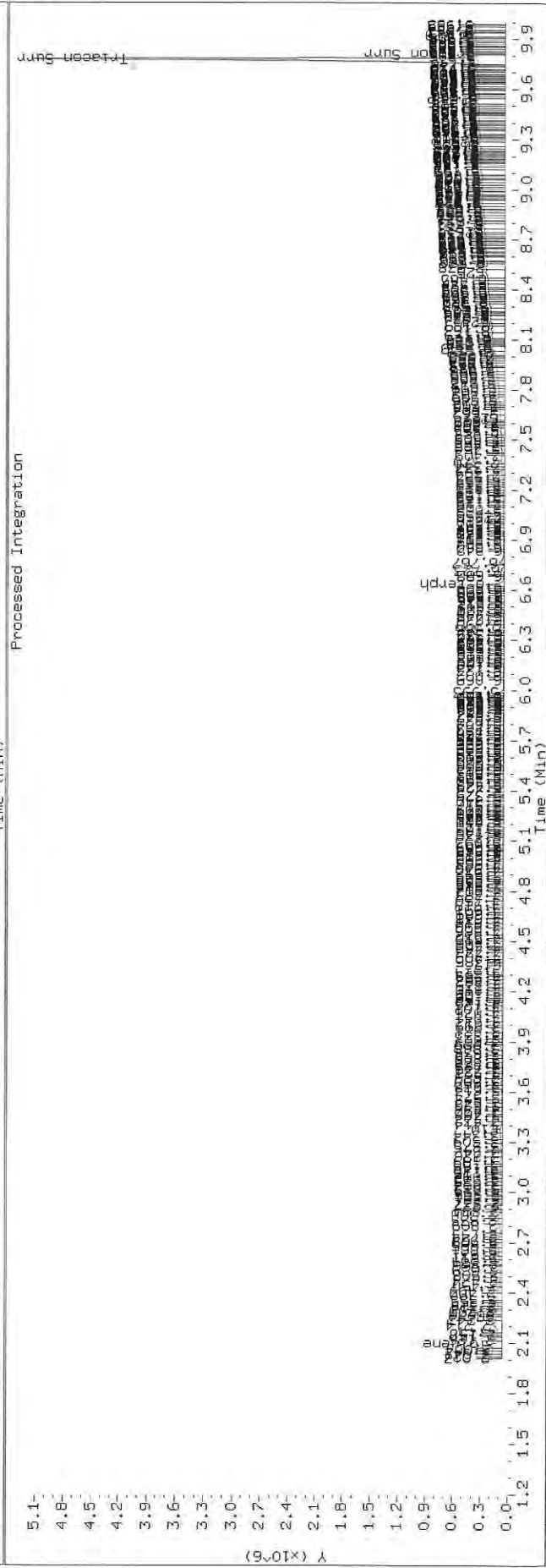
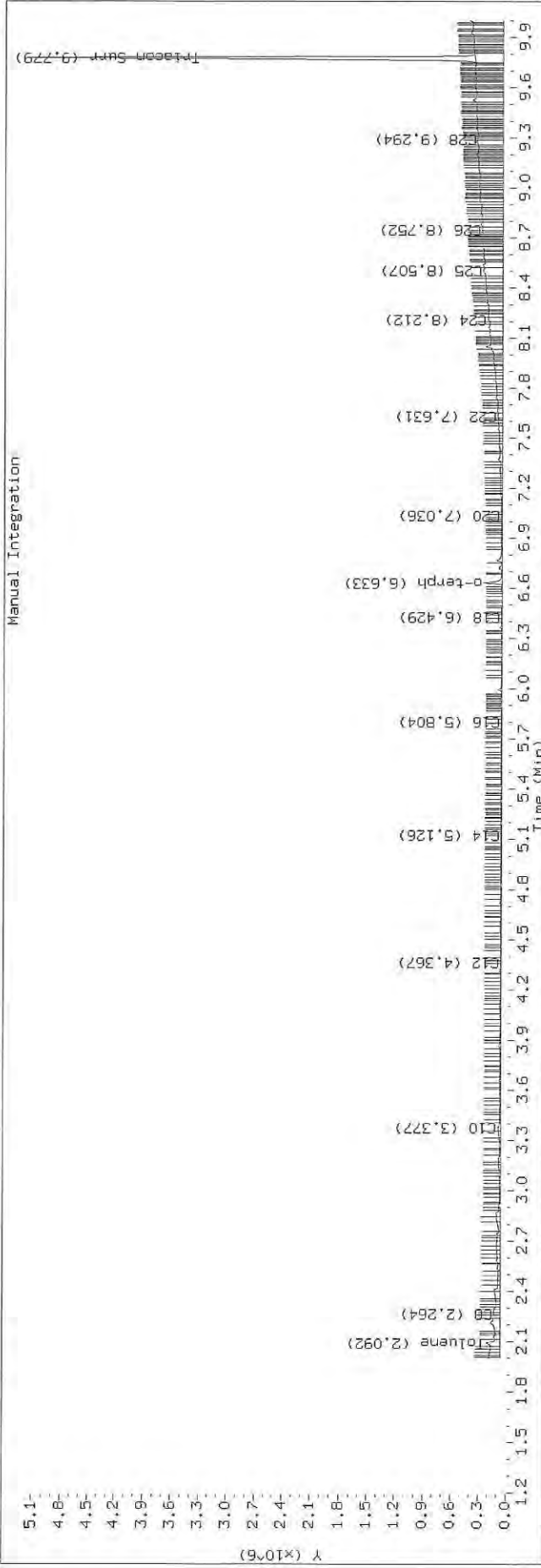
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2523.D Injection: 25-OCT-2019 19:15
 Lab ID:SHU0406-CALF



Data File: \\target\share\chem2\Fid4a.i\20191025.b\41932824.D

Date: 25-OCT-2019 19:34

Client ID:

Sample Info: SH00406-CALG

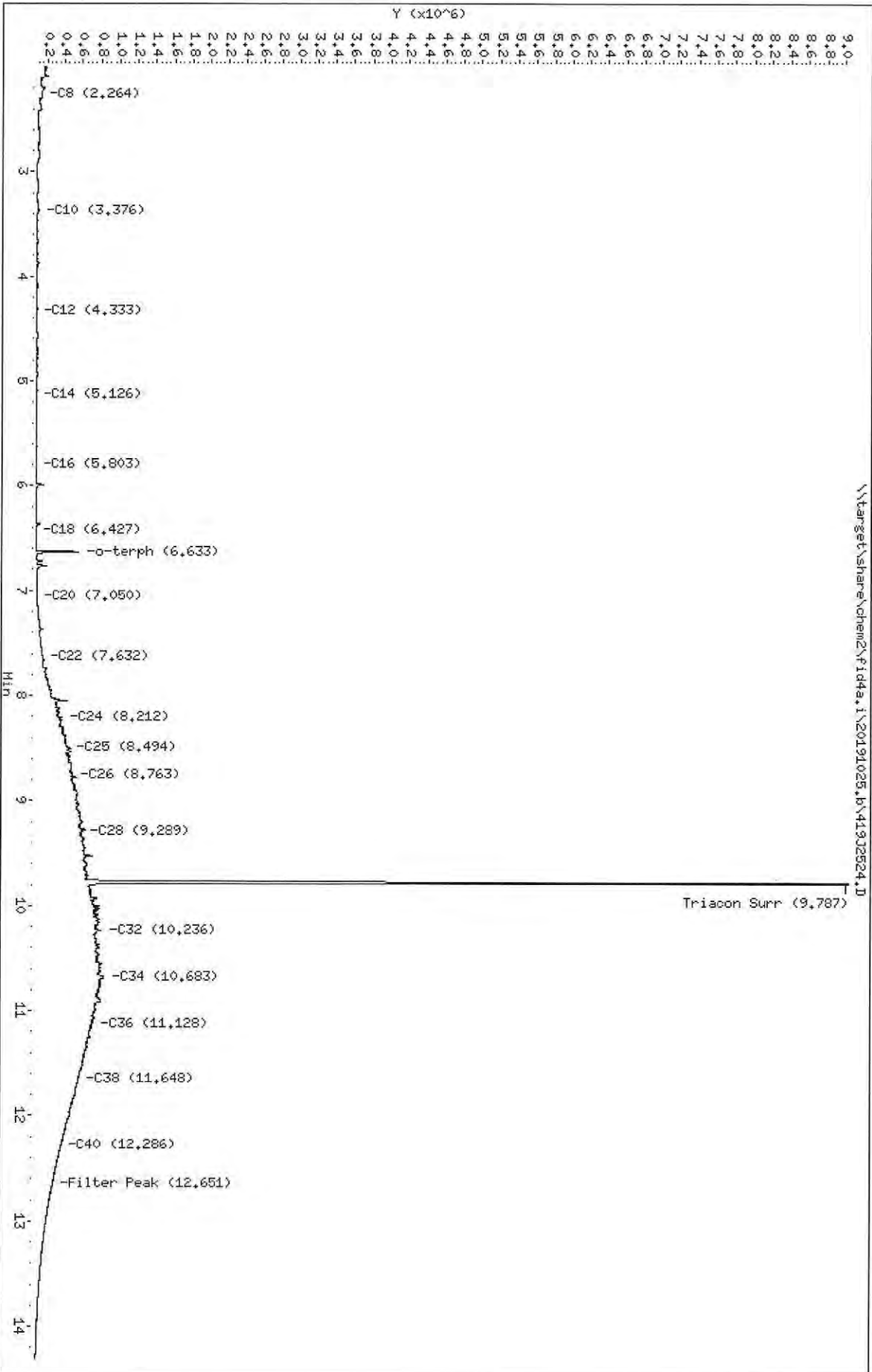
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

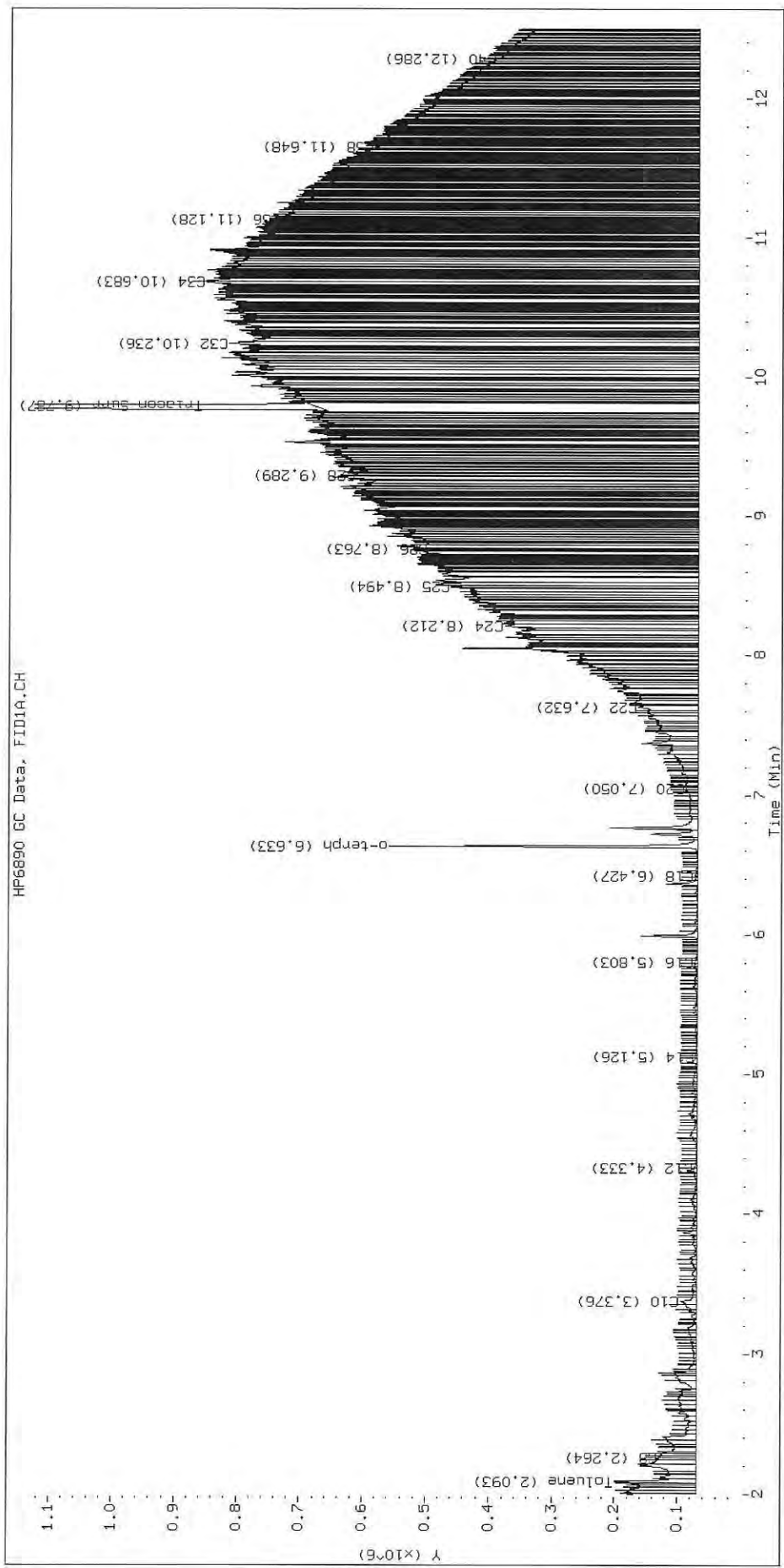
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacontane	7933666	44.6 M

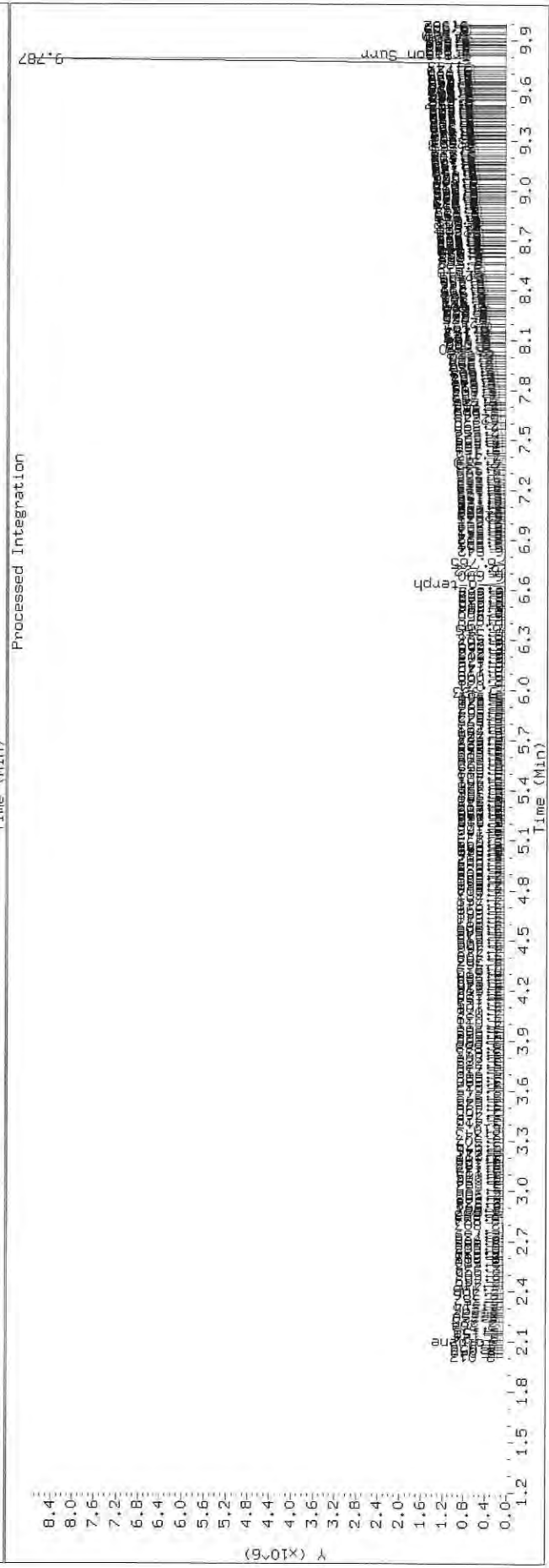
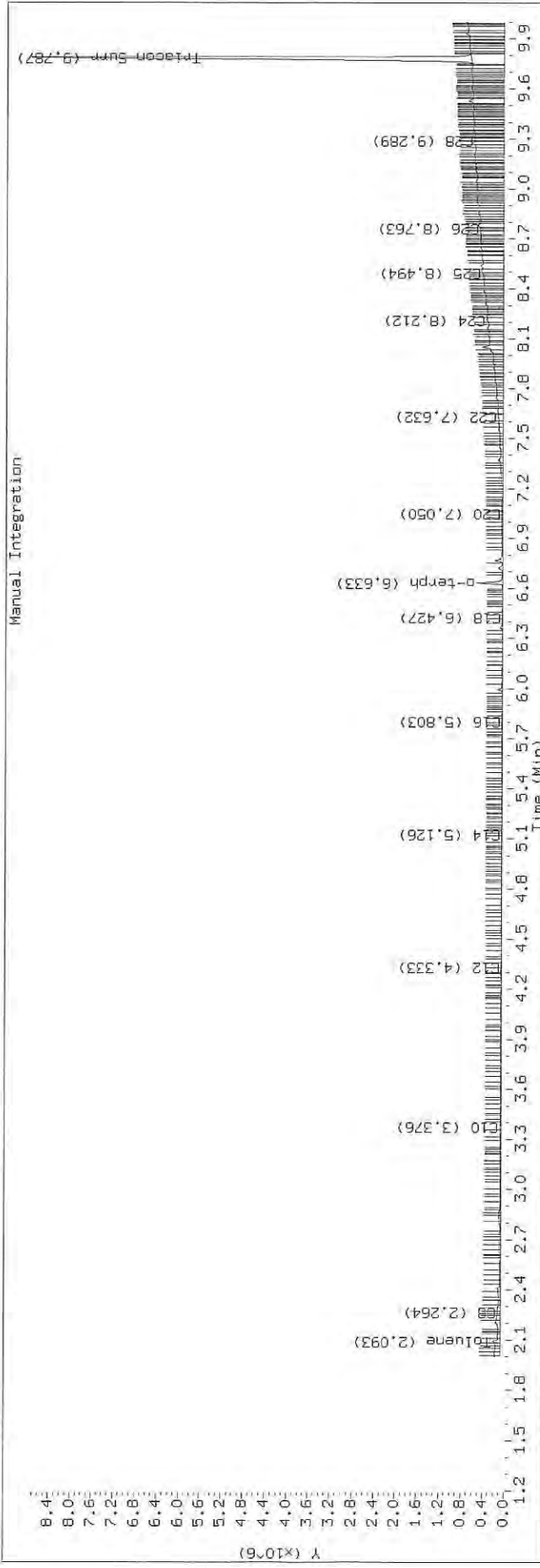
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\Fid4a.i\20191025_b\419J2525.D

Date: 25-OCT-2019 19:54

Client ID:

Sample Info: SH30406-CLLH

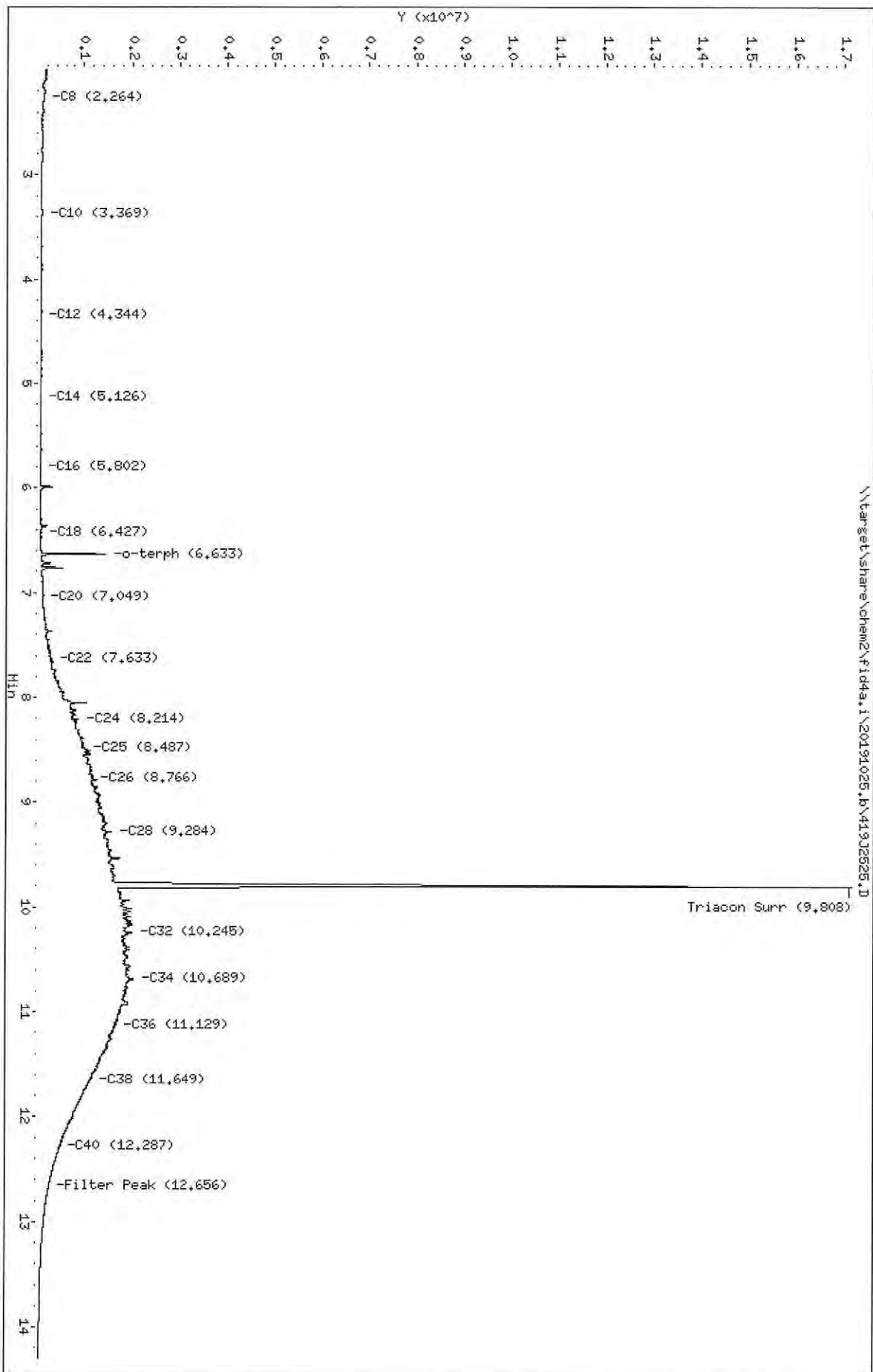
Column phase: RTX-1

Instrument: fid4a.1

Operator: CTD/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fid4a.i\20191025_b\419J2525.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

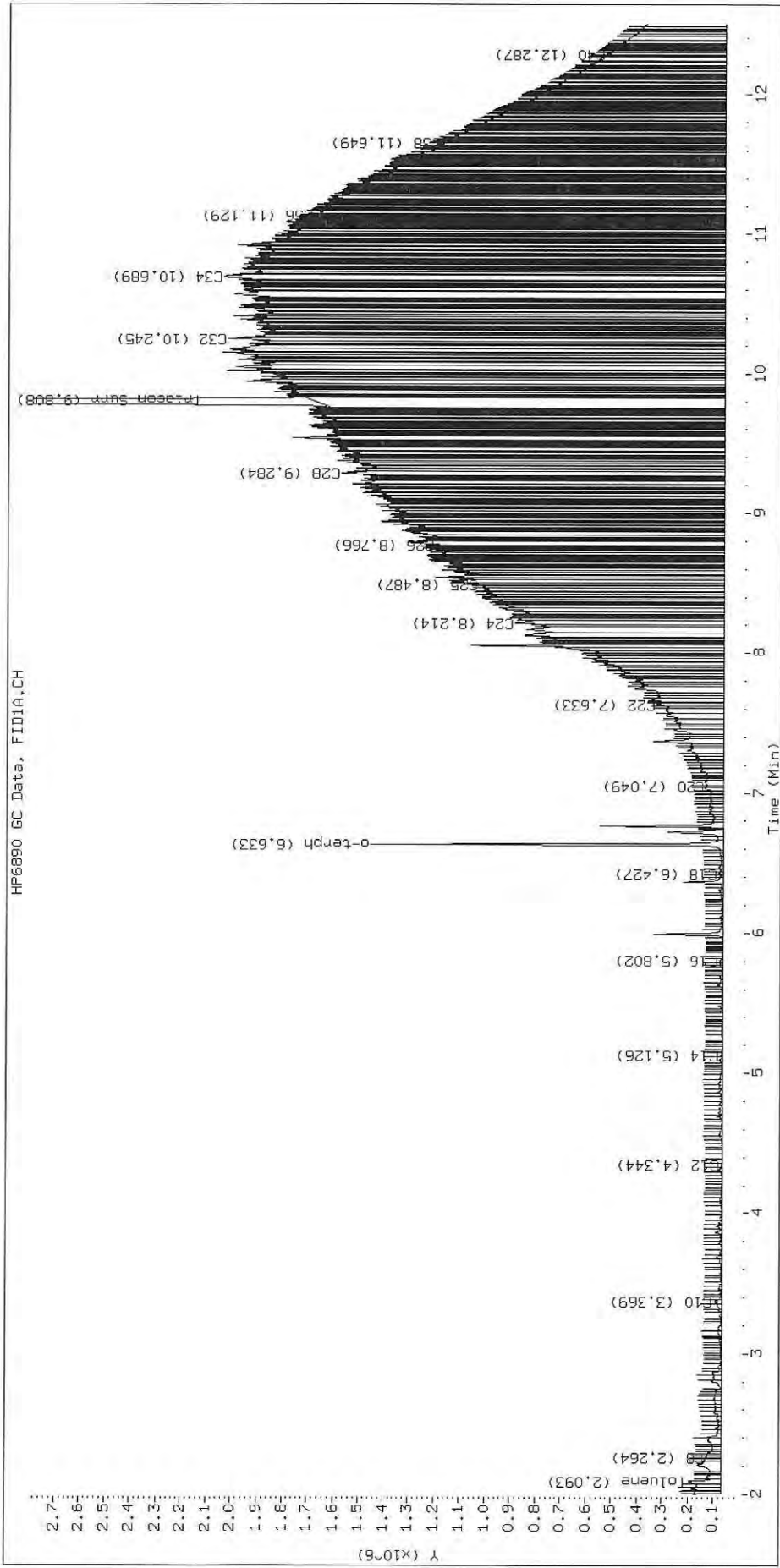
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacontane	20436973	114.8 M

M Indicates the peak was manually integrated

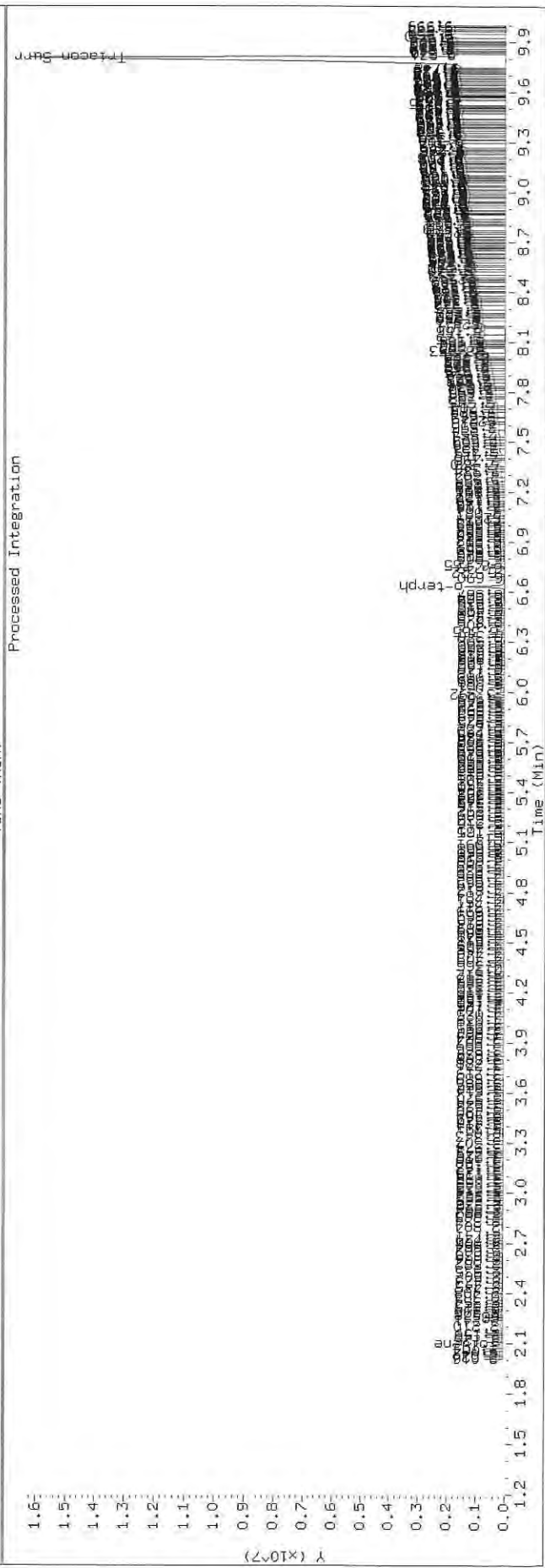
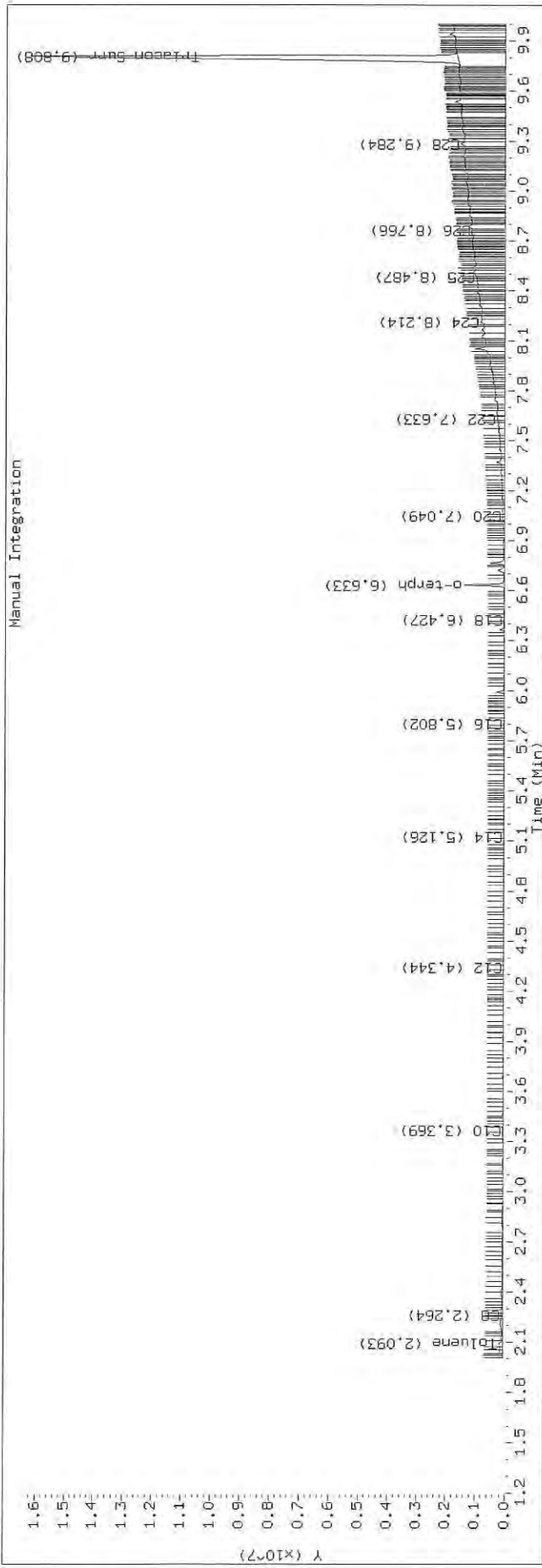
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



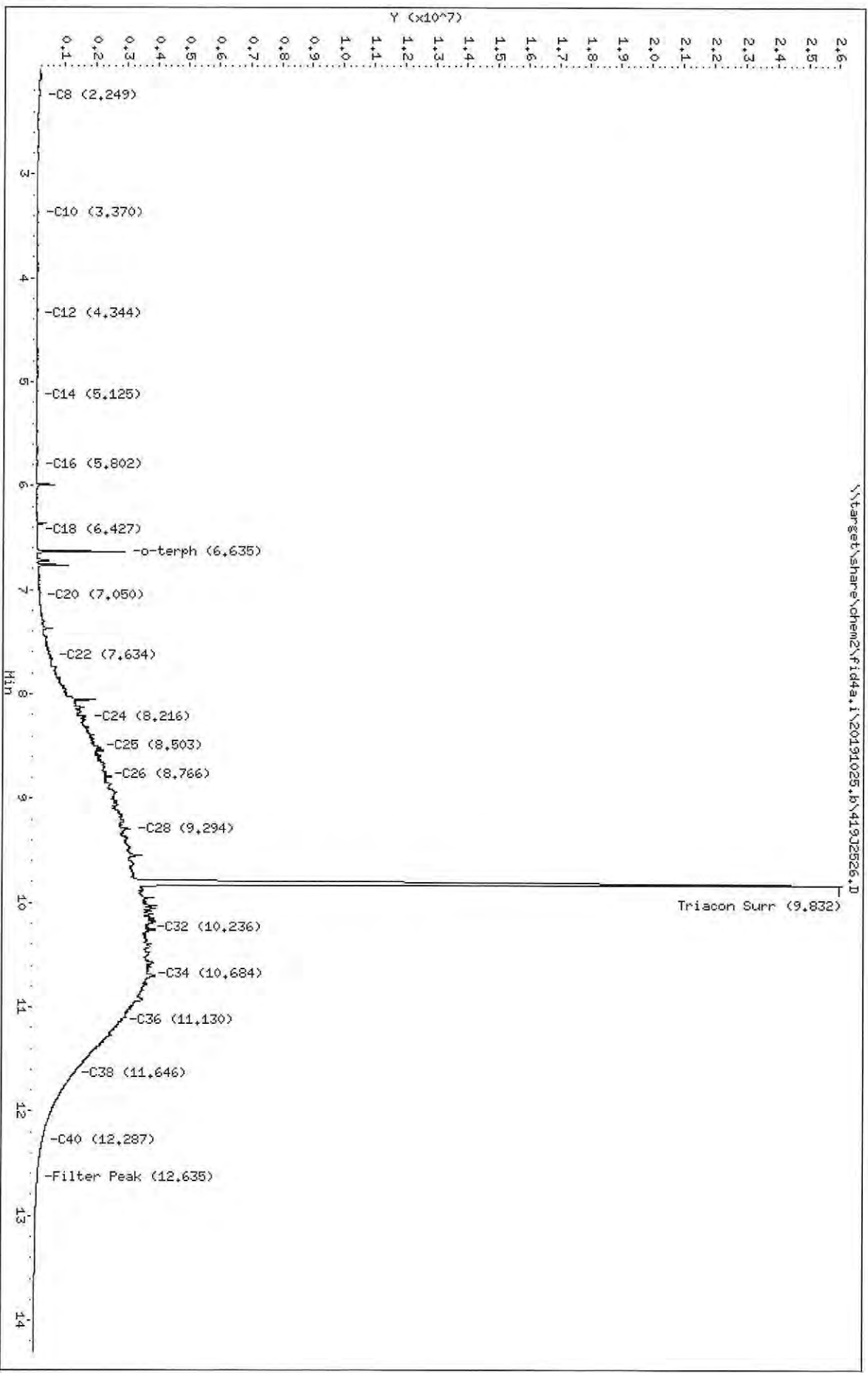
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2525.D Injection: 25-OCT-2019 19:54
 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932526.D
Date: 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column Phase: RTX-1

Instrument: fid4a.1
Operator: CTD/SH/NTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

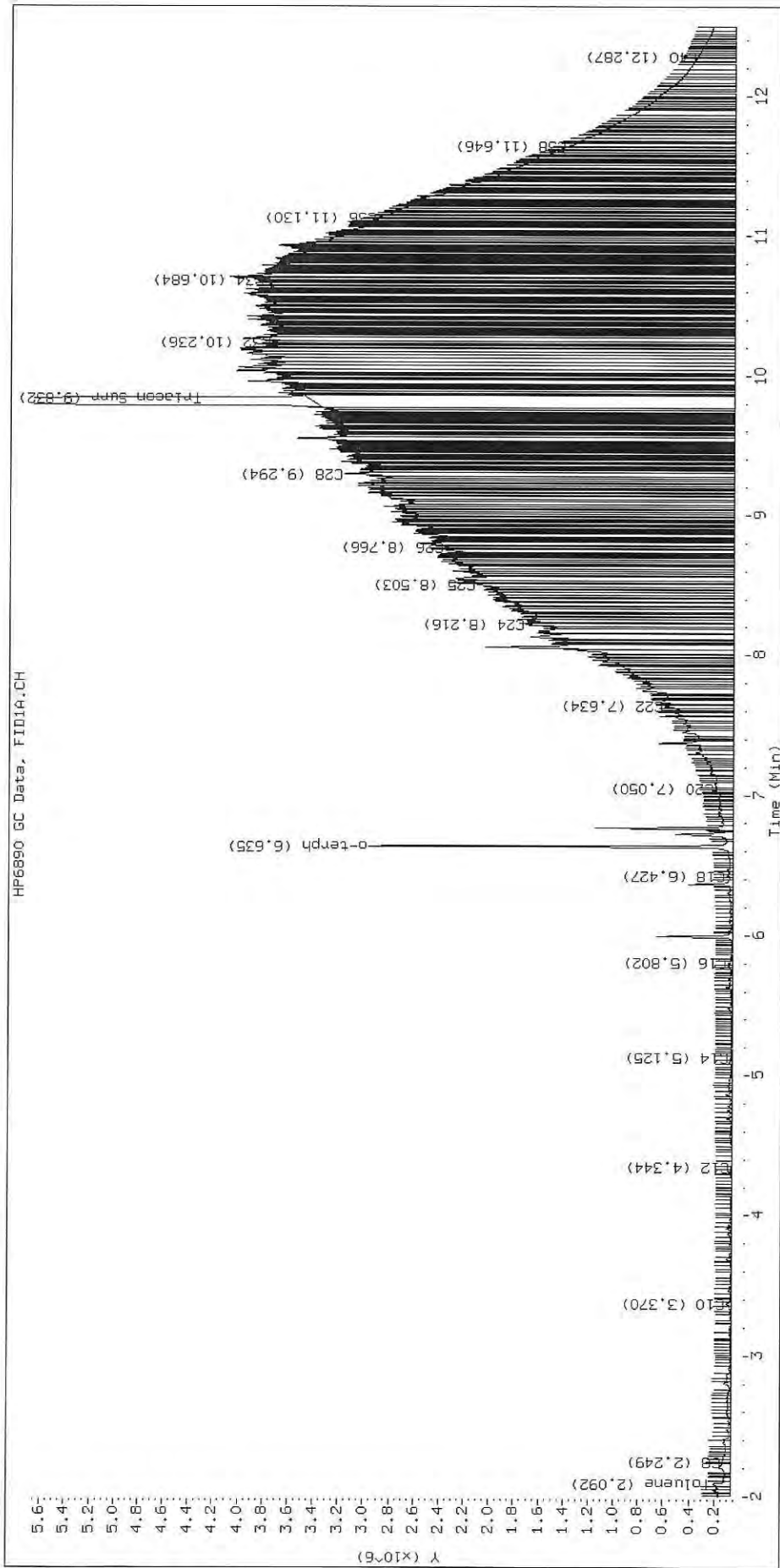
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

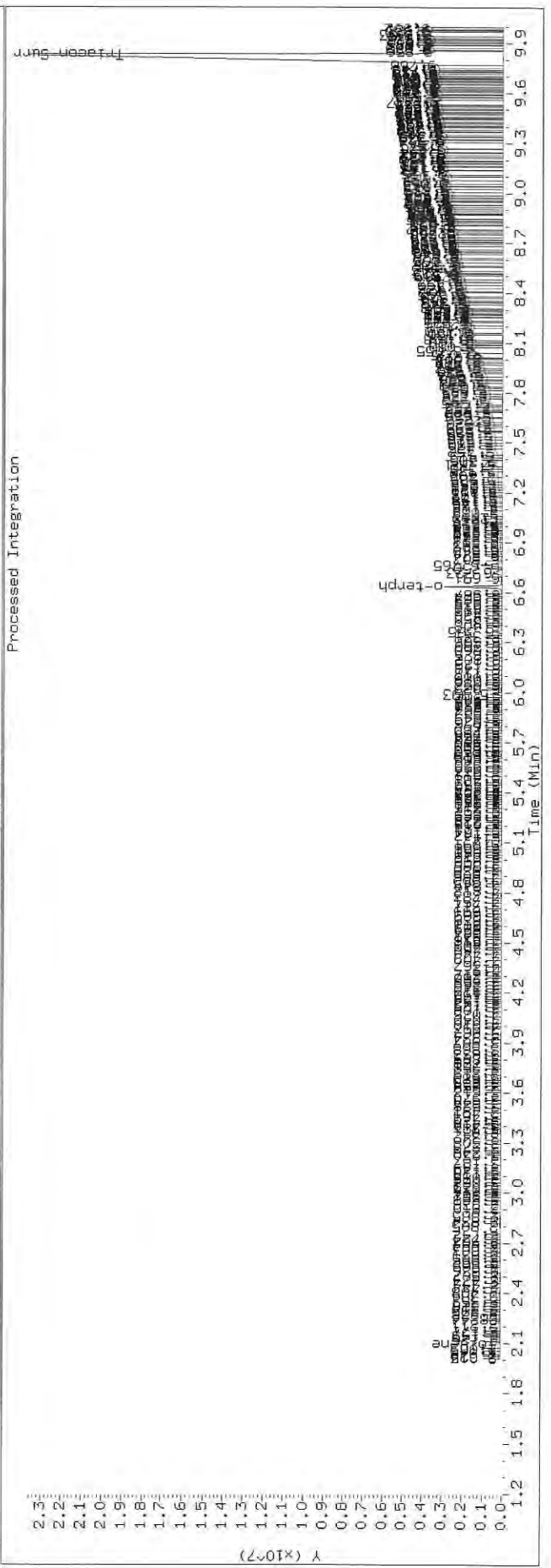
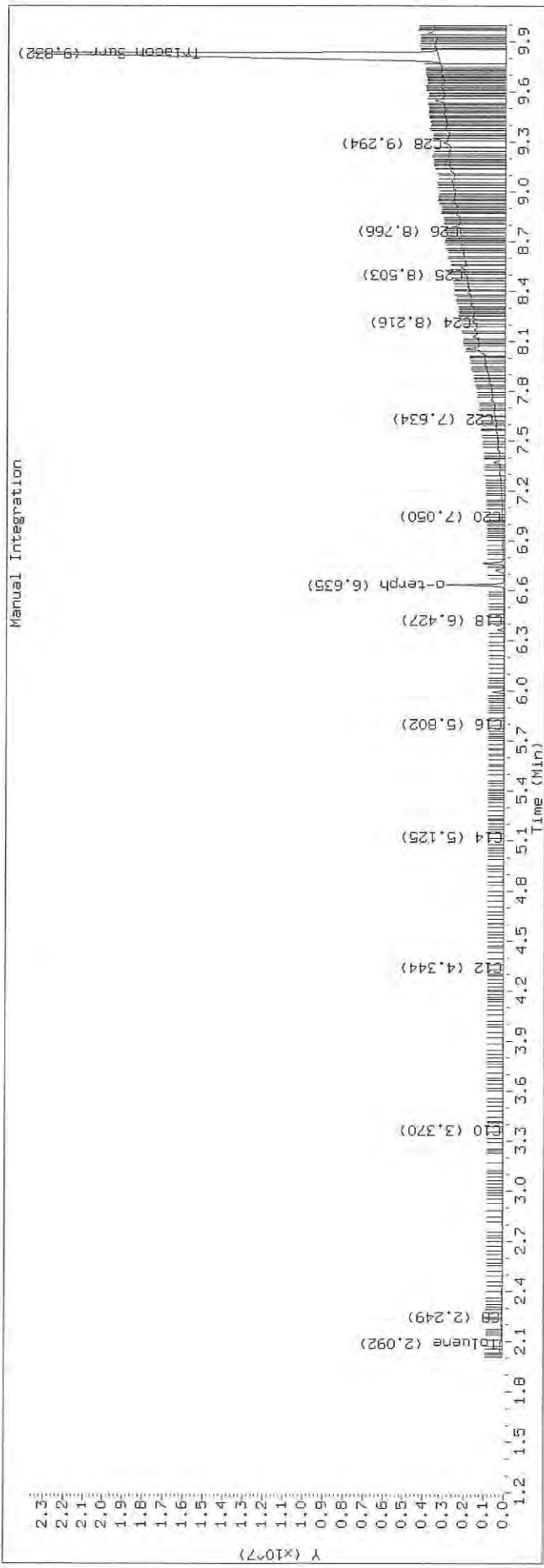
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH



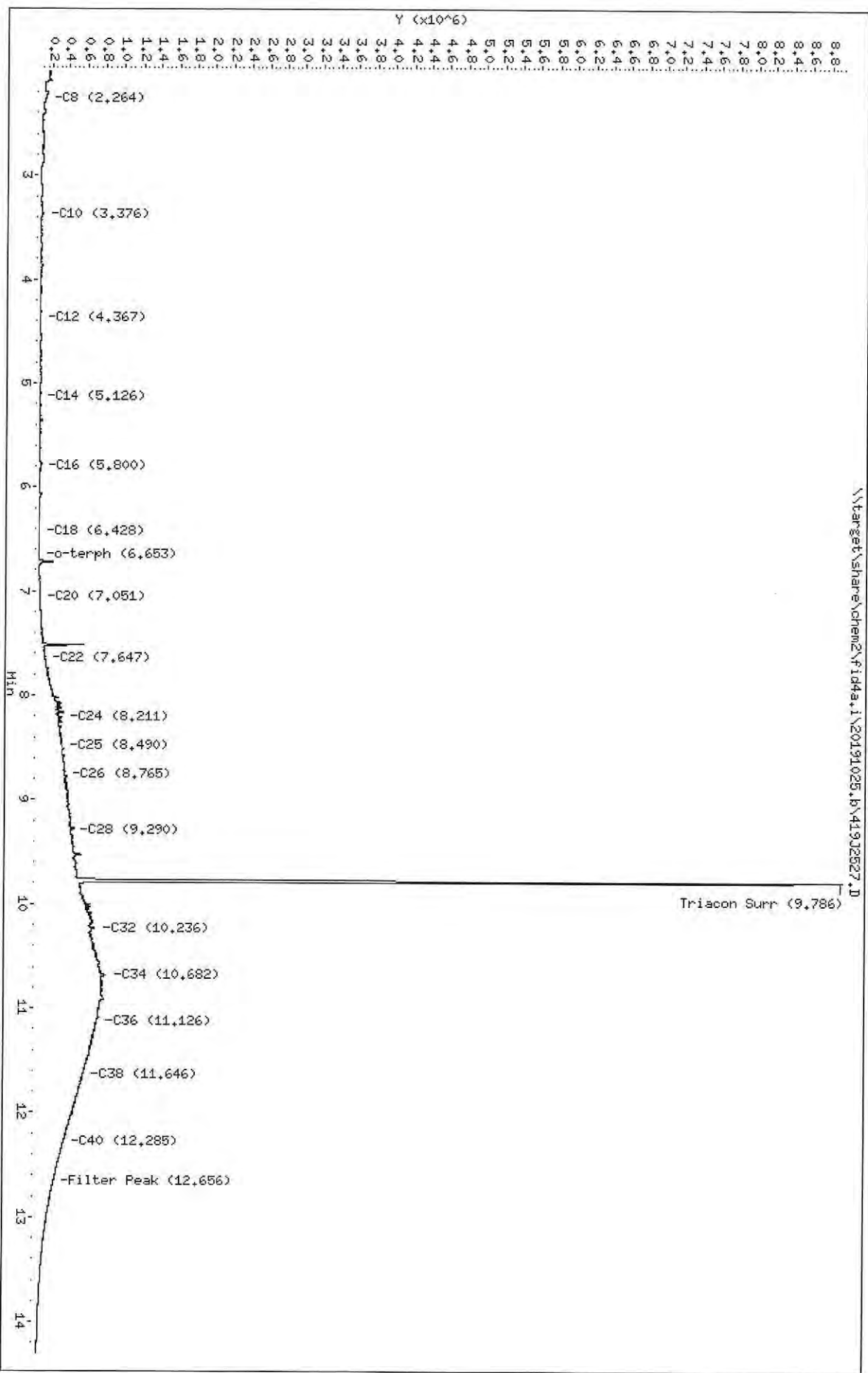
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2526.D Injection: 25-OCT-2019 20:15
 Lab ID: SHJ0406-CALI



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3

Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

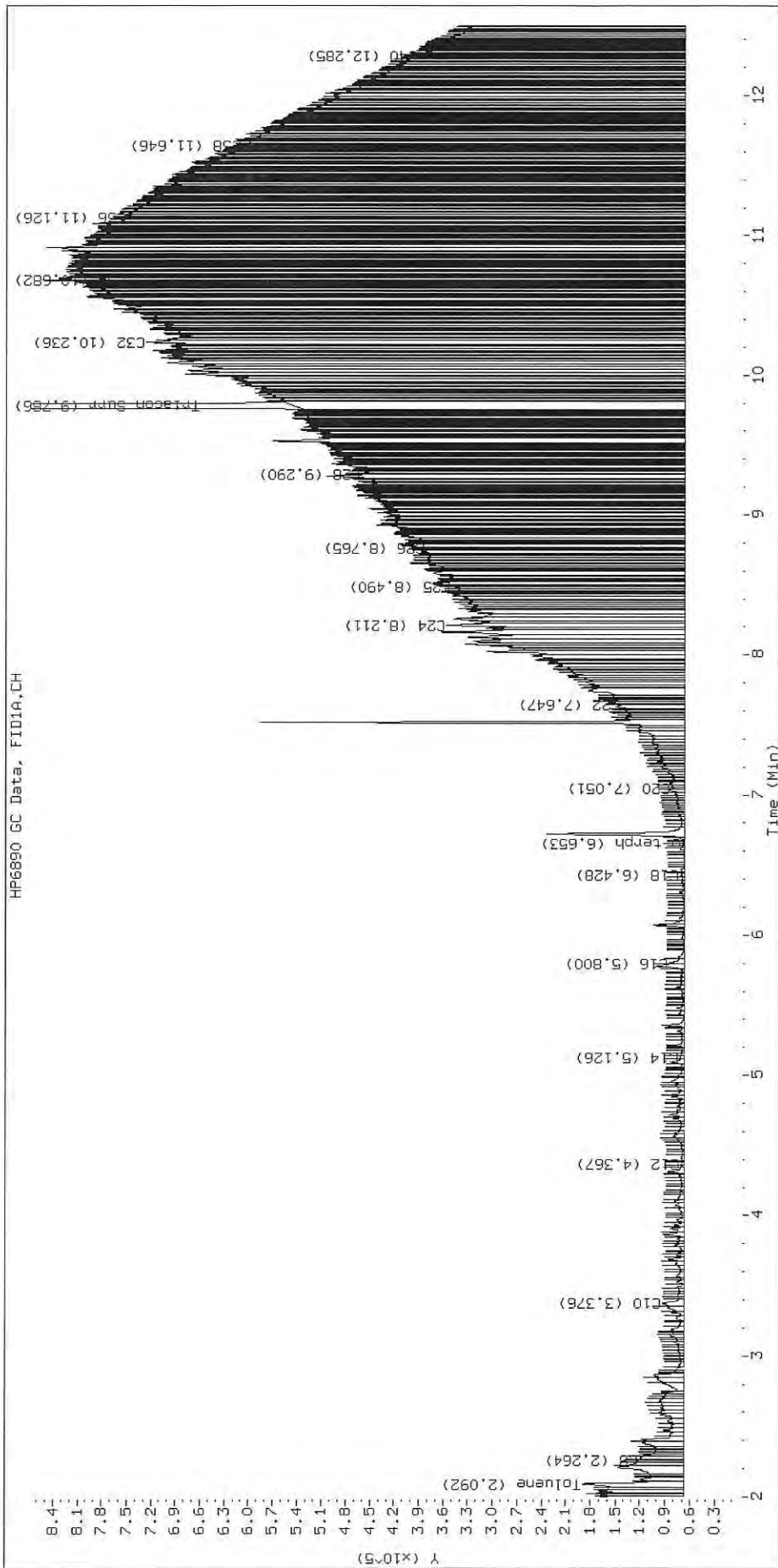
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

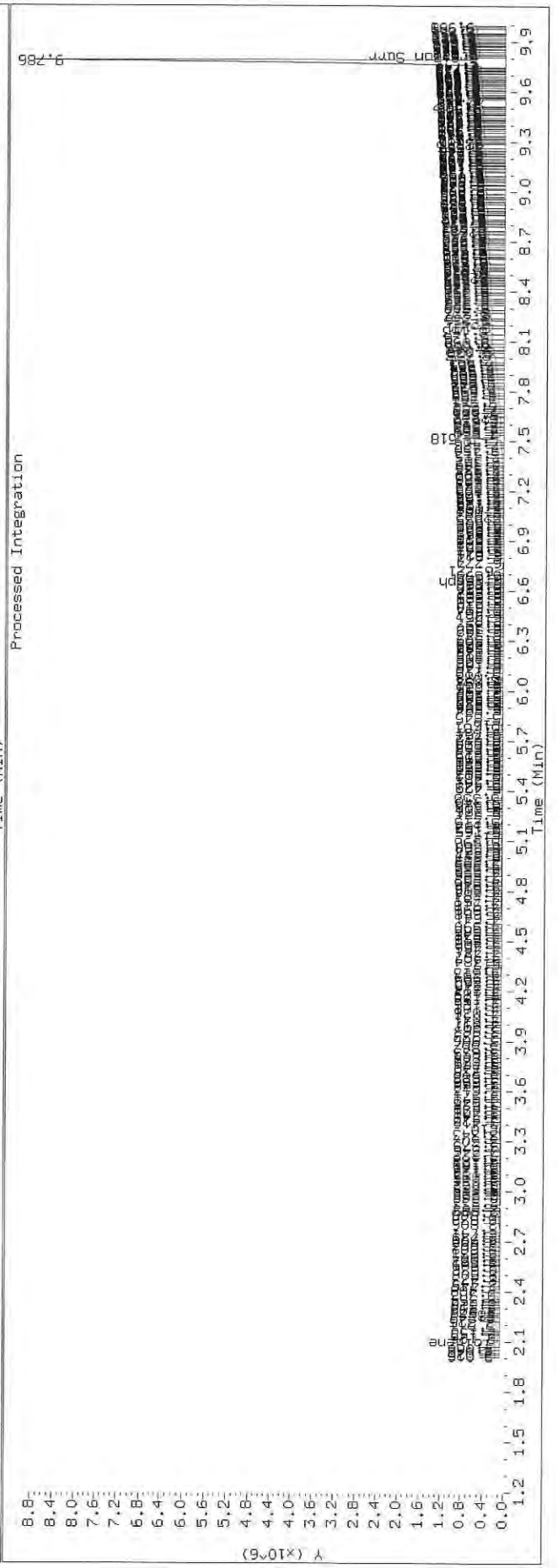
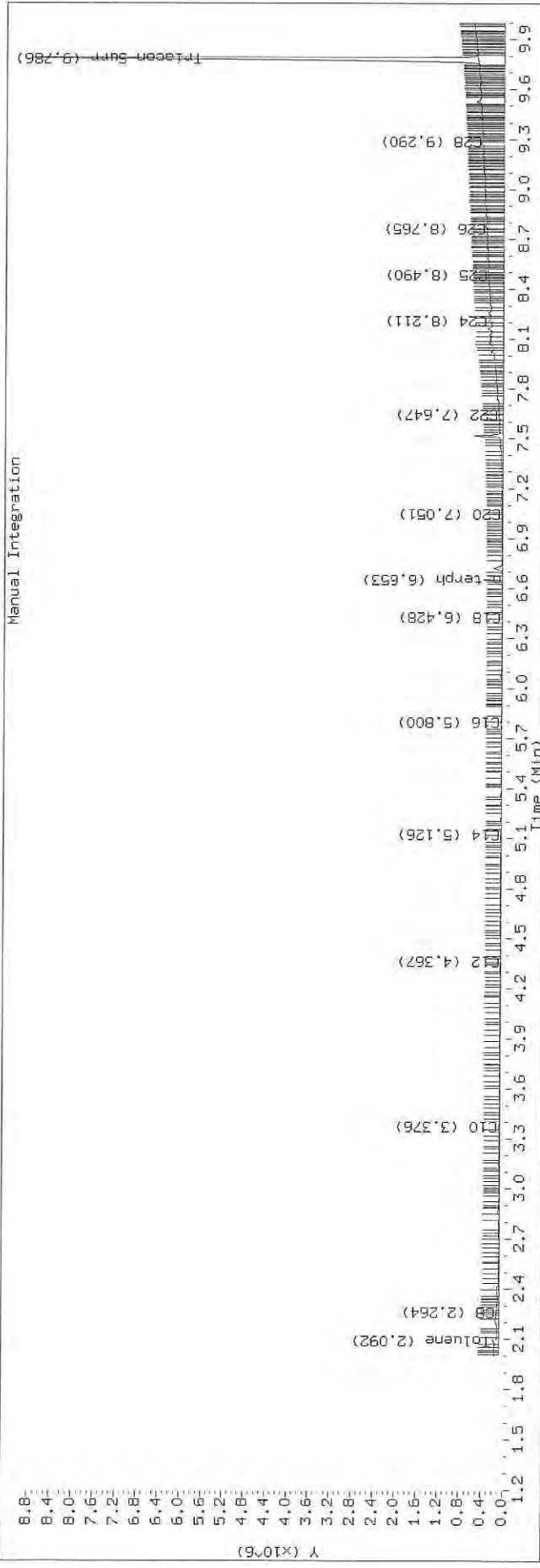
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH





Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacontane	319	0.0

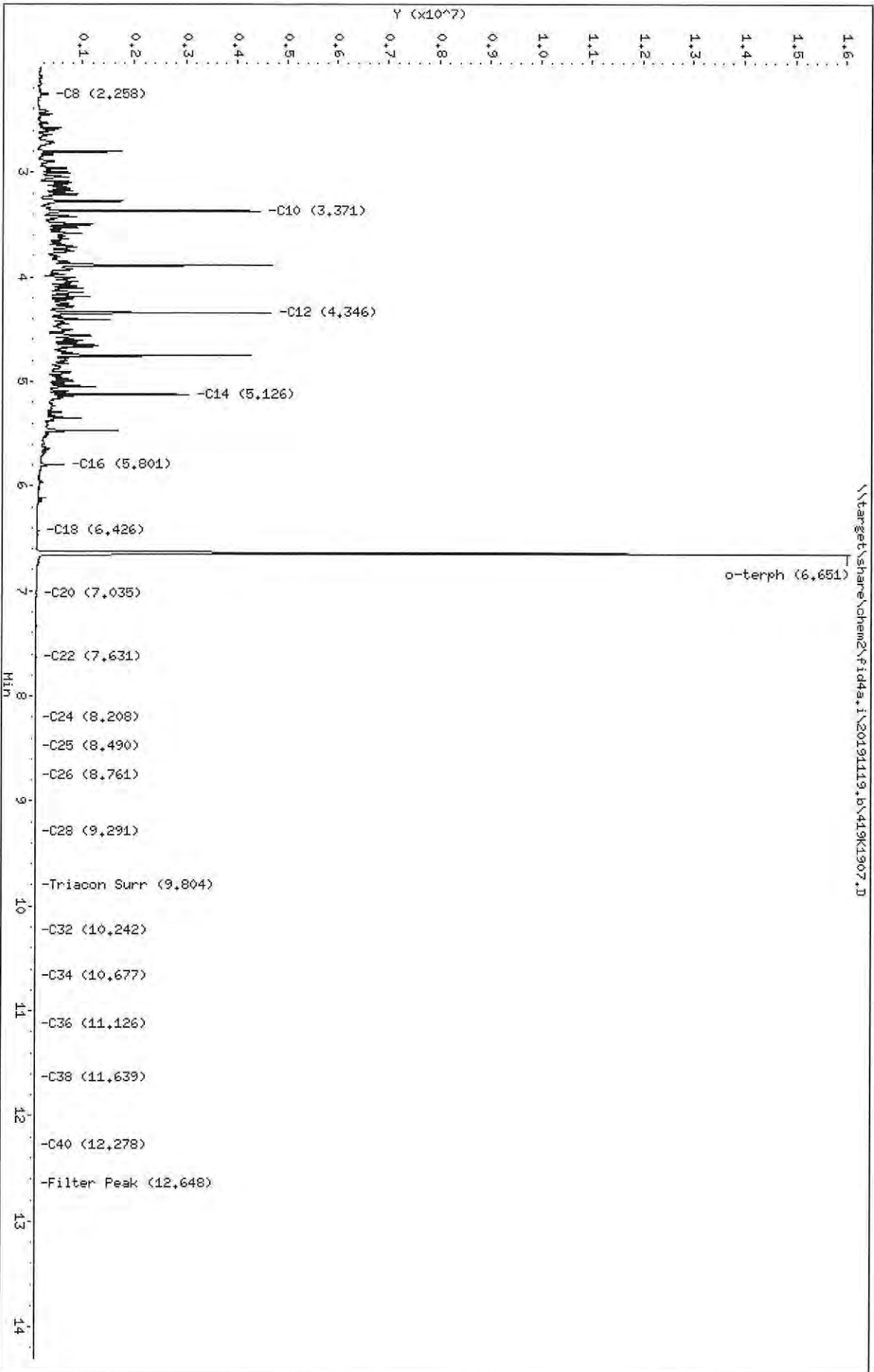
M Indicates the peak was manually integrated

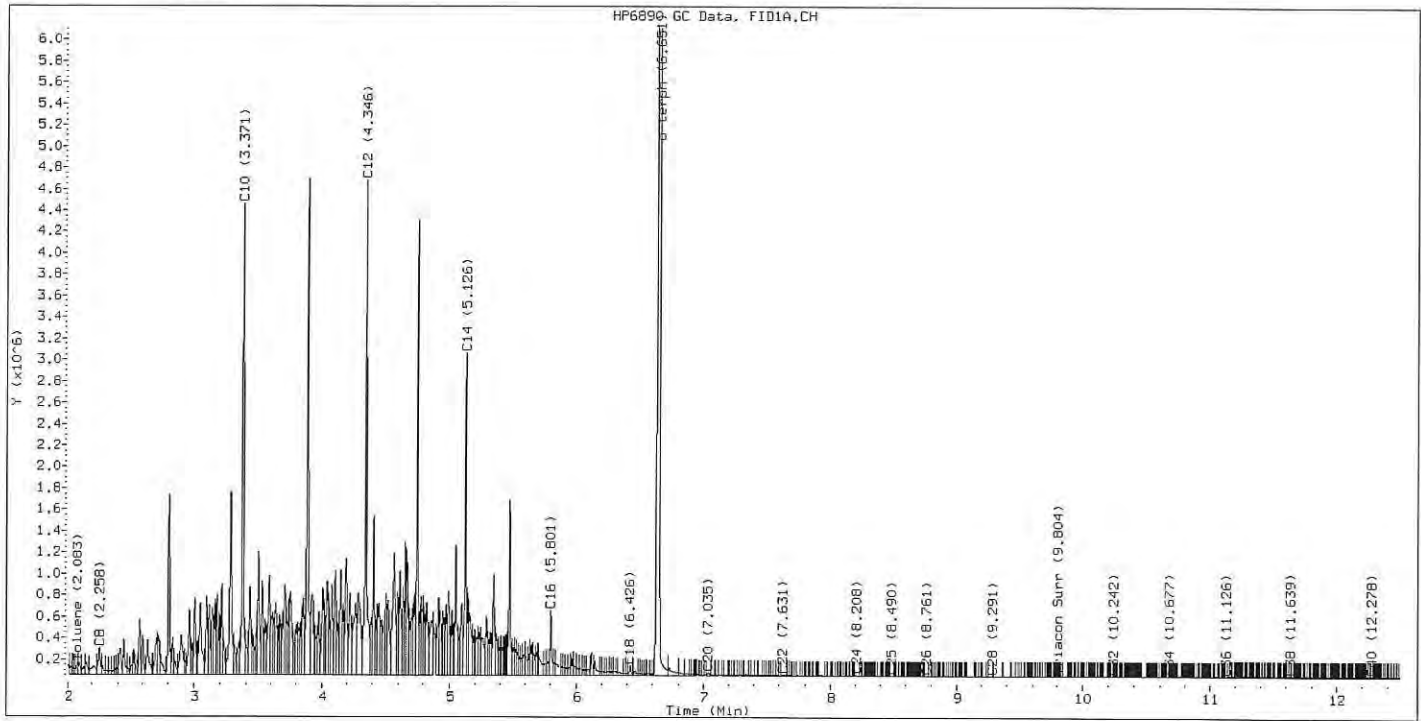
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

Data File: \\target\share\chem2\fid4a.i\20191119.b\419K1907.D
Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CT0
Column diameter: 0.25







INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0008
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DA00022	Instrument:	FID4
Calibration Date:	10/25/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	101166	4.8			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019 11:37	419J2501.D	1	RINSE	
2	25-OCT-2019 11:55	419J2502.D	1	RINSE	
3	25-OCT-2019 12:30	419J2503.D	1	RINSE	
4	25-OCT-2019 12:51	419J2504.D	1	RINSE	
5	25-OCT-2019 13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019 13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019 13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019 14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019 14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019 14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019 15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019 15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019 15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019 16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019 16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019 16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019 17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019 17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019 17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019 18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019 18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019 18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019 19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019 19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019 19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019 20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019 20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019 20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019 21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019 21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019 21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019 22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019 22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019 22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019 23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019 23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019 23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019 00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019 00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019 00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019 01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LobID	ClientID	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triscon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triscon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triscon Surr,
1713	419J2517.D	SHJ0406-CAL4		1	Triscon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

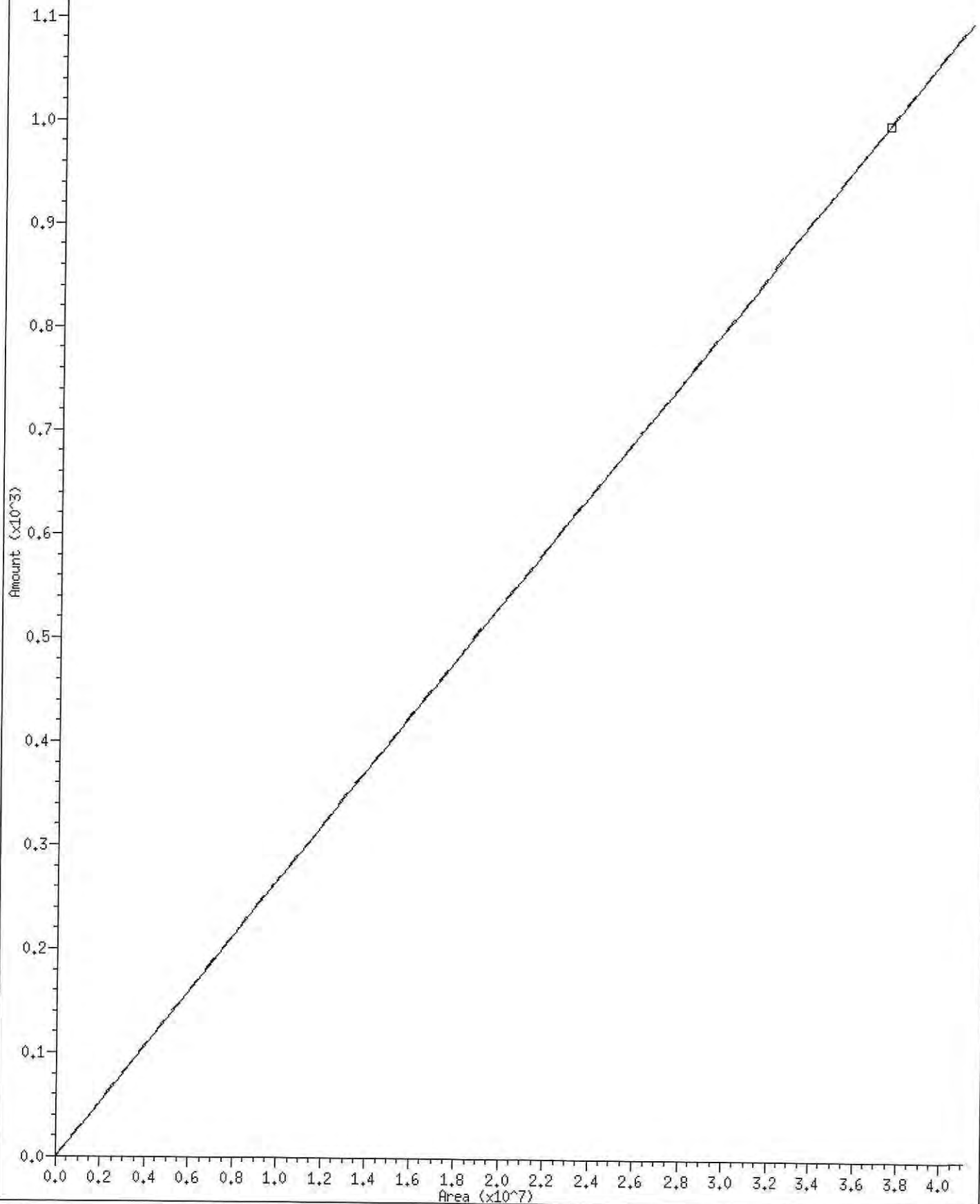
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2336	419J2536.D	19J0373-05	1	o-terph,	Triacon Surr,
2357	419J2537.D	19J0373-06	1	Triacon Surr,	
0017	419J2538.D	19J0373-07	1	Triacon Surr,	
0037	419J2539.D	19J0373-08	1	Triacon Surr,	
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1	Triacon Surr,	

Security Status Report

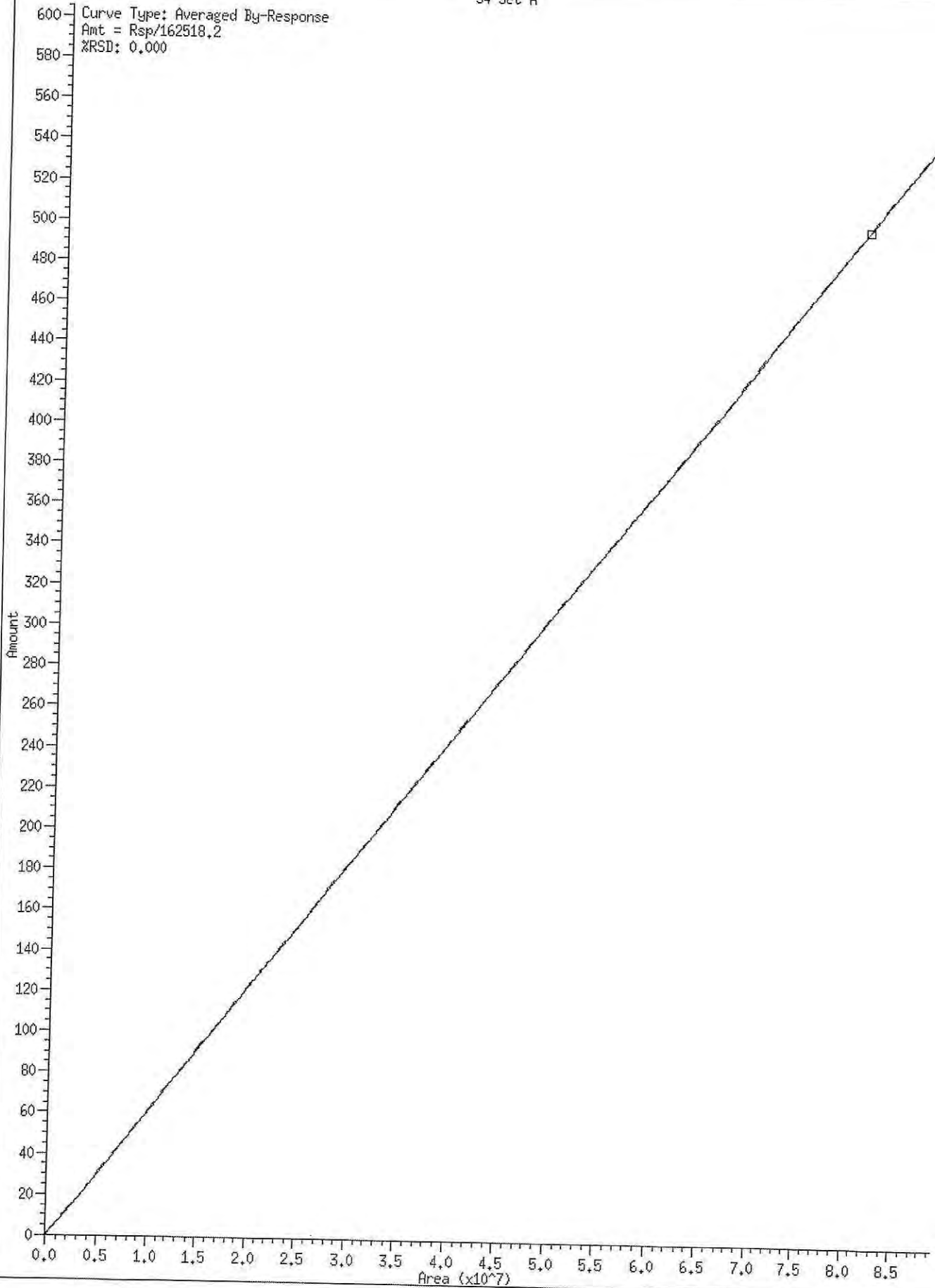
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419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
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419J2519.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2520.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2521.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2525.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2526.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2527.D	Data Locked	j rains, 30-Oct-2019 07:20

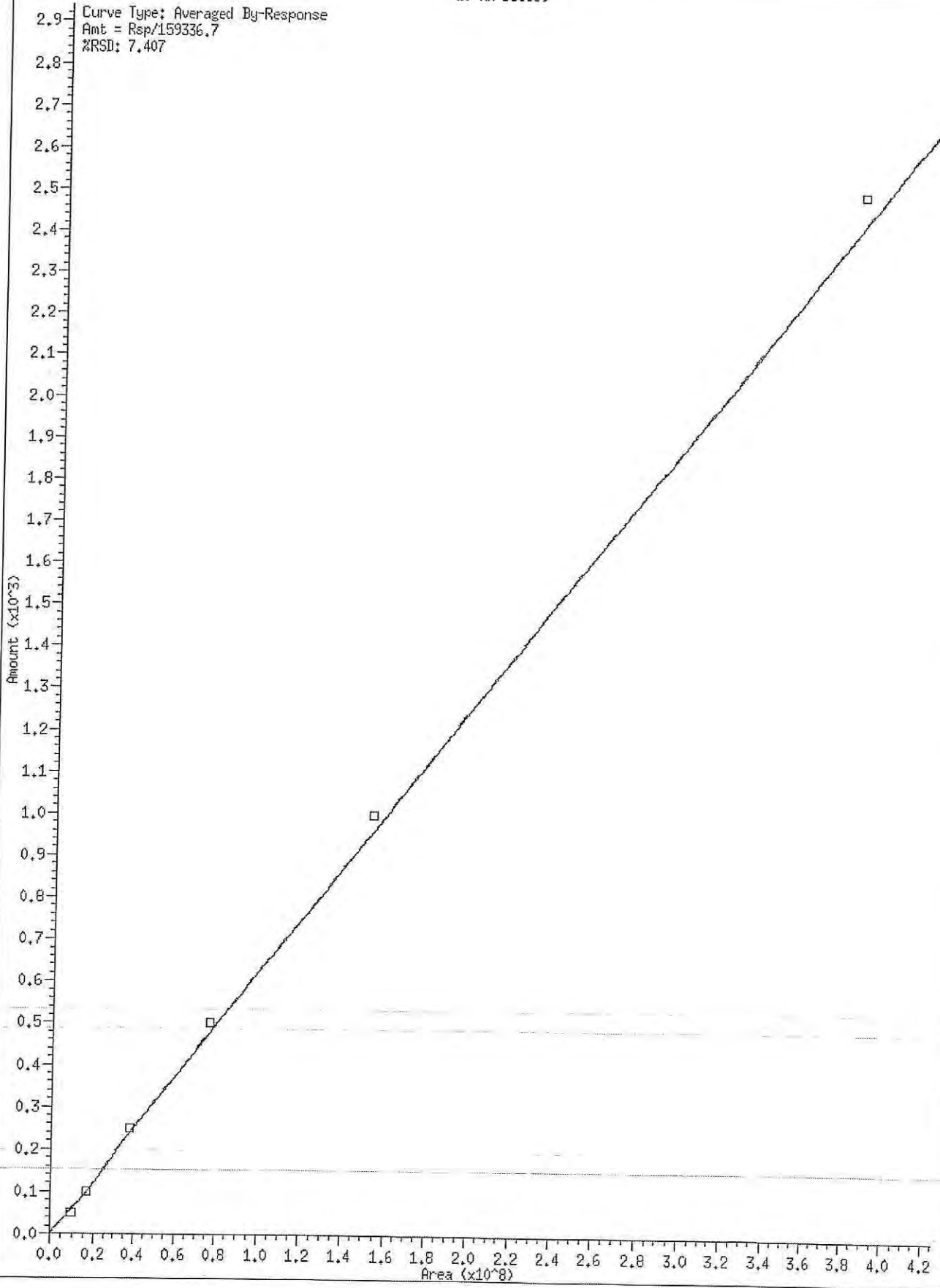
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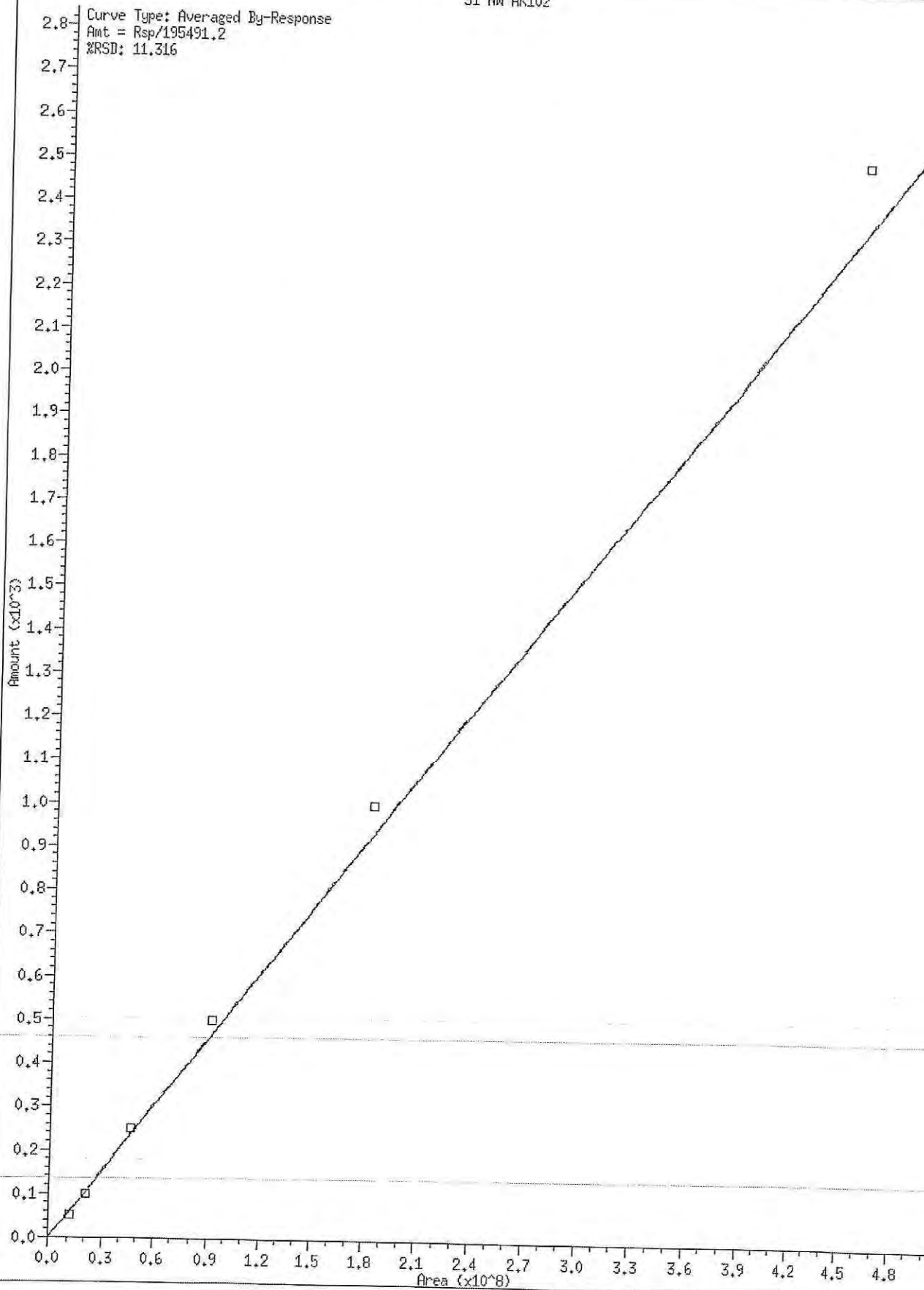
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%RSD: 7.407

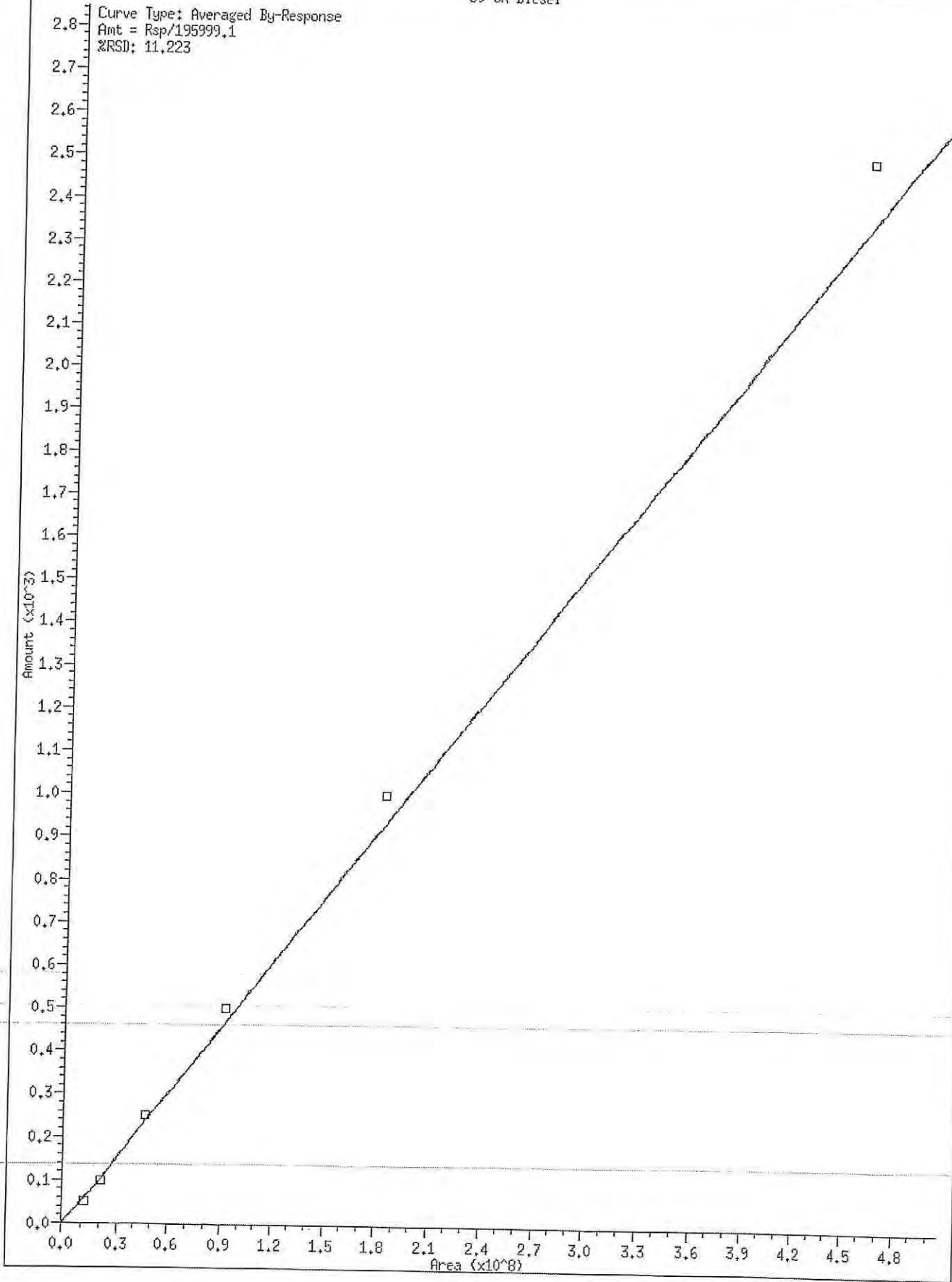


Curve Type: Averaged By-Response
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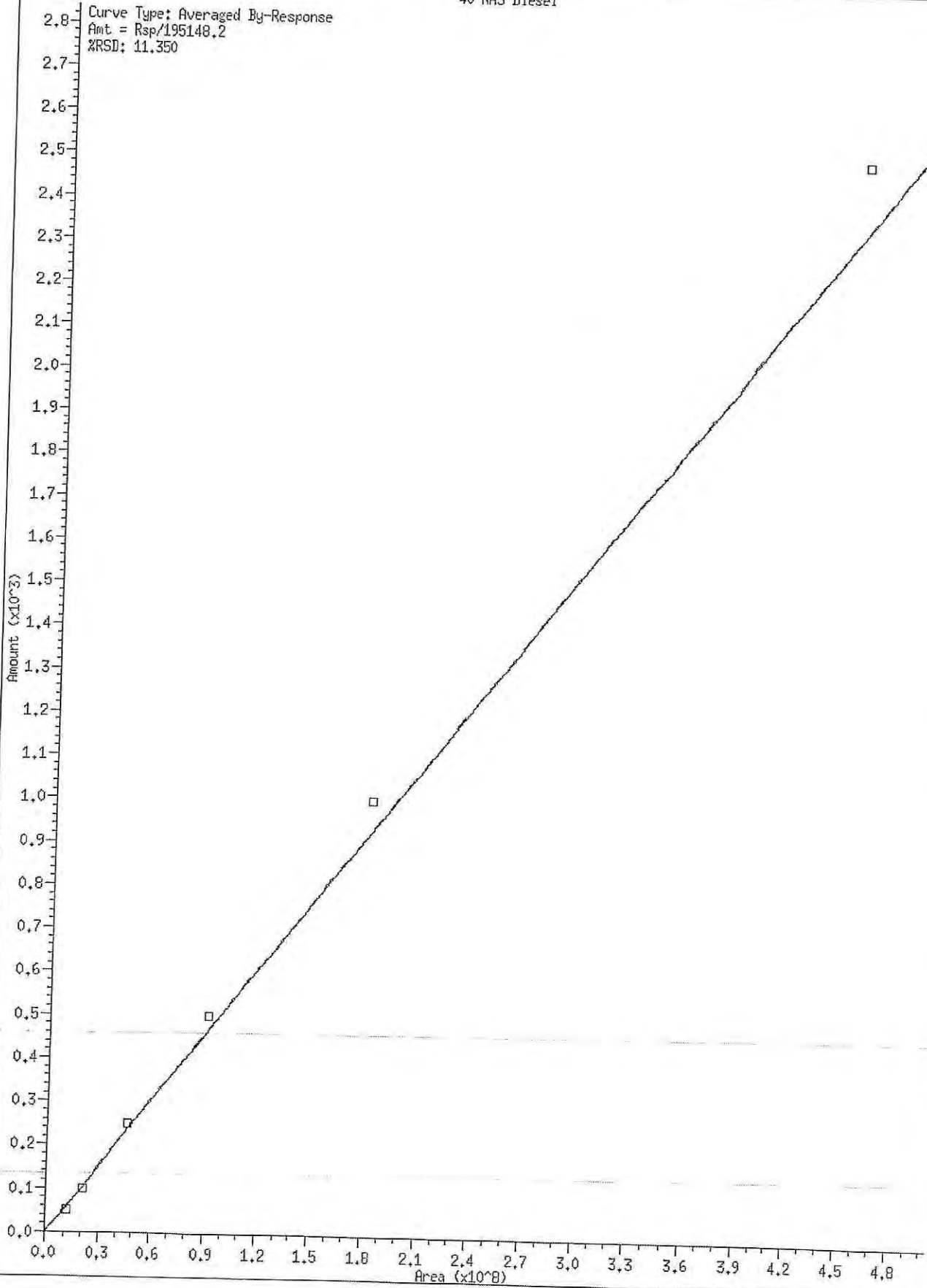
39 OR Diesel

Curve Type: Averaged By-Response
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%RSD: 11,223



40 NAS Diesel

Curve Type: Averaged By-Response
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%RSD: 11.350

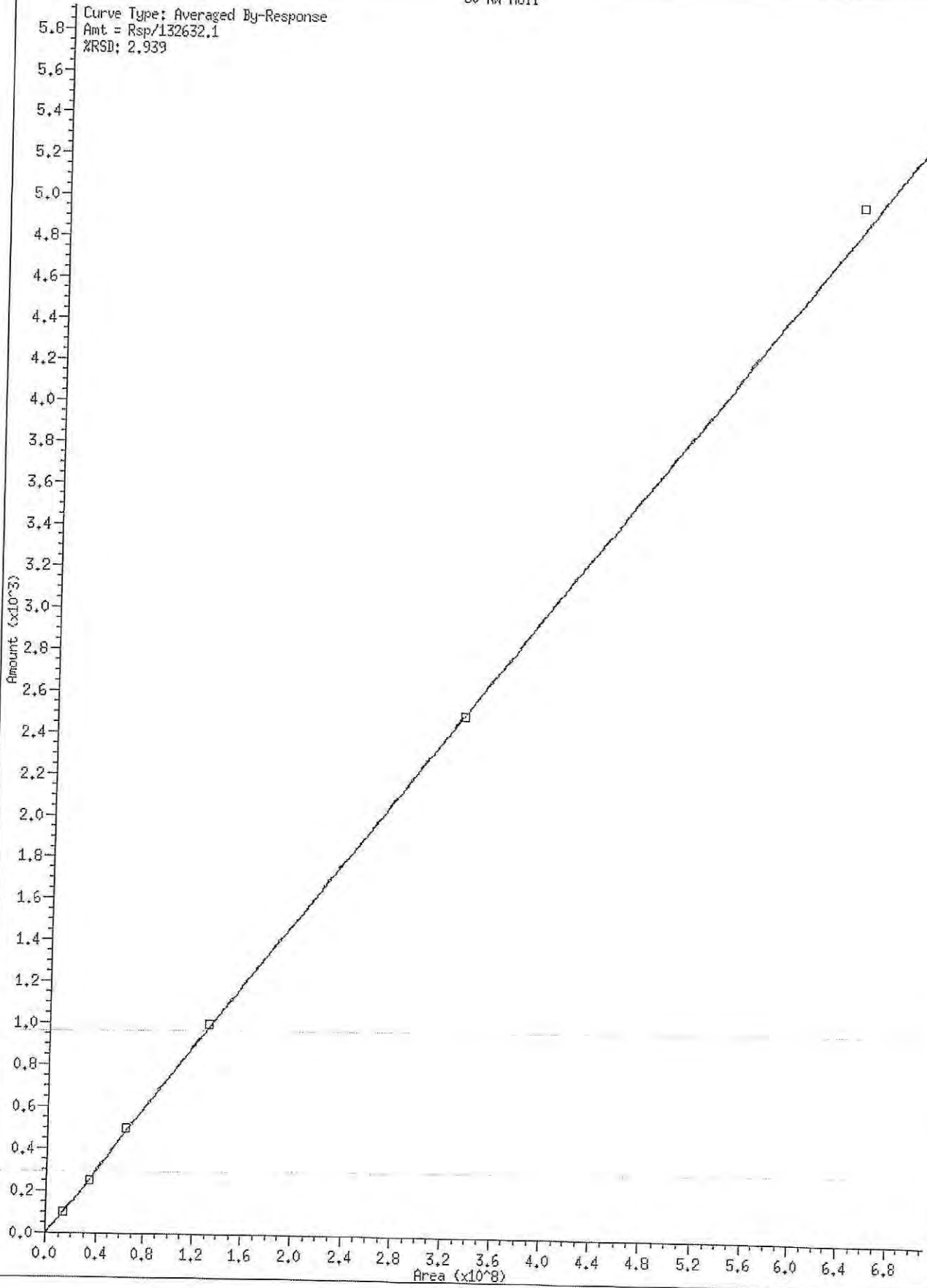


30 NM Noil

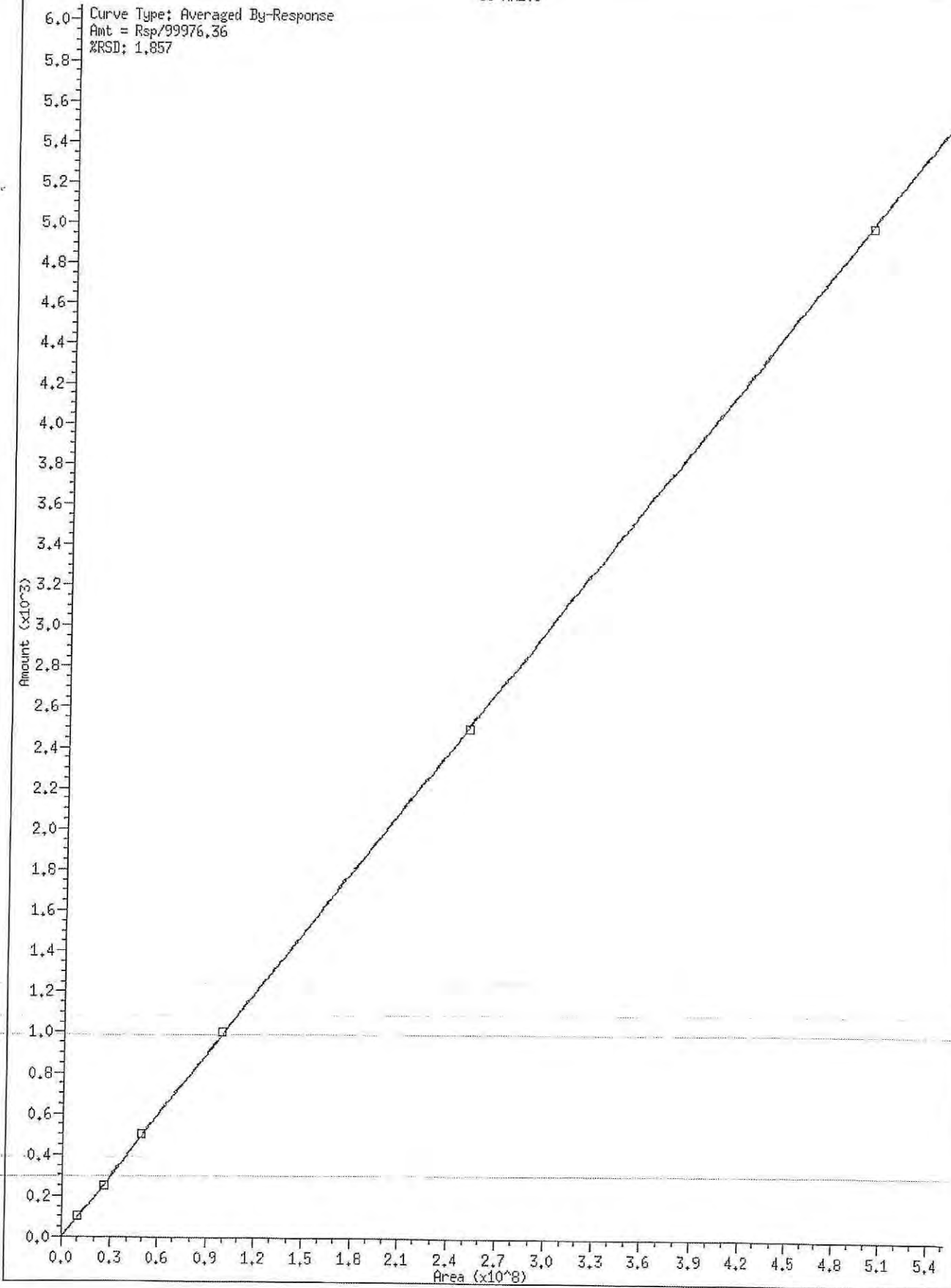
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%RSD: 2.939

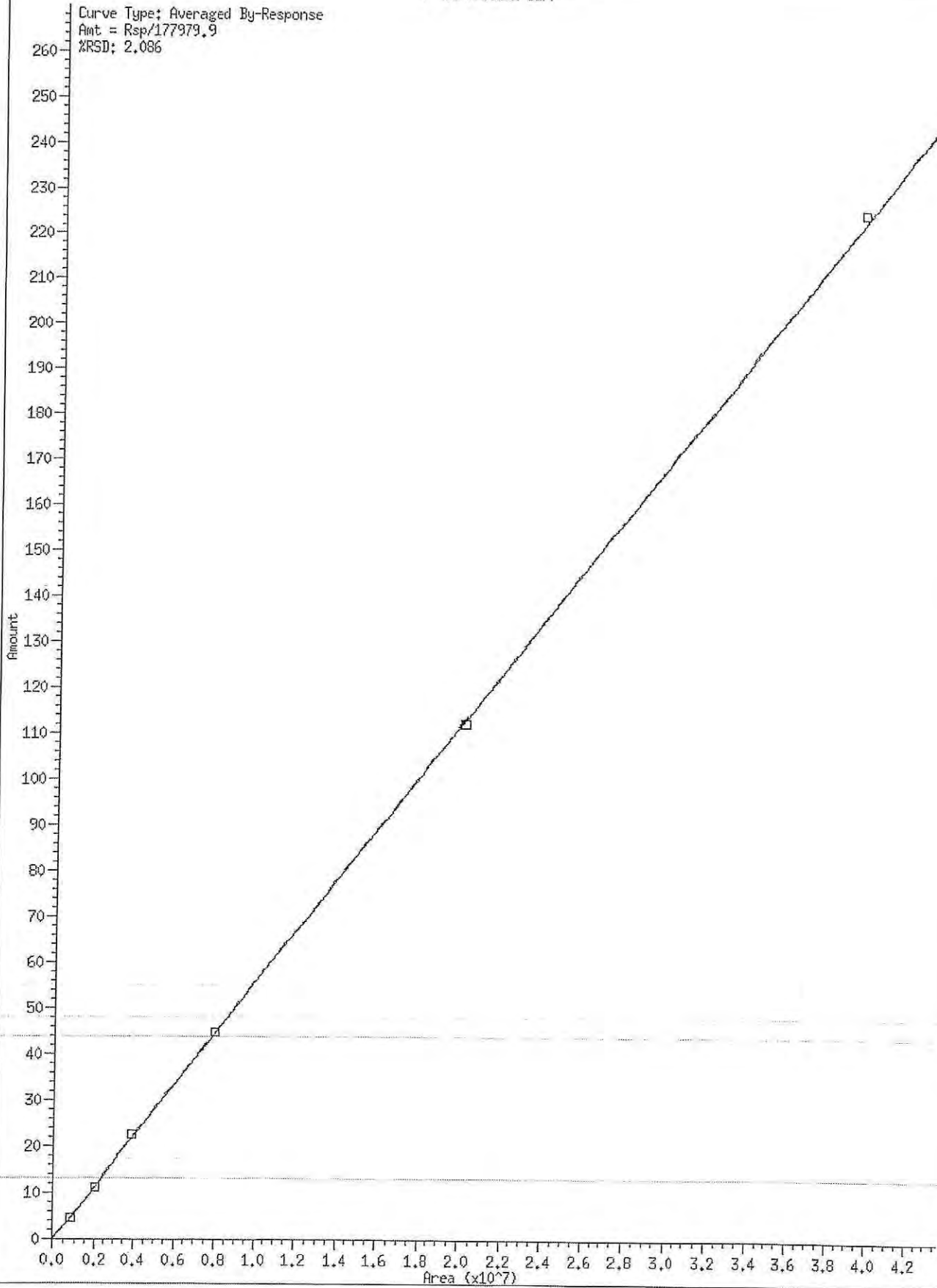


Curve Type: Averaged By-Response
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%RSD: 1,857



* 15 Triacon Surr

Curve Type: Averaged By-Response
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%RSD: 2.086



* 8 o-terph

Curve Type: Averaged By-Response
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%RSD: 1.908

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0.7

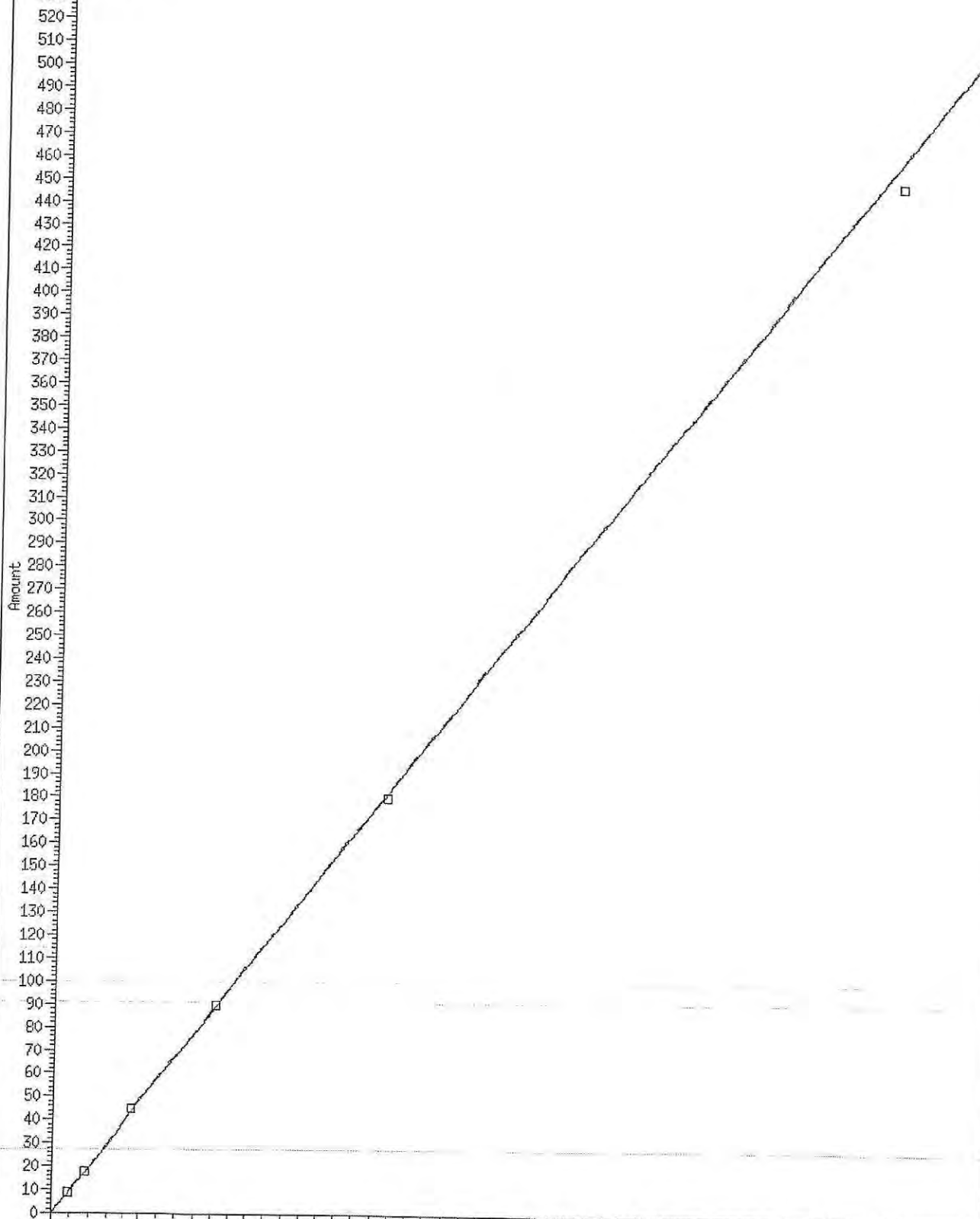
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ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	419J2507	419J2508	419J2509	419J2510	419J2511	419J2512
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	13:52	14:12	14:32	14:53	15:13	15:32

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.094	2.095	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	+++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.369	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.129	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.676	10.683	10.680	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.640	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NR Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACrosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NR Moll	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NR AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.812	0.762-0.862	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.965	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	419J2514	419J2515	419J2516	419J2517	419J2518	419J2519
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.258	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.332	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C26	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C28	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

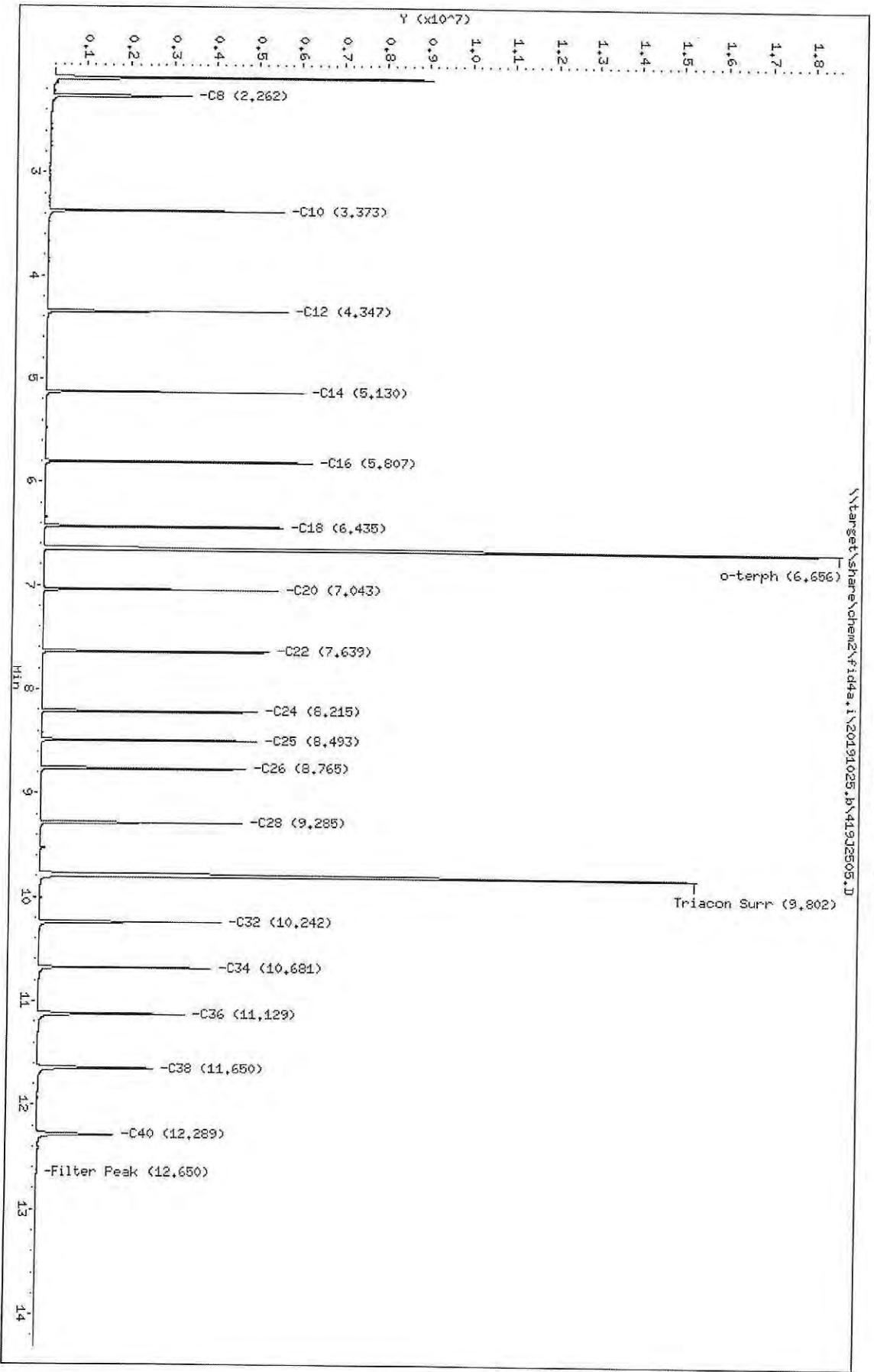
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.781	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACresosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NW M611	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NW AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.912	0.762-0.962	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.985	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2505.D
Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SHJ0406-1BL1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

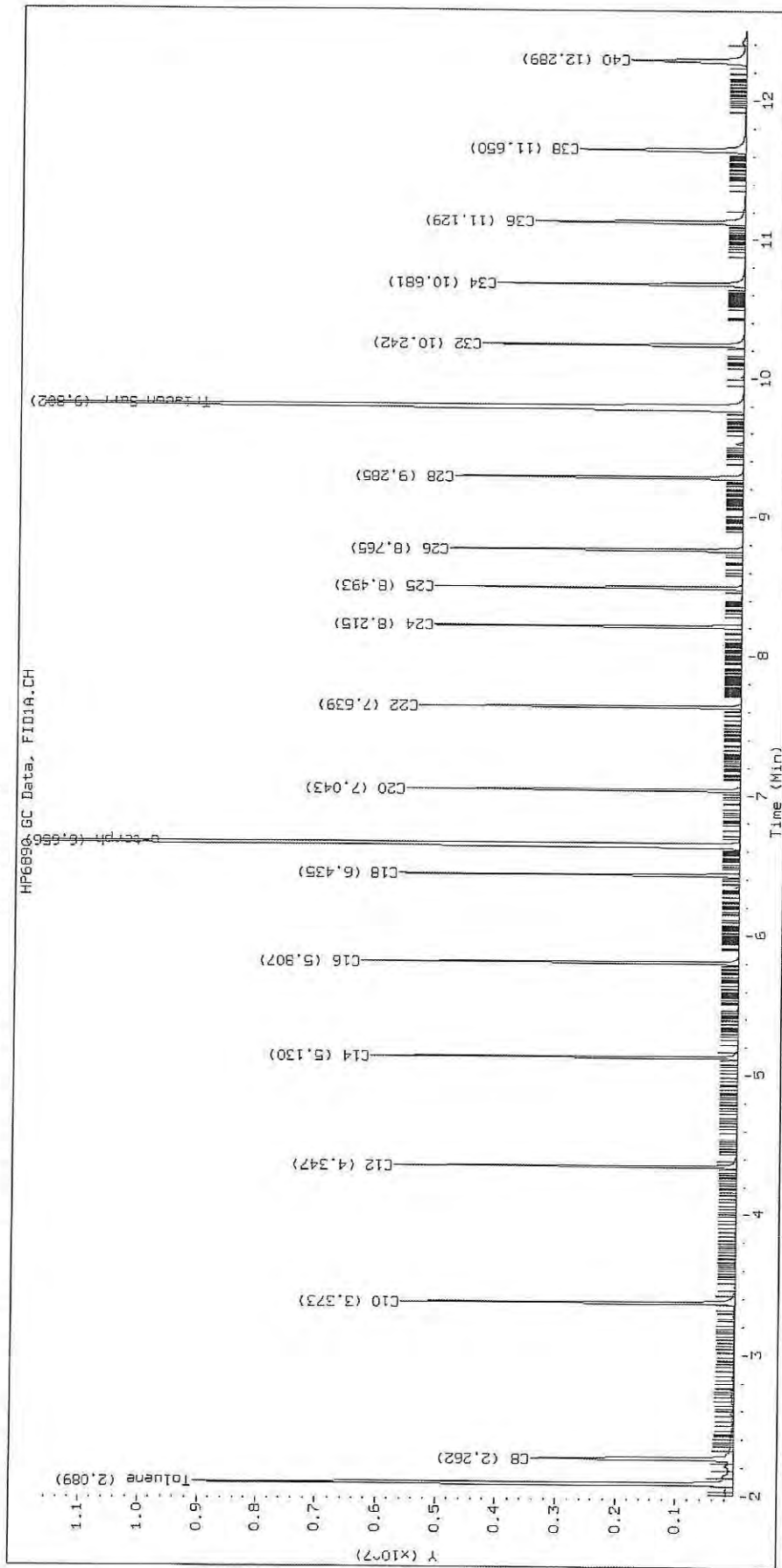
Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacantane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

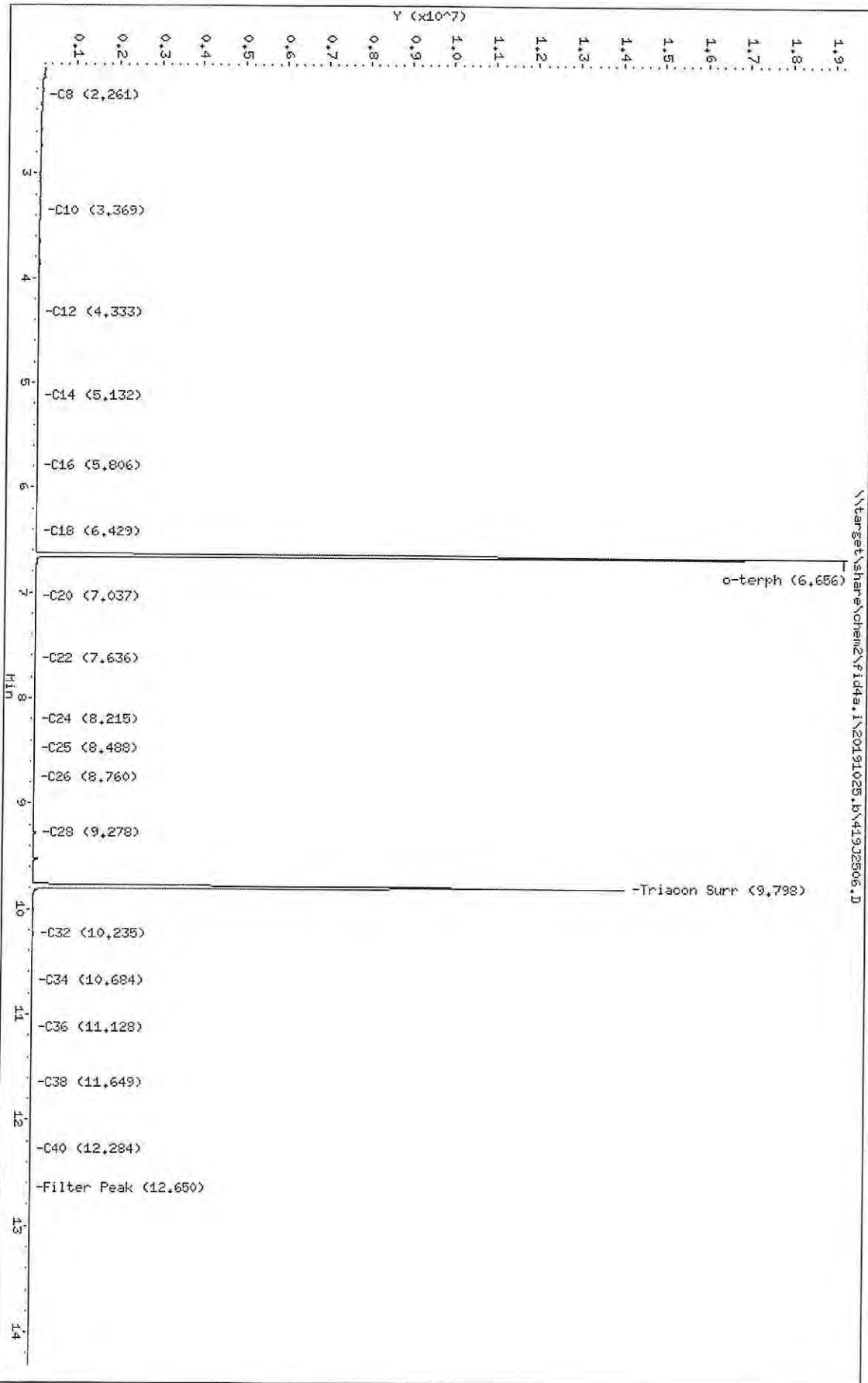
Datafile: FID4A, 20191025.b/419J2505.D SHJ0406-IBL1

HP6890A GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2506.D
Date : 25-OCT-2019 13:31
Client ID:
Sample Info: SHJ0406-IBL2
Column Phaset RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

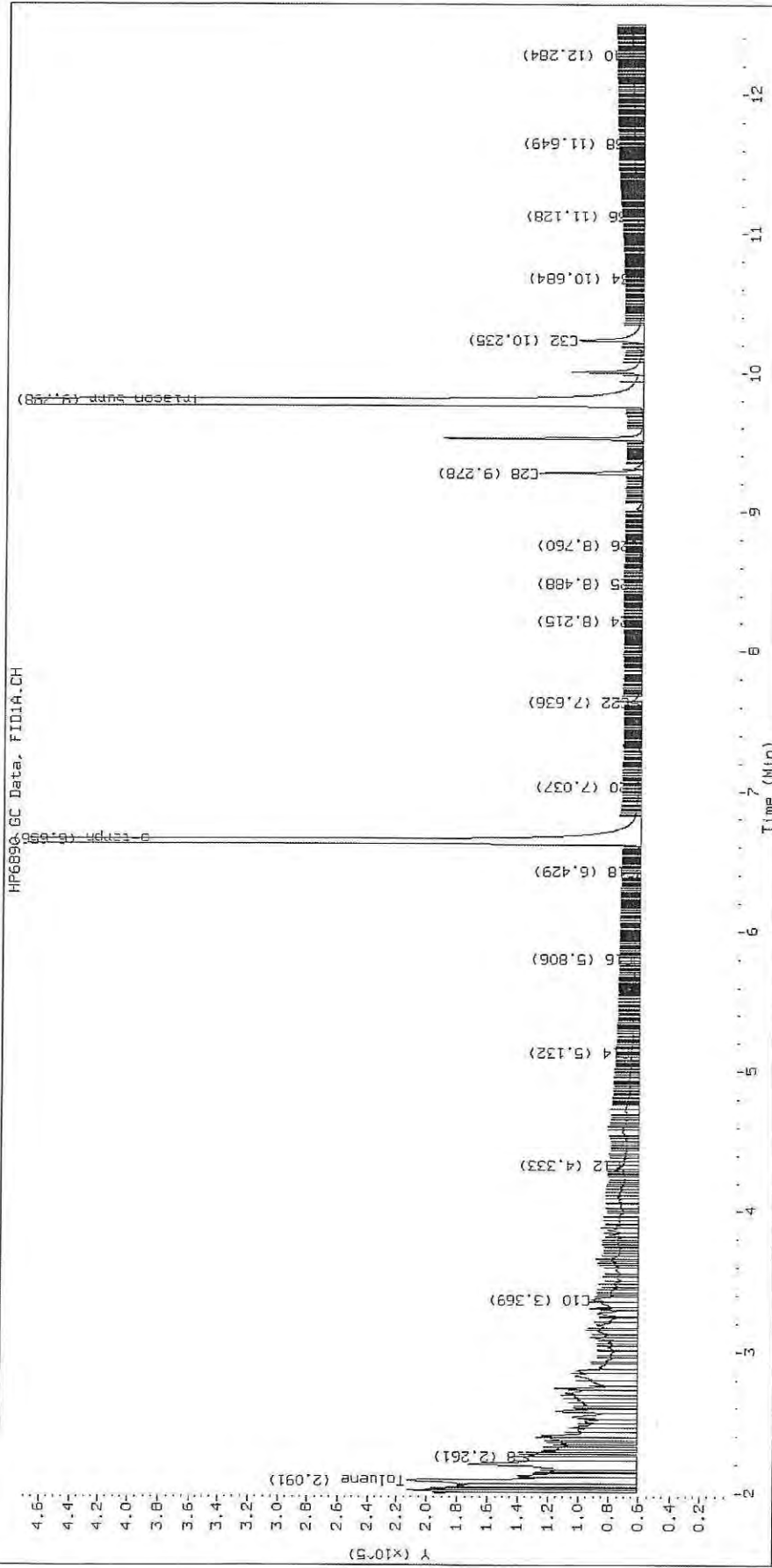
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacontane	17993211	101.1

M Indicates the peak was manually integrated

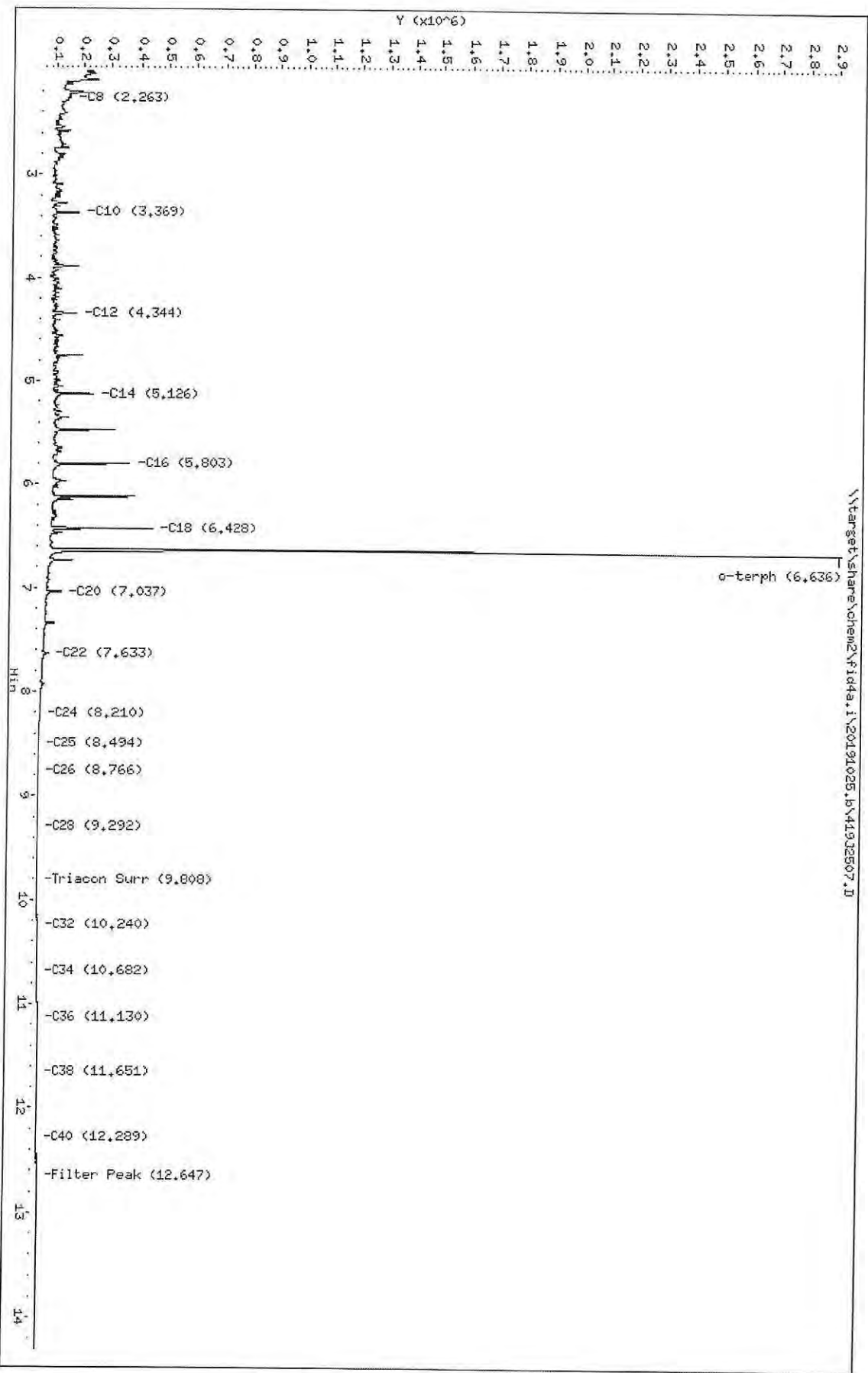
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2506.D SHJ0406-IBL2



Data File: \\farset\share\chem2\fid4a.i\20191025.bv419J2507.D
 Date: 25-OCT-2019 13:52
 Client ID:
 Sample Info: SHJ0406-C0L1
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

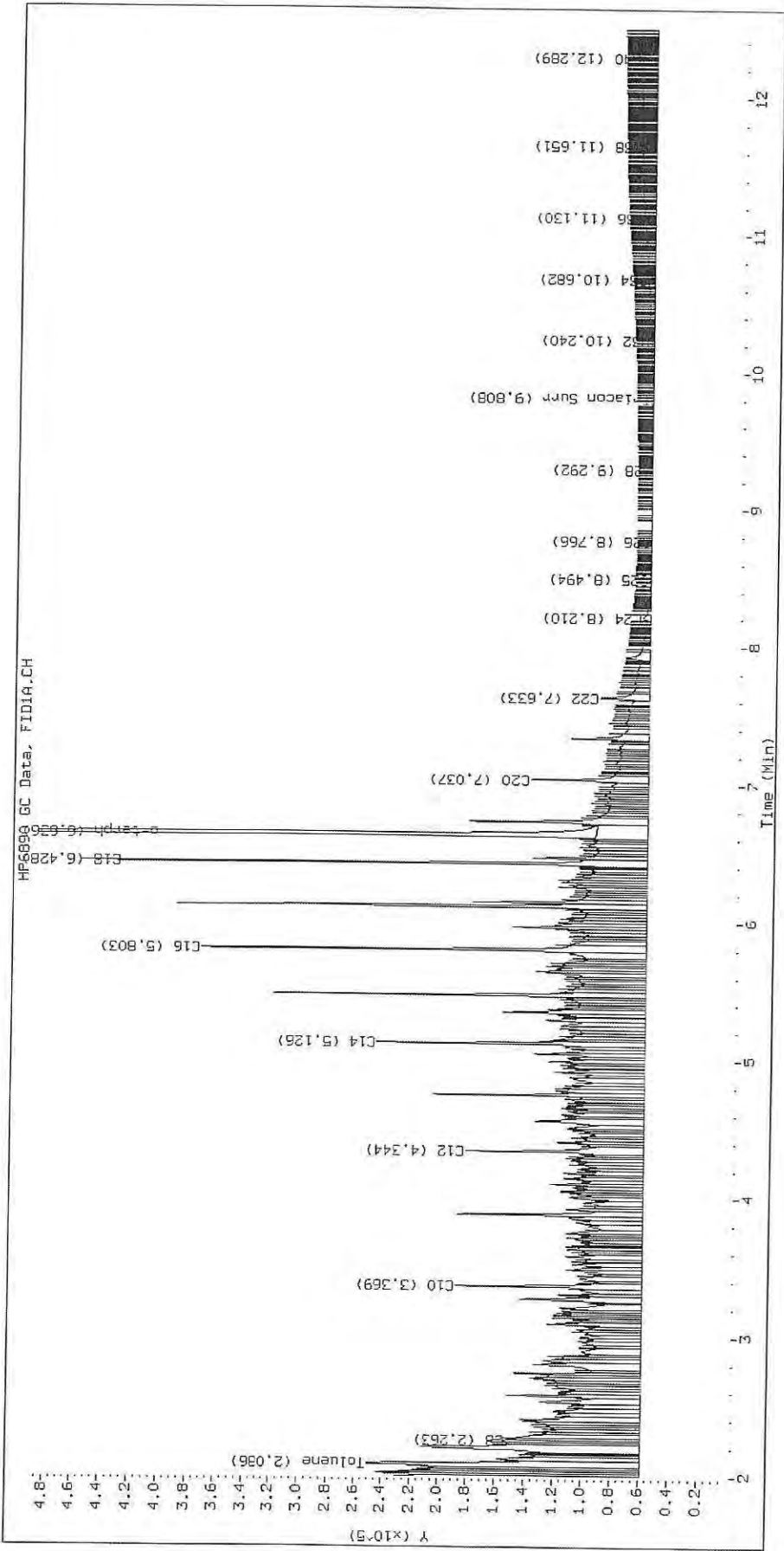
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacotane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CALI



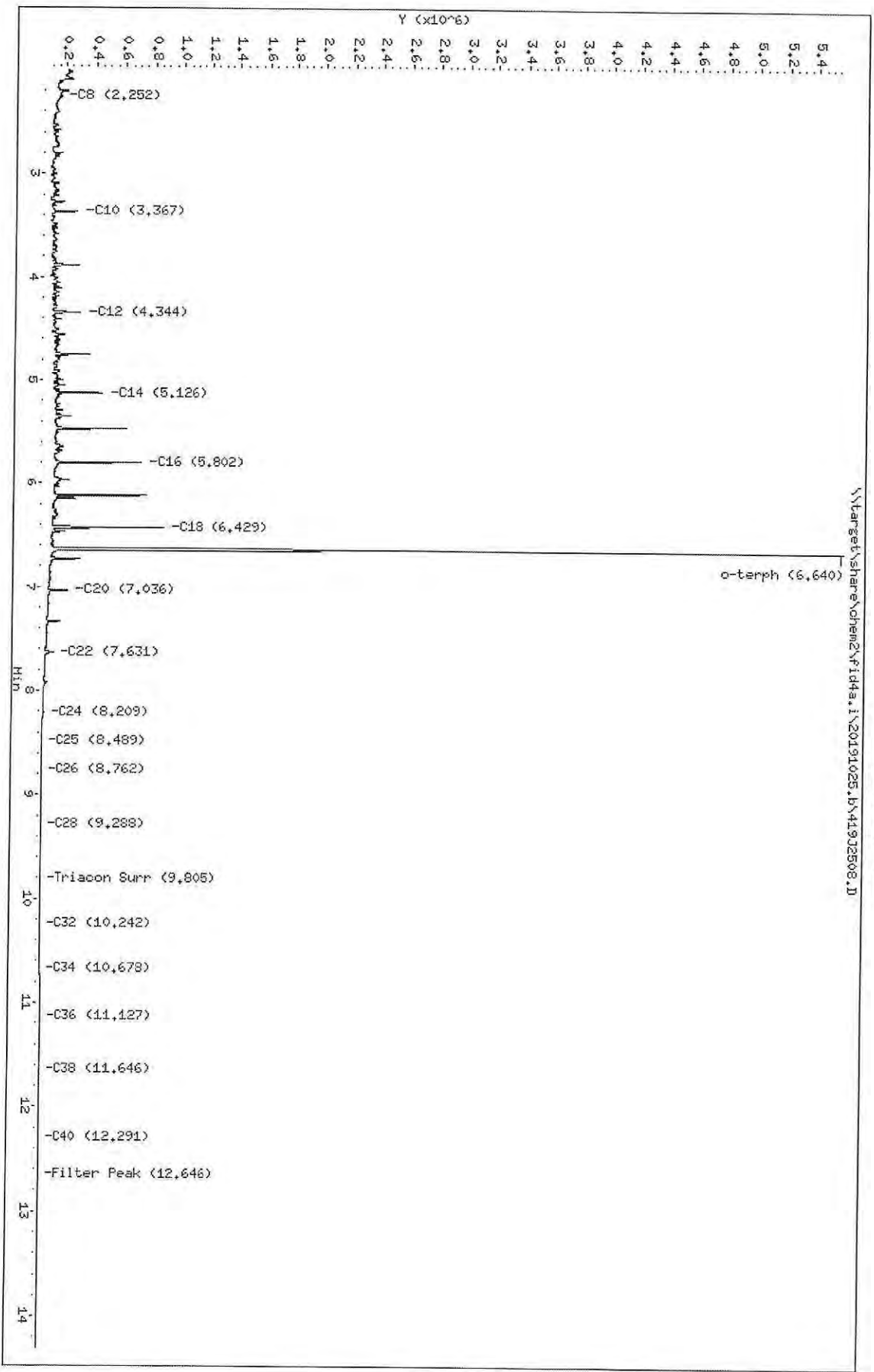
Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2508.D
Date: 25-OCT-2019 14:12

Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTG/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

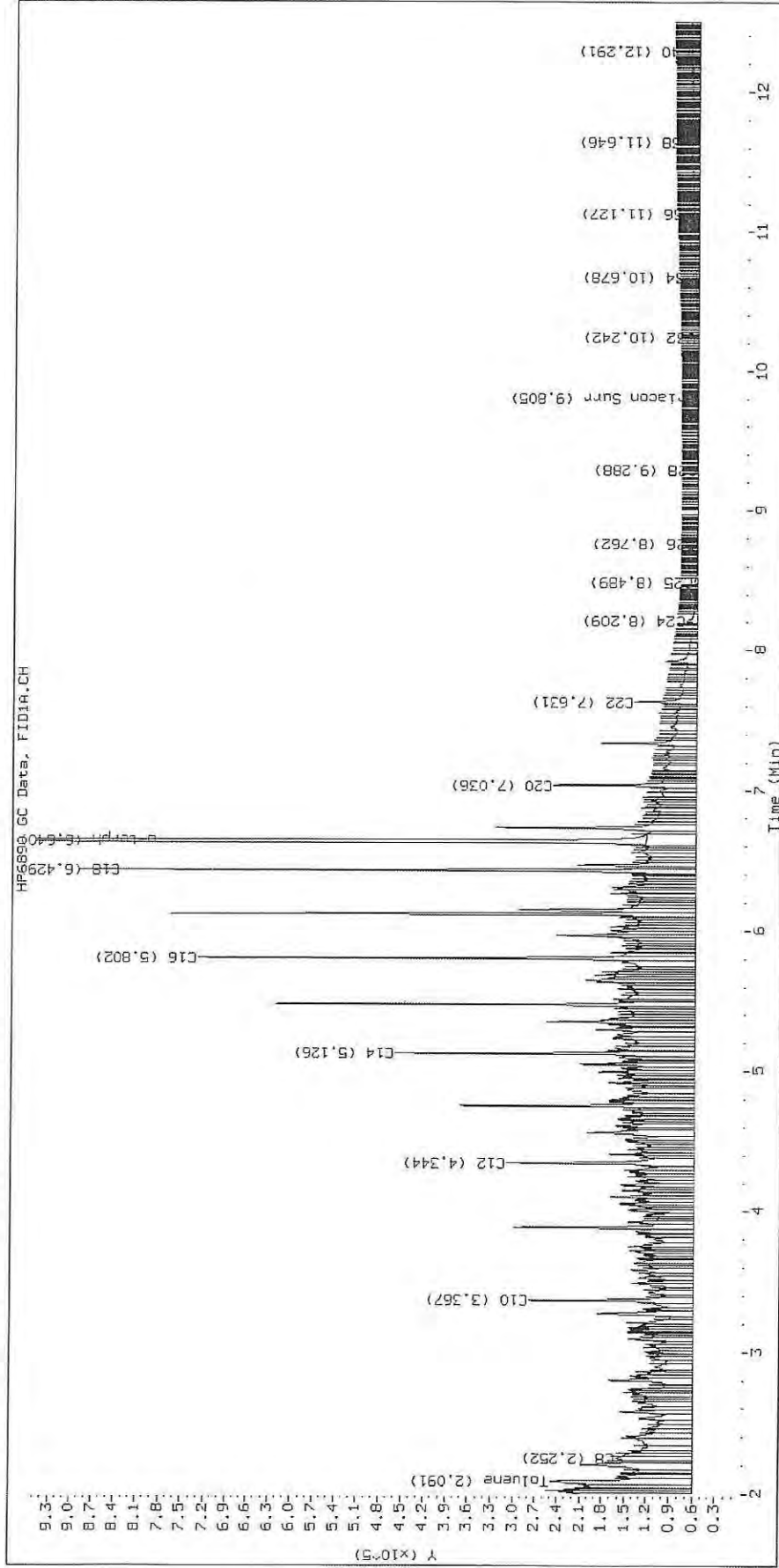
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacotane	368	0.0

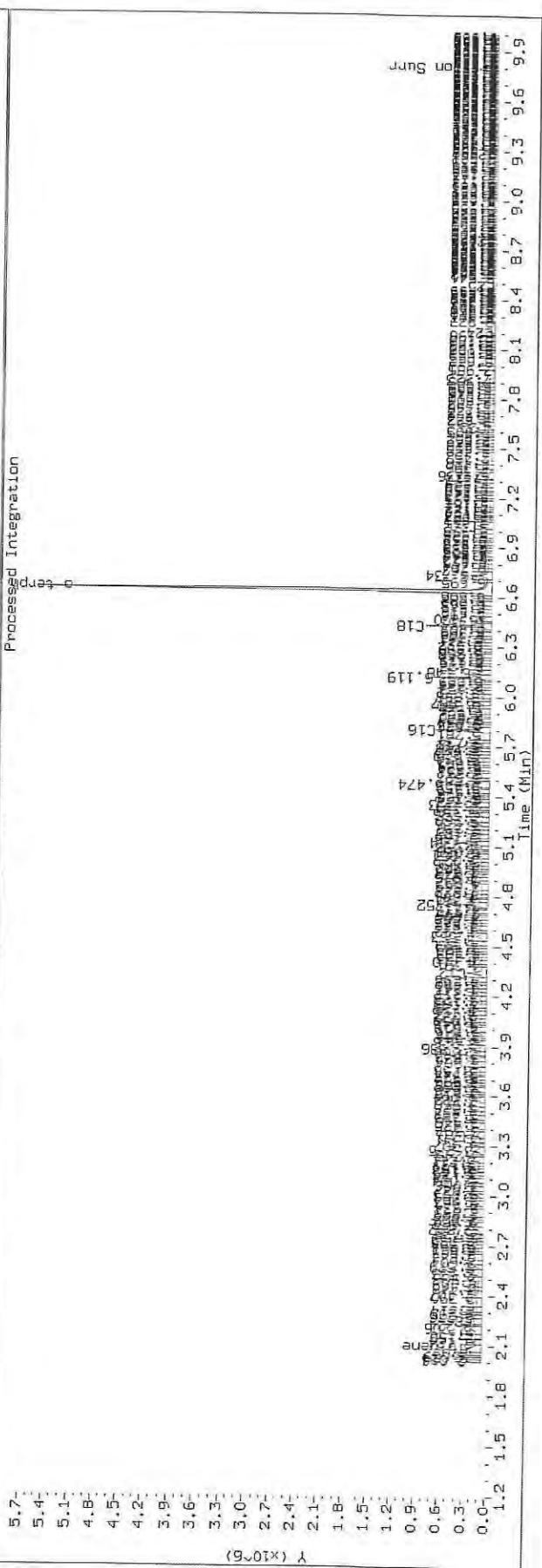
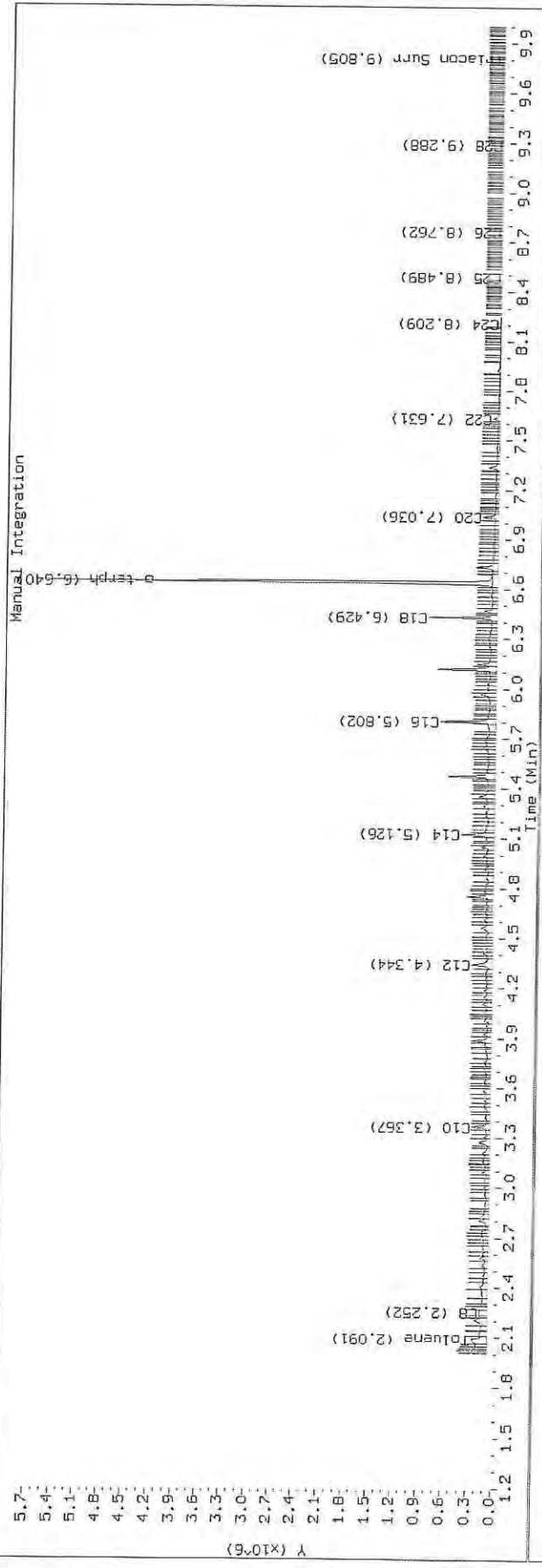
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

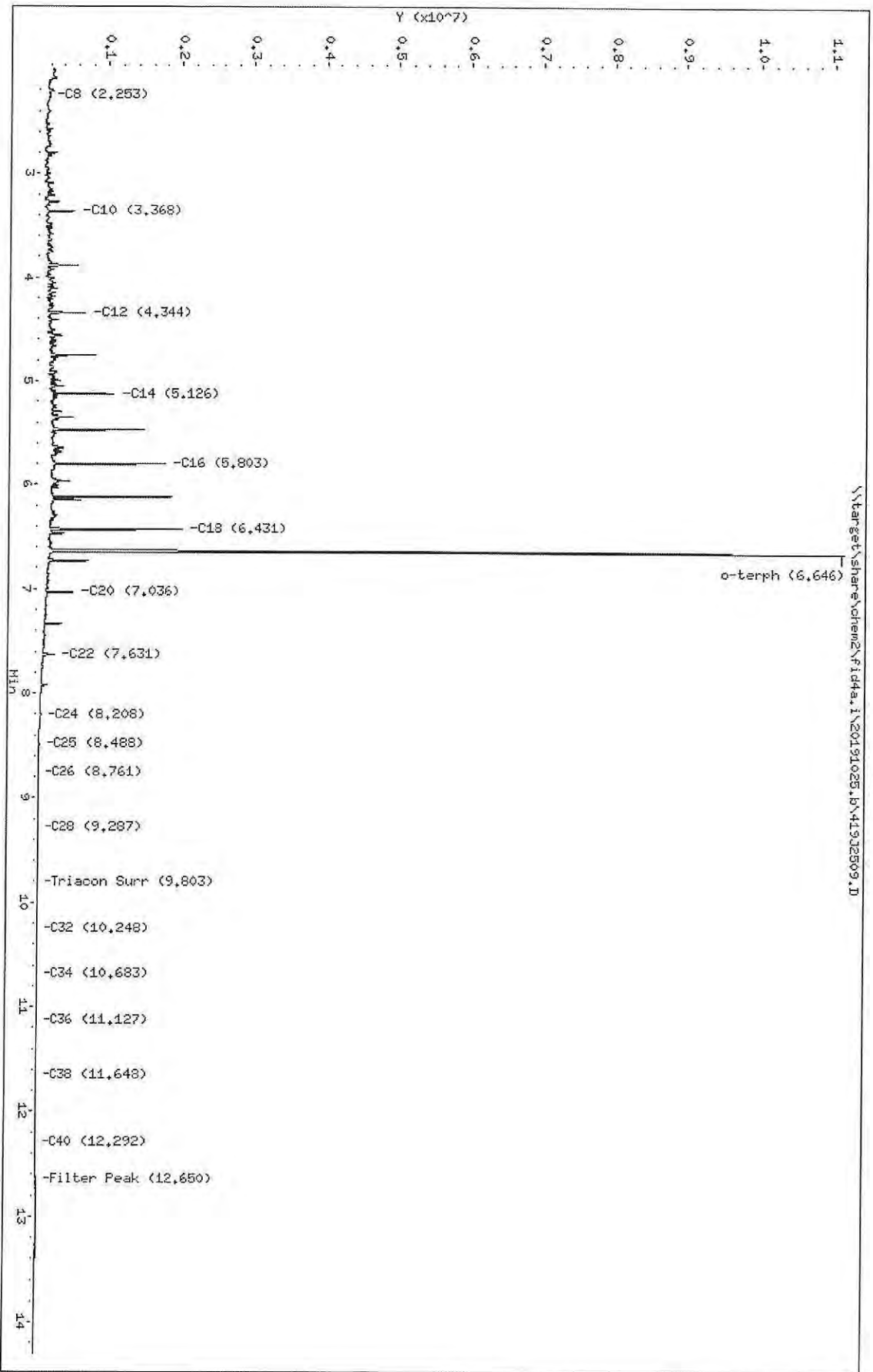
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\Fid4a.1\20191025.B\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3
Column phase: RTX-1

Instrument: Fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

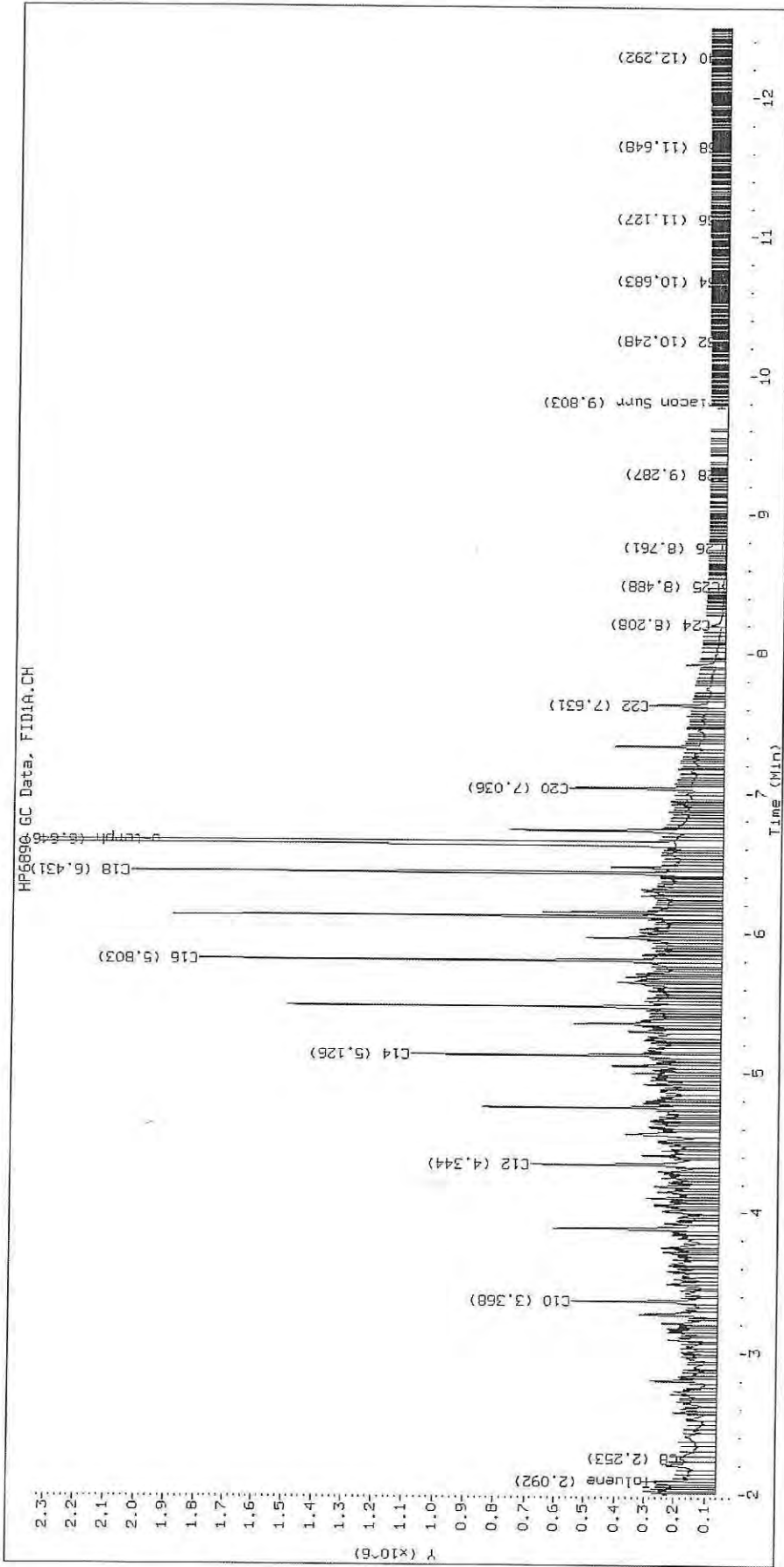
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacontane	103	0.0

M Indicates the peak was manually integrated

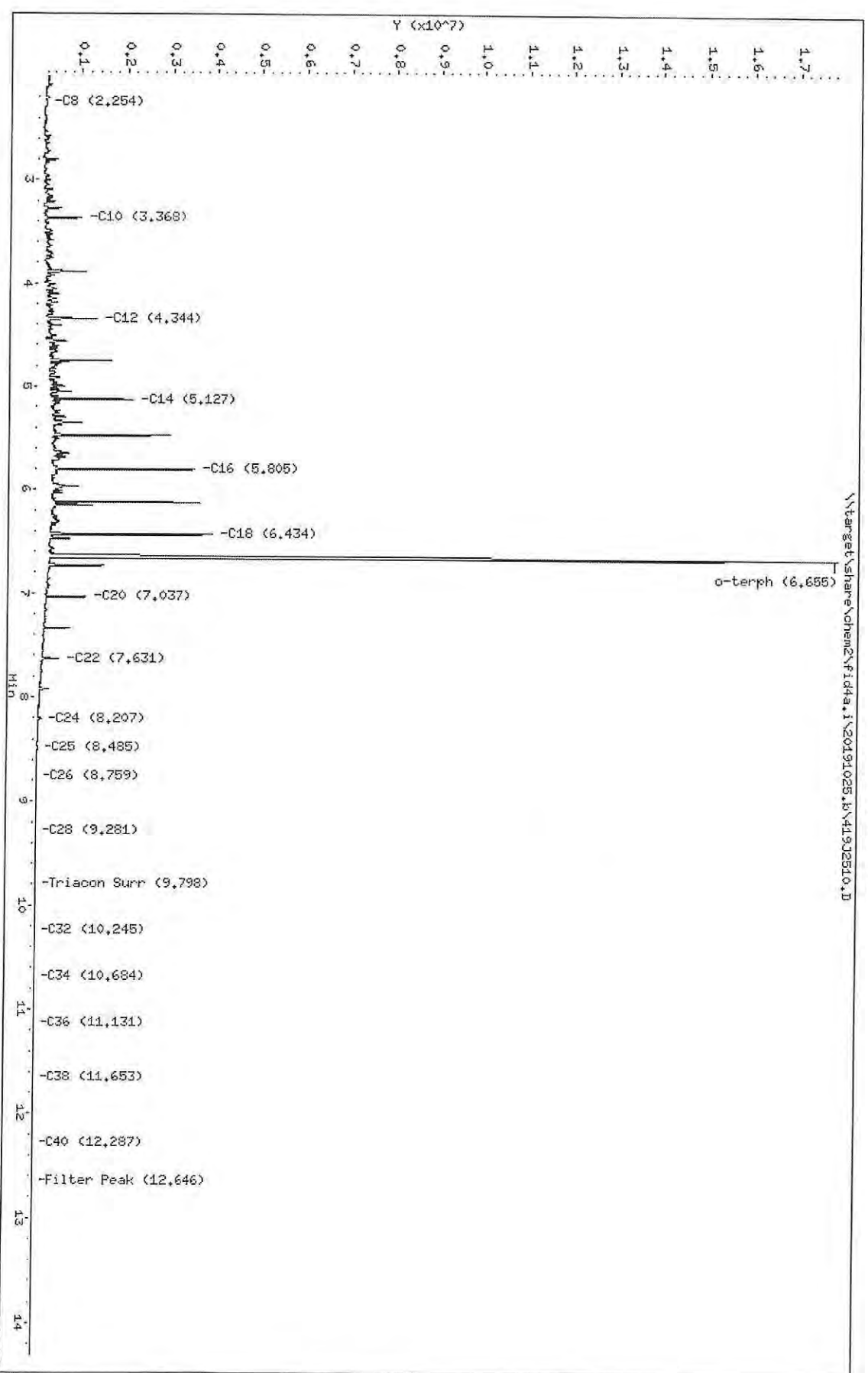
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2509.D SHJ0406-CAL3



Data File: \\target\share\chem2\fidha.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SH30406-CRL4
Column phase: RTX-1

Instrument: fidha.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

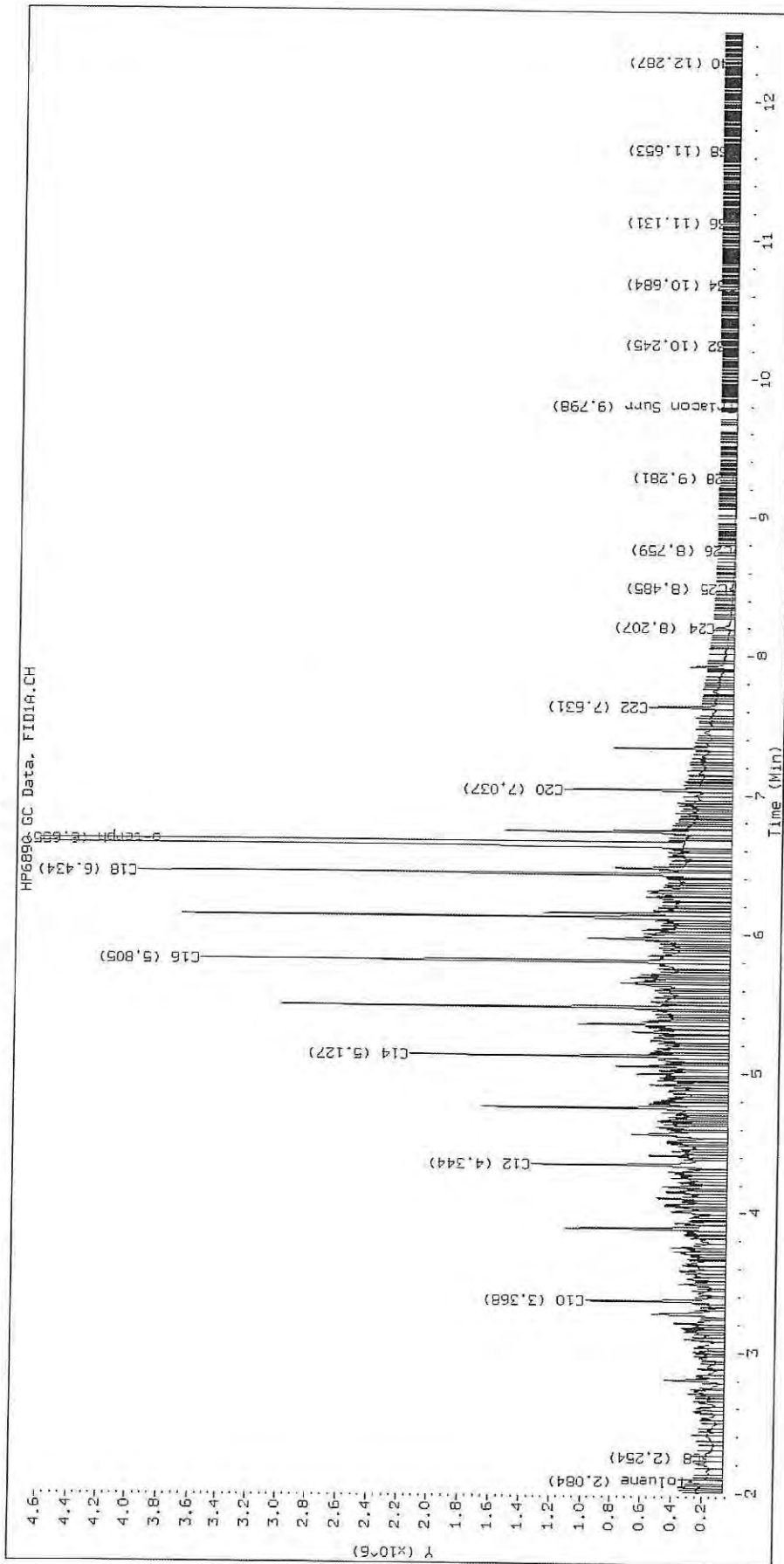
Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacotane	112	0.0

M Indicates the peak was manually integrated

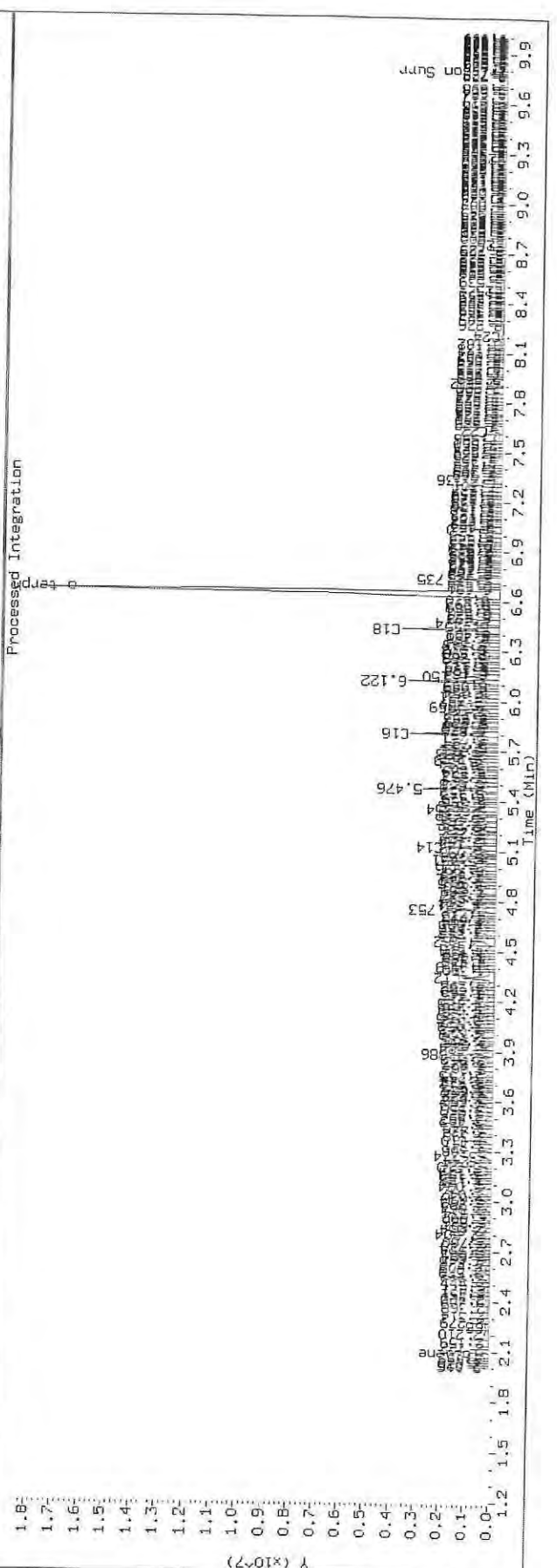
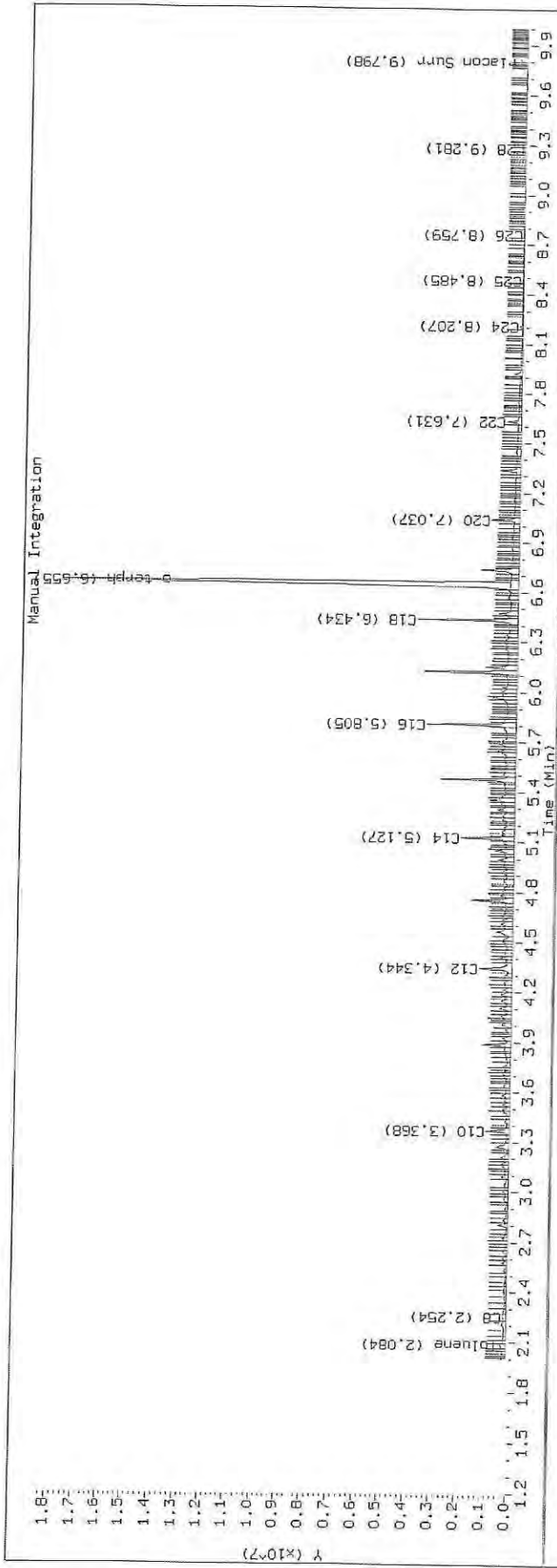
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2510.D

SHJ0406-CAL4

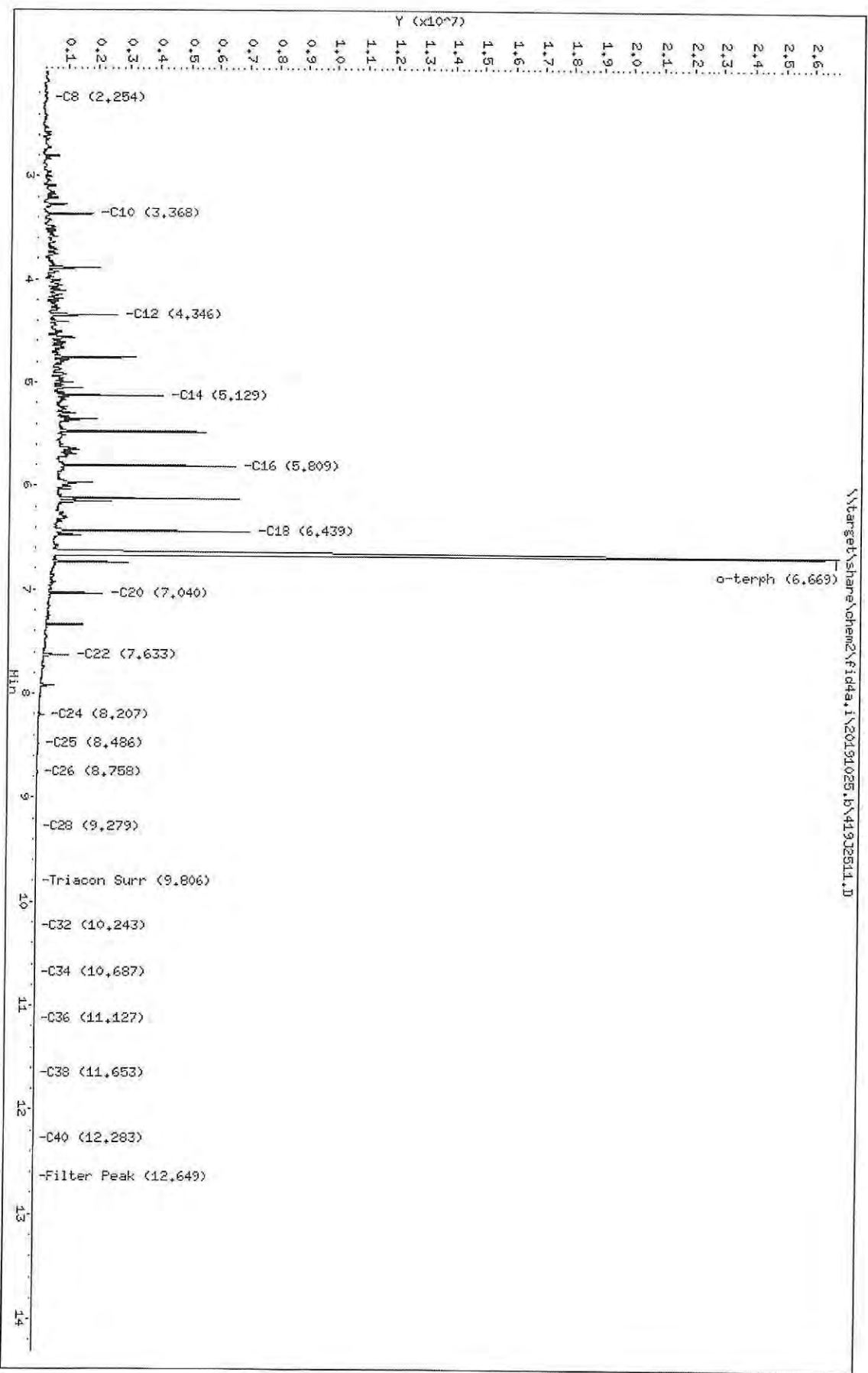


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2510.D Injection: 25-OCT-2019 14:53
 Lab ID: SH00406-CAL4



Data File: \\barger\share\chem2\fid4a.1\20191025.bv419J2511.D
 Date : 25-OCT-2019 15:13
 Client ID:
 Sample Info: SHJ0406-CALS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL5
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

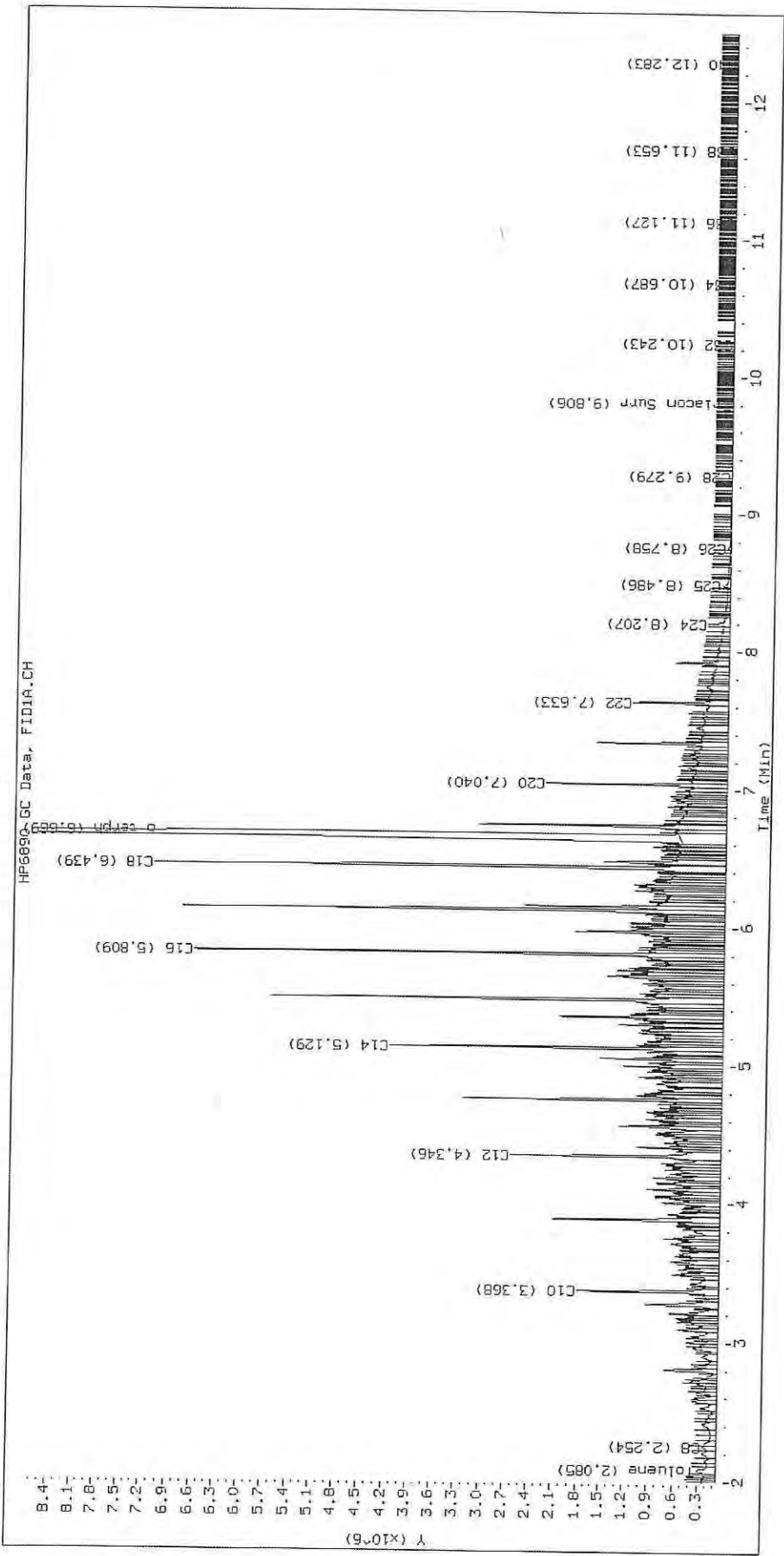
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacotane	1069	0.0

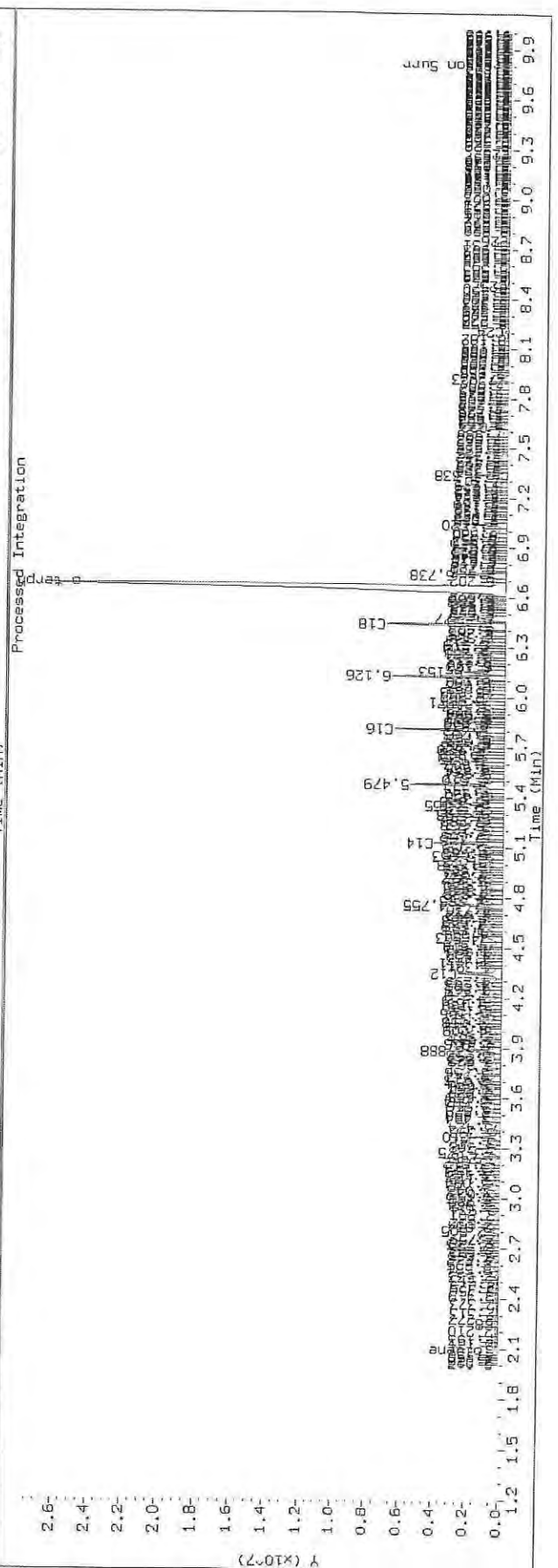
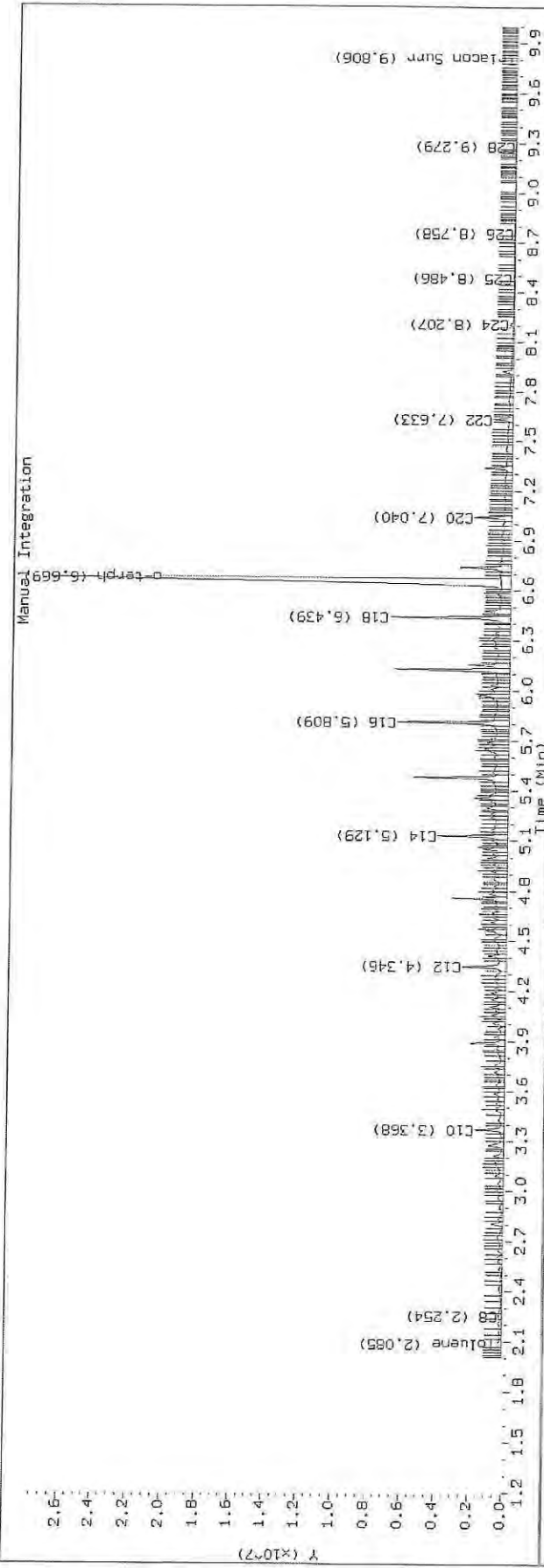
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5

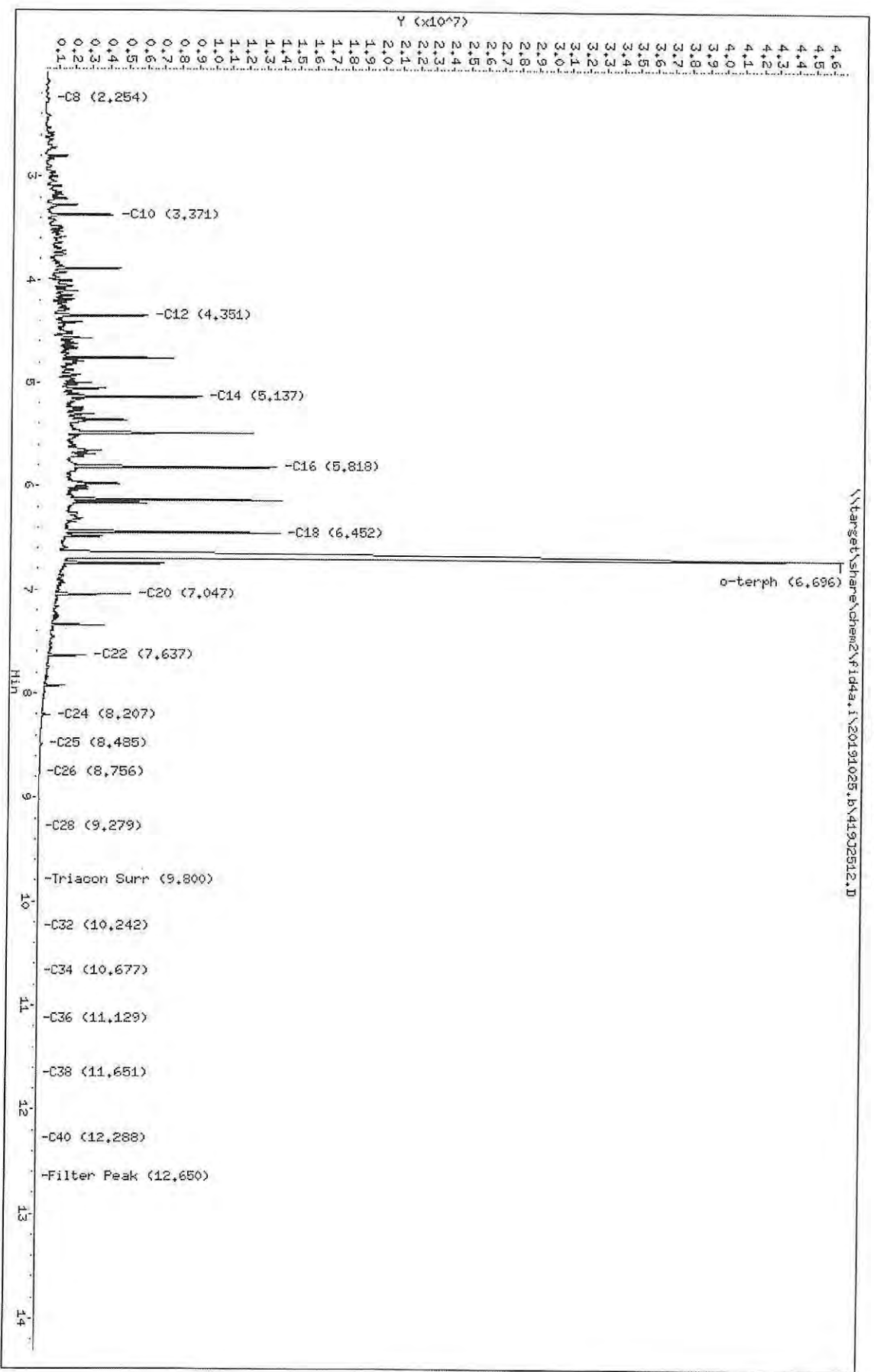


Datafile: FID4A, 20191025.b/419J2511.D Injection: 25-OCT-2019 15:13
 Lab ID: SHJ0406-CAL5



Data File: \\target\shame\chem2\Fid4a.I\20191025.BV419J2B12.D
 Date: 25-OCT-2019 15:32
 Client ID:
 Sample Info: SHJ0406-CHL6
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTG/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

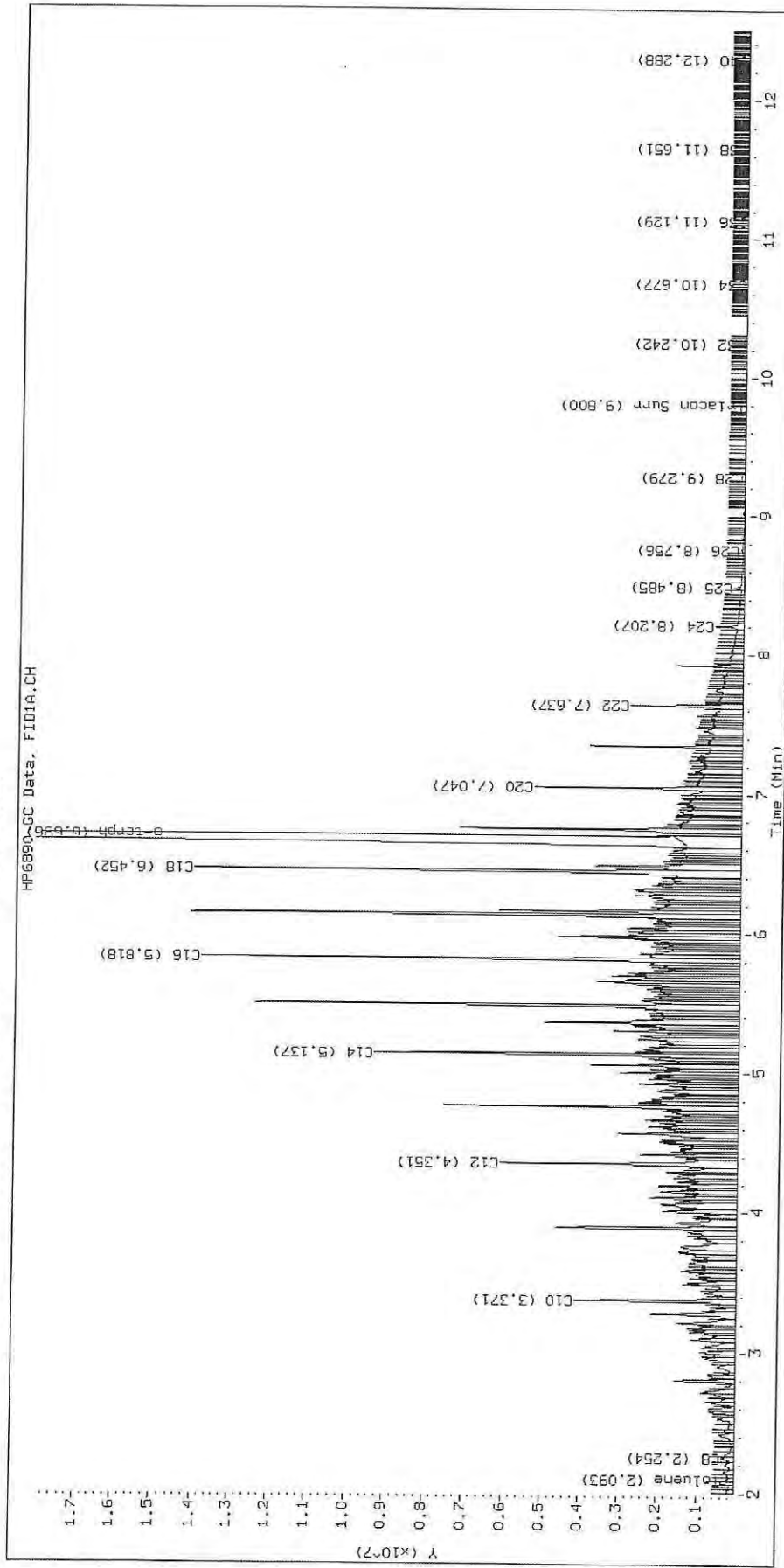
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

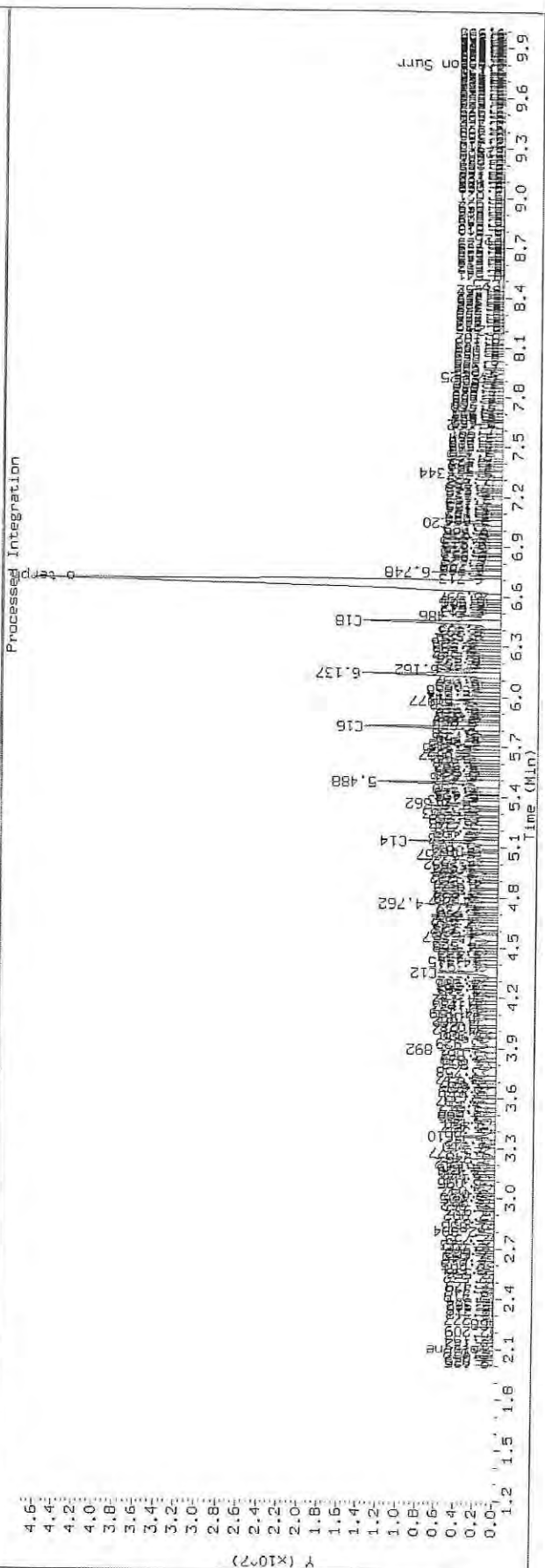
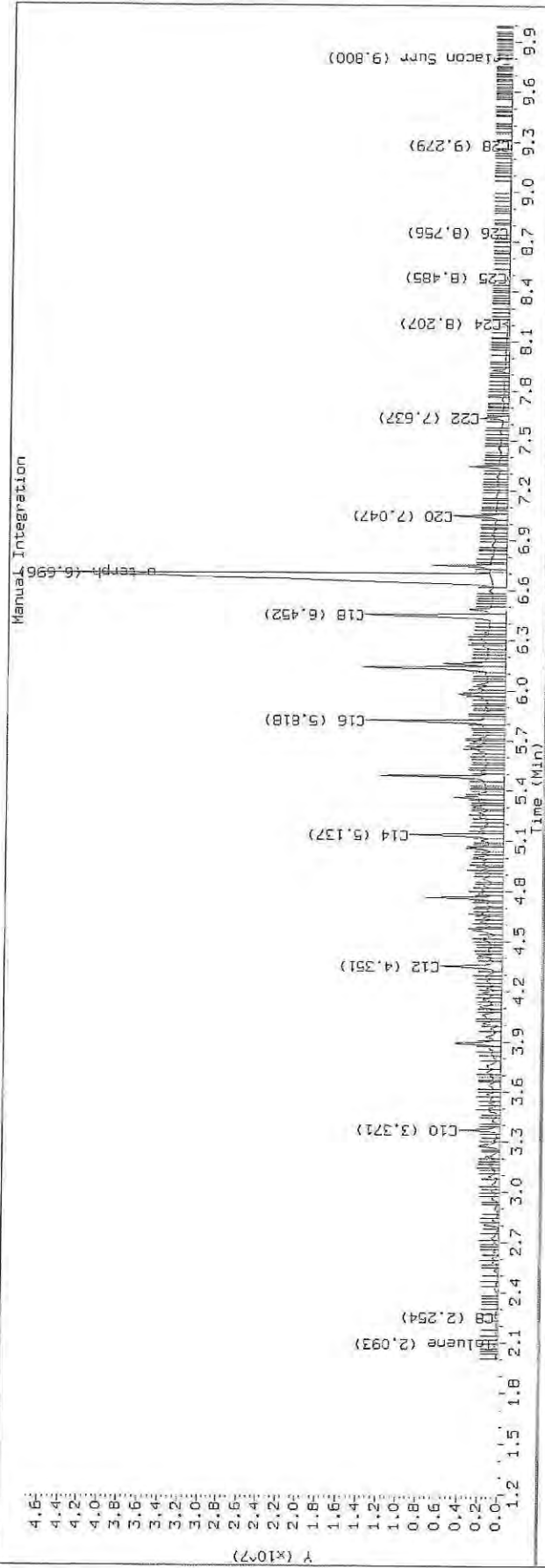
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacontane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

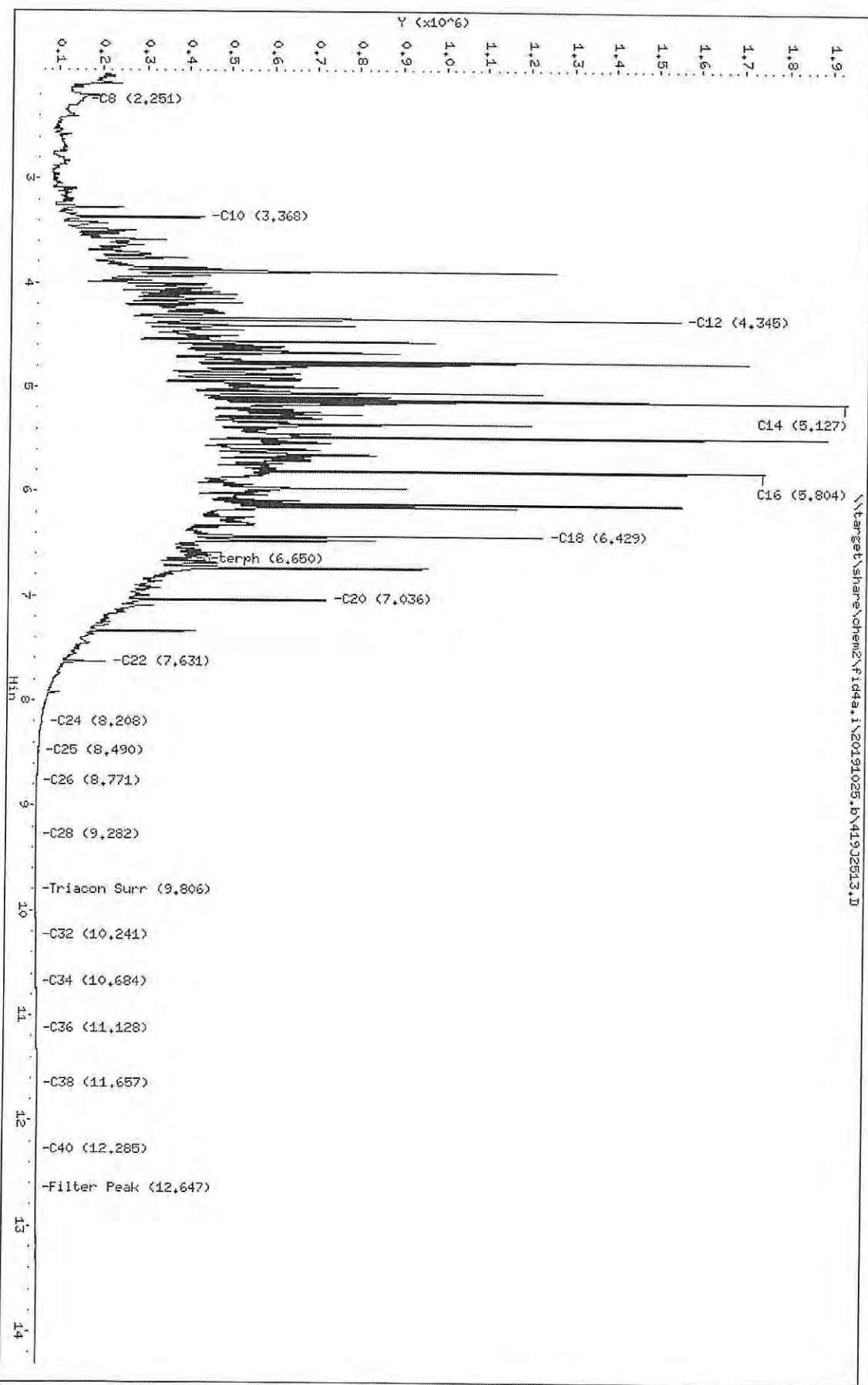
Datafile: FID4A, 20191025.b/41902512.D SHJ0406-CAL6





Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2513.D
Date: 25-OCT-2019 15:52
Client ID:
Sample Info: SH30406-SCW1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

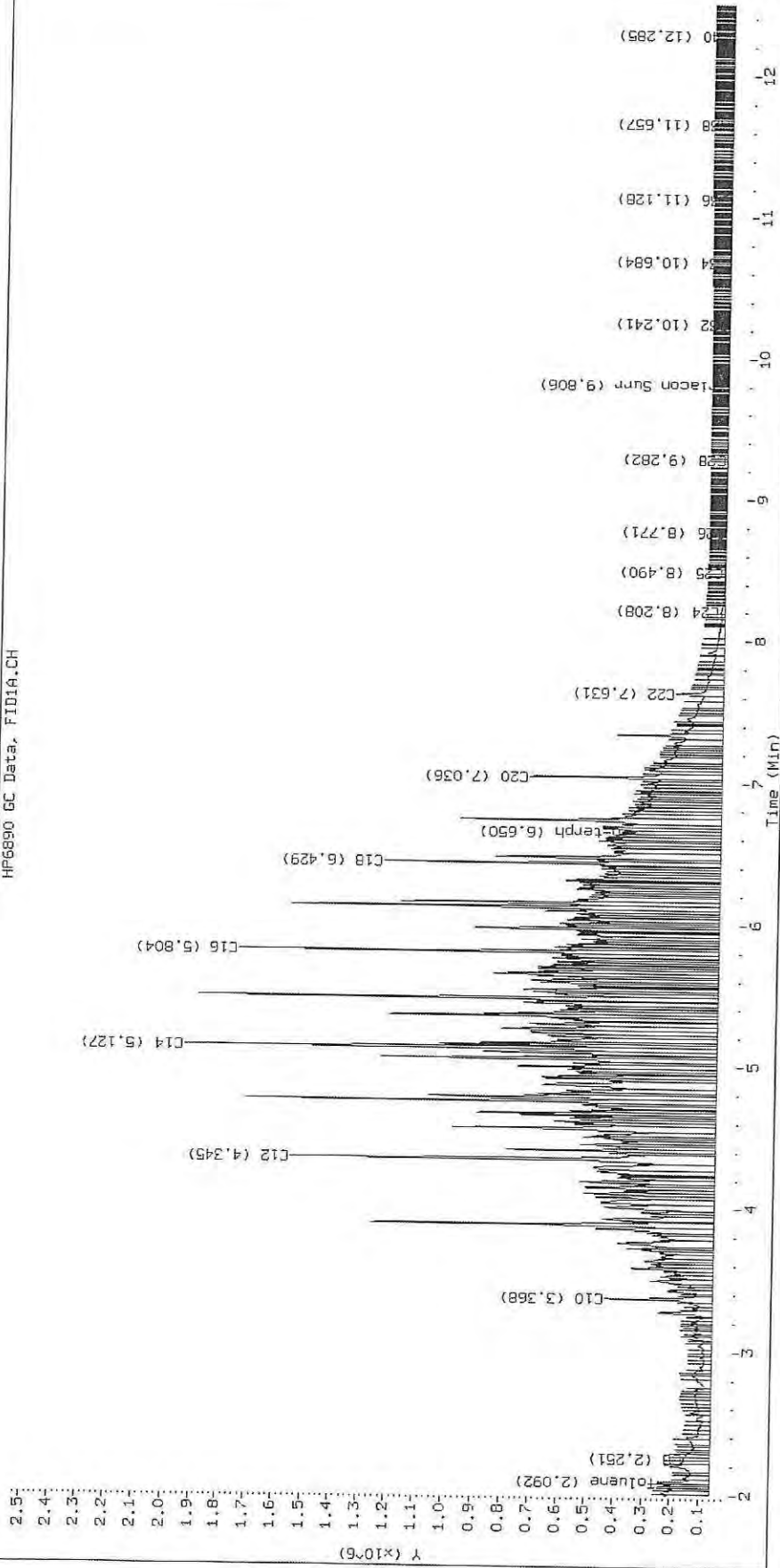
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacontane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCVI

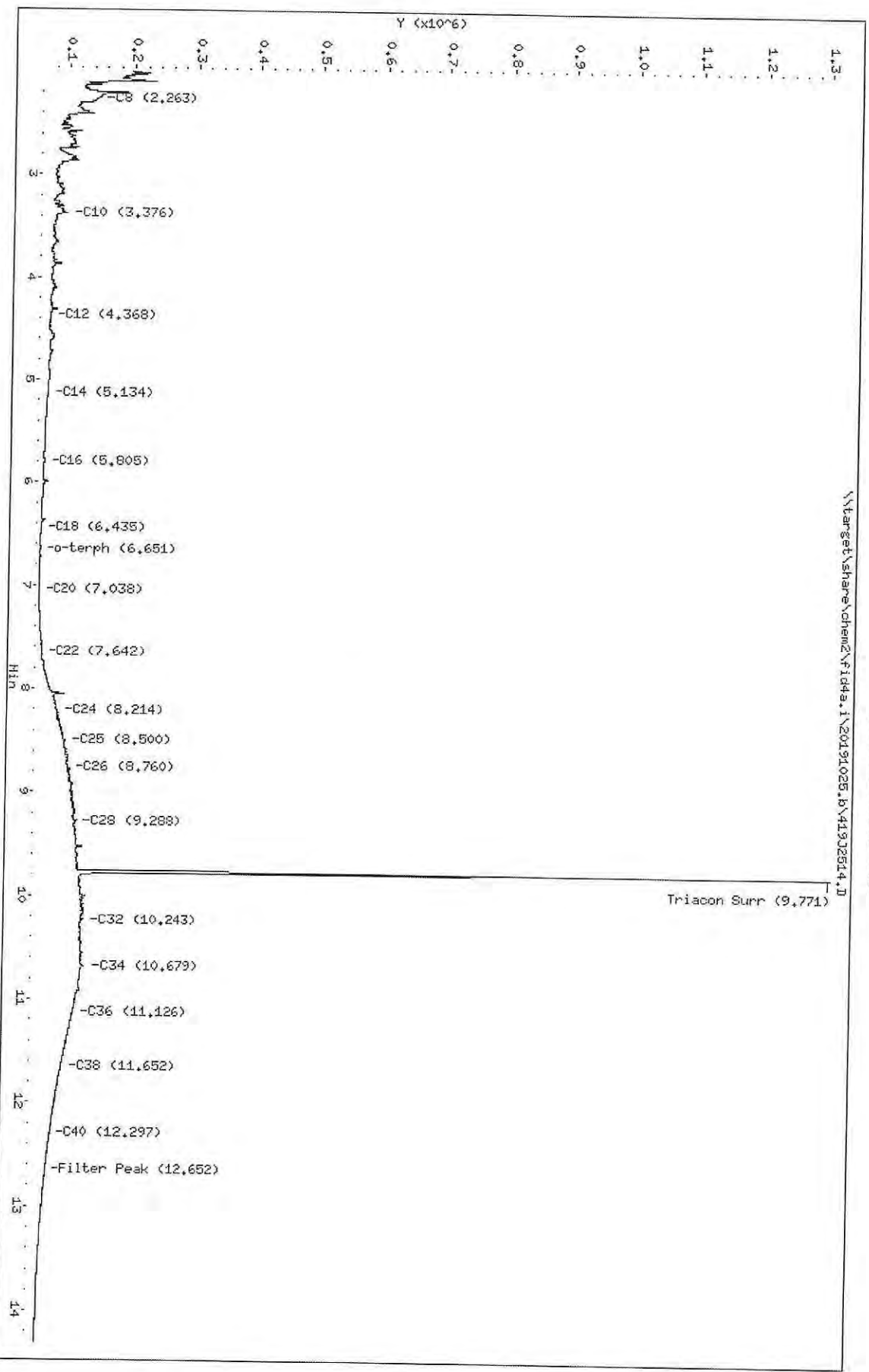
HP6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41932514.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7
Column phase: RTX-1

Instrument: fid4a.1
Operator: CTO/SH/VIS/JGR
Column diameter: 0.25

\\target\share\chem2\Fid4a.1\20191025.B\41932514.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

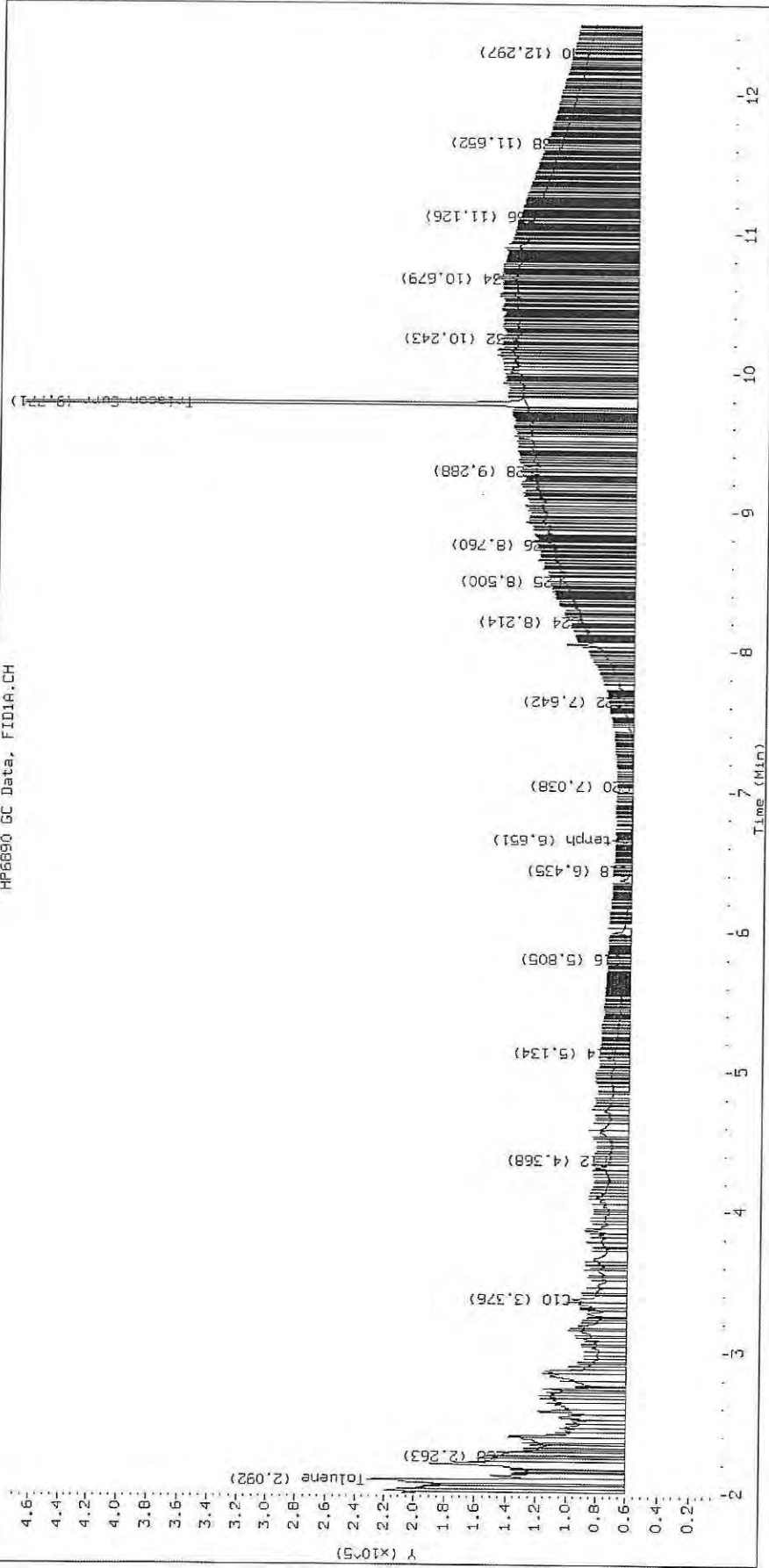
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacotane	816812	4.6 M

M Indicates the peak was manually integrated

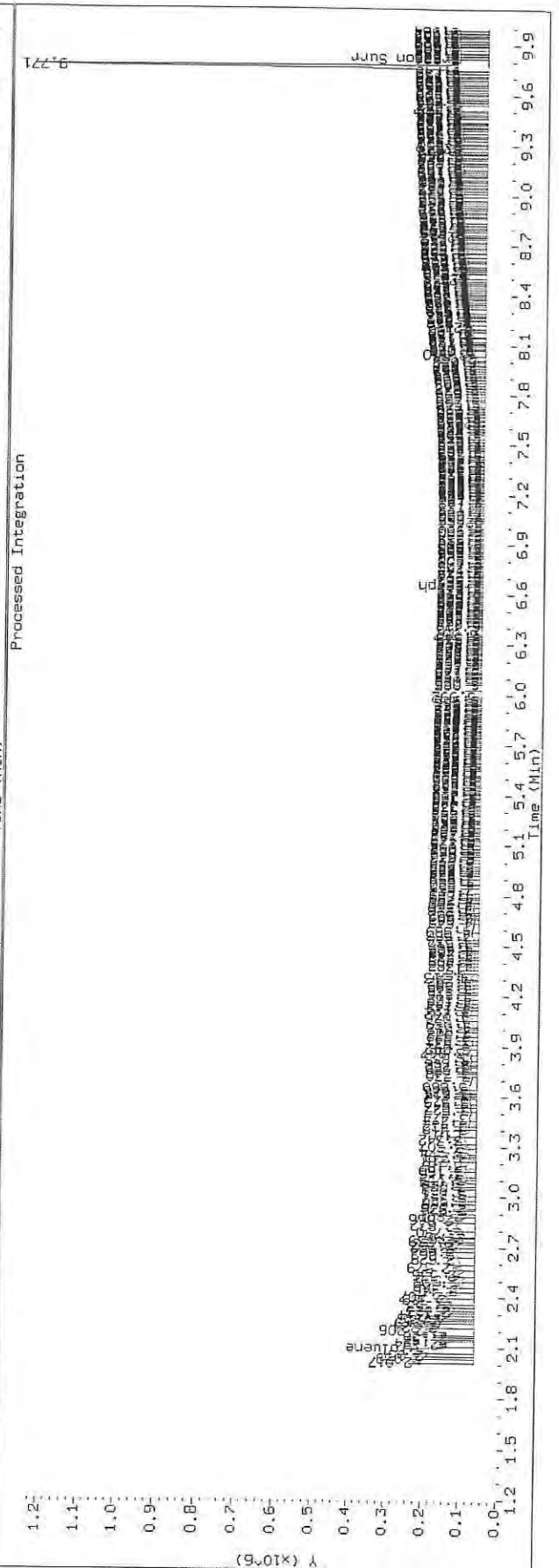
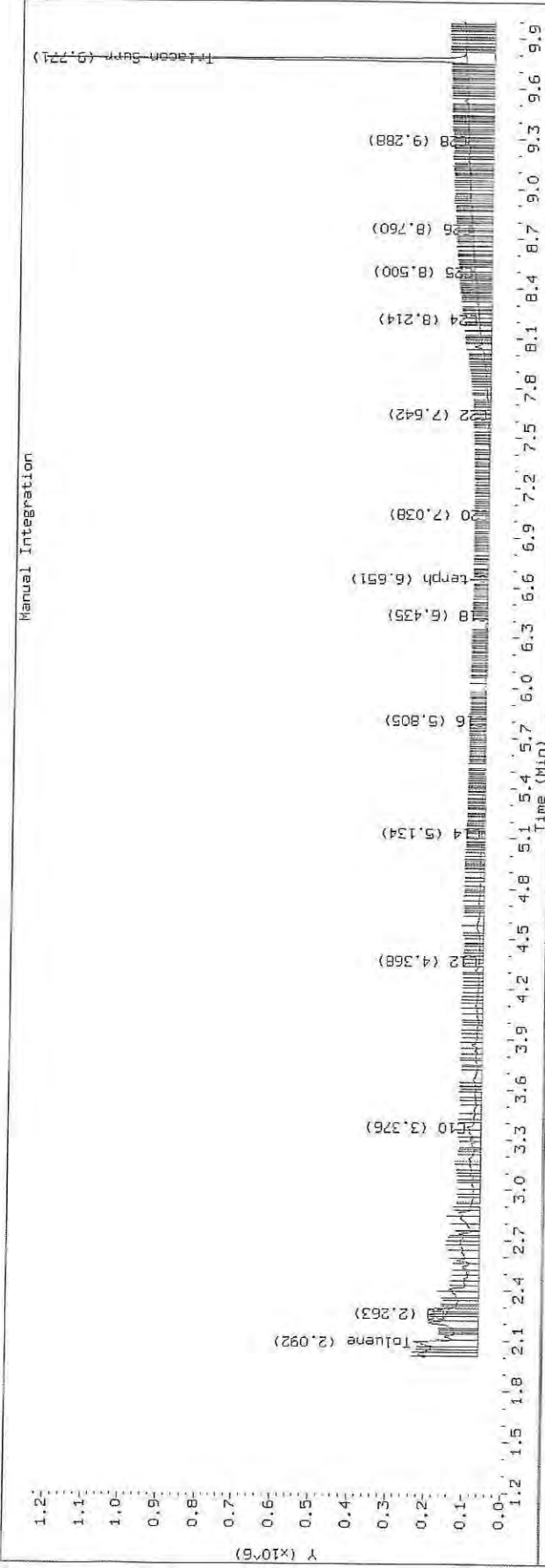
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH

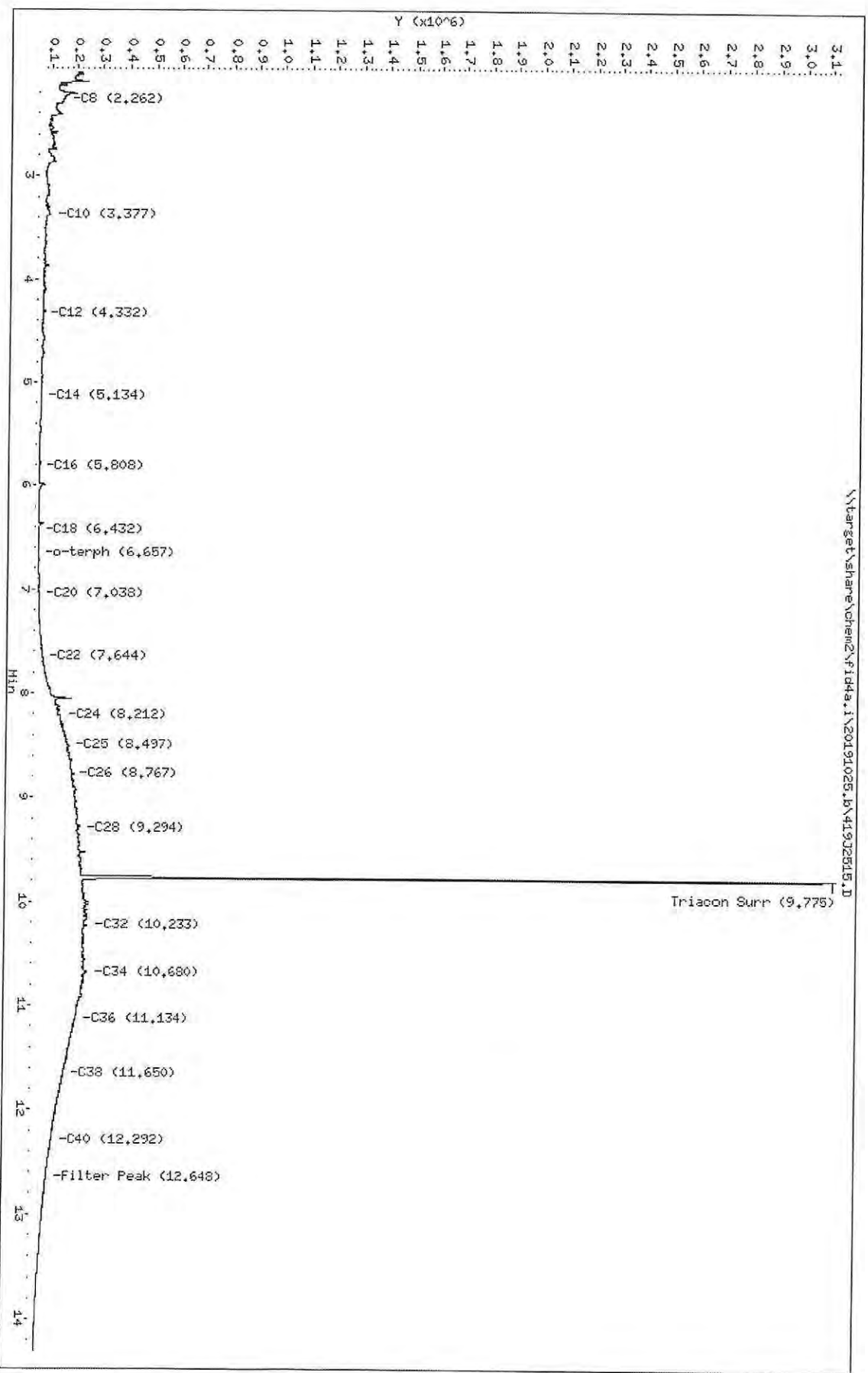


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2514.D Injection: 25-OCT-2019 16:12
 Lab ID: SHJ0406-CAL7



Data File: \\target\share\chem2\fid4a.i\20191025.bv4192515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Inlet: SHJ0406-CAL8
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

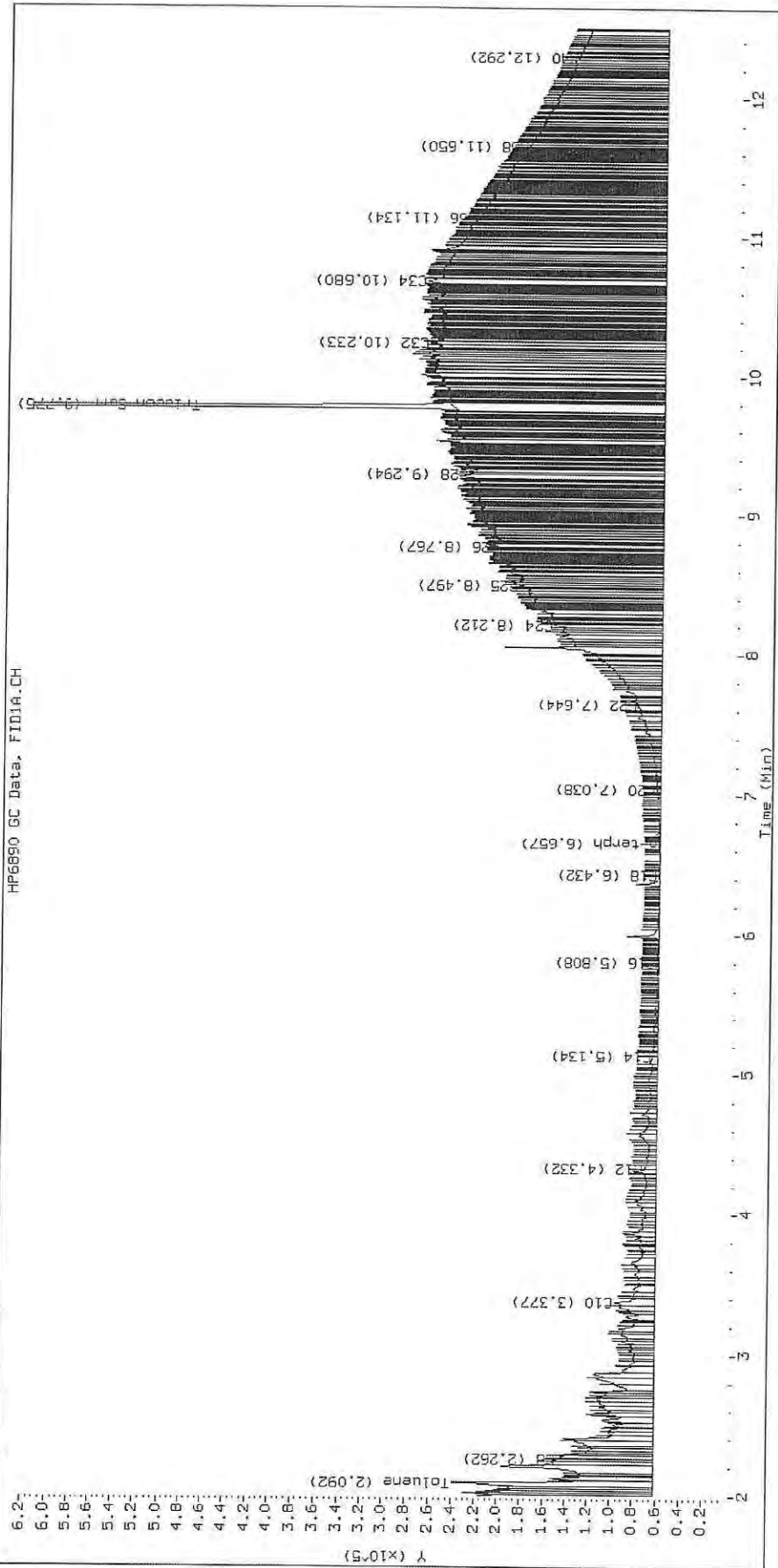
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacotane	2052387	11.5 M

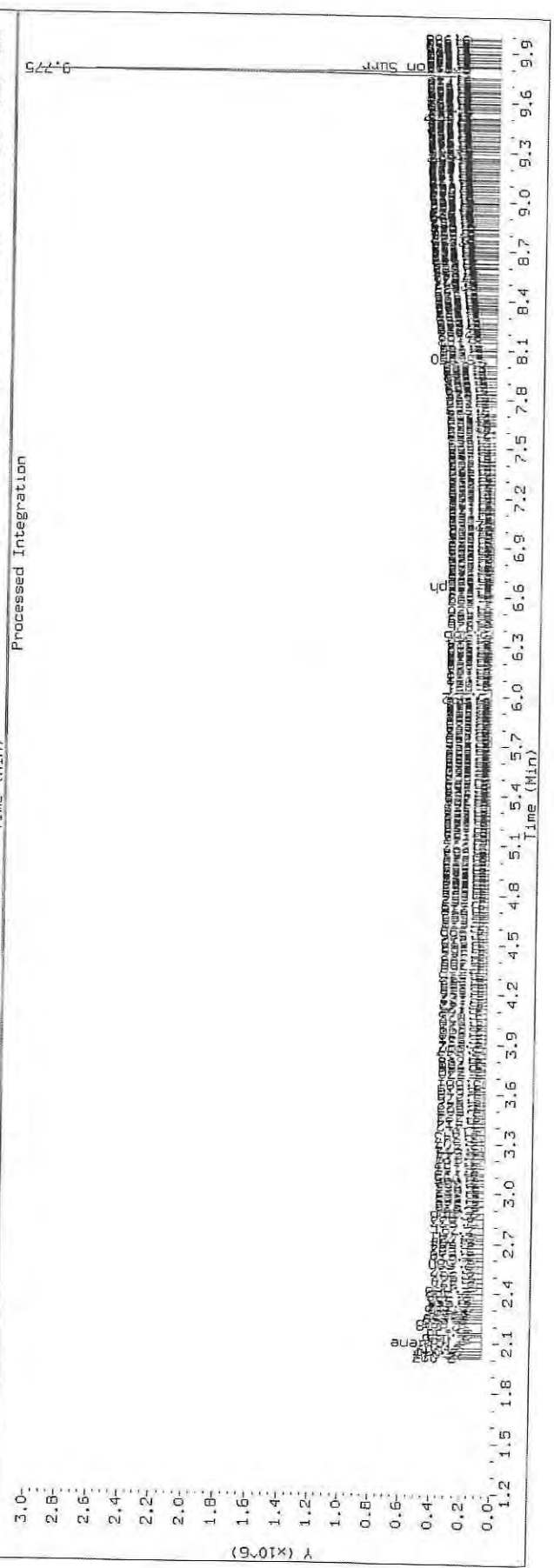
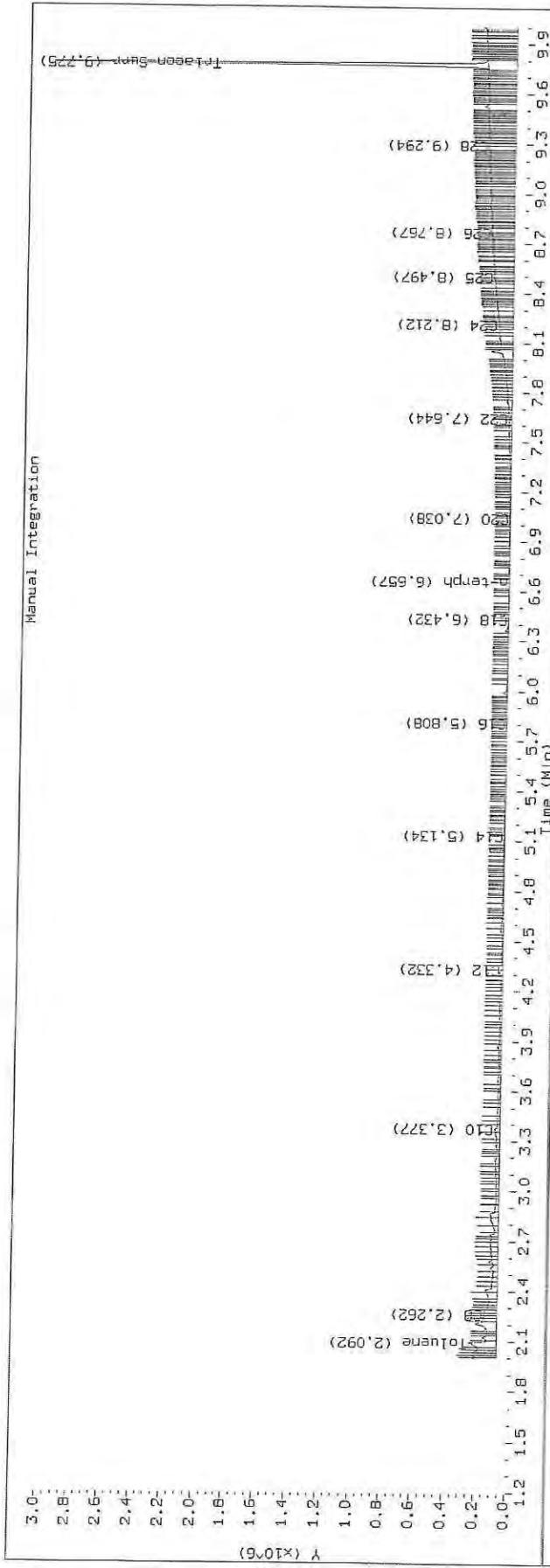
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data, FID1A.CH

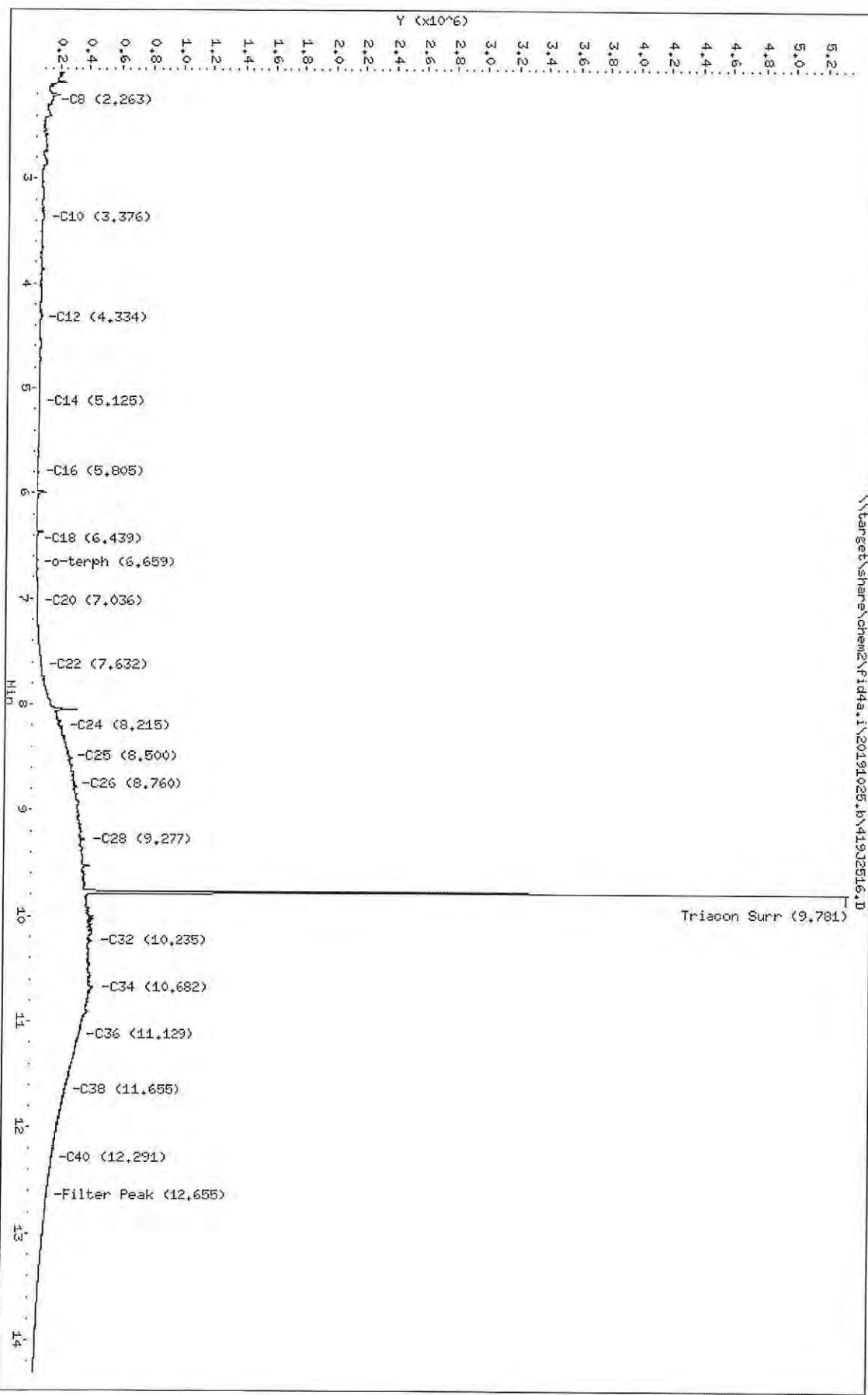




Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2516.D
 Date: 25-OCT-2019 16:53
 Client ID:
 Sample Info: SHJ0406-CAL9
 Column Phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/WTS/JGR
 Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.B\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

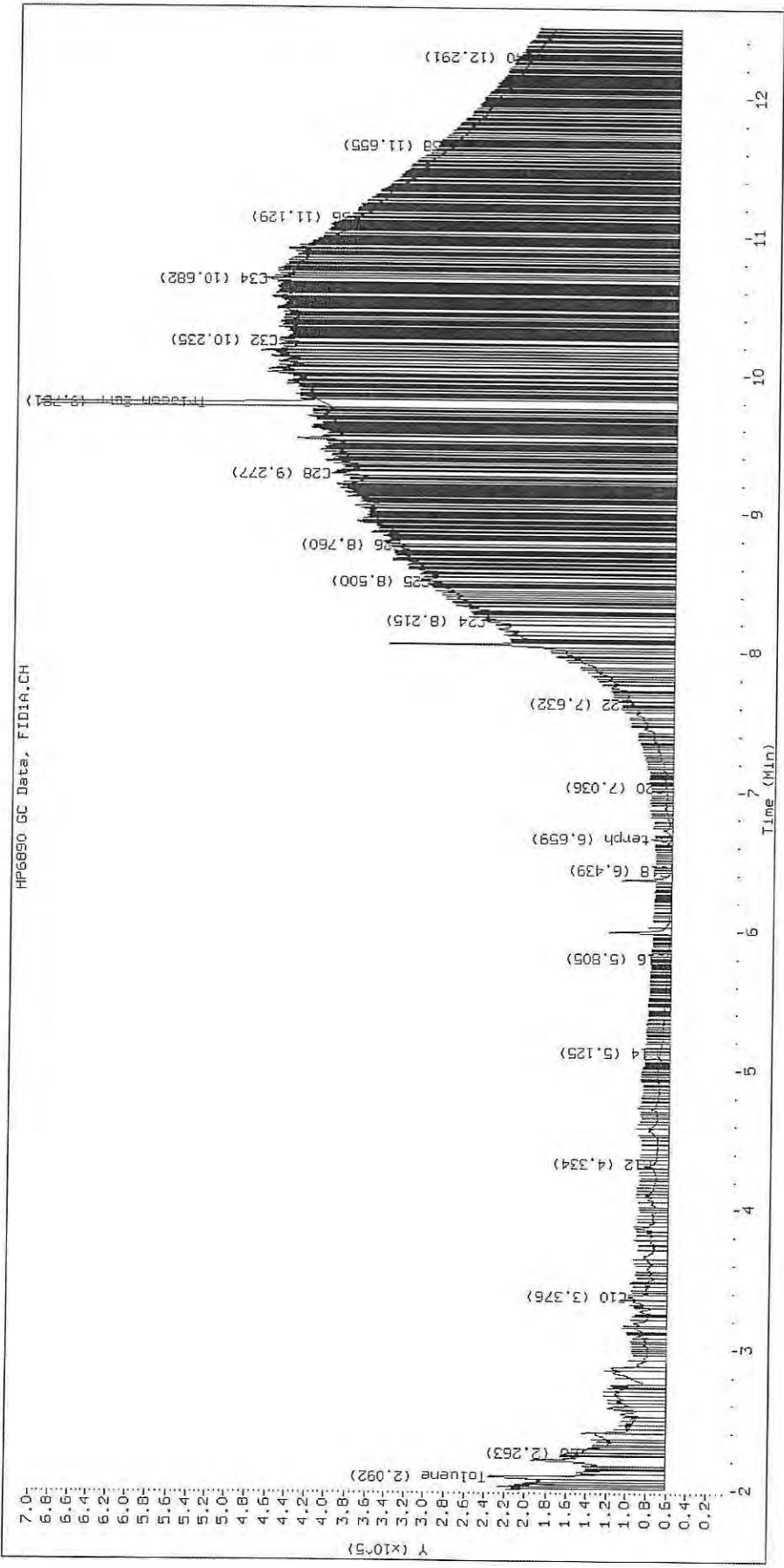
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacontane	3881047	21.8 M

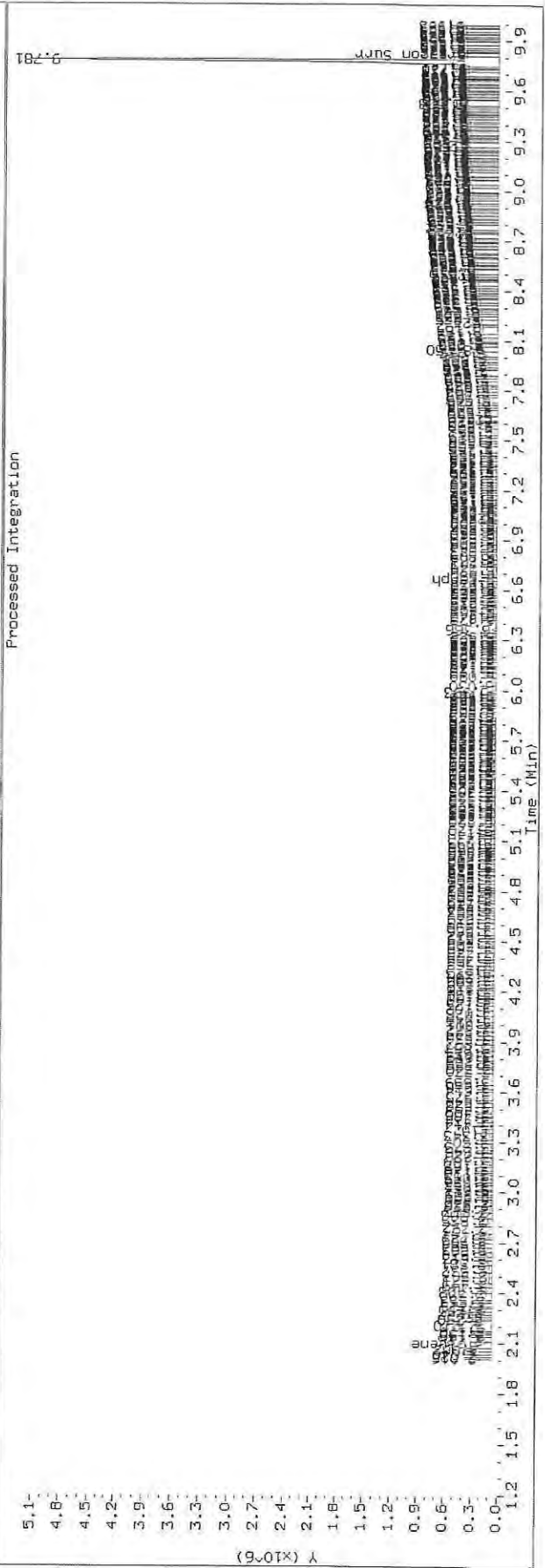
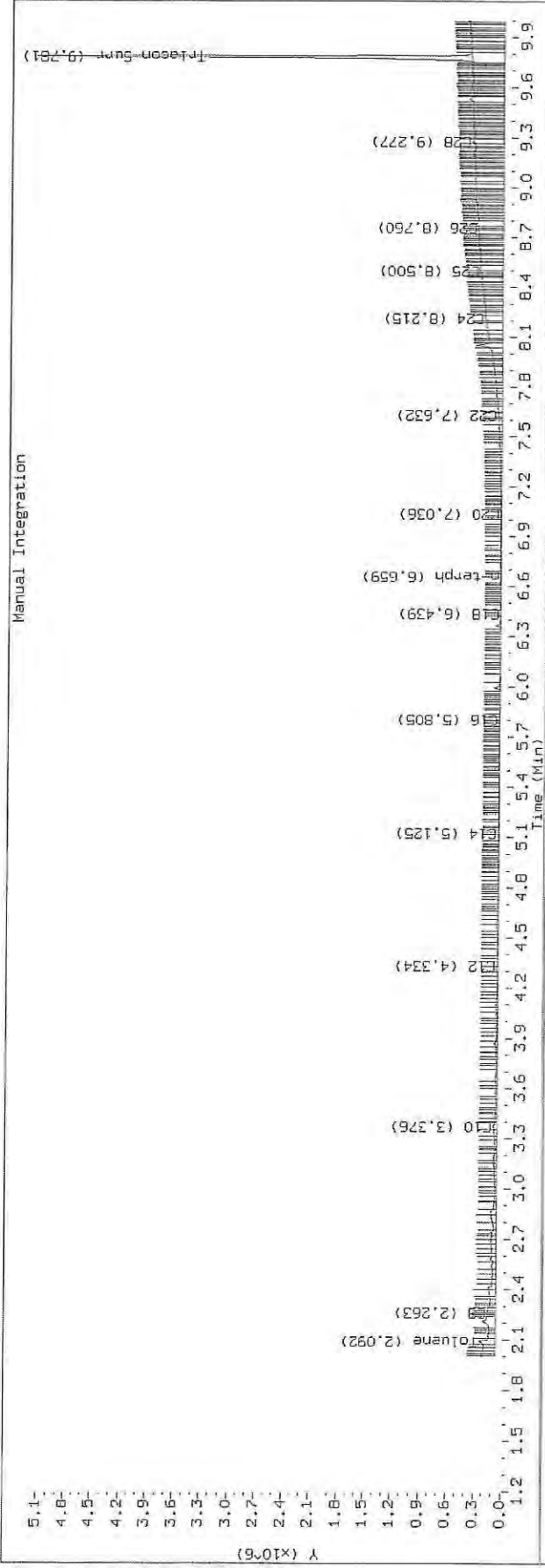
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

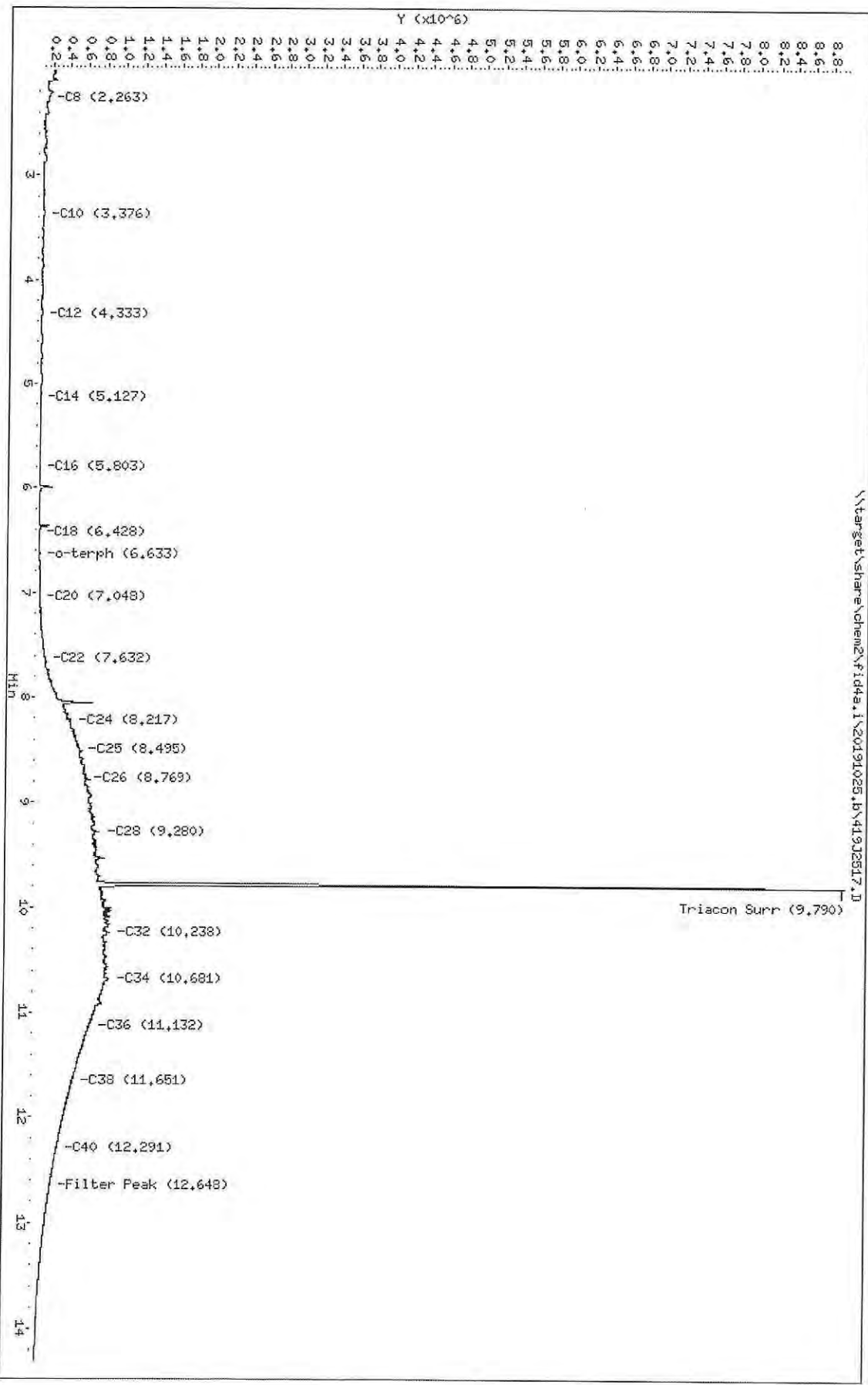


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2516.D Injection: 25-OCT-2019 16:53
 Lab ID:SHJ0406-CAL9



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2517.D
 Date : 25-OCT-2019 17:13
 Client ID:
 Sample Info: SHJ0406-CALLA
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacotane	7927188	44.5 M

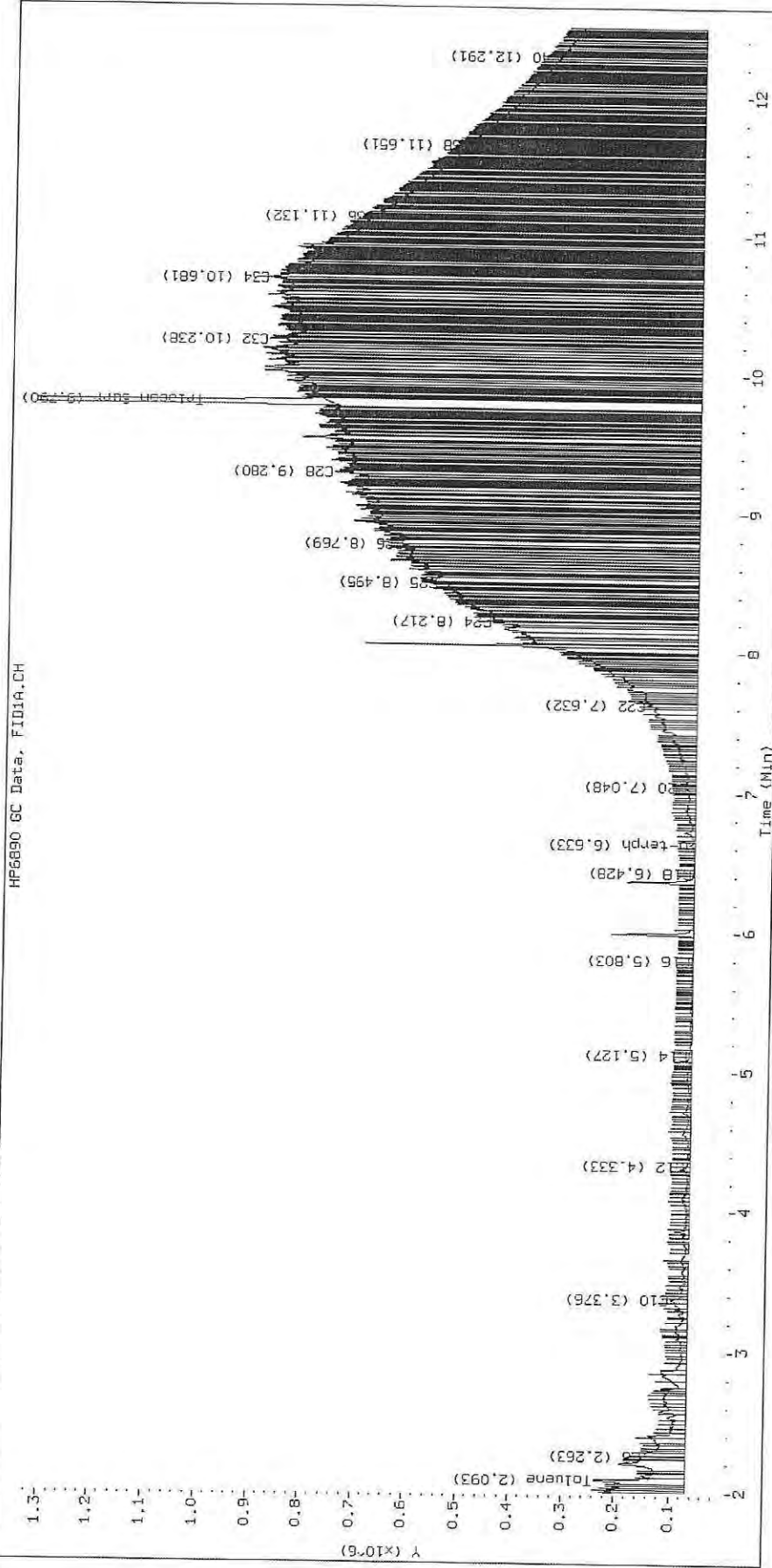
M - Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

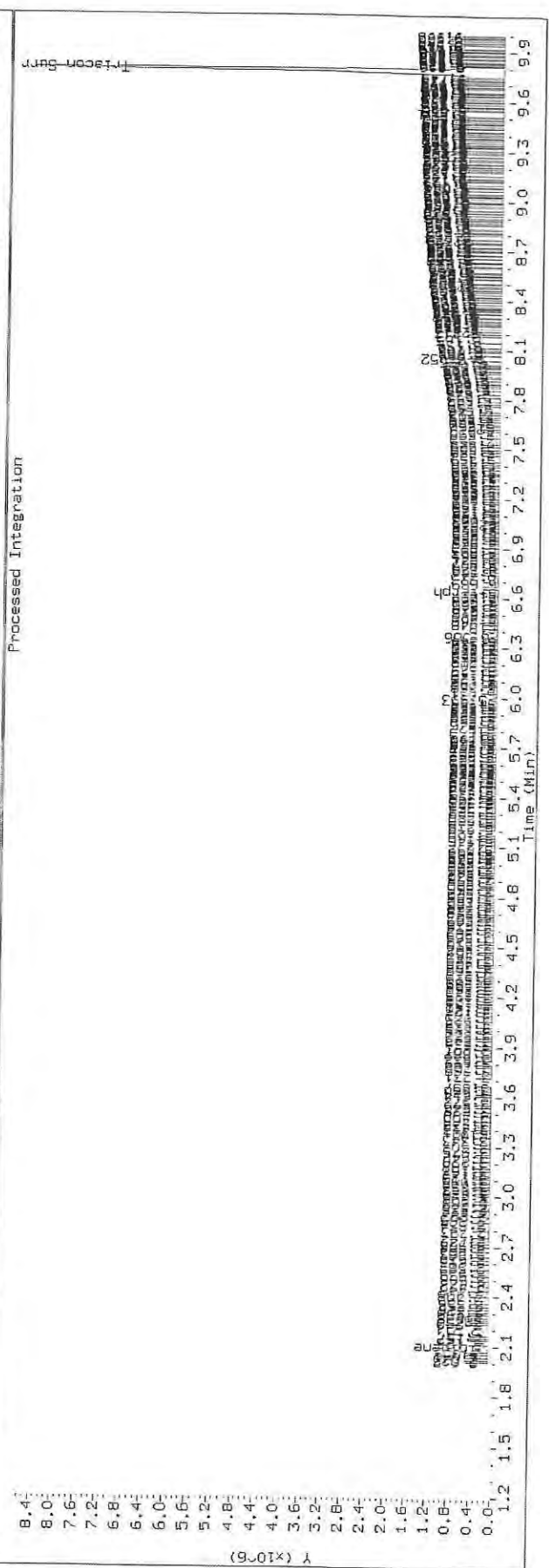
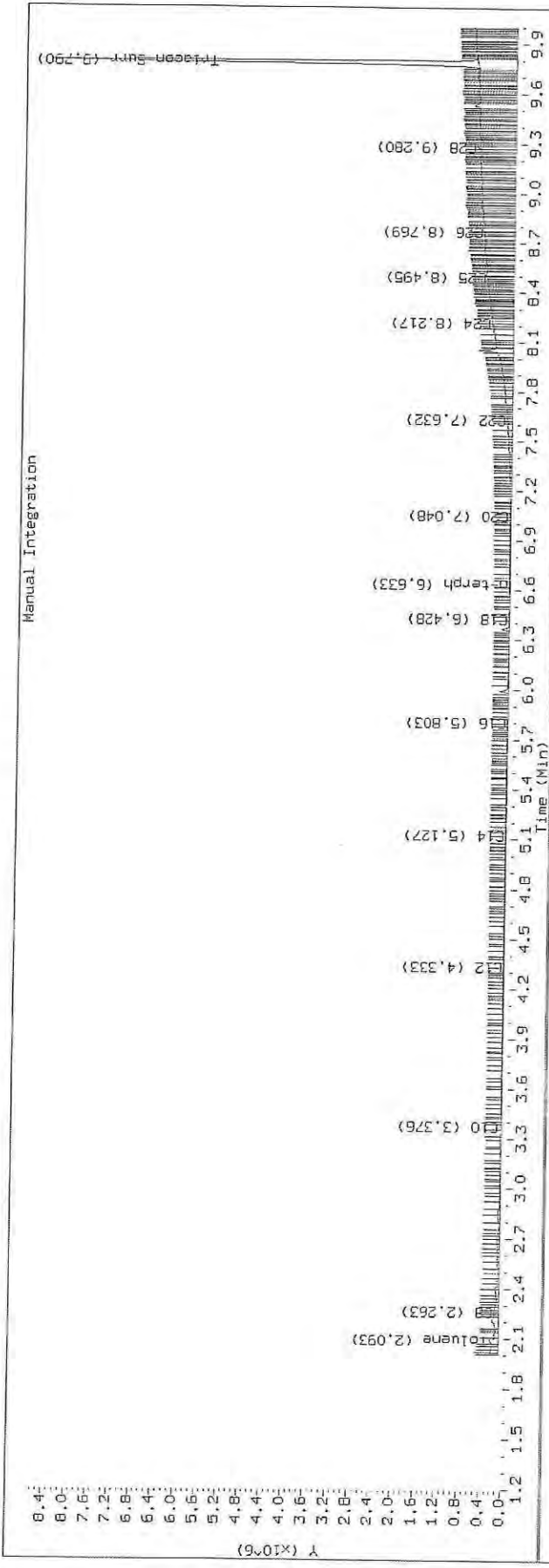
Datafile: FID4A, 20191025.b/419J2517.D

SHJ0406-CALA

HF6890 GC Data, FID1A.CH

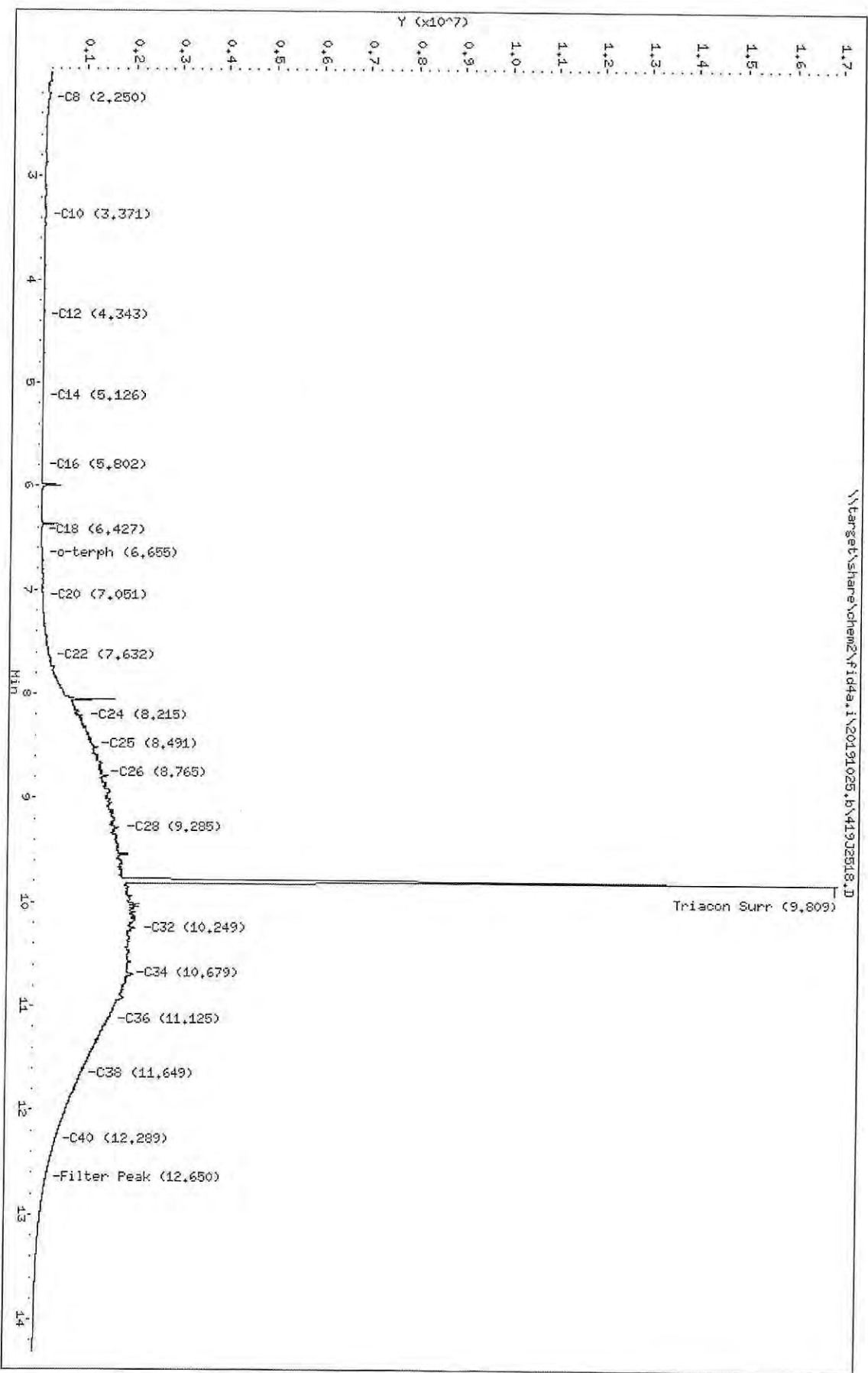


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2517.D Injection: 25-OCT-2019 17:13
 Lab ID: SHJ0406-CALA



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932518.D
 Date: 25-OCT-2019 17:34
 Client ID:
 Sample Info: SHJ0406-CALB
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

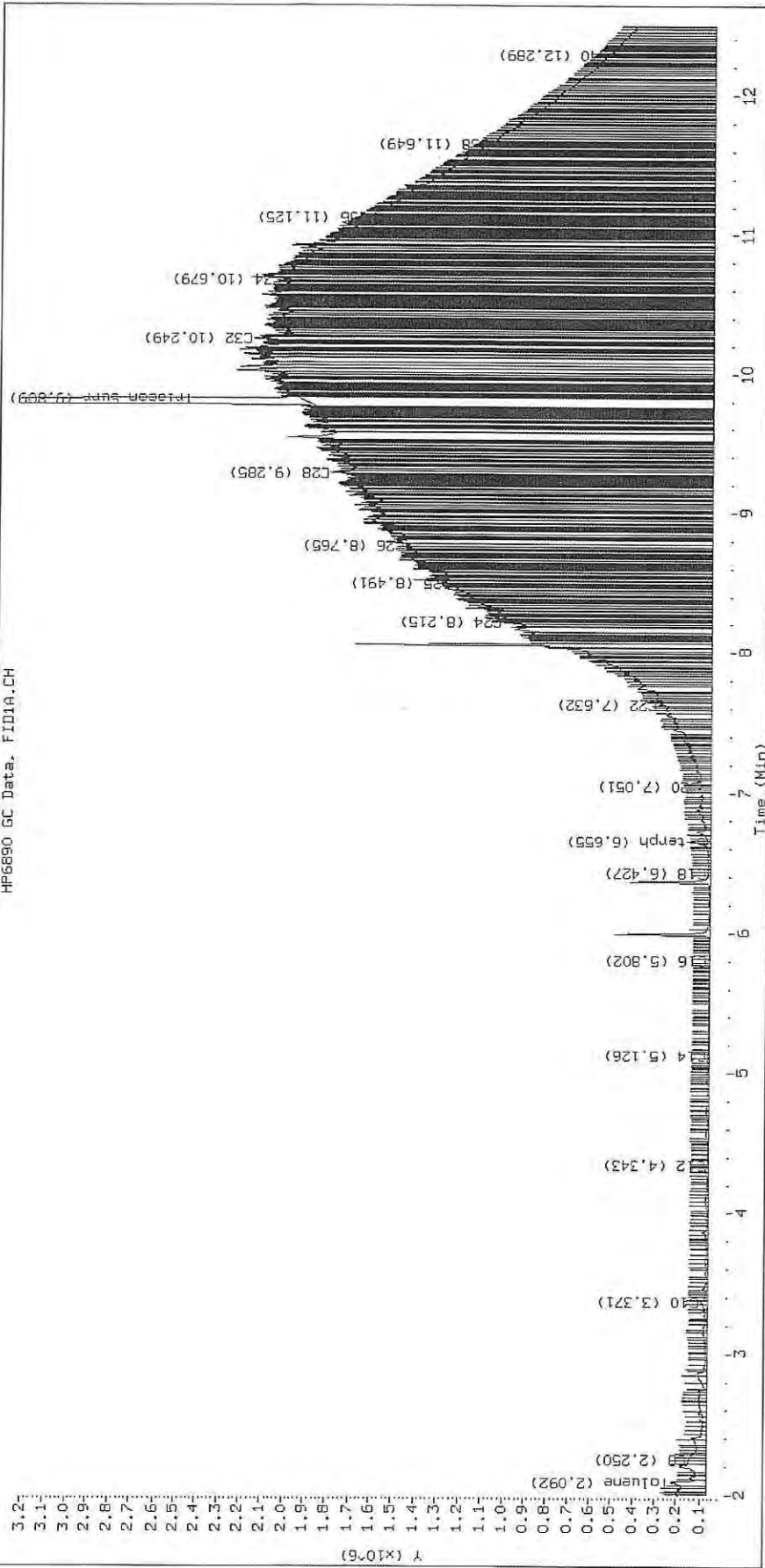
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacontane	20120024	113.0 M

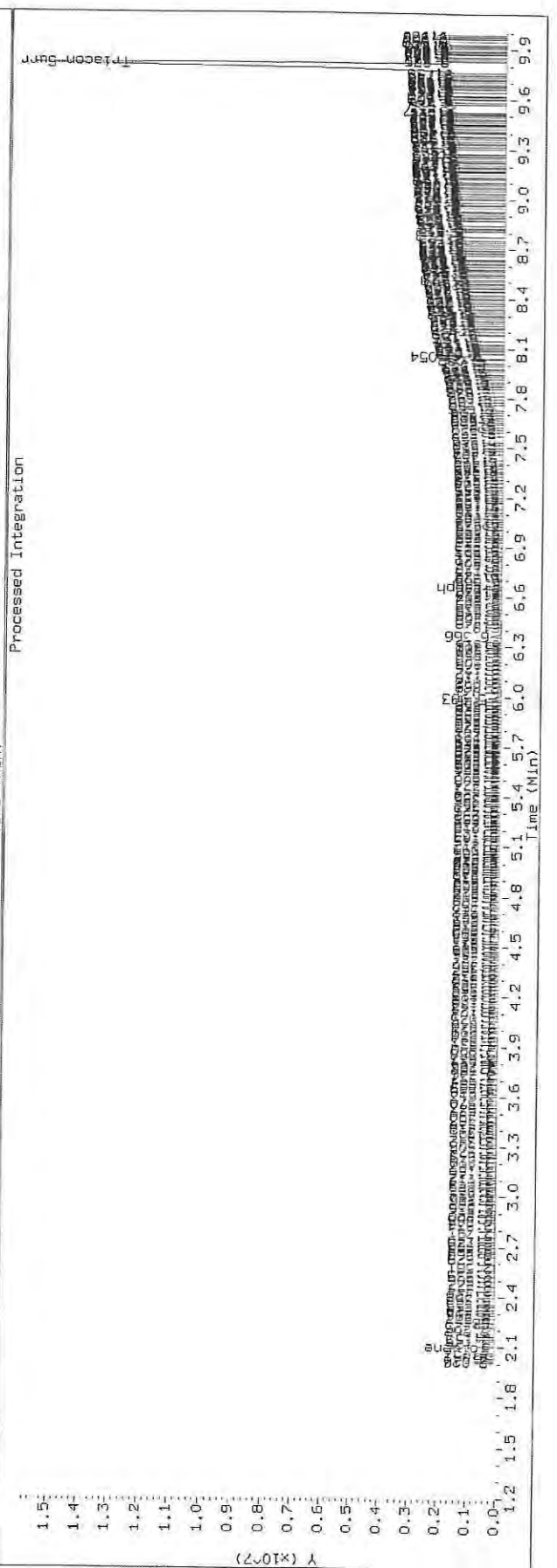
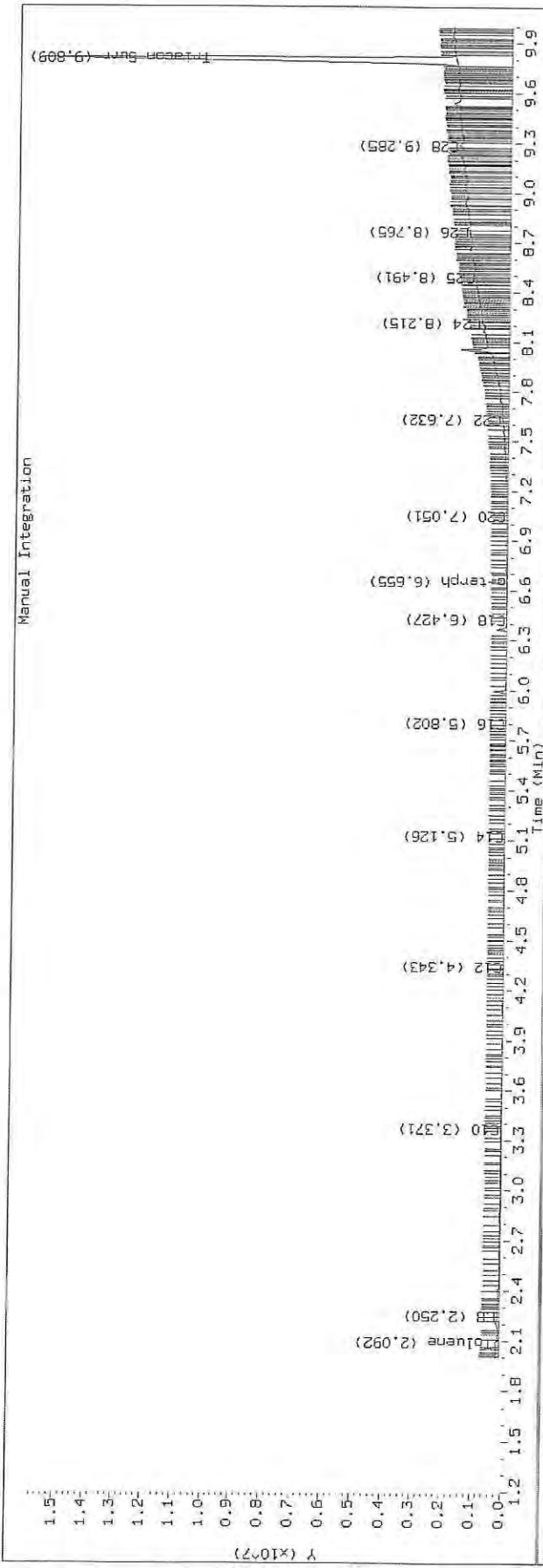
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

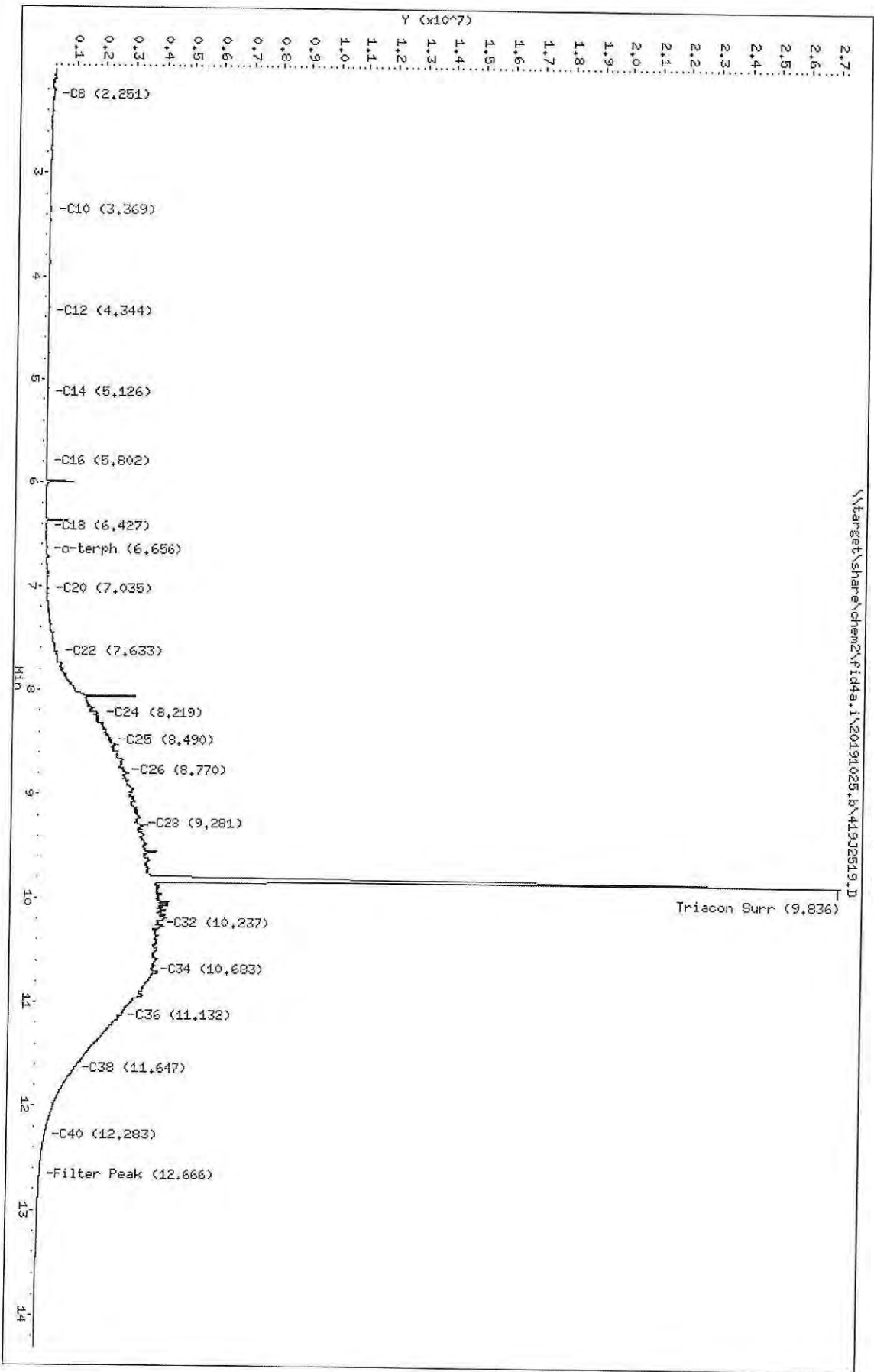
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.1\20191025.bv419J2519.D
 Date: 25-OCT-2019 17:54
 Client ID:
 Sample Info: SHJ0406-CALC
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CT0/SH/VTS/JCR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

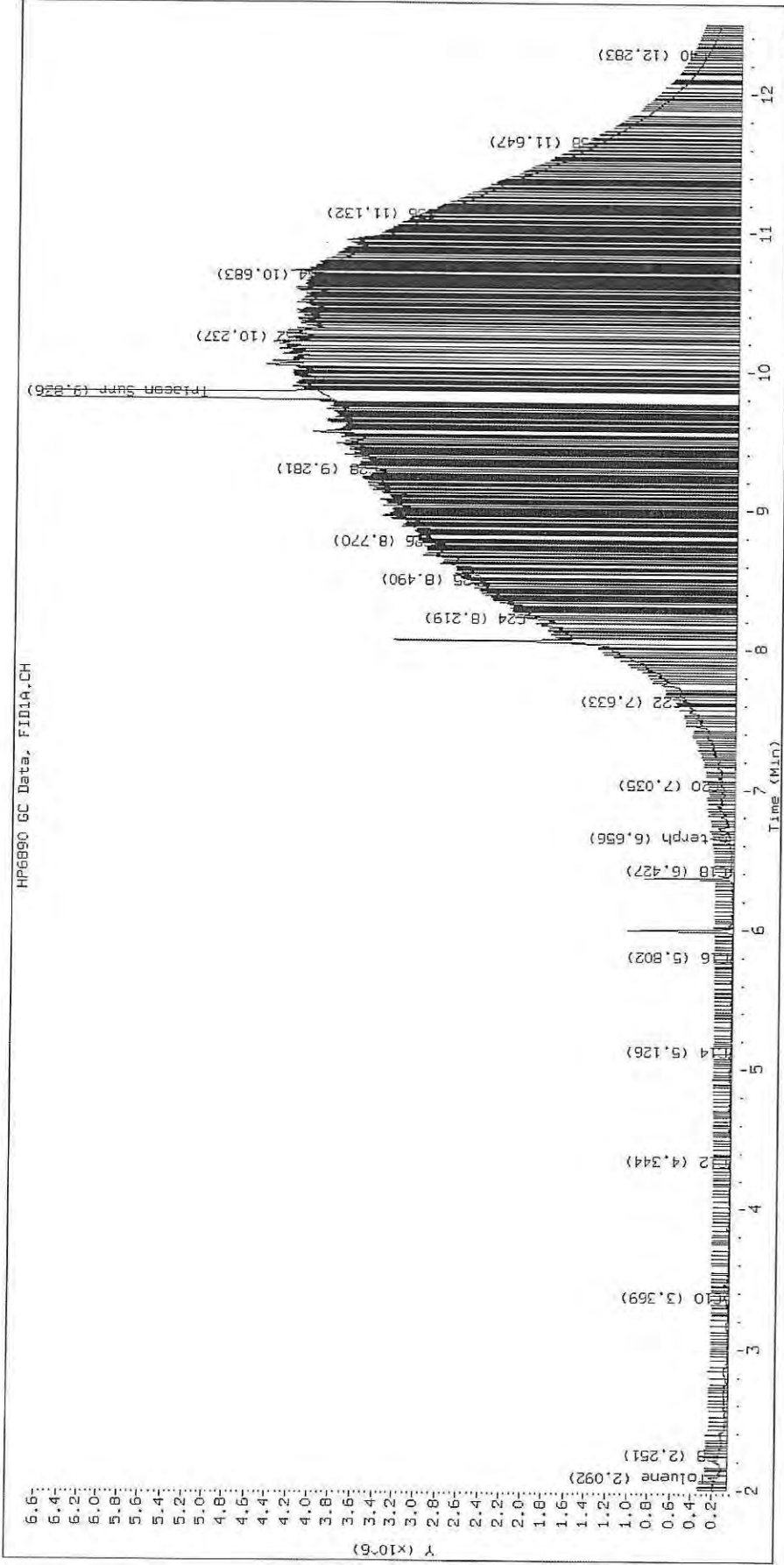
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacontane	39698048	223.0 M

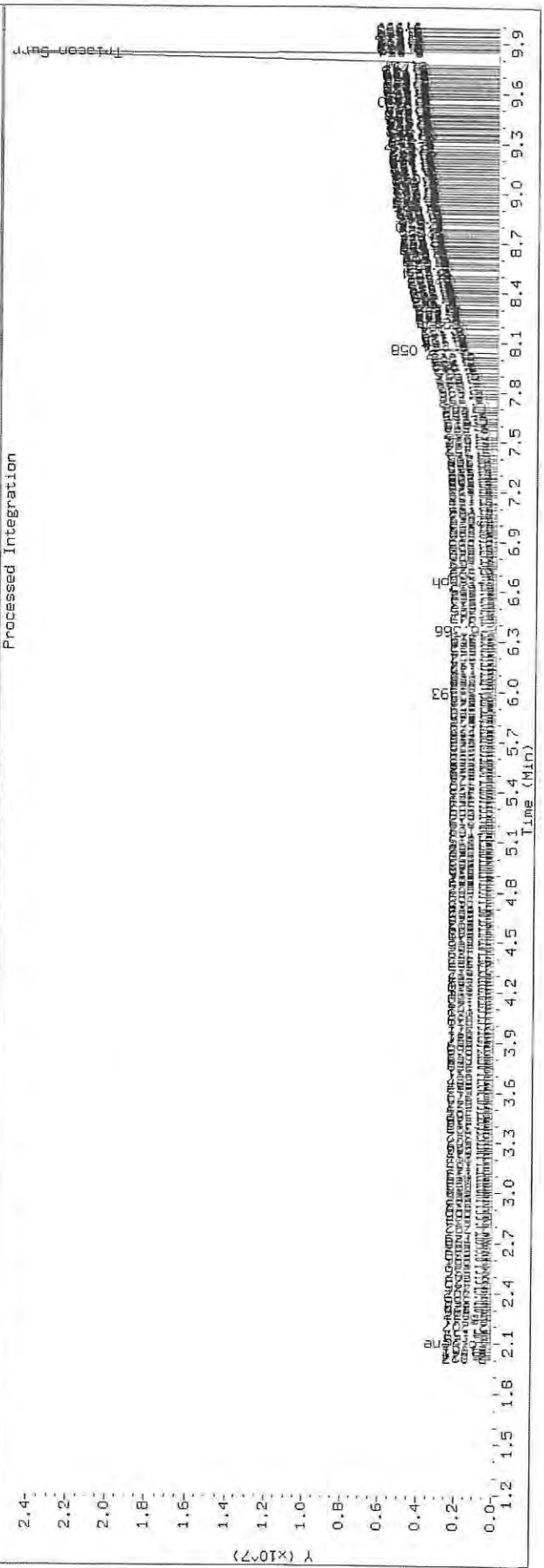
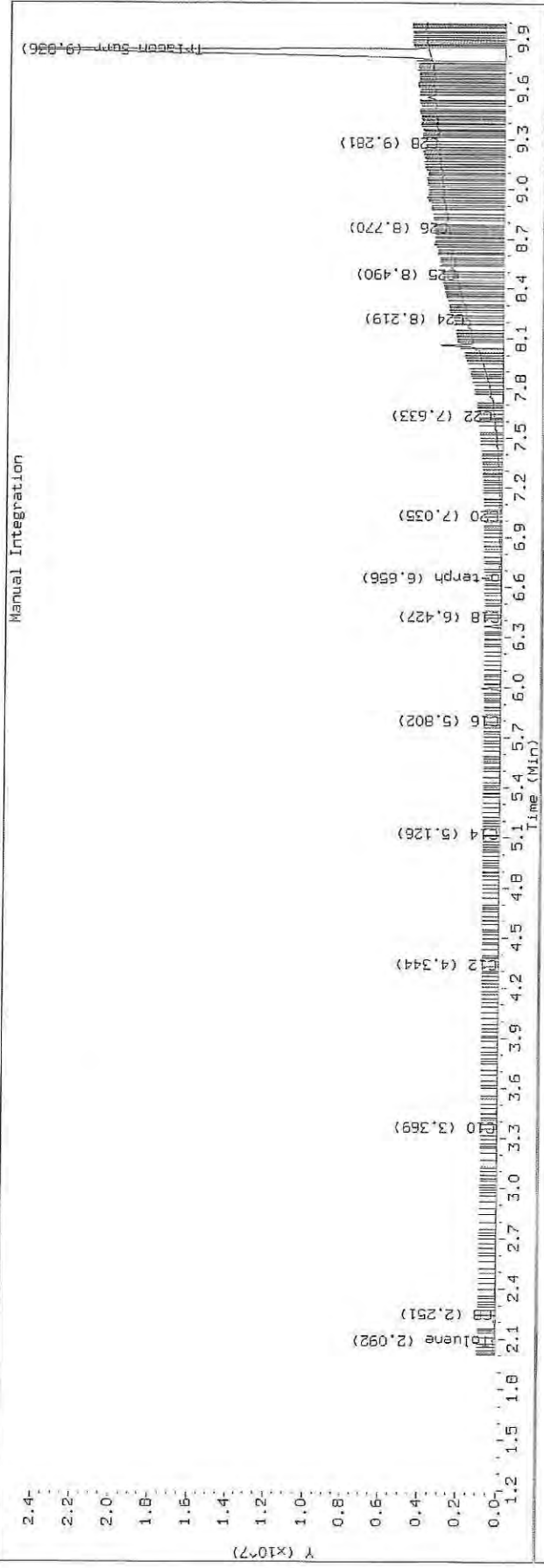
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datfile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

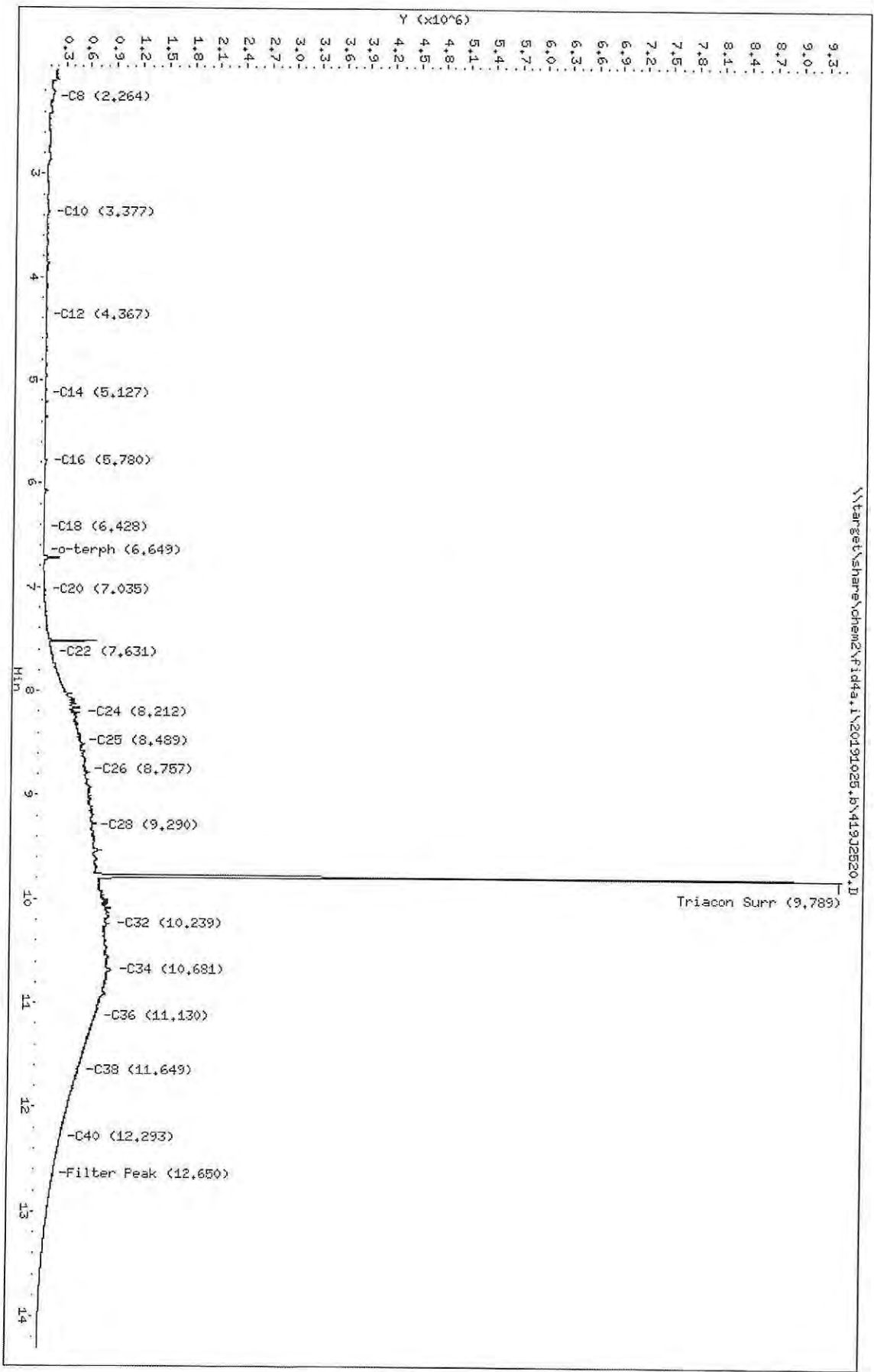
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2520.D
 Date : 25-OCT-2019 18:14
 Client ID:
 Sample Info: SHJ0406-SCV2
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/MTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D
M.Oil:25-OCT-2019

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

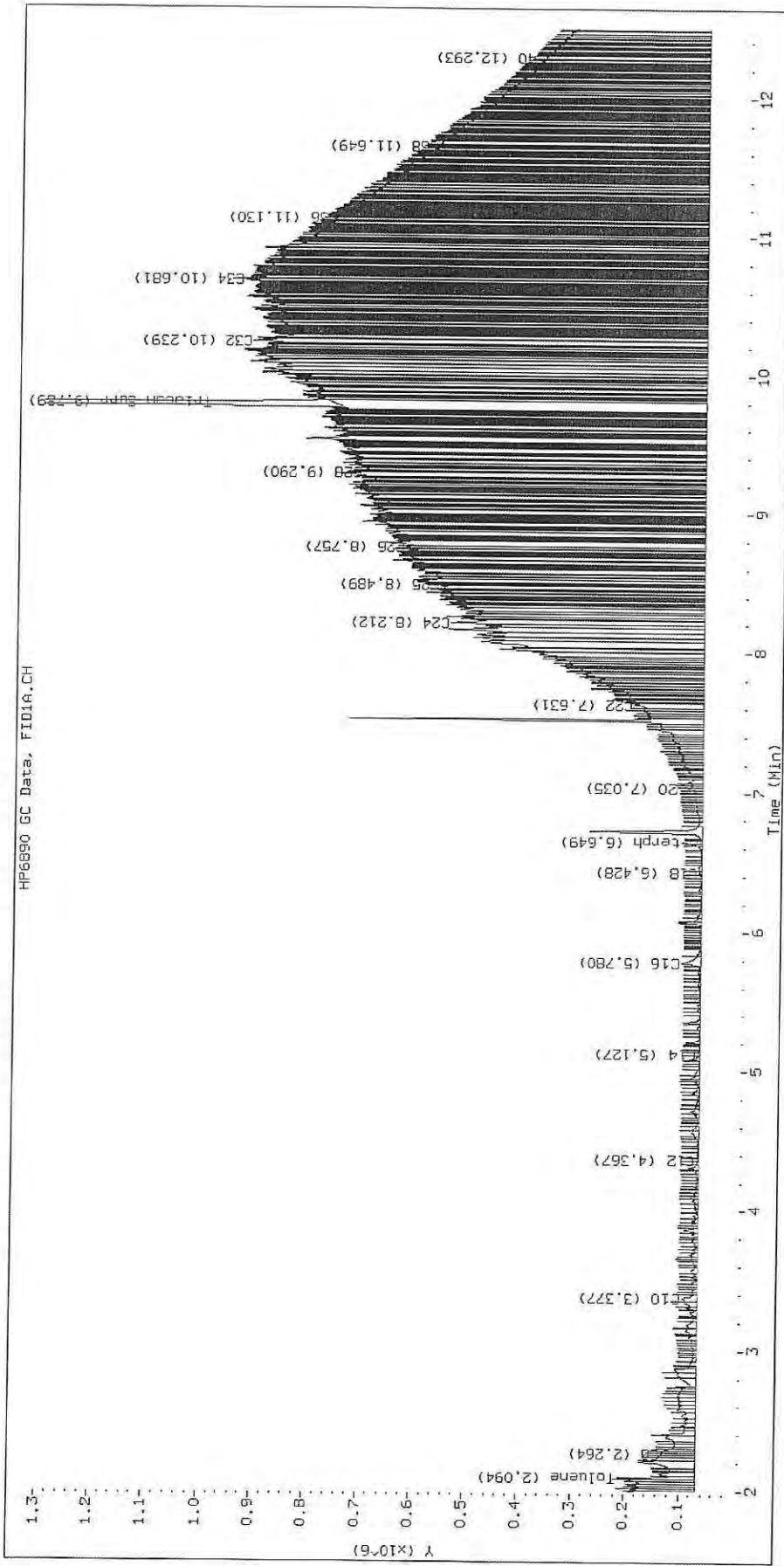
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

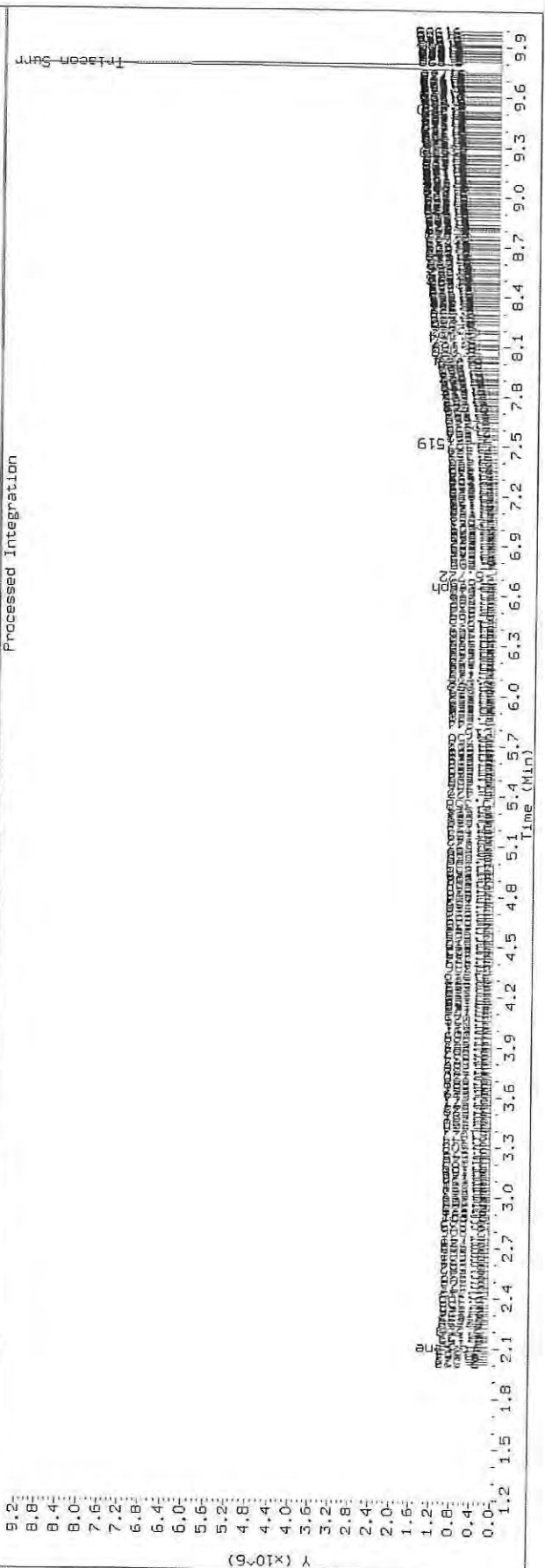
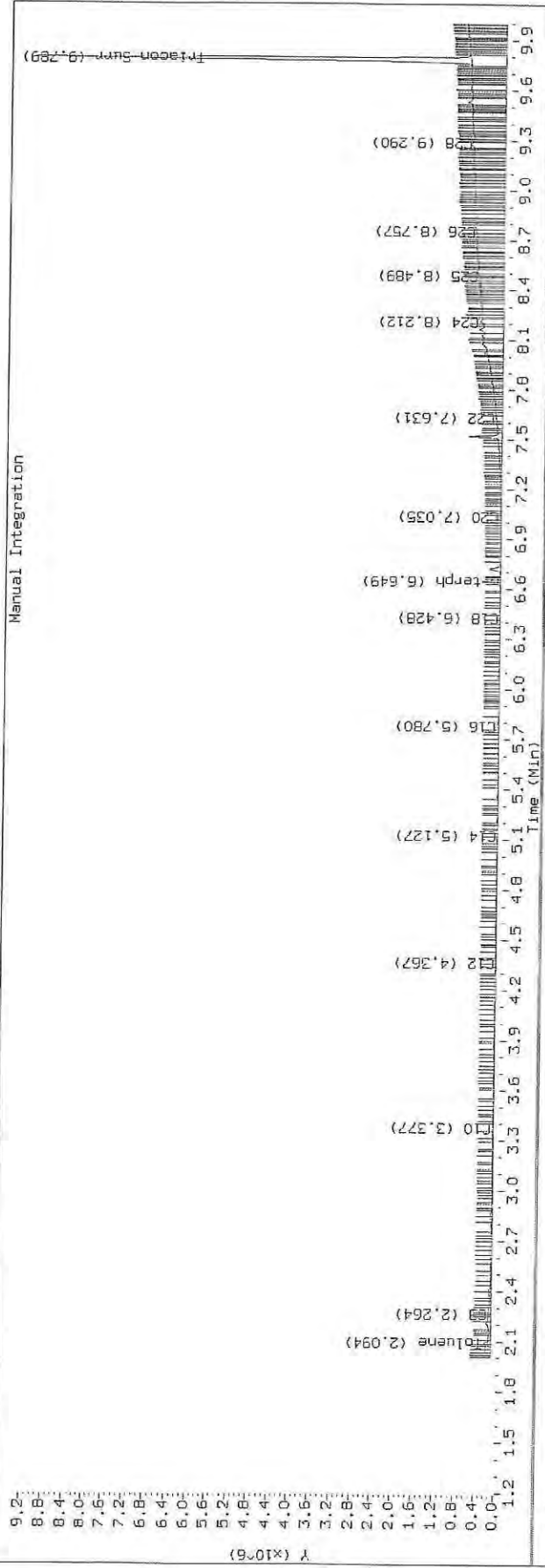
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH



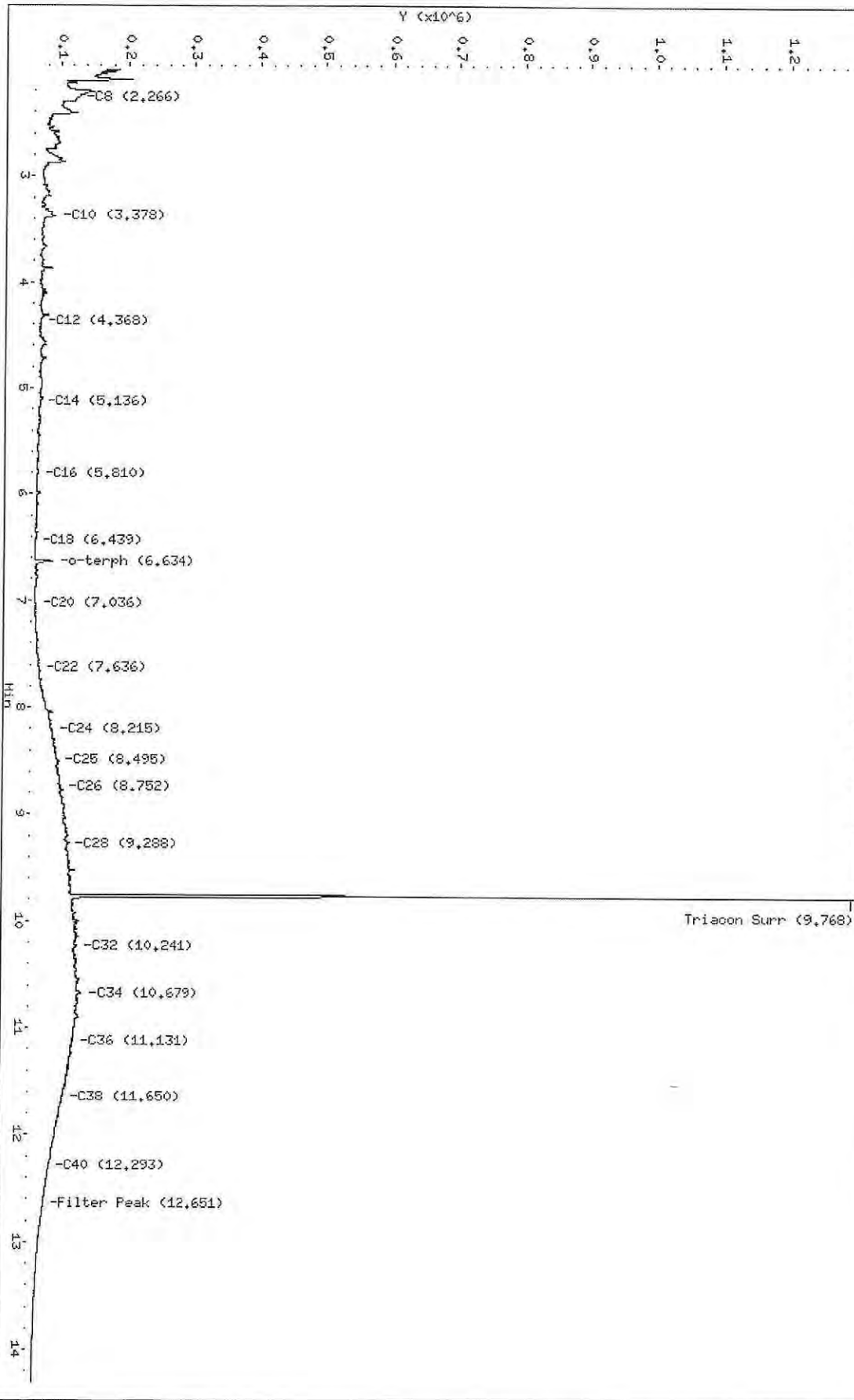
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14
 Lab ID: SHJ0406-SCV2



Data File: \\target\share\chem2\fid4a.i\20191025.b\41932521.D
Date : 25-OCT-2019 18:35
Client ID:
Sample Info: SHJ0406-CALLD
Column phase: RTX-1

Instrument: fid4a.i
Operator: CTQ/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.b\41932521.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

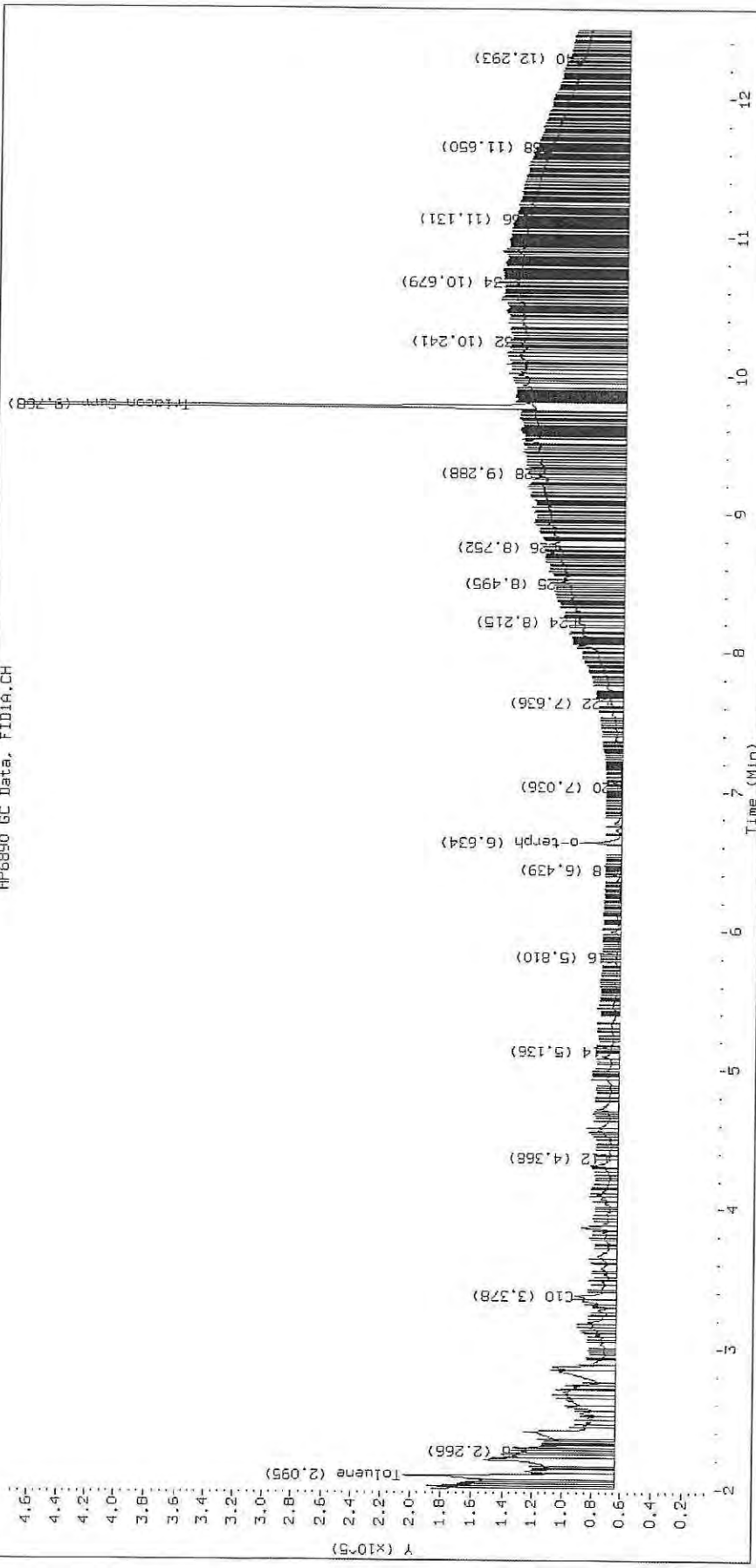
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacotane	818277	4.6 M

M Indicates the peak was manually integrated

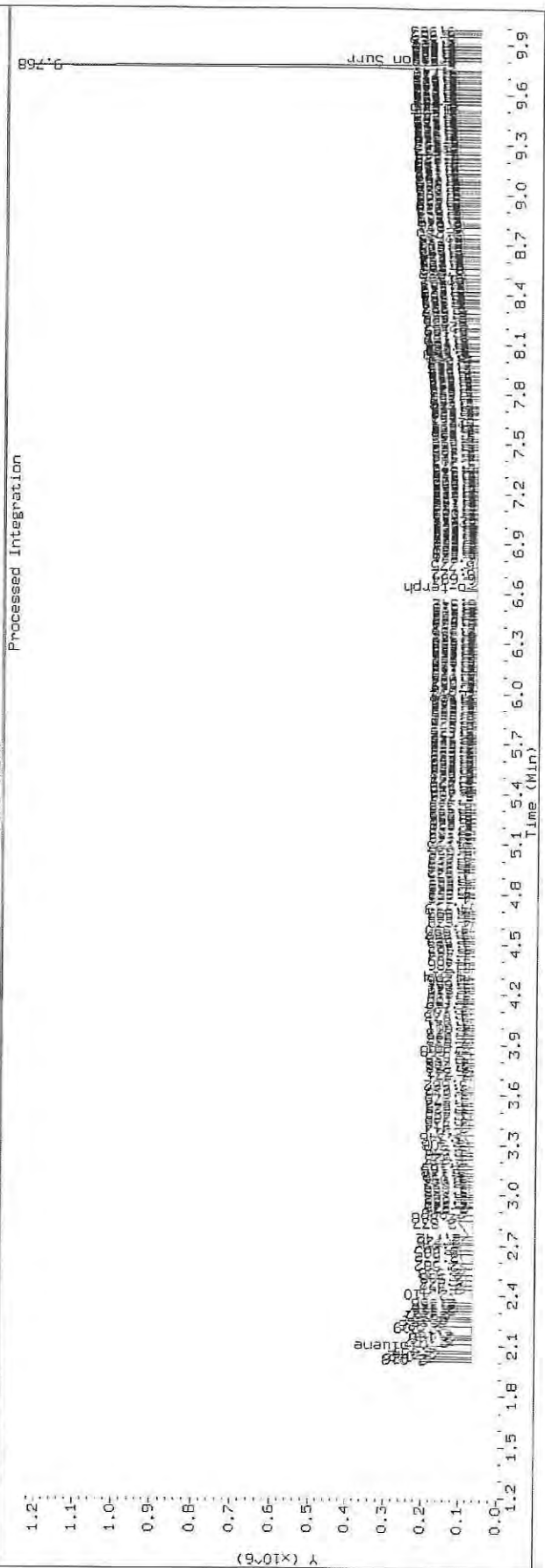
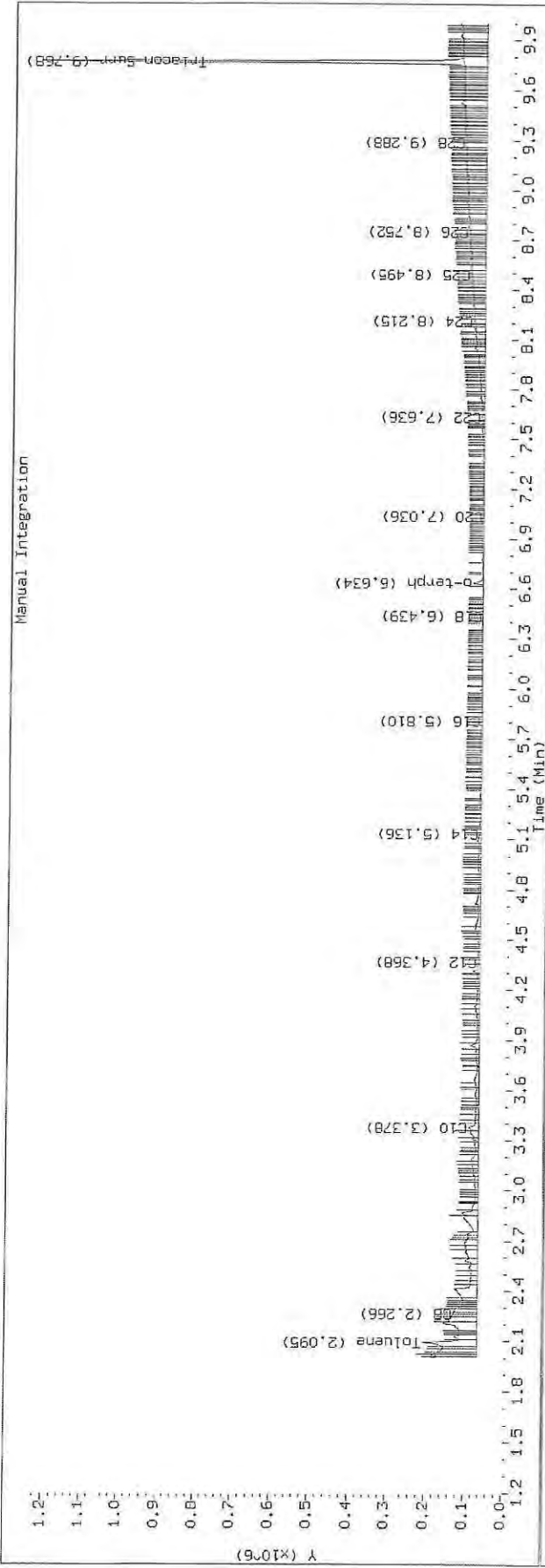
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2521.D SHJ0406-CALD

HP6890 GC Data, FID1A.CH

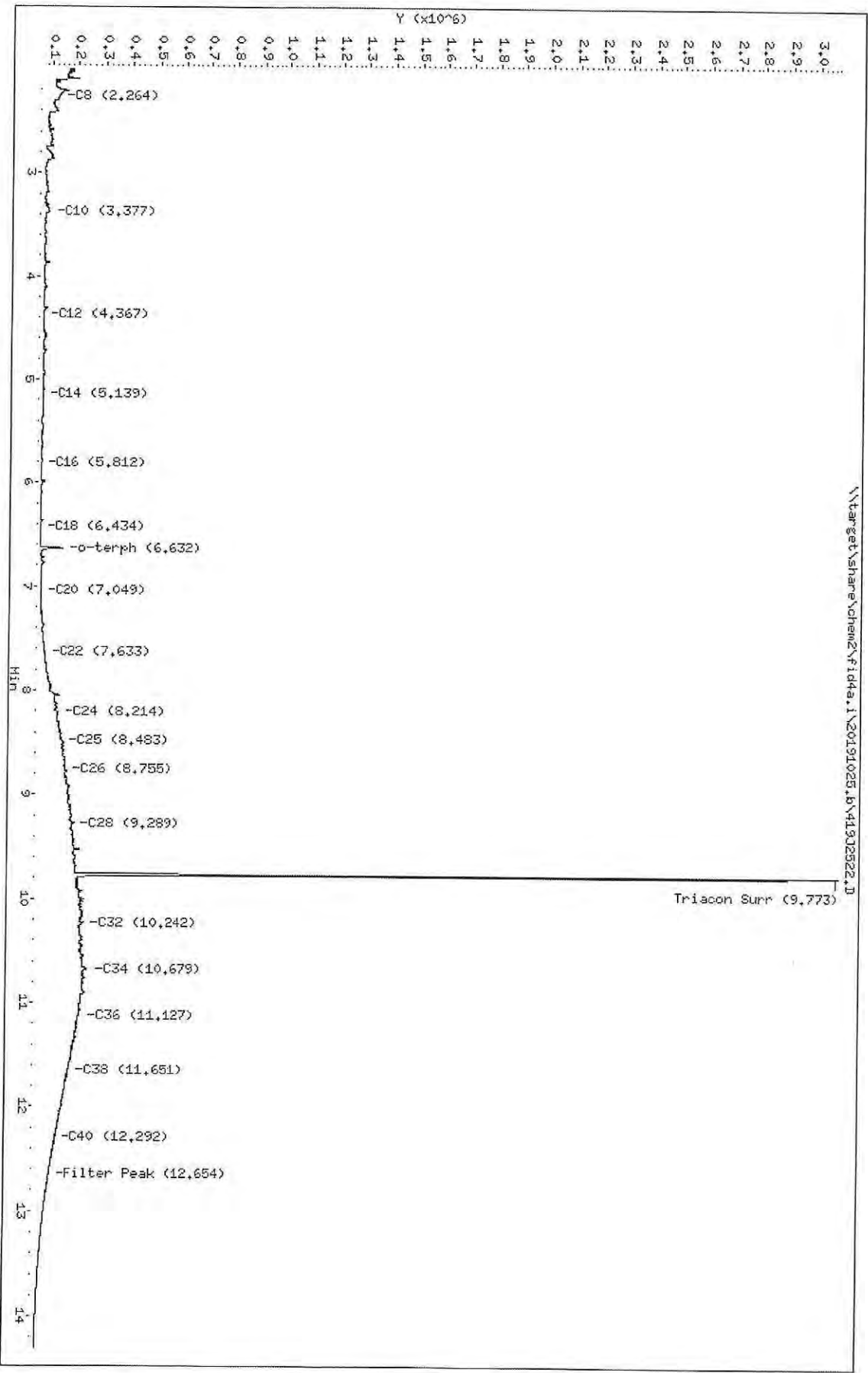


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41912522.D
 Date : 25-OCT-2019 18:55
 Client ID:
 Sample Info: SHJ0406-CRLE
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

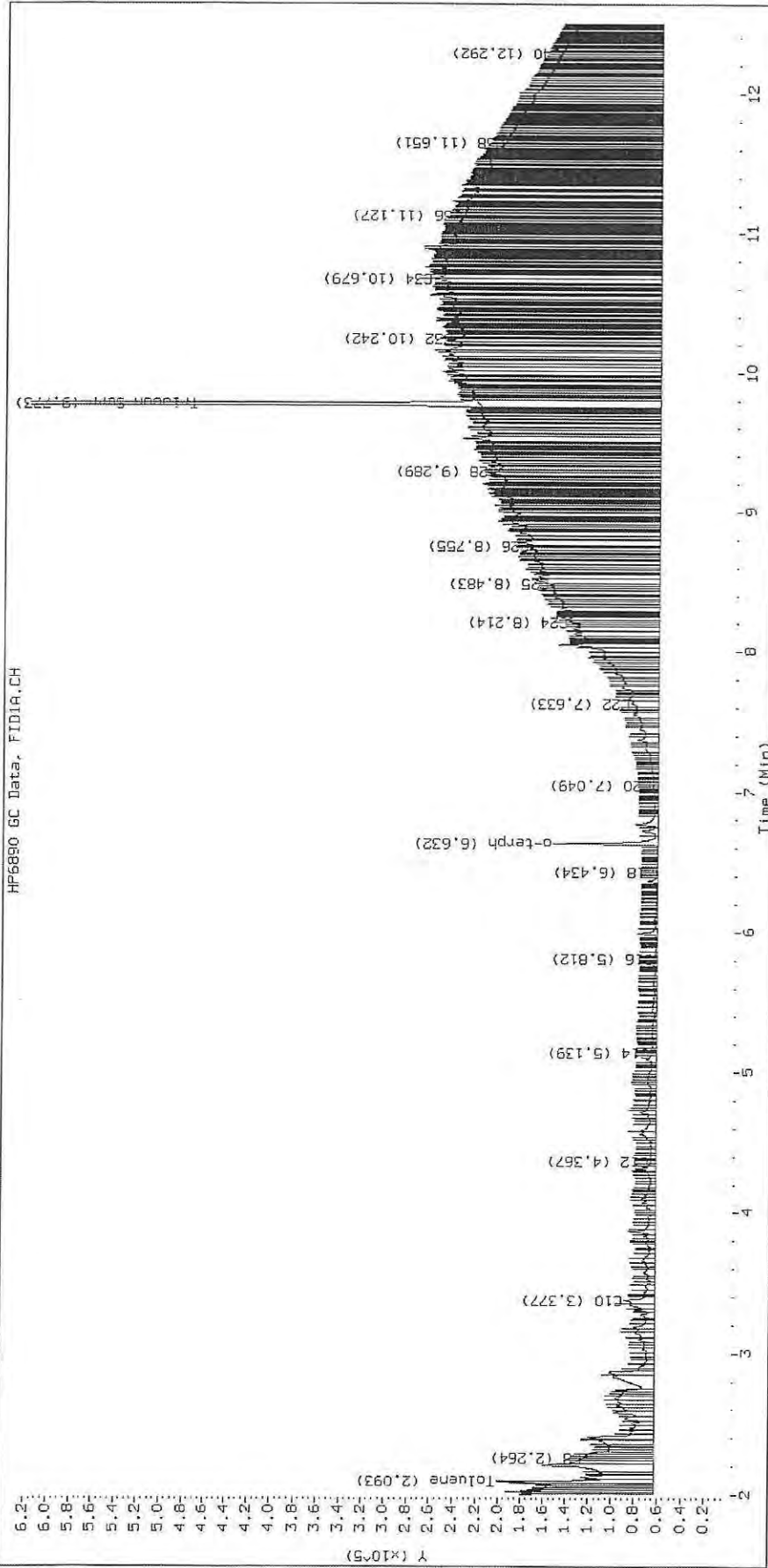
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacotane	2058184	11.6 M

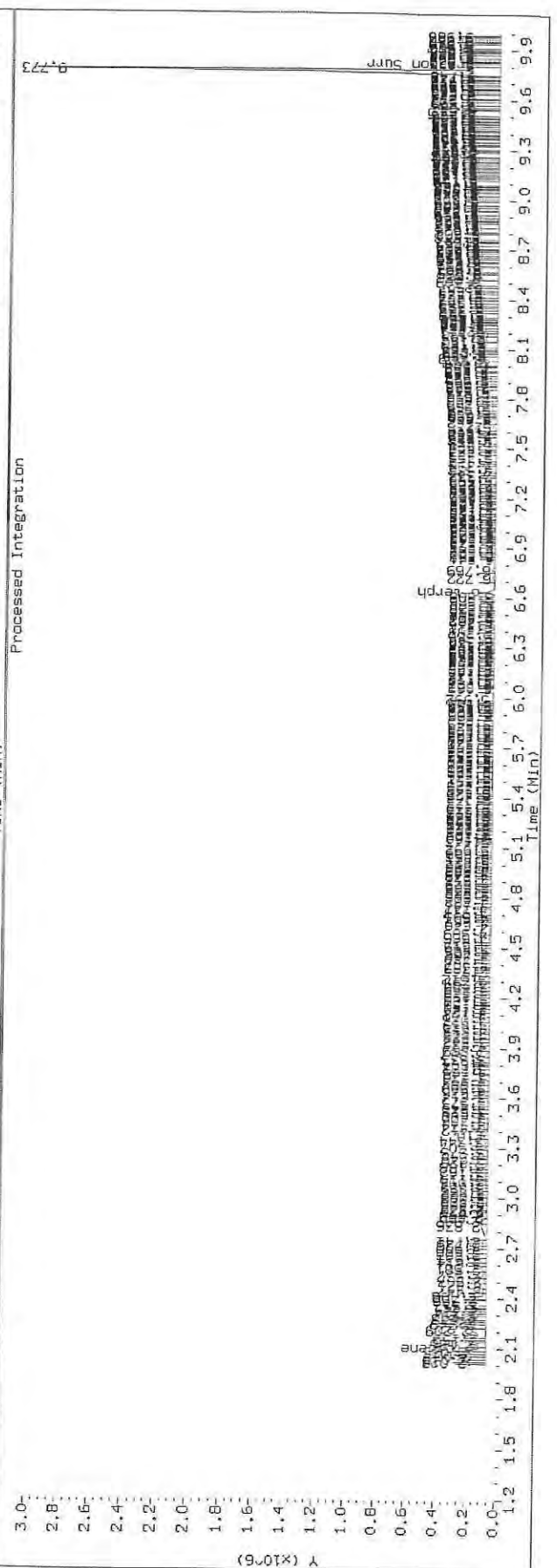
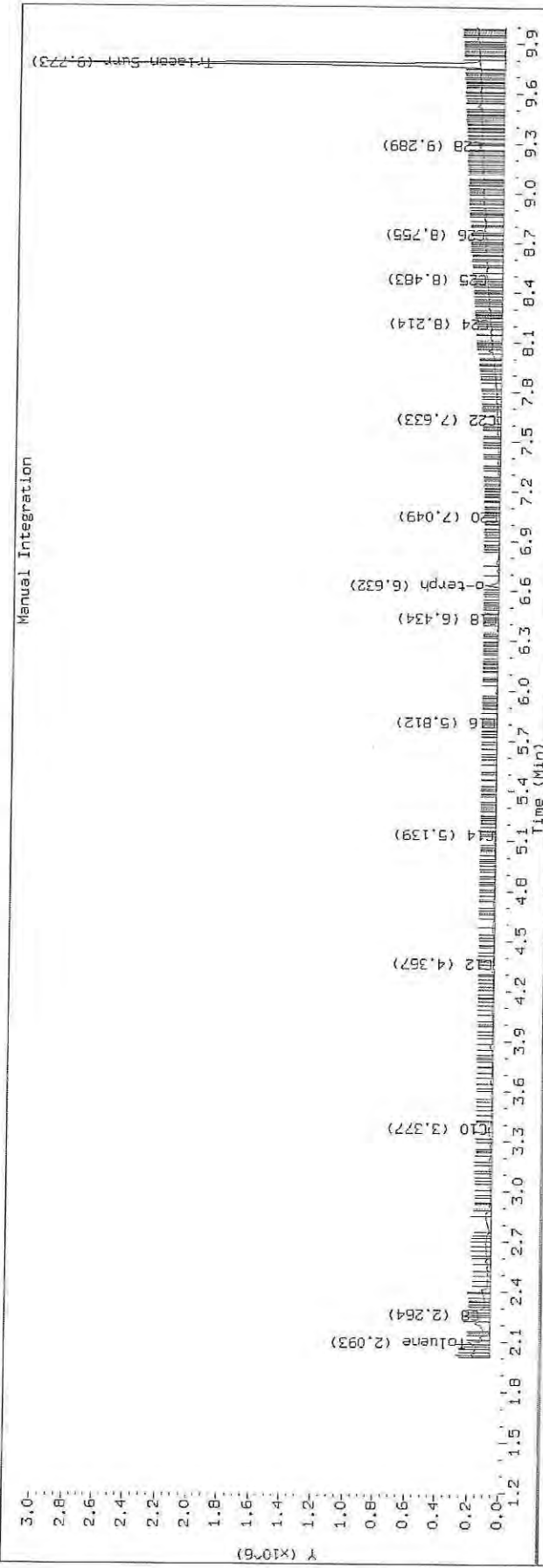
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

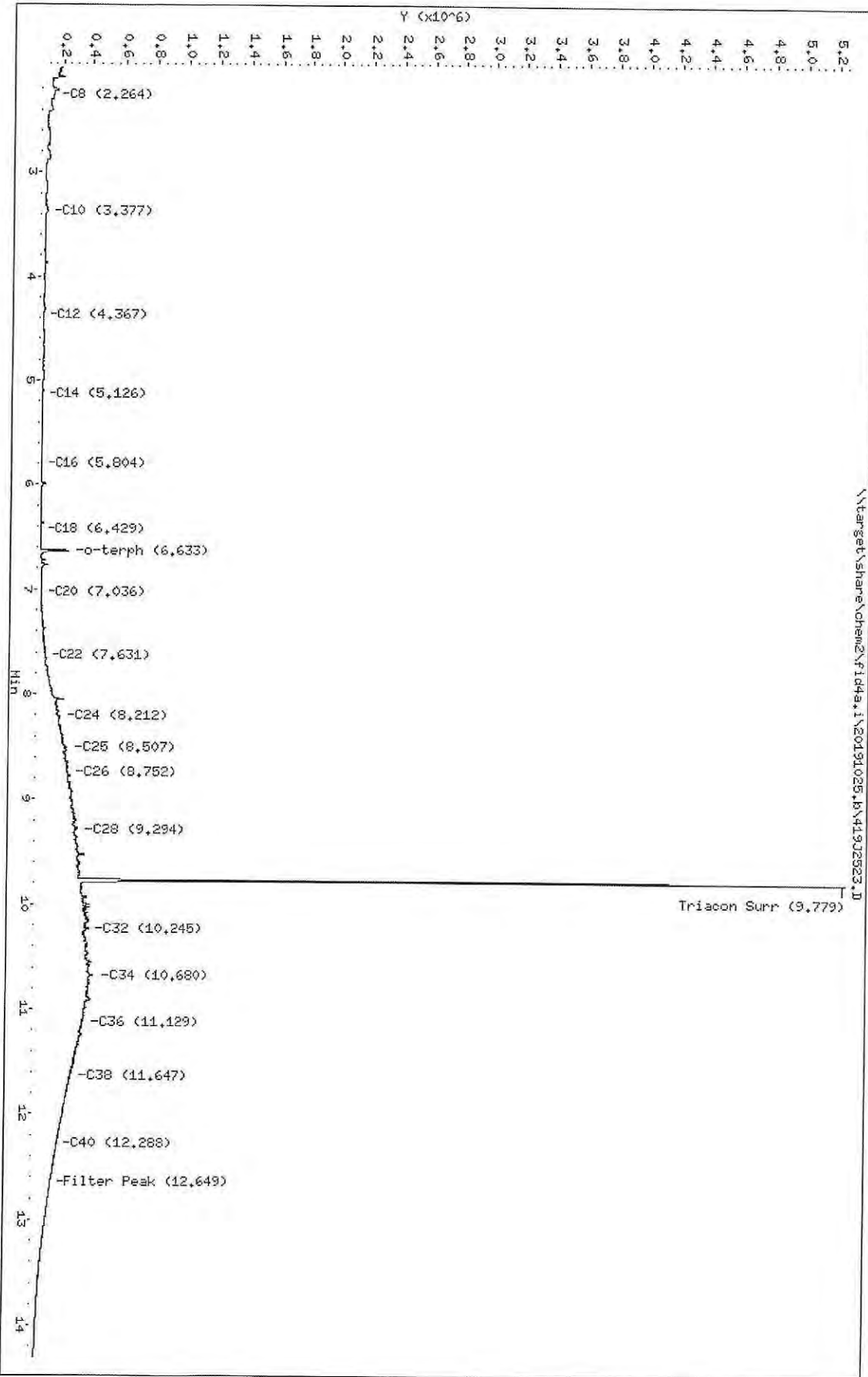
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.1\20191025.B\419J2523.D
 Date: 25-OCT-2019 19:15
 Client ID:
 Sample Info: SHJ0406-QALLF
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

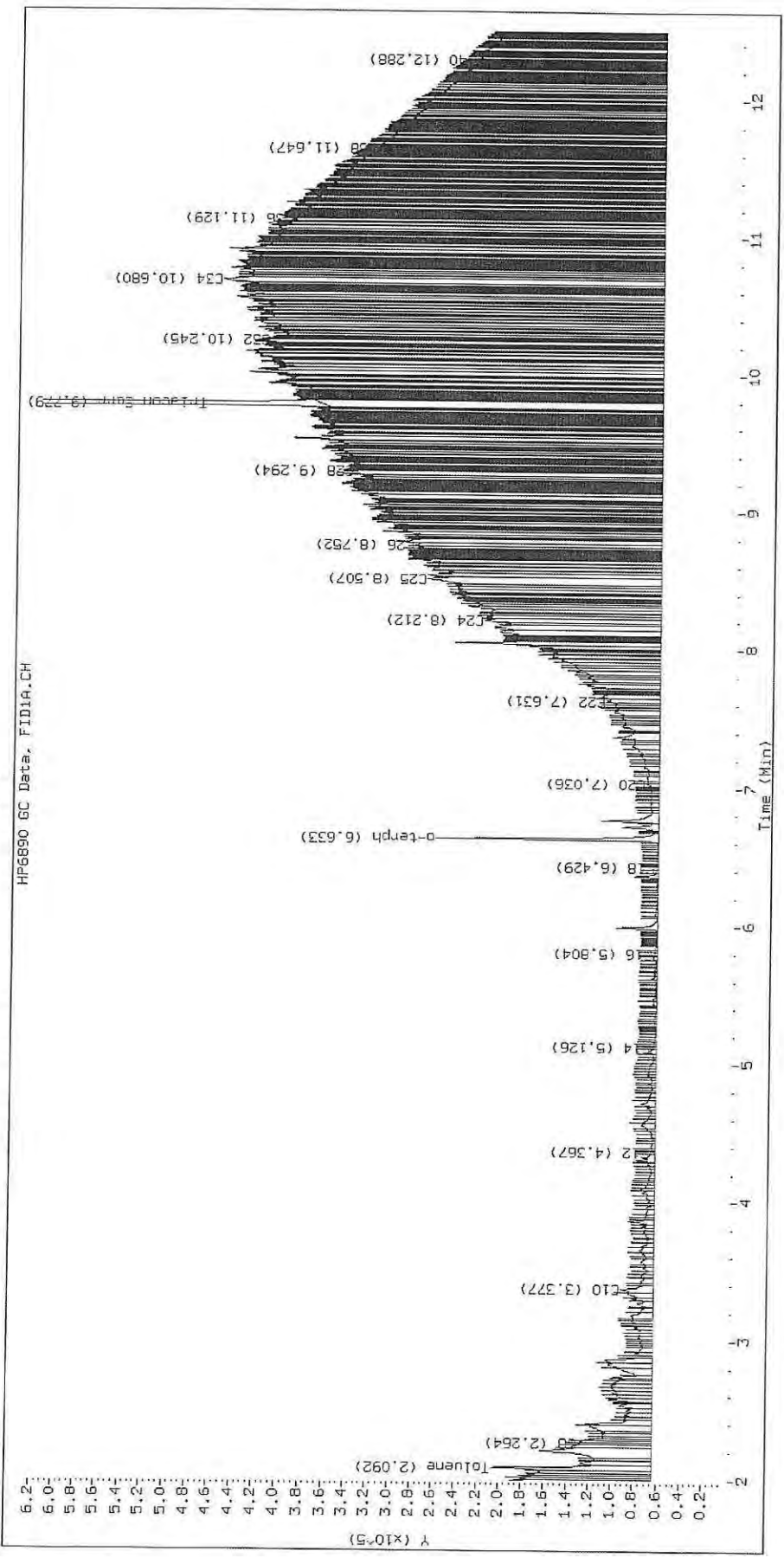
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacontane	3941895	22.1 M

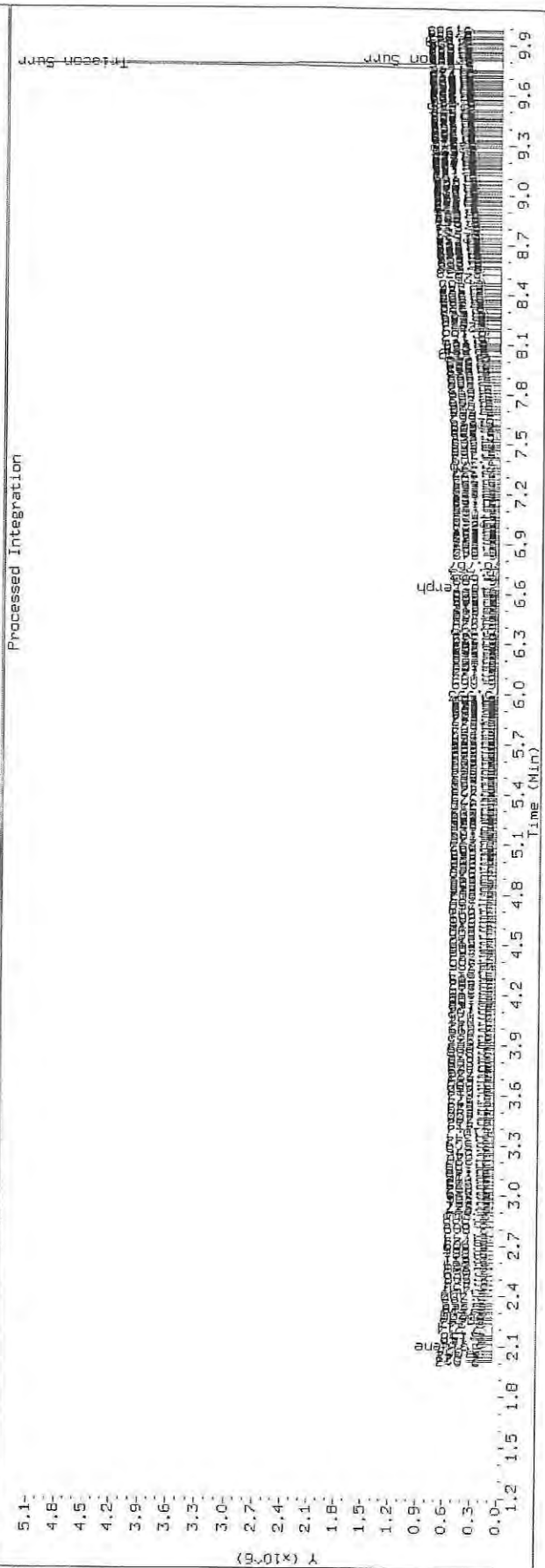
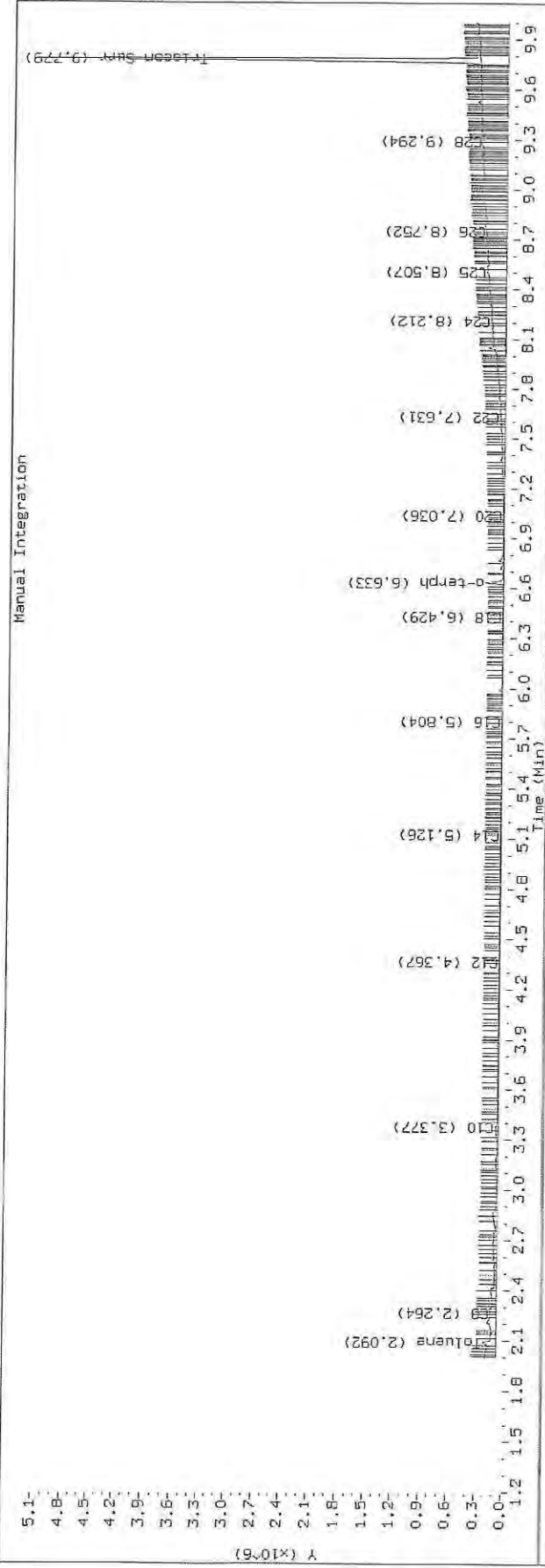
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF

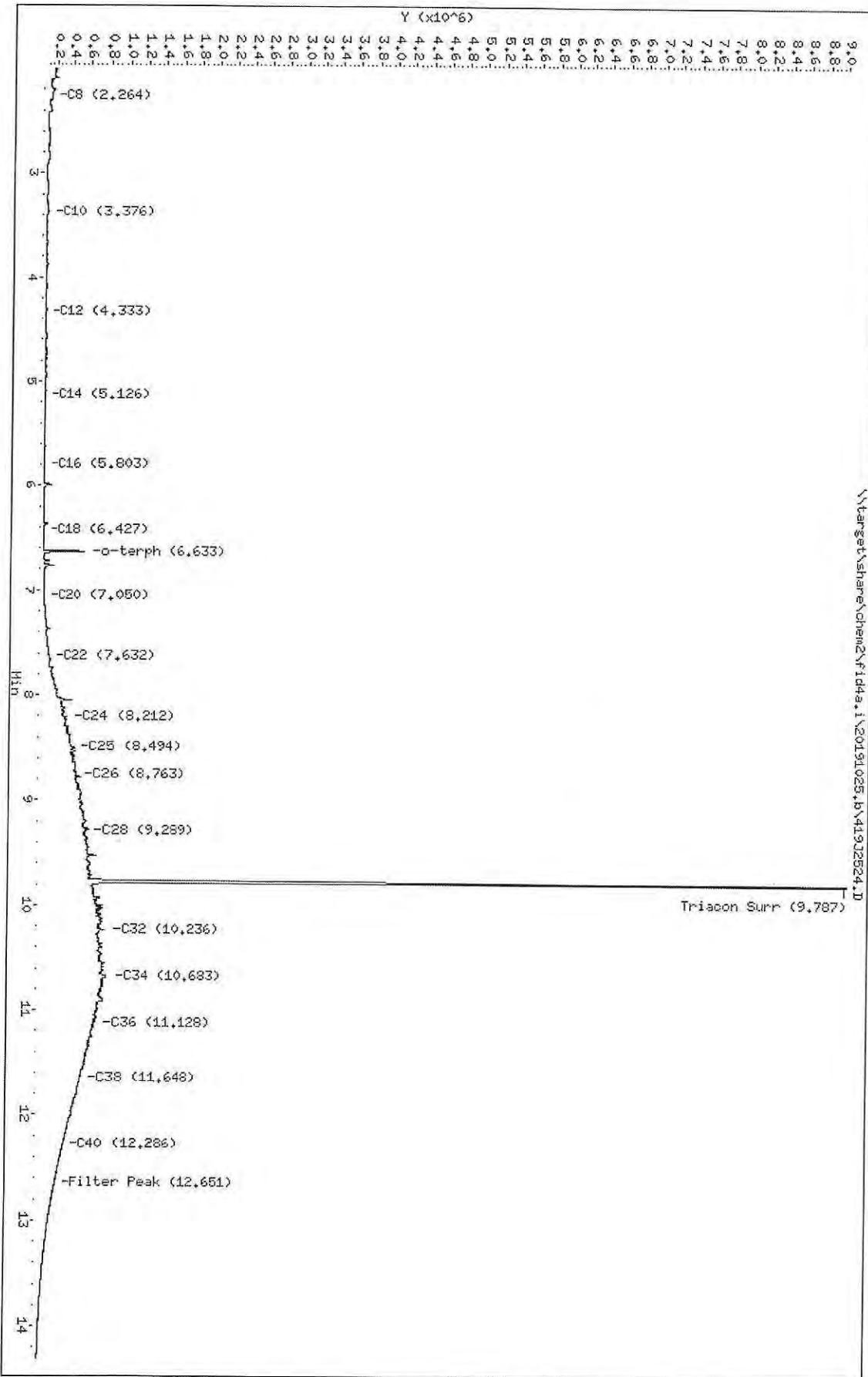
HF6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\Fid4a.i\20191025_10\41932524.D
 Date : 25-OCT-2019 19:34
 Client ID:
 Sample Info: SHJ0406-CALLS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/YTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

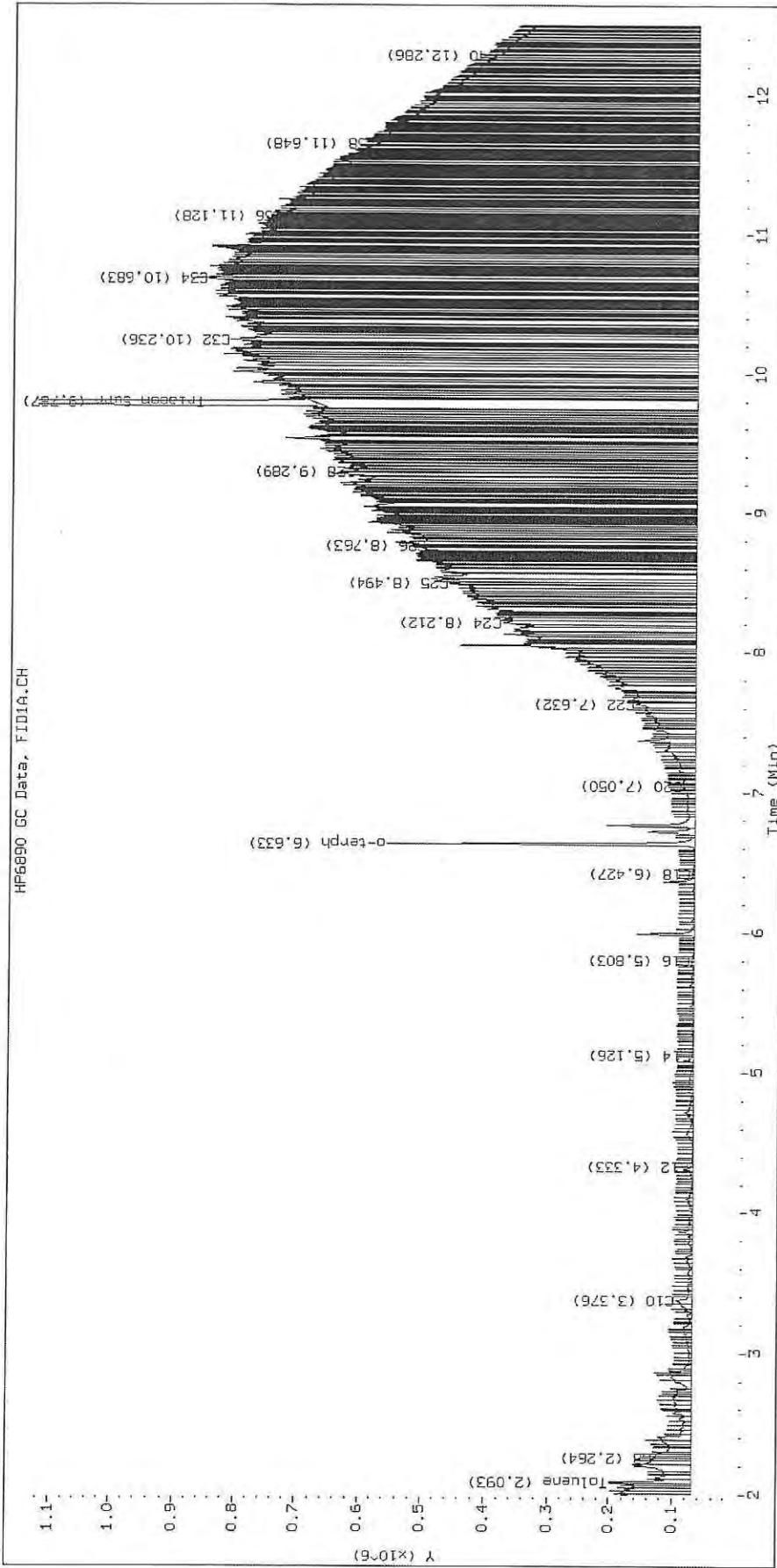
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

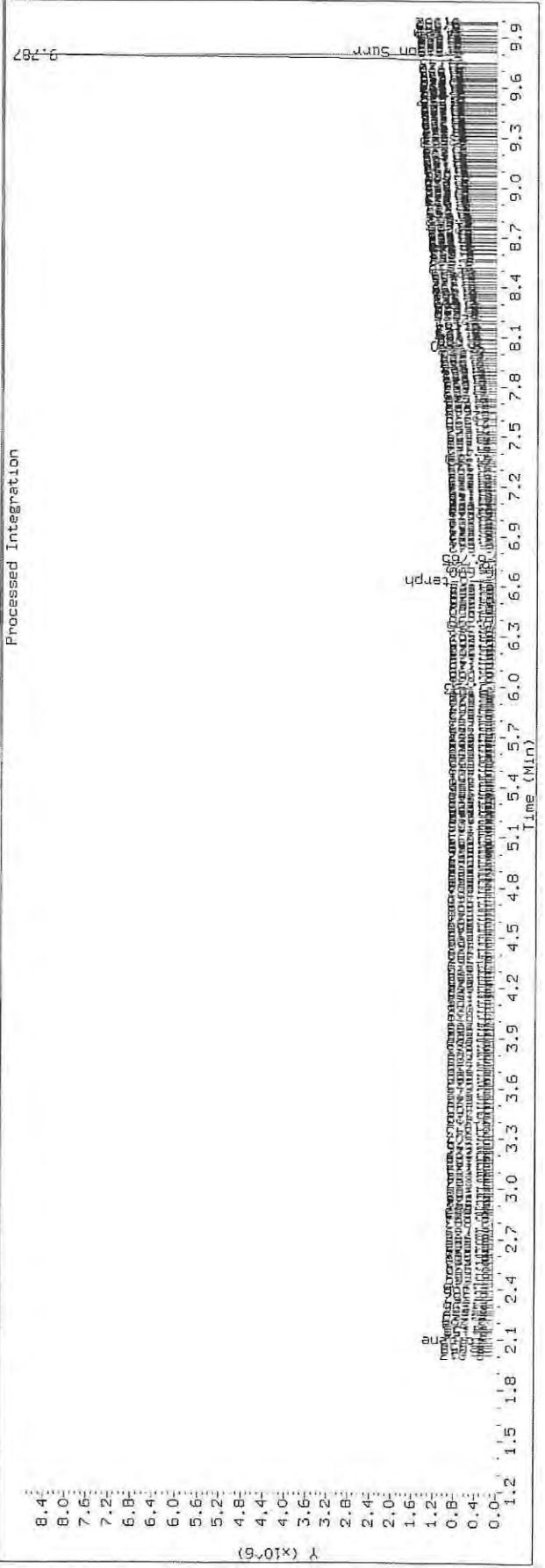
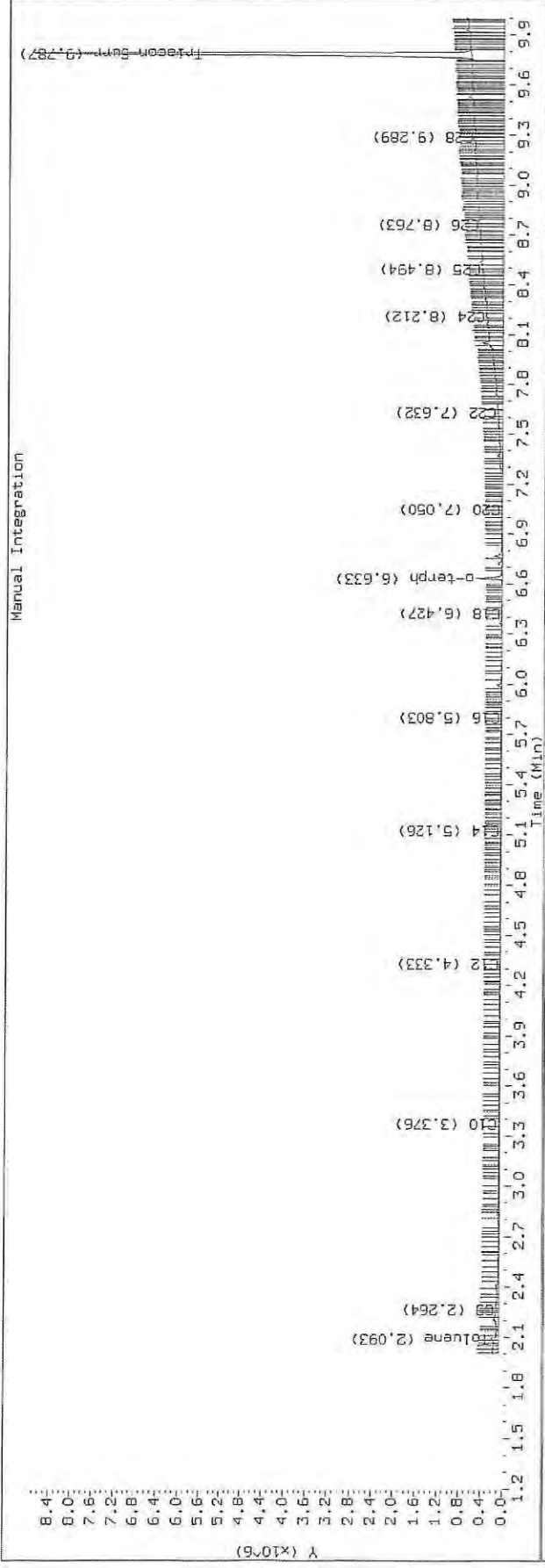
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacontane	7933666	44.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

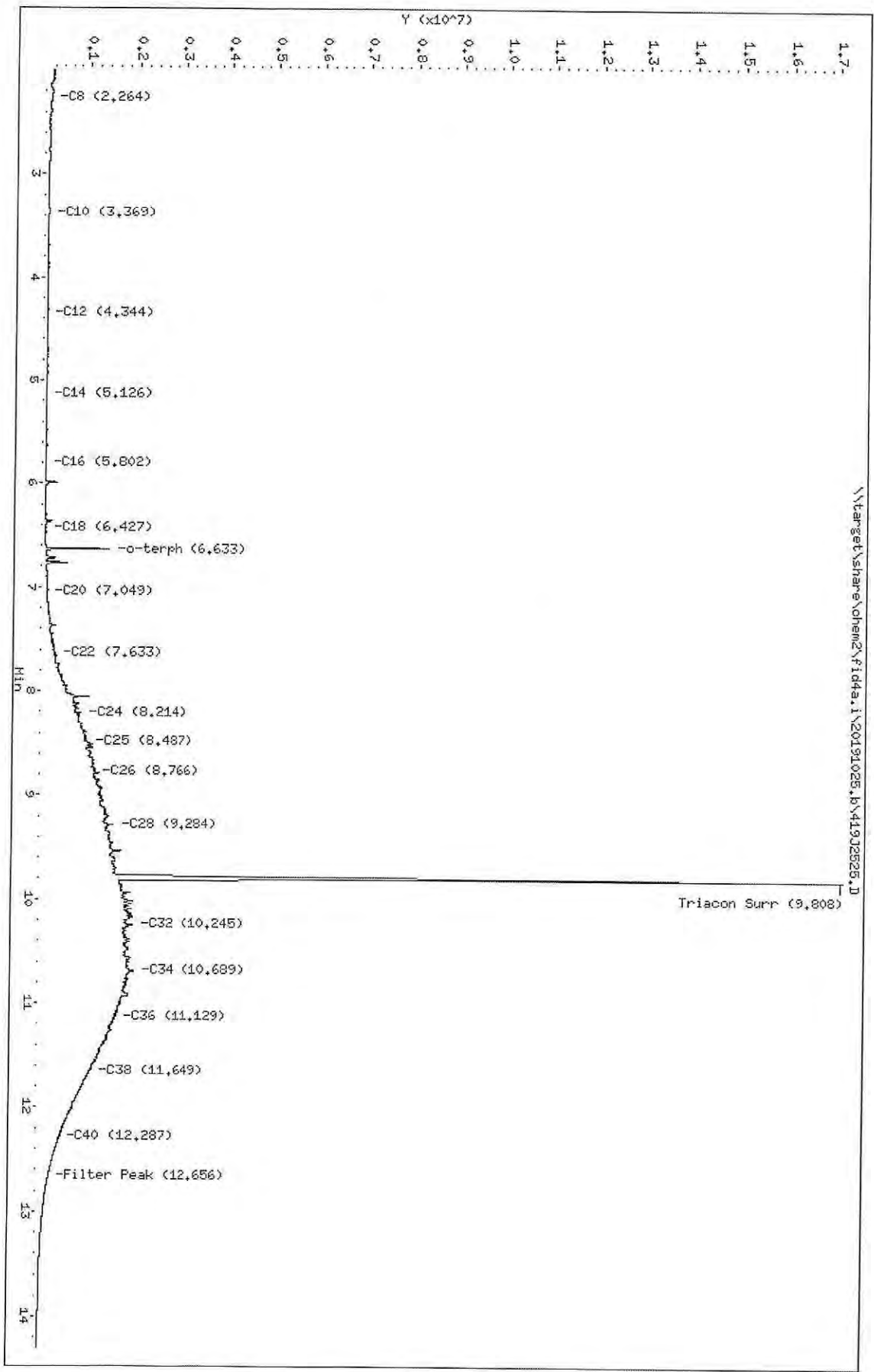
Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG





Data File: \\karger\share\chem2\fid4a.i\20191025.b\419J2525.D
Date: 25-OCT-2019 19:54
Client ID:
Sample Info: SHJ0406-CALH
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

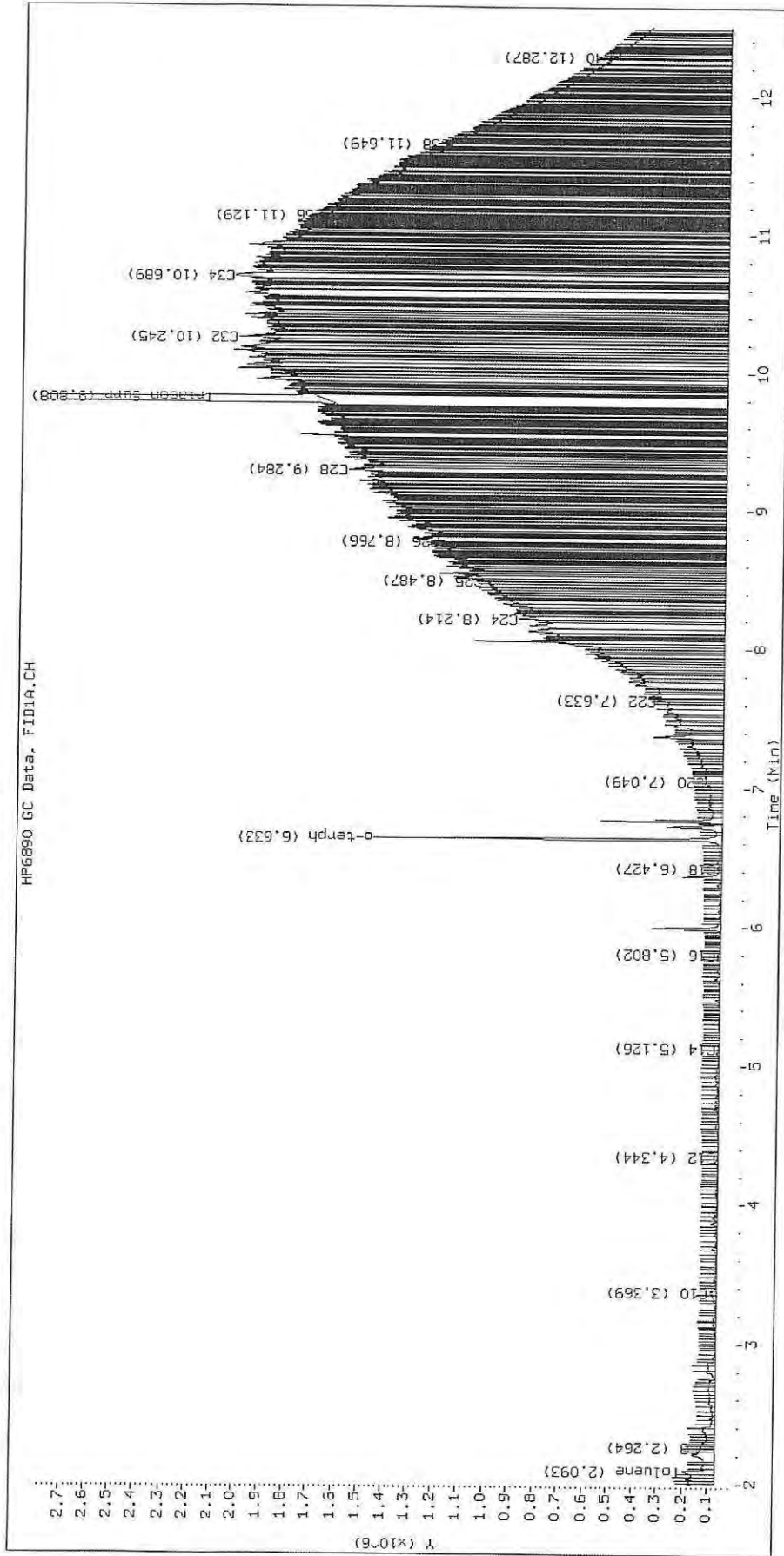
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacontane	20436973	114.8 M

M Indicates the peak was manually integrated

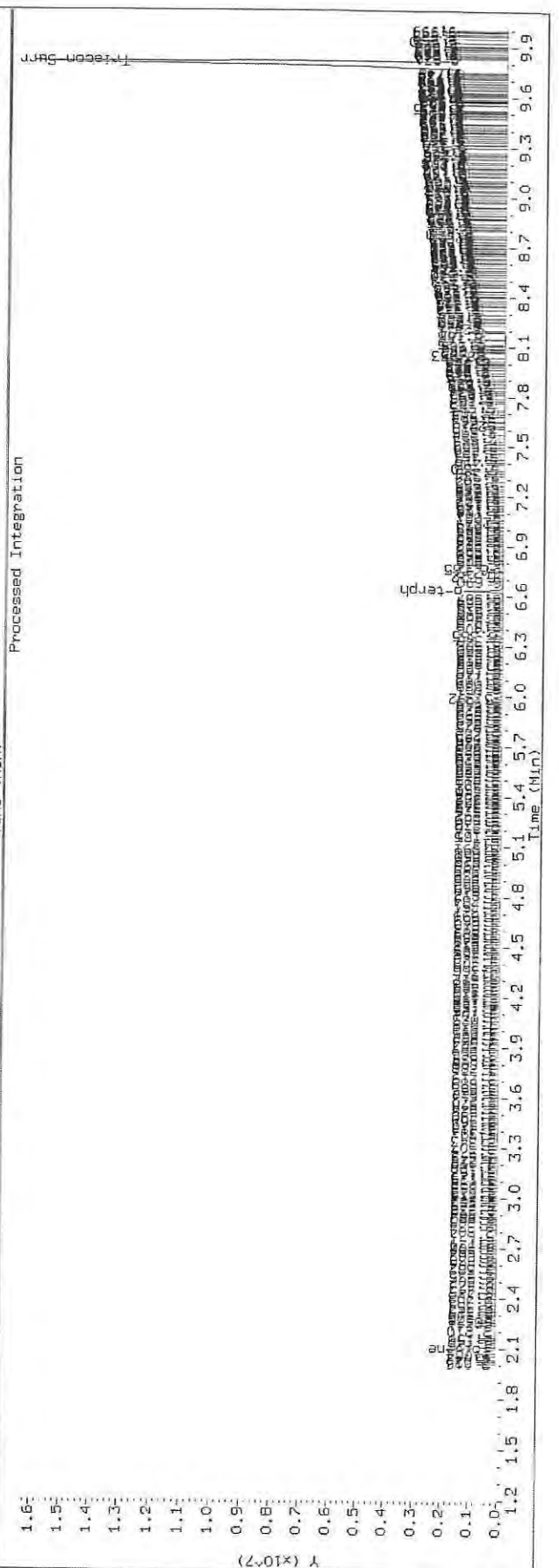
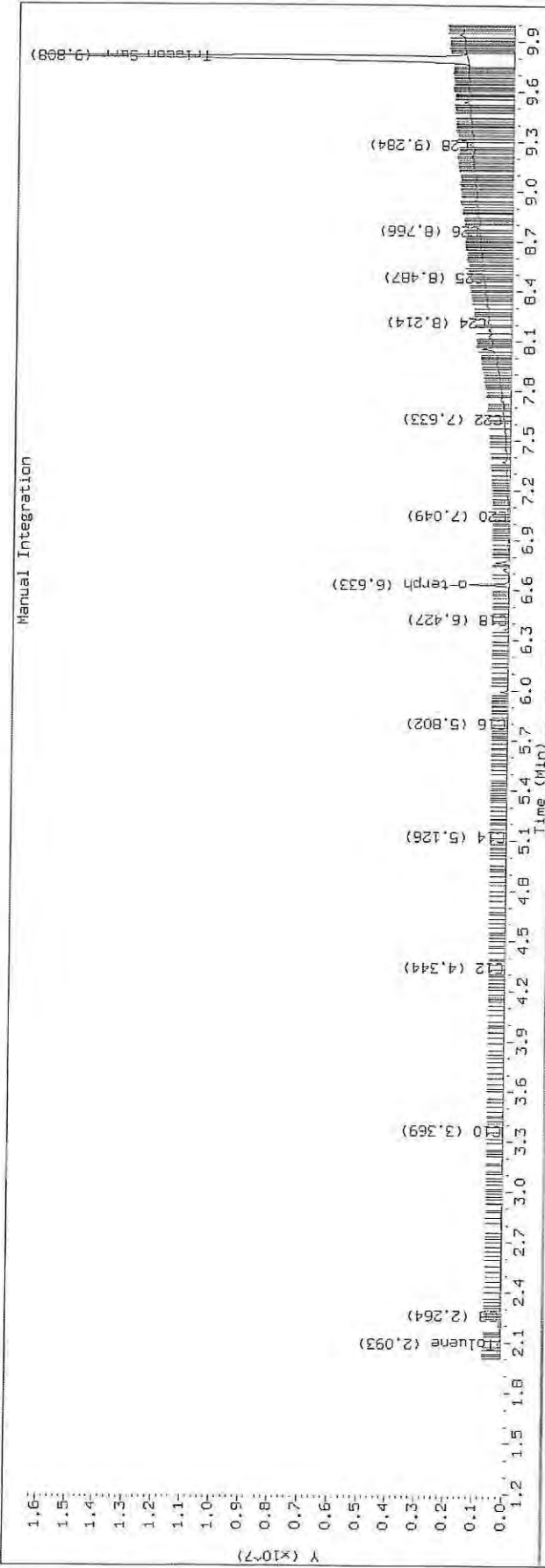
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



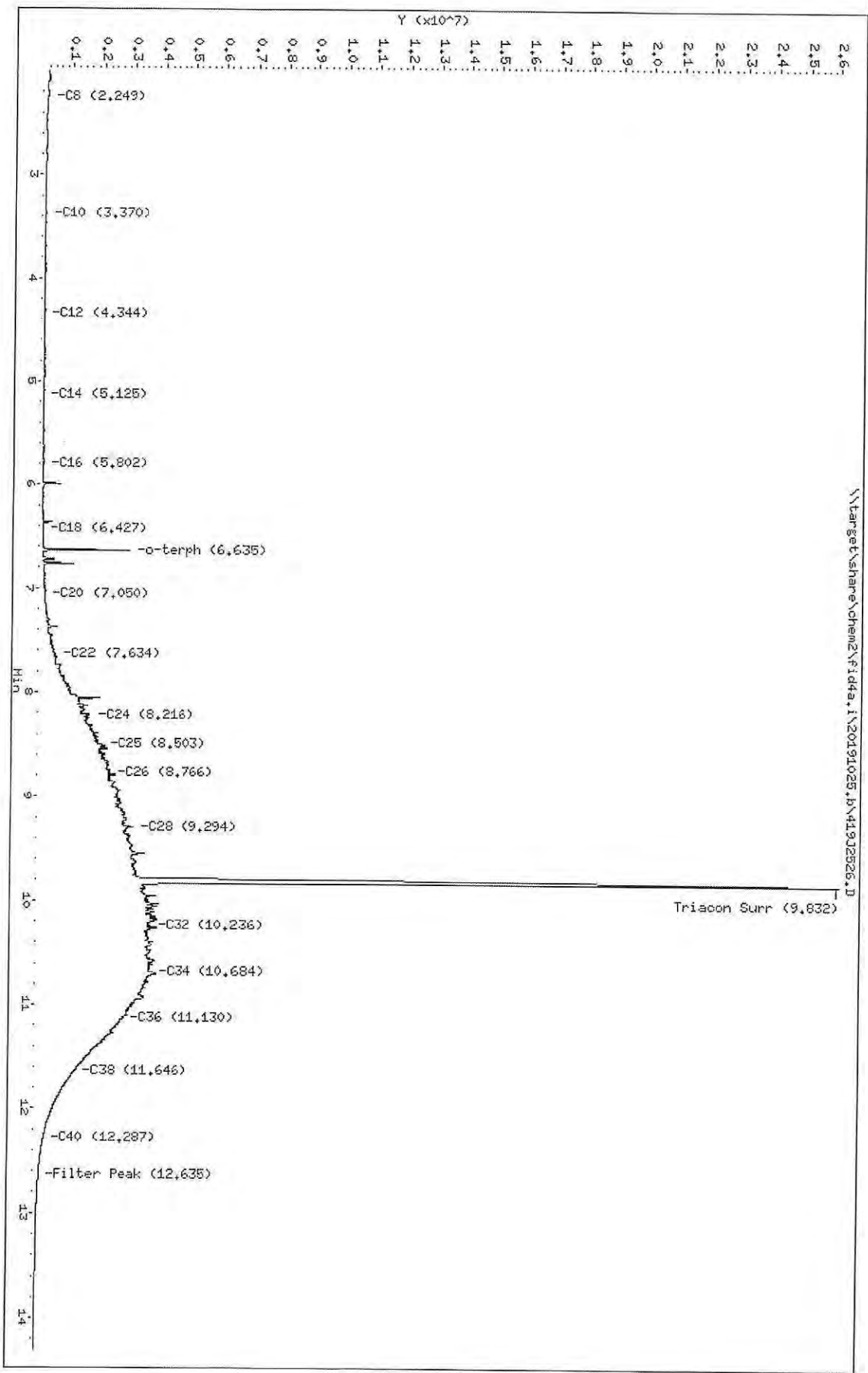
TPH Manual Integrations Report
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 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2826.D
Date: 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JDR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

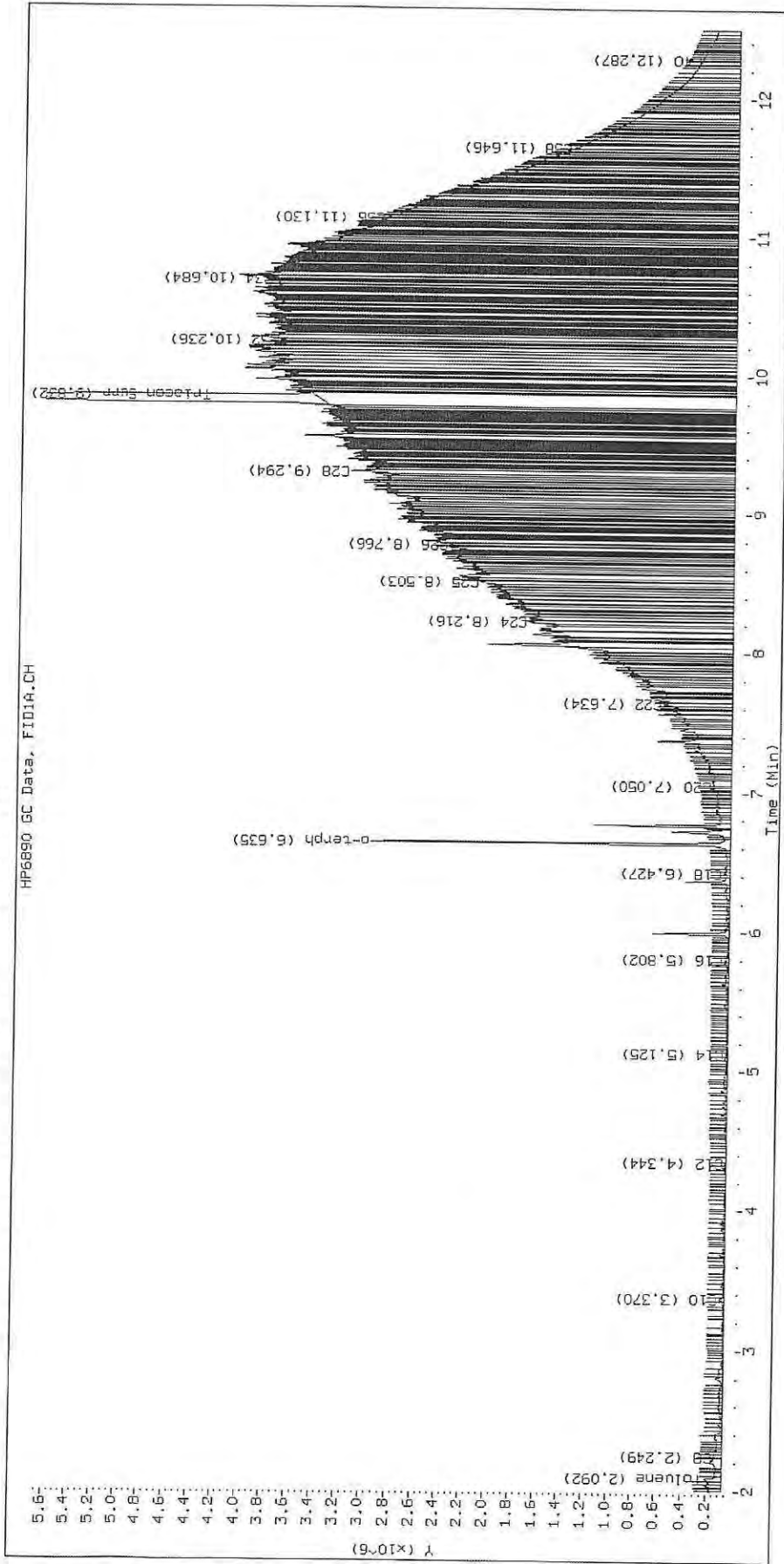
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

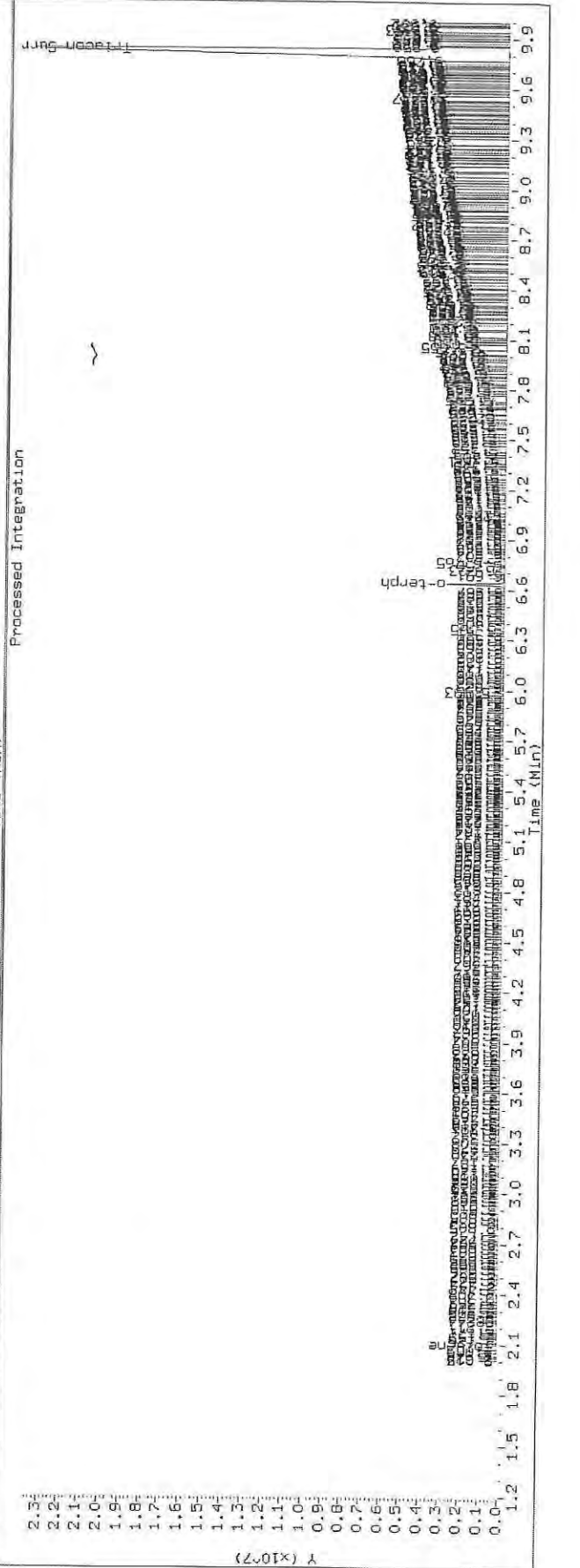
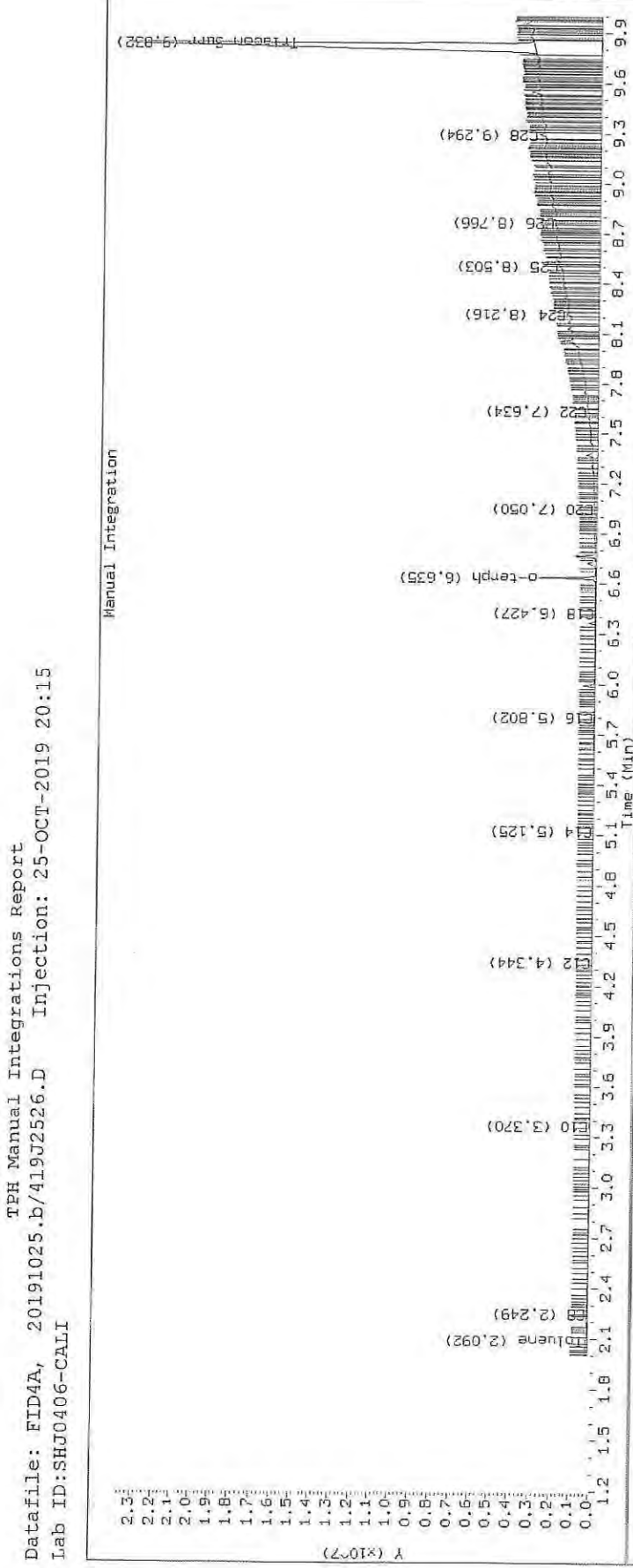
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH

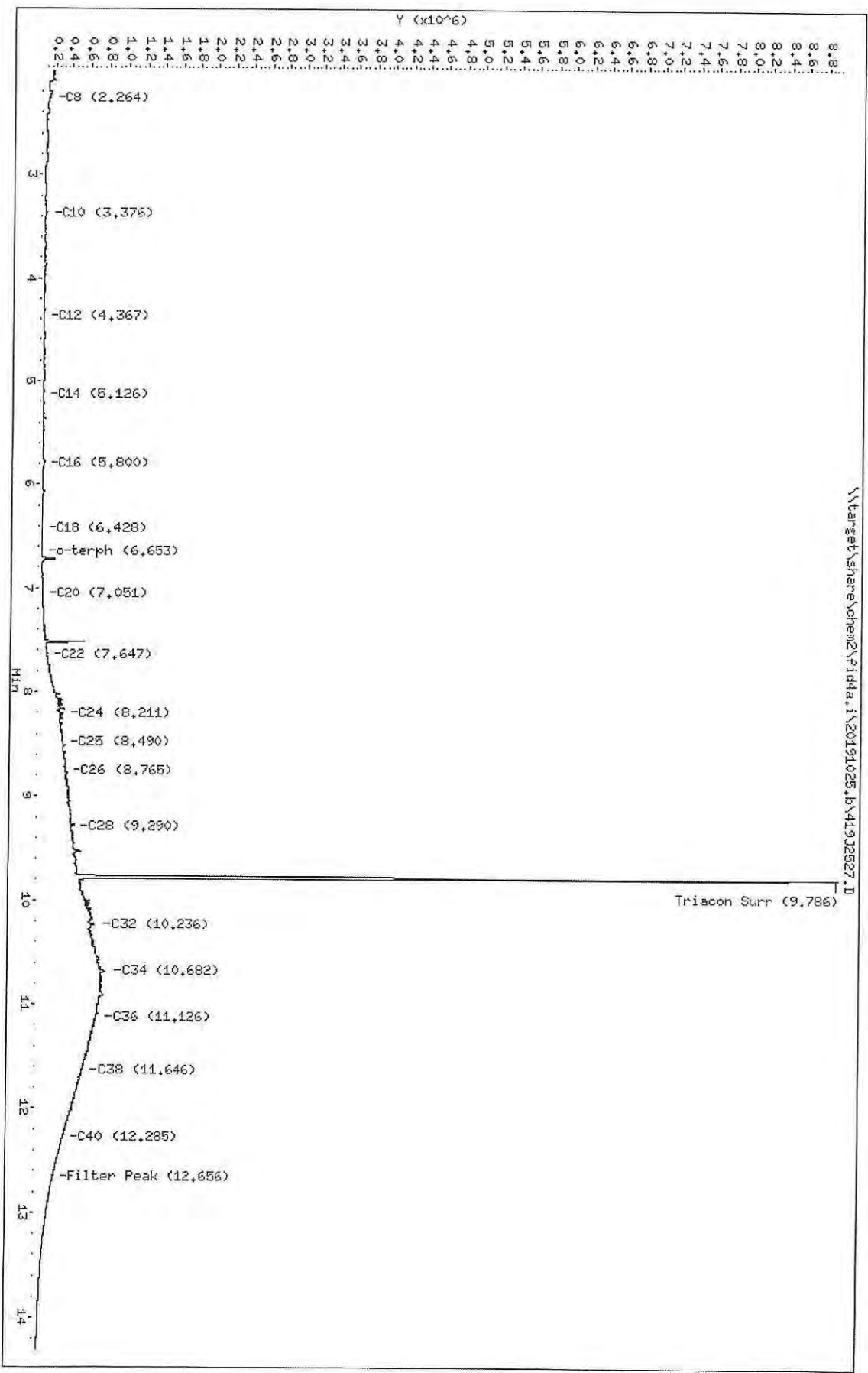


Datafile: FID4A, 20191025.b/419J2526.D Injection: 25-OCT-2019 20:15
 Lab ID: SHJ0406-CALI



Data File: \\farset\share\chem2\Fid4a.1\20191025.B\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3
 Column Phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/WTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

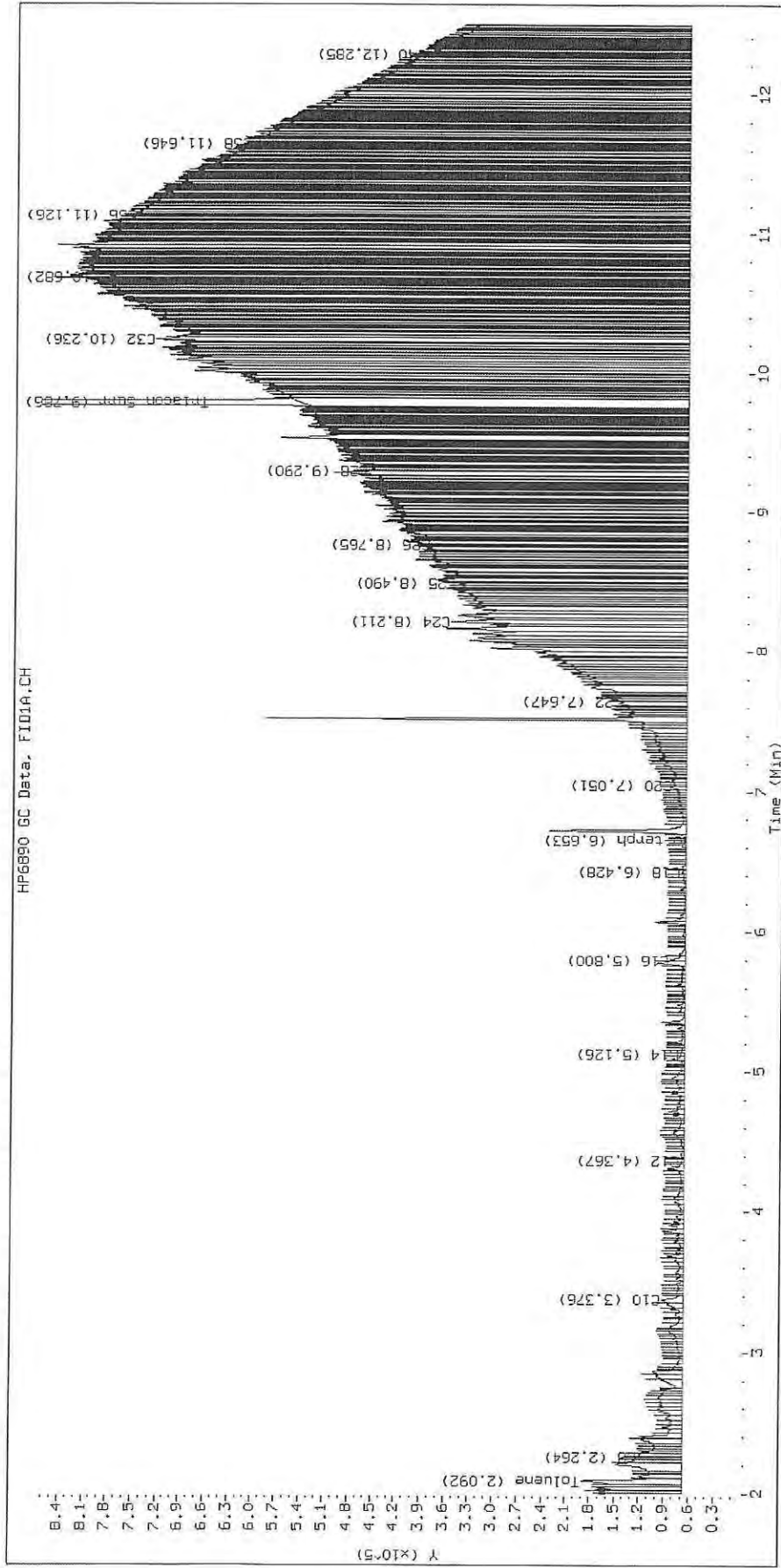
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

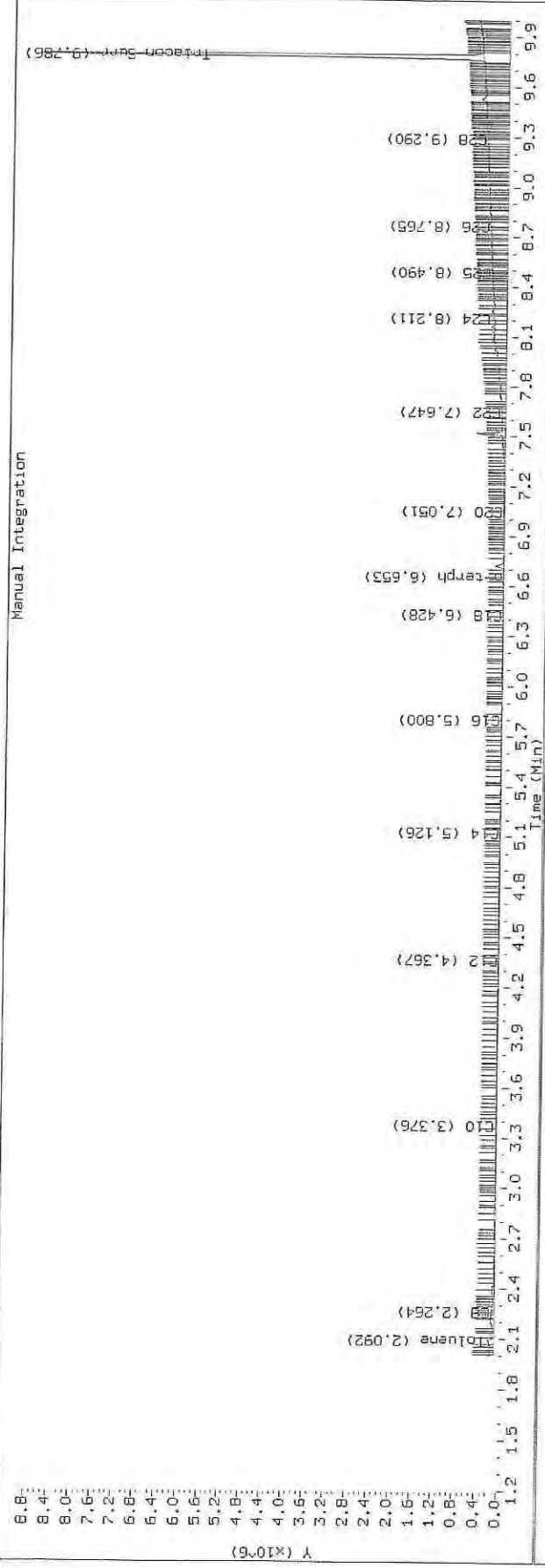
Datafile: FID4A, 20191025.b/41902527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH

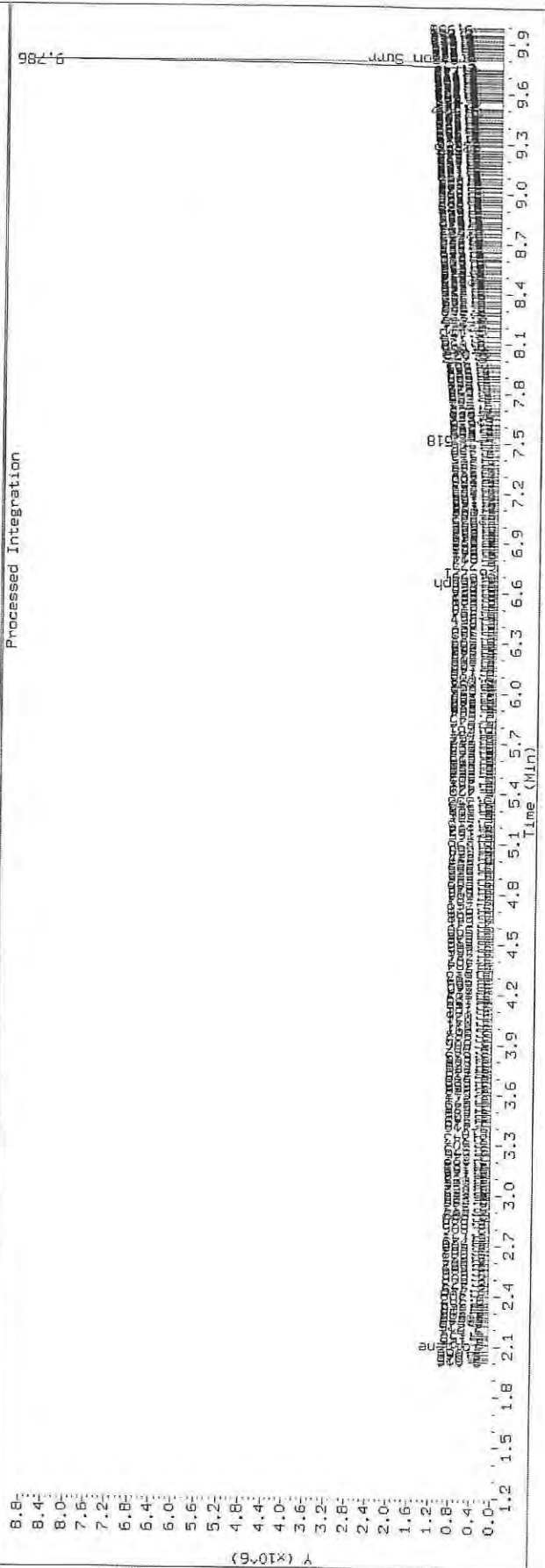


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2527.D Injection: 25-OCT-2019 20:35
 Lab ID: SH00406-SCV3

Manual Integration



Processed Integration



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacotane	319	0.0

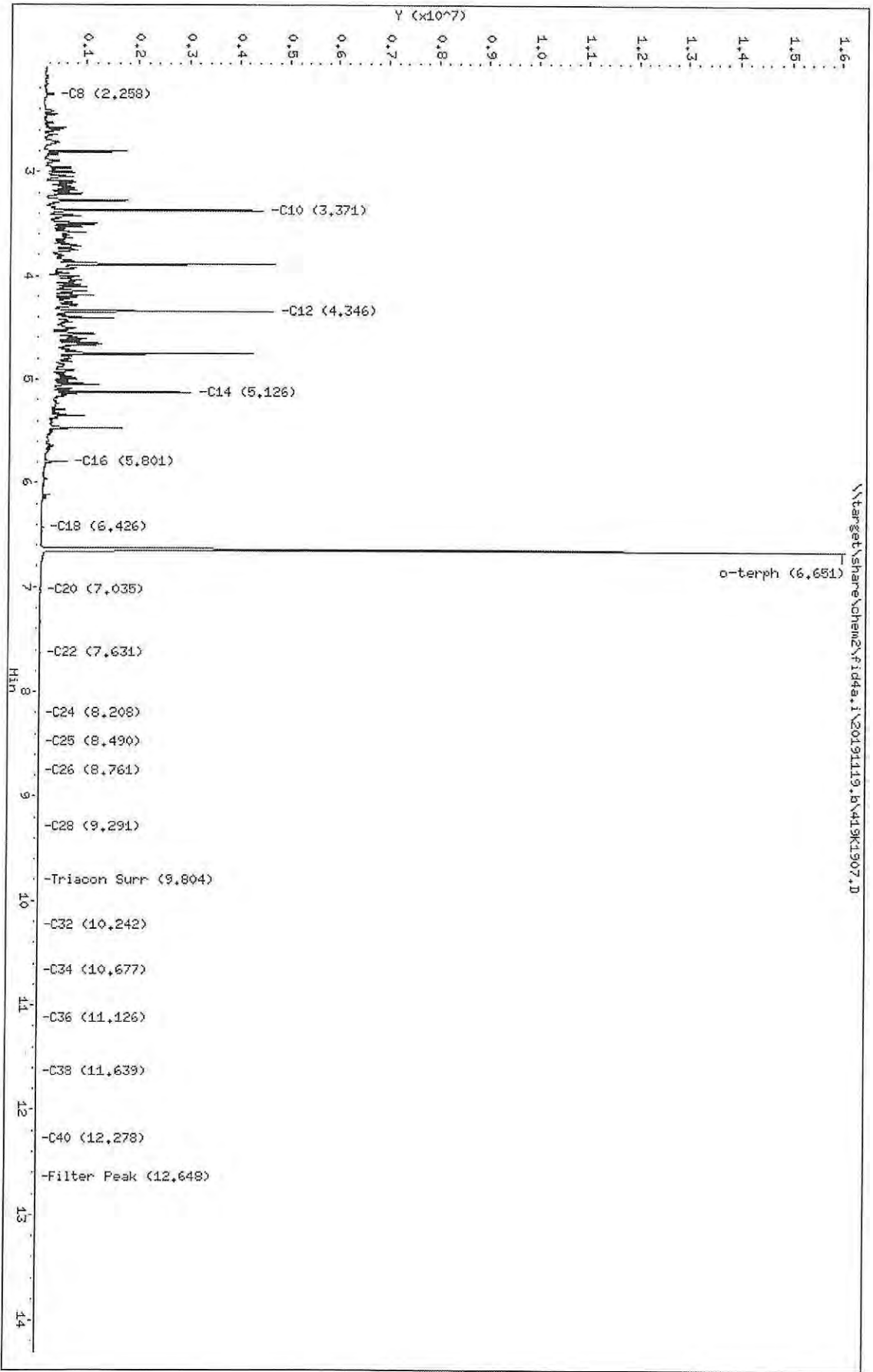
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

Data File: \\target\share\chem2\fid4a.i\20191119.B\419K1907.D
Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD
Column diameter: 0.25



Data File: \\target\share\chem2\fid4a,1\20200107_b\42040707.D

Date: 07-JAN-2020 10:42

Client ID:

Sample Info: SIR0065-ICV3

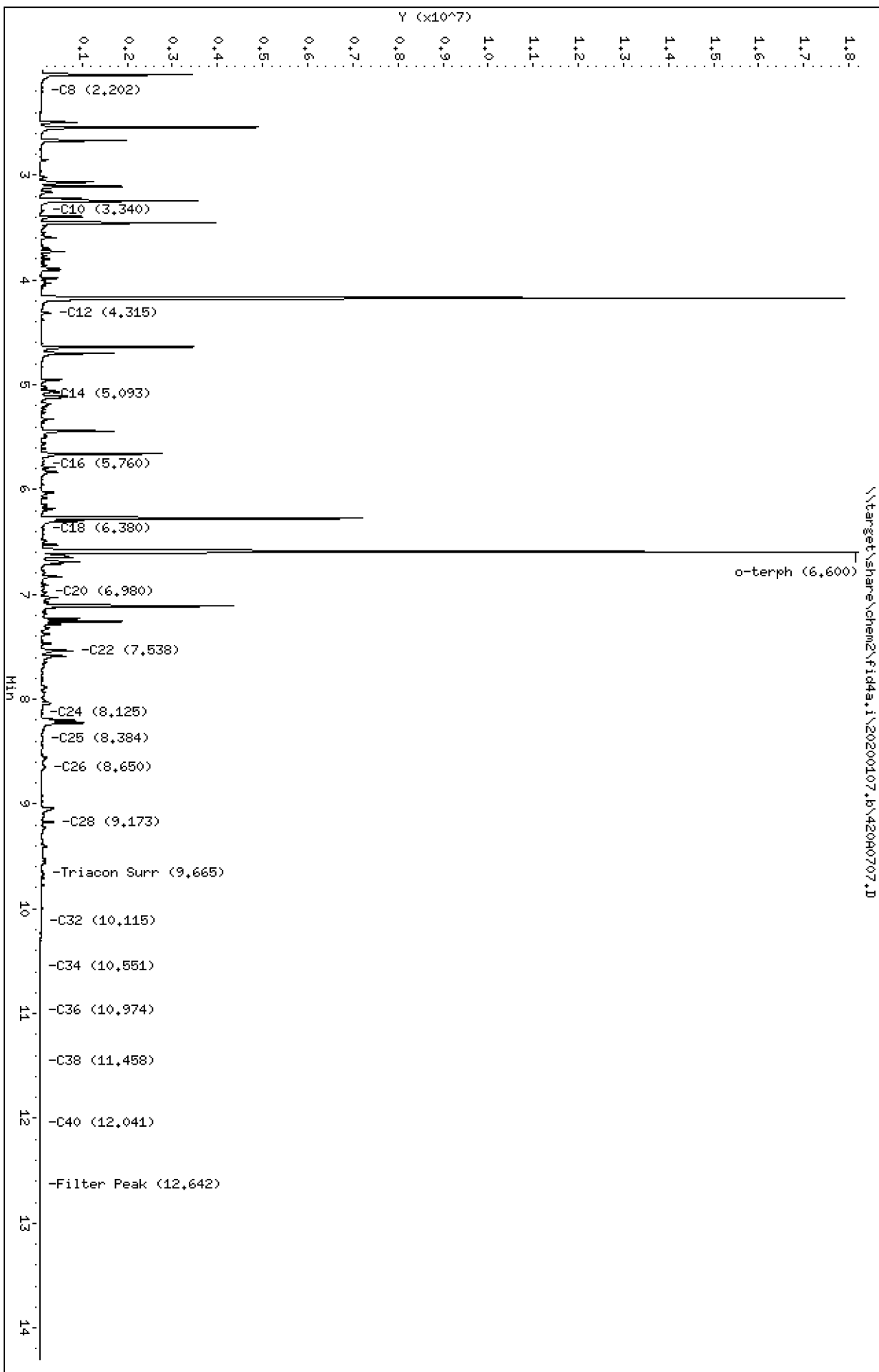
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200107.b/420A0707.D
Method: 20200107.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 01/08/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIA0065-ICV3
Client ID:
Injection: 07-JAN-2020 10:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

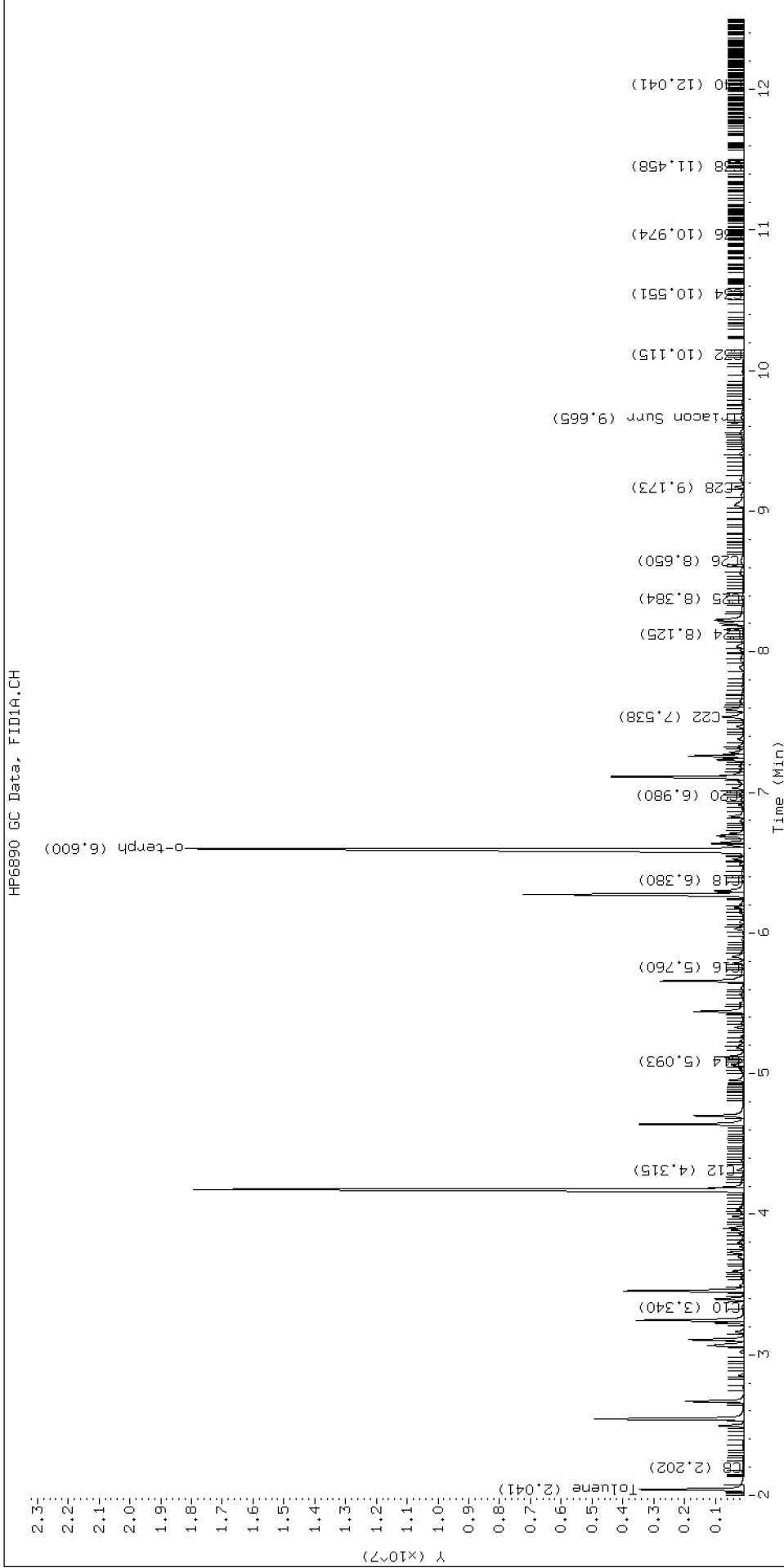
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.202	-0.016	48618	163148	WATPHD	(C12-C24)	39749068	249.5
C10	3.340	-0.003	90097	100393	WATPHM	(C24-C38)	8921905	67.3
C12	4.315	-0.003	247325	289347	AK102	(C10-C25)	67305313	344.3
C14	5.093	-0.003	88277	57691	AK103	(C25-C36)	6259973	62.6
C16	5.760	-0.005	76989	75637	OR.DIES	(C10-C28)	70713708	360.8
C18	6.380	-0.002	84390	113269				
C20	6.980	0.003	144985	120115	JET-A	(C10-C18)	47725210	293.7
C22	7.538	-0.024	728303	910269				
C24	8.125	-0.002	43865	44718				
C25	8.384	-0.017	65153	88015				
C26	8.650	-0.017	124266	355575				
C28	9.173	-0.007	310713	322767				
C32	10.115	-0.005	18488	10140				
C34	10.551	-0.003	12121	8350				
Filter Peak	12.642	-0.014	5310	3162	CREOSOT	(C12-C22)	37368560	1000.0
C36	10.974	-0.004	10765	7465				
C38	11.458	0.001	10672	2663				
C40	12.041	-0.000	6716	3626				
o-terph	6.600	0.002	18150486	20216219				
Triacon Surr	9.665	-0.021	100173	177367	NAS DIES	(C10-C24)	64884221	332.5

Range Times: NW Diesel(4.318 - 8.127) AK102(3.34 - 8.40) Jet A(3.34 - 6.38)
NW M.Oil(8.13 - 11.46) AK103(8.40 - 10.98) OR Diesel(3.34 - 9.18)

Surrogate	Area	Amount
o-Terphenyl	20216219	98.8
Triacontane	177367	1.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	37368.6	15-NOV-2019



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	13-MAR-2020	13:19	420C1310.D	1	RINSE	
2	13-MAR-2020	13:38	420C1311.D	1	RINSE	
3	13-MAR-2020	13:58	420C1312.D	1	SEQ-IBL1	
4	13-MAR-2020	14:17	420C1313.D	1	SEQ-IBL2	
5	13-MAR-2020	14:37	420C1314.D	1	SEQ-CAL1	
6	13-MAR-2020	14:56	420C1315.D	1	SEQ-CAL2	
7	13-MAR-2020	15:15	420C1316.D	1	SEQ-CAL3	
8	13-MAR-2020	15:35	420C1317.D	1	SEQ-CAL4	
9	13-MAR-2020	15:54	420C1318.D	1	SEQ-CAL5	
10	13-MAR-2020	16:13	420C1319.D	1	SEQ-CAL6	
11	13-MAR-2020	16:33	420C1320.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

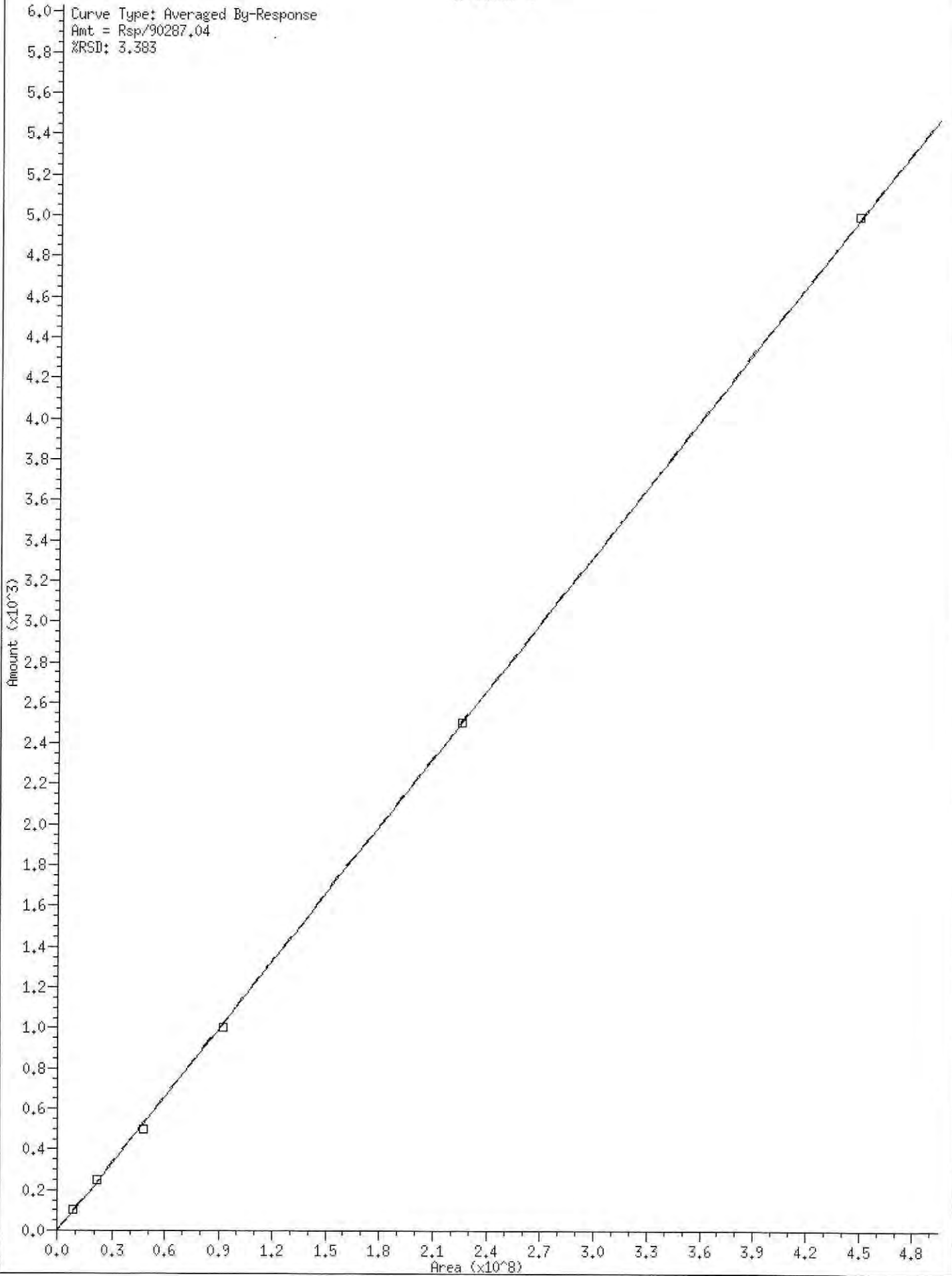
ARI Job No.: RINS Method: b\FID4TPH.m Instrument: fid4a.i Date: 13-MAR-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1319	420C1310.D	RINSE		1	NO MANUAL INTEGRATION
1338	420C1311.D	RINSE		1	NO MANUAL INTEGRATION
1358	420C1312.D	SEQ-IBL1		1	C14, C16, C40,
1417	420C1313.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1437	420C1314.D	SEQ-CAL1		1	C20, o-terph,
1456	420C1315.D	SEQ-CAL2		1	o-terph,
1515	420C1316.D	SEQ-CAL3		1	o-terph,
1535	420C1317.D	SEQ-CAL4		1	o-terph,
1554	420C1318.D	SEQ-CAL5		1	o-terph,
1613	420C1319.D	SEQ-CAL6		1	o-terph,
1633	420C1320.D	SEQ-SCV1		1	o-terph,

Security Status Report

Date: 16-Mar-2020 10:37

420C1310.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1311.D	Data Locked	christopher, 16-Mar-2020 10:37
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420C1319.D	Data Locked	christopher, 16-Mar-2020 10:37
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Data File: \\target\share\chem2\fid4a,1\20200313b,bv420C1312.D

Date: 13-MAR-2020 13:58

Client ID:

Sample Info: SEQ-IBL1

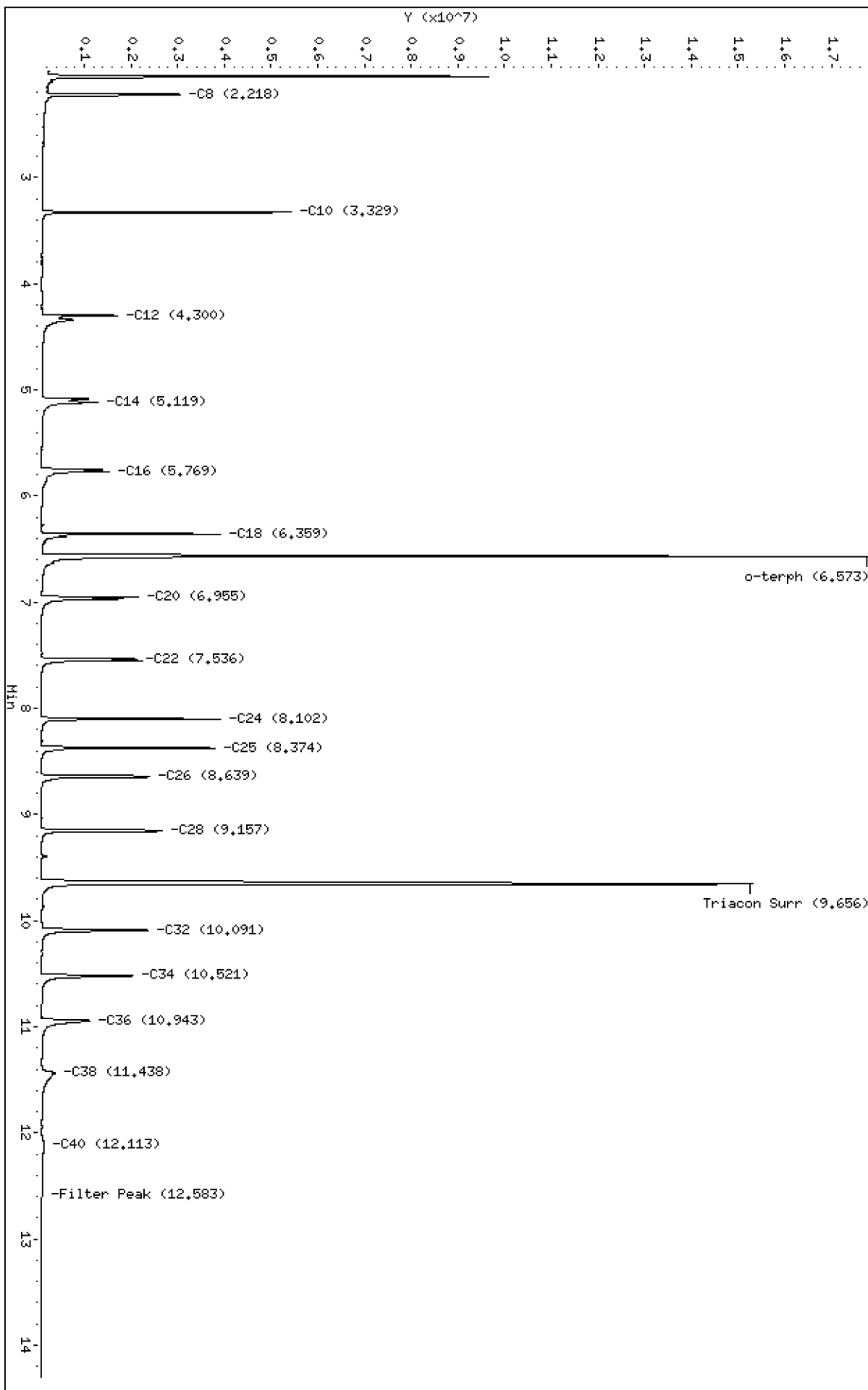
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200313b,bv420C1312.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1312.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 13-MAR-2020 13:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

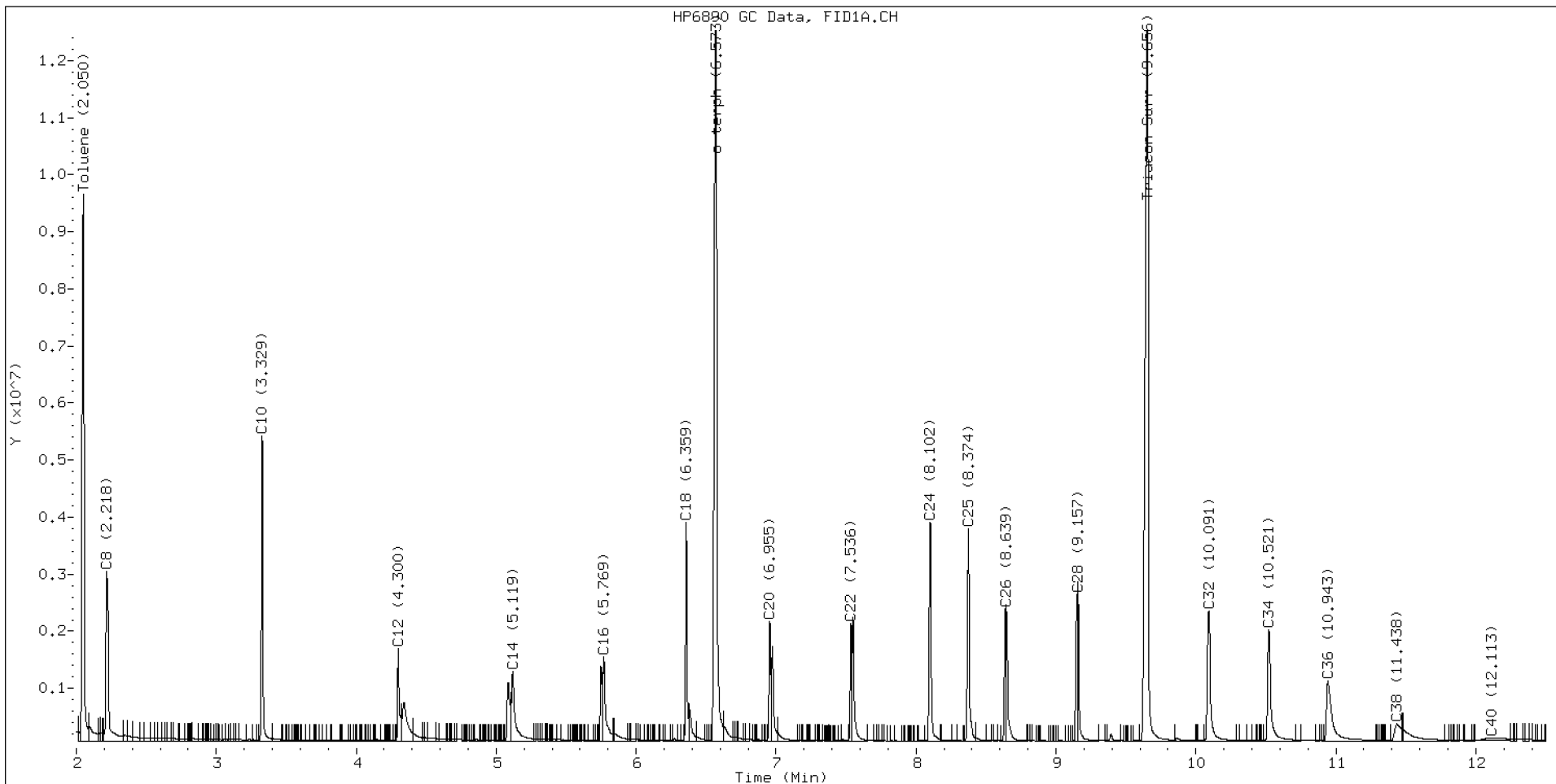
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.218	0.000	2976230	4258439	WATPHD	(C12-C24)	25653686	161.0
C10	3.329	0.000	5344126	3820334	WATPHM	(C24-C38)	24648964	185.8
C12	4.300	0.000	1627839	1465465	AK102	(C10-C25)	33671106	172.2
C14	5.119	0.000	1211179	2316863	AK103	(C25-C36)	22381765	223.9
C16	5.769	0.000	1467779	2055226	OR.DIES	(C10-C28)	45134921	230.3
C18	6.359	0.000	3826171	2734269				
C20	6.955	0.000	2088529	1719914	JET-A	(C10-C18)	20940040	128.8
C22	7.536	0.000	2056324	1623779				
C24	8.102	0.000	3838521	3671153				
C25	8.374	0.000	3714467	3687728				
C26	8.639	0.000	2319360	1780980				
C28	9.157	0.000	2575228	1984332				
C32	10.091	0.000	2278132	3706147				
C34	10.521	0.000	1957102	3424532				
Filter Peak	12.583	0.000	15498	11459	BUNKERC	(C10-C38)	58214945	644.8
C36	10.943	0.000	1054808	3160882				
C38	11.438	0.000	297596	868760				
C40	12.113	0.000	42933	427810				
o-terph	6.573	0.000	17734649	19762248				
Triacon Surr	9.656	0.000	15228657	21480068	NAS DIES	(C10-C24)	33565981	172.0

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	19762248	96.5
Triacontane	21480068	120.7

M Indicates the peak was manually integrated

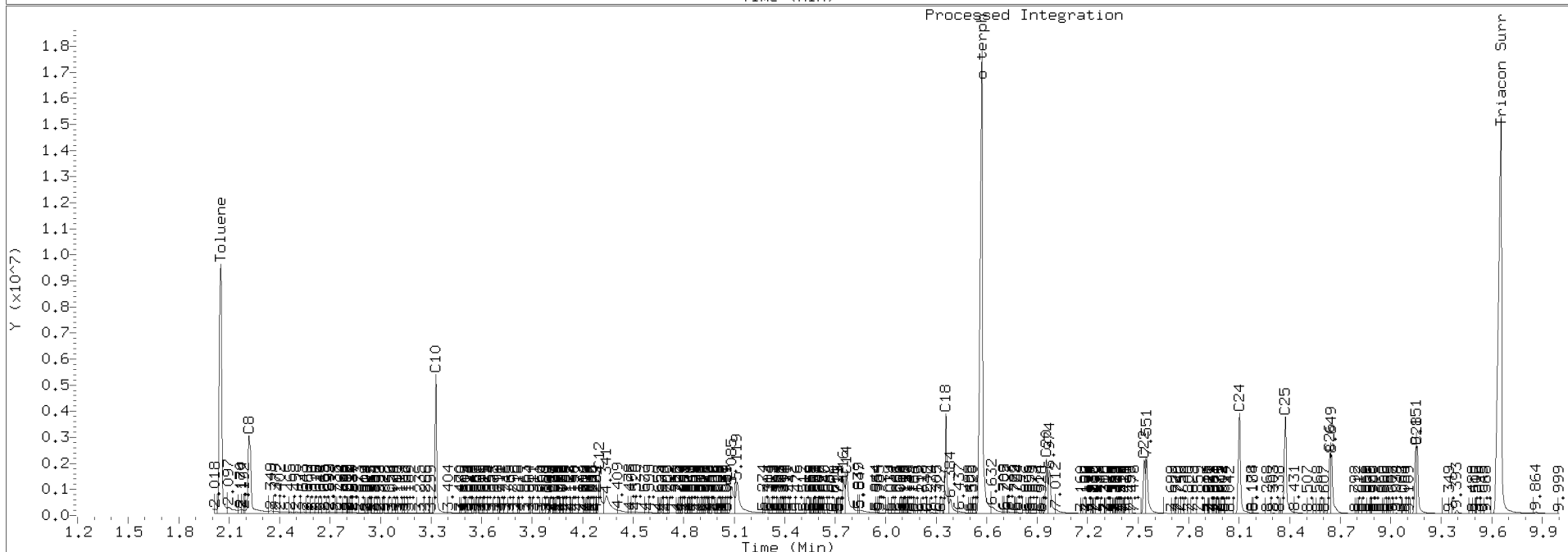
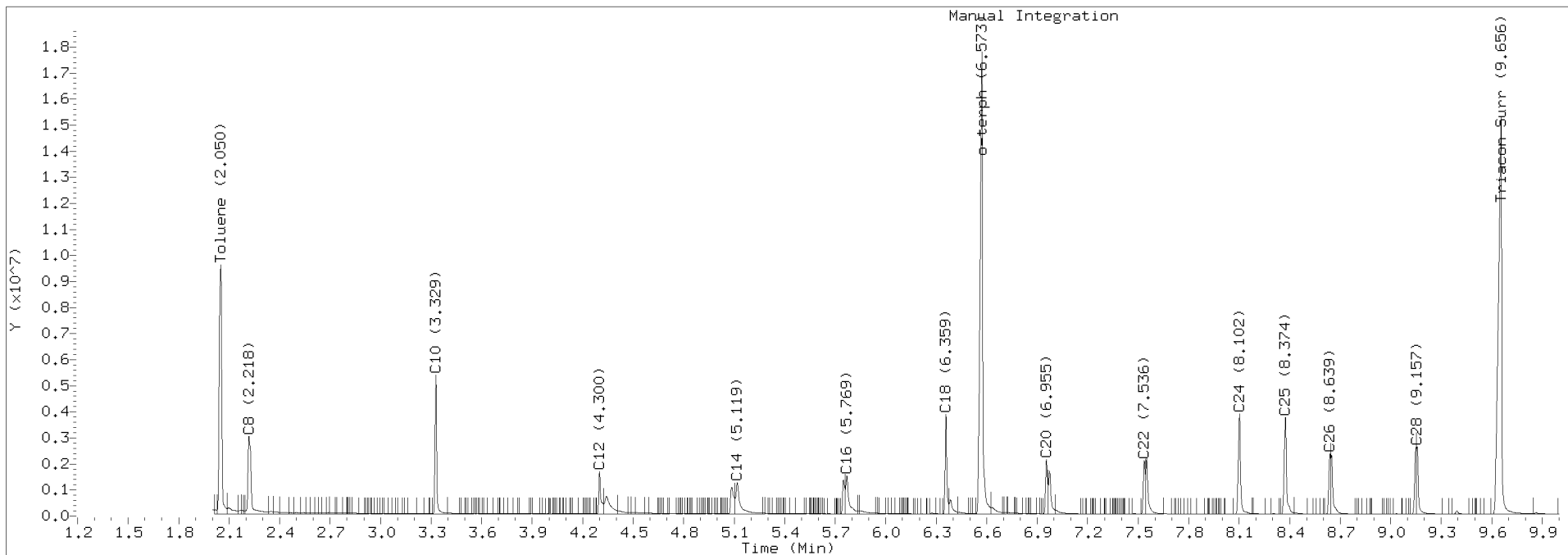
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200313b.b/420C1312.D Injection: 13-MAR-2020 13:58

Lab ID:SEQ-IBL1



Data File: \\target\share\chem2\fid4a,i\20200313b,b\420C1313.D
Date: 13-MAR-2020 14:17

Client ID:

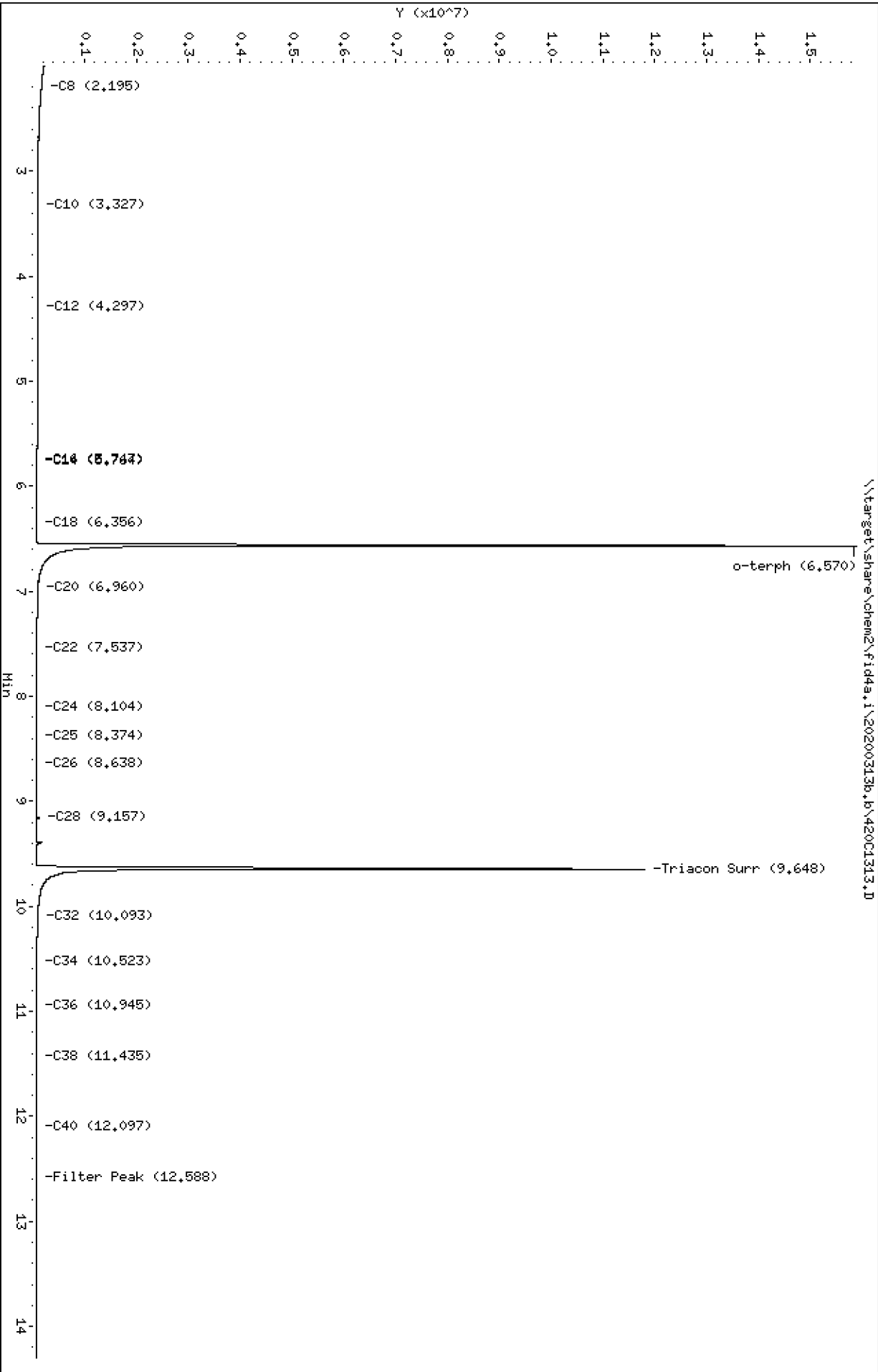
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,i

Operator: JGR/CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1313.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 13-MAR-2020 14:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

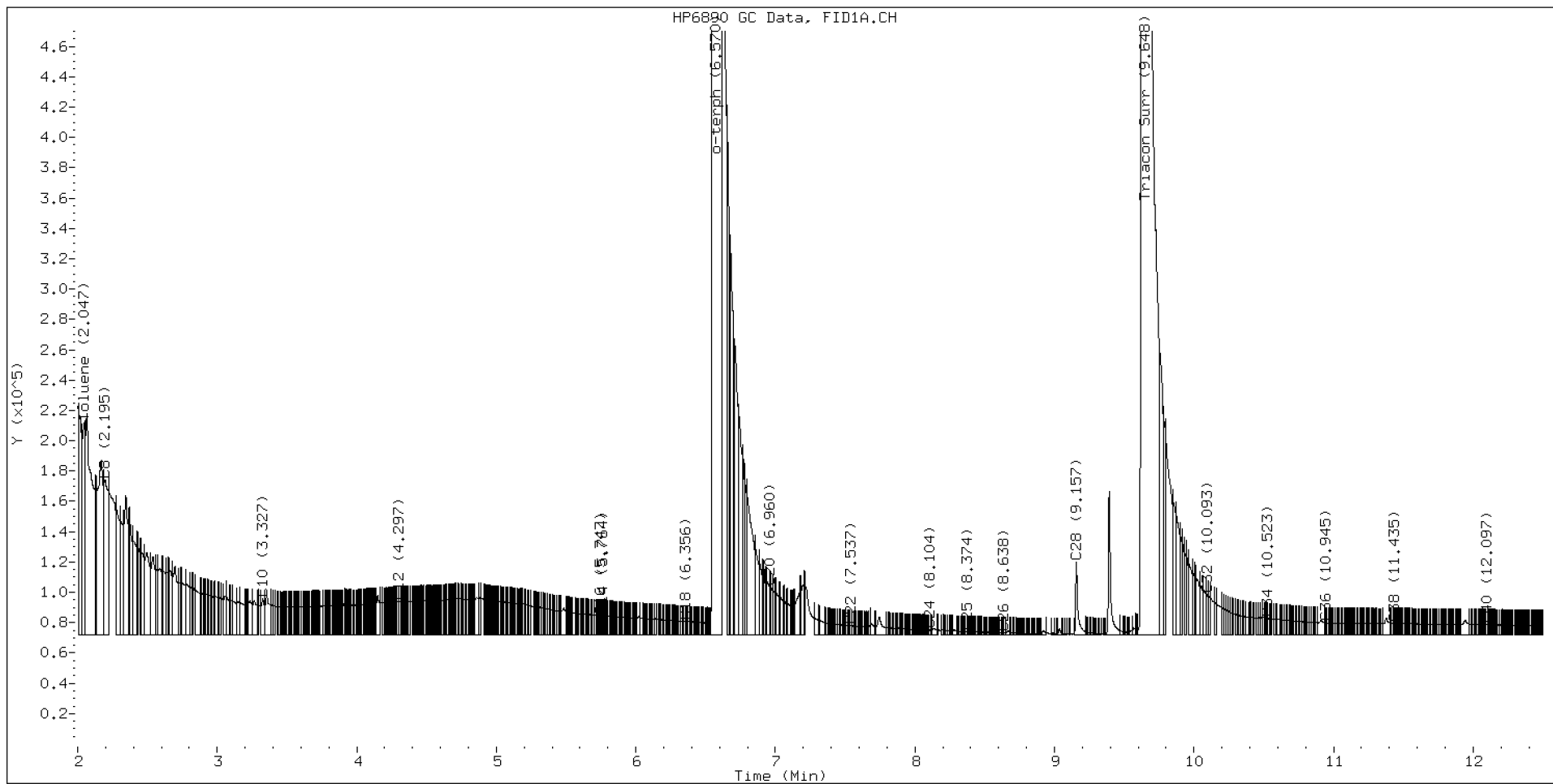
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.195	-0.023	101964	220885	WATPHD	(C12-C24)	4394210	27.6
C10	3.327	-0.002	23471	39087	WATPHM	(C24-C38)	1967673	14.8
C12	4.297	-0.003	21590	18255	AK102	(C10-C25)	5527366	28.3
C14	5.764	0.646	12422	5561	AK103	(C25-C36)	1745508	17.5
C16	5.747	-0.023	12369	2467	OR.DIES	(C10-C28)	5623934	28.7
C18	6.356	-0.003	8501	4208				
C20	6.960	0.005	31175	16901	JET-A	(C10-C18)	2939860	18.1
C22	7.537	0.001	5711	4529				
C24	8.104	0.002	2800	1652				
C25	8.374	-0.000	1751	510				
C26	8.638	-0.001	937	696				
C28	9.157	-0.000	47642	54613				
C32	10.093	0.002	26114	21739				
C34	10.523	0.002	10438	2073				
Filter Peak	12.588	0.006	5962	3842	BUNKERC	(C10-C38)	7477104	82.8
C36	10.945	0.002	7658	3422				
C38	11.435	-0.003	7168	3926				
C40	12.097	-0.015	6296	3463				
o-terph	6.570	-0.003	15826099	17209481				
Triacon Surr	9.648	-0.008	11725247	15722765	NAS DIES	(C10-C24)	5509432	28.2

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	17209481	84.1
Triacontane	15722765	88.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020





ANALYSIS SEQUENCE

SID0108

Instrument: FID4
Calibration ID: DA00022

Printed: 4/20/2020 7:51:03AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SID0108-IBL1	QC		1		H010802			
SID0108-IBL2	QC		2		I000651			
SID0108-CAL1	QC		3		I003251			
SID0108-CAL2	QC		4		I003252			
SID0108-CAL3	QC		5		I003253			
SID0108-CAL4	QC		6		I003254			
SID0108-CAL5	QC		7		I003255			
SID0108-CAL6	QC		8		I003037			
SID0108-SCV1	QC		9		I003274			

Samples Loaded By

Date

Data Processed By

Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
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2	08-APR-2020	08:37	420D0802.D	1	RINSE	
3	08-APR-2020	08:56	420D0803.D	1	RINSE	
4	08-APR-2020	09:16	420D0804.D	1	RINSE	
5	08-APR-2020	09:35	420D0805.D	1	SEQ-IBL1	
6	08-APR-2020	09:54	420D0806.D	1	SEQ-IBL2	
7	08-APR-2020	10:14	420D0807.D	1	SEQ-CAL1	
8	08-APR-2020	10:33	420D0808.D	1	SEQ-CAL2	
9	08-APR-2020	10:53	420D0809.D	1	SEQ-CAL3	
10	08-APR-2020	11:12	420D0810.D	1	SEQ-CAL4	
11	08-APR-2020	11:32	420D0811.D	1	SEQ-CAL5	
12	08-APR-2020	11:51	420D0812.D	1	SEQ-CAL6	
13	08-APR-2020	12:11	420D0813.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 08-APR-2020

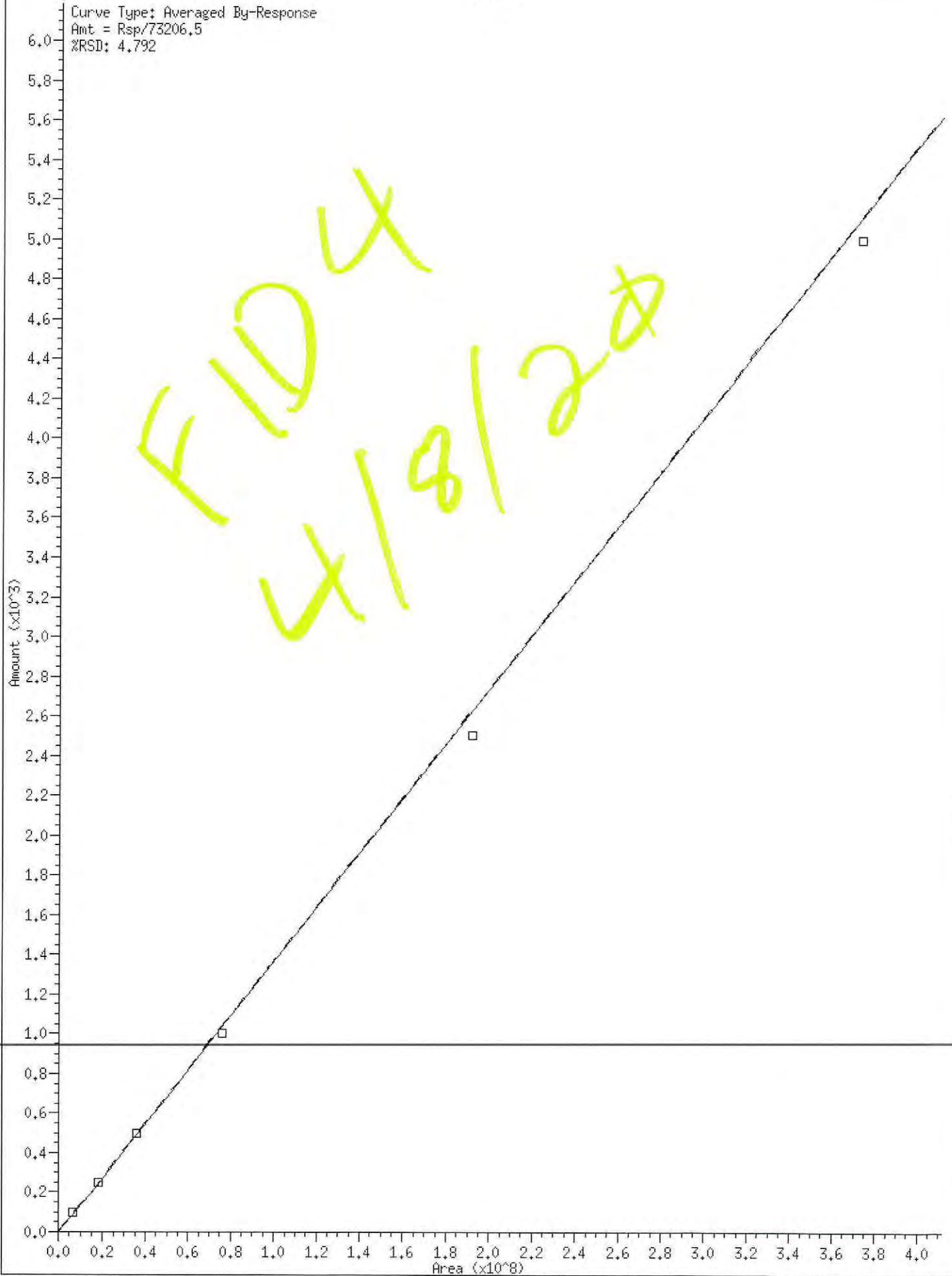
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0856	420D0803.D	RINSE		1	NO MANUAL INTEGRATION
0916	420D0804.D	RINSE		1	NO MANUAL INTEGRATION
0935	420D0805.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0954	420D0806.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1014	420D0807.D	SEQ-CAL1		1	Triacon Surr,
1033	420D0808.D	SEQ-CAL2		1	Triacon Surr,
1053	420D0809.D	SEQ-CAL3		1	Triacon Surr,
1112	420D0810.D	SEQ-CAL4		1	Triacon Surr,
1132	420D0811.D	SEQ-CAL5		1	Triacon Surr,
1151	420D0812.D	SEQ-CAL6		1	Triacon Surr,
1211	420D0813.D	SEQ-SCV1		1	Triacon Surr,

Security Status Report

Date: 20-Apr-2020 07:47

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420D0802.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0803.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0804.D	Data Locked	christopher, 20-Apr-2020 07:45
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420D0811.D	Data Locked	christopher, 20-Apr-2020 07:45
420D0812.D	Data Locked	christopher, 20-Apr-2020 07:45
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Curve Type: Averaged By-Response
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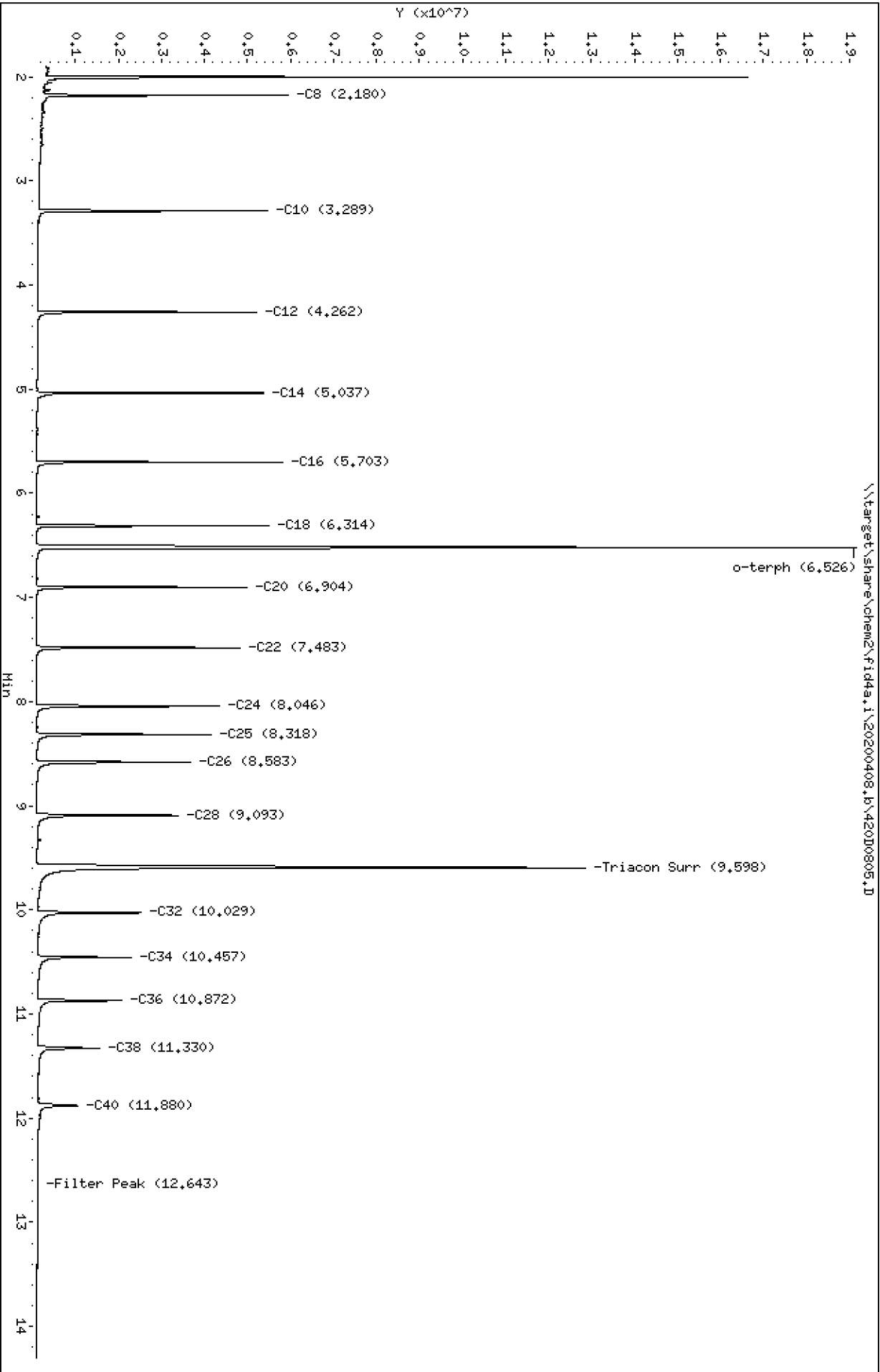


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Date: 08-APR-2020 09:35
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0805.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 08-APR-2020 09:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

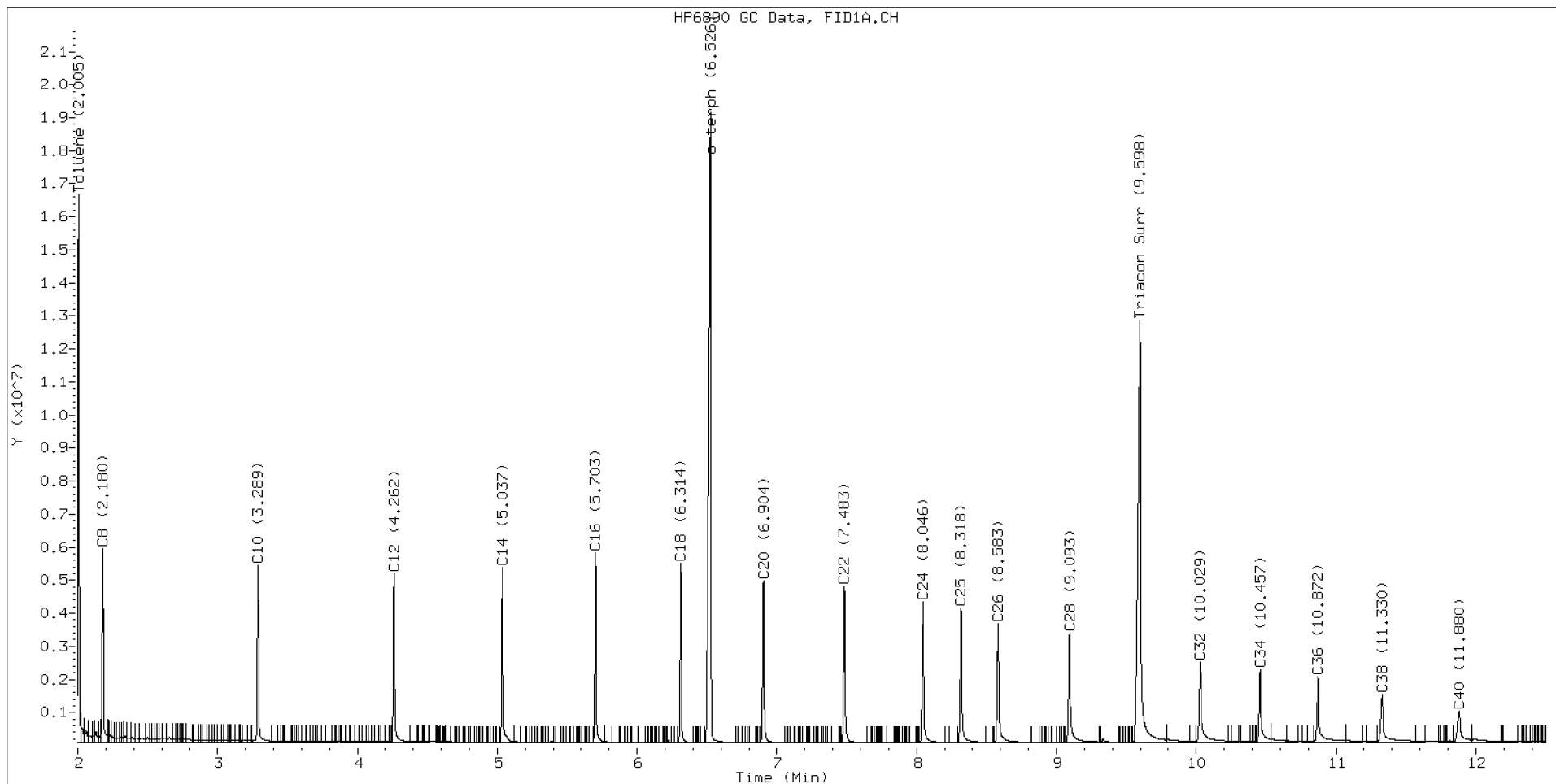
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.180	0.000	5854578	3880900	WATPHD	(C12-C24)	23844320	149.6
C10	3.289	0.000	5366559	4126403	WATPHM	(C24-C38)	25592918	193.0
C12	4.262	0.000	5124561	3862358	AK102	(C10-C25)	33609761	171.9
C14	5.037	0.000	5288886	3763422	AK103	(C25-C36)	22232777	303.7
C16	5.703	0.000	5732523	3728447	OR.DIES	(C10-C28)	44736298	228.2
C18	6.314	0.000	5411782	3657526				
C20	6.904	0.000	4900797	3740470	JET-A	(C10-C18)	22288154	137.1
C22	7.483	0.000	4744655	3709257				
C24	8.046	0.000	4260497	3629044				
C25	8.318	0.000	4069494	3709557				
C26	8.583	0.000	3584730	3671884				
C28	9.093	0.000	3305135	3592573				
C32	10.029	0.000	2427612	3418058				
C34	10.457	0.000	2206236	2535109				
Filter Peak	12.643	0.000	24370	14568	CREOSOT	(C12-C22)	20184280	489.5
C36	10.872	0.000	1991705	2941804				
C38	11.330	0.000	1466266	2825666				
C40	11.880	0.000	962855	1921380				
o-terph	6.526	0.000	19078927	20504006				
Triacon Surr	9.598	0.000	12764177	20099945	NAS DIES	(C10-C24)	33554764	171.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20504006	100.2
Triacontane	20099945	112.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408.b\420D0806.D

Date: 08-APR-2020 09:54

Client ID:

Sample Info: SEQ-IBL2

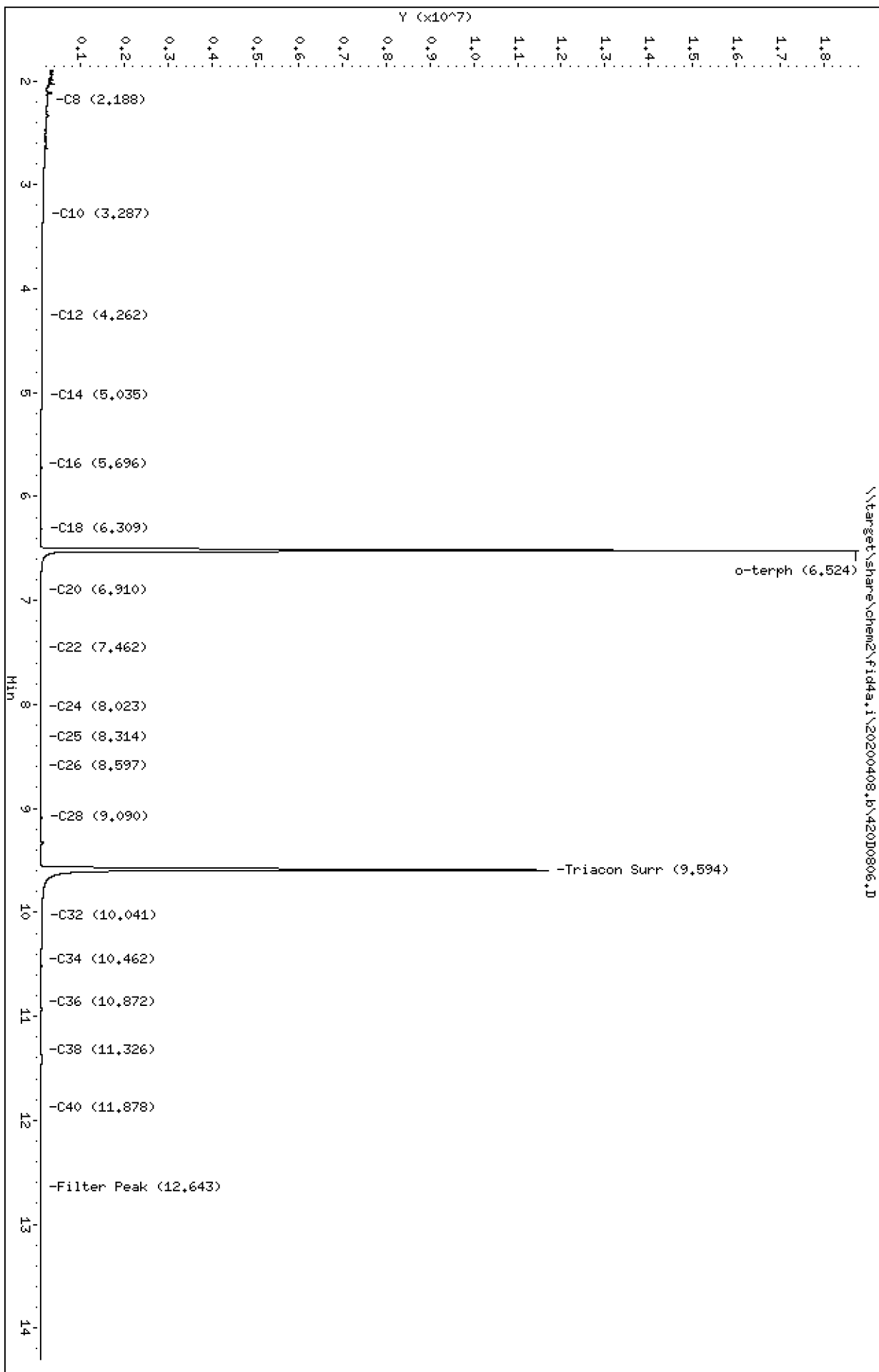
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0806.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 08-APR-2020 09:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

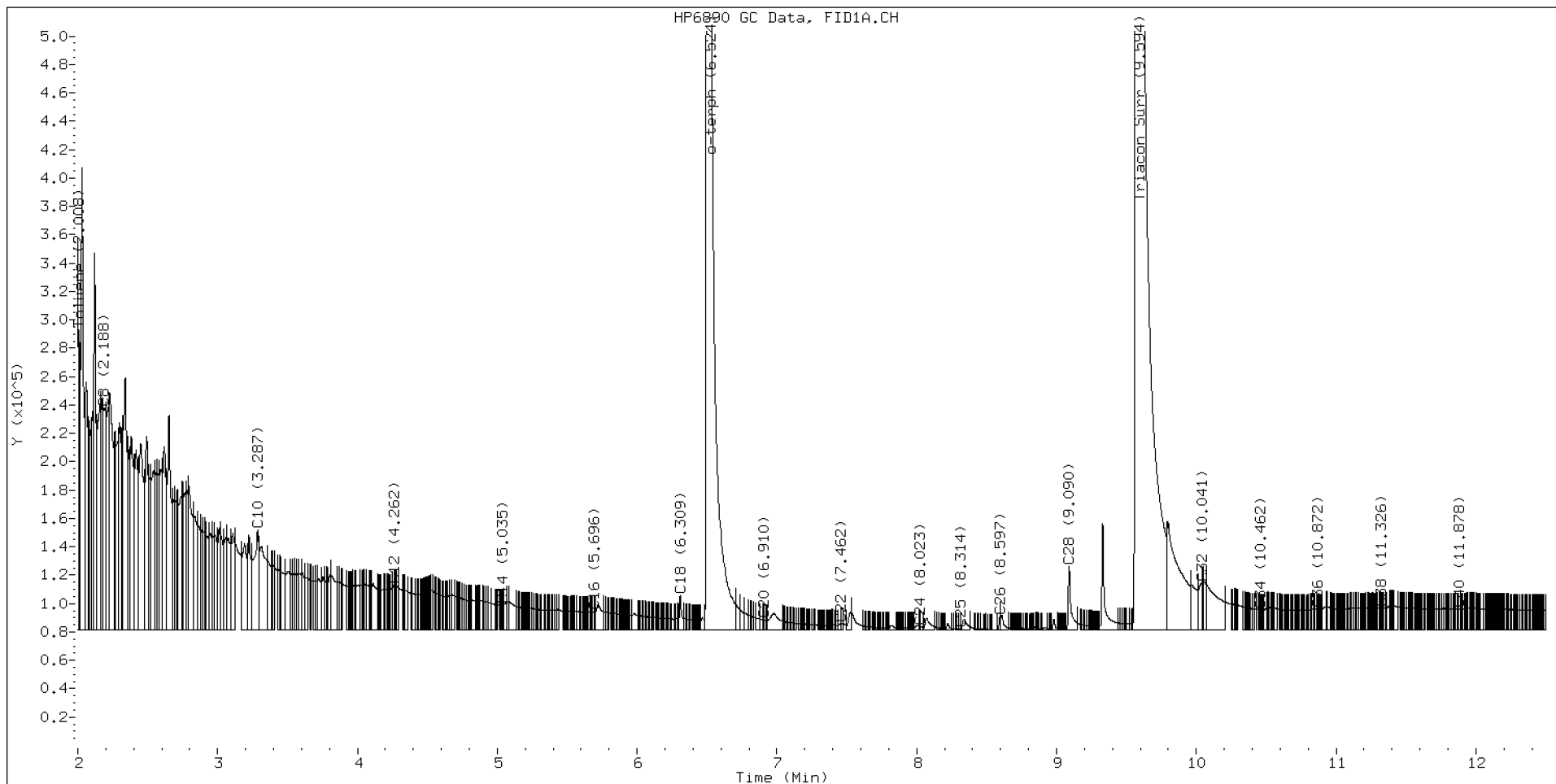
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.188	0.008	156546	216359	WATPHD	(C12-C24)	2059708	12.9
C10	3.287	-0.002	70586	177016	WATPHM	(C24-C38)	2023092	15.3
C12	4.262	-0.001	31694	27721	AK102	(C10-C25)	4136621	21.2
C14	5.035	-0.002	17658	7042	AK103	(C25-C36)	1615485	22.1
C16	5.696	-0.007	12809	8245	OR.DIES	(C10-C28)	4264948	21.8
C18	6.309	-0.005	24517	27940				
C20	6.910	0.006	6999	5164	JET-A	(C10-C18)	3753376	23.1
C22	7.462	-0.022	4699	4900				
C24	8.023	-0.022	2331	3320				
C25	8.314	-0.004	531	126				
C26	8.597	0.013	9349	6545				
C28	9.090	-0.003	44536	62849				
C32	10.041	0.012	33011	55502				
C34	10.462	0.005	14086	9836				
Filter Peak	12.643	0.000	14153	3524	CREOSOT	(C12-C22)	1999313	48.5
C36	10.872	0.000	14385	7864				
C38	11.326	-0.004	15213	8324				
C40	11.878	-0.002	14557	10126				
o-terph	6.524	-0.002	18718308	20250783				
Triacon Surr	9.594	-0.004	11617864	16294307	NAS DIES	(C10-C24)	4126955	21.1

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20250783	98.9
Triacontane	16294307	91.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010807.D
Date : 08-APR-2020 10:14

Client ID:

Sample Info: SEQ-CALL

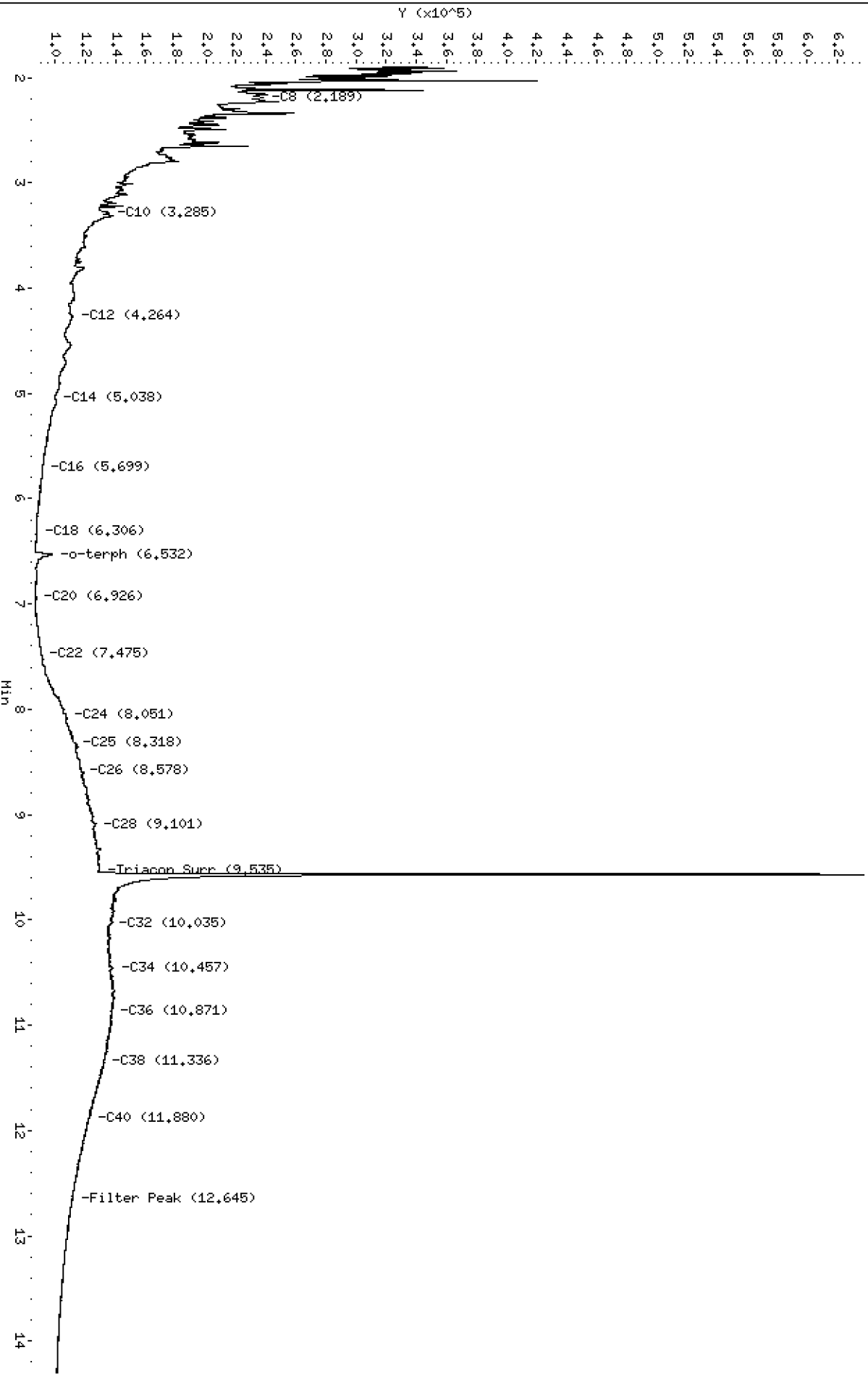
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0807.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 08-APR-2020 10:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

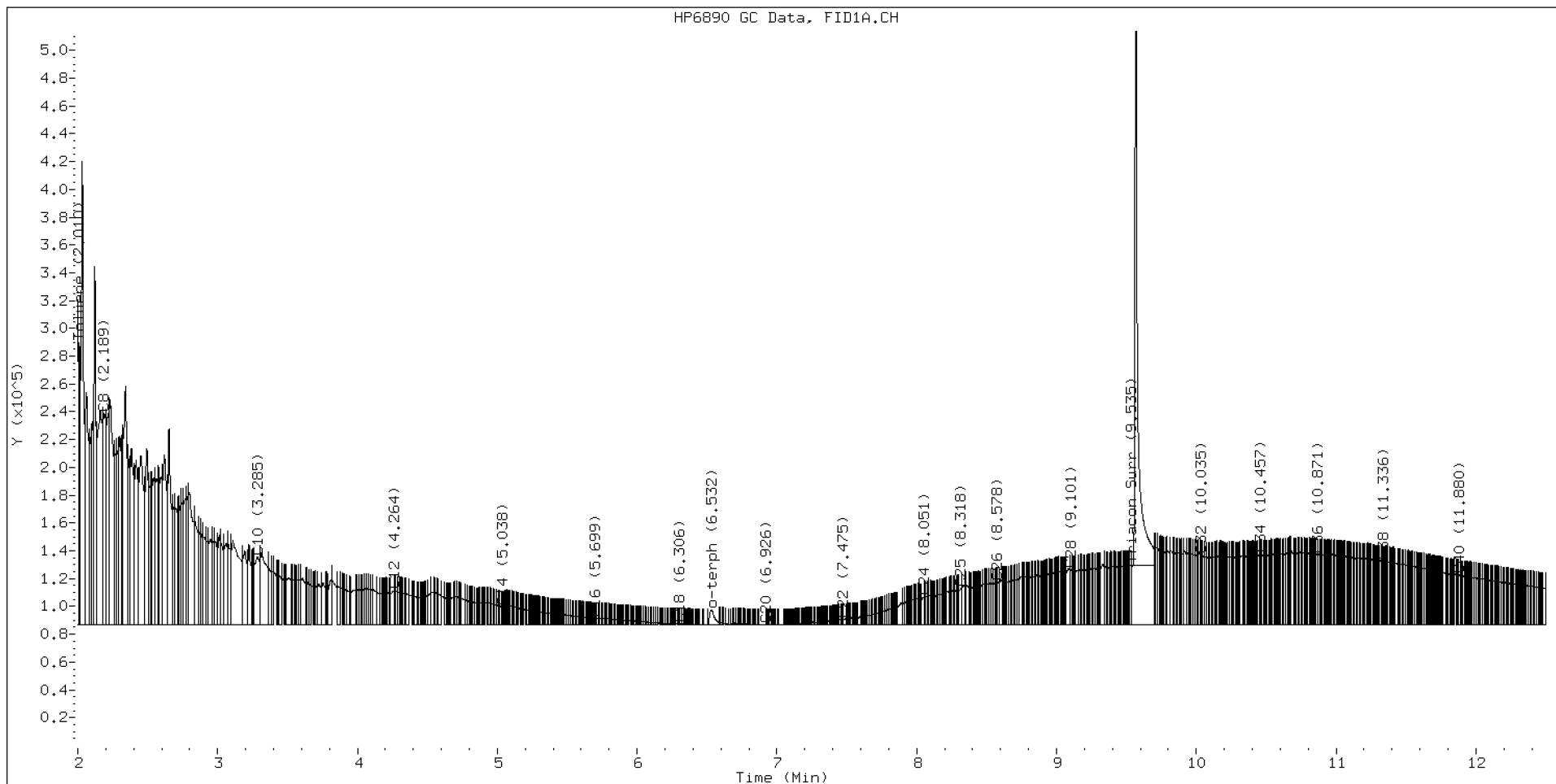
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.189	0.009	152083	238009	WATPHD	(C12-C24)	1535455	9.6
C10	3.285	-0.004	49113	104559	WATPHM	(C24-C38)	8187148	61.7
C12	4.264	0.002	24631	8600	AK102	(C10-C25)	3445901	17.6
C14	5.038	0.001	13117	3929	AK103	(C25-C36)	6705828	91.6
C16	5.699	-0.004	4845	2404	OR.DIES	(C10-C28)	5120557	26.1
C18	6.306	-0.008	853	562				
C20	6.926	0.022	403	144	JET-A	(C10-C18)	2755712	17.0
C22	7.475	-0.008	3796	753				
C24	8.051	0.006	20077	24027				
C25	8.318	-0.000	26103	25417				
C26	8.578	-0.005	30795	28994				
C28	9.101	0.007	39800	29577				
C32	10.035	0.006	50014	24947				
C34	10.457	-0.000	51363	30680				
Filter Peak	12.645	0.002	24706	12307	CREOSOT	(C12-C22)	1140595	27.7
C36	10.871	-0.000	50437	10078				
C38	11.336	0.007	45528	18190				
C40	11.880	-0.000	36310	26801				
o-terph	6.532	0.007	11031	27133				
Triacon Surr	9.568	-0.030	508463	647323	NAS DIES	(C10-C24)	3228669	16.5

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	27133	0.1
Triacontane	647323	3.6 M

M Indicates the peak was manually integrated

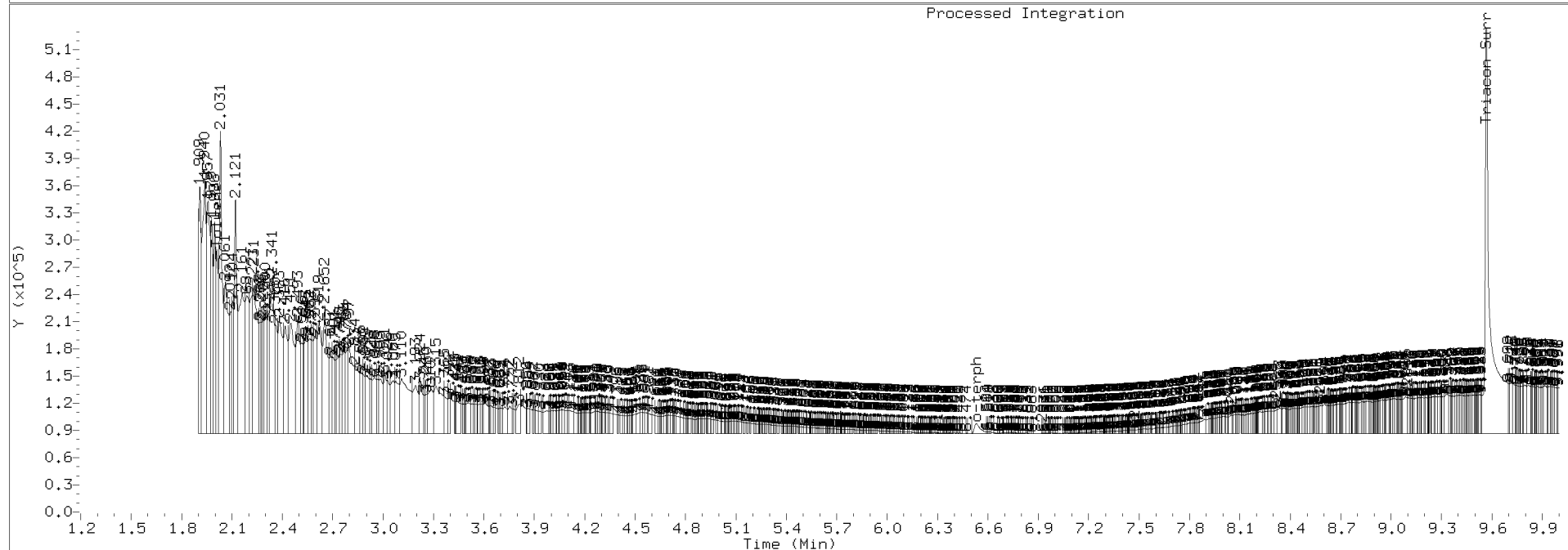
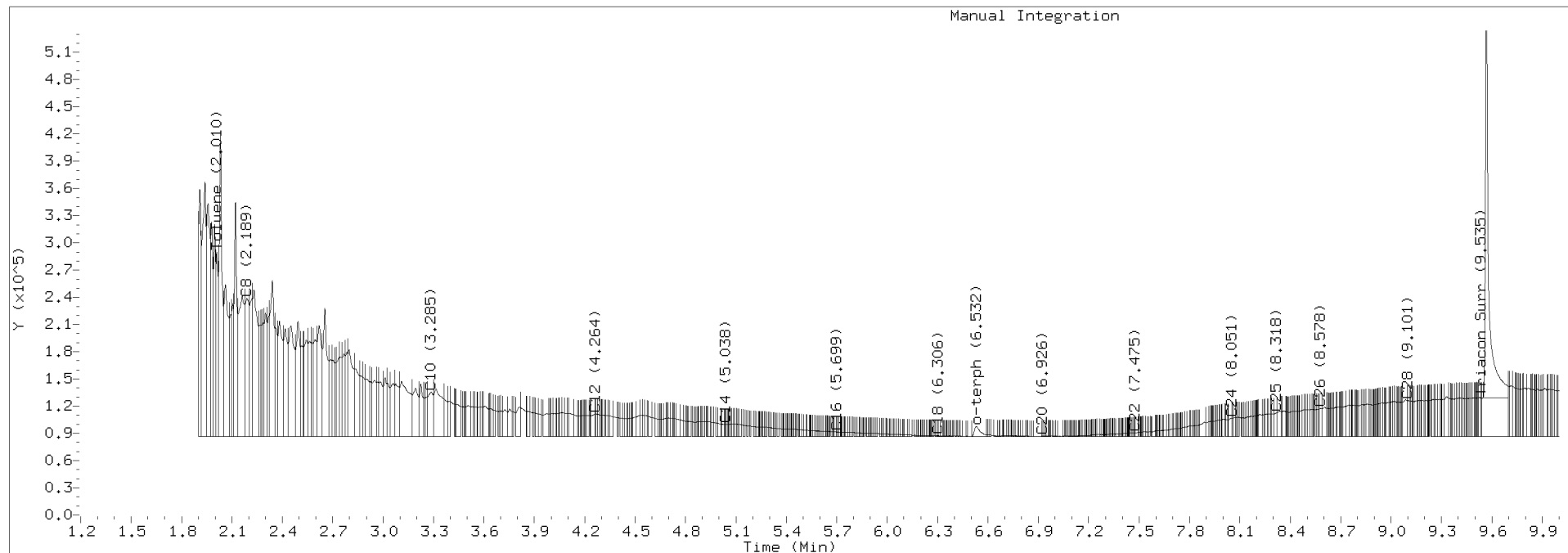
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0807.D Injection: 08-APR-2020 10:14

Lab ID:SEQ-CAL1



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010808.D

Date: 08-APR-2020 10:33

Client ID:

Sample Info: SEQ-CAL2

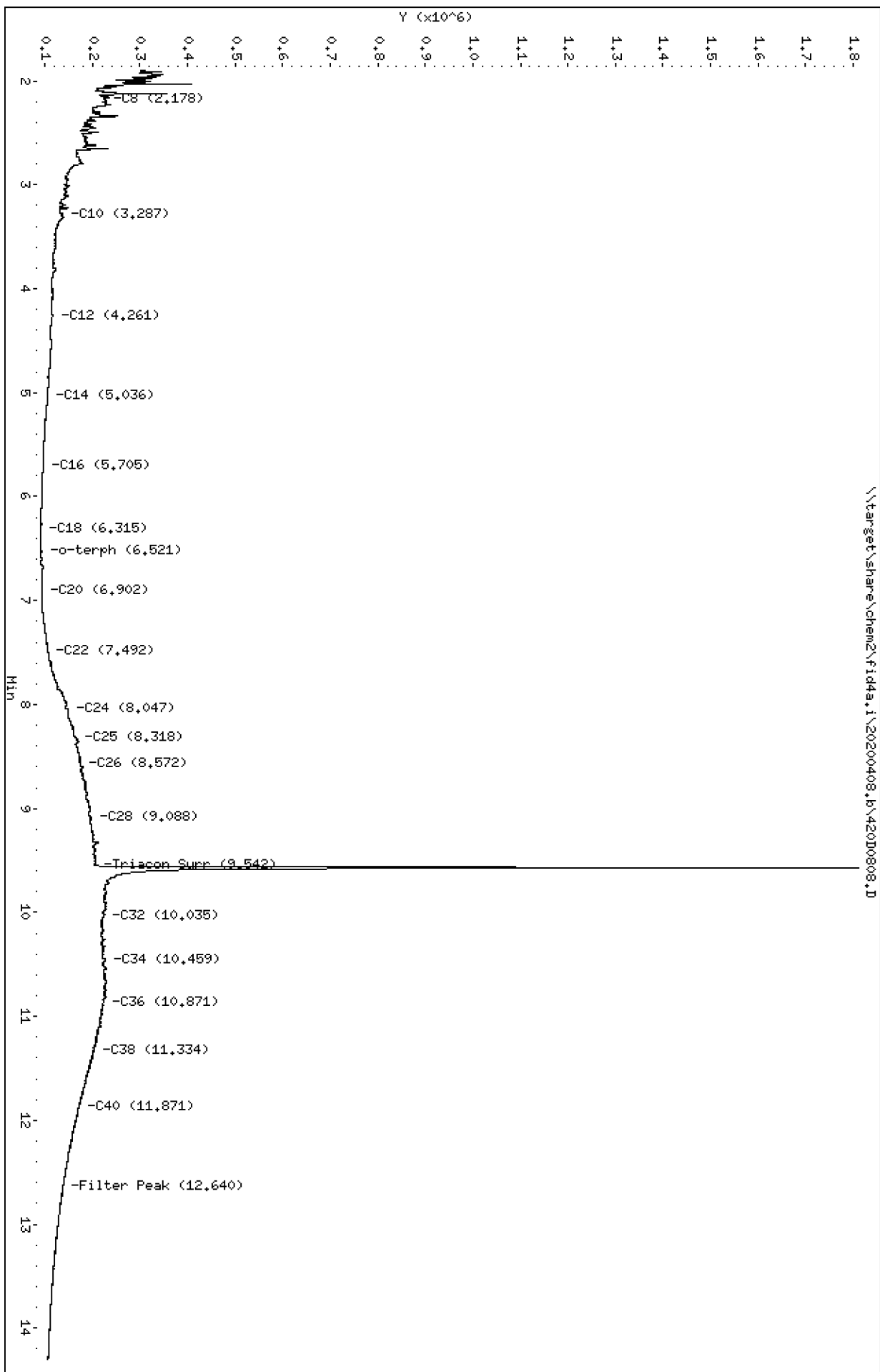
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0808.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 08-APR-2020 10:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

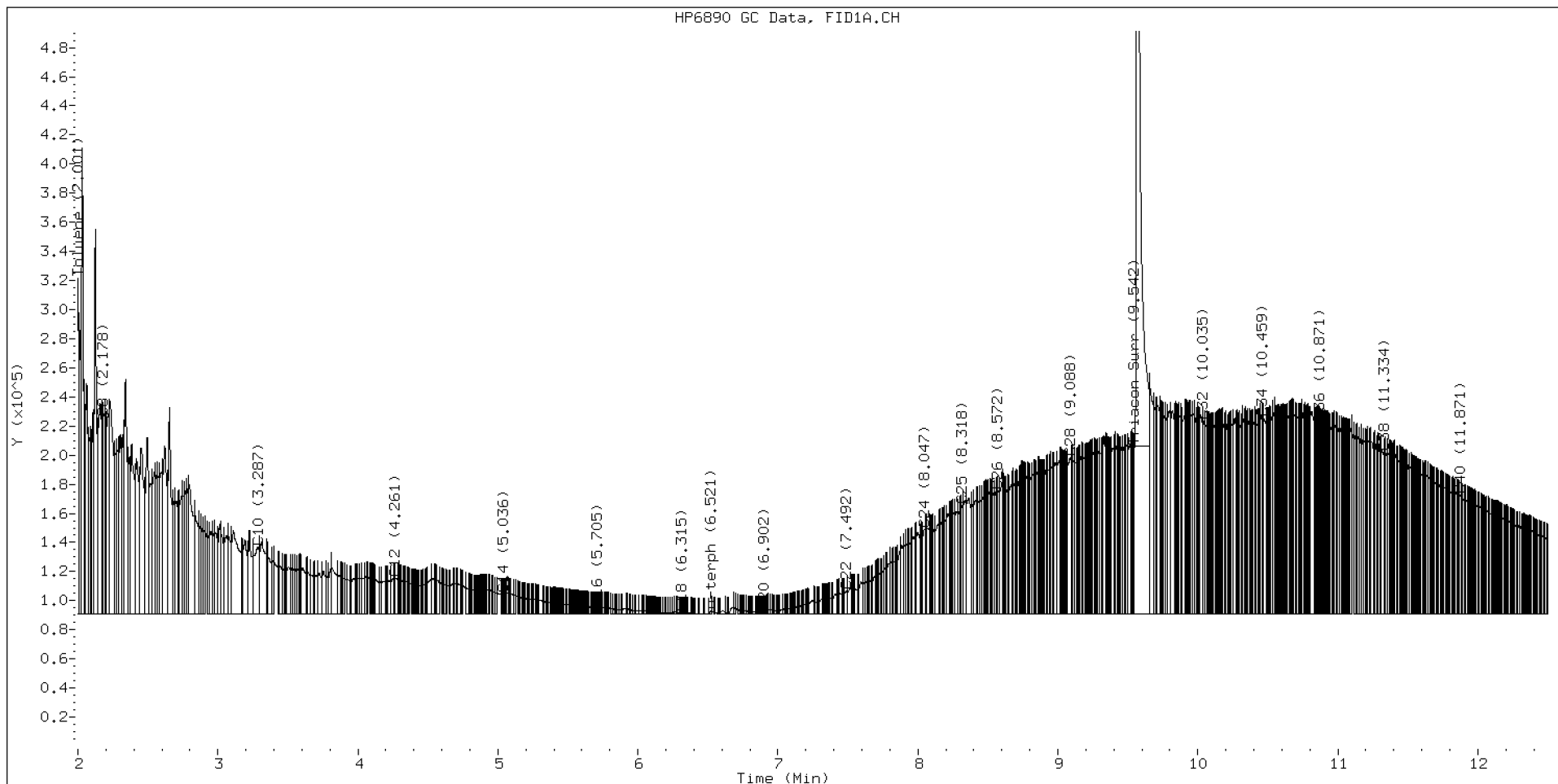
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.178	-0.002	134647	73580	WATPHD	(C12-C24)	2623184	16.5
C10	3.287	-0.002	46105	122146	WATPHM	(C24-C38)	21976708	165.7
C12	4.261	-0.002	24803	7411	AK102	(C10-C25)	4928461	25.2
C14	5.036	-0.002	13595	4064	AK103	(C25-C36)	18150509	247.9
C16	5.705	0.002	4392	1091	OR.DIES	(C10-C28)	9615128	49.1
C18	6.315	0.001	704	324				
C20	6.902	-0.002	1947	564	JET-A	(C10-C18)	2725859	16.8
C22	7.492	0.008	15580	19522				
C24	8.047	0.001	58155	84697				
C25	8.318	-0.001	74518	58671				
C26	8.572	-0.012	84650	75814				
C28	9.088	-0.006	107472	173683				
C32	10.035	0.006	132361	33044				
C34	10.459	0.002	134858	26944				
Filter Peak	12.640	-0.003	47344	30546	CREOSOT	(C12-C22)	1399069	33.9
C36	10.871	-0.001	131911	72256				
C38	11.334	0.004	111289	44355				
C40	11.871	-0.009	81830	69040				
o-terph	6.521	-0.005	2000	1847				
Triacon Surr	9.571	-0.027	1605783	1635426	NAS DIES	(C10-C24)	4280523	21.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1847	0.0
Triacontane	1635426	9.2 M

M Indicates the peak was manually integrated

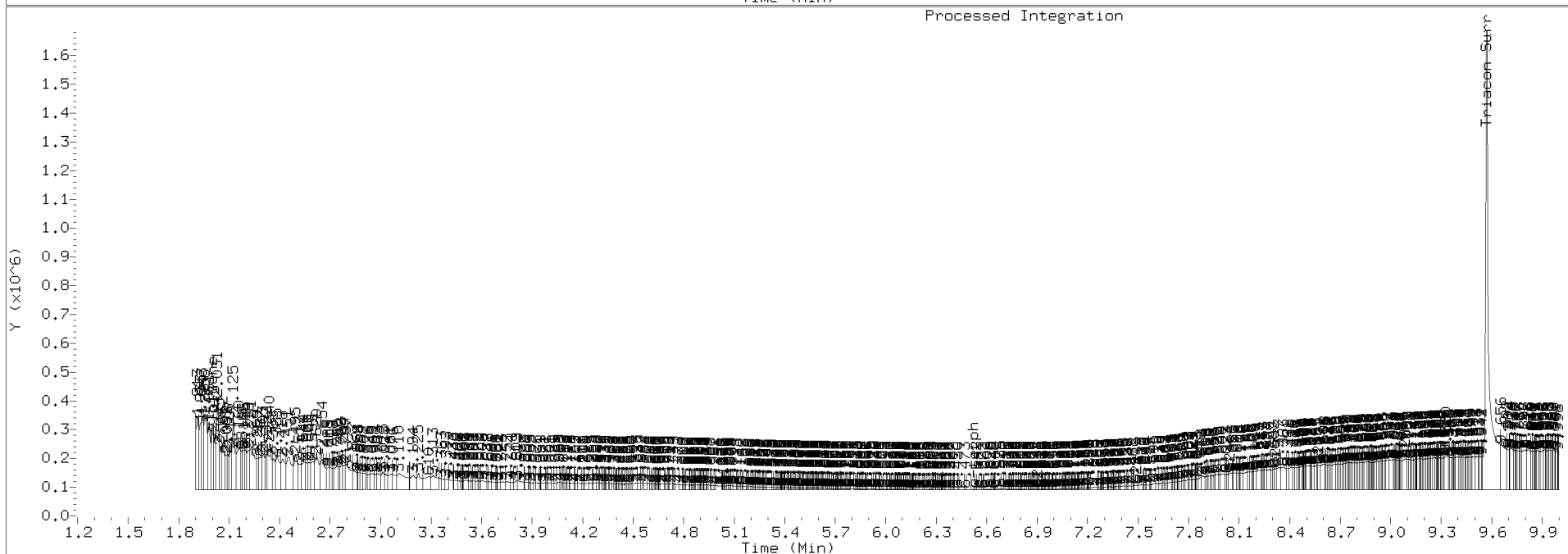
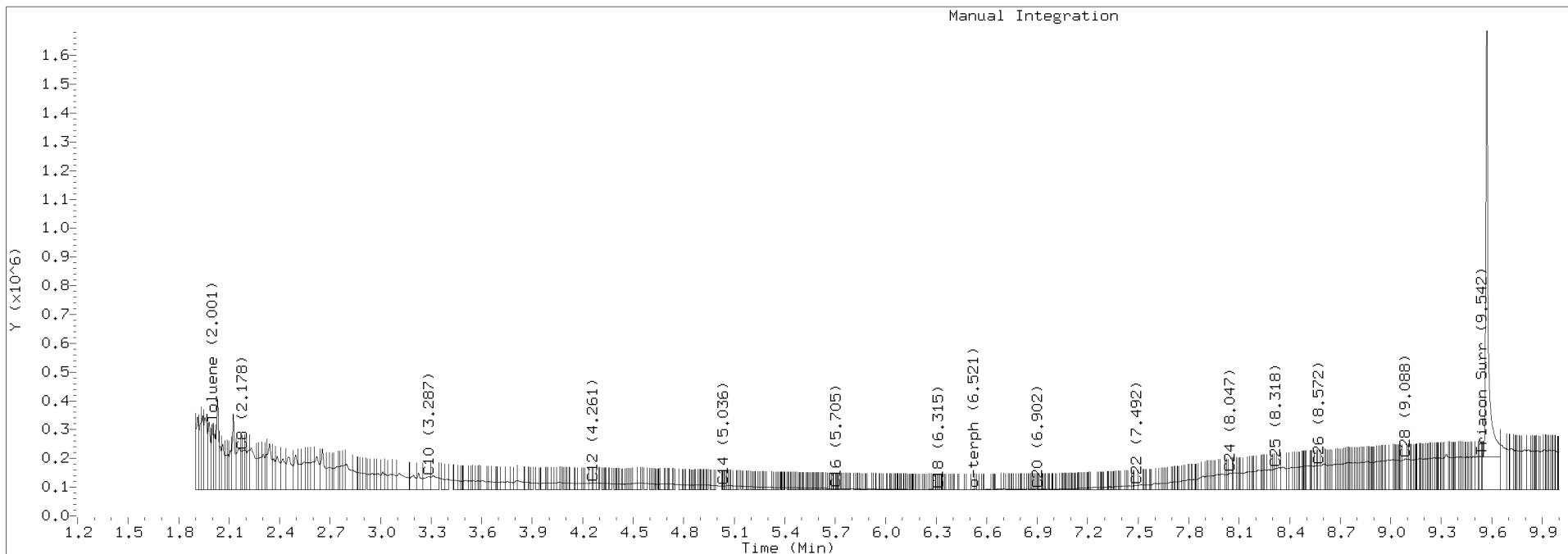
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0808.D Injection: 08-APR-2020 10:33

Lab ID:SEQ-CAL2



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0809.D

Date: 08-APR-2020 10:53

Client ID:

Sample Info: SEQ-CAL3

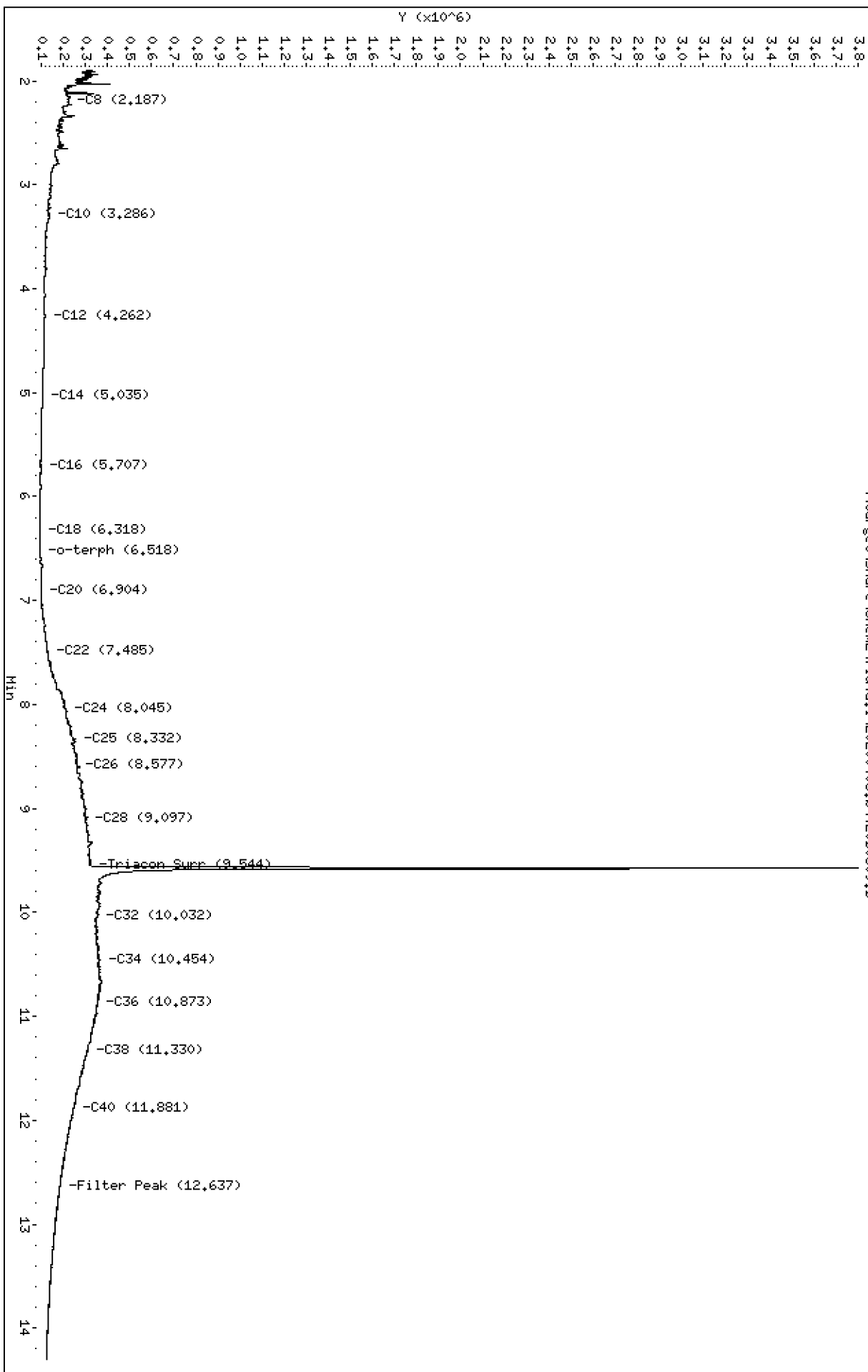
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\420D0809.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0809.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 08-APR-2020 10:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

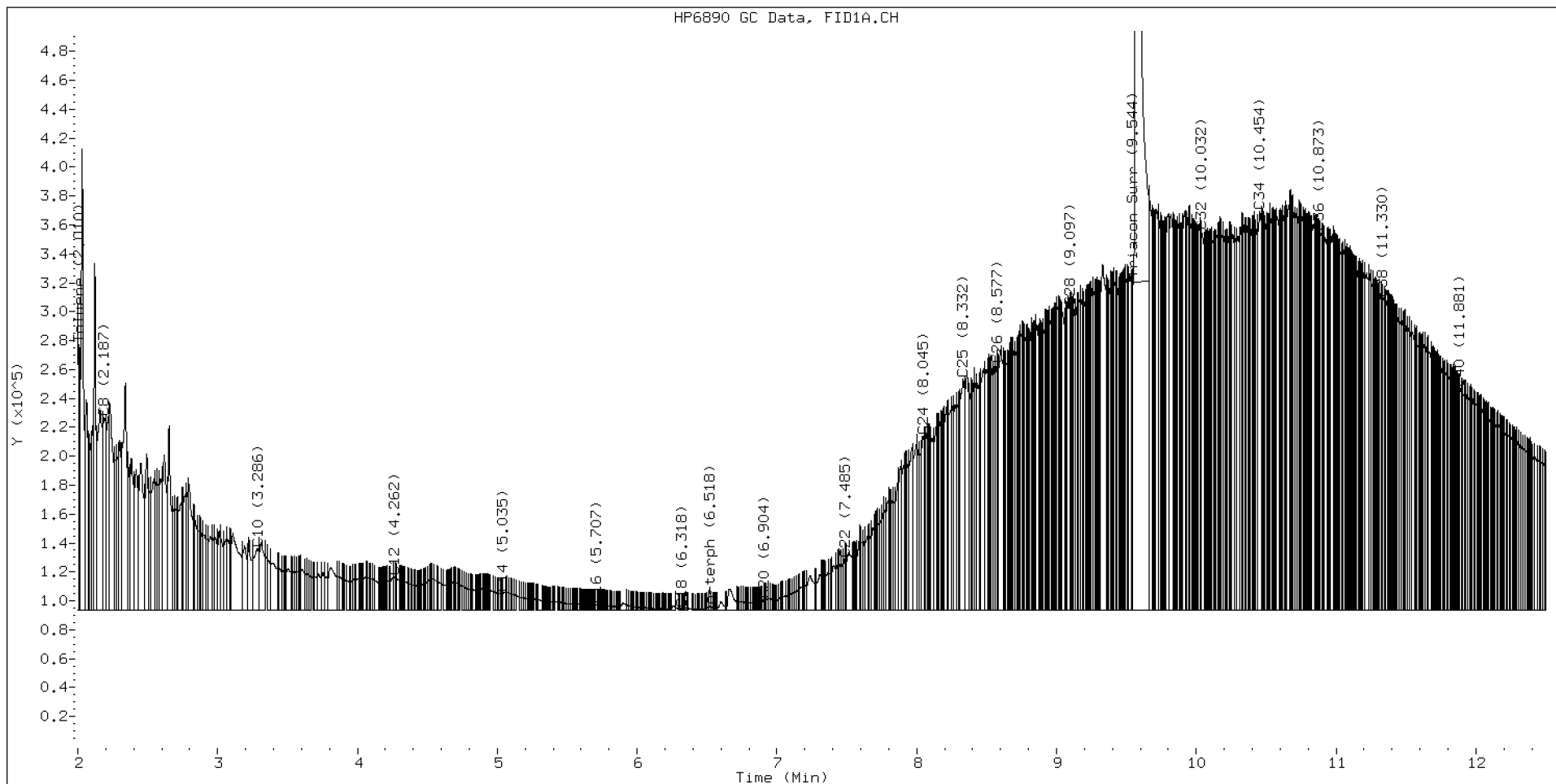
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.187	0.008	132882	207304	WATPHD	(C12-C24)	4342009	27.3
C10	3.286	-0.003	42399	113652	WATPHM	(C24-C38)	43844245	330.6
C12	4.262	-0.001	22449	12283	AK102	(C10-C25)	7087402	36.3
C14	5.035	-0.002	11190	3340	AK103	(C25-C36)	36073165	492.8
C16	5.707	0.004	3267	2527	OR.DIES	(C10-C28)	16362271	83.5
C18	6.318	0.004	681	133				
C20	6.904	0.000	6652	3976	JET-A	(C10-C18)	2369101	14.6
C22	7.485	0.002	34909	34936				
C24	8.045	-0.001	120276	161719				
C25	8.332	0.013	159437	386100				
C26	8.577	-0.007	169330	100501				
C28	9.097	0.003	209523	62632				
C32	10.032	0.003	261757	91098				
C34	10.454	-0.003	275210	390226				
Filter Peak	12.637	-0.006	90381	62764	CREOSOT	(C12-C22)	1706405	41.4
C36	10.873	0.002	261055	143153				
C38	11.330	0.000	214958	53639				
C40	11.881	0.001	152861	45740				
o-terph	6.518	-0.007	2459	1835				
Triacon Surr	9.577	-0.022	3480038	3443389	NAS DIES	(C10-C24)	5836700	29.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1835	0.0
Triacontane	3443389	19.3 M

M Indicates the peak was manually integrated

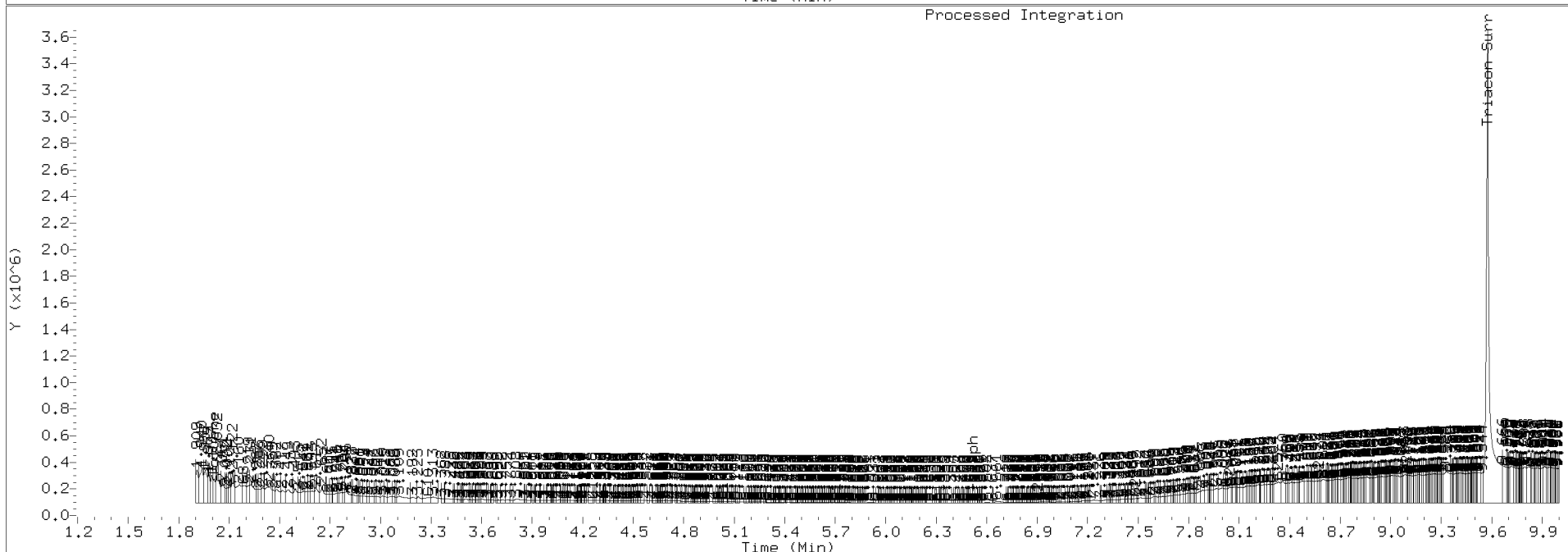
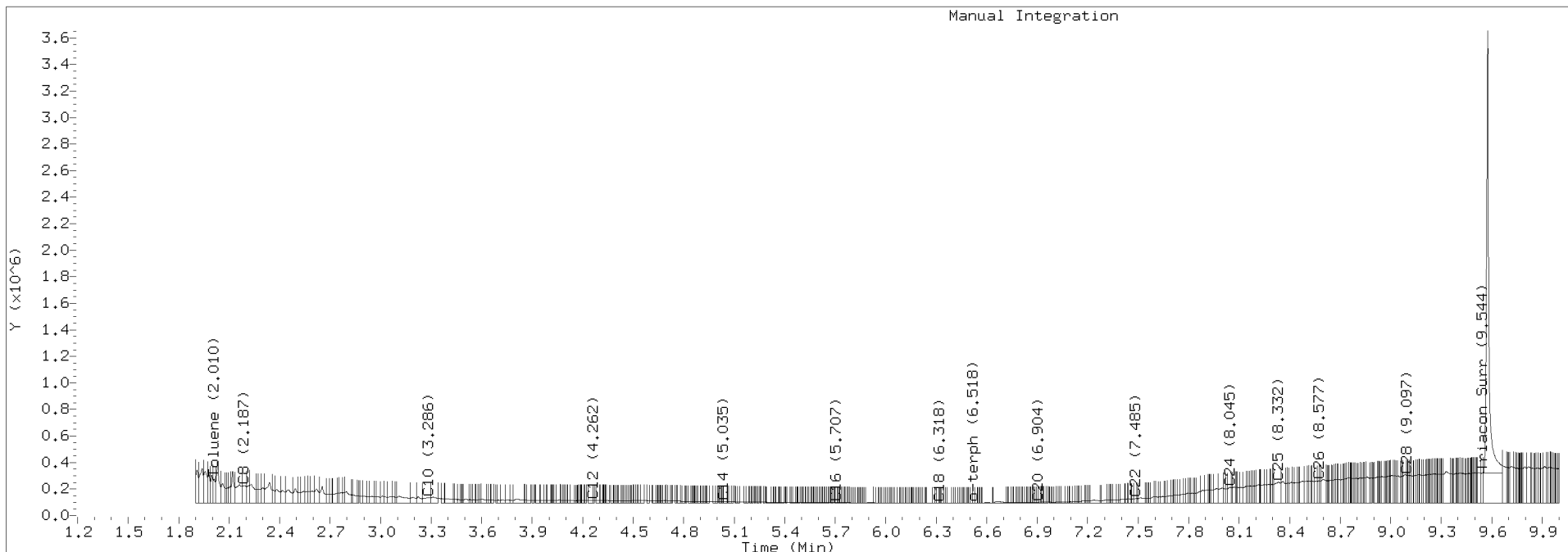
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0809.D Injection: 08-APR-2020 10:53

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010810.D
Date: 08-APR-2020 11:12

Client ID:

Sample Info: SEQ-CAL4

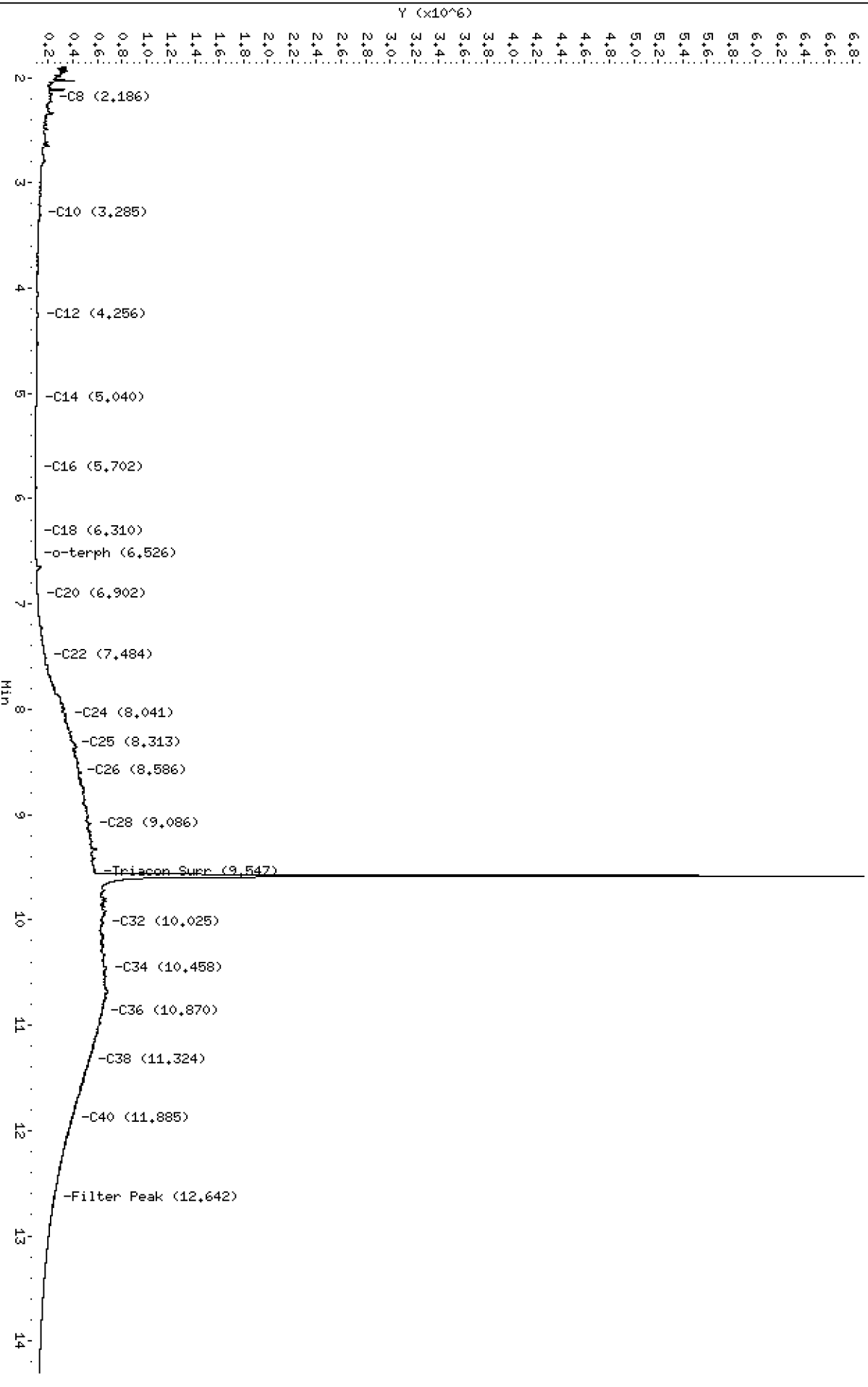
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010810.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0810.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 08-APR-2020 11:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

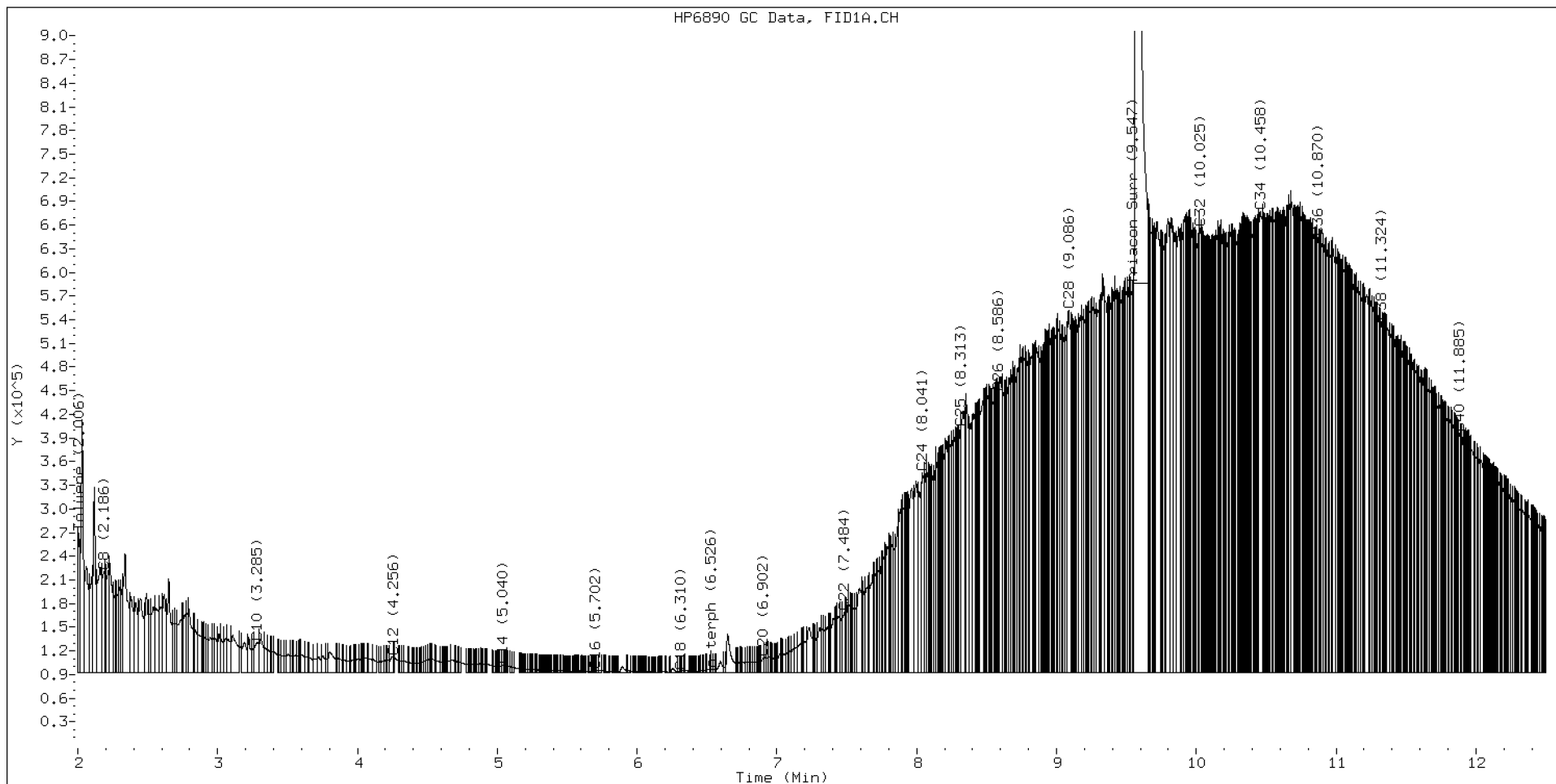
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	128234	148626	WATPHD	(C12-C24)	7988871	50.1
C10	3.285	-0.004	38172	74427	WATPHM	(C24-C38)	91762086	691.9
C12	4.256	-0.006	19290	11388	AK102	(C10-C25)	11765512	60.2
C14	5.040	0.003	8973	3968	AK103	(C25-C36)	75818758	1035.7
C16	5.702	-0.001	2111	1115	OR.DIES	(C10-C28)	31382092	160.1
C18	6.310	-0.004	1425	541				
C20	6.902	-0.002	17908	16066	JET-A	(C10-C18)	1797246	11.1
C22	7.484	0.001	76596	83679				
C24	8.041	-0.004	252638	326752				
C25	8.313	-0.005	310545	242222				
C26	8.586	0.003	355023	176377				
C28	9.086	-0.007	458742	774018				
C32	10.025	-0.004	563176	363288				
C34	10.458	0.001	584411	838839				
Filter Peak	12.642	-0.001	154787	92080	CREOSOT	(C12-C22)	2517795	61.1
C36	10.870	-0.001	551148	355915				
C38	11.324	-0.006	444543	374976				
C40	11.885	0.005	302889	255171				
o-terph	6.526	0.001	3457	1149				
Triacon Surr	9.585	-0.014	6299099	7009097	NAS DIES	(C10-C24)	9175138	47.0

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1149	0.0
Triacontane	7009097	39.4 M

M Indicates the peak was manually integrated

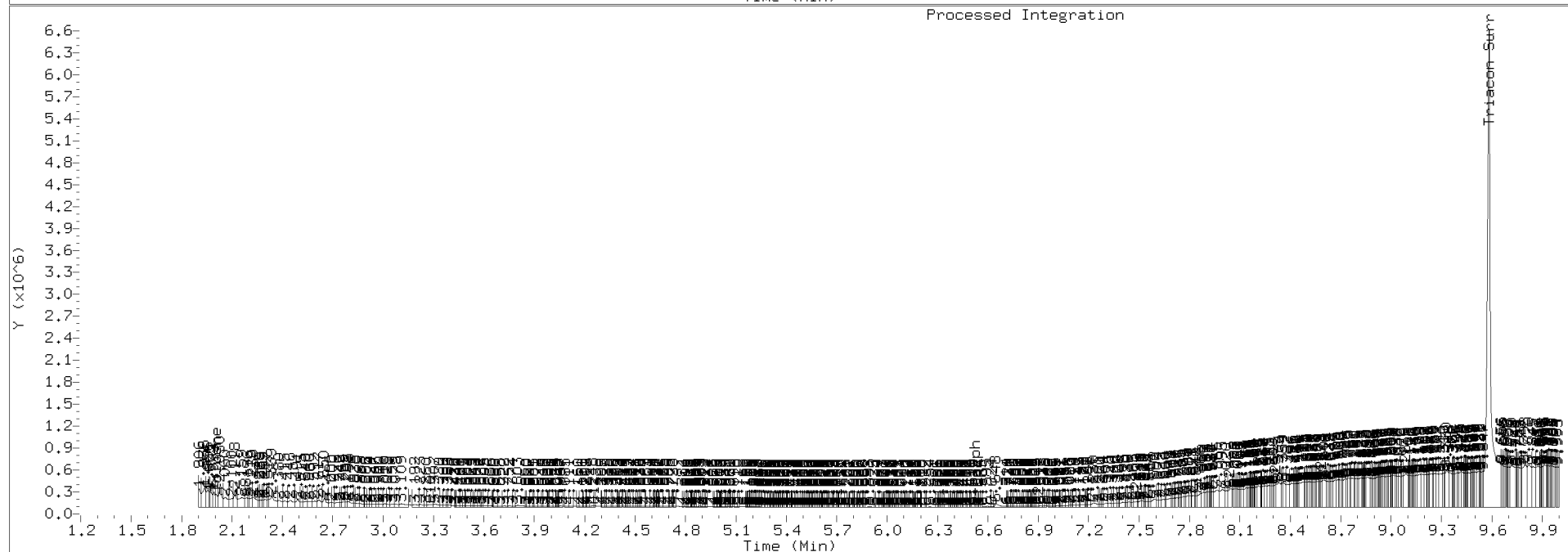
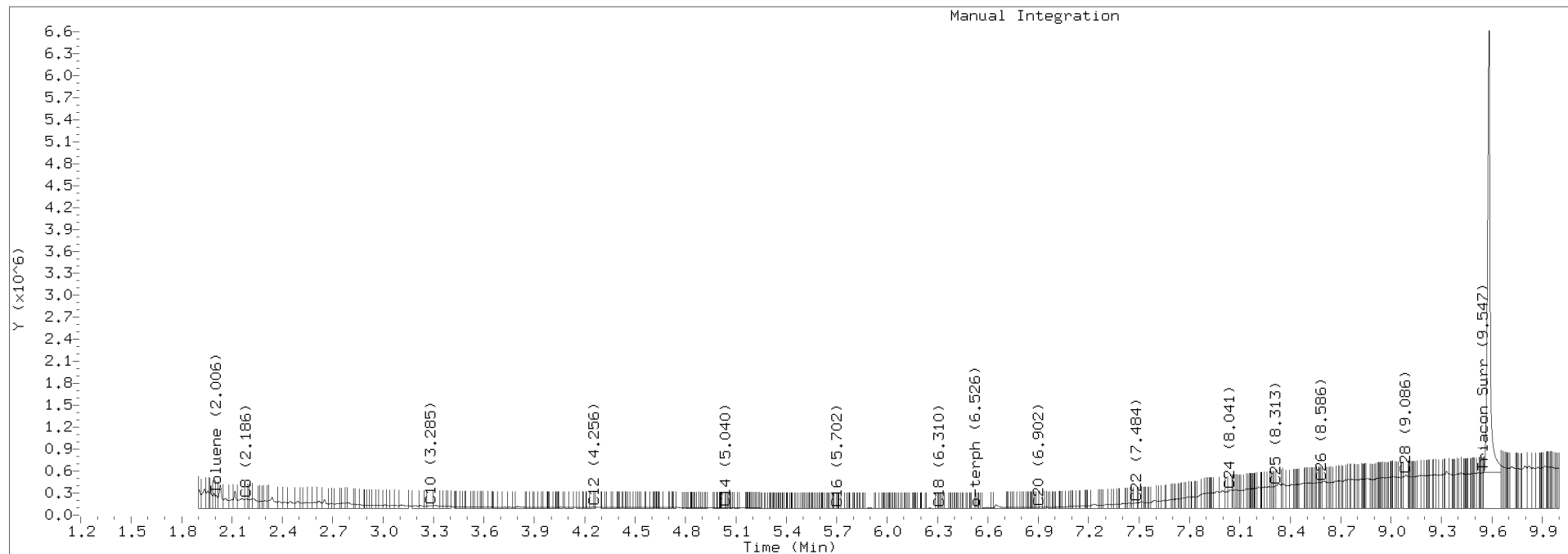
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0810.D Injection: 08-APR-2020 11:12

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200408.b\420D0811.D

Date : 08-APR-2020 11:32

Client ID:

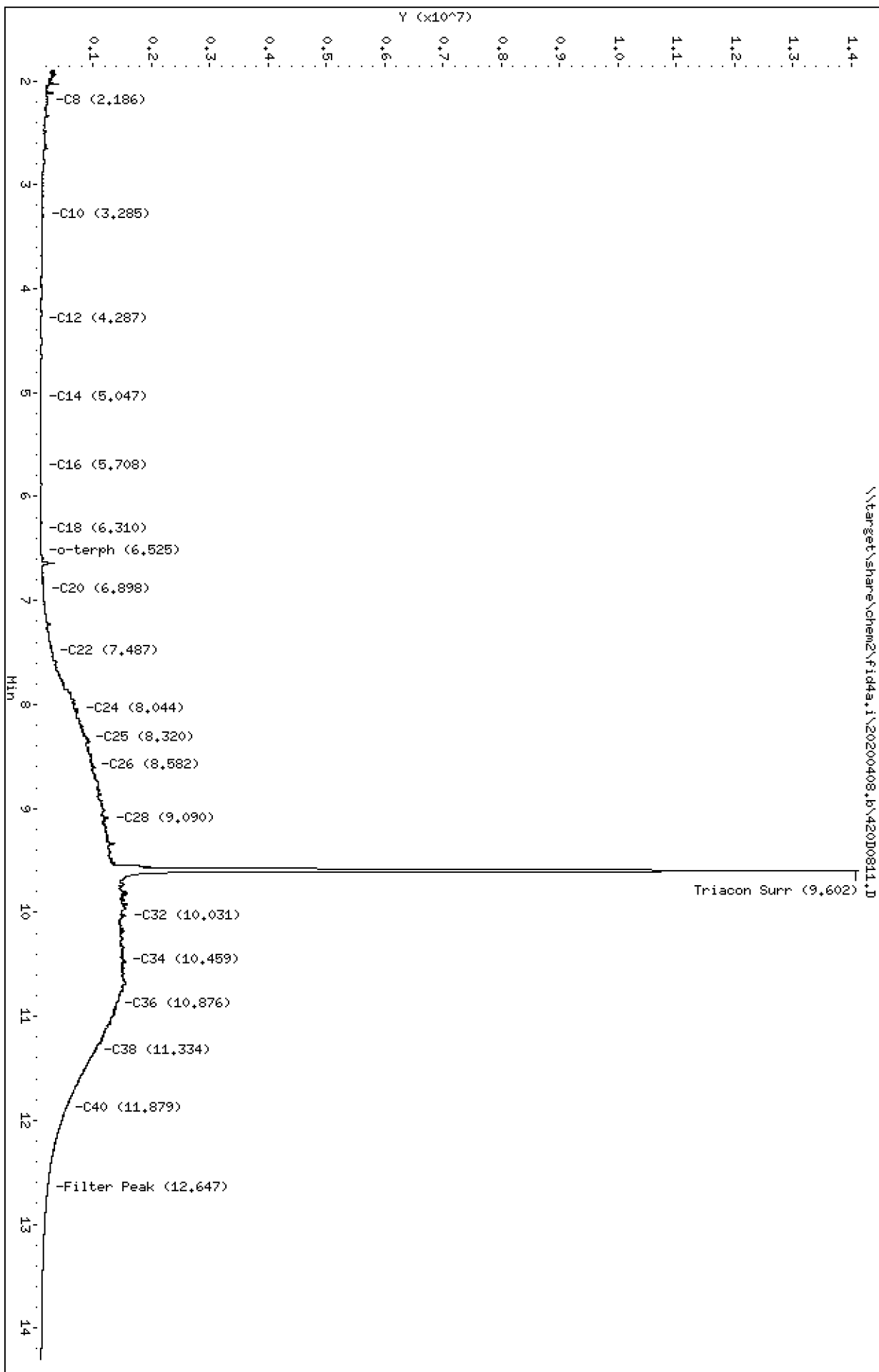
Sample Info: SEQ-CALS

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0811.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 08-APR-2020 11:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

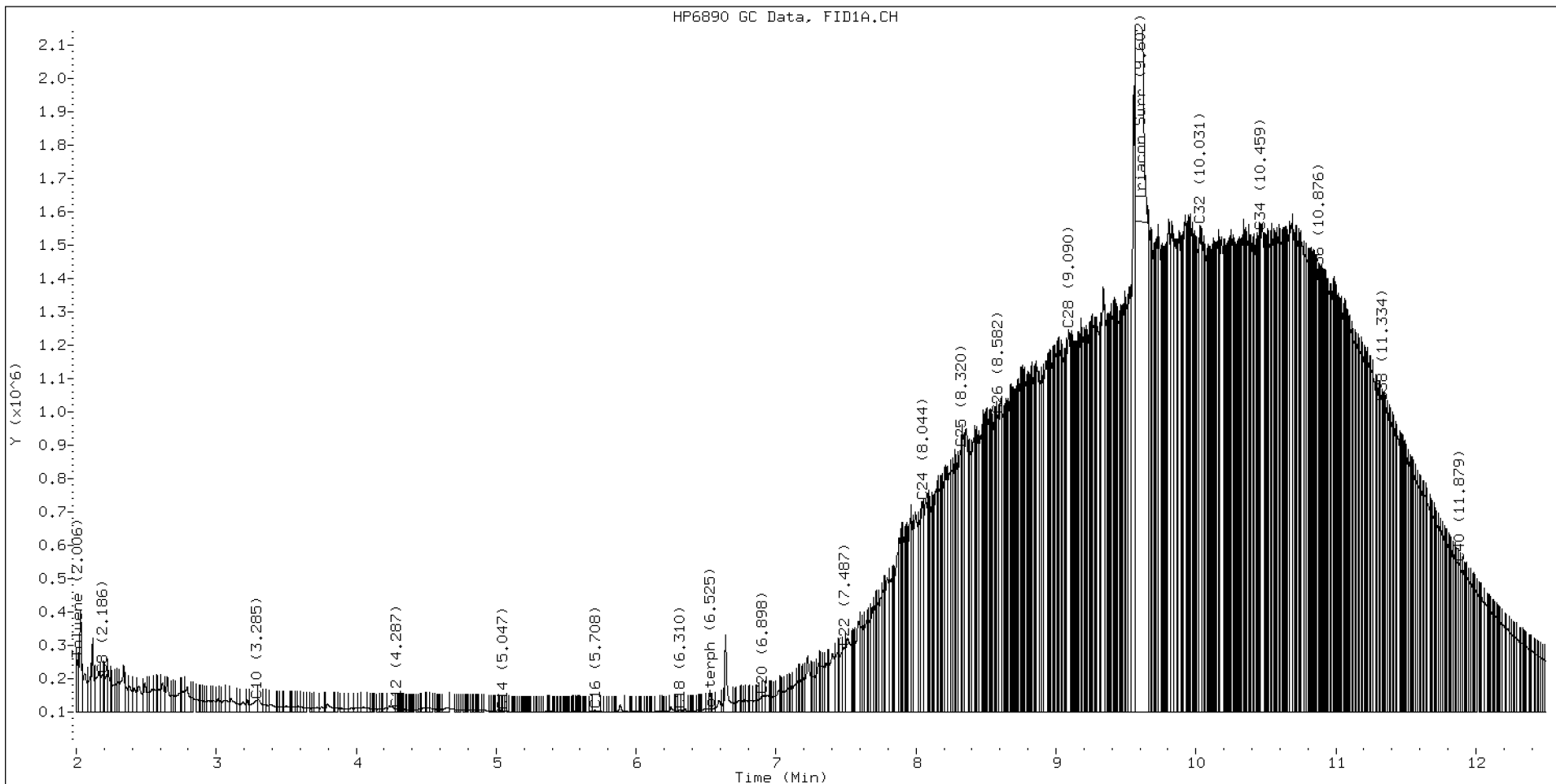
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	113560	125040	WATPHD	(C12-C24)	19771771	124.1
C10	3.285	-0.004	36541	95337	WATPHM	(C24-C38)	227849225	1717.9
C12	4.287	0.024	10394	7178	AK102	(C10-C25)	27372288	140.0
C14	5.047	0.009	4777	3830	AK103	(C25-C36)	191958289	2622.1
C16	5.708	0.004	6173	14774	OR.DIES	(C10-C28)	76383536	389.7
C18	6.310	-0.004	7574	8190				
C20	6.898	-0.006	50377	68943	JET-A	(C10-C18)	1465725	9.0
C22	7.487	0.004	195618	285006				
C24	8.044	-0.002	633495	967446				
C25	8.320	0.002	789714	921627				
C26	8.582	-0.001	892143	574635				
C28	9.090	-0.003	1146036	1667580				
C32	10.031	0.002	1460342	1849029				
C34	10.459	0.001	1442041	715490				
Filter Peak	12.647	0.004	121440	172075	CREOSOT	(C12-C22)	5678297	137.7
C36	10.876	0.004	1305970	520950				
C38	11.334	0.004	930225	554909				
C40	11.879	-0.001	446132	330870				
o-terph	6.525	-0.001	10861	10718				
Triacon Surr	9.602	0.004	12555669	16658090	NAS DIES	(C10-C24)	20733131	106.2

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	10718	0.1
Triacontane	16658090	93.6 M

M Indicates the peak was manually integrated

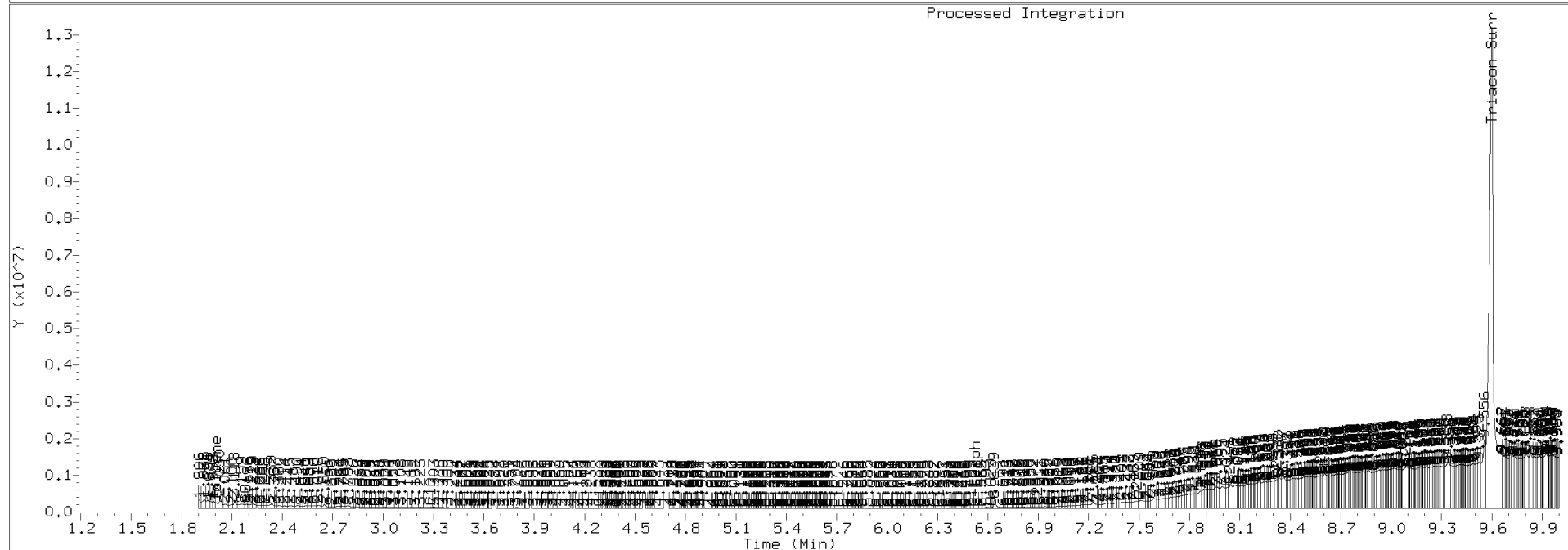
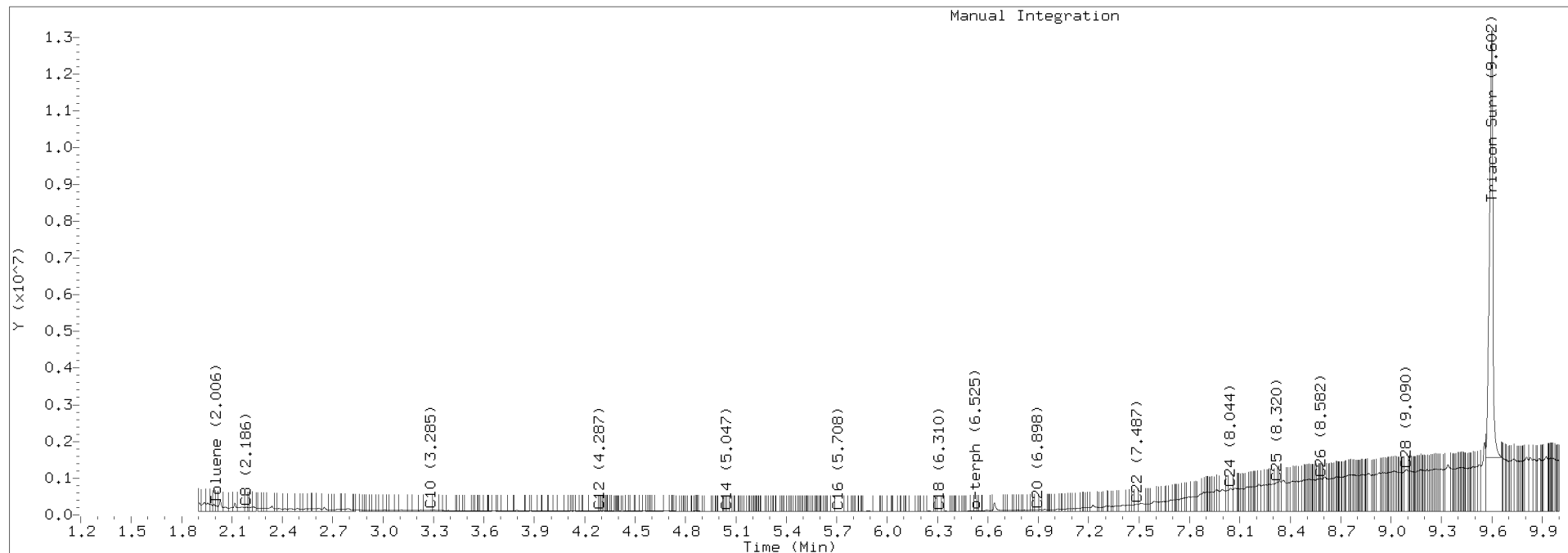
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0811.D Injection: 08-APR-2020 11:32

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010812.D

Date : 08-APR-2020 11:51

Client ID:

Sample Info: SED-CAL6

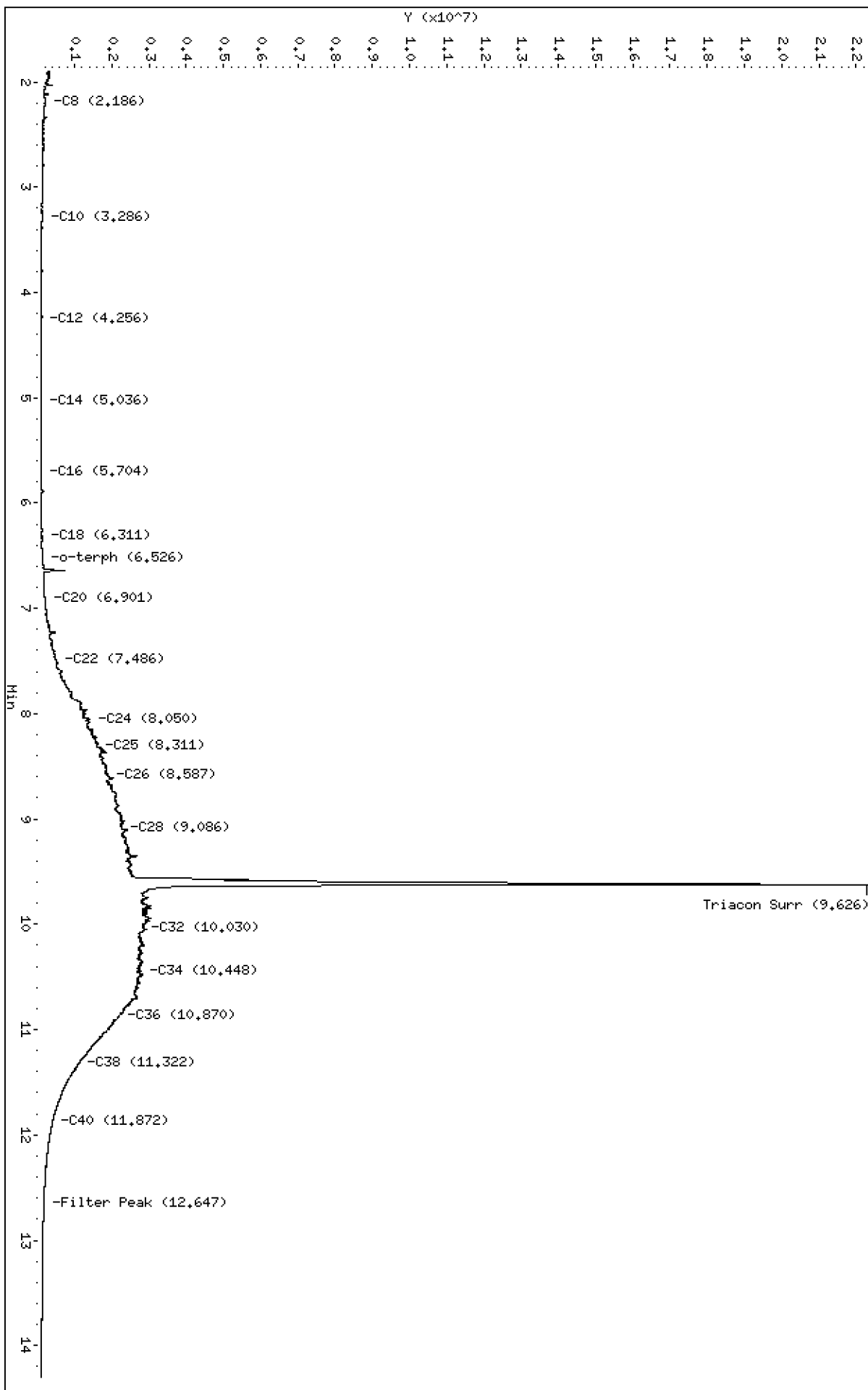
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010812.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0812.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 08-APR-2020 11:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

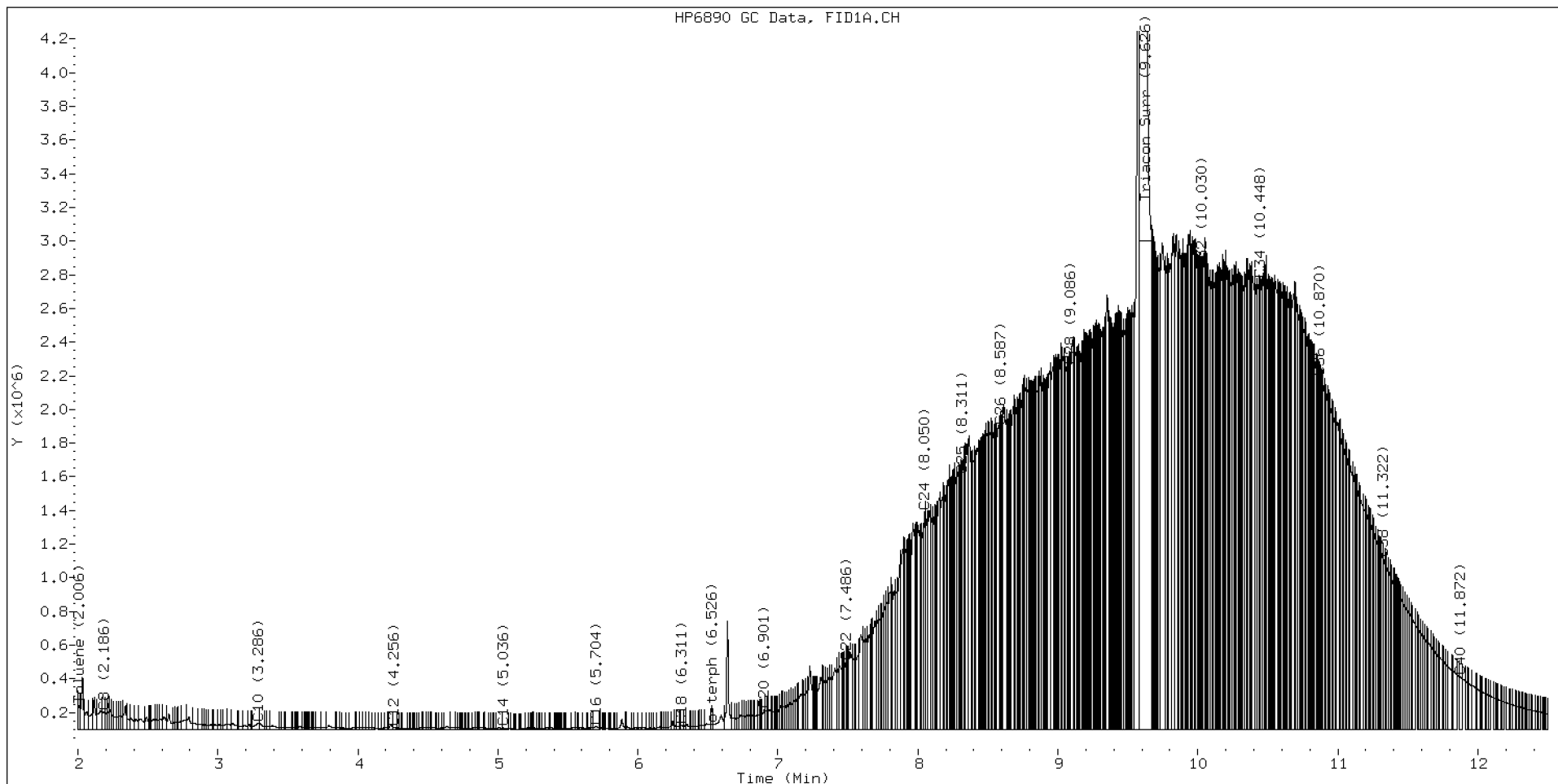
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	104064	109223	WATPHD	(C12-C24)	40416857	253.7
C10	3.286	-0.003	36956	80325	WATPHM	(C24-C38)	424850865	3203.2
C12	4.256	-0.007	12507	16346	AK102	(C10-C25)	54410917	278.3
C14	5.036	-0.001	8003	15931	AK103	(C25-C36)	374151503	5110.9
C16	5.704	0.001	16810	29811	OR.DIES	(C10-C28)	152172505	776.4
C18	6.311	-0.003	24372	26022				
C20	6.901	-0.003	112613	157357	JET-A	(C10-C18)	1722106	10.6
C22	7.486	0.002	399638	286806				
C24	8.050	0.004	1290743	1158755				
C25	8.311	-0.007	1510553	527958				
C26	8.587	0.004	1796919	714430				
C28	9.086	-0.007	2157837	862033				
C32	10.030	0.001	2725510	951638				
C34	10.448	-0.009	2673996	2899255				
Filter Peak	12.647	0.004	73309	79546	CREOSOT	(C12-C22)	11787364	285.8
C36	10.870	-0.002	2091703	1355589				
C38	11.322	-0.008	1014606	947975				
C40	11.872	-0.008	311238	395324				
o-terph	6.526	0.001	31009	30512				
Triacon Surr	9.626	0.028	19358318	32512150	NAS DIES	(C10-C24)	41151308	210.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	30512	0.1
Triacontane	32512150	182.7 M

M Indicates the peak was manually integrated

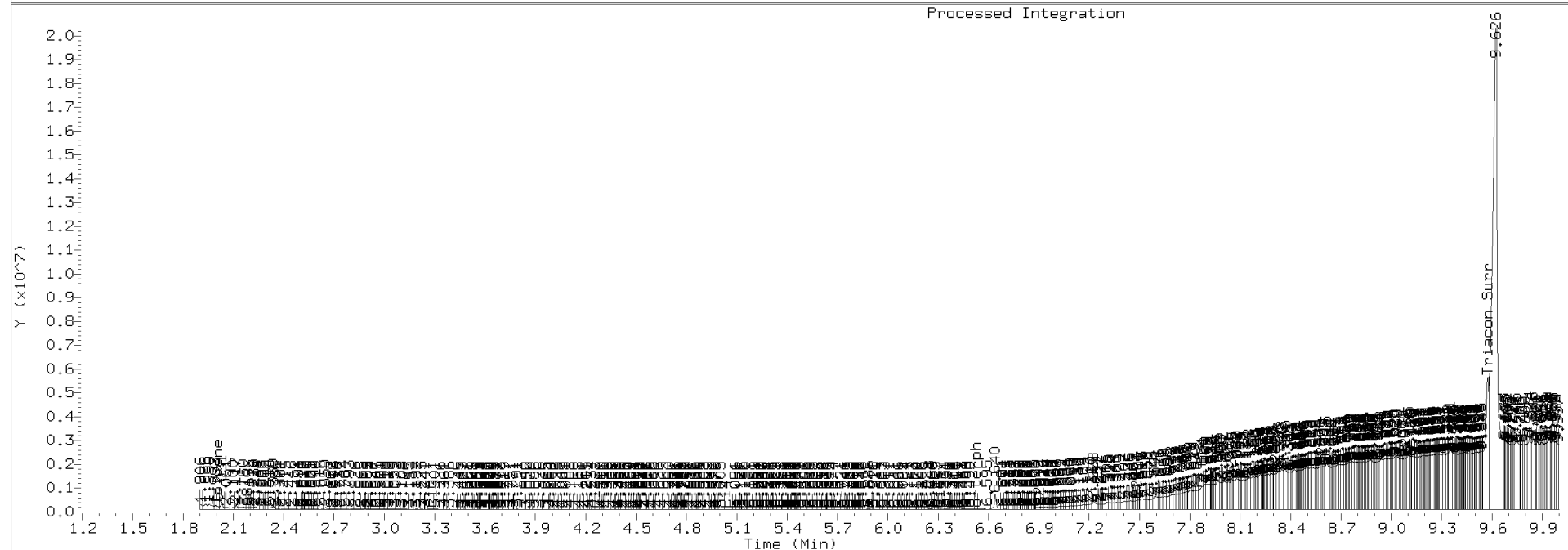
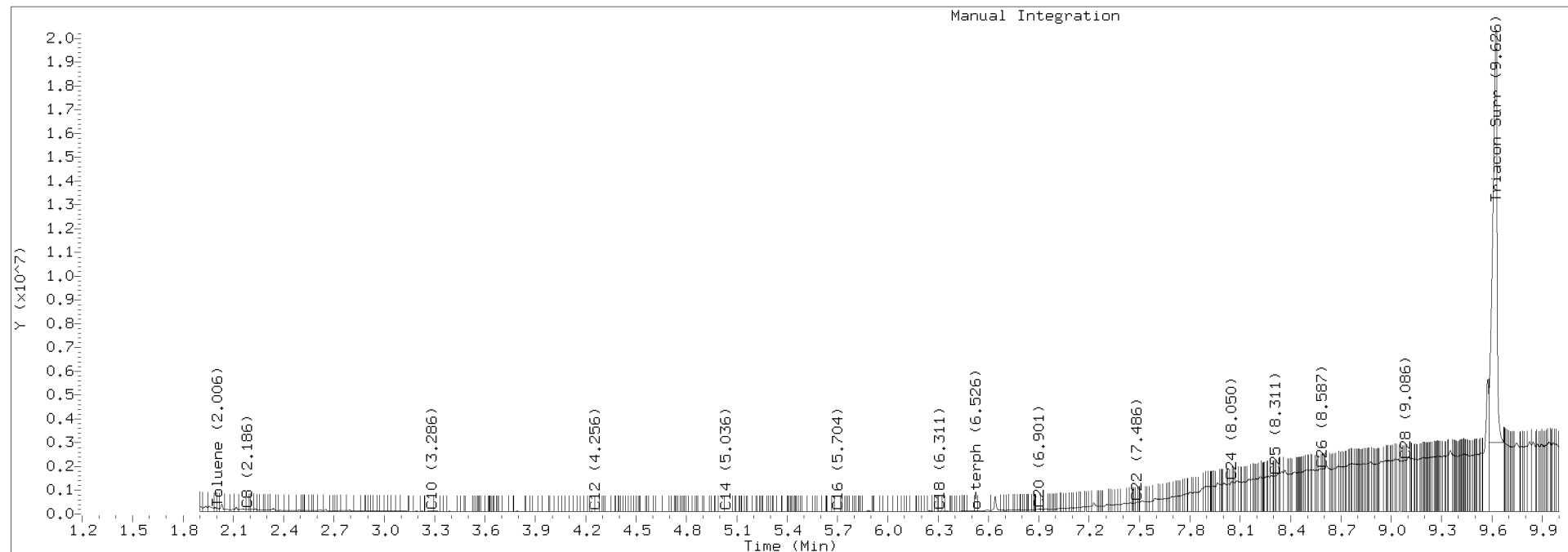
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0812.D Injection: 08-APR-2020 11:51

Lab ID:SEQ-CAL6





ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIE0162-IBL1	QC		1		H010802			
SIE0162-IBL2	QC		2		I000651			
SIE0162-ICV1	QC		3		I002687			
SIE0162-ICV2	QC		4		H010706			
BIE0305-BLK1	QC		5					
BIE0305-BS1	QC		6					
BIE0305-BSD1	QC		7					
20E0185-01	PH NW (Extractables) low lev	A 02	8				The Boeing Company [Auburn]	
SIE0162-CCV1	QC		9		I002687			
SIE0162-CCV2	QC		10		H010706			
SIE0162-CAL1	QC		11		H011231			
BIE0254-BLK1	QC		12					
BIE0254-BS1	QC		13					
BIE0254-BSD1	QC		14					
20E0096-02	PH NW (Extractables) low lev	A 01	15				The Boeing Company	
20E0096-04	PH NW (Extractables) low lev	A 01	16				The Boeing Company	
20E0096-06	PH NW (Extractables) low lev	A 01	17				The Boeing Company	
20E0096-08	PH NW (Extractables) low lev	A 01	18				The Boeing Company	
20E0096-10	PH NW (Extractables) low lev	A 01	19				The Boeing Company	
20E0096-12	PH NW (Extractables) low lev	A 01	20				The Boeing Company	
20E0096-14	PH NW (Extractables) low lev	A 01	21				The Boeing Company	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20E0096-16	PH NW (Extractables) low lev	A 01	22				The Boeing Company	
BIE0254-MS1	QC		23					
BIE0254-MSD1	QC		24					
SIE0162-CCV3	QC		25		I002687			
SIE0162-CCV4	QC		26		H010706			
SIE0162-CCV5	QC		27		H011231			
20E0096-18	PH NW (Extractables) low lev	A 01	28				The Boeing Company	
20E0096-20	PH NW (Extractables) low lev	A 01	29				The Boeing Company	
20E0096-22	PH NW (Extractables) low lev	A 01	30				The Boeing Company	
BIE0248-BLK1	QC		31					
BIE0248-BS1	QC		32					
BIE0248-BSD1	QC		33					
20E0096-01	PH NW (Extractables) low lev	A 01	34				The Boeing Company	
20E0096-03	PH NW (Extractables) low lev	A 01	35				The Boeing Company	
20E0096-05	PH NW (Extractables) low lev	A 01	36				The Boeing Company	
20E0096-07	PH NW (Extractables) low lev	A 01	37				The Boeing Company	
20E0096-09	PH NW (Extractables) low lev	A 01	38				The Boeing Company	
SIE0162-CCV6	QC		39		I002687			
SIE0162-CCV7	QC		40		H010706			
SIE0162-CCV8	QC		41		H011231			
20E0096-11	PH NW (Extractables) low lev	A 01	42				The Boeing Company	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
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20E0096-15	PH NW (Extractables) low lev	A 01	44				The Boeing Company	
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BIE0248-MSD1	QC		46					
20E0096-17	PH NW (Extractables) low lev	B 01	47				The Boeing Company	
20E0096-19	PH NW (Extractables) low lev	A 01	48				The Boeing Company	
20E0096-21	PH NW (Extractables) low lev	A 01	49				The Boeing Company	
BIE0282-BLK1	QC		50					
BIE0282-BS1	QC		51					
BIE0282-BSD1	QC		52					
20E0151-01	PH NW (Extractables) low lev	F 01	53				The Boeing Company [North Boeing Field]	
20E0160-01	PH NW (Extractables) low lev	C 01	54				Davis Wire Corporation	
SIE0162-CCV9	QC		55		I002687			
SIE0162-CCVA	QC		56		H010706			
SIE0162-CCVB	QC		57		H011231			

Samples Loaded By

Date

Data Processed By

Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	19-MAY-2020	06:44	420E1901.D	1	RINSE	
2	19-MAY-2020	07:03	420E1902.D	1	RINSE	
3	19-MAY-2020	07:23	420E1903.D	1	SIE0162-IBL1	
4	19-MAY-2020	07:42	420E1904.D	1	SIE0162-IBL2	
5	19-MAY-2020	08:02	420E1905.D	1	SIE0162-ICV1	
6	19-MAY-2020	08:21	420E1906.D	1	SIE0162-ICV2	
7	19-MAY-2020	08:41	420E1907.D	1	BIE0305-BLK1	
8	19-MAY-2020	09:00	420E1908.D	1	BIE0305-BS1	
9	19-MAY-2020	09:20	420E1909.D	1	BIE0305-BSD1	
10	19-MAY-2020	09:39	420E1910.D	1	20E0185-01	
11	19-MAY-2020	09:59	420E1911.D	1	SIE0162-CCV1	
12	19-MAY-2020	10:19	420E1912.D	1	SIE0162-CCV2	
13	19-MAY-2020	11:05	420E1913.D	1	SIE0162-CAL1	
14	19-MAY-2020	11:24	420E1914.D	1	BIE0254-BLK1	
15	19-MAY-2020	11:44	420E1915.D	1	BIE0254-BS1	
16	19-MAY-2020	12:03	420E1916.D	1	BIE0254-BSD1	
17	19-MAY-2020	12:23	420E1917.D	1	20E0096-02	
18	19-MAY-2020	12:43	420E1918.D	1	20E0096-04	
19	19-MAY-2020	13:02	420E1919.D	1	20E0096-06	
20	19-MAY-2020	13:22	420E1920.D	1	20E0096-08	
21	19-MAY-2020	13:42	420E1921.D	1	20E0096-10	
22	19-MAY-2020	14:01	420E1922.D	1	20E0096-12	
23	19-MAY-2020	14:21	420E1923.D	1	20E0096-14	
24	19-MAY-2020	14:41	420E1924.D	1	20E0096-16	
25	19-MAY-2020	15:00	420E1925.D	1	BIE0254-MS1	
26	19-MAY-2020	15:20	420E1926.D	1	BIE0254-MSD1	
27	19-MAY-2020	15:40	420E1927.D	1	SIE0162-CCV3	
28	19-MAY-2020	15:59	420E1928.D	1	SIE0162-CCV4	
29	19-MAY-2020	16:19	420E1929.D	1	SIE0162-CCV5	
30	19-MAY-2020	16:39	420E1930.D	1	20E0096-18	
31	19-MAY-2020	16:58	420E1931.D	1	20E0096-20	
32	19-MAY-2020	17:18	420E1932.D	1	20E0096-22	
33	19-MAY-2020	17:37	420E1933.D	1	BIE0248-BLK1	
34	19-MAY-2020	17:57	420E1934.D	1	BIE0248-BS1	
35	19-MAY-2020	18:16	420E1935.D	1	BIE0248-BSD1	
36	19-MAY-2020	18:36	420E1936.D	1	20E0096-01	
37	19-MAY-2020	18:55	420E1937.D	1	20E0096-03	
38	19-MAY-2020	19:15	420E1938.D	1	20E0096-05	
39	19-MAY-2020	19:34	420E1939.D	1	20E0096-07	
40	19-MAY-2020	19:54	420E1940.D	1	20E0096-09	
41	19-MAY-2020	20:13	420E1941.D	1	SIE0162-CCV6	
42	19-MAY-2020	20:33	420E1942.D	1	SIE0162-CCV7	
43	19-MAY-2020	20:52	420E1943.D	1	SIE0162-CCV8	
44	19-MAY-2020	21:12	420E1944.D	1	20E0096-11	
45	19-MAY-2020	21:31	420E1945.D	1	20E0096-13	
46	19-MAY-2020	21:50	420E1946.D	1	20E0096-15	
47	19-MAY-2020	22:10	420E1947.D	1	BIE0248-MS1	
48	19-MAY-2020	22:29	420E1948.D	1	BIE0248-MSD1	
49	19-MAY-2020	22:49	420E1949.D	1	20E0096-17	
50	20-MAY-2020	23:08	420E1950.D	1	20E0096-19	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	20-MAY-2020	23:28	420E1951.D	1	20E0096-21	
52	20-MAY-2020	23:47	420E1952.D	1	BIE0282-BLK1	
53	20-MAY-2020	00:07	420E1953.D	1	BIE0282-BS1	
54	20-MAY-2020	00:26	420E1954.D	1	BIE0282-BSD1	
55	20-MAY-2020	00:46	420E1955.D	1	20E0151-01	
56	20-MAY-2020	01:05	420E1956.D	1	20E0160-01	
57	20-MAY-2020	01:25	420E1957.D	1	SIE0162-CCV9	
58	20-MAY-2020	01:44	420E1958.D	1	SIE0162-CCVA	
59	20-MAY-2020	02:03	420E1959.D	1	SIE0162-CCVB	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 19-MAY-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0644	420E1901.D	RINSE		1	o-terph,
0703	420E1902.D	RINSE		1	Triacon Surr,
0723	420E1903.D	SIE0162-IBL1		1	NO MANUAL INTEGRATION
0742	420E1904.D	SIE0162-IBL2		1	NO MANUAL INTEGRATION
0802	420E1905.D	SIE0162-ICV1		1	o-terph,
0821	420E1906.D	SIE0162-ICV2		1	Triacon Surr,
0841	420E1907.D	BIE0305-BLK1		1	NO MANUAL INTEGRATION
0900	420E1908.D	BIE0305-BS1		1	o-terph,
0920	420E1909.D	BIE0305-BSD1		1	o-terph,
0939	420E1910.D	20E0185-01		1	NO MANUAL INTEGRATION
0959	420E1911.D	SIE0162-CCV1		1	o-terph,
1019	420E1912.D	SIE0162-CCV2		1	Triacon Surr,
1105	420E1913.D	SIE0162-CAL1		1	NO MANUAL INTEGRATION
1124	420E1914.D	BIE0254-BLK1		1	NO MANUAL INTEGRATION
1144	420E1915.D	BIE0254-BS1		1	o-terph,
1203	420E1916.D	BIE0254-BSD1		1	o-terph,
1223	420E1917.D	20E0096-02		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1243	420E1918.D	20E0096-04	1		NO MANUAL INTEGRATION
1302	420E1919.D	20E0096-06	1		NO MANUAL INTEGRATION
1322	420E1920.D	20E0096-08	1		NO MANUAL INTEGRATION
1342	420E1921.D	20E0096-10	1		NO MANUAL INTEGRATION
1401	420E1922.D	20E0096-12	1		o-terph,
1421	420E1923.D	20E0096-14	1		NO MANUAL INTEGRATION
1441	420E1924.D	20E0096-16	1		NO MANUAL INTEGRATION
1500	420E1925.D	BIE0254-MS1	1		o-terph,
1520	420E1926.D	BIE0254-MSD1	1		o-terph,
1540	420E1927.D	SIE0162-CCV3	1		o-terph,
1559	420E1928.D	SIE0162-CCV4	1		Triacon Surr,
1619	420E1929.D	SIE0162-CCV5	1		NO MANUAL INTEGRATION
1639	420E1930.D	20E0096-18	1		NO MANUAL INTEGRATION
1658	420E1931.D	20E0096-20	1		NO MANUAL INTEGRATION
1718	420E1932.D	20E0096-22	1		NO MANUAL INTEGRATION
1737	420E1933.D	BIE0248-BLK1	1		NO MANUAL INTEGRATION
1757	420E1934.D	BIE0248-BS1	1		o-terph,
1816	420E1935.D	BIE0248-BSD1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1836	420E1936.D	20E0096-01	1		NO MANUAL INTEGRATION
1855	420E1937.D	20E0096-03	1		NO MANUAL INTEGRATION
1915	420E1938.D	20E0096-05	1		o-terph,
1934	420E1939.D	20E0096-07	1		NO MANUAL INTEGRATION
1954	420E1940.D	20E0096-09	1		NO MANUAL INTEGRATION
2013	420E1941.D	SIE0162-CCV6	1		o-terph,
2033	420E1942.D	SIE0162-CCV7	1		Triacon Surr,
2052	420E1943.D	SIE0162-CCV8	1		NO MANUAL INTEGRATION
2112	420E1944.D	20E0096-11	1		o-terph,
2131	420E1945.D	20E0096-13	1		NO MANUAL INTEGRATION
2150	420E1946.D	20E0096-15	1		NO MANUAL INTEGRATION
2210	420E1947.D	BIE0248-MS1	1		o-terph,
2229	420E1948.D	BIE0248-MSD1	1		o-terph,
2249	420E1949.D	20E0096-17	1		NO MANUAL INTEGRATION
2308	420E1950.D	20E0096-19	1		o-terph,
2328	420E1951.D	20E0096-21	1		NO MANUAL INTEGRATION
2347	420E1952.D	BIE0282-BLK1	1		NO MANUAL INTEGRATION
0007	420E1953.D	BIE0282-BS1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

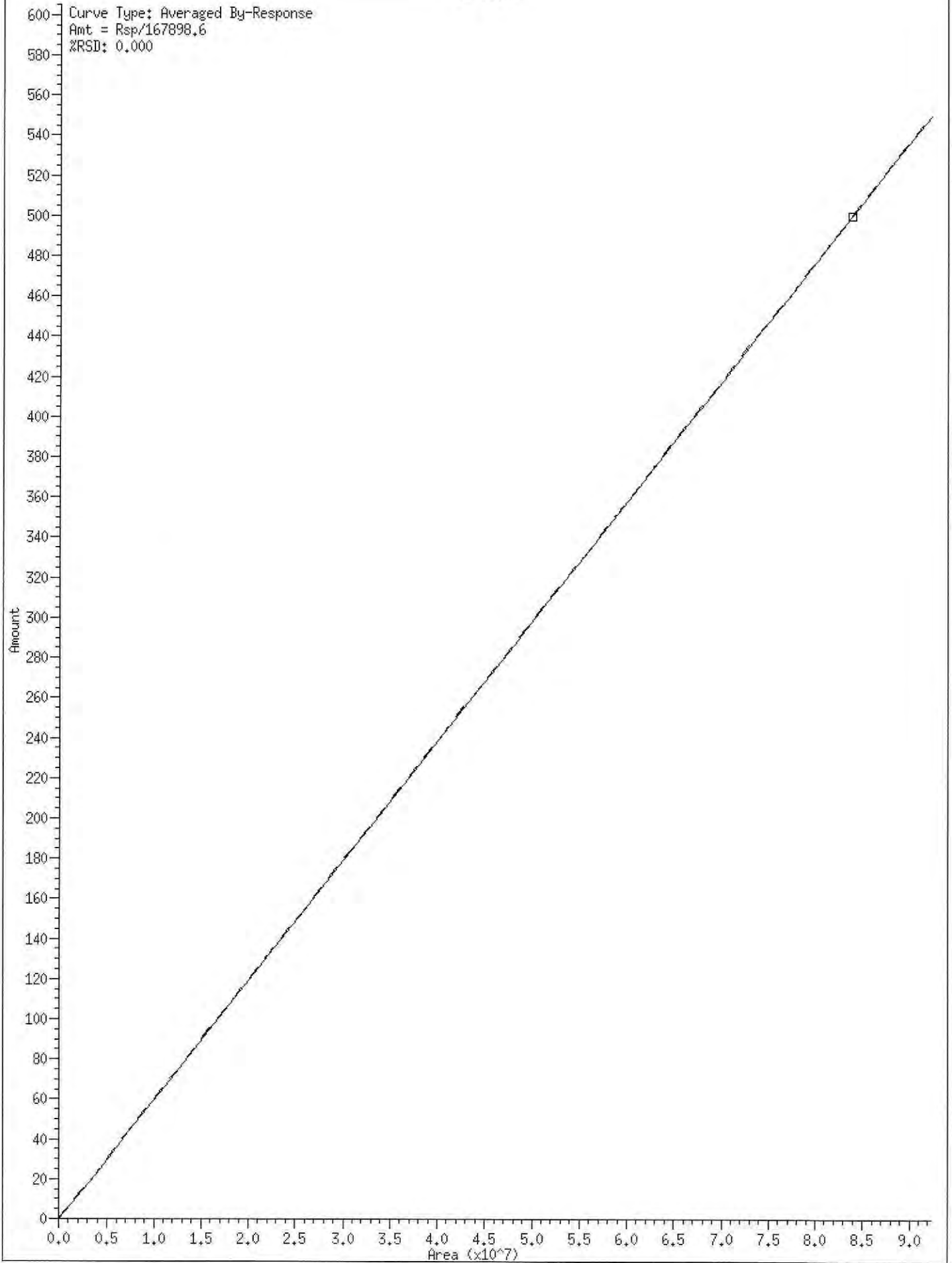
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0026	420E1954.D	BIE0282-BSD1		1	o-terph,
0046	420E1955.D	20E0151-01		1	NO MANUAL INTEGRATION
0105	420E1956.D	20E0160-01		1	o-terph,
0125	420E1957.D	SIE0162-CCV9		1	o-terph,
0144	420E1958.D	SIE0162-CCVA		1	Triacon Surr,
0203	420E1959.D	SIE0162-CCVB		1	NO MANUAL INTEGRATION

Security Status Report

Date: 20-May-2020 08:42

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420E1919.D	Data Locked	christopher,	20-May-2020	08:20
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420E1921.D	Data Locked	christopher,	20-May-2020	08:20
420E1922.D	Data Locked	christopher,	20-May-2020	08:20
420E1923.D	Data Locked	christopher,	20-May-2020	08:20
420E1924.D	Data Locked	christopher,	20-May-2020	08:20
420E1925.D	Data Locked	christopher,	20-May-2020	08:20
420E1926.D	Data Locked	christopher,	20-May-2020	08:20
420E1927.D	Data Locked	christopher,	20-May-2020	08:20
420E1928.D	Data Locked	christopher,	20-May-2020	08:20
420E1929.D	Data Locked	christopher,	20-May-2020	08:20
420E1930.D	Data Locked	christopher,	20-May-2020	08:20
420E1931.D	Data Locked	christopher,	20-May-2020	08:20
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420E1933.D	Data Locked	christopher,	20-May-2020	08:20
420E1934.D	Data Locked	christopher,	20-May-2020	08:20
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420E1936.D	Data Locked	christopher,	20-May-2020	08:20
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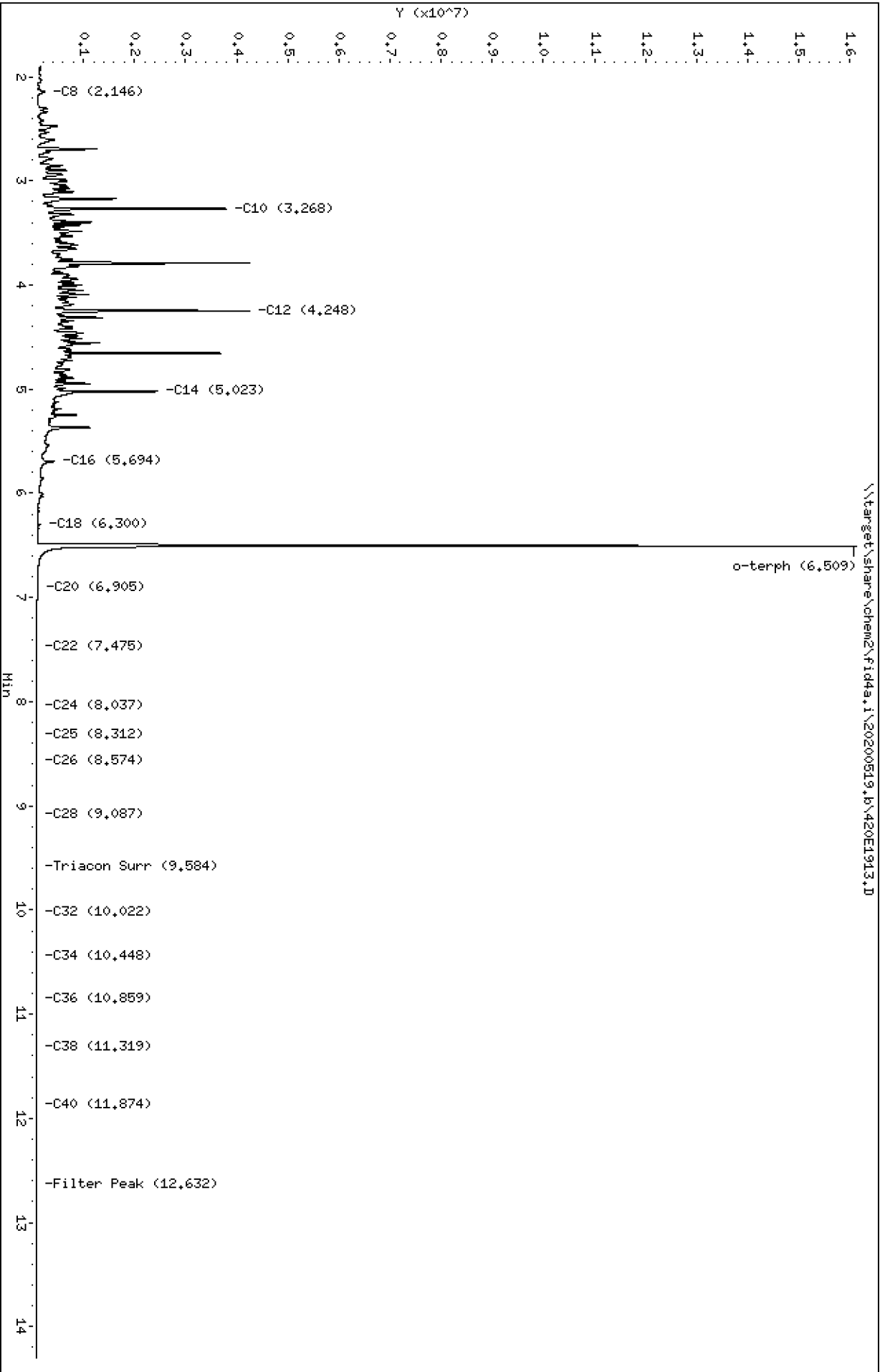
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Data File: \\target\share\chem2\fid4a,1\20200519,b\420E1913.D
Date: 19-May-2020 11:05
Client ID:
Sample Info: SIE0162-CAL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200519.b/420E1913.D
Method: 20200519.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 05/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIE0162-CAL1
Client ID:
Injection: 19-MAY-2020 11:05
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

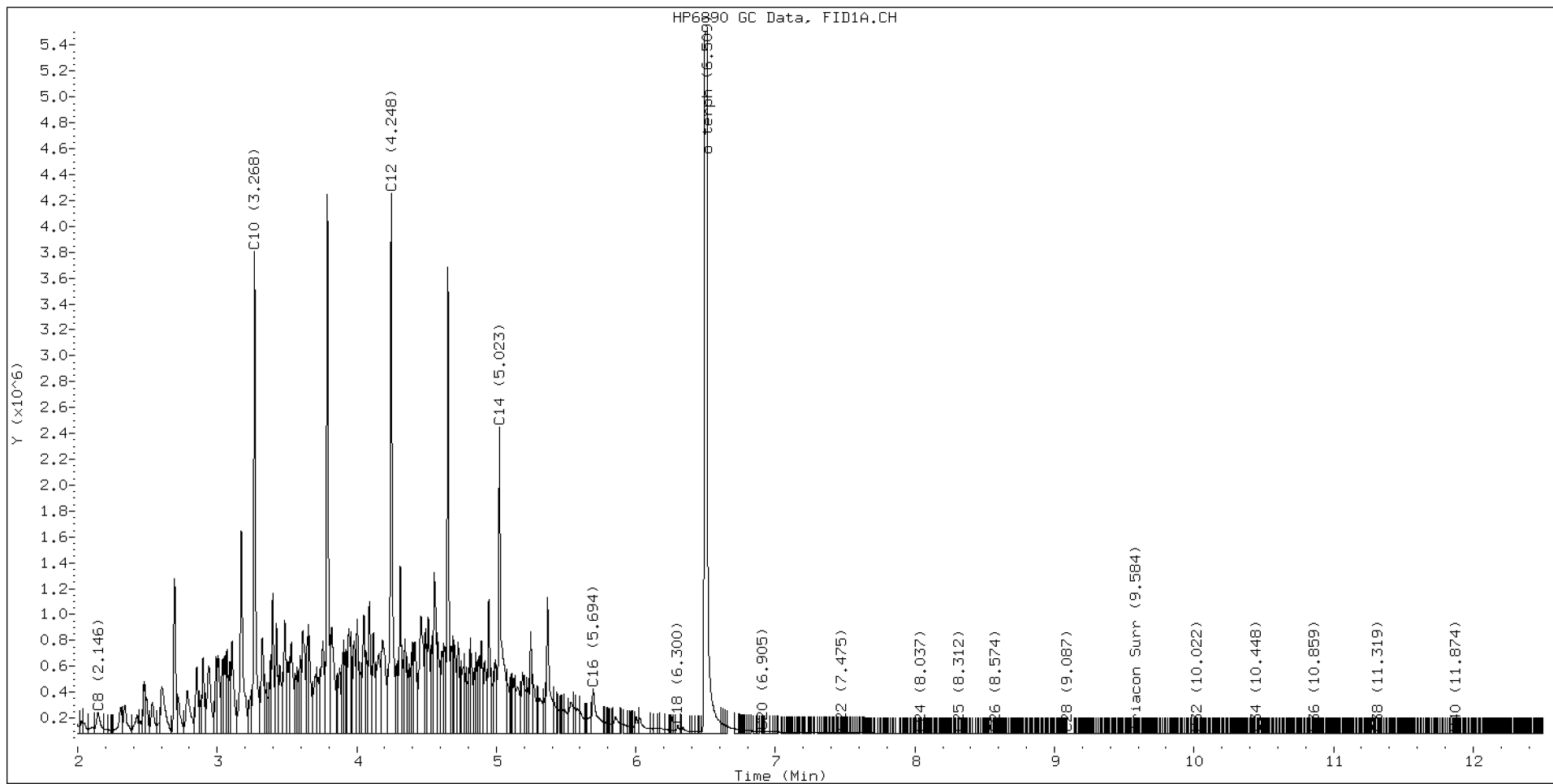
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.146	-0.014	162537	351667	WATPHD	(C12-C24)	43793314	274.8
C10	3.268	-0.006	3727060	3670074	WATPHM	(C24-C38)	298844	2.3
C12	4.248	-0.001	4175422	4596909	AK102	(C10-C25)	84977552	434.7
C14	5.023	-0.002	2366943	3478731	AK103	(C25-C36)	181563	2.5
C16	5.694	0.002	346661	872220	OR.DIES	(C10-C28)	85015601	433.8
C18	6.300	-0.002	67502	81701				
C20	6.905	0.012	18076	12457	JET-A	(C10-C18)	83949325	500.0
C22	7.475	0.003	7015	3124				
C24	8.037	0.002	2567	632				
C25	8.312	0.005	1720	641				
C26	8.574	0.002	577	179				
C28	9.087	0.004	278	137				
C32	10.022	0.002	985	413				
C34	10.448	-0.000	2249	1187				
Filter Peak	12.632	0.002	3646	2855	CREOSOT	(C12-C22)	43649163	1058.5
C36	10.859	-0.001	3434	1815				
C38	11.319	0.004	4203	2291				
C40	11.874	0.007	4118	1219				
o-terph	6.509	-0.003	16049011	17223619				
Triacon Surr	9.584	-0.003	924	375	NAS DIES	(C10-C24)	84956580	435.3

Range Times: NW Diesel(4.249 - 8.035) AK102(3.27 - 8.31) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.32) AK103(8.31 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17223619	84.1
Triacontane	375	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

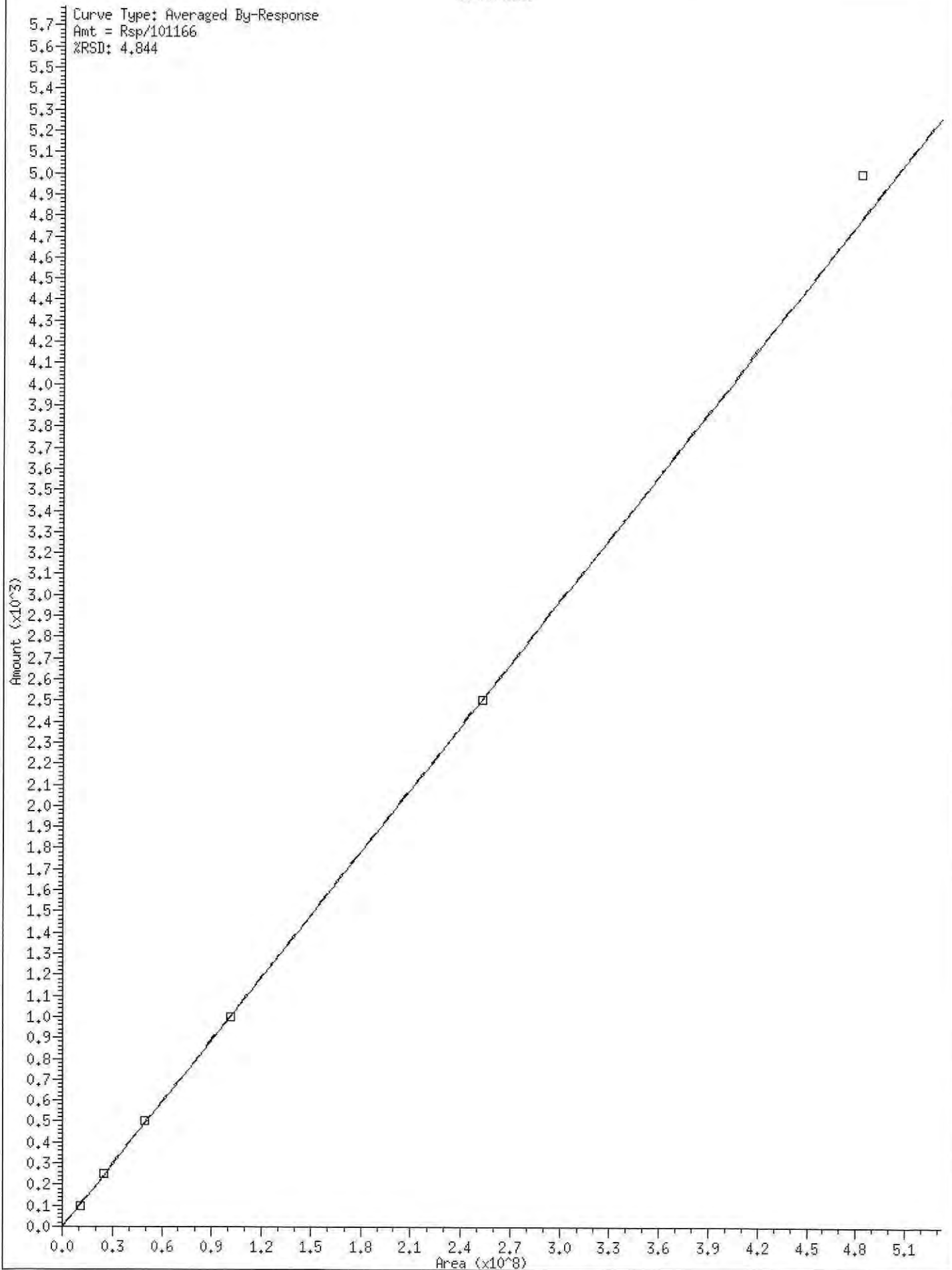
ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

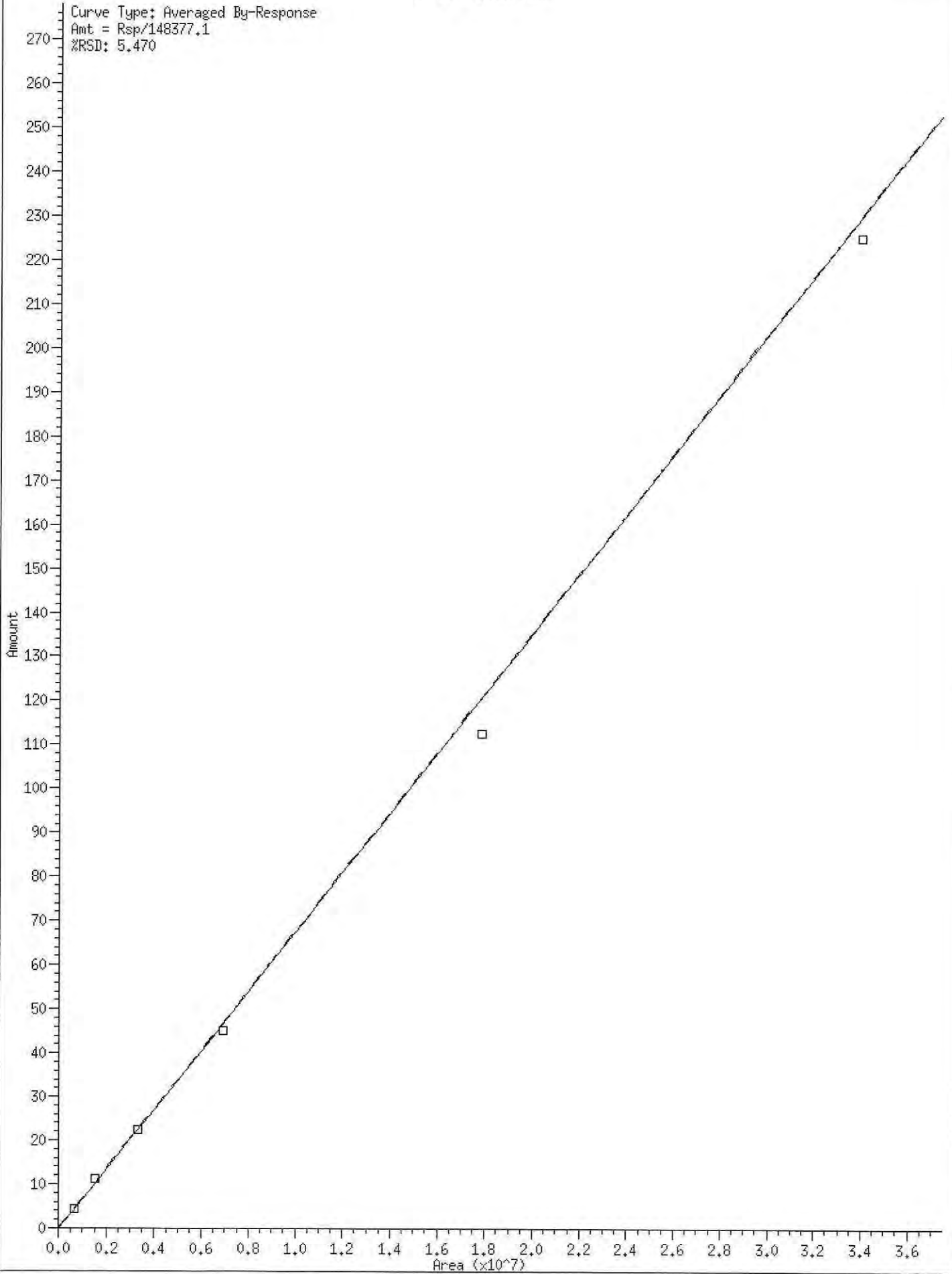
Date: 02-Jun-2020 12:52

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420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51



* 15 Triacon Surr

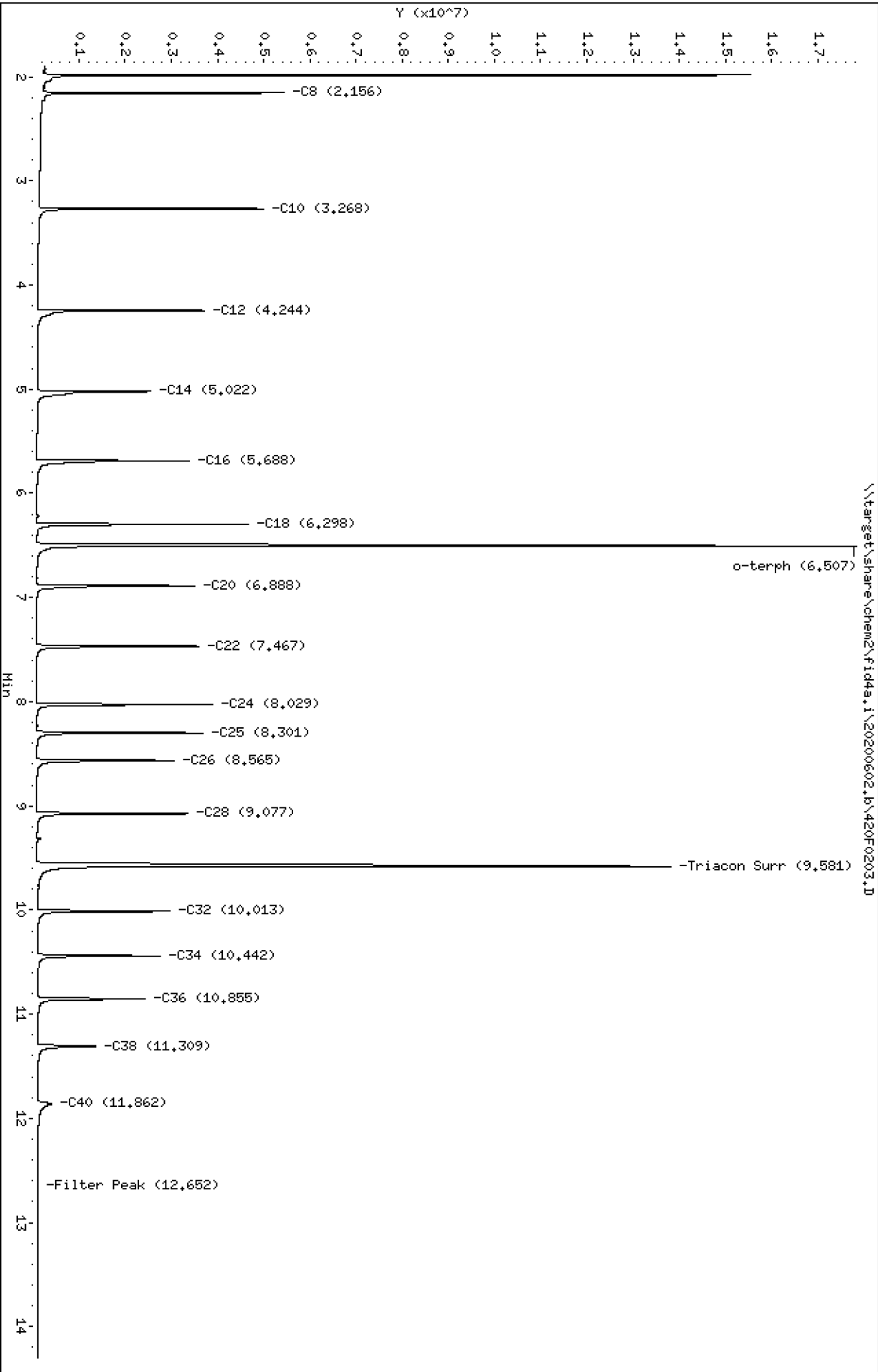
Curve Type: Averaged By-Response
Amt = Rsp/148377,1
%RSD: 5,470



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0203.D
Date : 02-JUN-2020 08:19
Client ID:
Sample Info: SIF0018-IBL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0203.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL1
Client ID:
Injection: 02-JUN-2020 08:19
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

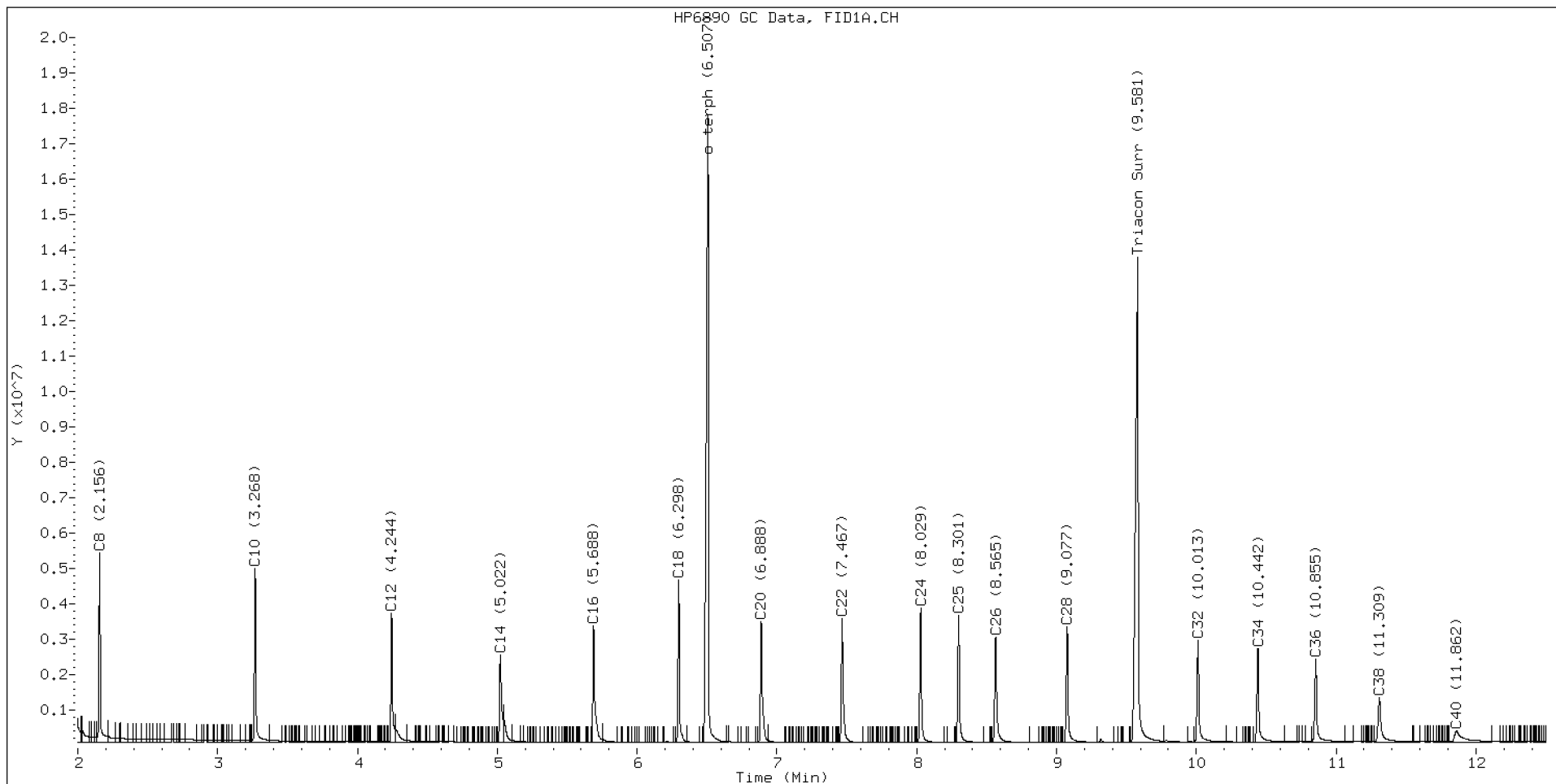
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.156	0.000	5355192	4028421	WATPHD	(C12-C24)	22818714	143.2
C10	3.268	0.000	4929332	4012342	WATPHM	(C24-C38)	23499770	232.3
C12	4.244	0.000	3648375	2898492	AK102	(C10-C25)	32299571	165.2
C14	5.022	0.000	2469047	2611753	AK103	(C25-C36)	20714599	283.0
C16	5.688	0.000	3293885	3376329	OR.DIES	(C10-C28)	42576768	217.2
C18	6.298	0.000	4585796	3403299				
C20	6.888	0.000	3419868	3390012	JET-A	(C10-C18)	21587777	128.6
C22	7.467	0.000	3501351	3461600				
C24	8.029	0.000	3816488	3373518				
C25	8.301	0.000	3598800	3438765				
C26	8.565	0.000	2983968	3399421				
C28	9.077	0.000	3266476	3362299				
C32	10.013	0.000	2880768	3301828				
C34	10.442	0.000	2669792	3096709				
Filter Peak	12.652	0.000	21186	7385	CREOSOT	(C12-C22)	19416290	470.8
C36	10.855	0.000	2366492	3017794				
C38	11.309	0.000	1282280	2537029				
C40	11.862	0.000	332084	1739109				
o-terph	6.507	0.000	17759087	19250772				
Triacon Surr	9.581	0.000	13722128	19528338	NAS DIES	(C10-C24)	32267307	165.3

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	19250772	94.0
Triacontane	19528338	131.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0204.D

Date : 02-JUN-2020 08:38

Client ID:

Sample Info: SIF0018-IBL2

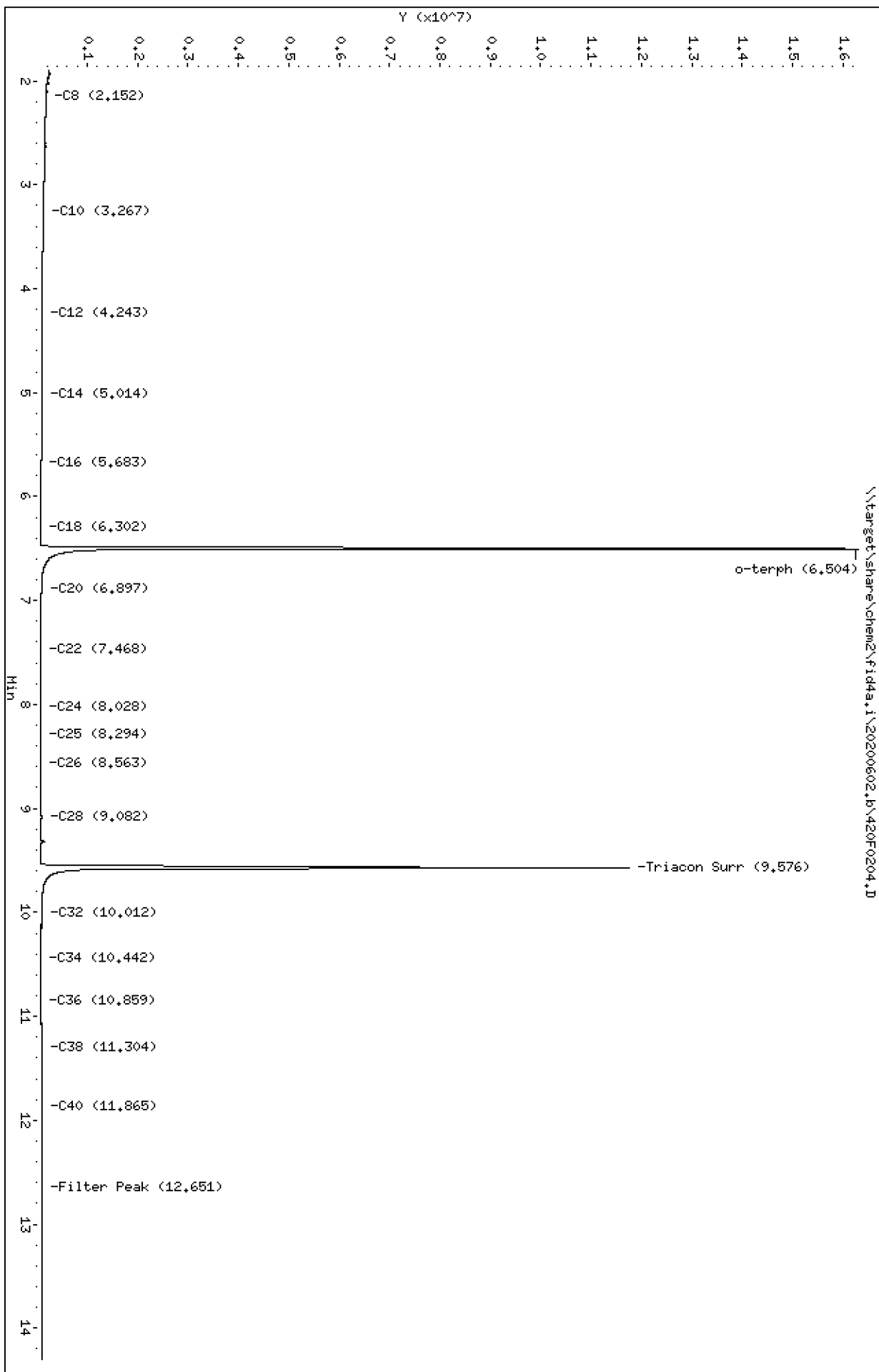
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0204.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL2
Client ID:
Injection: 02-JUN-2020 08:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

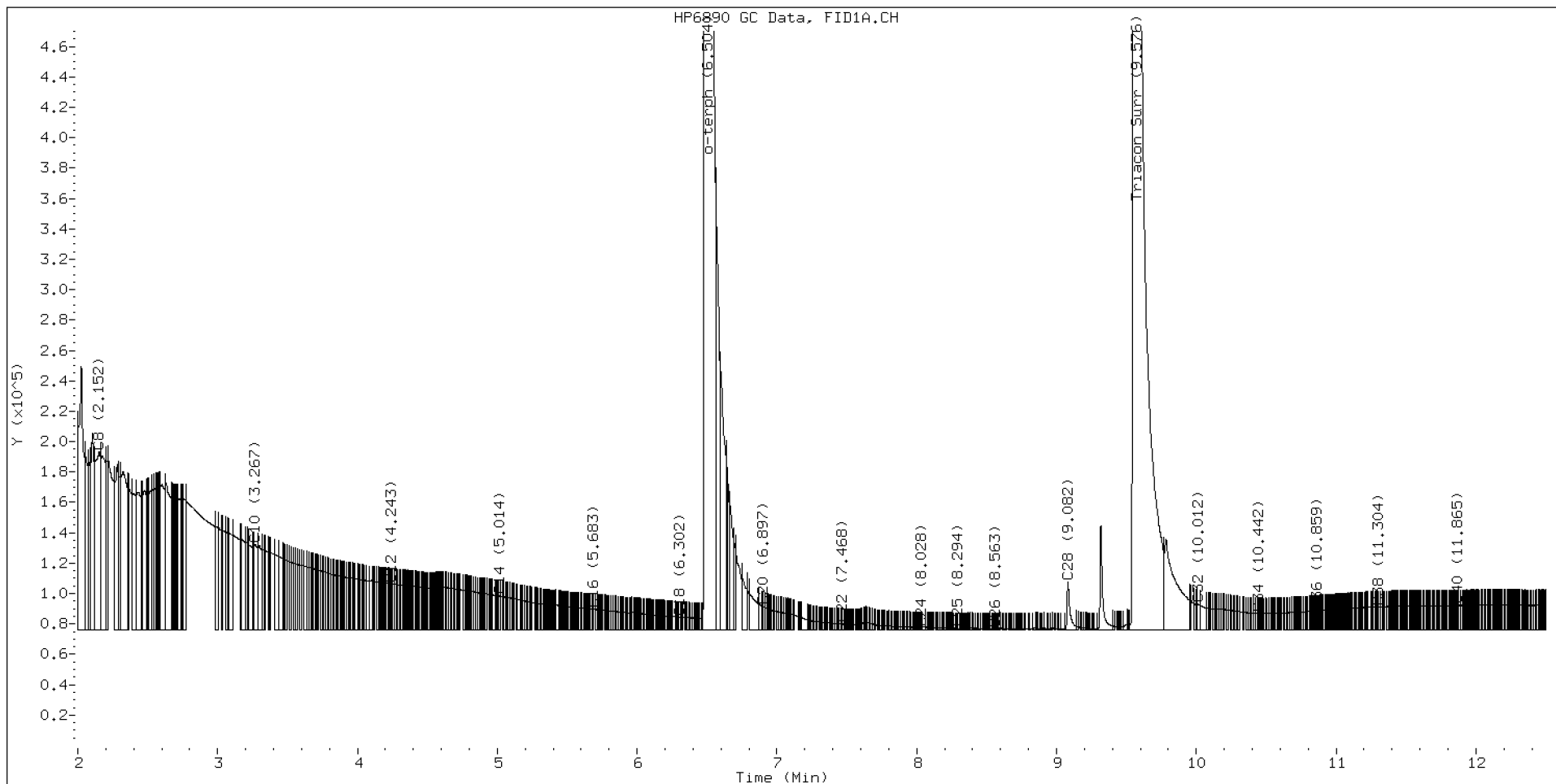
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.003	116720	322381	WATPHD	(C12-C24)	3533716	22.2
C10	3.267	-0.001	56124	109426	WATPHM	(C24-C38)	1474603	14.6
C12	4.243	-0.001	30150	13517	AK102	(C10-C25)	5497571	28.1
C14	5.014	-0.008	22108	20838	AK103	(C25-C36)	1111901	15.2
C16	5.683	-0.005	13417	7376	OR.DIES	(C10-C28)	5561088	28.4
C18	6.302	0.004	8282	6554				
C20	6.897	0.008	15268	9037	JET-A	(C10-C18)	3852356	22.9
C22	7.468	0.002	3677	2659				
C24	8.028	-0.001	1288	376				
C25	8.294	-0.007	805	727				
C26	8.563	-0.002	378	139				
C28	9.082	0.005	31186	44237				
C32	10.012	-0.001	16600	15536				
C34	10.442	-0.000	10597	4224				
Filter Peak	12.651	-0.001	16079	8841	CREOSOT	(C12-C22)	3469521	84.1
C36	10.859	0.004	12136	4837				
C38	11.304	-0.005	14999	9721				
C40	11.865	0.003	15845	9483				
o-terph	6.504	-0.003	16231603	17734069				
Triacon Surr	9.576	-0.005	11669958	15560412	NAS DIES	(C10-C24)	5488260	28.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17734069	86.6
Triacontane	15560412	104.9

M Indicates the peak was manually integrated

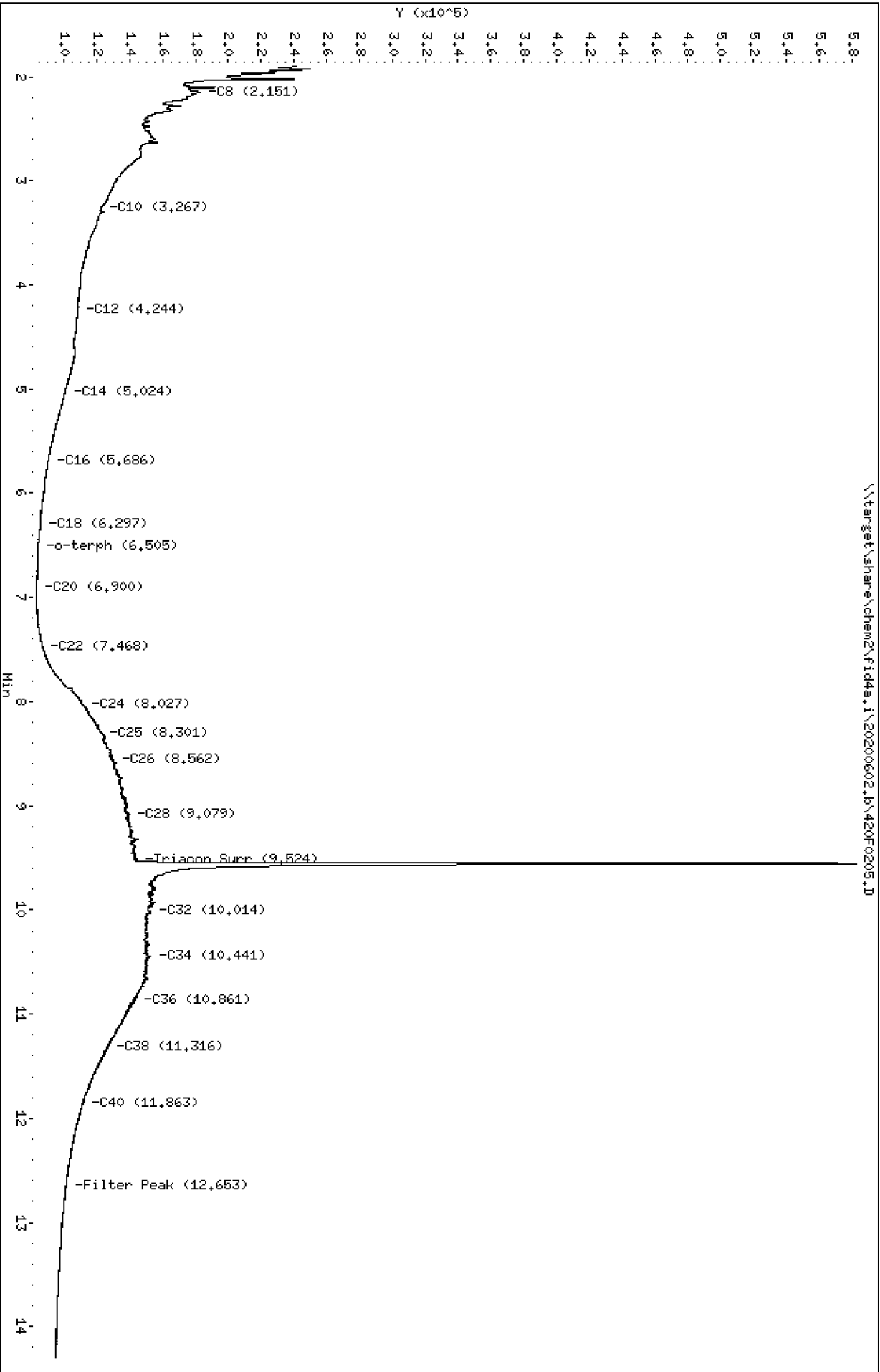
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0205.D
Date: 02-JUN-2020 08:58
Client ID:
Sample Info: SIF0018-CALL

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0205.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL1
Client ID:
Injection: 02-JUN-2020 08:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

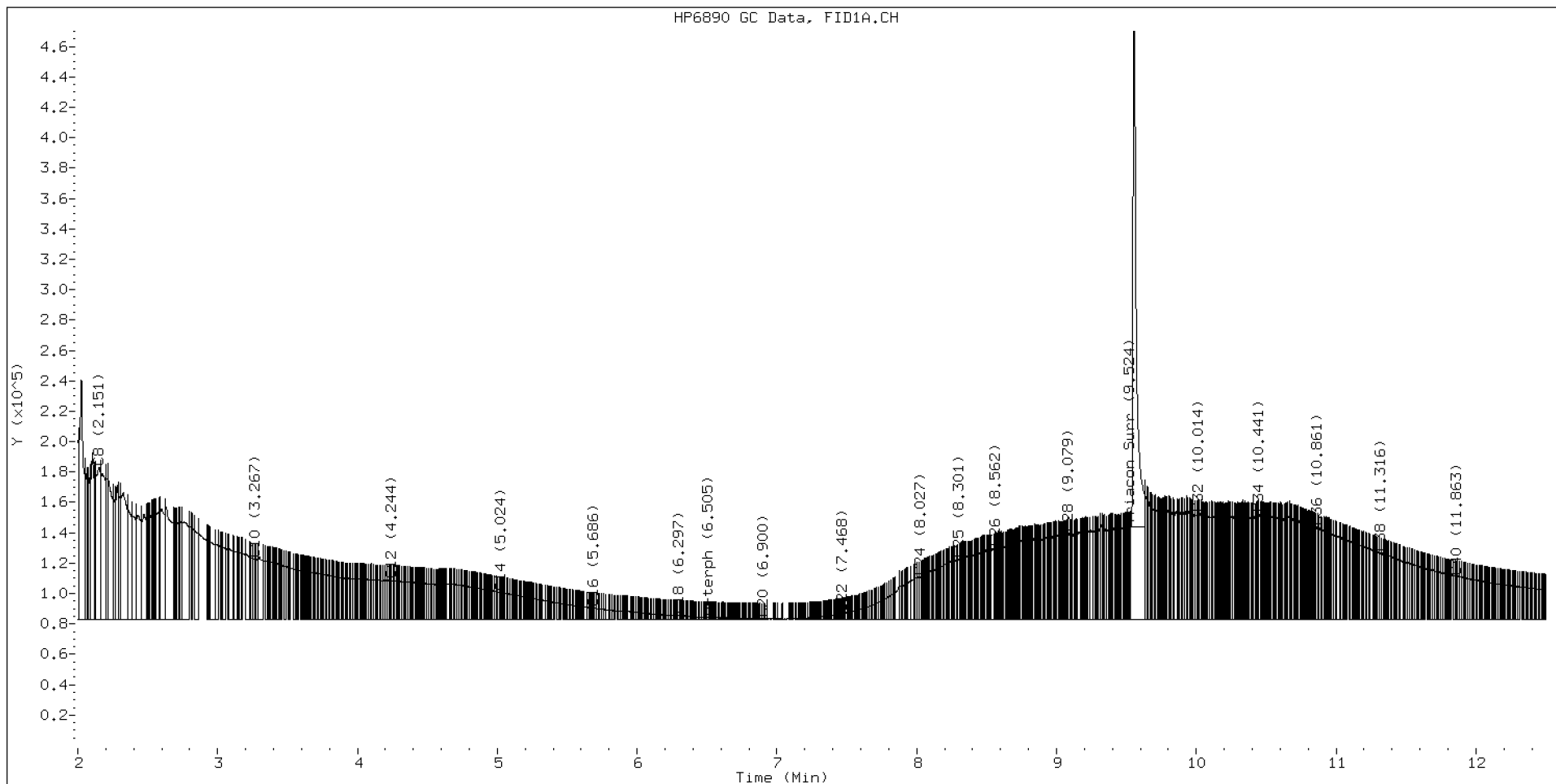
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	99980	217759	WATPHD	(C12-C24)	2058424	12.9
C10	3.267	-0.001	39589	29601	WATPHM	(C24-C38)	11047515	109.2
C12	4.244	-0.001	25508	17793	AK102	(C10-C25)	4072327	20.8
C14	5.024	0.003	17563	10459	AK103	(C25-C36)	9356465	127.8
C16	5.686	-0.002	7220	3247	OR.DIES	(C10-C28)	6554980	33.4
C18	6.297	-0.001	2600	2106				
C20	6.900	0.012	302	196	JET-A	(C10-C18)	3118295	18.6
C22	7.468	0.001	3759	1459				
C24	8.027	-0.002	28105	24801				
C25	8.301	0.000	39391	25449				
C26	8.562	-0.003	47032	11725				
C28	9.079	0.003	56481	28105				
C32	10.014	0.002	69879	38102				
C34	10.441	-0.001	69476	34247				
Filter Peak	12.653	0.001	18229	12666	CREOSOT	(C12-C22)	1520804	36.9
C36	10.861	0.006	60542	41919				
C38	11.316	0.007	43480	28015				
C40	11.863	0.001	28191	8434				
o-terph	6.505	-0.001	1238	750				
Triacon Surr	9.554	-0.026	438731	632528	NAS DIES	(C10-C24)	3725496	19.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	750	0.0
Triacontane	632528	4.3 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020

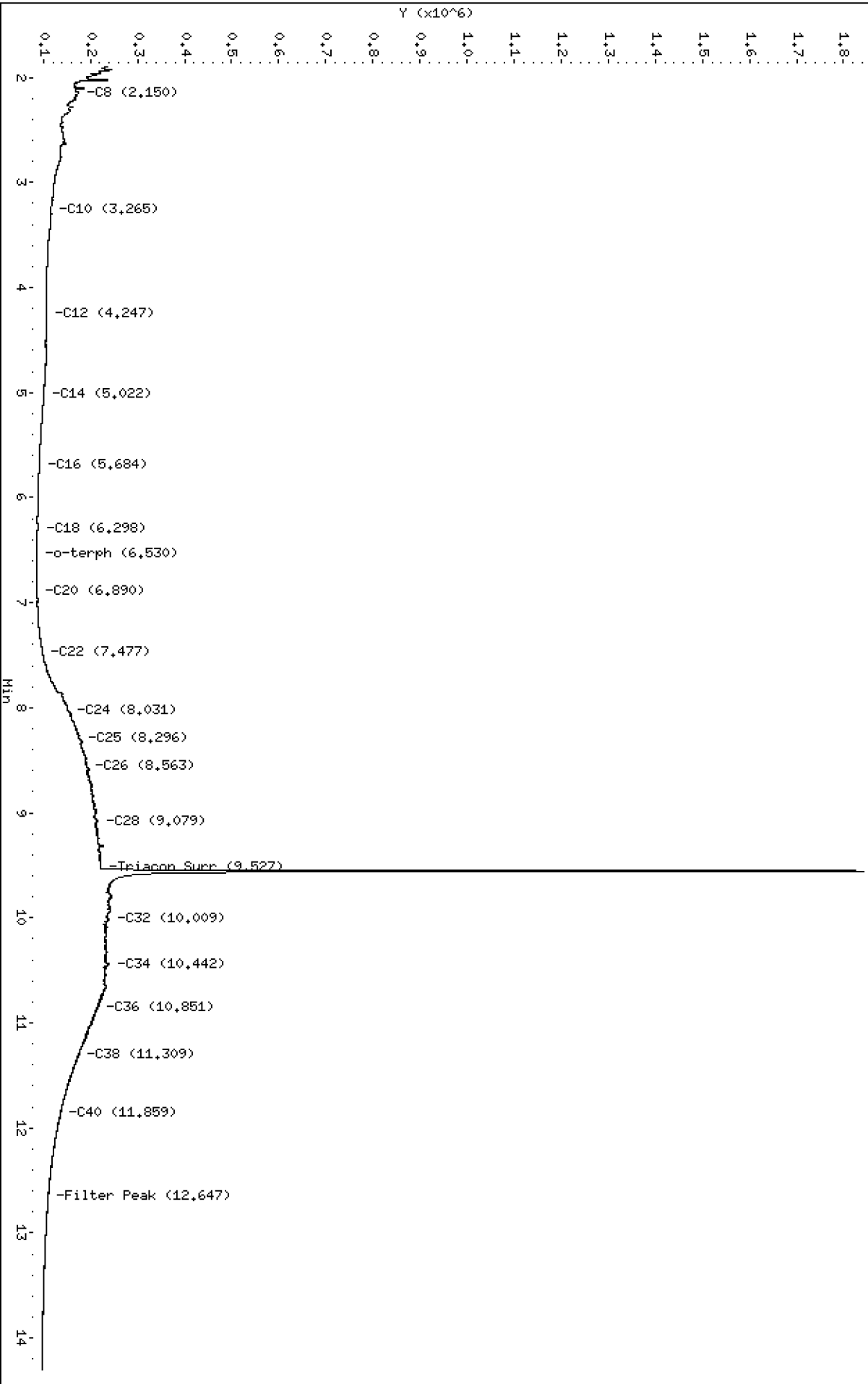


Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0206.D
Date : 02-JUN-2020 09:17
Client ID:
Sample Info: SIF0018-CAL2

Column phase: RTX-1

\\target\share\chem2\fid4a,1\20200602_b\420F0206.D

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0206.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL2
Client ID:
Injection: 02-JUN-2020 09:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

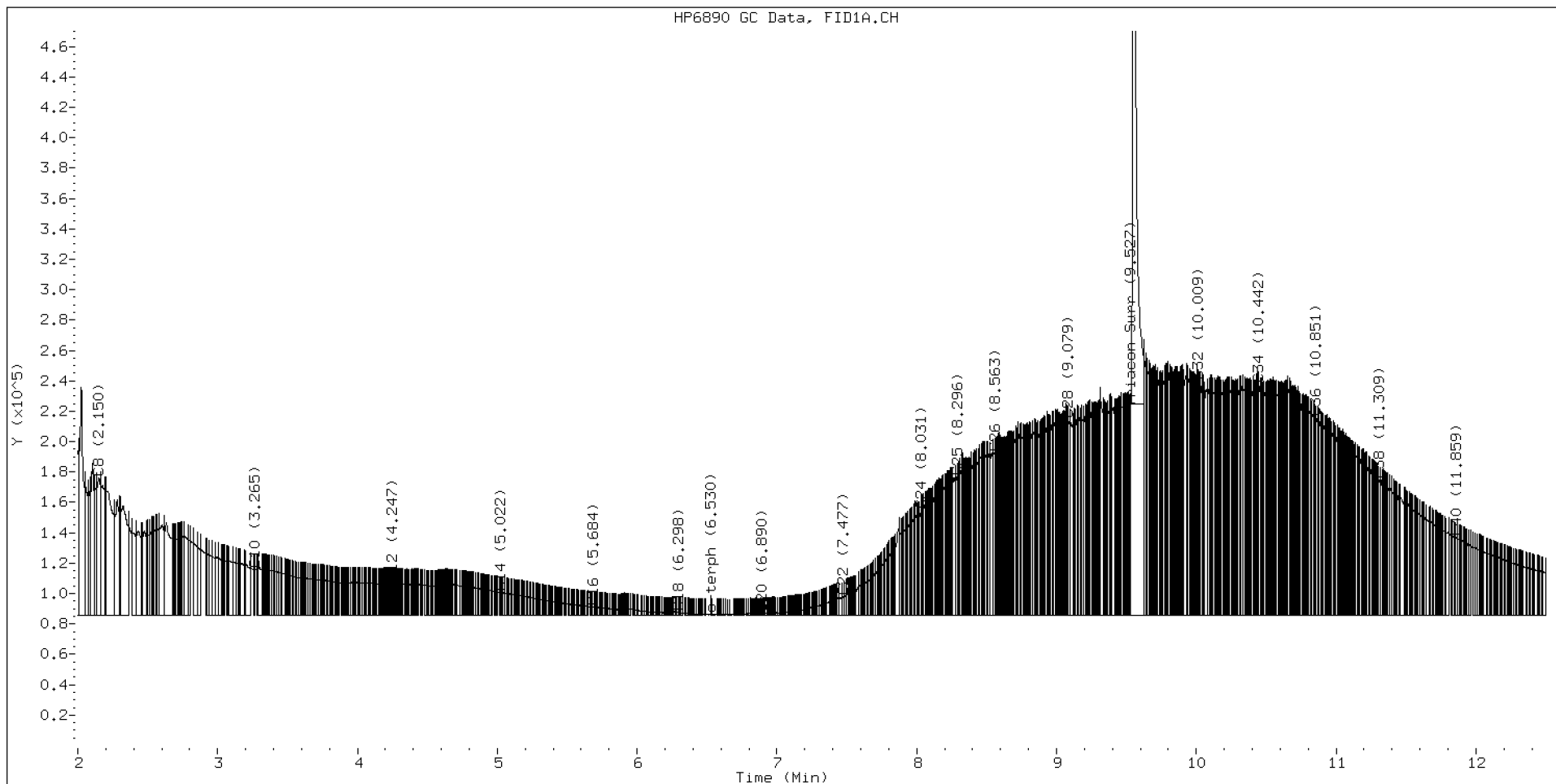
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	89858	185422	WATPHD	(C12-C24)	2712070	17.0
C10	3.265	-0.003	30146	13534	WATPHM	(C24-C38)	24525710	242.4
C12	4.247	0.002	20913	5217	AK102	(C10-C25)	4830477	24.7
C14	5.022	0.000	14927	5202	AK103	(C25-C36)	21012310	287.0
C16	5.684	-0.004	5316	3160	OR.DIES	(C10-C28)	10587317	54.0
C18	6.298	-0.001	1804	867				
C20	6.890	0.002	868	325	JET-A	(C10-C18)	2431354	14.5
C22	7.477	0.010	11963	10299				
C24	8.031	0.002	68912	56553				
C25	8.296	-0.005	90908	49681				
C26	8.563	-0.002	106529	37089				
C28	9.079	0.002	128296	51107				
C32	10.009	-0.003	153736	84024				
C34	10.442	0.000	152153	67959				
Filter Peak	12.647	-0.005	24724	15926	CREOSOT	(C12-C22)	1339051	32.5
C36	10.851	-0.004	129949	77218				
C38	11.309	0.000	88878	57220				
C40	11.859	-0.002	51003	42869				
o-terph	6.530	0.023	286	110				
Triacon Surr	9.553	-0.027	1618248	1548362	NAS DIES	(C10-C24)	4003518	20.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	110	0.0
Triacontane	1548362	10.4 M

M Indicates the peak was manually integrated

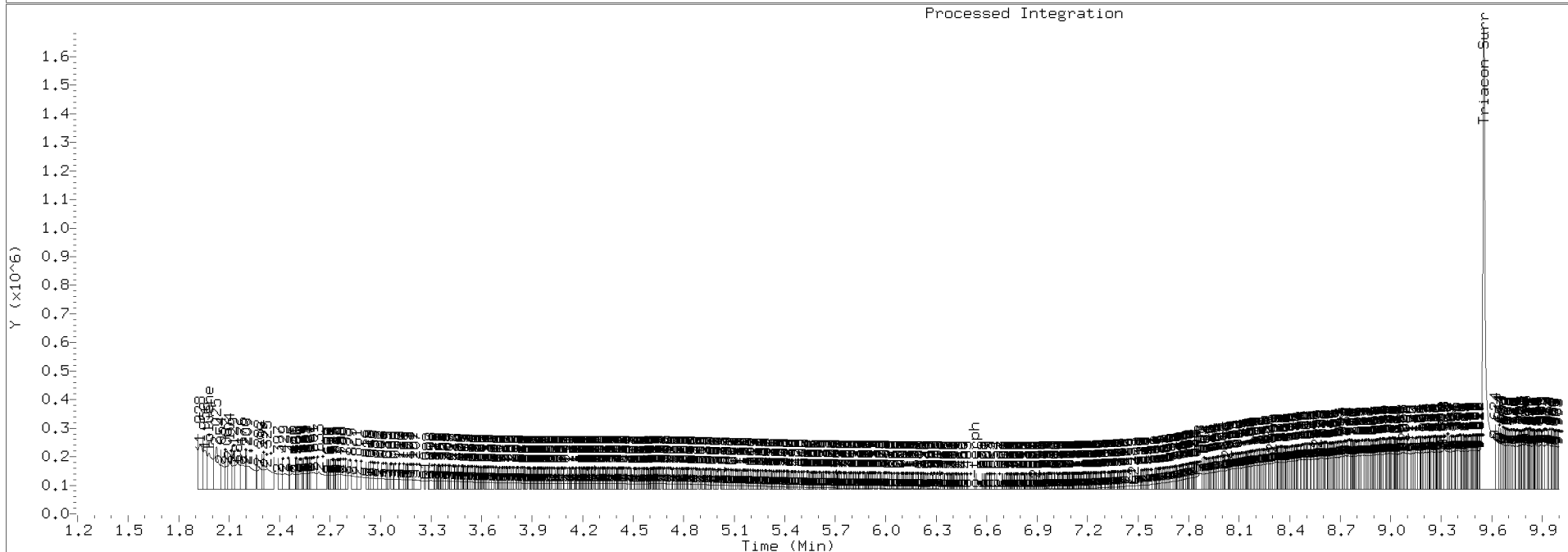
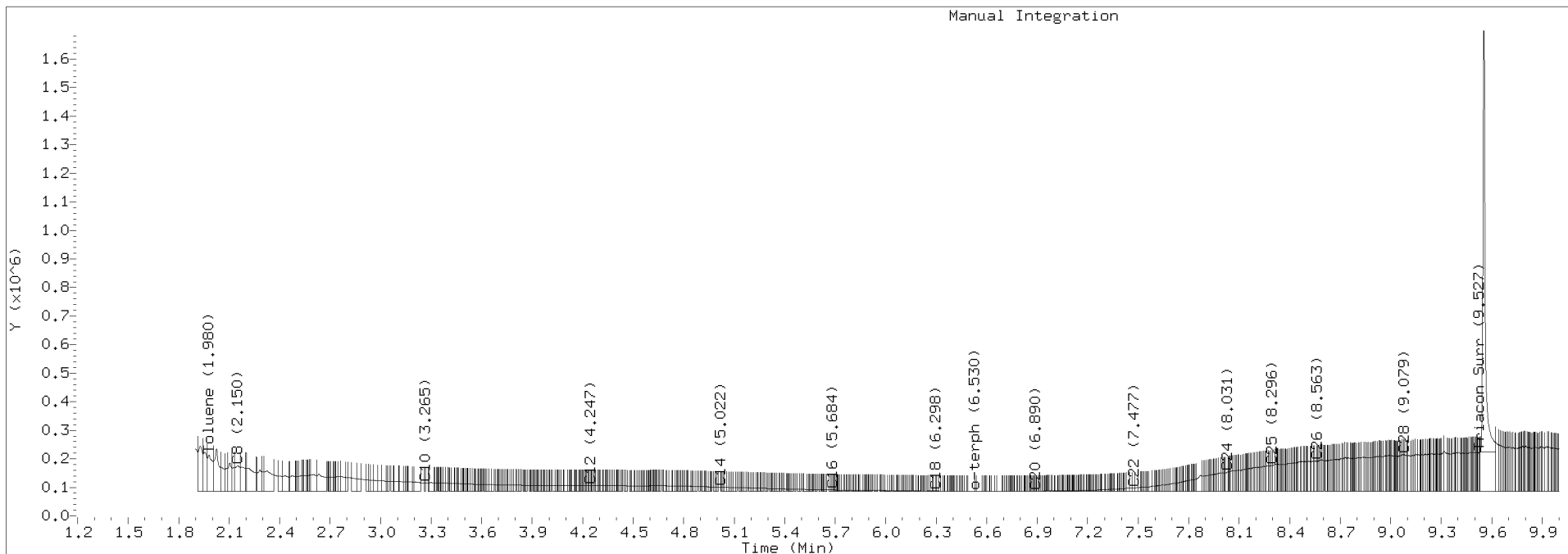
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0206.D Injection: 02-JUN-2020 09:17

Lab ID:SIF0018-CAL2



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0207.D

Date: 02-JUN-2020 09:37

Client ID:

Sample Info: SIF0018-CAL3

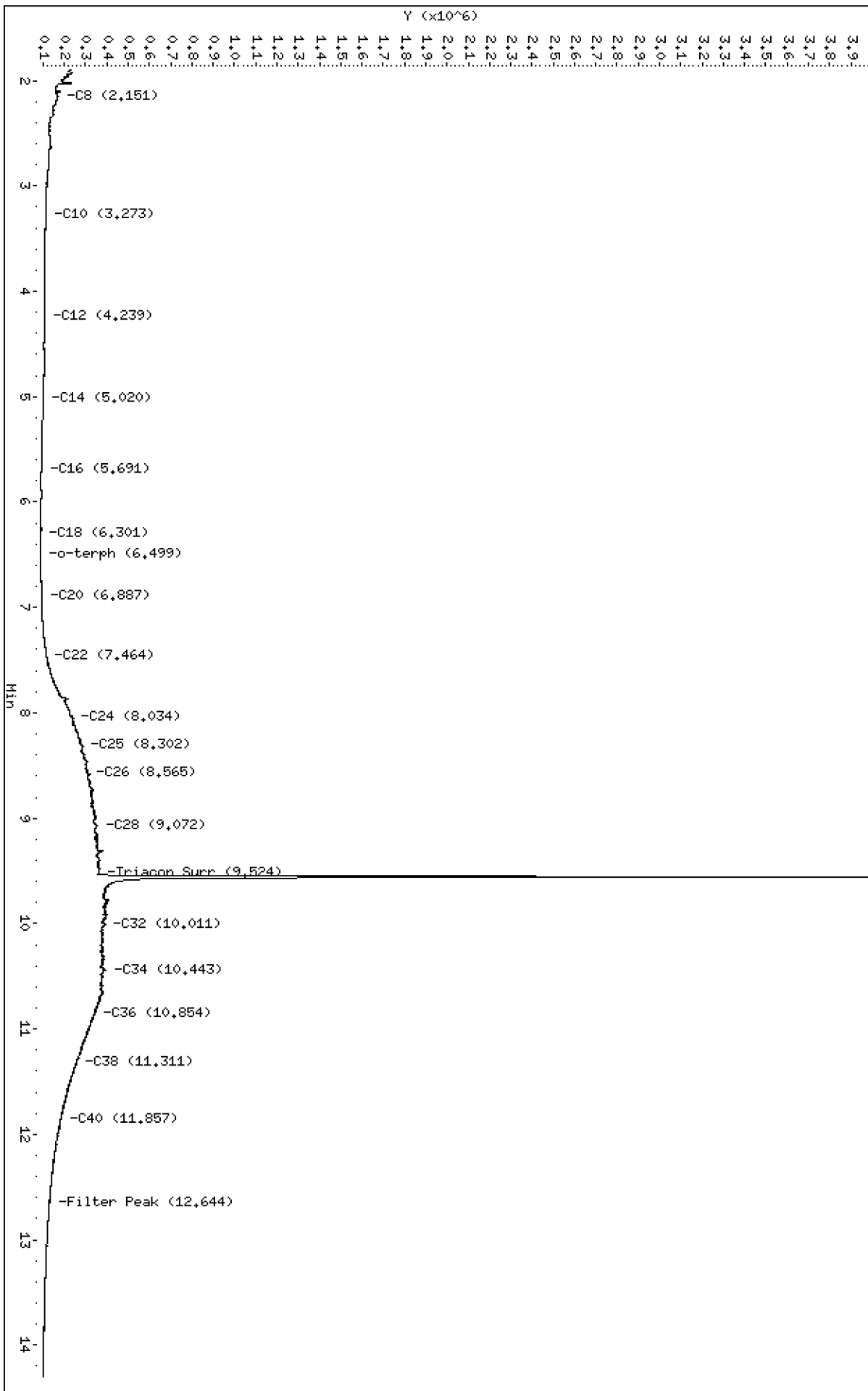
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0207.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0207.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL3
Client ID:
Injection: 02-JUN-2020 09:37
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

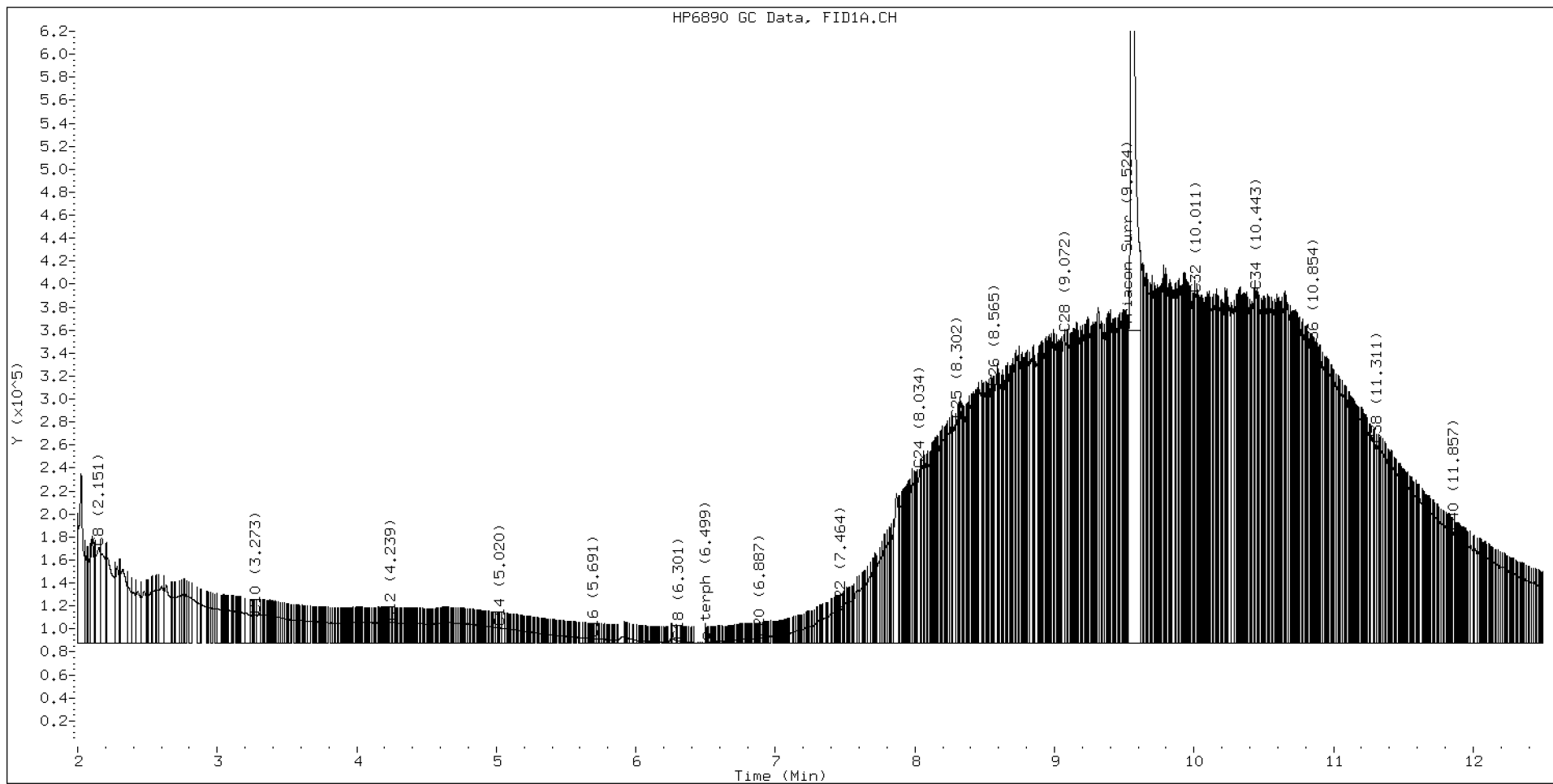
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	83340	181737	WATPHD	(C12-C24)	4669475	29.3
C10	3.273	0.004	24124	29803	WATPHM	(C24-C38)	49486995	489.2
C12	4.239	-0.005	17851	9766	AK102	(C10-C25)	7430681	38.0
C14	5.020	-0.001	13143	9087	AK103	(C25-C36)	42295515	577.8
C16	5.691	0.003	3577	1419	OR.DIES	(C10-C28)	19434570	99.2
C18	6.301	0.003	1747	1733				
C20	6.887	-0.001	3928	772	JET-A	(C10-C18)	2089833	12.4
C22	7.464	-0.003	28742	14145				
C24	8.034	0.005	150683	195060				
C25	8.302	0.001	193725	142733				
C26	8.565	0.000	222104	154233				
C28	9.072	-0.005	269216	379539				
C32	10.011	-0.001	303243	166080				
C34	10.443	0.001	305814	210777				
Filter Peak	12.644	-0.008	43077	59185	CREOSOT	(C12-C22)	1595428	38.7
C36	10.854	-0.001	253799	113868				
C38	11.311	0.002	172045	186385				
C40	11.857	-0.005	96077	71008				
o-terph	6.499	-0.008	250	102				
Triacon Surr	9.559	-0.022	3627992	3323417	NAS DIES	(C10-C24)	5759449	29.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	102	0.0
Triacontane	3323417	22.4 M

M Indicates the peak was manually integrated

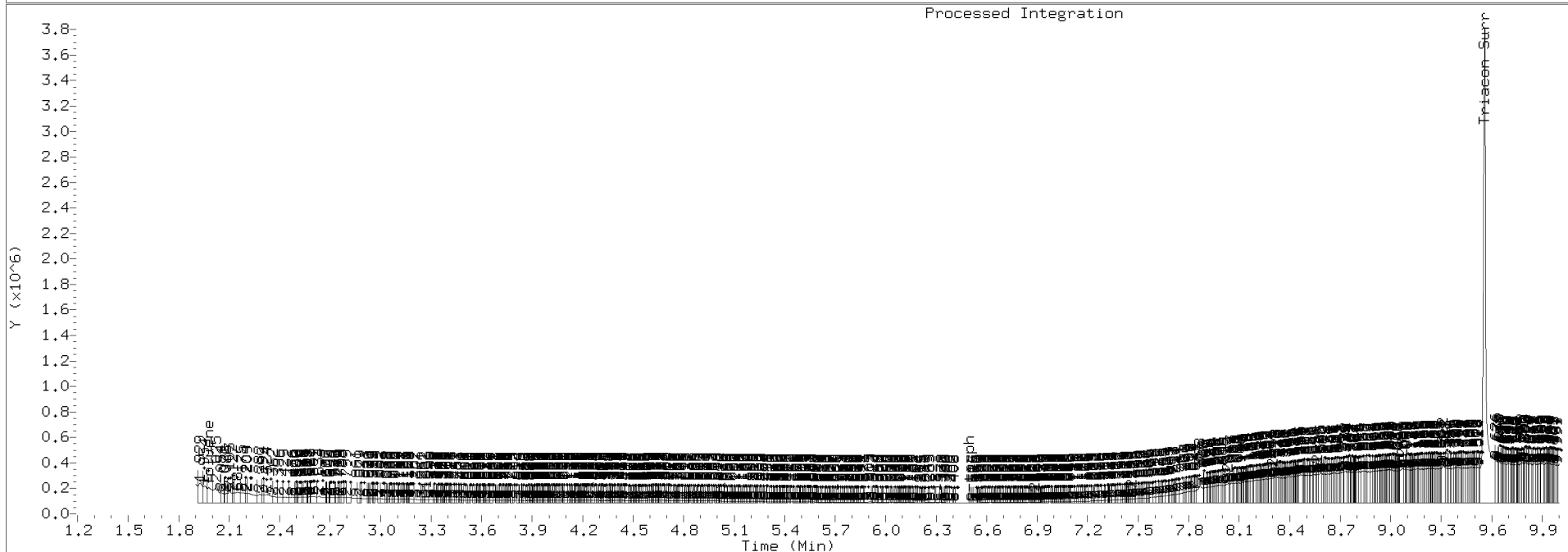
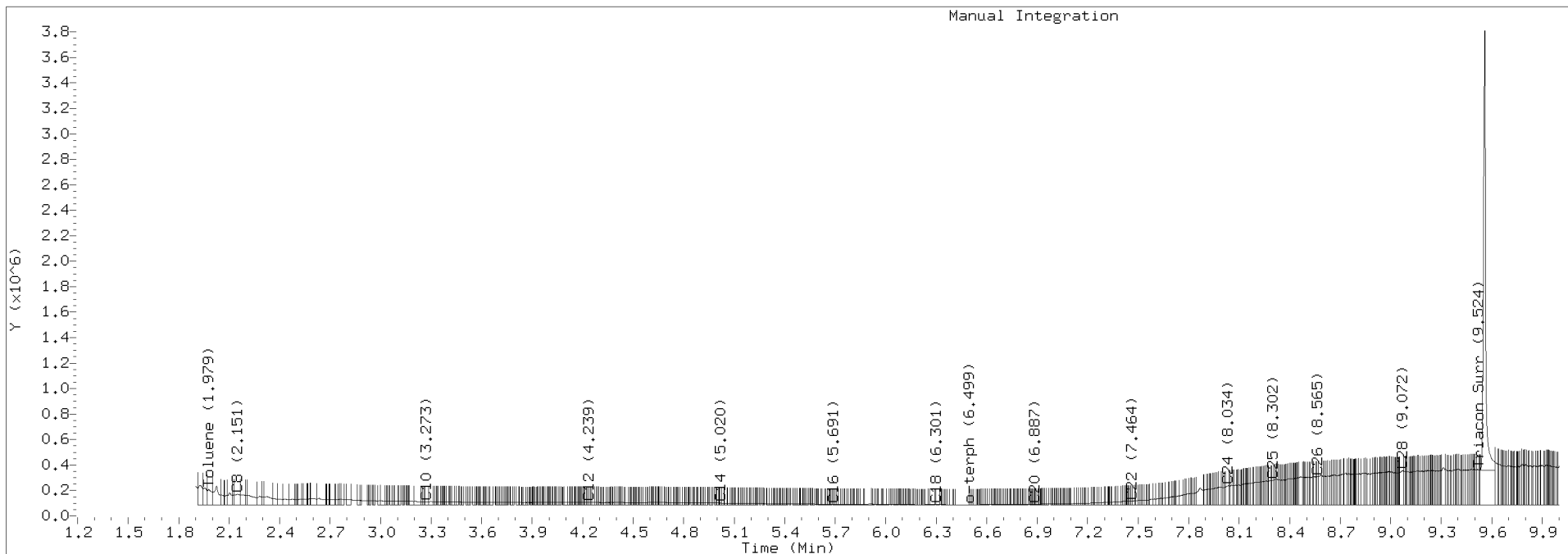
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0207.D Injection: 02-JUN-2020 09:37

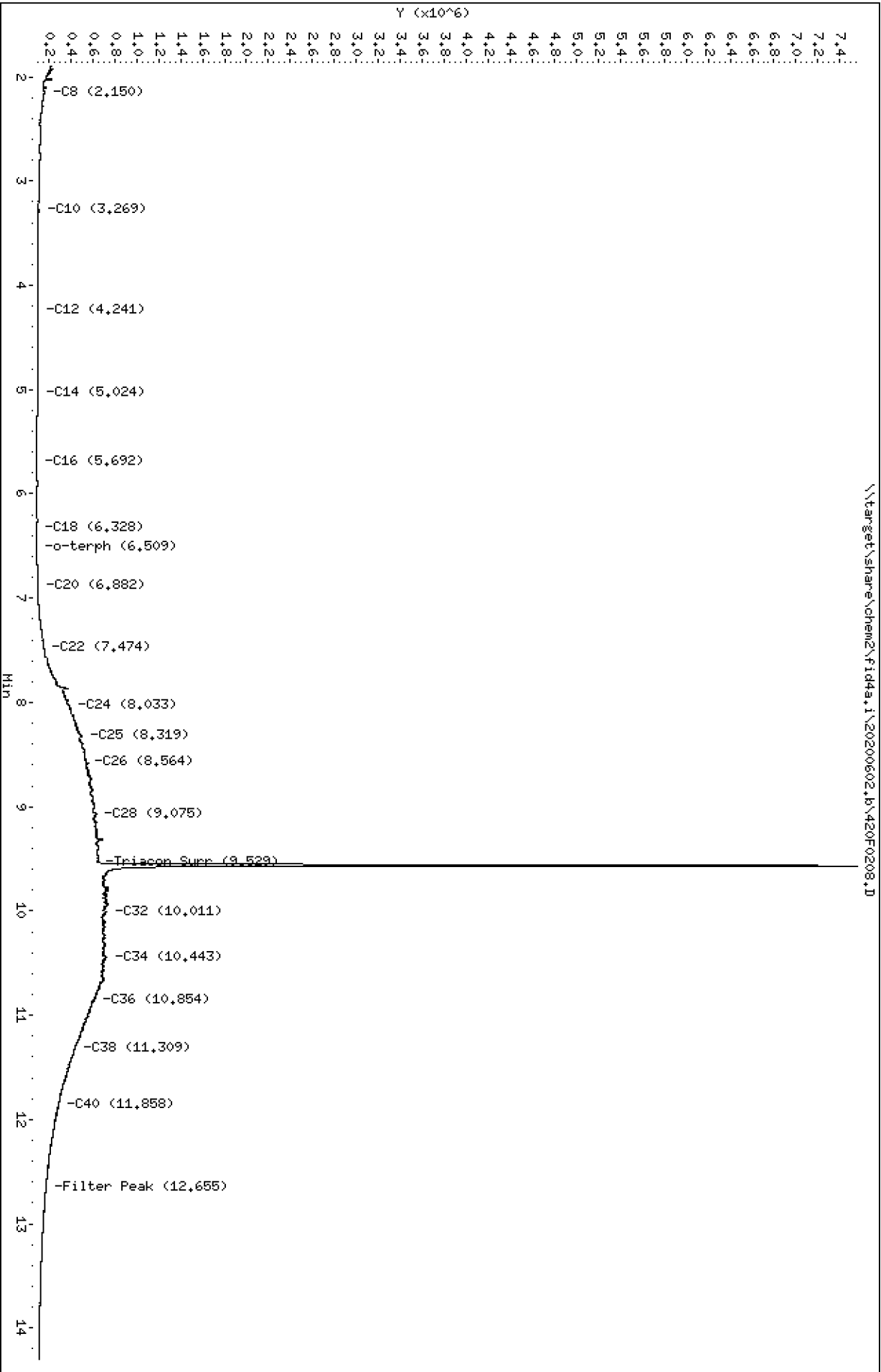
Lab ID:SIF0018-CAL3



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0208.D
Date : 02-JUN-2020 09:56
Client ID:
Sample Info: SIF0018-CAL4

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0208.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL4
Client ID:
Injection: 02-JUN-2020 09:56
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

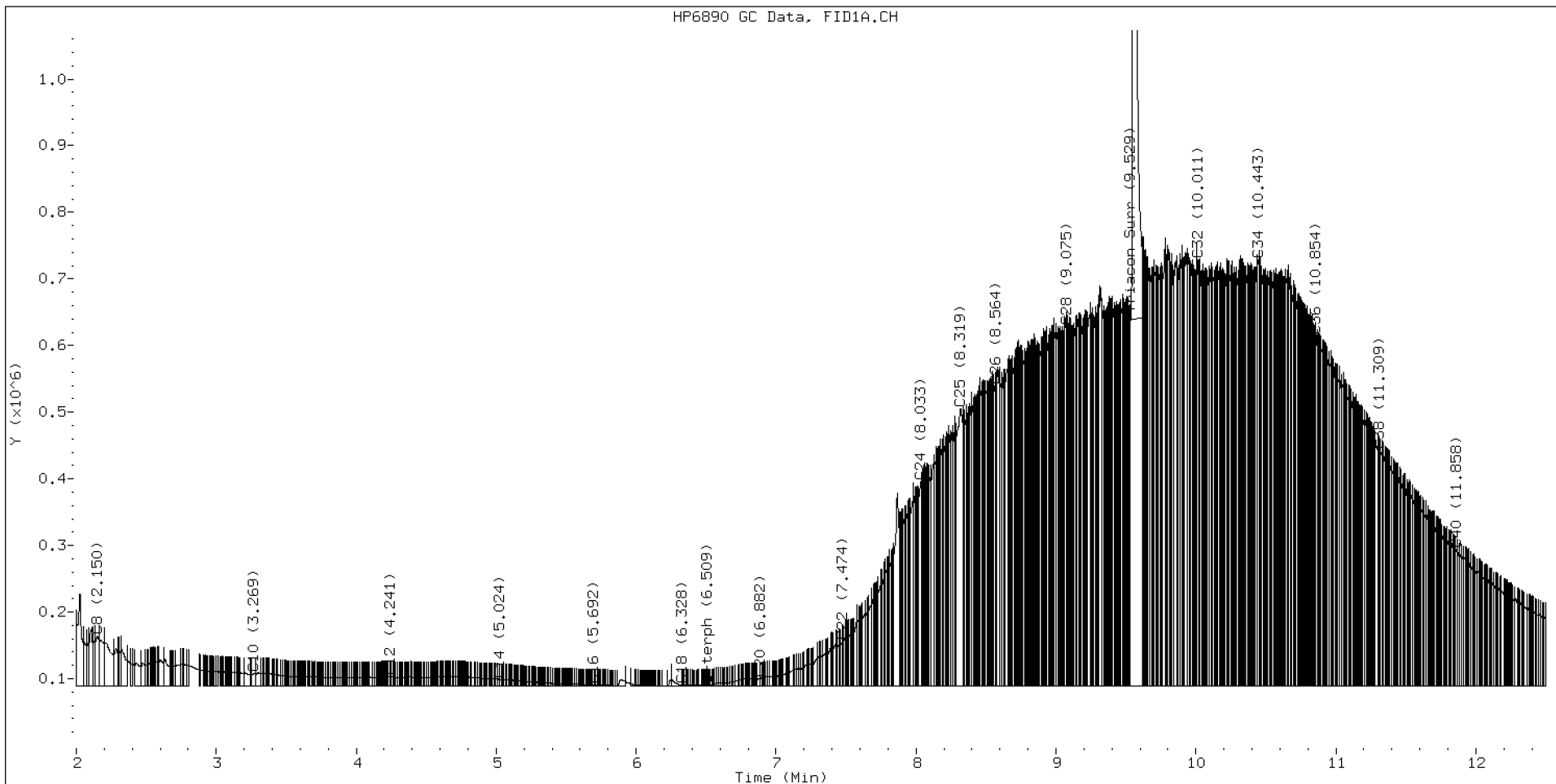
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	74771	134338	WATPHD	(C12-C24)	8555448	53.7
C10	3.269	0.001	18936	30862	WATPHM	(C24-C38)	101521093	1003.5
C12	4.241	-0.003	13823	8198	AK102	(C10-C25)	12841862	65.7
C14	5.024	0.002	10299	9083	AK103	(C25-C36)	86804393	1185.7
C16	5.692	0.004	1790	930	OR.DIES	(C10-C28)	37125765	189.4
C18	6.328	0.029	1582	935				
C20	6.882	-0.006	11147	11817	JET-A	(C10-C18)	1615268	9.6
C22	7.474	0.008	67672	77092				
C24	8.033	0.004	306185	439125				
C25	8.319	0.018	416111	1127058				
C26	8.564	-0.001	451269	313667				
C28	9.075	-0.001	539909	295930				
C32	10.011	-0.001	639854	440607				
C34	10.443	0.001	639844	540147				
Filter Peak	12.655	0.004	86624	68681	CREOSOT	(C12-C22)	2251661	54.6
C36	10.854	-0.001	524868	130805				
C38	11.309	-0.001	353422	105615				
C40	11.858	-0.004	204852	161643				
o-terph	6.509	0.002	1937	664				
Triacon Surr	9.567	-0.014	6918042	6925867	NAS DIES	(C10-C24)	9387862	48.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	664	0.0
Triacontane	6925867	46.7 M

M Indicates the peak was manually integrated

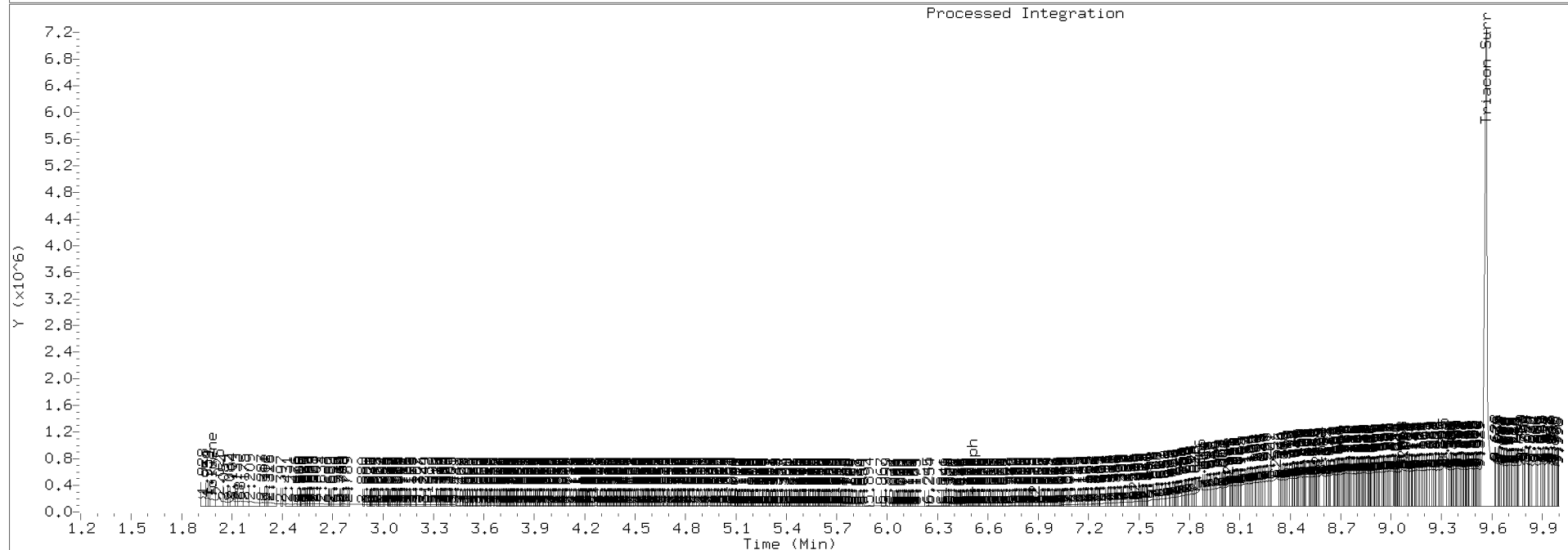
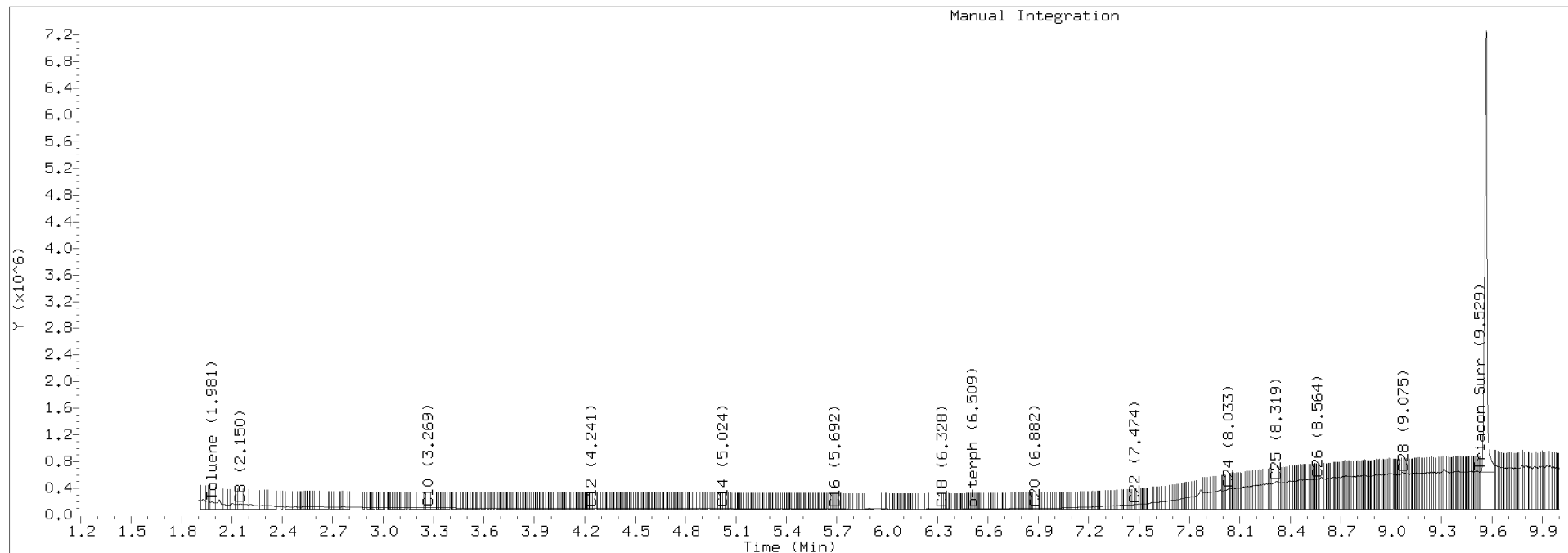
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0208.D Injection: 02-JUN-2020 09:56

Lab ID:SIF0018-CAL4

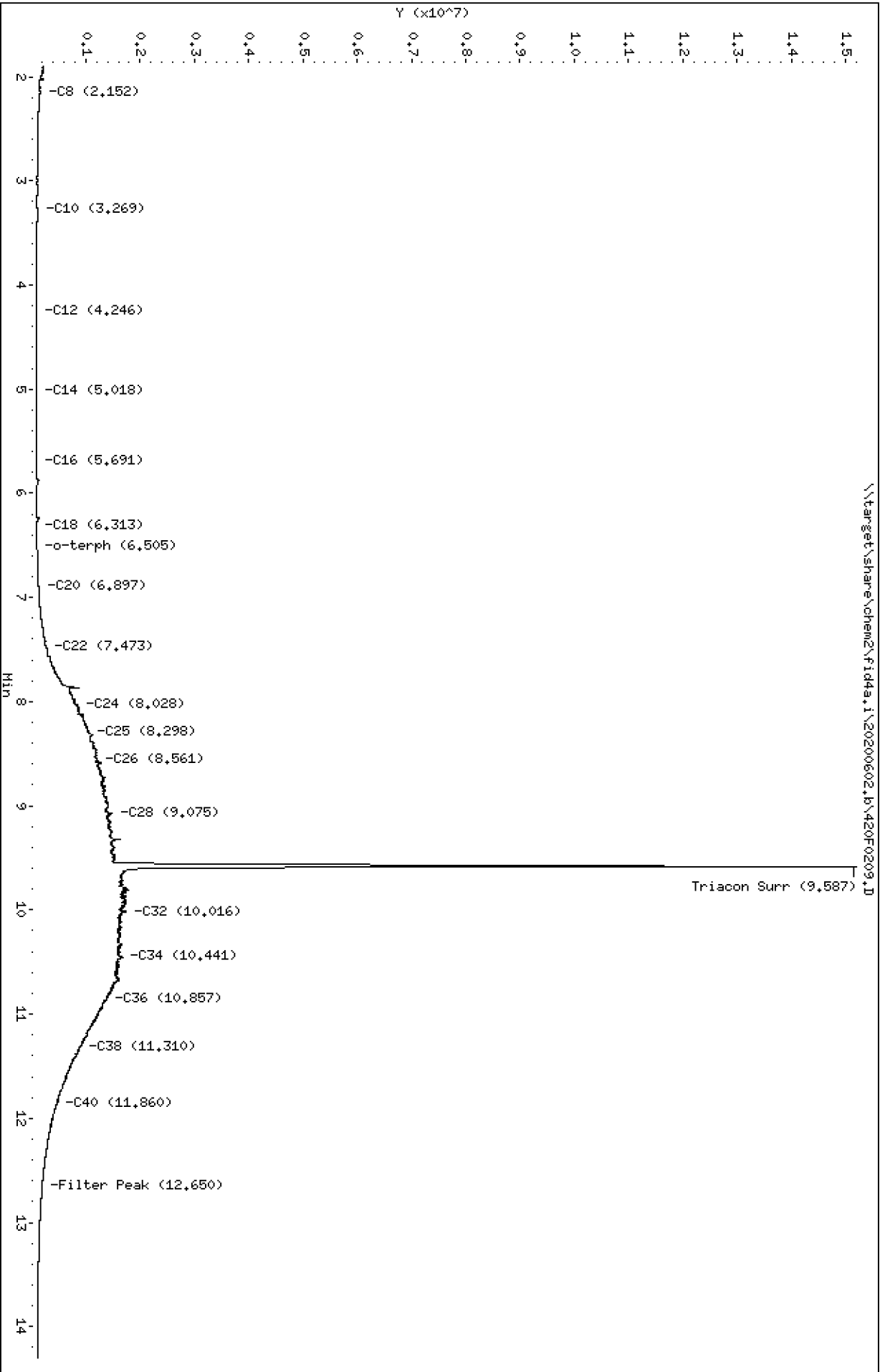


Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0209.D
Date: 02-JUN-2020 10:16
Client ID:
Sample Info: SIF0018-CAL5

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0209.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL5
Client ID:
Injection: 02-JUN-2020 10:16
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

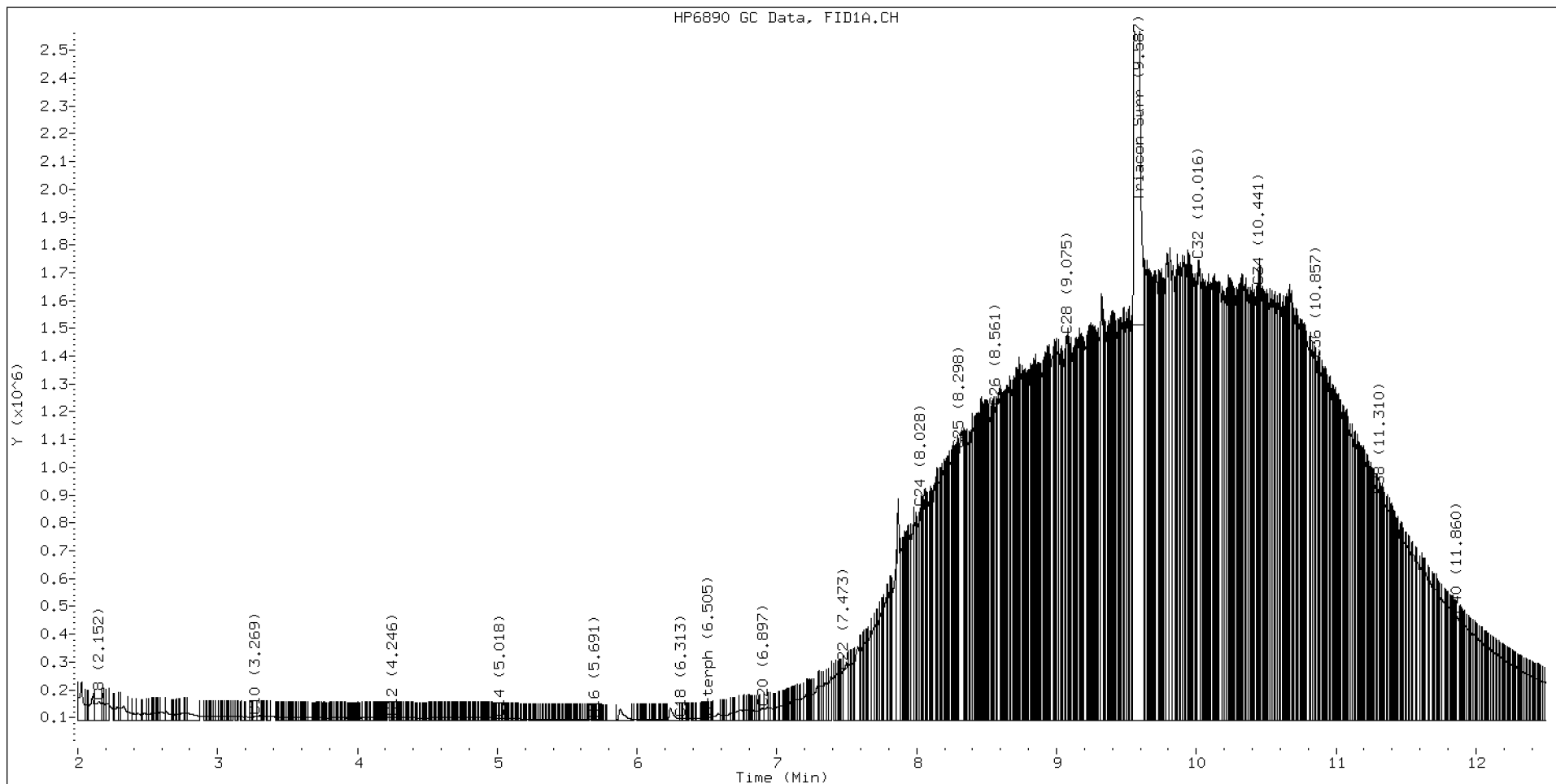
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	67731	187221	WATPHD	(C12-C24)	20822485	130.7
C10	3.269	0.000	15304	22992	WATPHM	(C24-C38)	252817754	2499.0
C12	4.246	0.002	8746	2596	AK102	(C10-C25)	30167989	154.3
C14	5.018	-0.004	7386	6763	AK103	(C25-C36)	216864710	2962.4
C16	5.691	0.003	1016	400	OR.DIES	(C10-C28)	91347766	466.1
C18	6.313	0.015	5888	3404				
C20	6.897	0.009	42706	72168	JET-A	(C10-C18)	1226841	7.3
C22	7.473	0.006	175100	153872				
C24	8.028	-0.001	763007	660412				
C25	8.298	-0.003	971912	386849				
C26	8.561	-0.004	1127303	613889				
C28	9.075	-0.002	1382437	951882				
C32	10.016	0.004	1653735	2165722				
C34	10.441	-0.000	1559614	615531				
Filter Peak	12.650	-0.001	105709	42002	CREOSOT	(C12-C22)	4802696	116.5
C36	10.857	0.002	1298073	1024006				
C38	11.310	0.001	808749	281747				
C40	11.860	-0.001	376098	494366				
o-terph	6.505	-0.001	10128	3504				
Triacon Surr	9.587	0.006	13686611	17883640	NAS DIES	(C10-C24)	21349343	109.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	3504	0.0
Triacontane	17883640	120.5 M

M Indicates the peak was manually integrated

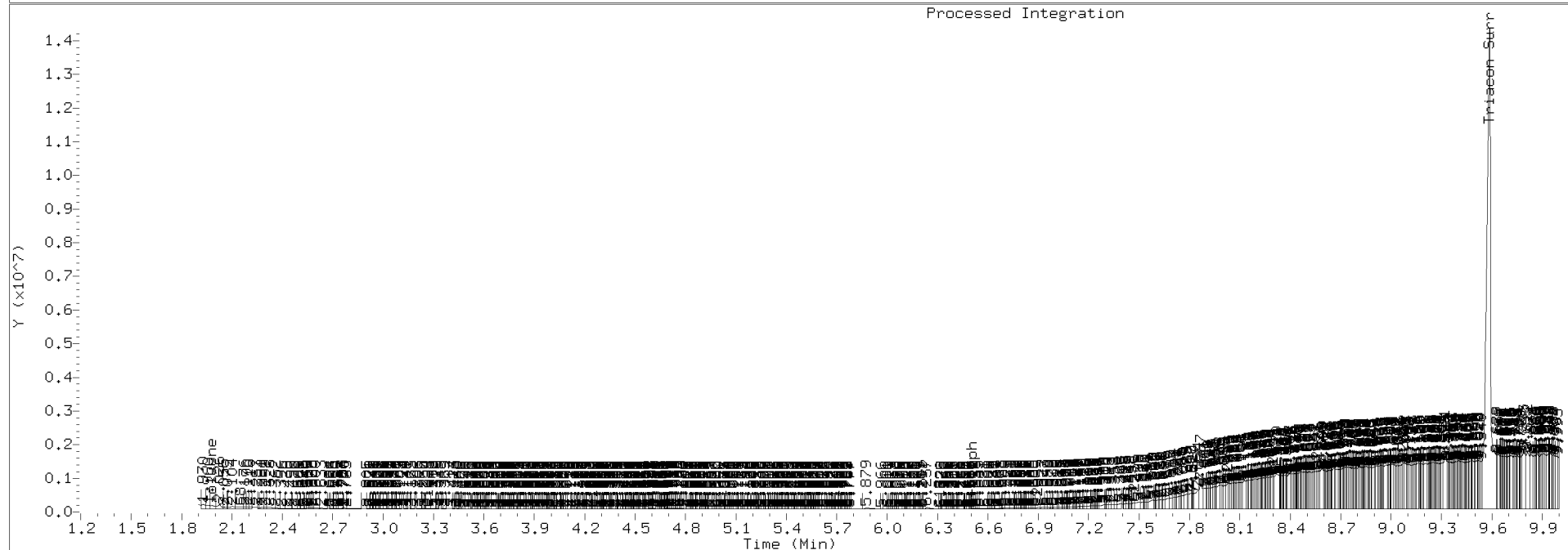
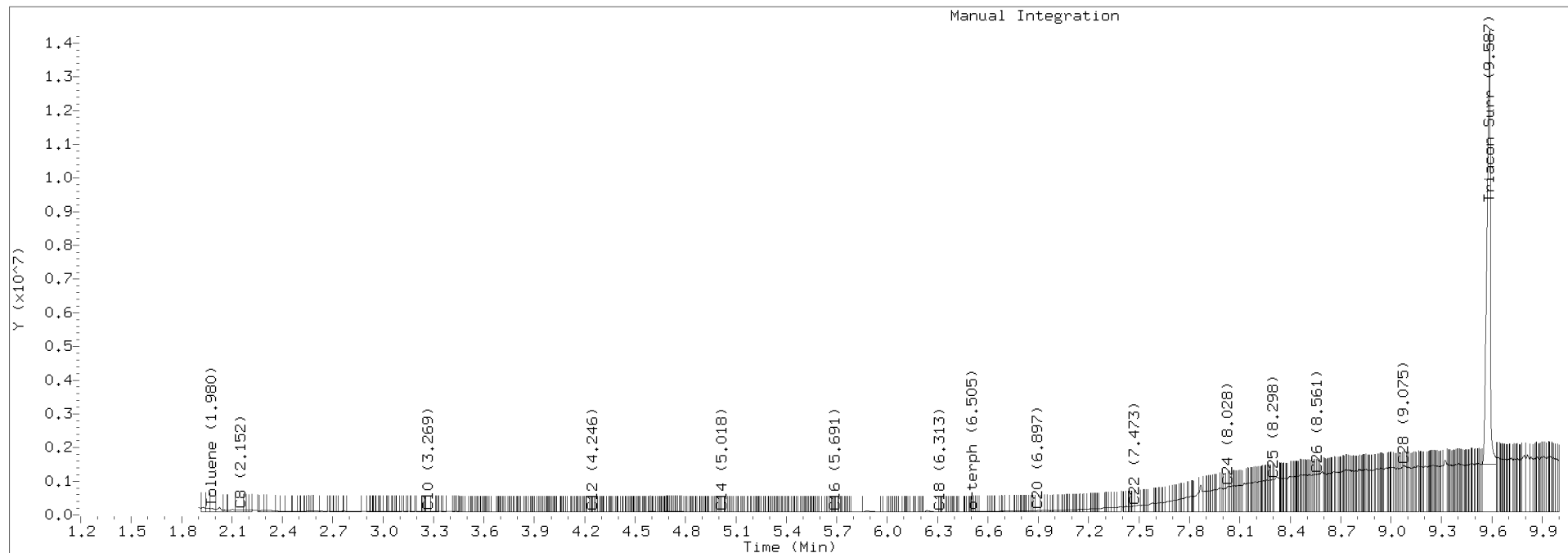
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0209.D Injection: 02-JUN-2020 10:16

Lab ID:SIF0018-CAL5



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0210.D

Date : 02-JUN-2020 10:36

Client ID:

Sample Info: SIF0018-CAL6

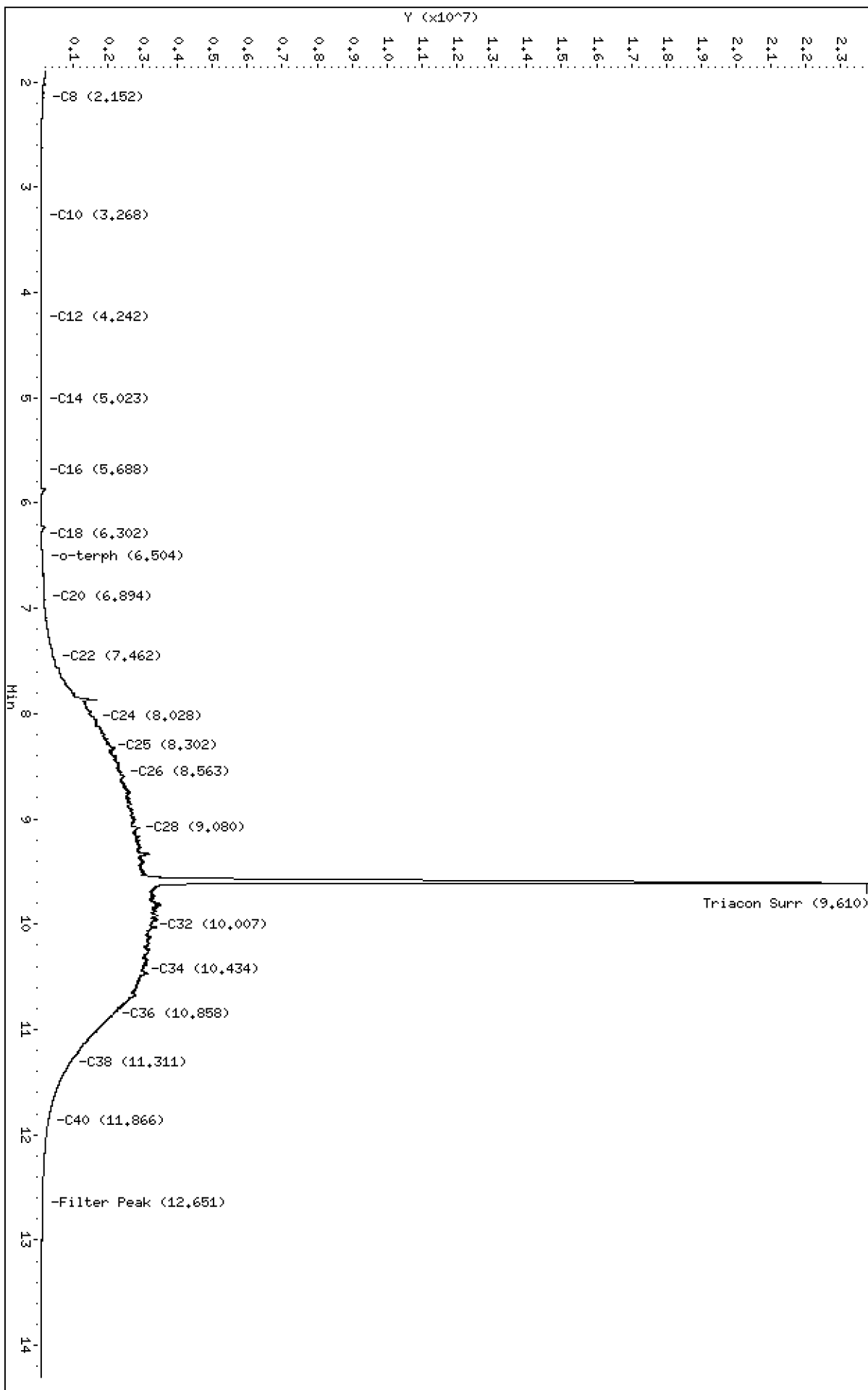
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0210.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0210.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL6
Client ID:
Injection: 02-JUN-2020 10:36
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

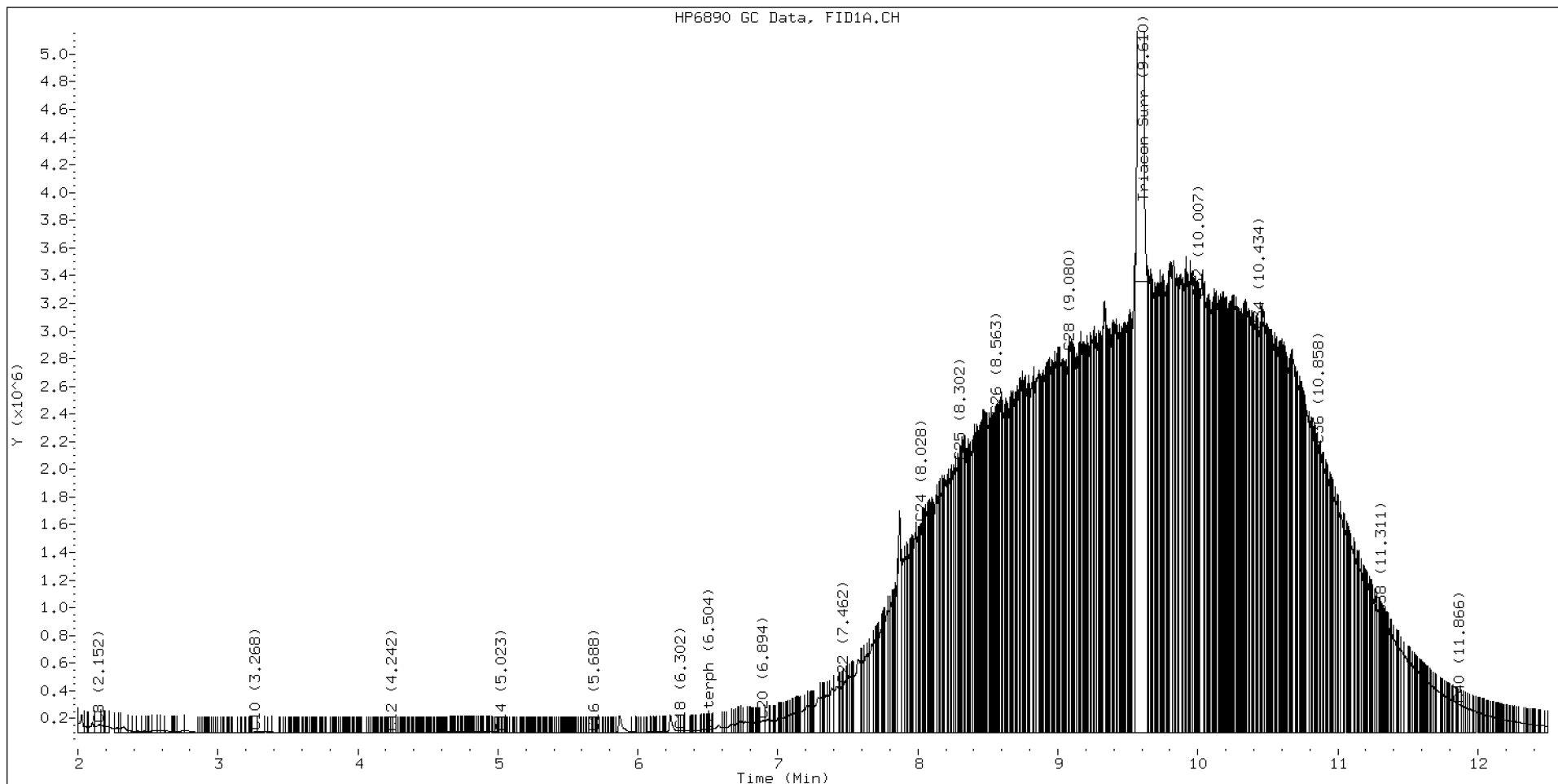
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	59759	152130	WATPHD	(C12-C24)	42097067	264.2
C10	3.268	-0.000	10906	13309	WATPHM	(C24-C38)	483979490	4784.0
C12	4.242	-0.002	3837	2144	AK102	(C10-C25)	60128324	307.6
C14	5.023	0.001	5263	2575	AK103	(C25-C36)	432878704	5913.1
C16	5.688	-0.000	5016	3894	OR.DIES	(C10-C28)	184154148	939.6
C18	6.302	0.004	14889	15133				
C20	6.894	0.006	90358	170510	JET-A	(C10-C18)	1118951	6.7
C22	7.462	-0.004	348837	170286				
C24	8.028	-0.001	1514675	949832				
C25	8.302	0.001	1962082	1344009				
C26	8.563	-0.002	2289043	1251416				
C28	9.080	0.003	2750480	953261				
C32	10.007	-0.005	3143736	1251600				
C34	10.434	-0.008	2911308	1732712				
Filter Peak	12.651	-0.000	36927	34124	CREOSOT	(C12-C22)	10157950	246.3
C36	10.858	0.003	2076086	2039708				
C38	11.311	0.001	852892	501049				
C40	11.866	0.004	208322	233733				
o-terph	6.504	-0.003	25014	7430				
Triacon Surr	9.610	0.029	20463550	34084629	NAS DIES	(C10-C24)	42231077	216.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	7430	0.0
Triacontane	34084629	229.7 M

M Indicates the peak was manually integrated

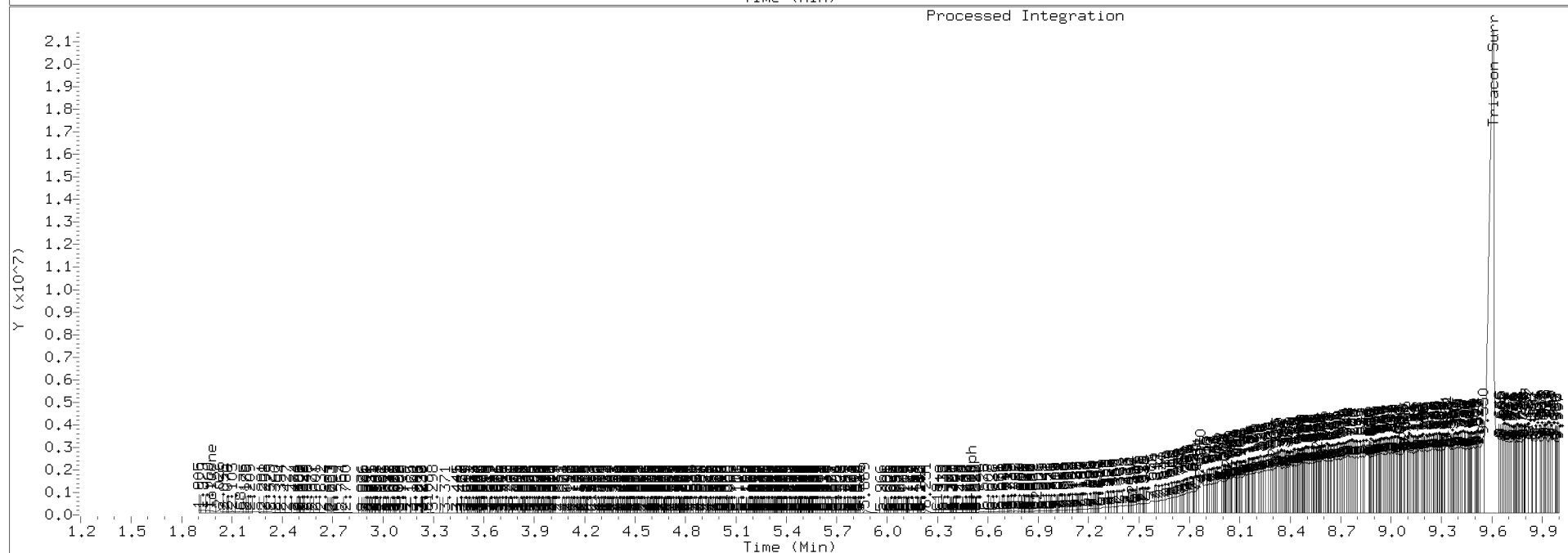
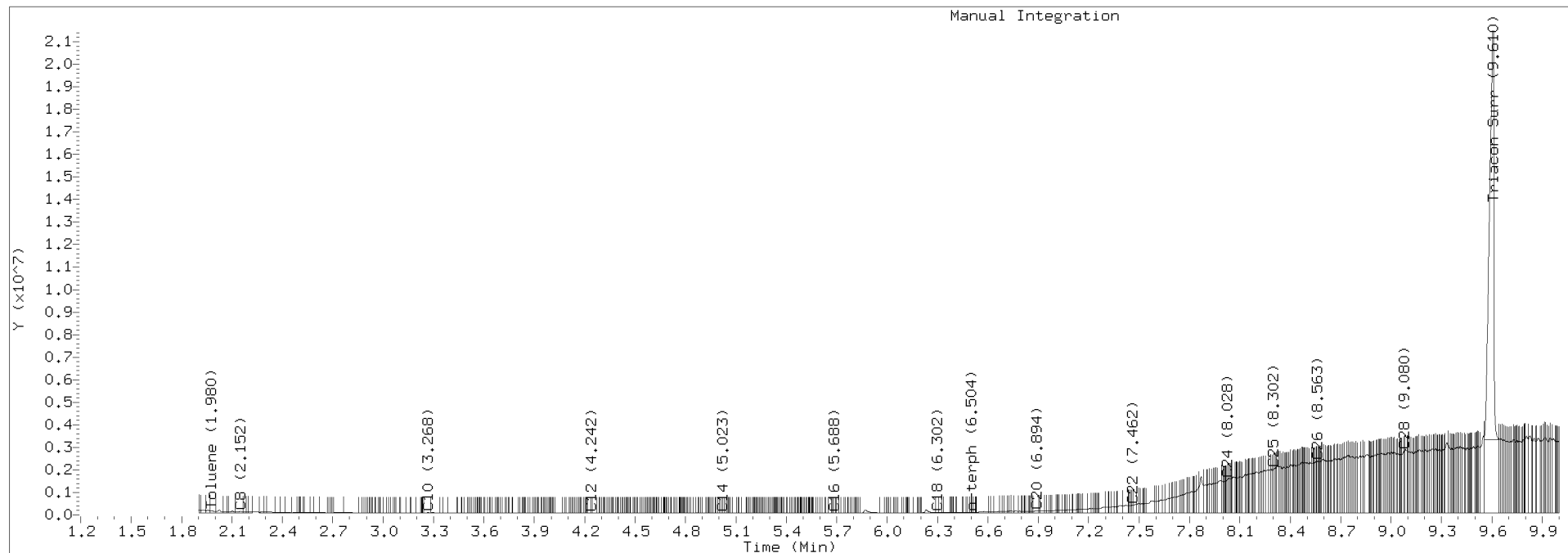
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0210.D Injection: 02-JUN-2020 10:36

Lab ID:SIF0018-CAL6



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

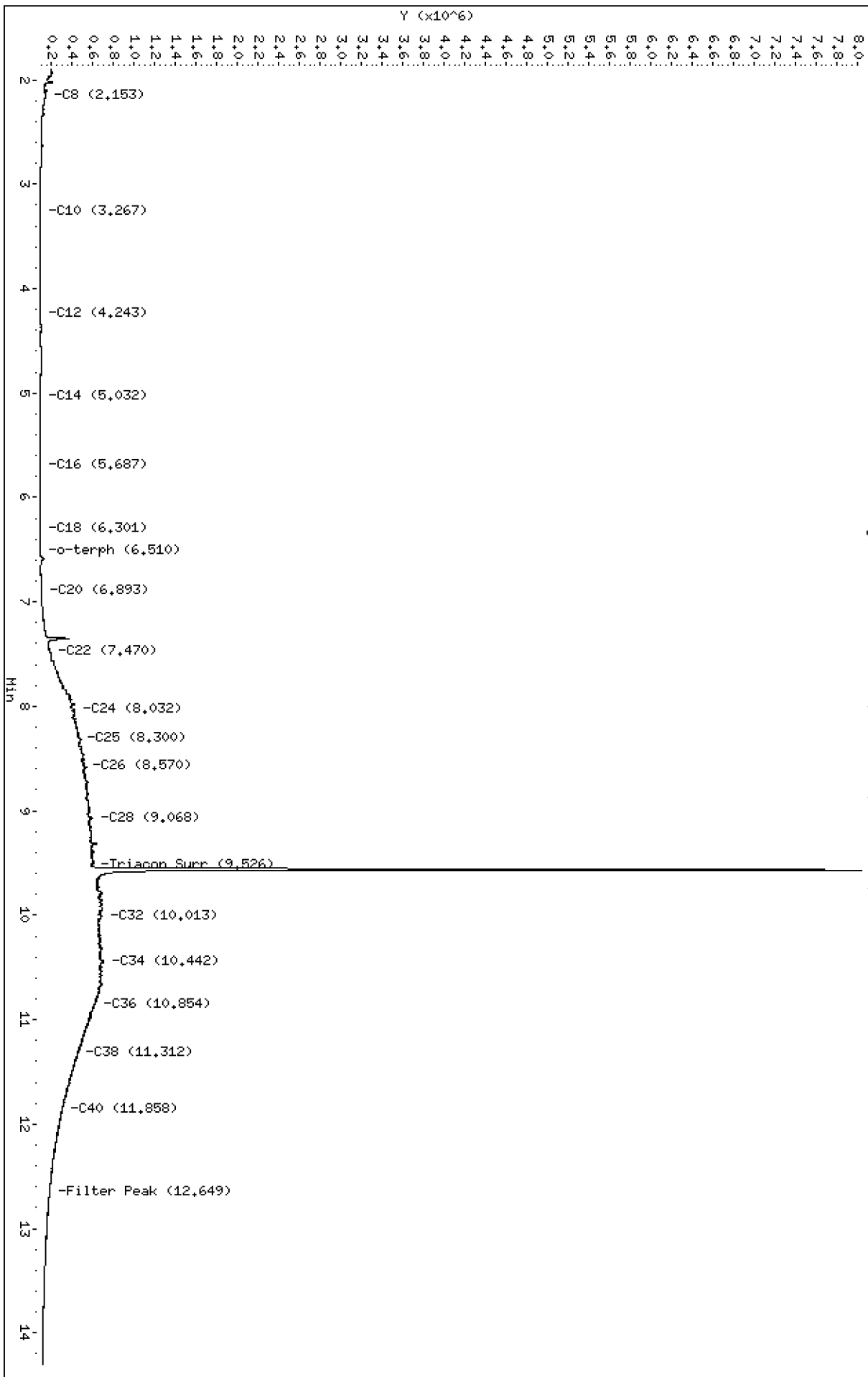
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

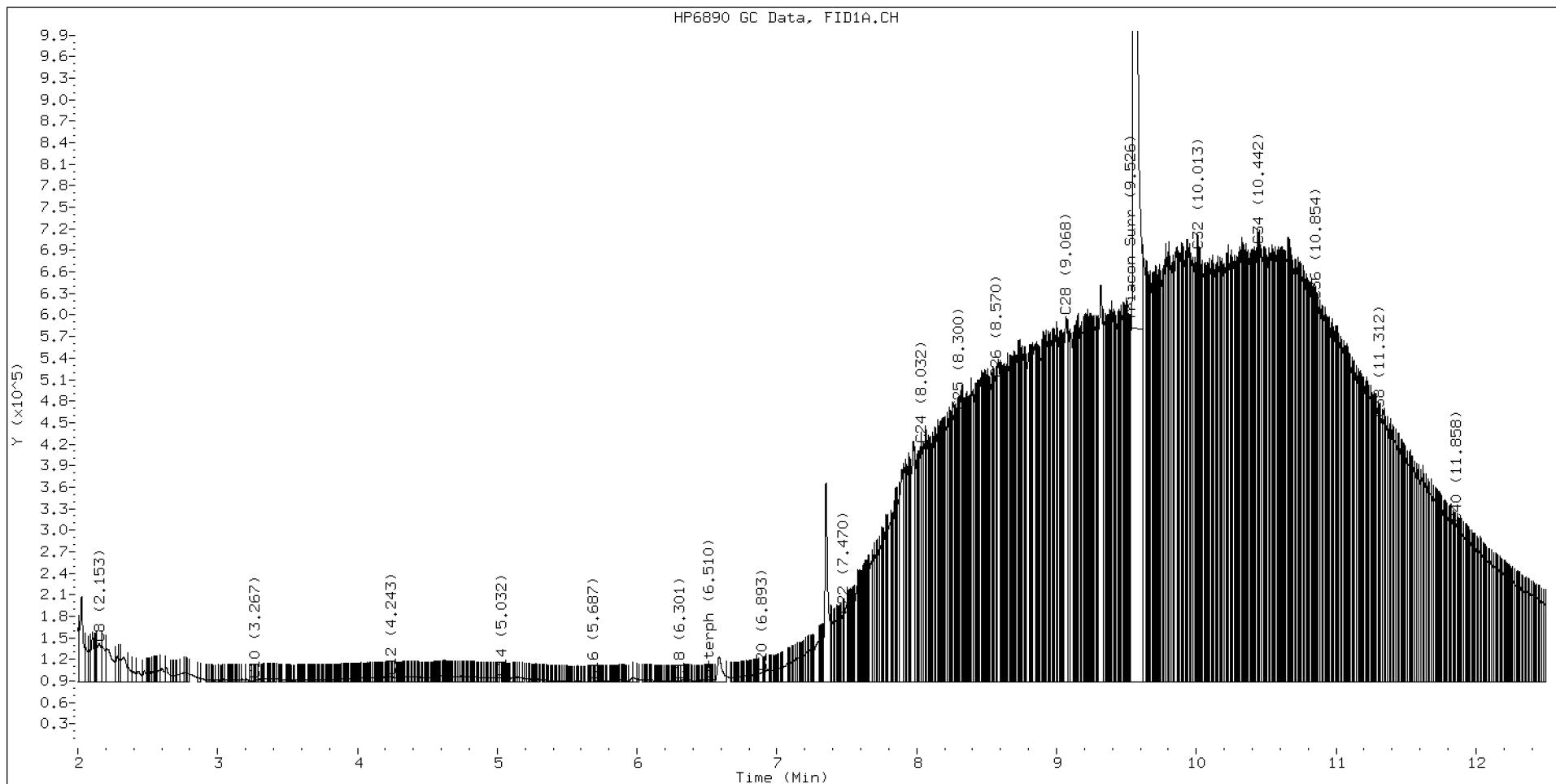
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

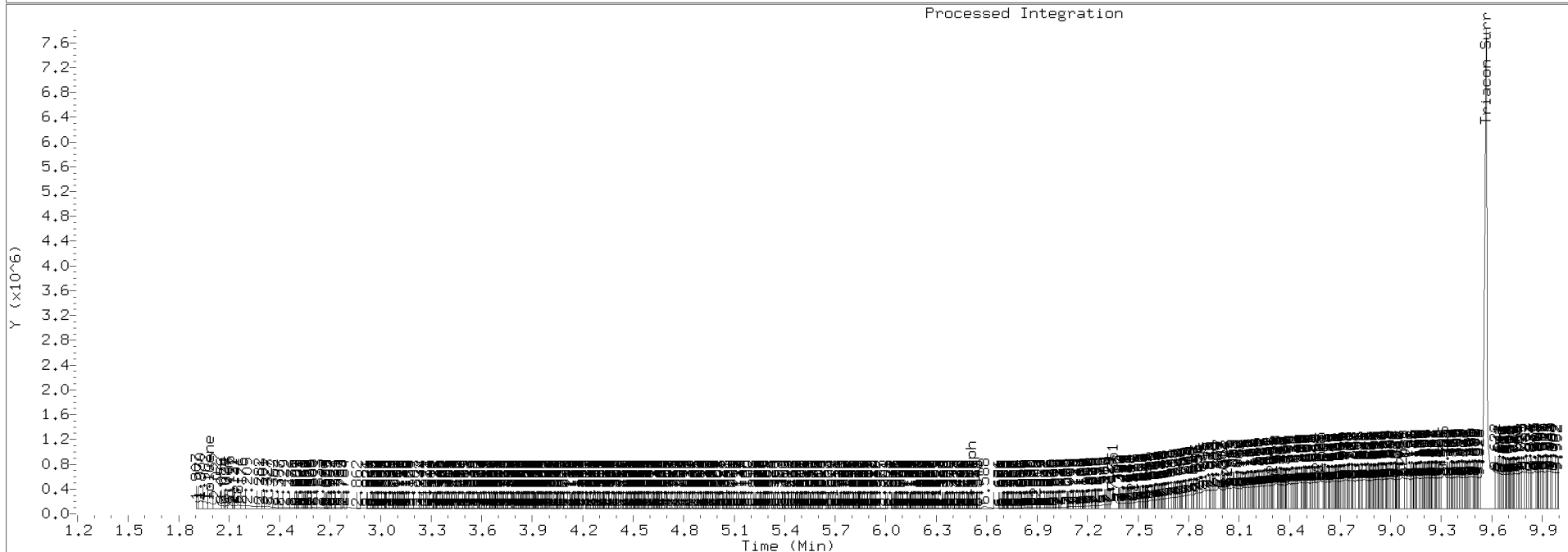
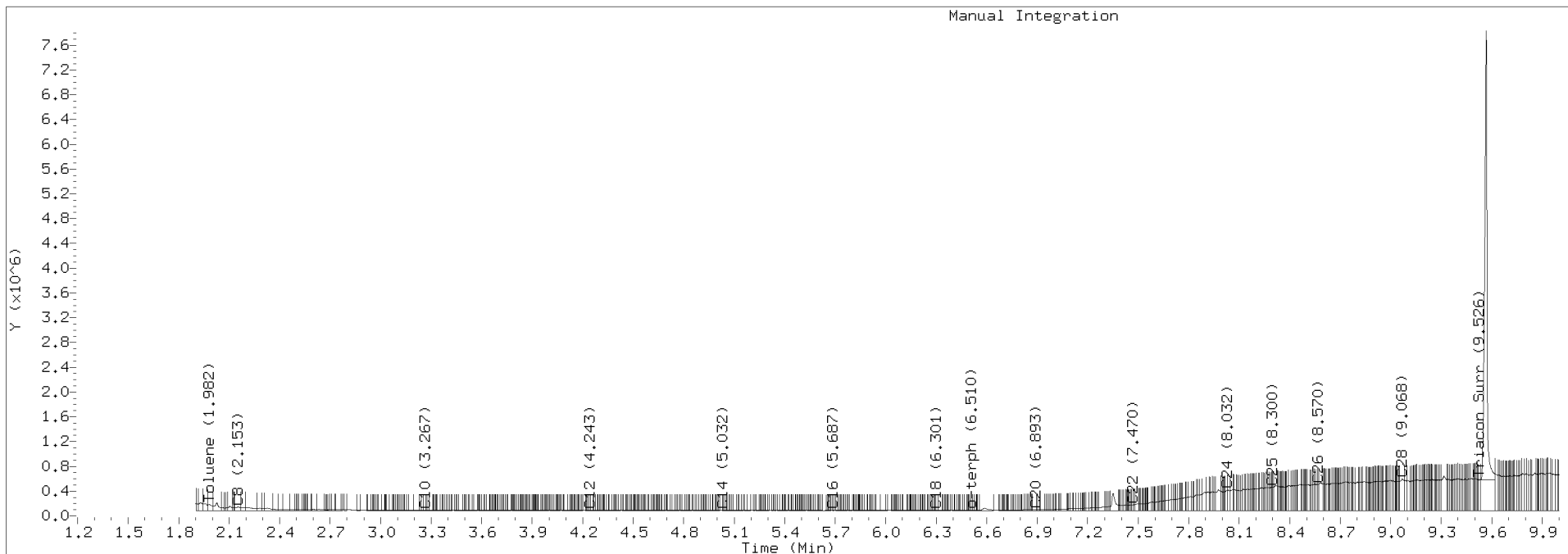
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

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1	10-AUG-2020	08:11	420H1001.D	1	RINSE	
2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
46	11-AUG-2020	01:44	420H1046.D	1	BIH0166-BS1	
47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
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GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
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53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

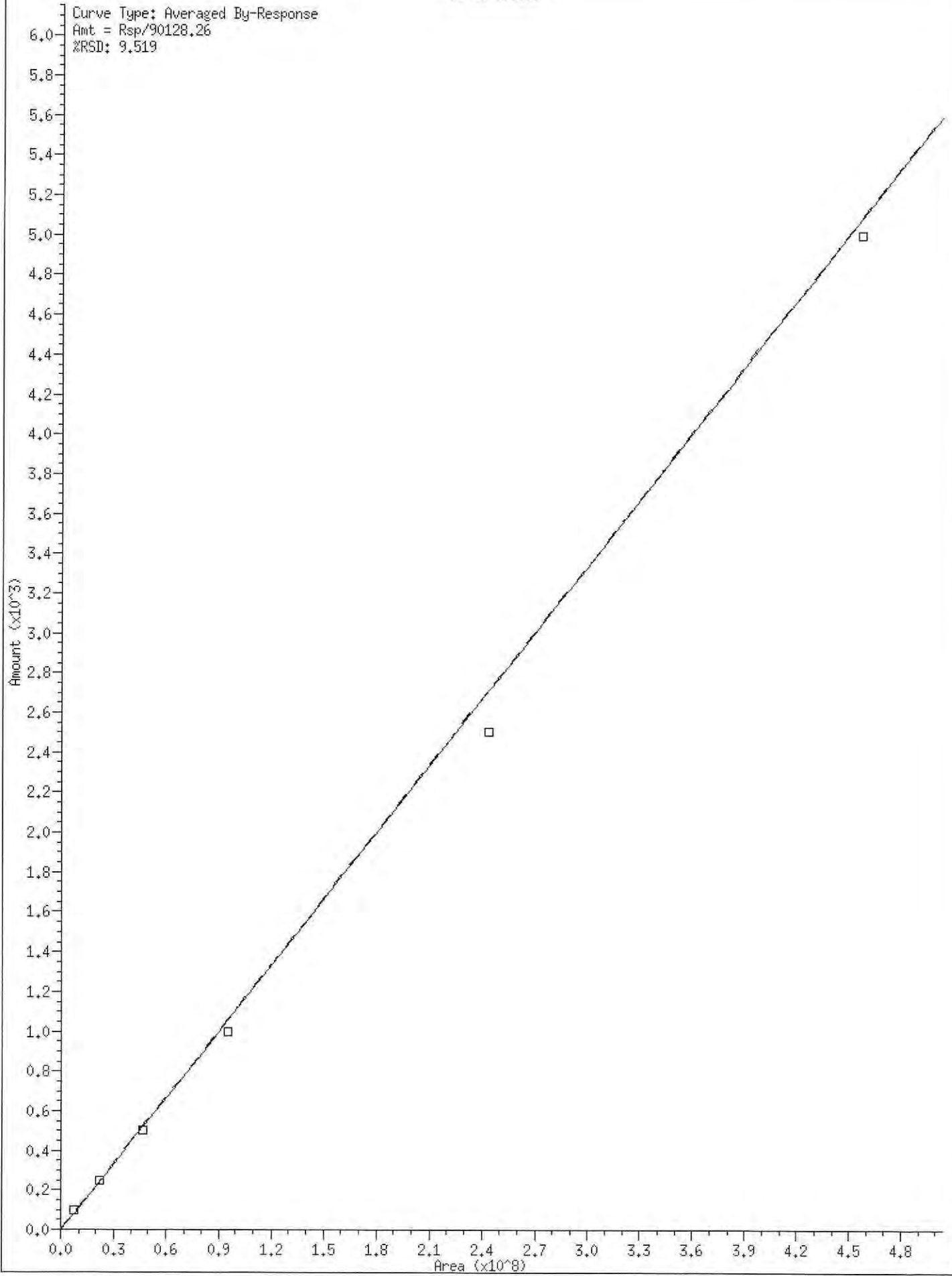
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0830	420H1002.D	RINSE		1	NO MANUAL INTEGRATION
0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1003.D	Data Locked	christopher, 10-Aug-2020 15:38
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420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
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420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38

Curve Type: Averaged By-Response
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%RSD: 9.519



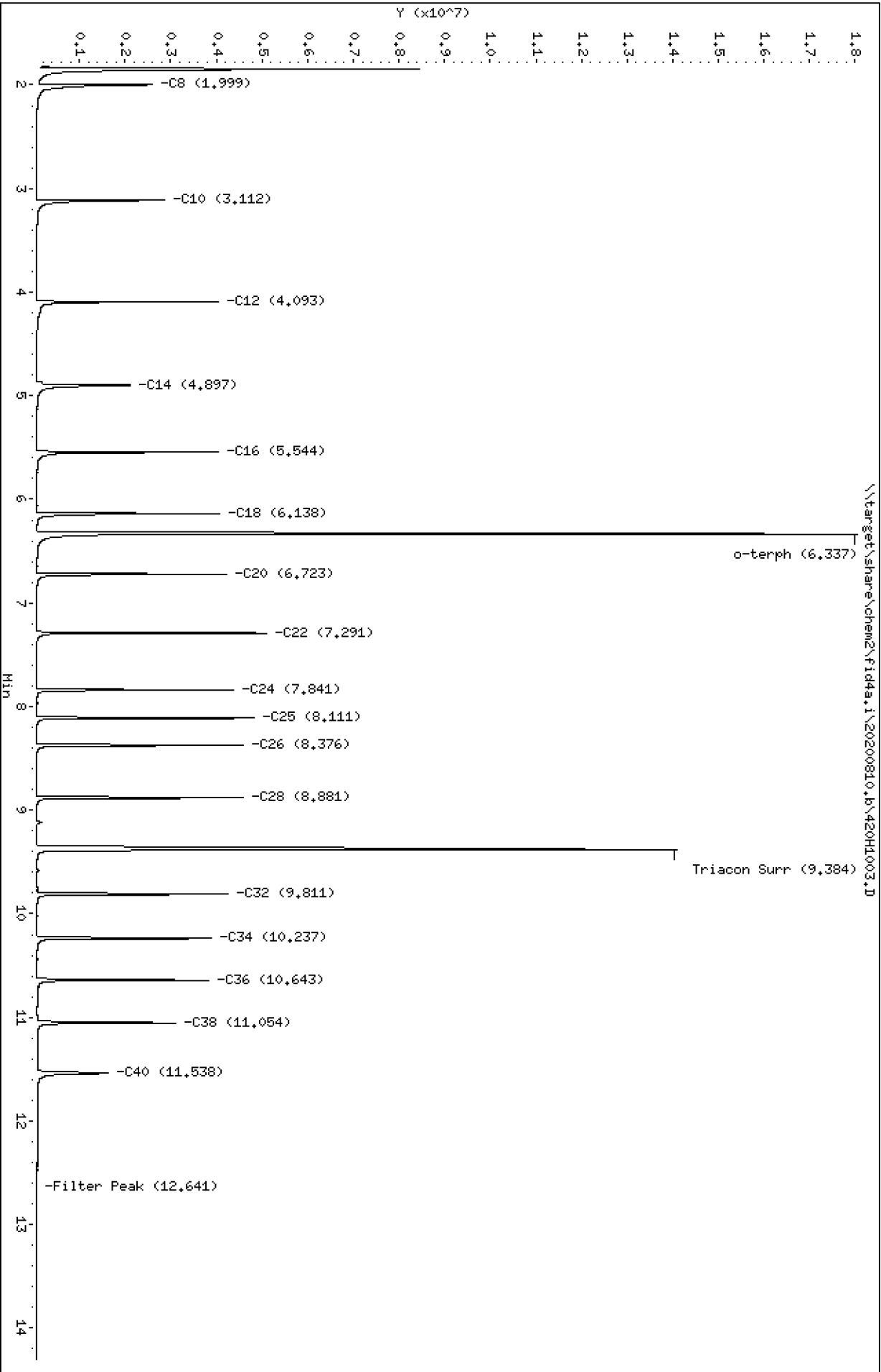
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Date: 10-AUG-2020 08:50
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1003.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 10-AUG-2020 08:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

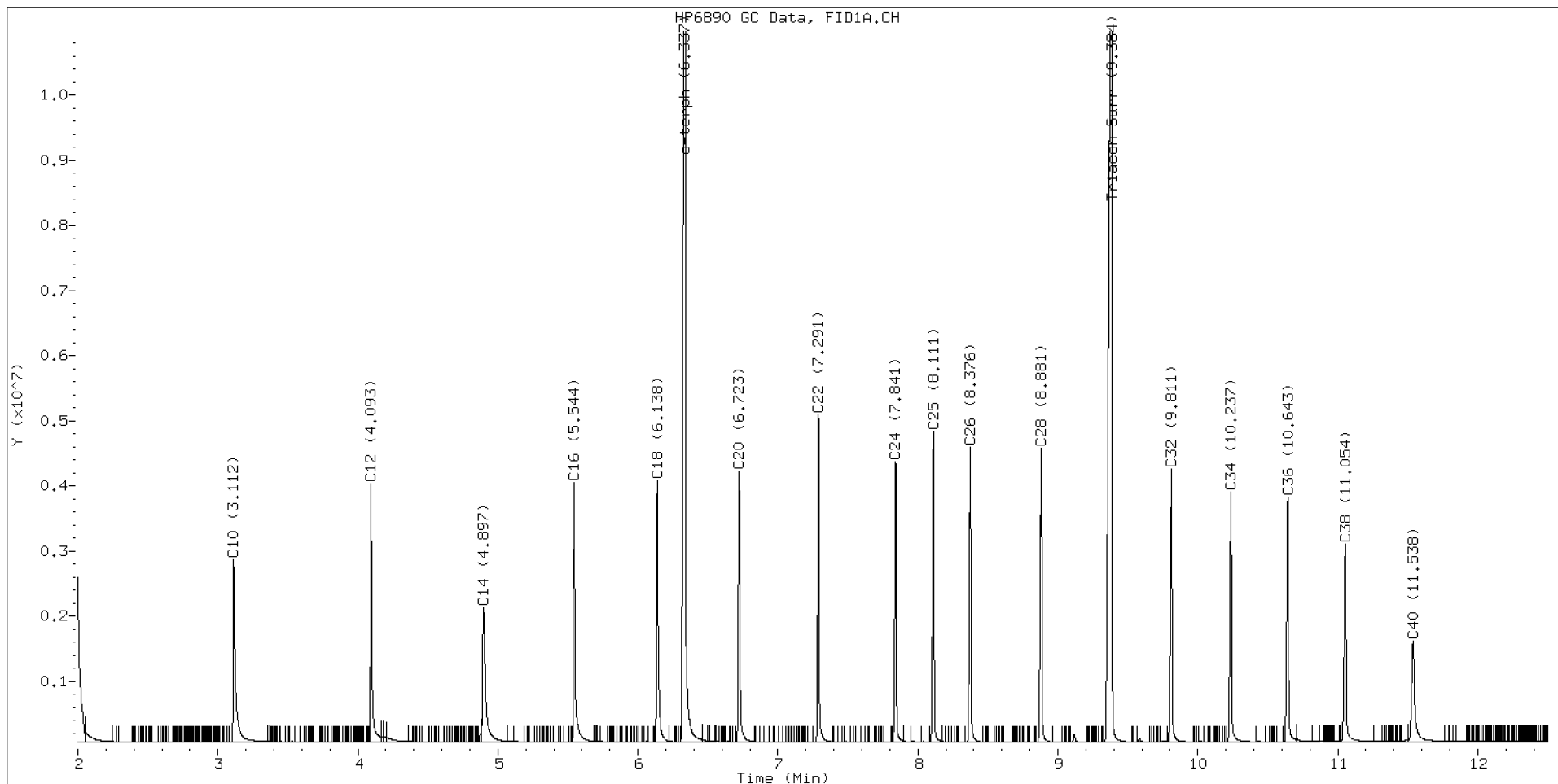
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.999	0.000	2540721	3264726	WATPHD	(C12-C24)	22306304	140.0
C10	3.112	0.000	2810194	3442755	WATPHM	(C24-C38)	26298631	260.0
C12	4.093	0.000	3978222	2976186	AK102	(C10-C25)	29087658	148.8
C14	4.897	0.000	2063035	3357028	AK103	(C25-C36)	22563075	308.2
C16	5.544	0.000	3983822	3466435	OR.DIES	(C10-C28)	40321674	205.7
C18	6.138	0.000	4016286	3502383				
C20	6.723	0.000	4164481	3619197	JET-A	(C10-C18)	18085569	107.7
C22	7.291	0.000	5031917	3645250				
C24	7.841	0.000	4315294	3204971				
C25	8.111	0.000	4771856	3679162				
C26	8.376	0.000	4526404	3716371				
C28	8.881	0.000	4514102	3764243				
C32	9.811	0.000	4195592	3775835				
C34	10.237	0.000	3847931	3544071				
Filter Peak	12.641	0.000	14794	6644	CREOSOT	(C12-C22)	19024422	211.1
C36	10.643	0.000	3772310	3456667				
C38	11.054	0.000	3044407	3312686				
C40	11.538	0.000	1563052	2782086				
o-terph	6.337	0.000	17989088	19759793				
Triacon Surr	9.384	0.000	14032526	21215524	NAS DIES	(C10-C24)	28998485	148.6

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	19759793	96.5
Triacontane	21215524	143.0

M Indicates the peak was manually integrated

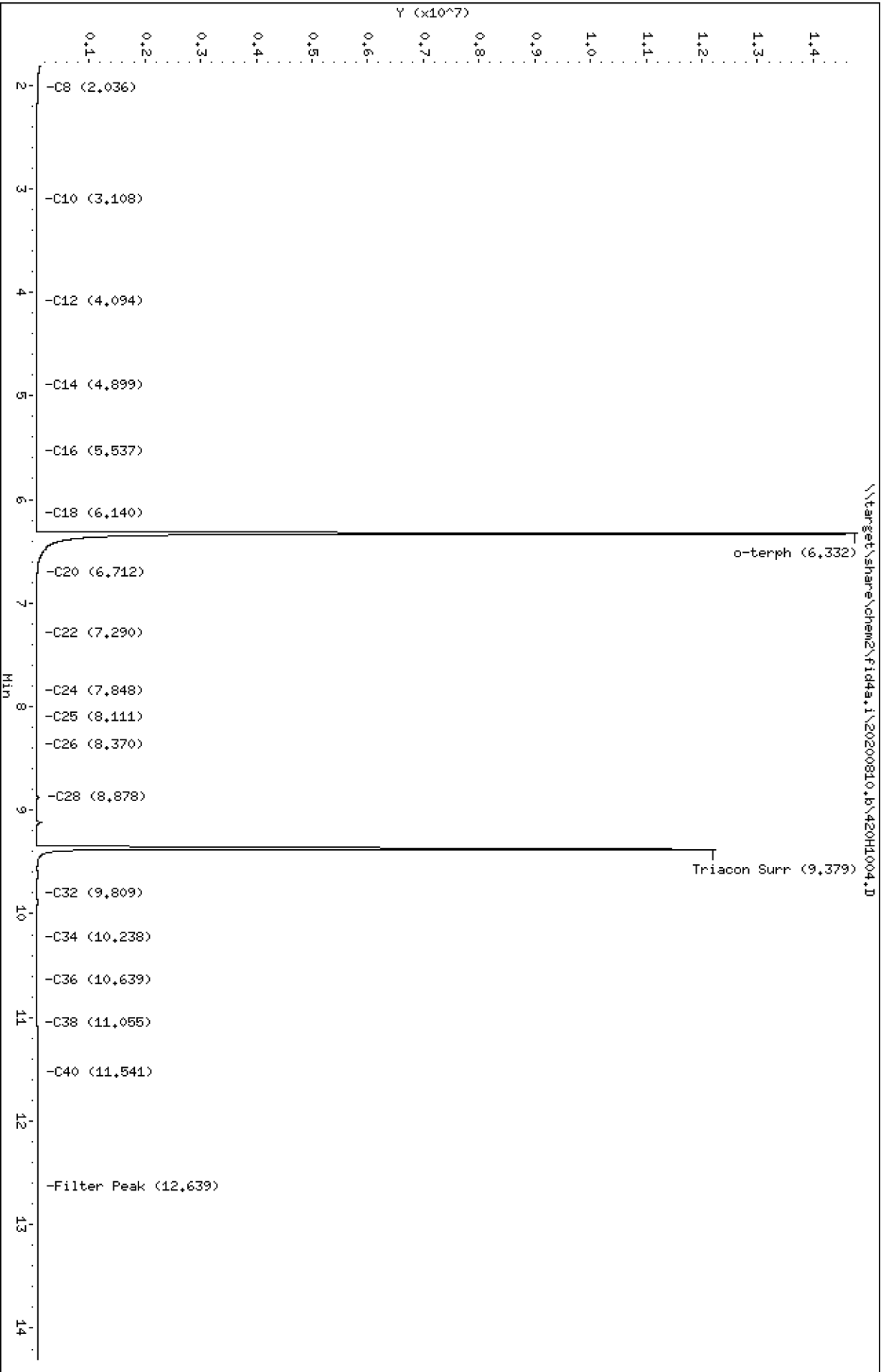
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1004.D
Date: 10-AUG-2020 09:10
Client ID:
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1004.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 10-AUG-2020 09:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

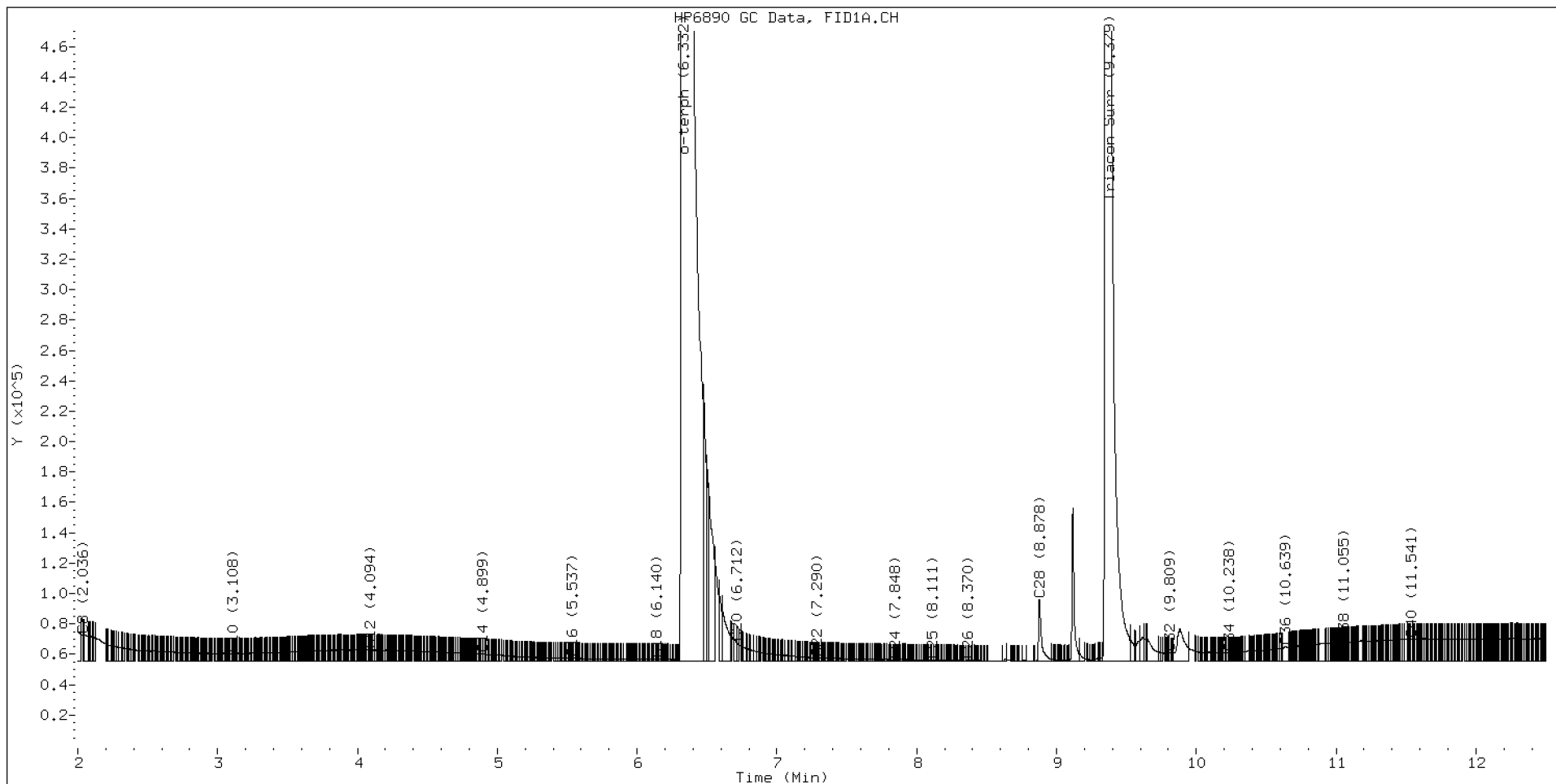
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.036	0.037	17008	10175	WATPHD	(C12-C24)	1331558	8.4
C10	3.108	-0.005	5021	2233	WATPHM	(C24-C38)	996053	9.8
C12	4.094	0.001	7426	3680	AK102	(C10-C25)	1724501	8.8
C14	4.899	0.001	4565	910	AK103	(C25-C36)	714743	9.8
C16	5.537	-0.007	2052	1468	OR.DIES	(C10-C28)	1799717	9.2
C18	6.140	0.002	1105	606				
C20	6.712	-0.011	12436	11107	JET-A	(C10-C18)	777990	4.6
C22	7.290	-0.000	2229	1416				
C24	7.848	0.006	1012	430				
C25	8.111	-0.000	658	573				
C26	8.370	-0.005	358	107				
C28	8.878	-0.004	40640	60459				
C32	9.809	-0.001	5465	5260				
C34	10.238	0.000	5599	2503				
Filter Peak	12.639	-0.001	14778	9572	CREOSOT	(C12-C22)	1289747	14.3
C36	10.639	-0.005	9656	22858				
C38	11.055	0.001	12241	5462				
C40	11.541	0.003	14617	10157				
o-terph	6.332	-0.005	14738078	18875440				
Triacon Surr	9.379	-0.005	12182512	16667134	NAS DIES	(C10-C24)	1715942	8.8

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18875440	92.2
Triacontane	16667134	112.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



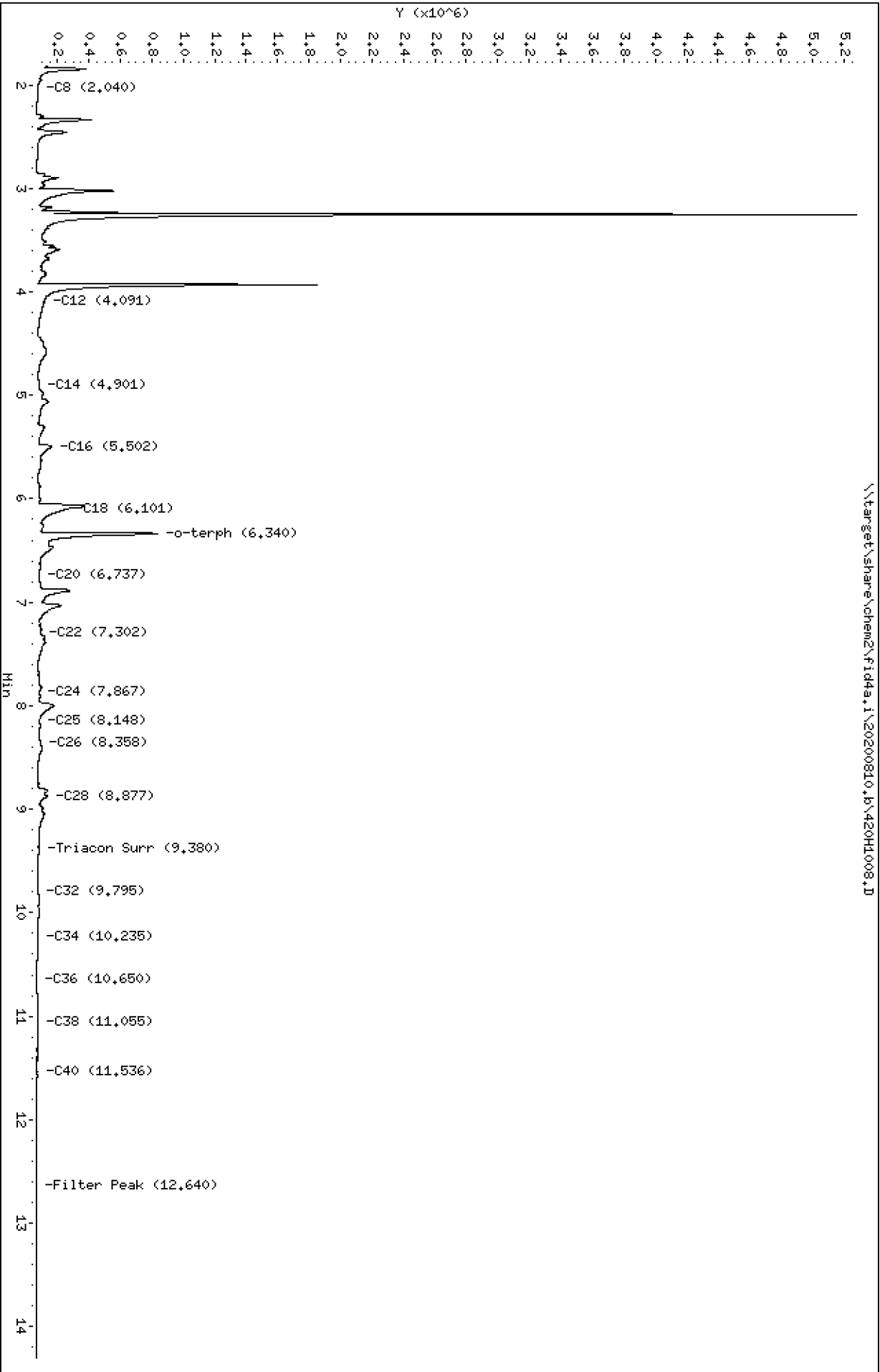
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Date: 10-AUG-2020 11:44
Client ID:
Sample Info: SEQ-CALL

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1008.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 10-AUG-2020 11:44
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

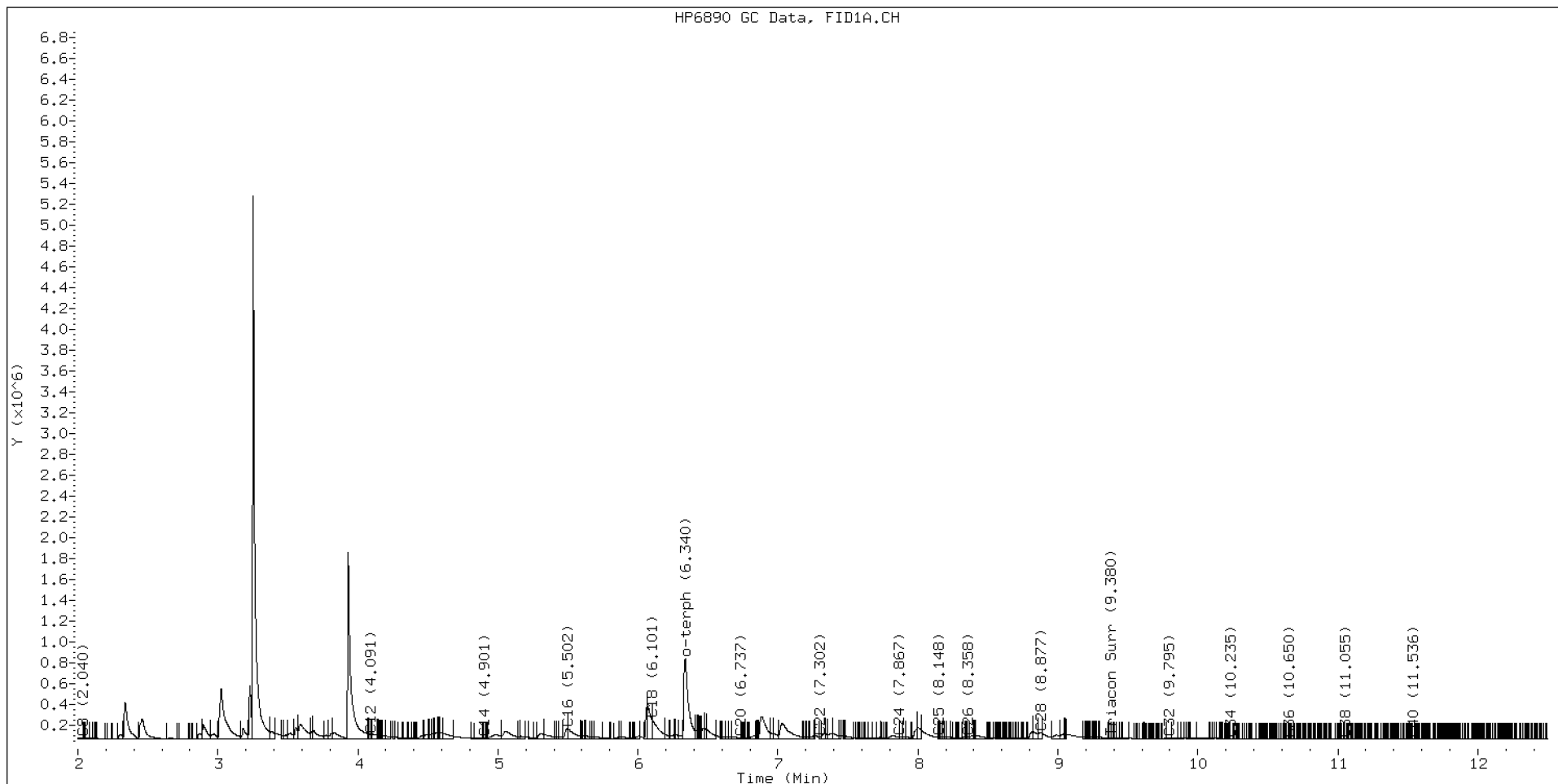
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.040	0.041	9503	2838	WATPHD	(C12-C24)	8080791	50.7
C10	----				WATPHM	(C24-C38)	2579077	25.5
C12	4.091	-0.003	48194	23669	AK102	(C10-C25)	19525938	99.9
C14	4.901	0.004	17148	14774	AK103	(C25-C36)	2056688	28.1
C16	5.502	-0.042	98467	314876	OR.DIES	(C10-C28)	20511038	104.6
C18	6.101	-0.037	189826	593277				
C20	6.737	0.014	14982	5936	JET-A	(C10-C18)	15329343	91.3
C22	7.302	0.012	27302	26565				
C24	7.867	0.026	21147	7324				
C25	8.148	0.037	19796	7876				
C26	8.358	-0.018	27281	17420				
C28	8.877	-0.004	67902	107454				
C32	9.795	-0.016	12040	22767				
C34	10.235	-0.003	7524	8634				
Filter Peak	12.640	-0.001	3106	1077	CREOSOT	(C12-C22)	7382186	81.9
C36	10.650	0.007	3324	1958				
C38	11.055	0.001	5084	2761				
C40	11.536	-0.002	4406	4074				
o-terph	6.340	0.002	772053	1761409				
Triacon Surr	9.380	-0.004	14077	10247	NAS DIES	(C10-C24)	19109345	97.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	1761409	8.6
Triacontane	10247	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1009.D
Date: 10-AUG-2020 12:03

Client ID:

Sample Info: SEQ-CAL2

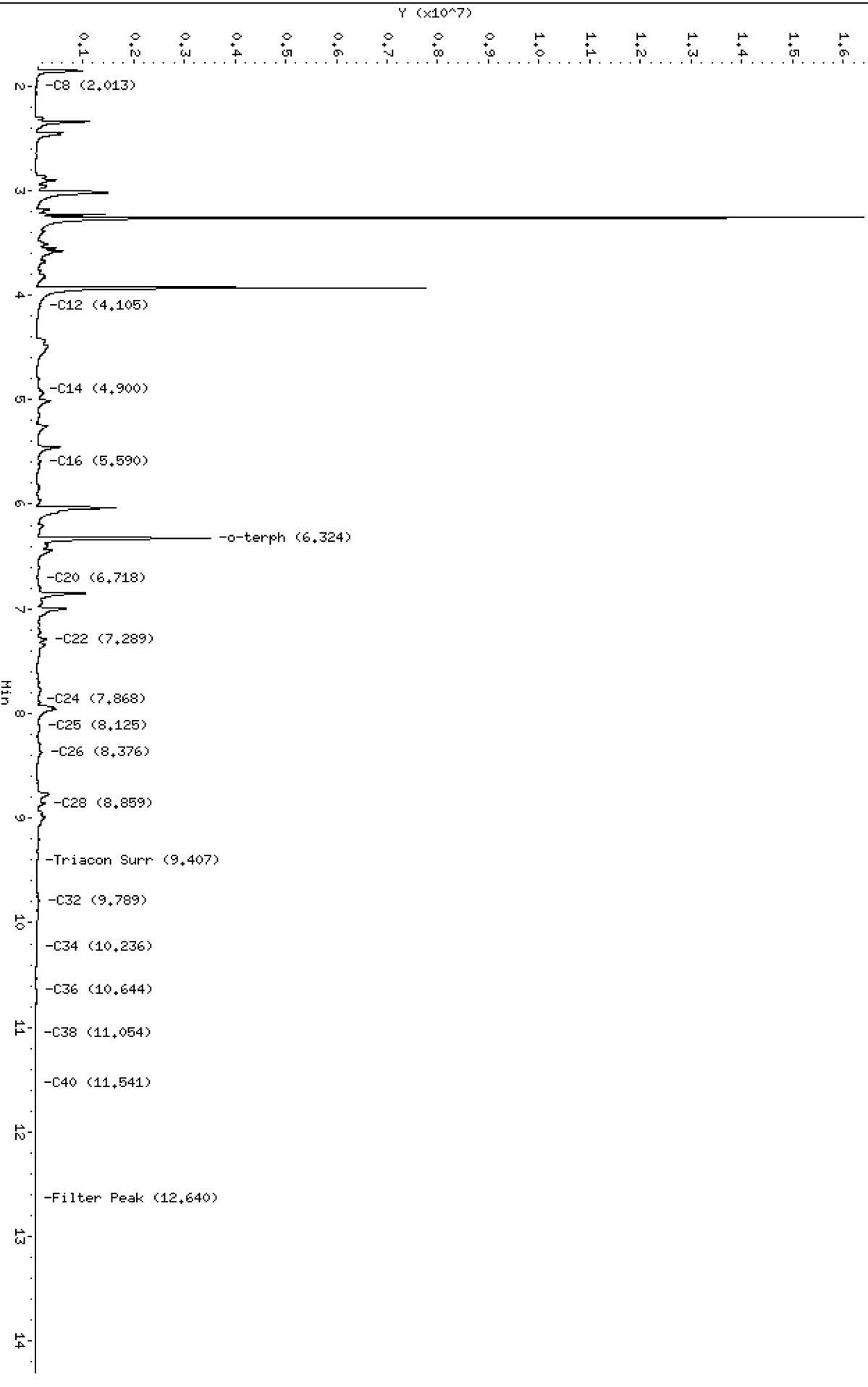
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1009.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1009.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 10-AUG-2020 12:03
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

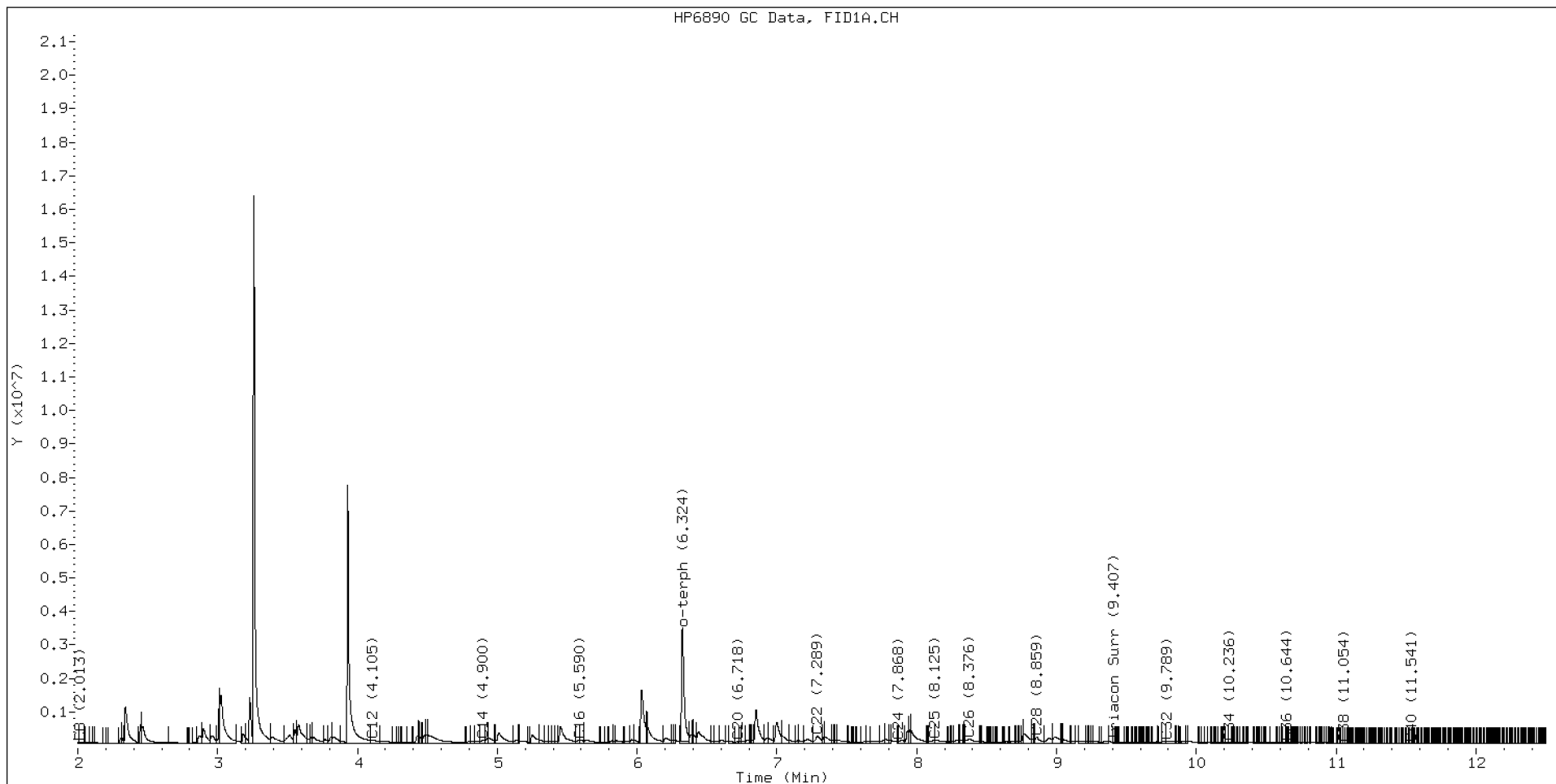
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.013	0.014	13752	23396	WATPHD	(C12-C24)	24094230	151.2
C10	----				WATPHM	(C24-C38)	9822291	97.1
C12	4.105	0.012	97213	295971	AK102	(C10-C25)	55662092	284.7
C14	4.900	0.003	96654	172578	AK103	(C25-C36)	7689863	105.0
C16	5.590	0.046	100512	127761	OR.DIES	(C10-C28)	59384249	303.0
C18	----							
C20	6.718	-0.005	43007	69493	JET-A	(C10-C18)	42803912	254.9
C22	7.289	-0.001	213953	504363				
C24	7.868	0.026	51518	25580				
C25	8.125	0.014	87057	179953				
C26	8.376	0.000	125029	524631				
C28	8.859	-0.023	181002	435693				
C32	9.789	-0.022	68586	223761				
C34	10.236	-0.001	21356	24080				
Filter Peak	12.640	-0.000	3549	1227	CREOSOT	(C12-C22)	22100398	245.2
C36	10.644	0.001	13989	3478				
C38	11.054	-0.000	9429	6073				
C40	11.541	0.003	5623	1672				
o-terph	6.324	-0.013	3394533	4330623				
Triacon Surr	9.407	0.023	36620	30128	NAS DIES	(C10-C24)	53743053	275.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	4330623	21.2 M
Triacontane	30128	0.2

M Indicates the peak was manually integrated

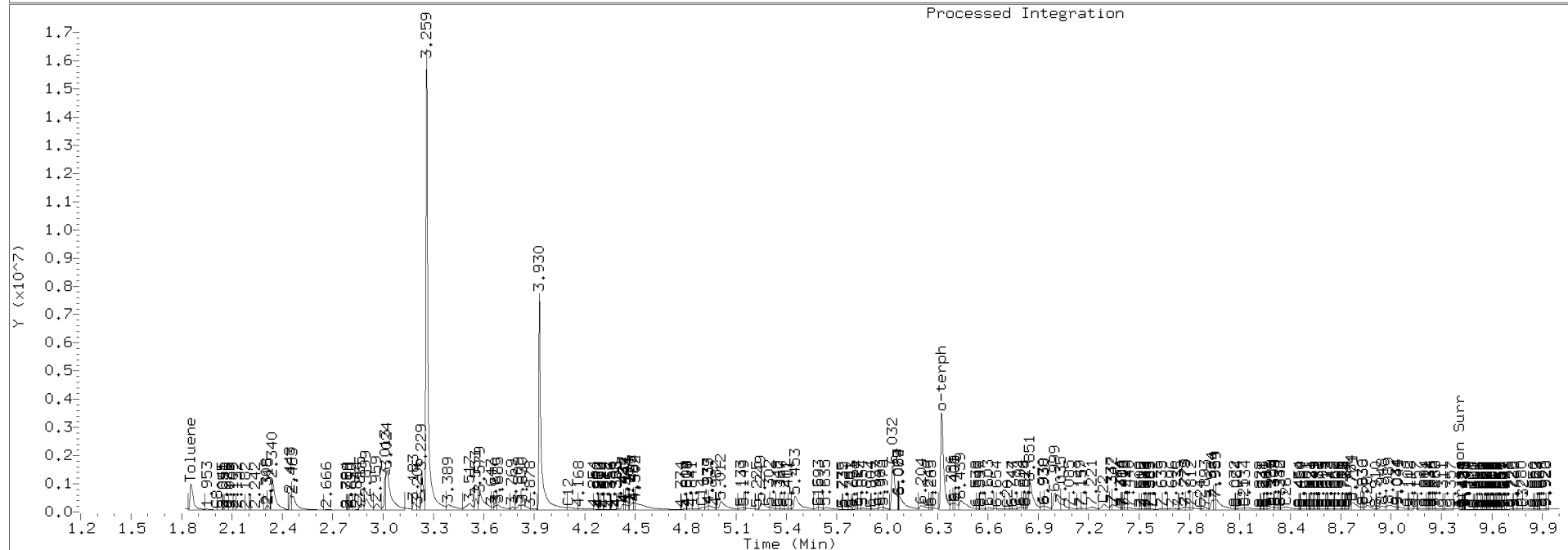
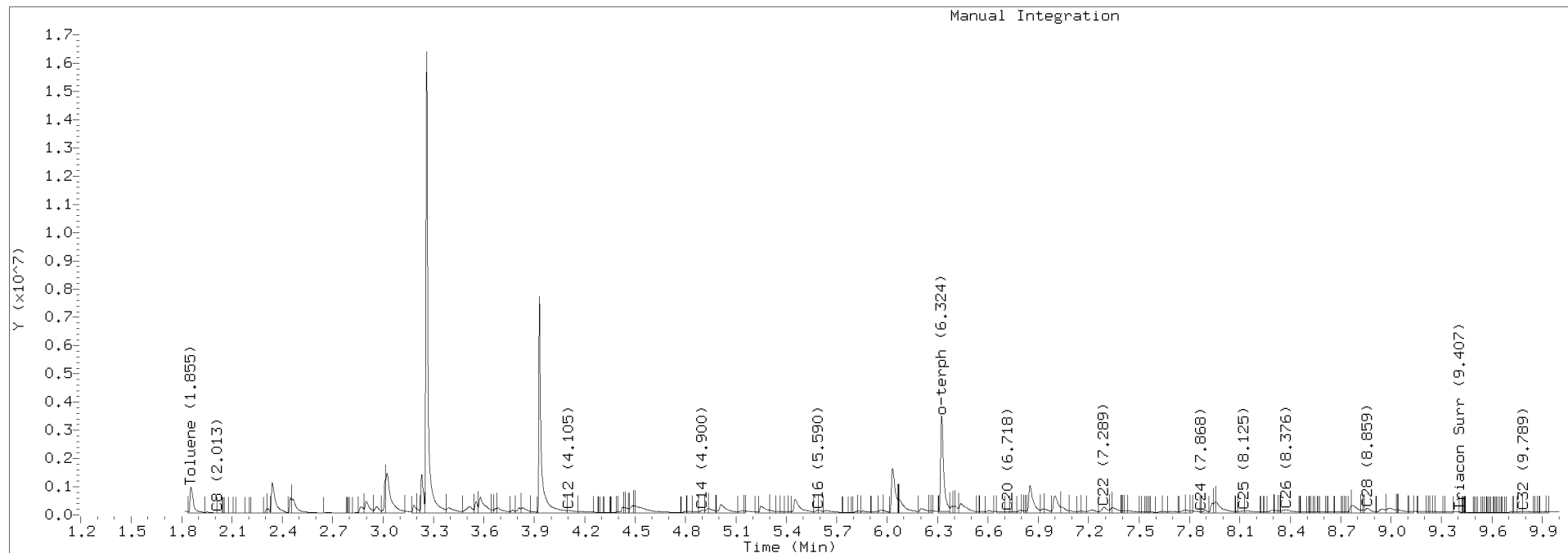
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1009.D Injection: 10-AUG-2020 12:03

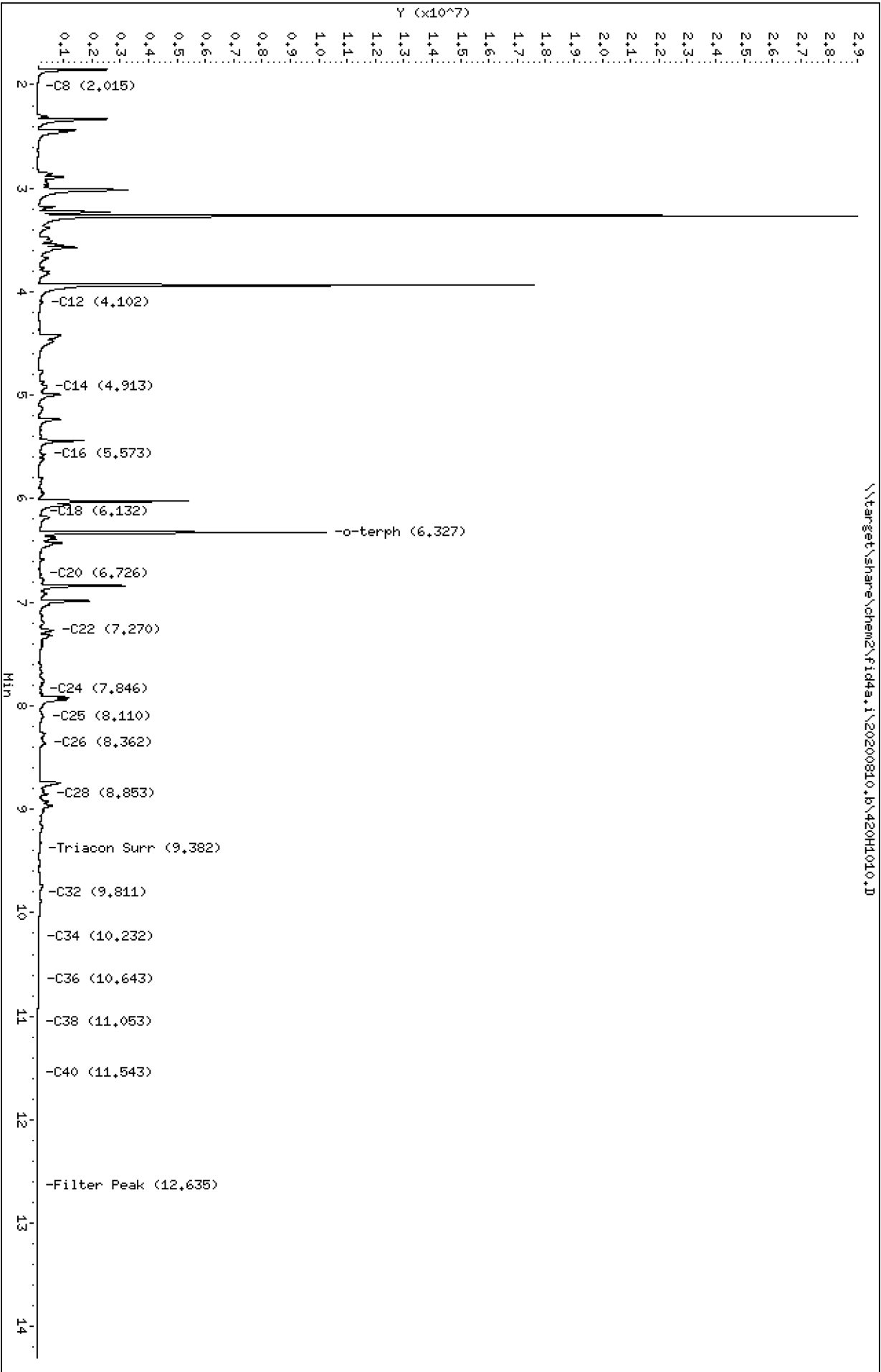
Lab ID:SEQ-CAL2



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1010.D
Date: 10-AUG-2020 12:23
Client ID:
Sample Info: SEQ-CAL3

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1010.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 10-AUG-2020 12:23
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

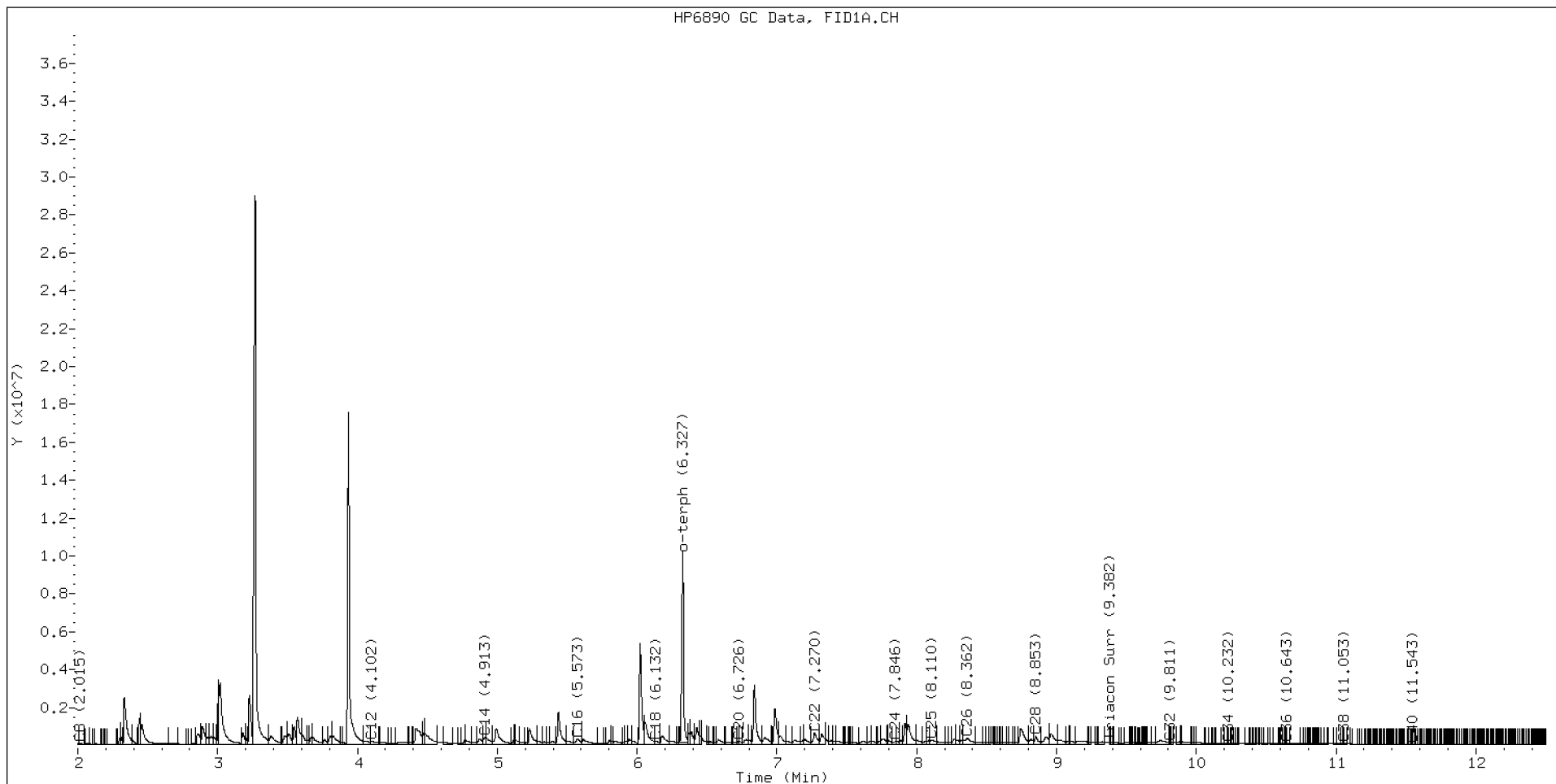
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.015	0.016	17846	36273	WATPHD	(C12-C24)	51259340	321.7
C10	----				WATPHM	(C24-C38)	22066522	218.1
C12	4.102	0.009	179685	448519	AK102	(C10-C25)	116587134	596.4
C14	4.913	0.016	356259	456272	AK103	(C25-C36)	17746552	242.4
C16	5.573	0.029	271020	584987	OR.DIES	(C10-C28)	125538937	640.5
C18	6.132	-0.006	140882	269530				
C20	6.726	0.003	136775	134046	JET-A	(C10-C18)	90127540	536.8
C22	7.270	-0.021	606173	1140185				
C24	7.846	0.004	128041	176452				
C25	8.110	-0.001	221035	545483				
C26	8.362	-0.014	297442	1027684				
C28	8.853	-0.028	403064	641655				
C32	9.811	0.000	99788	29846				
C34	10.232	-0.006	46152	43534				
Filter Peak	12.635	-0.006	3882	1909	CREOSOT	(C12-C22)	47014203	521.6
C36	10.643	0.000	38763	9675				
C38	11.053	-0.001	17467	8707				
C40	11.543	0.005	8291	3696				
o-terph	6.327	-0.010	10095175	9317090				
Triacon Surr	9.382	-0.002	75592	22548	NAS DIES	(C10-C24)	112694191	577.5

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	9317090	45.5 M
Triacontane	22548	0.2

M Indicates the peak was manually integrated

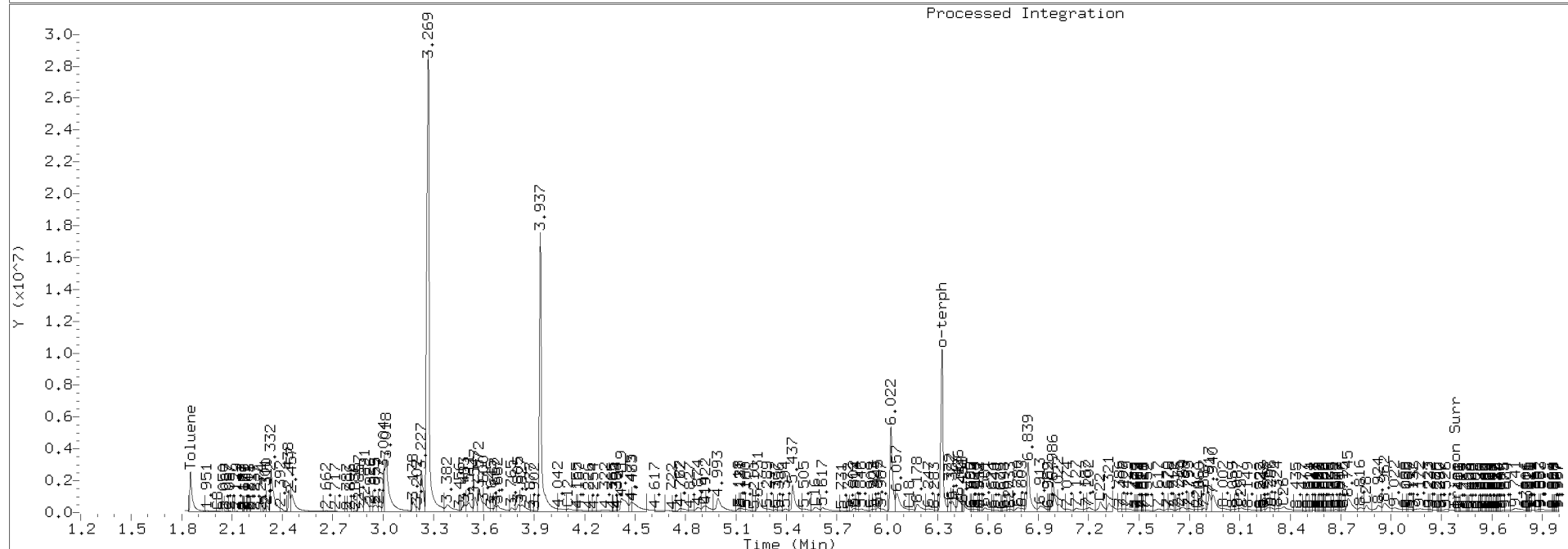
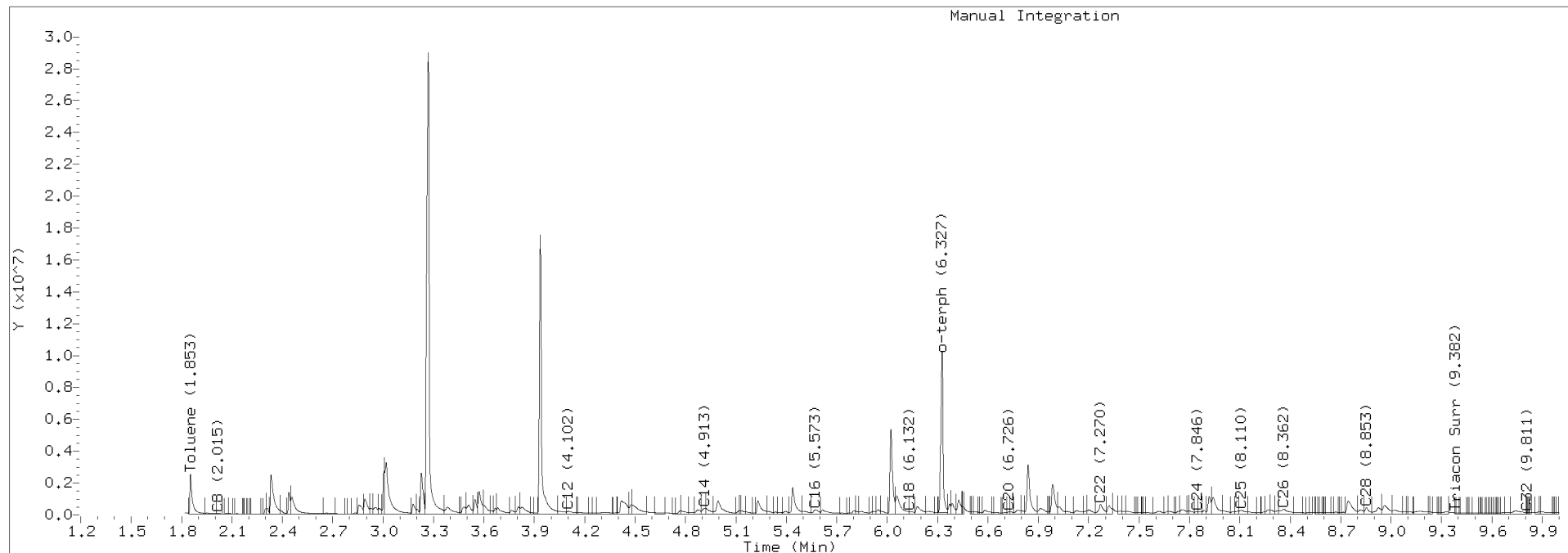
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1010.D Injection: 10-AUG-2020 12:23

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1011.D
Date: 10-AUG-2020 12:43

Client ID:
Sample Info: SEQ-CAL4

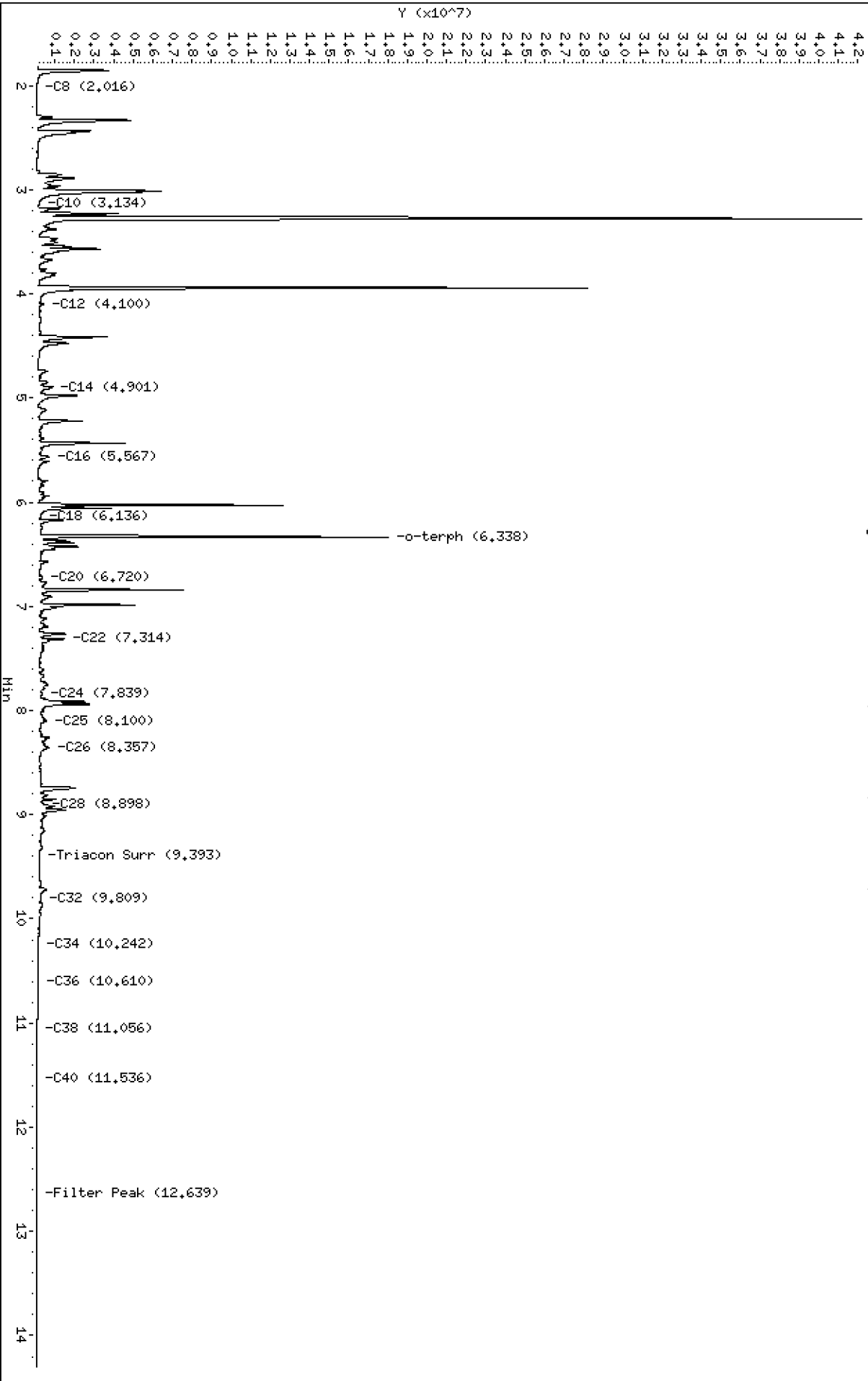
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1011.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1011.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 10-AUG-2020 12:43
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

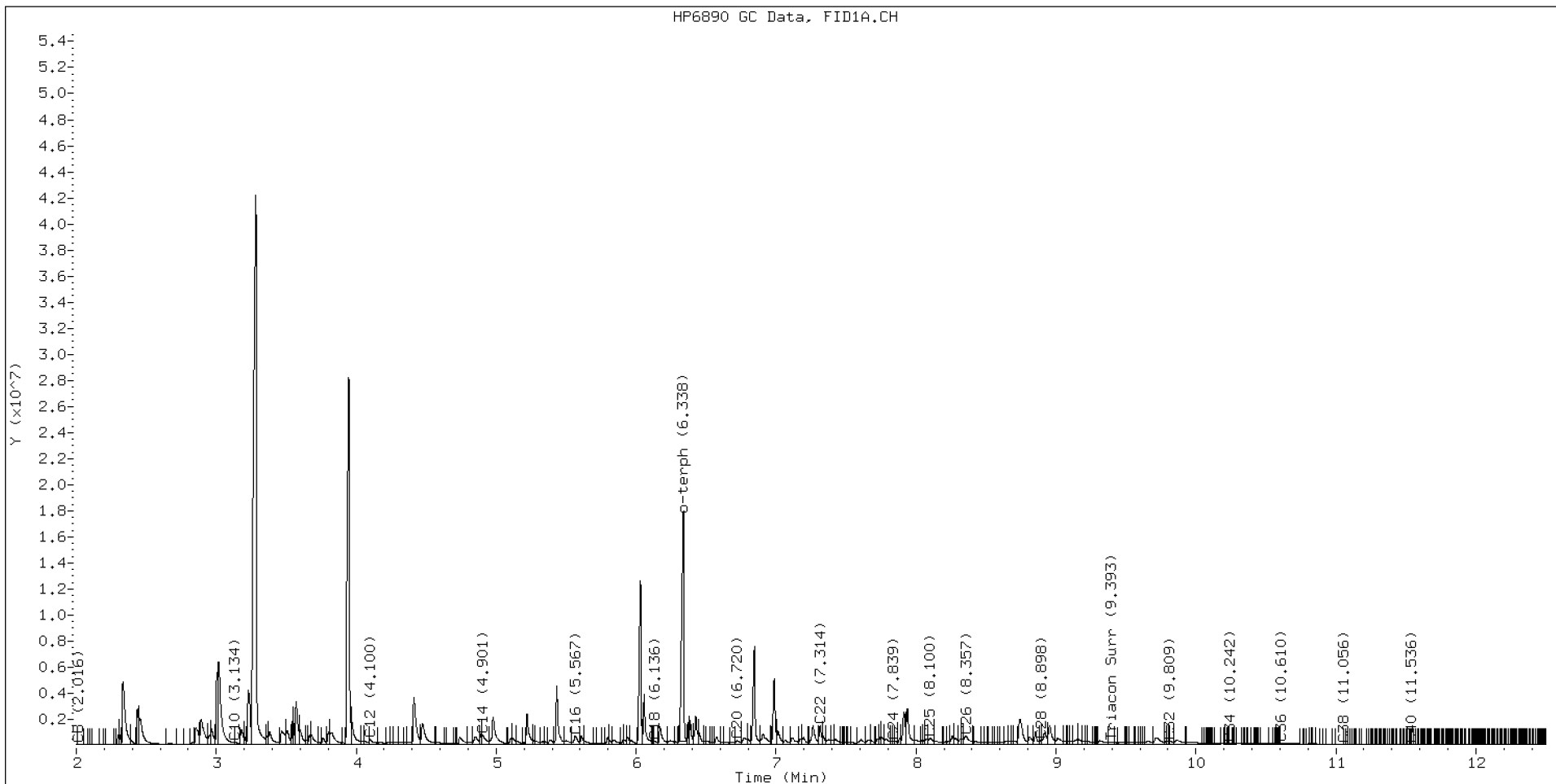
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.016	0.017	24926	59167	WATPHD	(C12-C24)	103926698	652.2
C10	3.134	0.022	150444	235035	WATPHM	(C24-C38)	45820283	452.9
C12	4.100	0.007	374328	737397	AK102	(C10-C25)	235546622	1204.9
C14	4.901	0.004	751227	1307415	AK103	(C25-C36)	37291444	509.4
C16	5.567	0.023	643749	1189010	OR.DIES	(C10-C28)	254051179	1296.2
C18	6.136	-0.002	231616	350832				
C20	6.720	-0.003	299567	566605	JET-A	(C10-C18)	181572311	1081.4
C22	7.314	0.023	1420953	1498483				
C24	7.839	-0.003	259197	166369				
C25	8.100	-0.011	495518	989810				
C26	8.357	-0.019	638808	1623602				
C28	8.898	0.016	333560	331673				
C32	9.809	-0.002	229023	124533				
C34	10.242	0.005	88773	91037				
Filter Peak	12.639	-0.001	2788	1651	CREOSOT	(C12-C22)	95404139	1058.5
C36	10.610	-0.033	86162	550400				
C38	11.056	0.002	27157	25166				
C40	11.536	-0.002	10651	4226				
o-terph	6.338	0.001	17707002	18789469				
Triacon Surr	9.393	0.009	169162	447494	NAS DIES	(C10-C24)	227630229	1166.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18789469	91.8 M
Triacontane	447494	3.0

M Indicates the peak was manually integrated

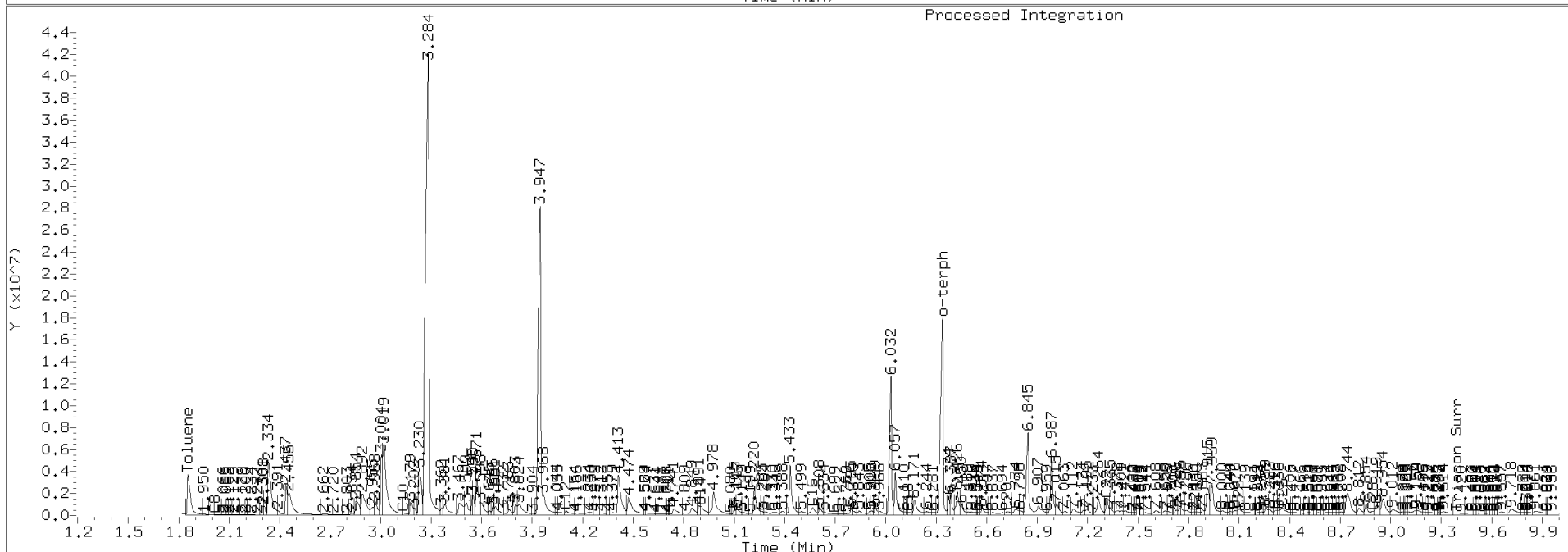
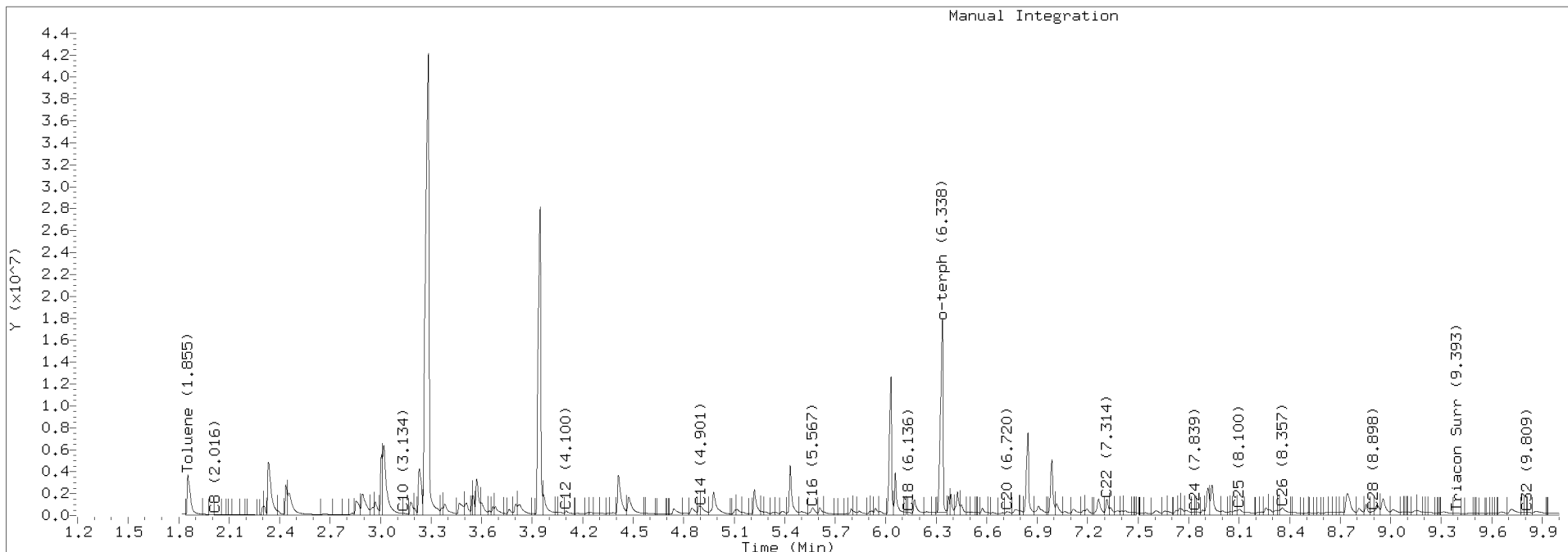
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1011.D Injection: 10-AUG-2020 12:43

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1012.D
Date: 10-AUG-2020 13:02

Client ID:

Sample Info: SEQ-CALS

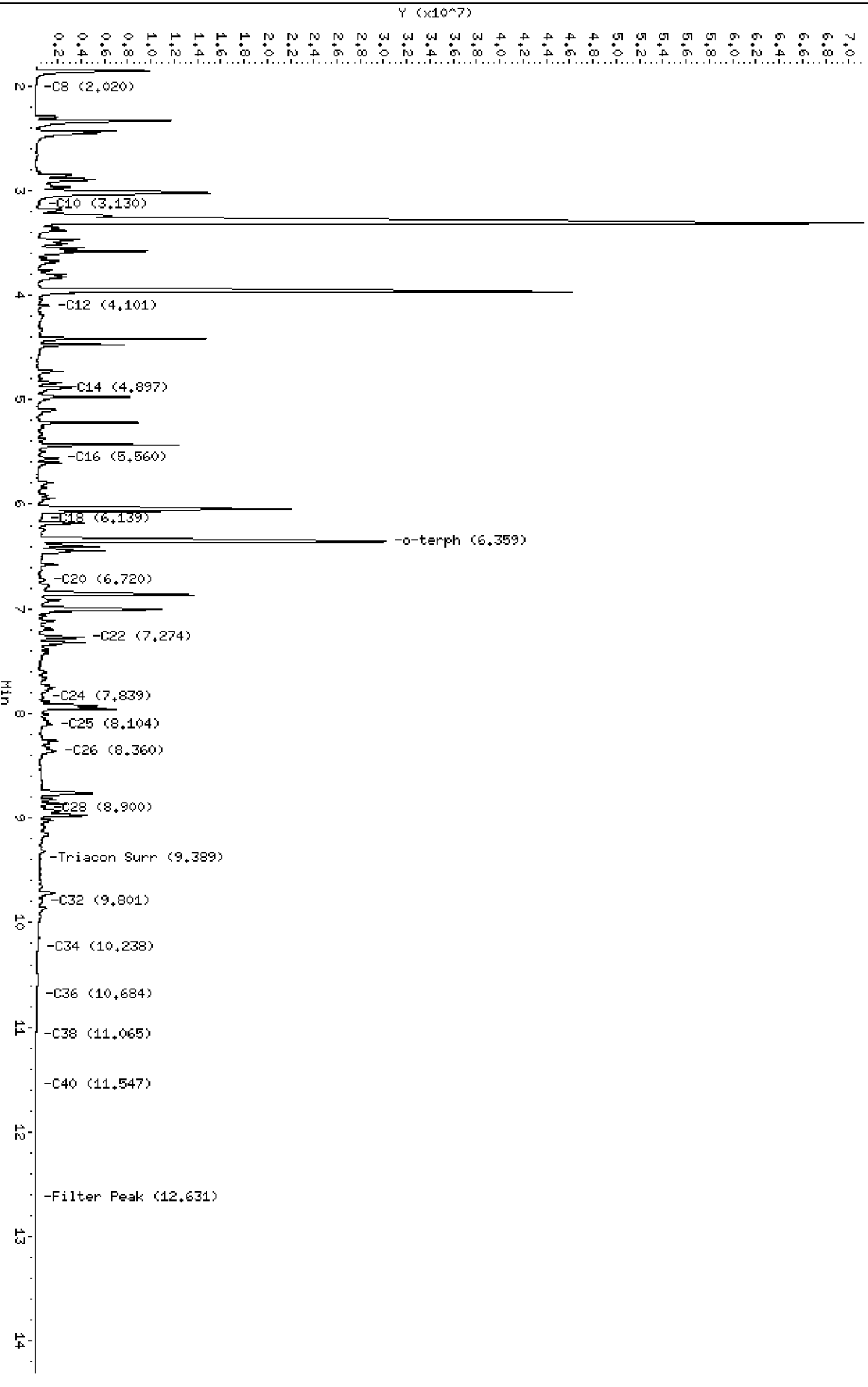
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1012.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1012.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 10-AUG-2020 13:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

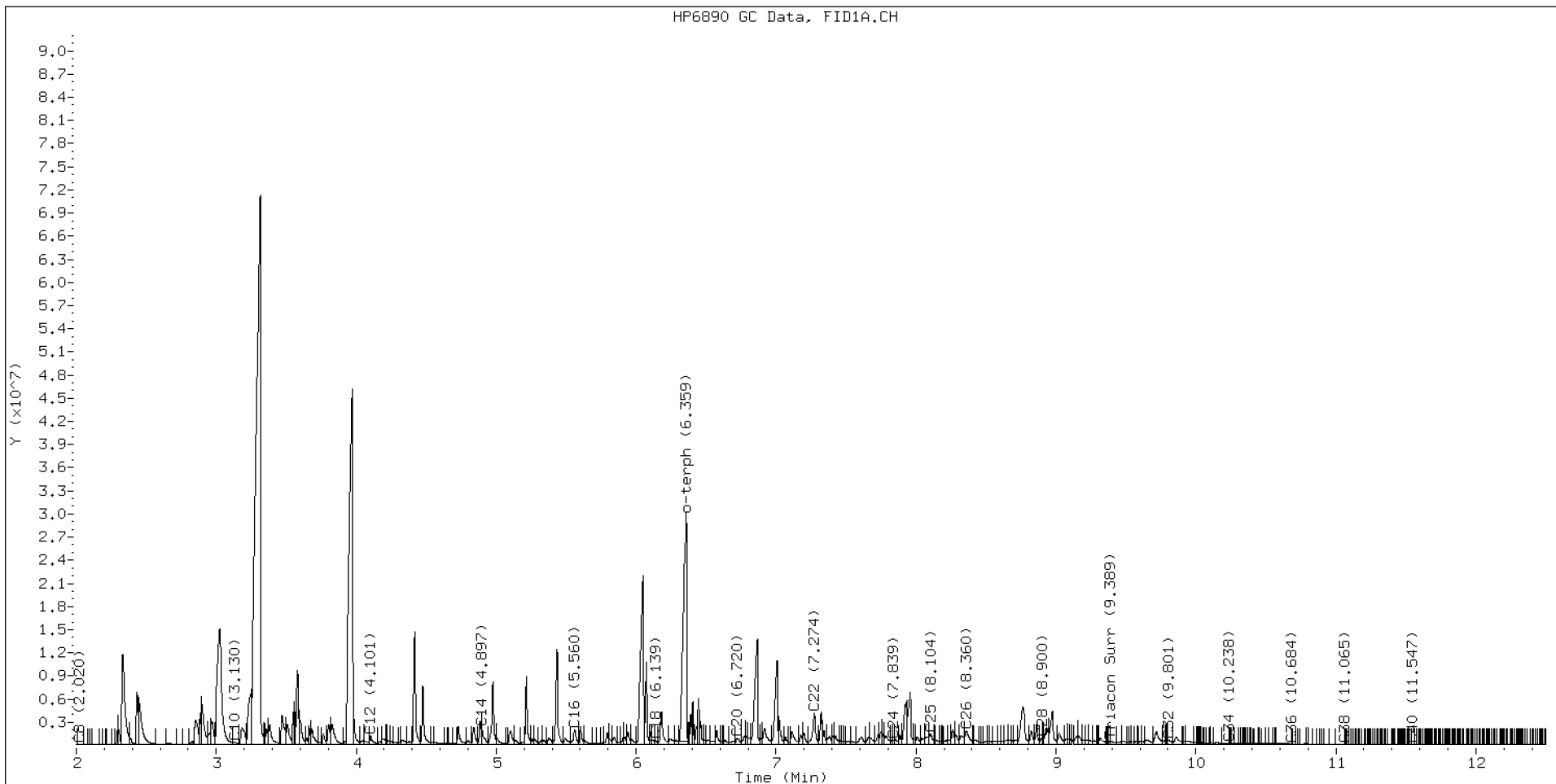
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.020	0.021	52370	125836	WATPHD	(C12-C24)	268023483	1682.1
C10	3.130	0.018	317129	695453	WATPHM	(C24-C38)	117269407	1159.2
C12	4.101	0.008	1186747	1663447	AK102	(C10-C25)	600790147	3073.2
C14	4.897	-0.000	2168738	2784429	AK103	(C25-C36)	95264608	1301.3
C16	5.560	0.016	1984017	3122013	OR.DIES	(C10-C28)	644811716	3289.9
C18	6.139	0.001	562391	706347				
C20	6.720	-0.003	826278	1411340	JET-A	(C10-C18)	461462580	2748.5
C22	7.274	-0.017	4123124	6213742				
C24	7.839	-0.003	669495	624603				
C25	8.104	-0.008	1393399	2367433				
C26	8.360	-0.016	1824142	4074782				
C28	8.900	0.018	833163	754960				
C32	9.801	-0.009	606450	1103529				
C34	10.238	0.001	193616	76806				
Filter Peak	12.631	-0.009	7657	6760	CREOSOT	(C12-C22)	243658159	2703.5
C36	10.684	0.041	121011	48208				
C38	11.065	0.011	57098	25623				
C40	11.547	0.009	26888	36992				
o-terph	6.359	0.021	29618277	48519579				
Triacon Surr	9.389	0.005	451742	414470	NAS DIES	(C10-C24)	580343650	2973.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	48519579	237.0 M
Triacontane	414470	2.8

M Indicates the peak was manually integrated

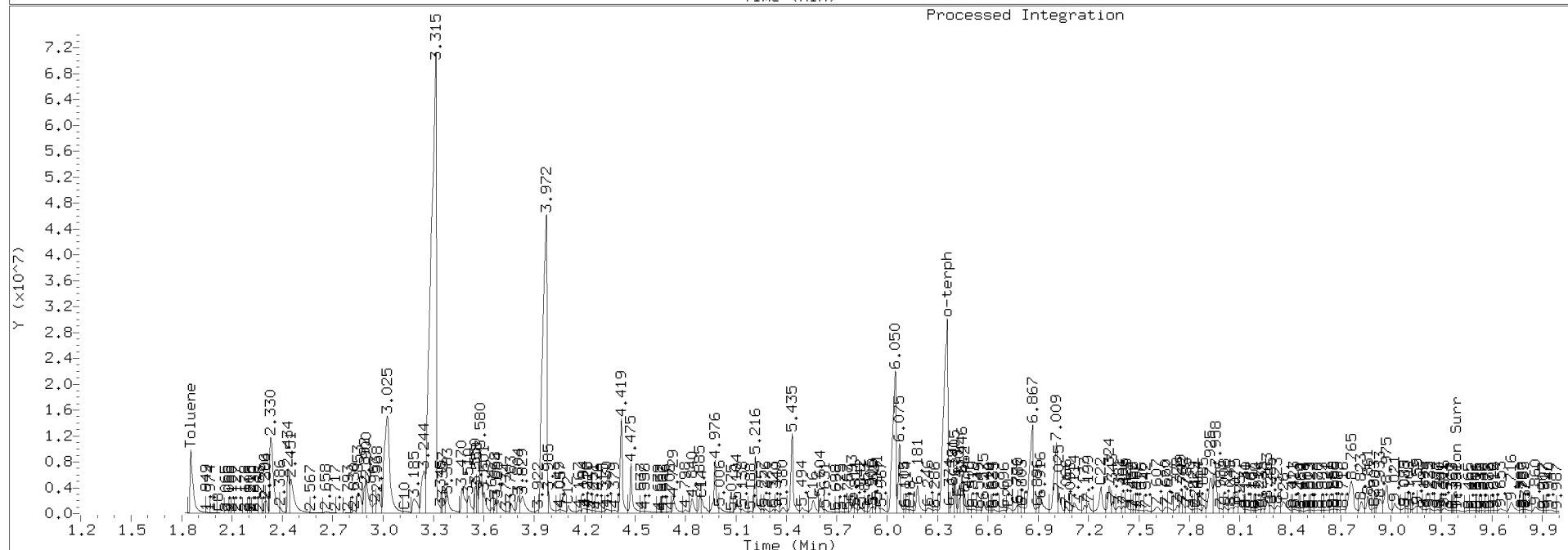
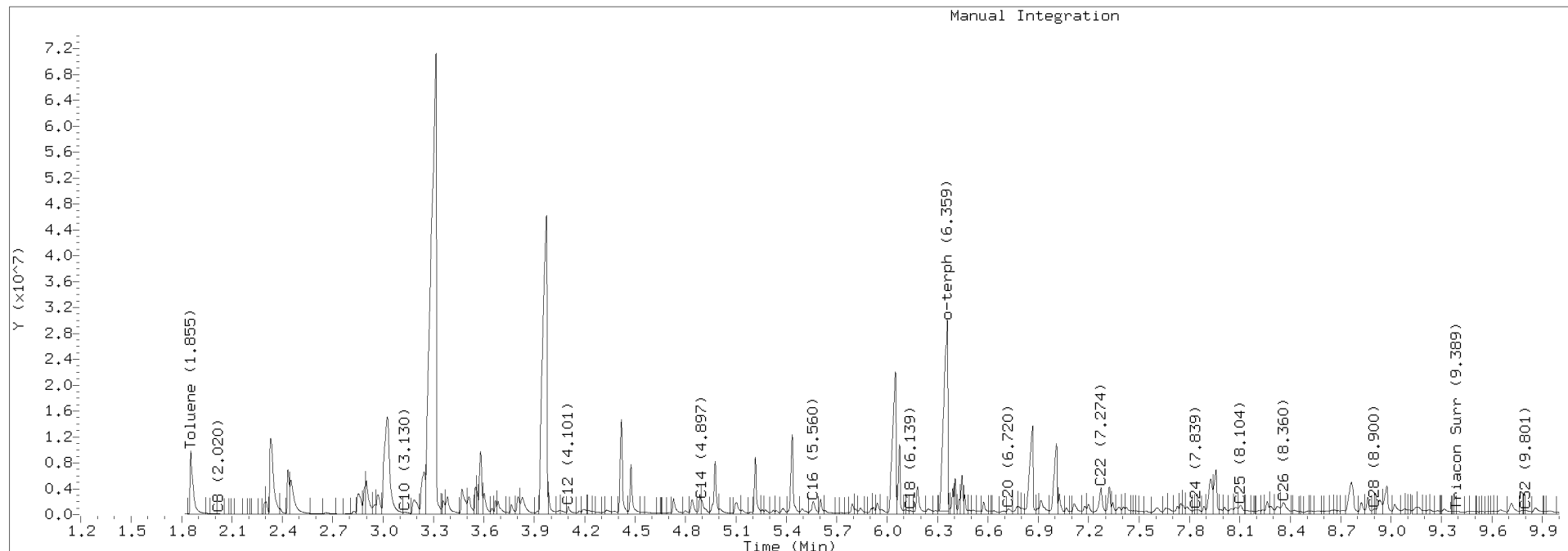
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1012.D Injection: 10-AUG-2020 13:02

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200810,b\420H1013.D
Date: 10-AUG-2020 13:22

Client ID:

Sample Info: SEQ-CAL6

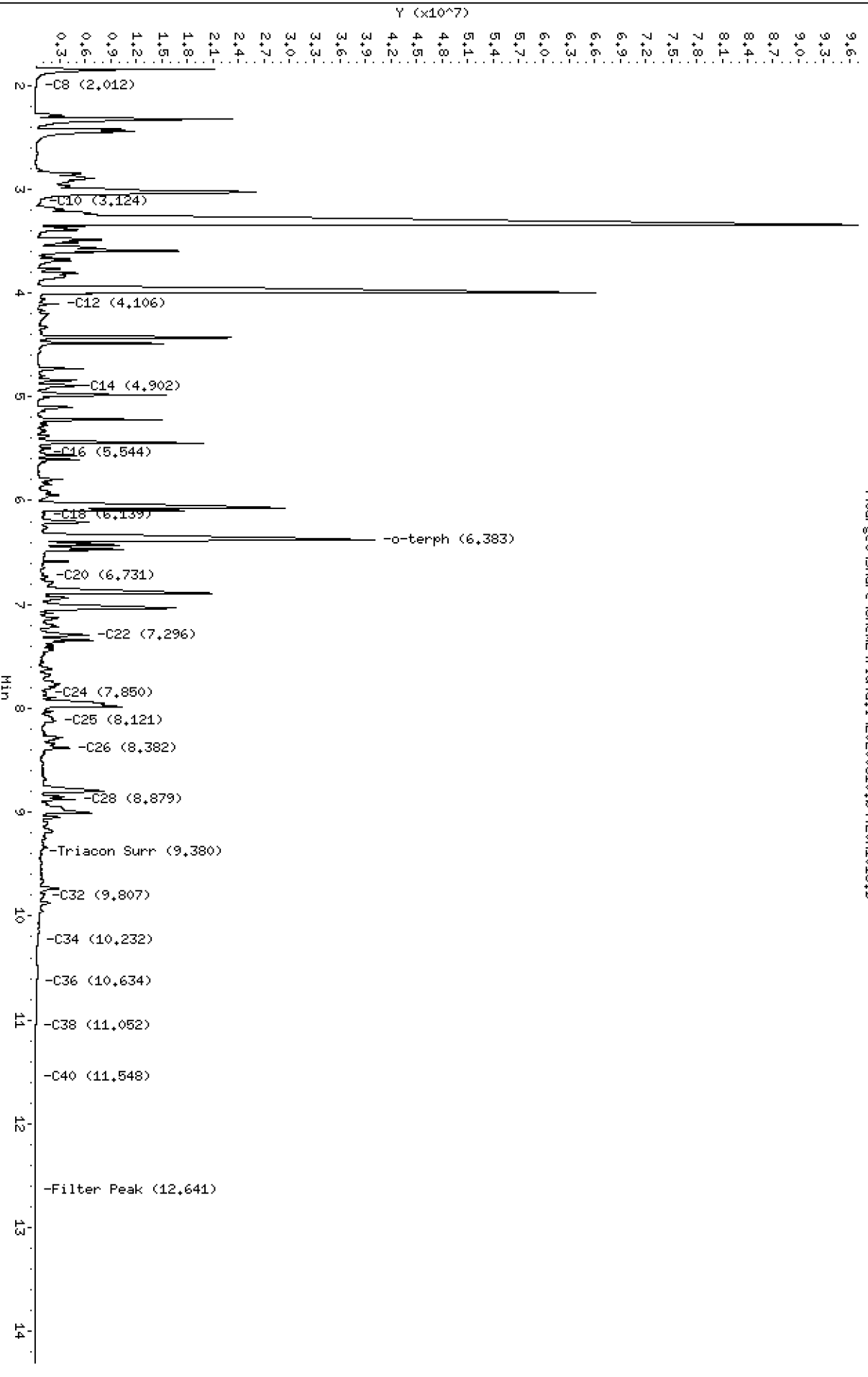
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810,b\420H1013.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1013.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 10-AUG-2020 13:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

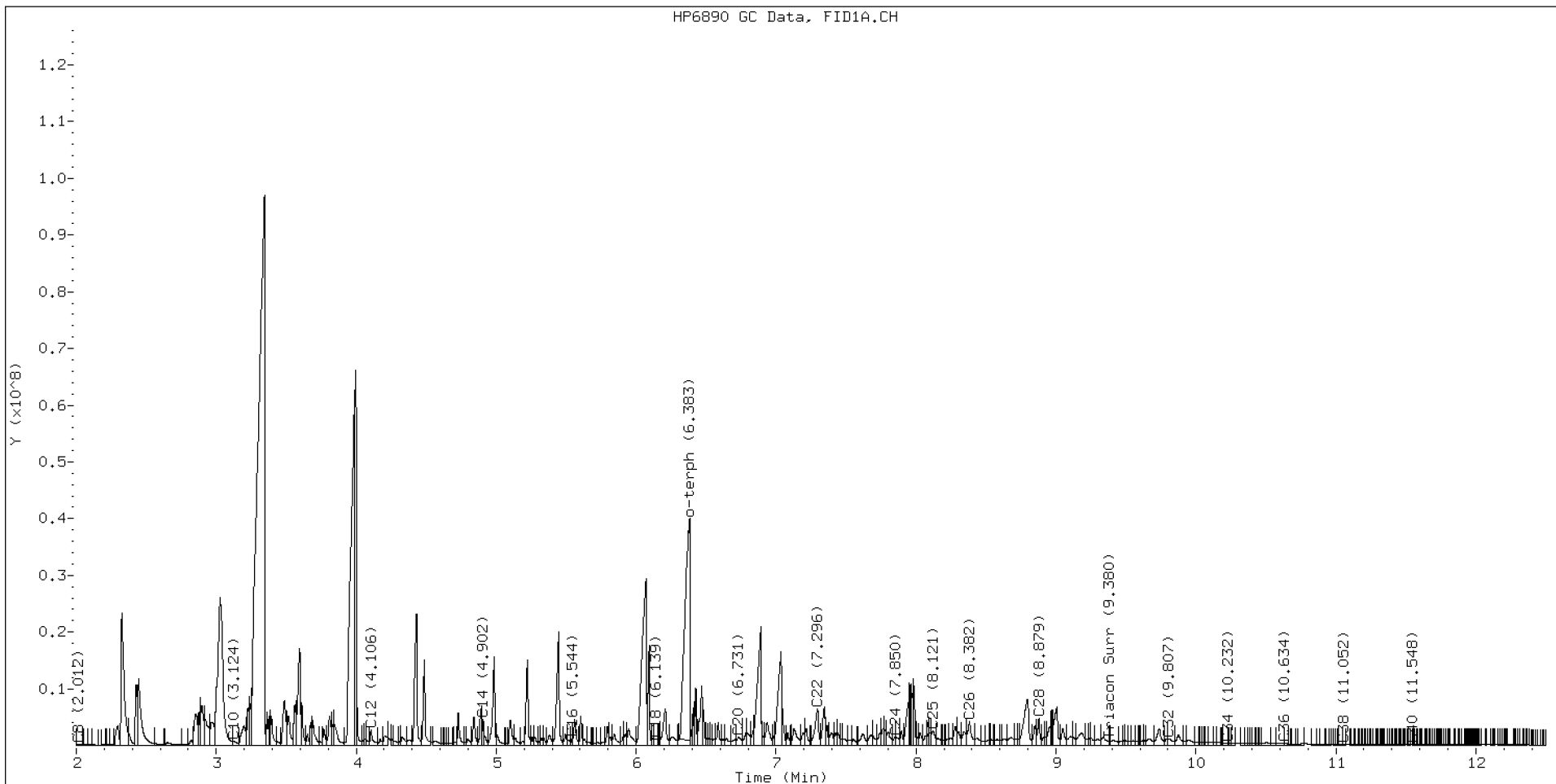
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.012	0.013	95463	213698	WATPHD	(C12-C24)	510718478	3205.3
C10	3.124	0.012	658048	1310273	WATPHM	(C24-C38)	217018558	2145.2
C12	4.106	0.013	2689100	3210487	AK102	(C10-C25)	1154977604	5908.1
C14	4.902	0.005	4529096	3169210	AK103	(C25-C36)	174815307	2388.0
C16	5.544	0.000	1186254	882489	OR.DIES	(C10-C28)	1241149517	6332.4
C18	6.139	0.000	1097209	1614733				
C20	6.731	0.008	1395502	2758564	JET-A	(C10-C18)	878617104	5233.0
C22	7.296	0.005	6358775	11740148				
C24	7.850	0.009	1319296	1273820				
C25	8.121	0.010	2507724	4067646				
C26	8.382	0.006	4064229	7597038				
C28	8.879	-0.003	4657449	5361411				
C32	9.807	-0.004	1046694	2394813				
C34	10.232	-0.005	290793	72598				
Filter Peak	12.641	0.000	7890	3140	CREOSOT	(C12-C22)	458251561	5084.4
C36	10.634	-0.009	213530	321534				
C38	11.052	-0.002	80686	94358				
C40	11.548	0.010	35419	22895				
o-terph	6.383	0.045	38995622	94112864				
Triacon Surr	9.380	-0.004	670067	426371	NAS DIES	(C10-C24)	1115021496	5713.7

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	94112864	459.8 M
Triacontane	426371	2.9

M Indicates the peak was manually integrated

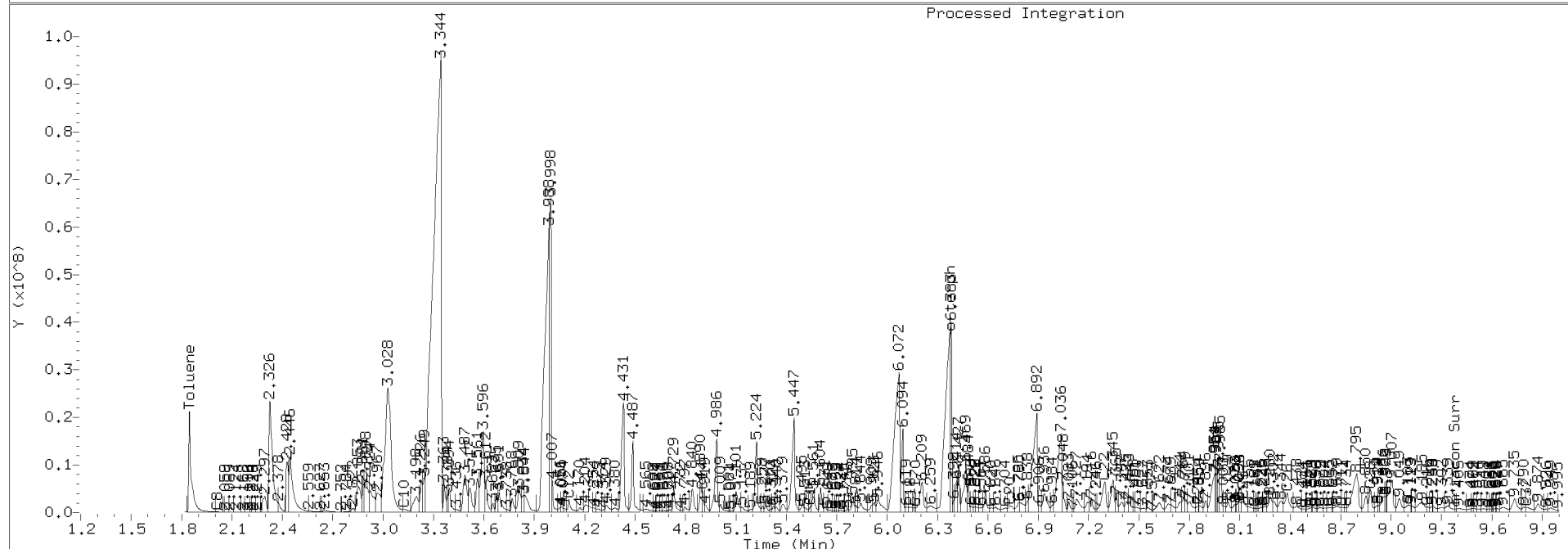
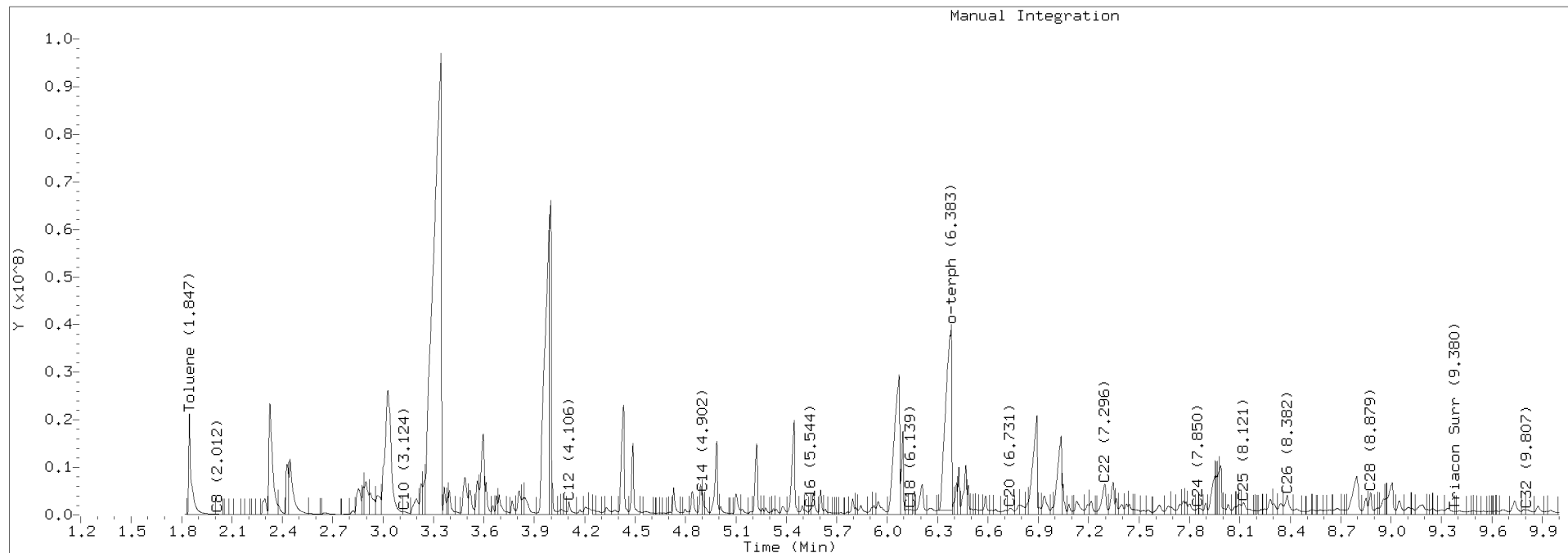
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



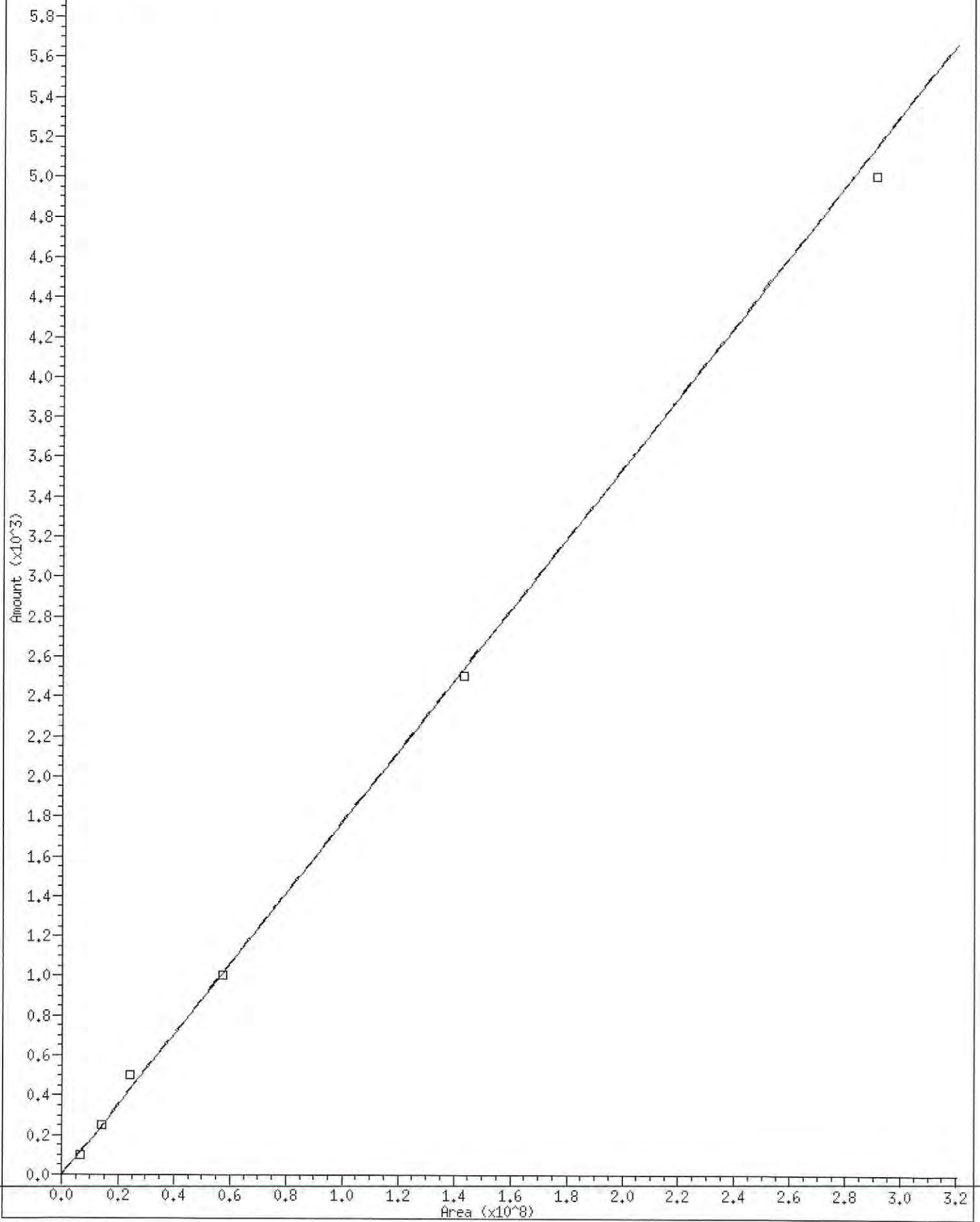
TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1013.D Injection: 10-AUG-2020 13:22

Lab ID:SEQ-CAL6



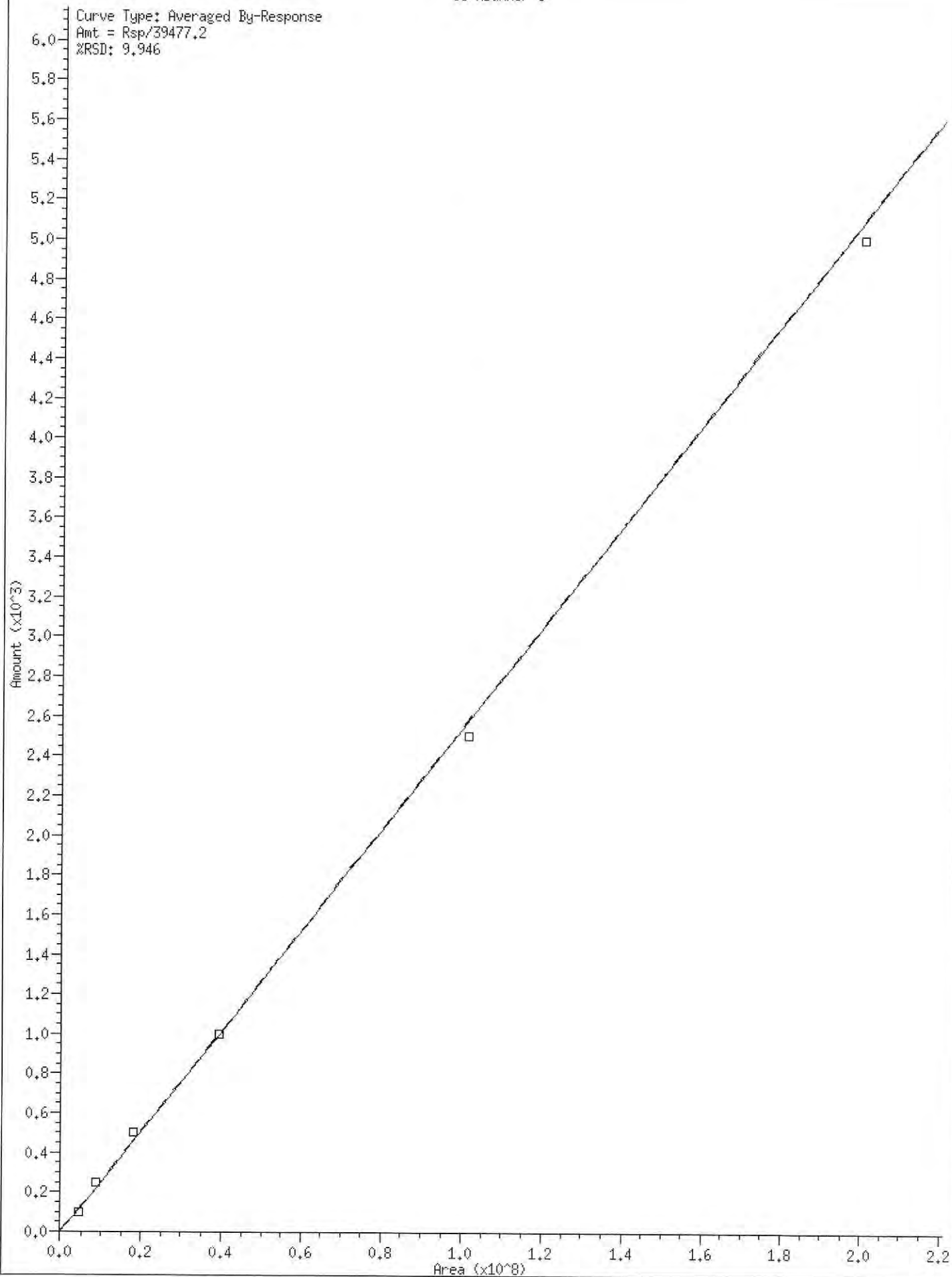
Curve Type: Averaged By-Response
Amt = Rsp/56572.1
%RSD: 8.647



Curve Type: Averaged By-Response

Amt = Rsp/39477.2

%RSD: 9.946





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV1

Sequence: SHJ0406

Sequence Name: DIESEL SCV

Standard ID: H008294

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	511	2.2	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025_b\419J2513.D

Date: 25-OCT-2019 15:52

Client ID:

Sample Info: SHJ0406-SCW1

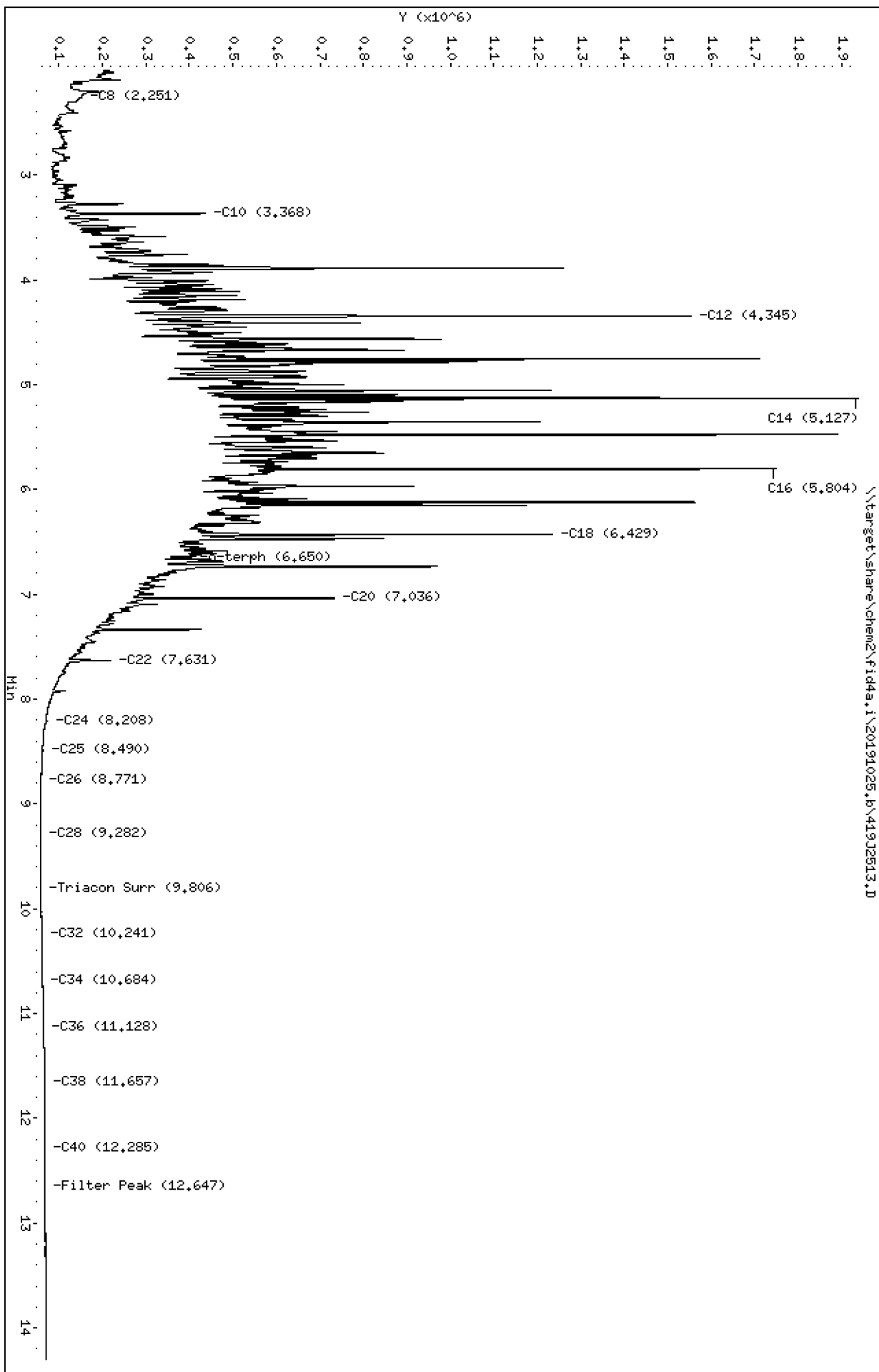
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D

ARI ID: SHJ0406-SCV1

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 15:52

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

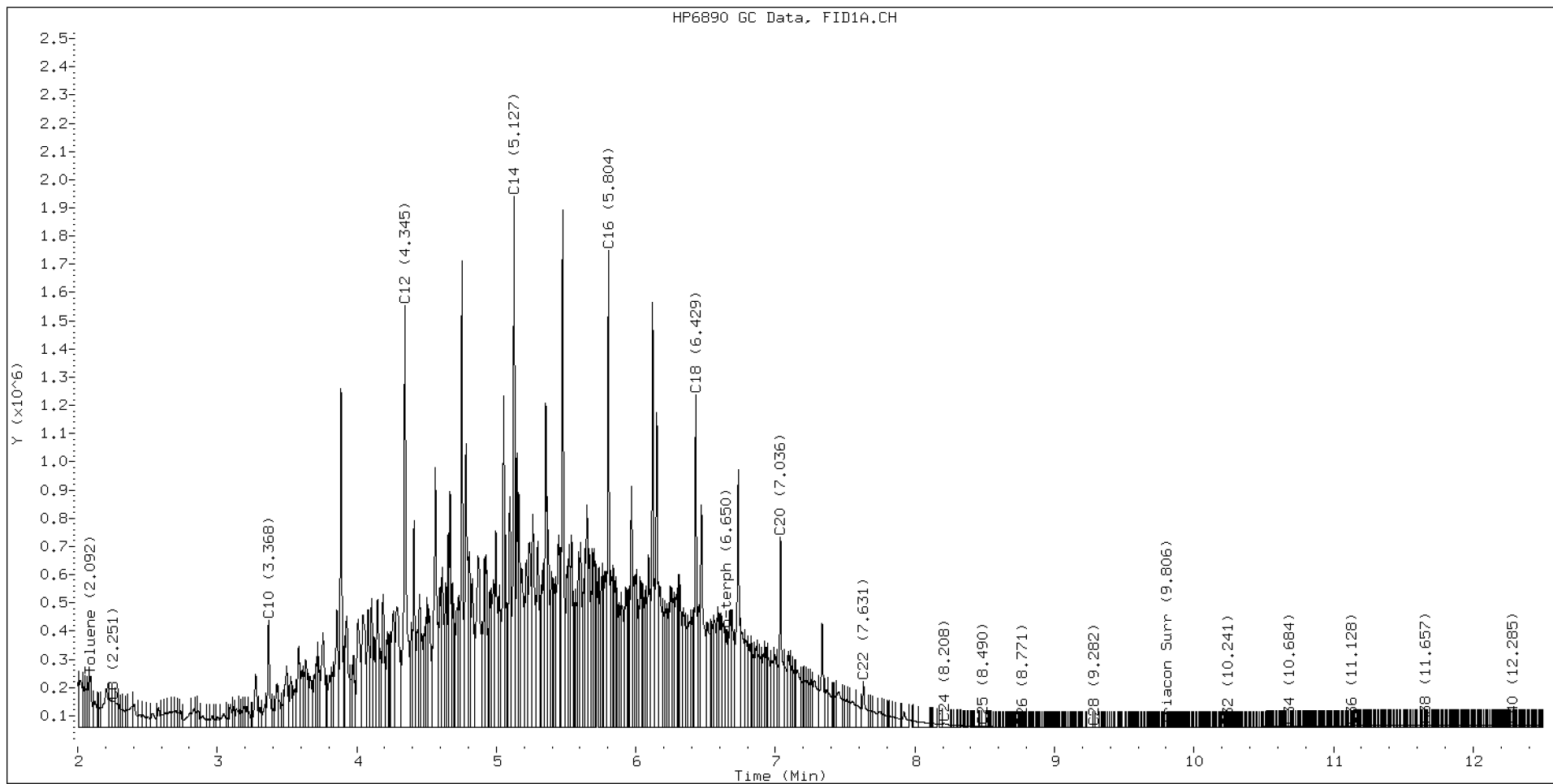
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacontane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV2

Sequence: SHJ0406

Sequence Name: MOIL SCV

Standard ID: H008399

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	1020	1.9	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025_b\419J2520.D

Date: 25-OCT-2019 18:14

Client ID:

Sample Info: SHJ0406-SCV2

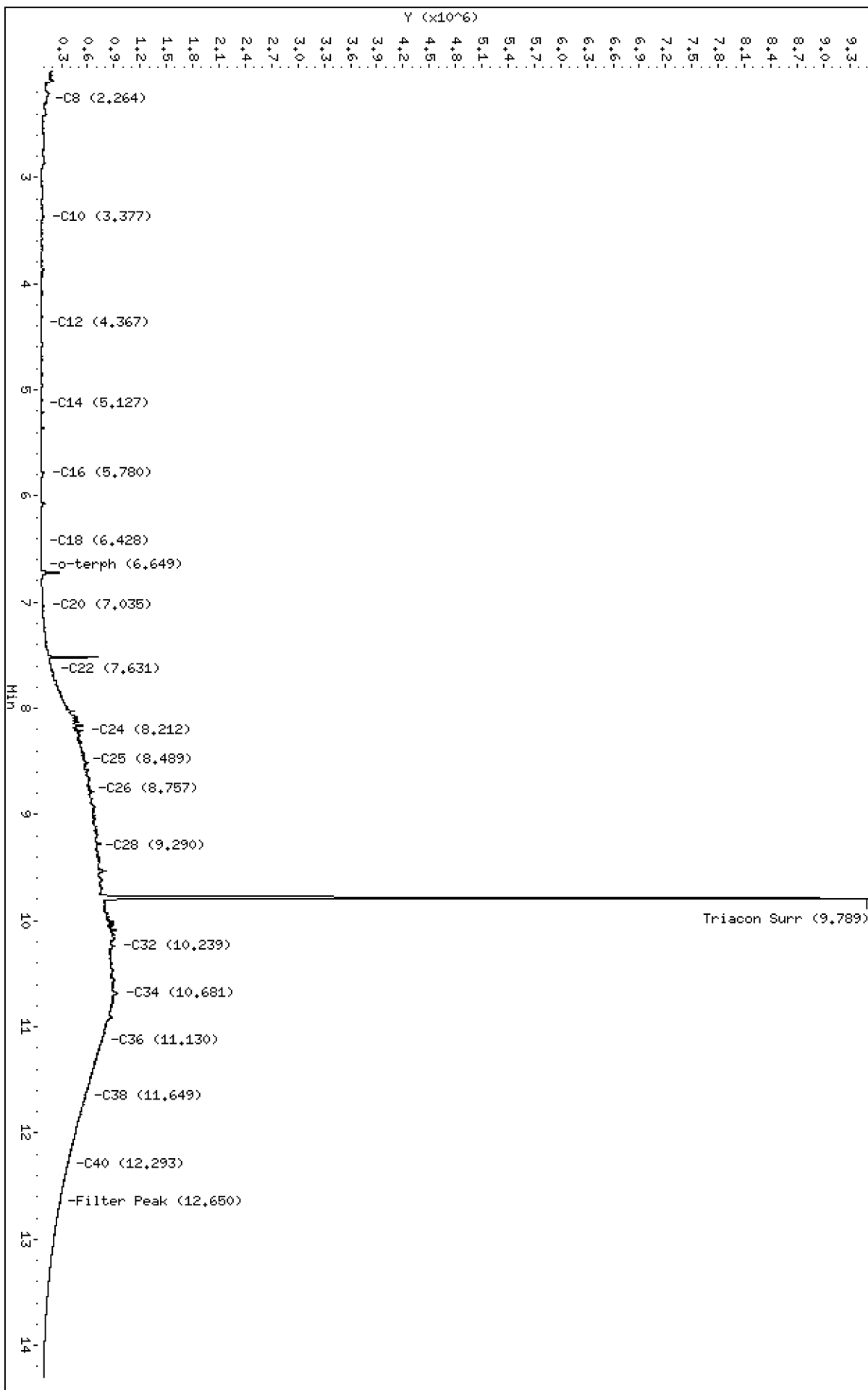
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20191025_b\419J2520.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D

ARI ID: SHJ0406-SCV2

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 18:14

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

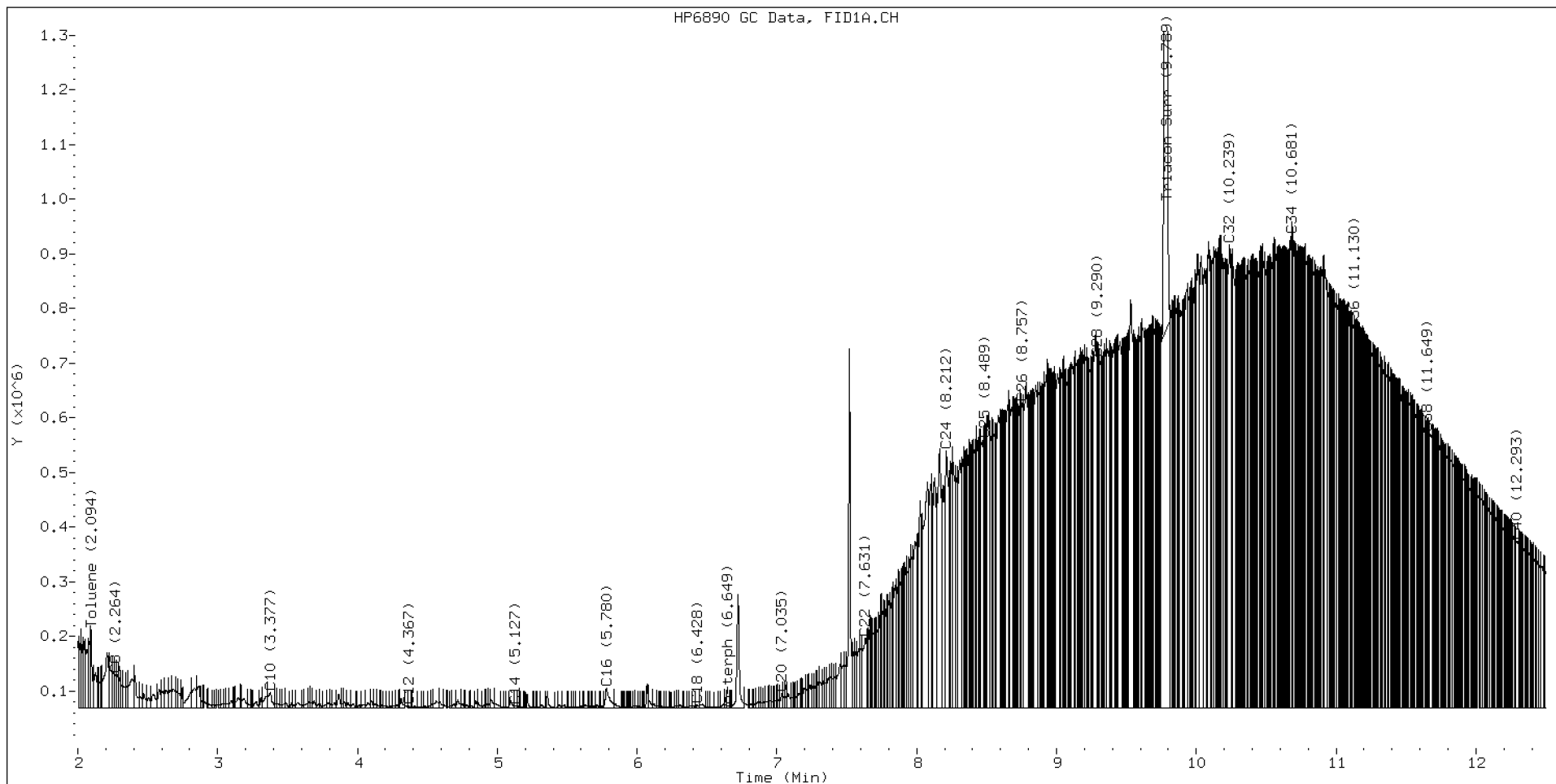
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

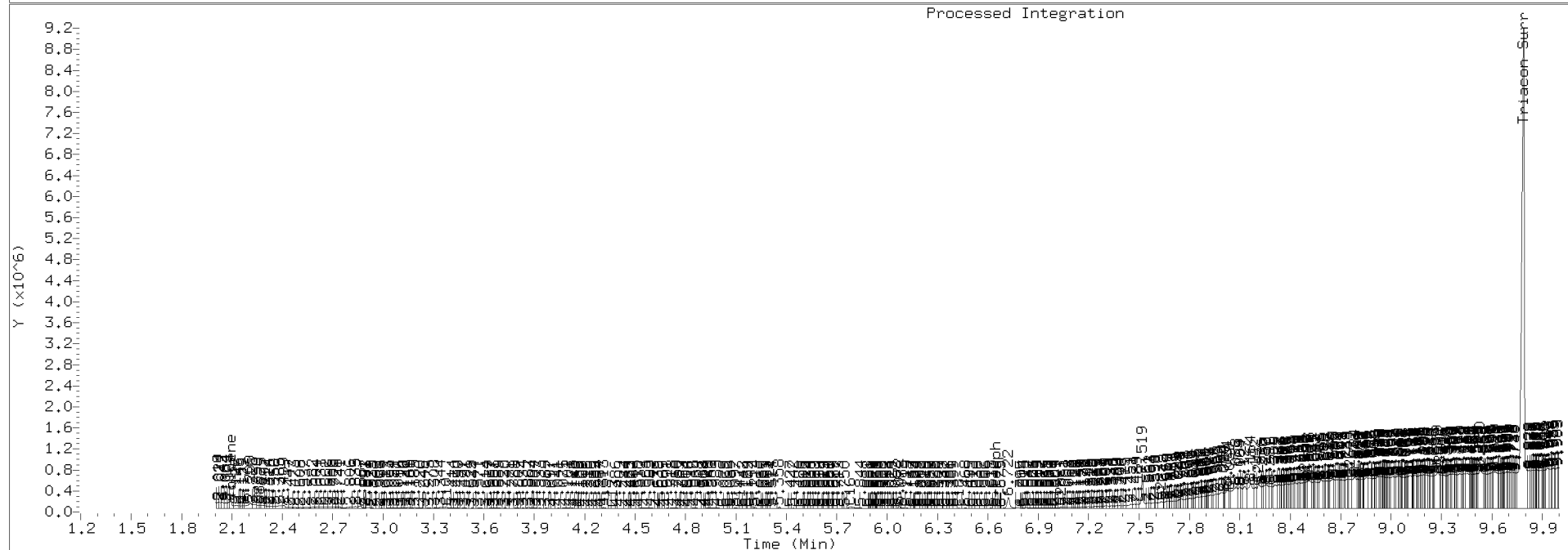
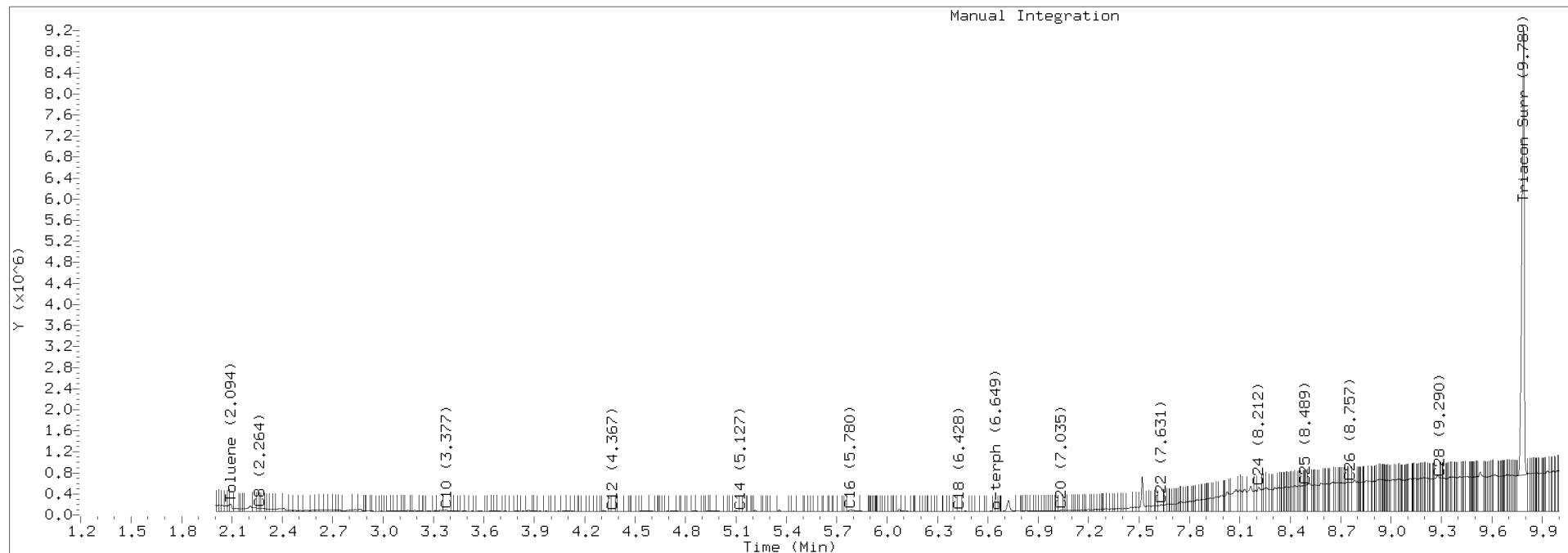
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019



TPH Manual Integrations Report

Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14

Lab ID:SHJ0406-SCV2





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DA00022

Laboratory ID: SIF0018-SCV1

Sequence: SIF0018

Sequence Name: MOIL SCV

Standard ID: I004757

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	952	-4.8	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

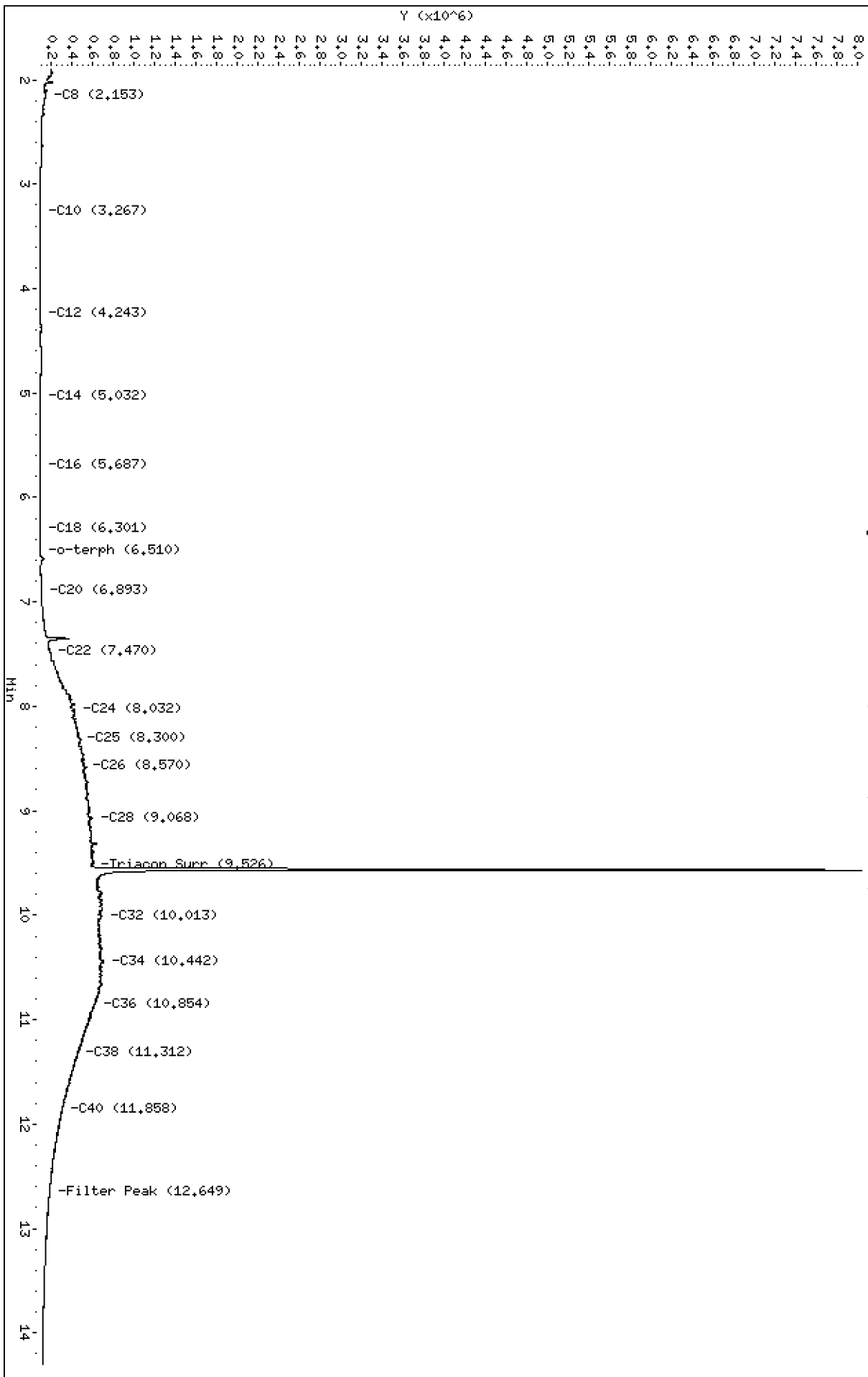
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

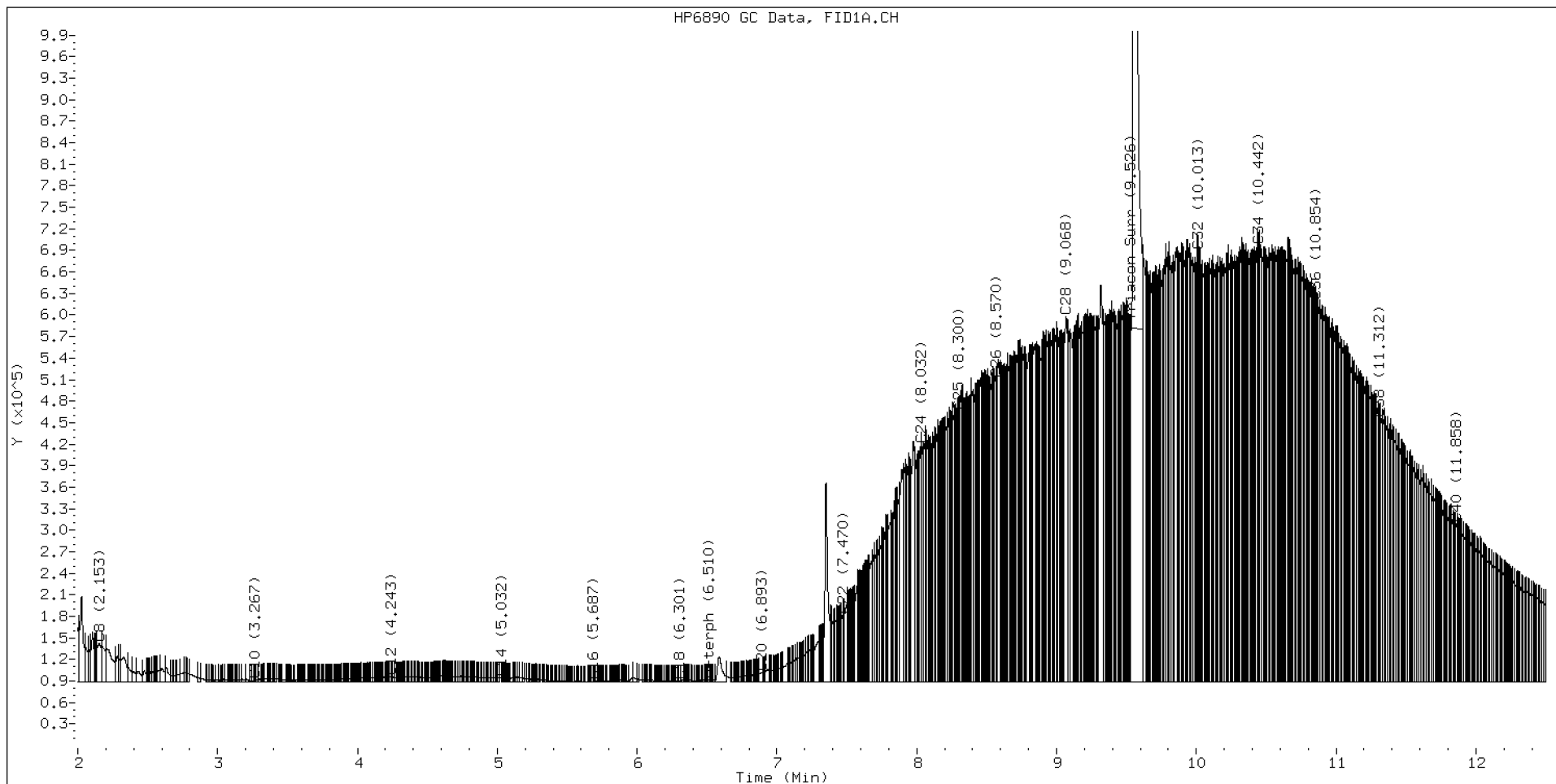
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

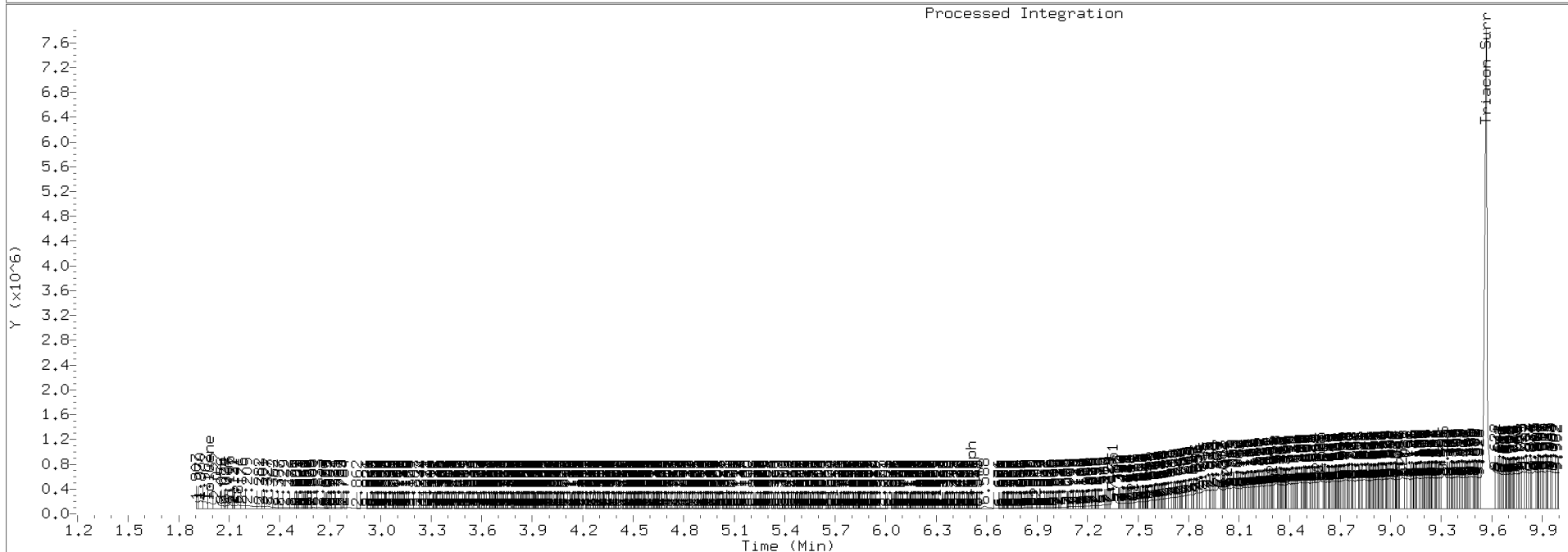
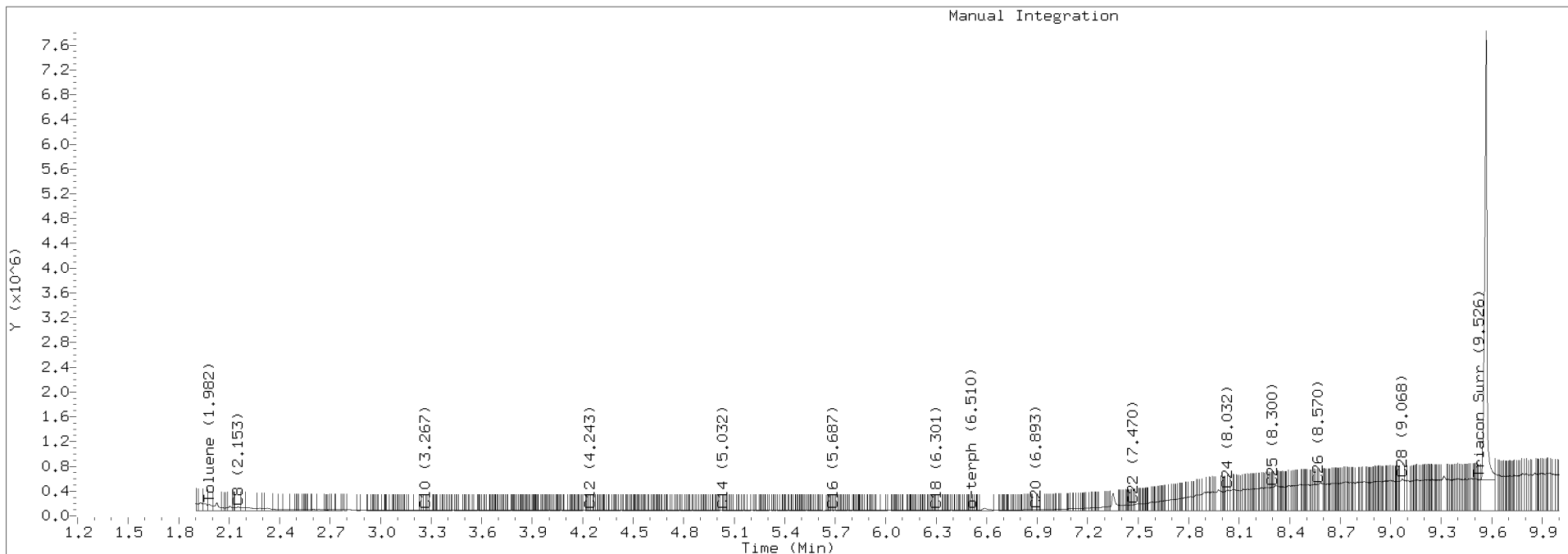
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0205.D
Date : 02-OCT-2020 10:02

Client ID:

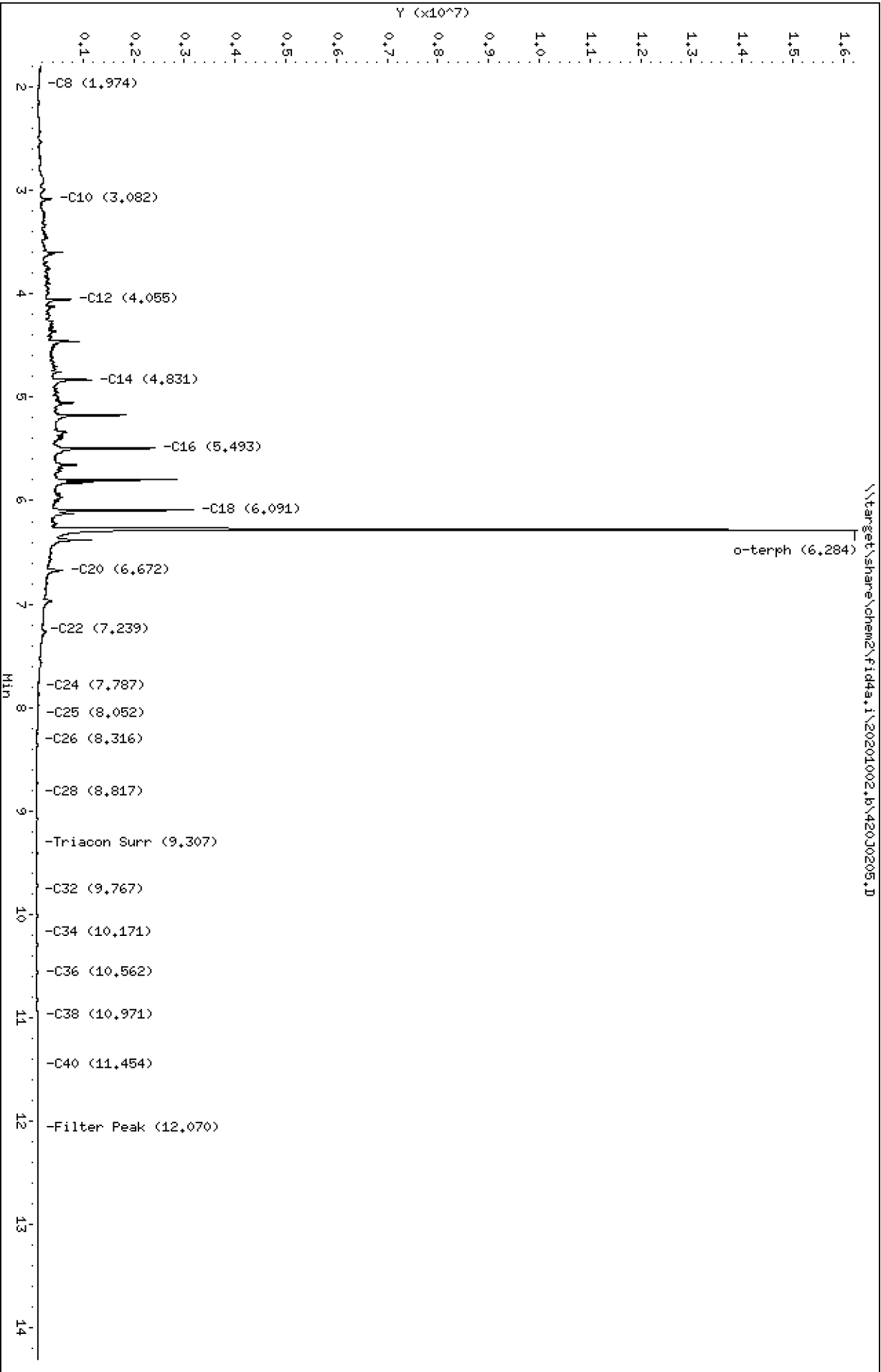
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0205.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-OCT-2020 10:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

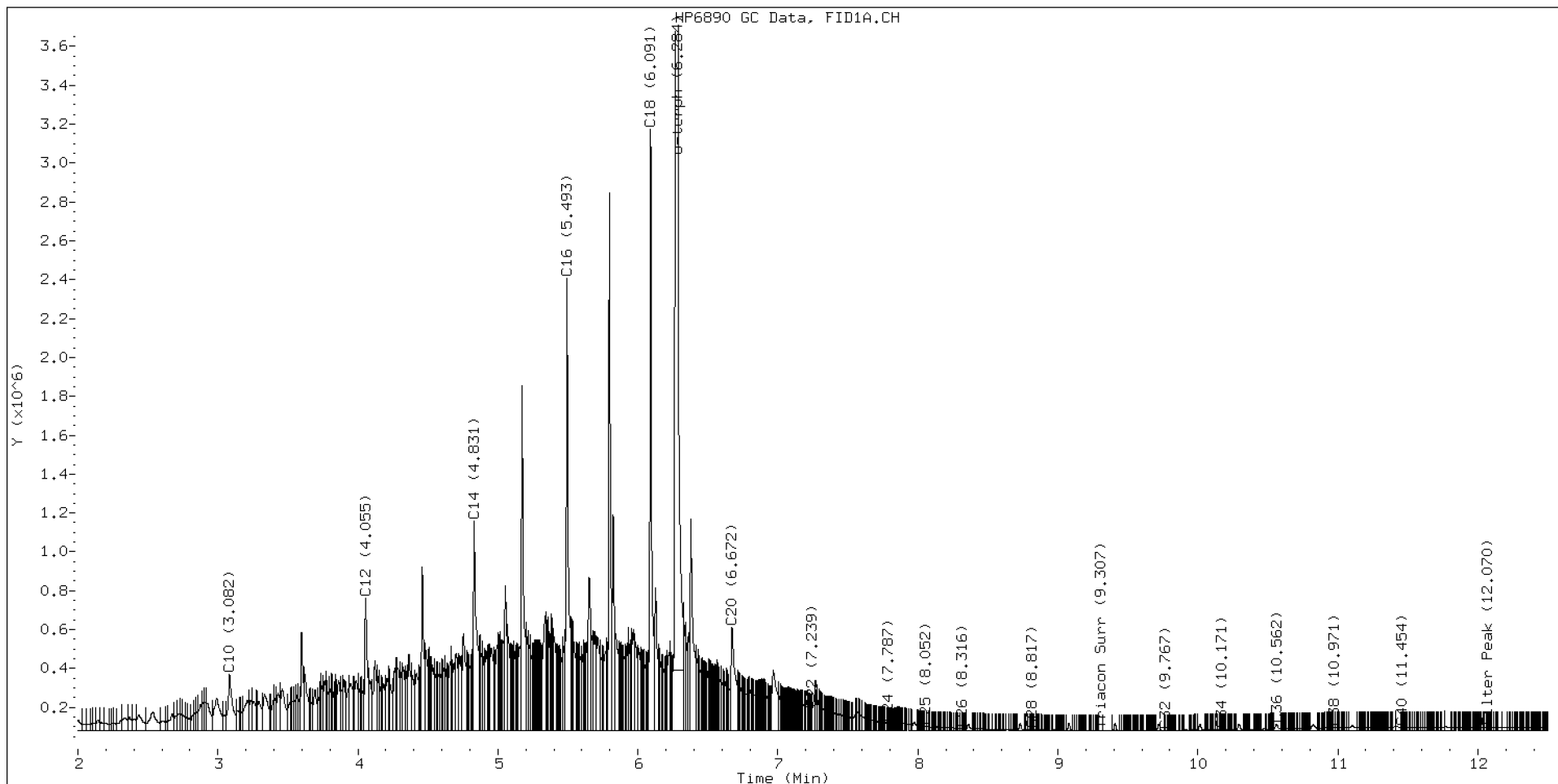
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.974	-0.011	44420	46374	WATPHD	(C12-C24)	72069347	452.3
C10	3.082	0.011	287360	631242	WATPHM	(C24-C38)	1617994	16.0
C12	4.055	0.003	678900	874723	AK102	(C10-C25)	83740998	428.4
C14	4.831	-0.020	1078112	1629048	AK103	(C25-C36)	975808	13.3
C16	5.493	-0.006	2325149	2519576	OR.DIES	(C10-C28)	84261604	429.9
C18	6.091	-0.001	3094596	2776409				
C20	6.672	-0.001	528691	1137793	JET-A	(C10-C18)	64134578	386.7
C22	7.239	0.003	112746	27707				
C24	7.787	0.003	38433	13199				
C25	8.052	-0.003	20425	12966				
C26	8.316	-0.001	10545	4130				
C28	8.817	-0.003	2938	1249				
C32	9.767	0.014	1384	800				
C34	10.171	-0.006	4006	1588				
Filter Peak	12.070	0.001	15527	5422	CREOSOT	(C12-C22)	69884769	1235.9
C36	10.562	-0.015	33354	51203				
C38	10.971	-0.009	14233	16927				
C40	11.454	-0.001	16193	4850				
o-terph	6.284	-0.001	15887466	16497934				
Triacon Surr	9.307	-0.012	1737	1458	NAS DIES	(C10-C24)	83398872	427.4

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16497934	80.6 M
Triacontane	1458	0.0

M Indicates the peak was manually integrated

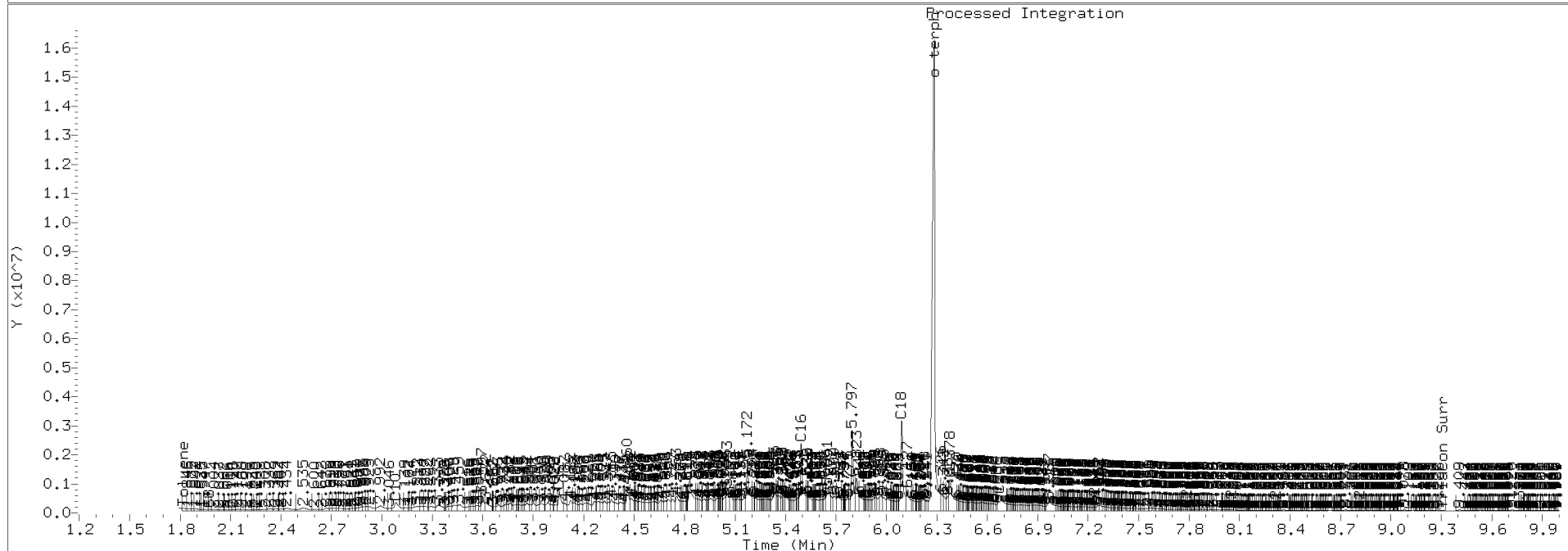
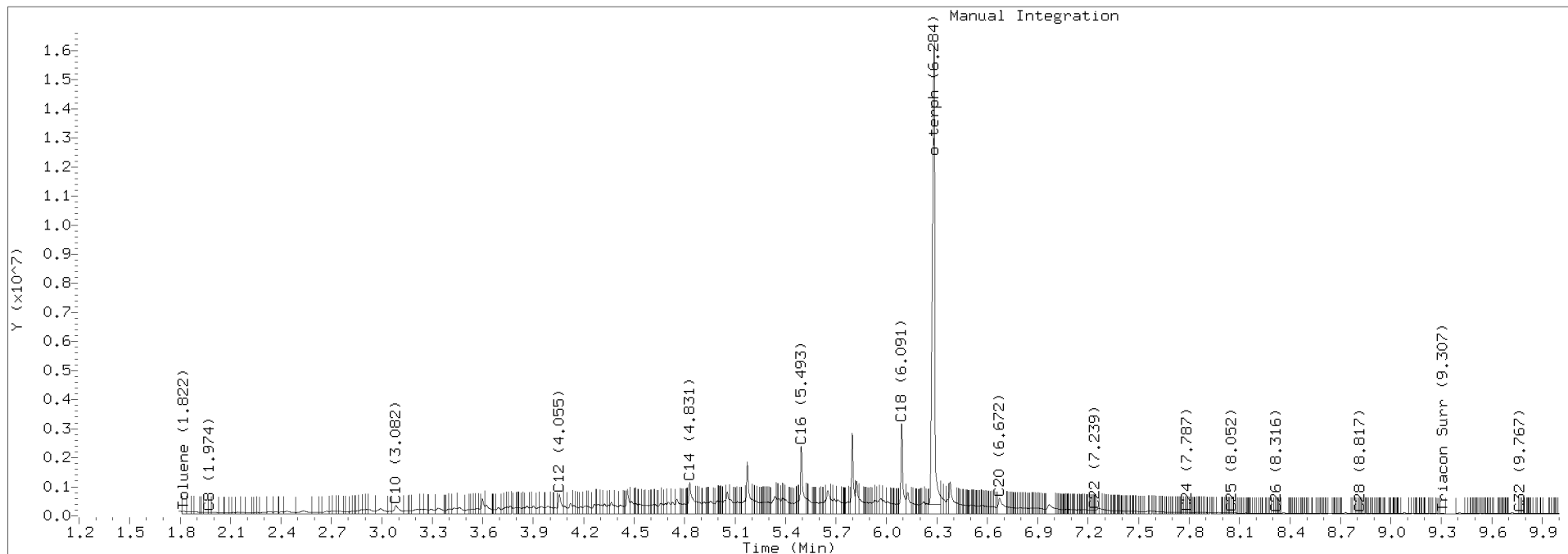
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0205.D Injection: 02-OCT-2020 10:02

Lab ID:SEQ-ICV1





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420J0206.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIJ0042</u>	Injection Date:	<u>10/02/20</u>
Lab Sample ID:	<u>SIJ0042-ICV2</u>	Injection Time:	<u>10:22</u>
Sequence Name:	<u>MOIL ICV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1000	101166.0000	101326.9000		0.2	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0206.D

Date : 02-OCT-2020 10:22

Client ID:

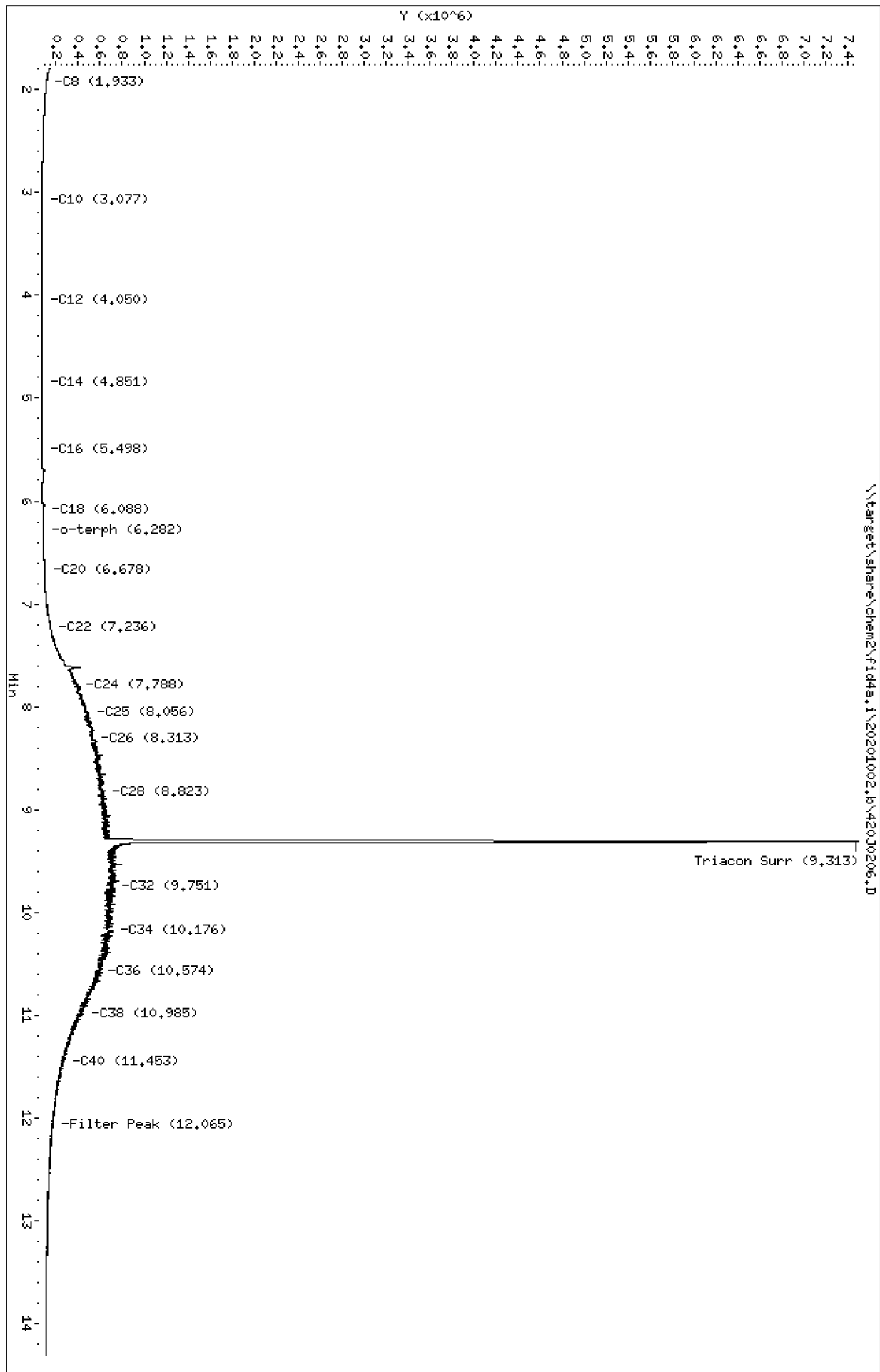
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0206.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-OCT-2020 10:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

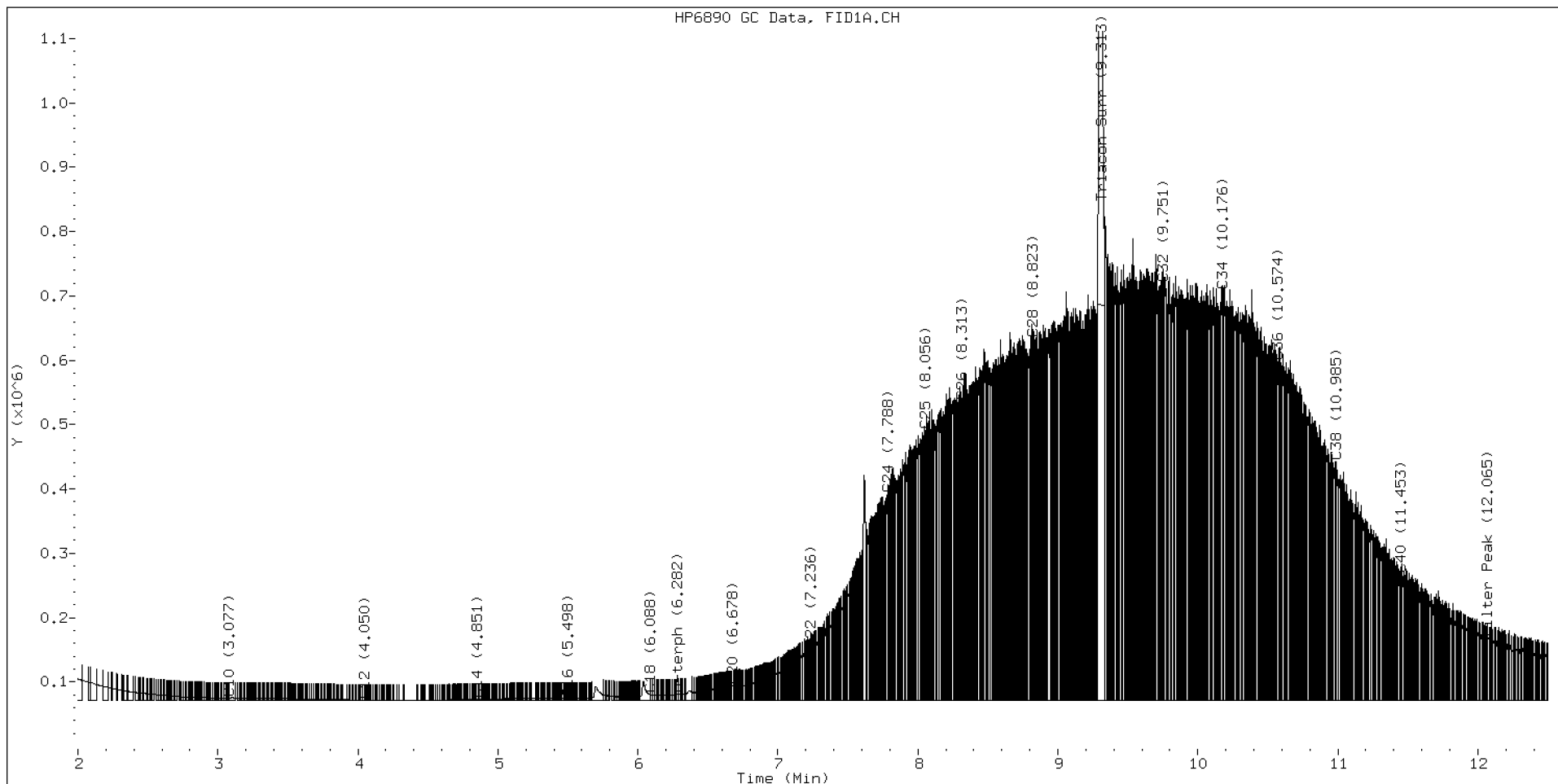
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.933	-0.053	40170	217629	WATPHD	(C12-C24)	9338175	58.6
C10	3.077	0.005	3116	1235	WATPHM	(C24-C38)	101326864	1001.6
C12	4.050	-0.002	739	300	AK102	(C10-C25)	12980414	66.4
C14	4.851	0.000	1691	875	AK103	(C25-C36)	87854436	1200.1
C16	5.498	-0.001	3965	1775	OR.DIES	(C10-C28)	38104832	194.4
C18	6.088	-0.004	9124	7454				
C20	6.678	0.004	23587	21755	JET-A	(C10-C18)	531068	3.2
C22	7.236	-0.000	78929	19568				
C24	7.788	0.003	320203	157142				
C25	8.056	0.001	419327	203040				
C26	8.313	-0.003	465120	205807				
C28	8.823	0.002	561848	139100				
C32	9.751	-0.002	648448	161534				
C34	10.176	-0.000	636189	188508				
Filter Peak	12.065	-0.004	95356	47076	CREOSOT	(C12-C22)	2490372	44.0
C36	10.574	-0.003	526198	280237				
C38	10.985	0.005	371706	208774				
C40	11.453	-0.002	195991	143228				
o-terph	6.282	-0.003	9393	6016				
Triacon Surr	9.313	-0.007	6811245	6463450	NAS DIES	(C10-C24)	9467683	48.5

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	6016	0.0
Triacontane	6463450	43.6 M

M Indicates the peak was manually integrated

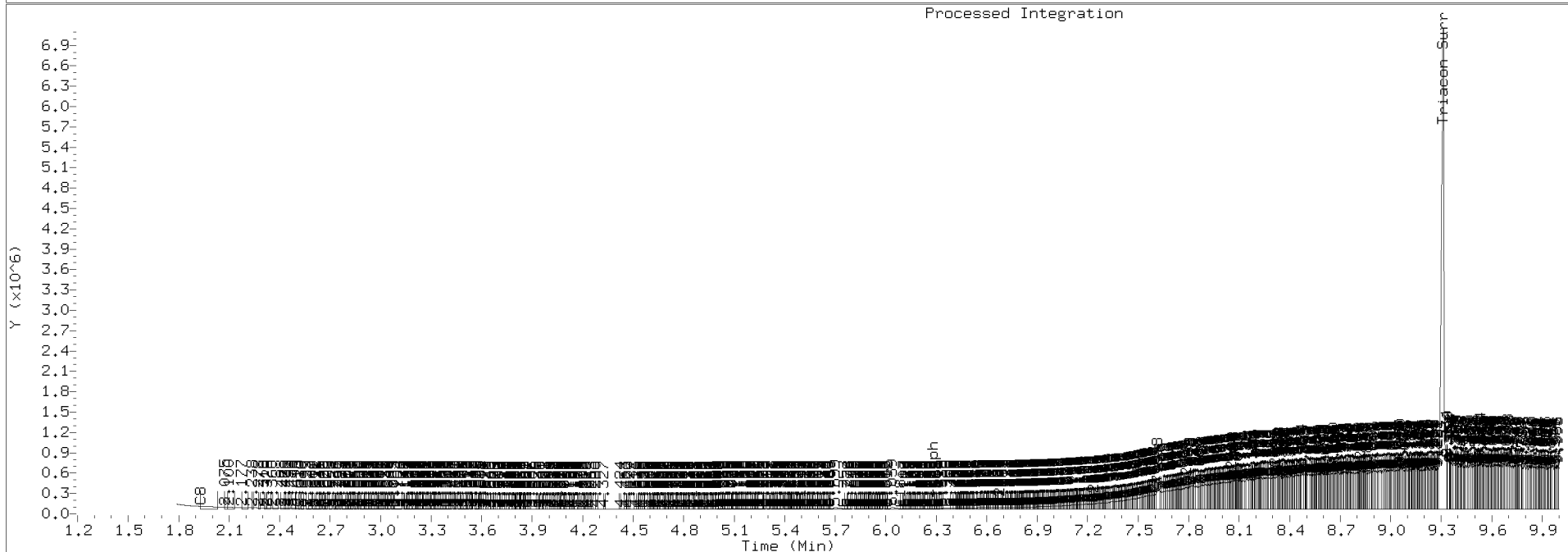
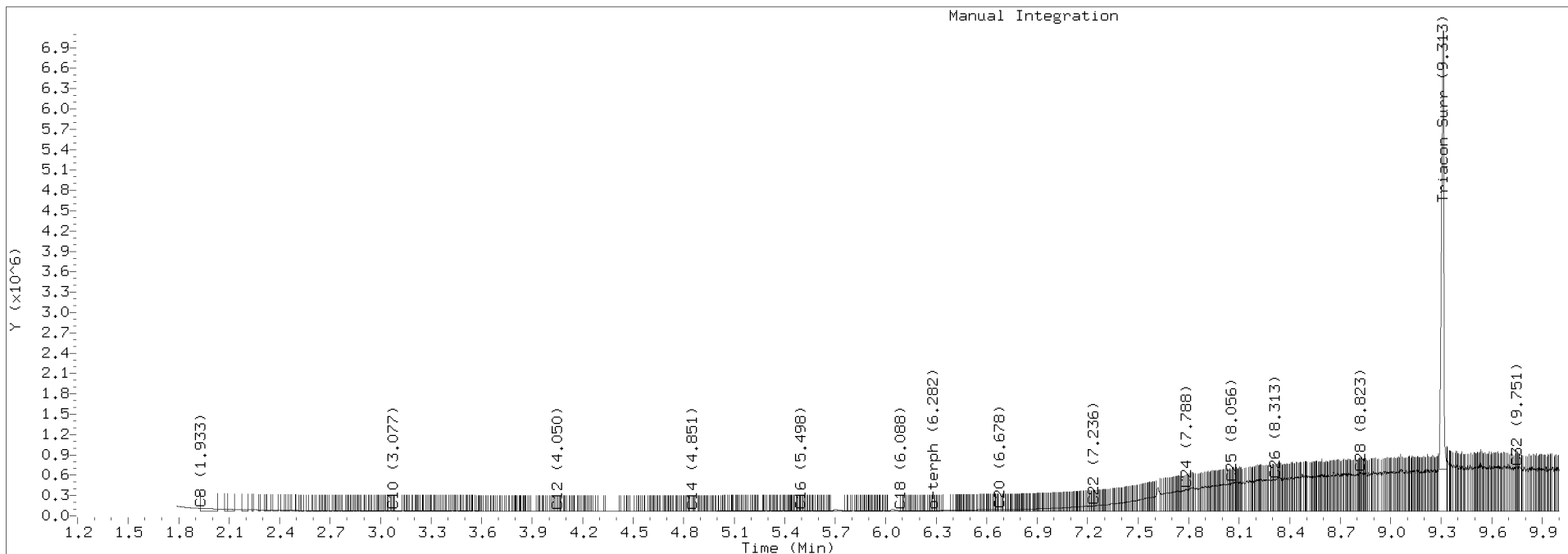
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0206.D Injection: 02-OCT-2020 10:22

Lab ID:SEQ-ICV2





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument ID: FID4 Calibration: DA00022
Lab File ID: 420J0213.D Calibration Date: 10/25/2019
Sequence: SIJ0042 Injection Date: 10/02/20
Lab Sample ID: SIJ0042-ICV3 Injection Time: 12:46
Sequence Name: A/S CREOSOTE ICV

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
o-Terphenyl	A	90.000	85.2	204701.9000	193728.7000		-5.3	+/-15

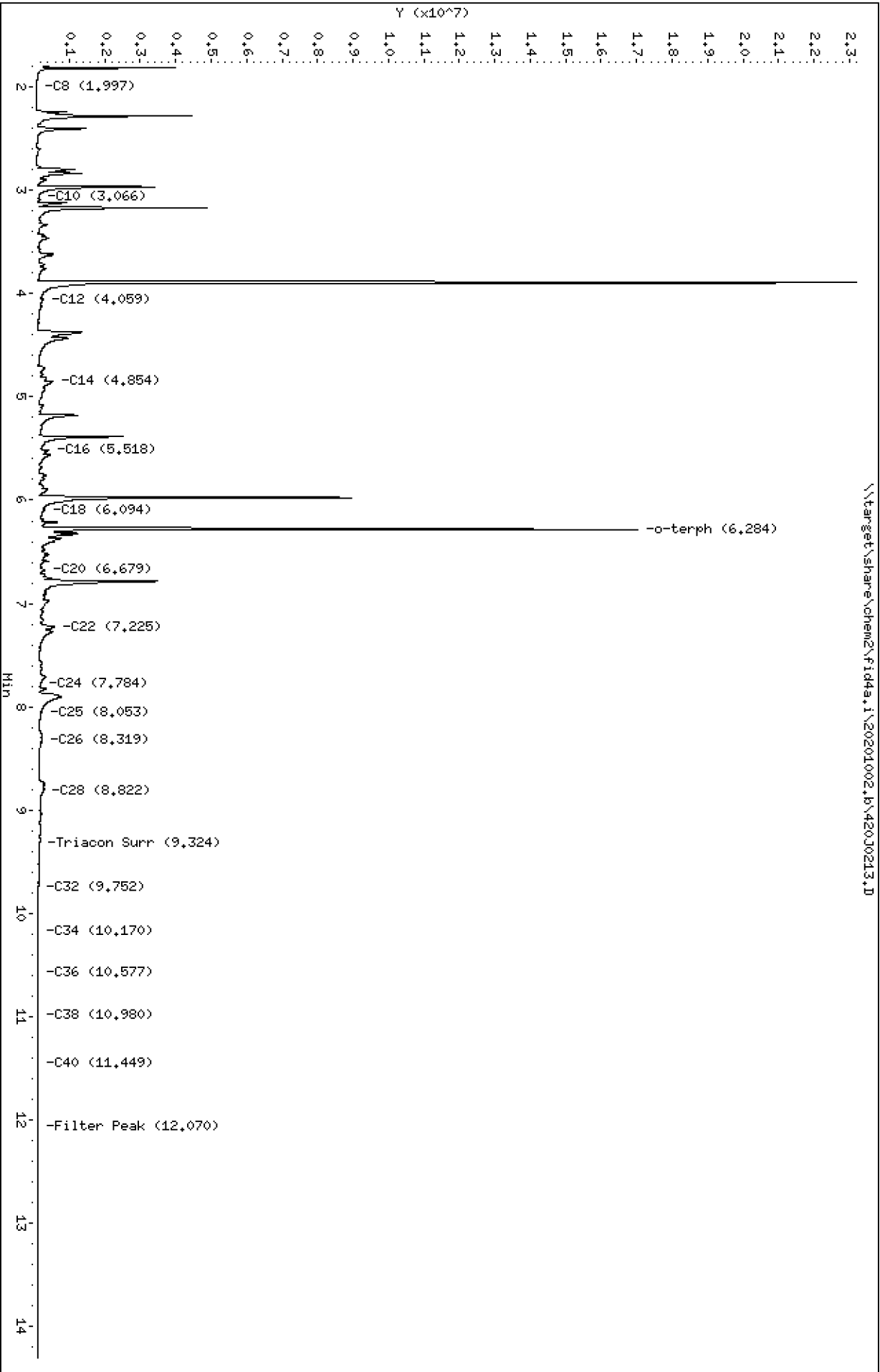
* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0213.D
Date : 02-OCT-2020 12:46
Client ID:
Sample Info: SEQ-ICV3

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0213.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-OCT-2020 12:46
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

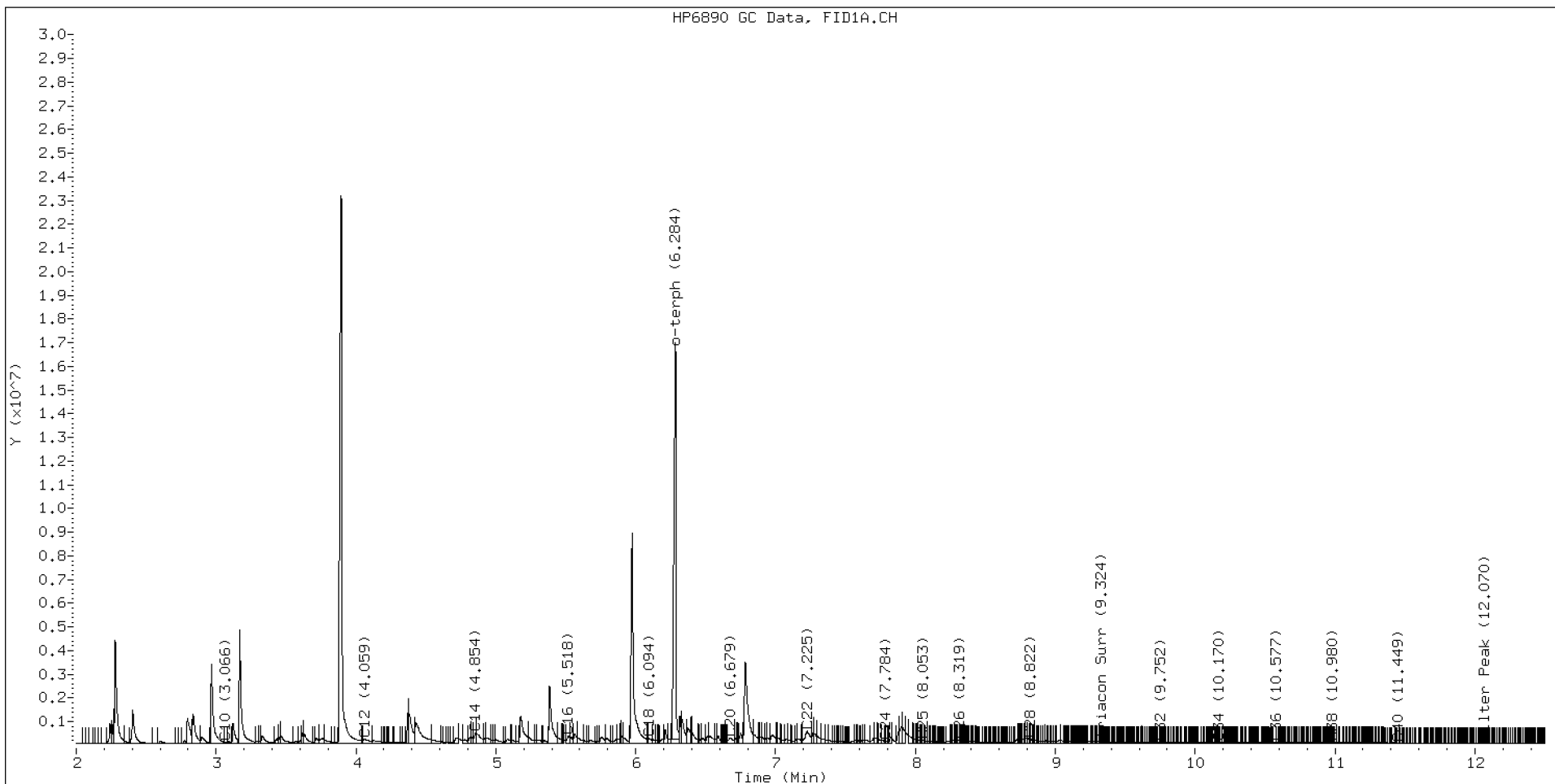
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.011	15231	44107	WATPHD	(C12-C24)	64142858	402.6
C10	3.066	-0.005	73828	66824	WATPHM	(C24-C38)	16752657	165.6
C12	4.059	0.007	208812	562762	AK102	(C10-C25)	104140417	532.7
C14	4.854	0.004	450395	458484	AK103	(C25-C36)	12683259	173.3
C16	5.518	0.018	336617	450507	OR.DIES	(C10-C28)	109859015	560.5
C18	6.094	0.002	214777	260250				
C20	6.679	0.005	247699	513028	JET-A	(C10-C18)	73860659	445.3
C22	7.225	-0.011	522649	1309051				
C24	7.784	-0.001	107515	42595				
C25	8.053	-0.002	136950	93608				
C26	8.319	0.002	144951	78122				
C28	8.822	0.001	186420	197034				
C32	9.752	-0.001	56122	19503				
C34	10.170	-0.006	43643	36590				
Filter Peak	12.070	0.001	32538	21116	CREOSOT	(C12-C22)	59740201	1056.5
C36	10.577	-0.000	42223	44767				
C38	10.980	0.001	44736	15566				
C40	11.449	-0.006	37967	30195				
o-terph	6.284	-0.000	16761119	17435581				
Triacon Surr	9.324	0.005	92969	45458	NAS DIES	(C10-C24)	101124086	518.2

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	17435581	85.2 M
Triacontane	45458	0.3

M Indicates the peak was manually integrated

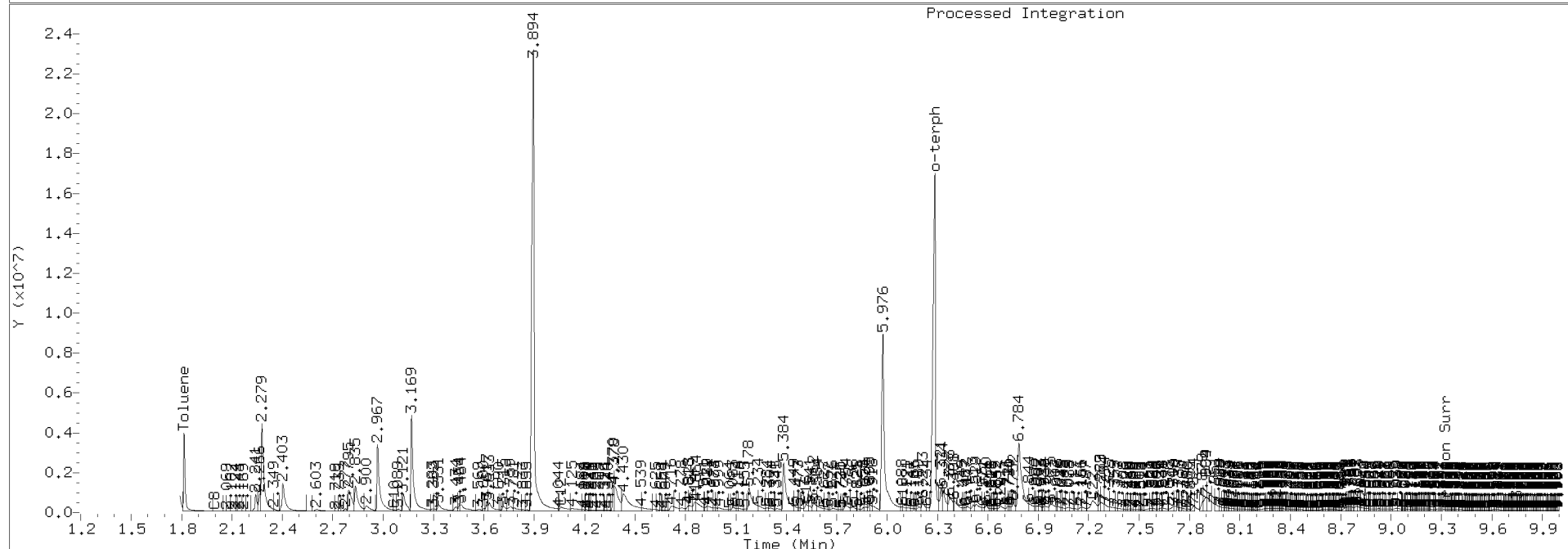
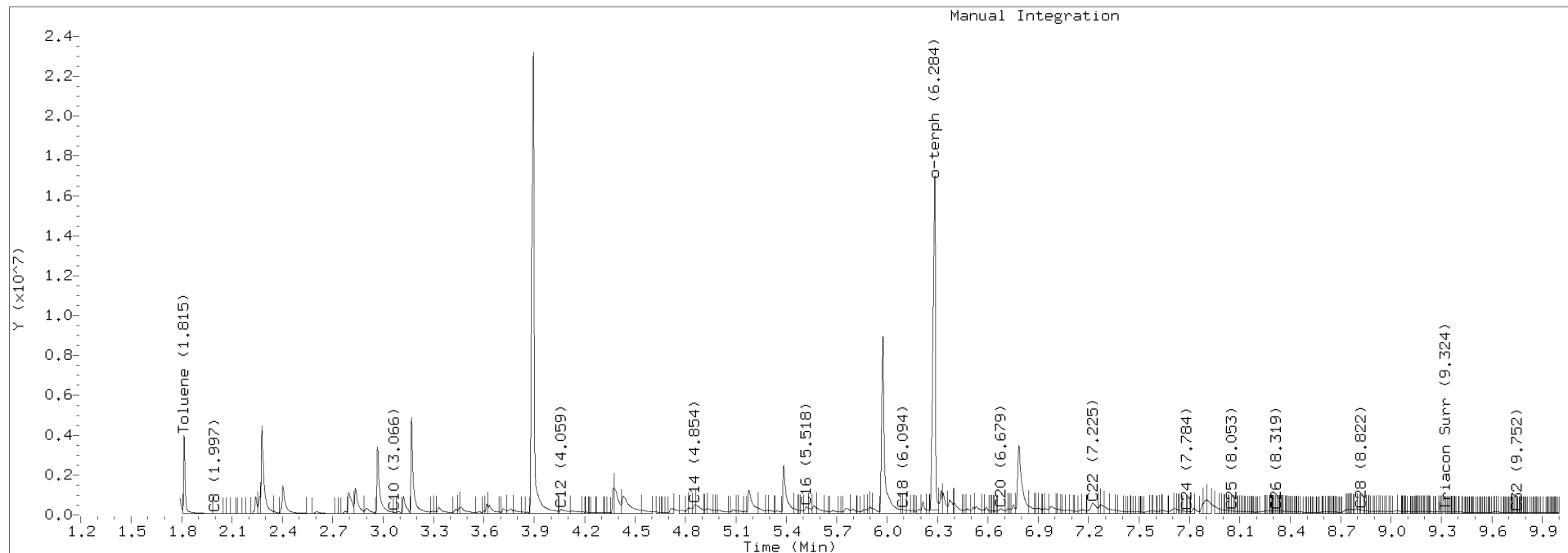
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0213.D Injection: 02-OCT-2020 12:46

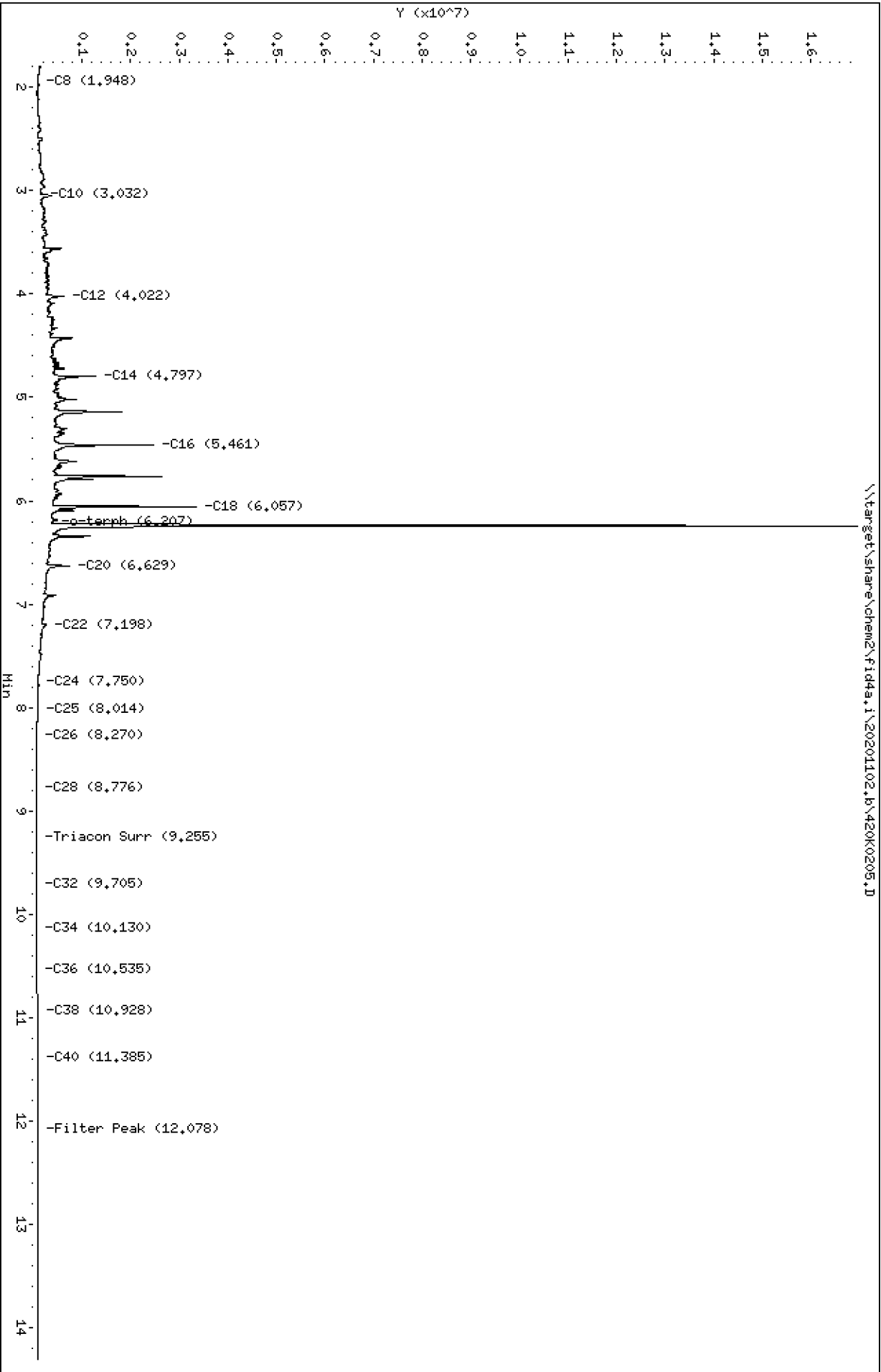
Lab ID:SEQ-ICV3



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0205.D
Date : 02-NOV-2020 09:50
Client ID:
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0205.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-NOV-2020 09:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

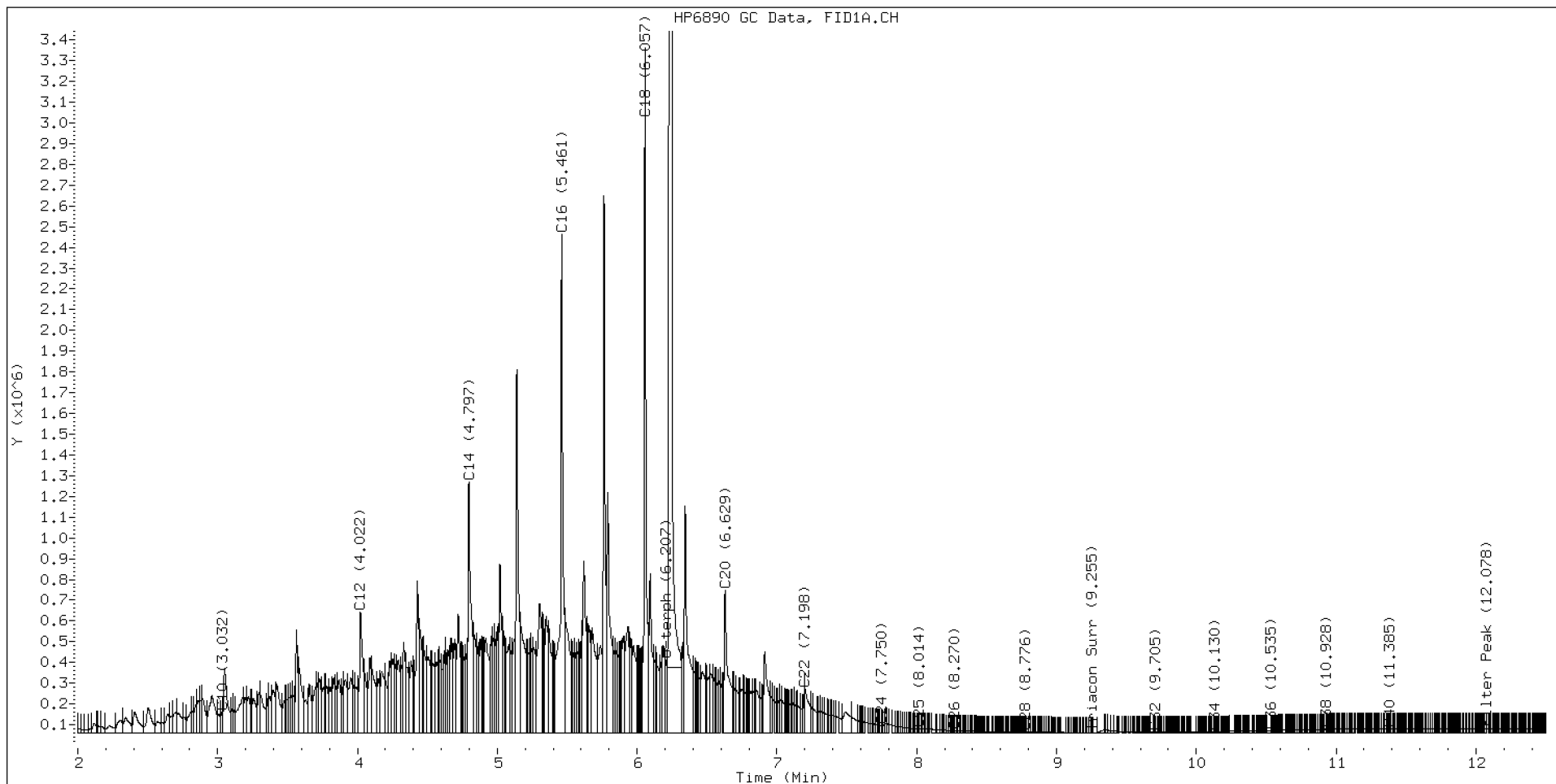
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.948	-0.005	27722	25305	WATPHD	(C12-C24)	73609123	462.0
C10	3.032	-0.000	100254	101191	WATPHM	(C24-C38)	1318446	13.0
C12	4.022	0.005	578386	910528	AK102	(C10-C25)	85995695	439.9
C14	4.797	-0.000	1205590	1792087	AK103	(C25-C36)	768399	10.5
C16	5.461	-0.003	2401105	3334464	OR.DIES	(C10-C28)	86376174	440.7
C18	6.057	0.000	3296857	2927279				
C20	6.629	0.000	687131	1352522	JET-A	(C10-C18)	67842897	409.1
C22	7.198	0.005	211338	187473				
C24	7.750	0.007	34186	5119				
C25	8.014	0.003	17661	6138				
C26	8.270	-0.002	8903	10303				
C28	8.776	-0.001	1579	700				
C32	9.705	-0.000	1846	457				
C34	10.130	-0.000	4665	1620				
Filter Peak	12.078	0.002	18811	4691	BUNKERC	(C10-C38)	87100489	2206.3
C36	10.535	0.001	10583	3159				
C38	10.928	-0.003	15959	3185				
C40	11.385	-0.001	18877	6577				
o-terph	6.247	-0.000	16578751	17511064				
Triacon Surr	9.255	-0.024	288	111	NAS DIES	(C10-C24)	85782044	439.6

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17511064	85.5 M
Triacontane	111	0.0

M Indicates the peak was manually integrated

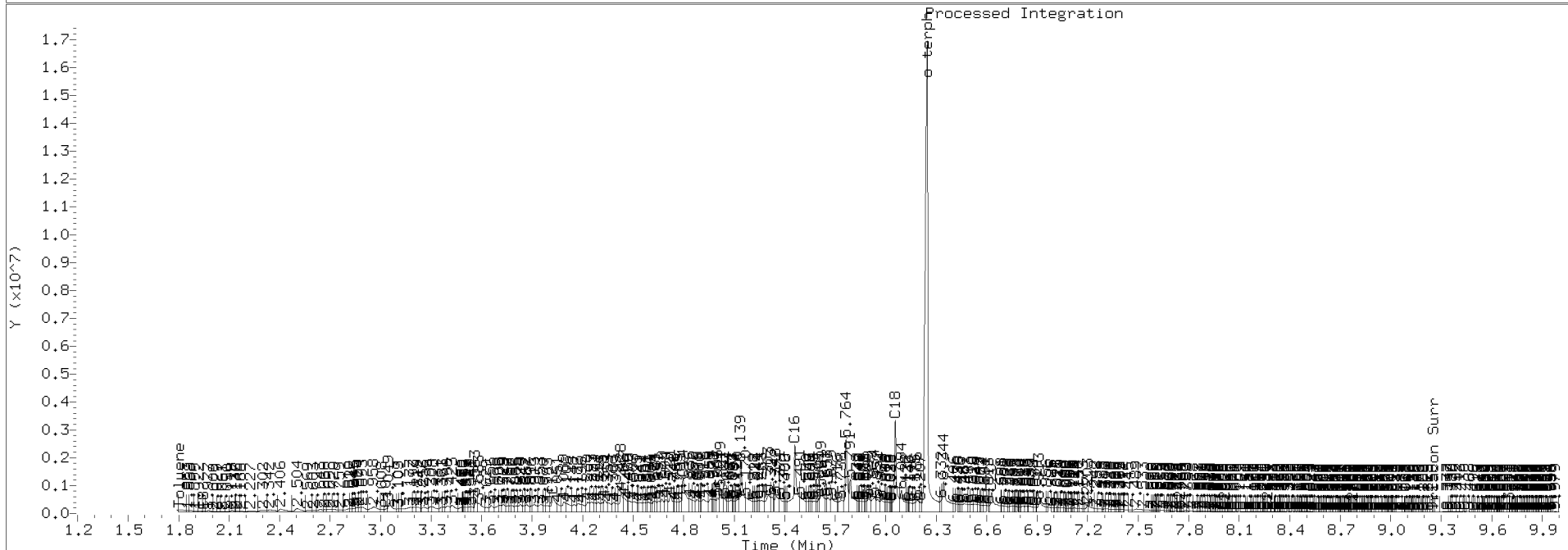
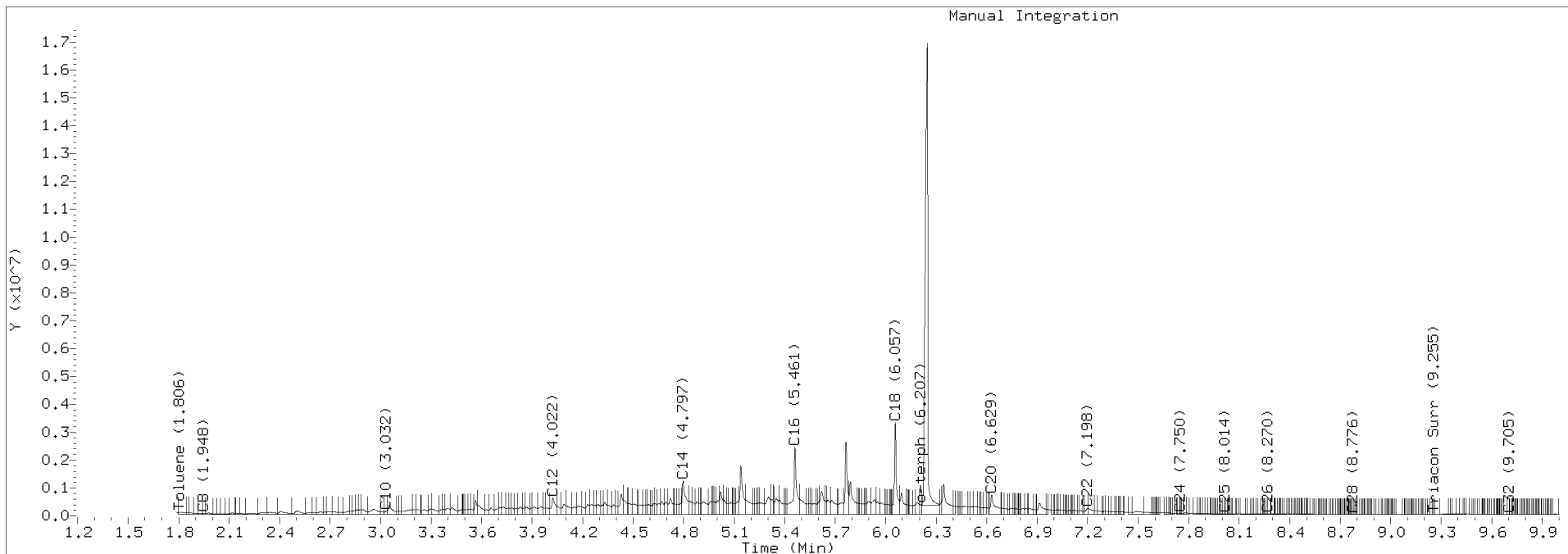
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0205.D Injection: 02-NOV-2020 09:50

Lab ID:SEQ-ICV1

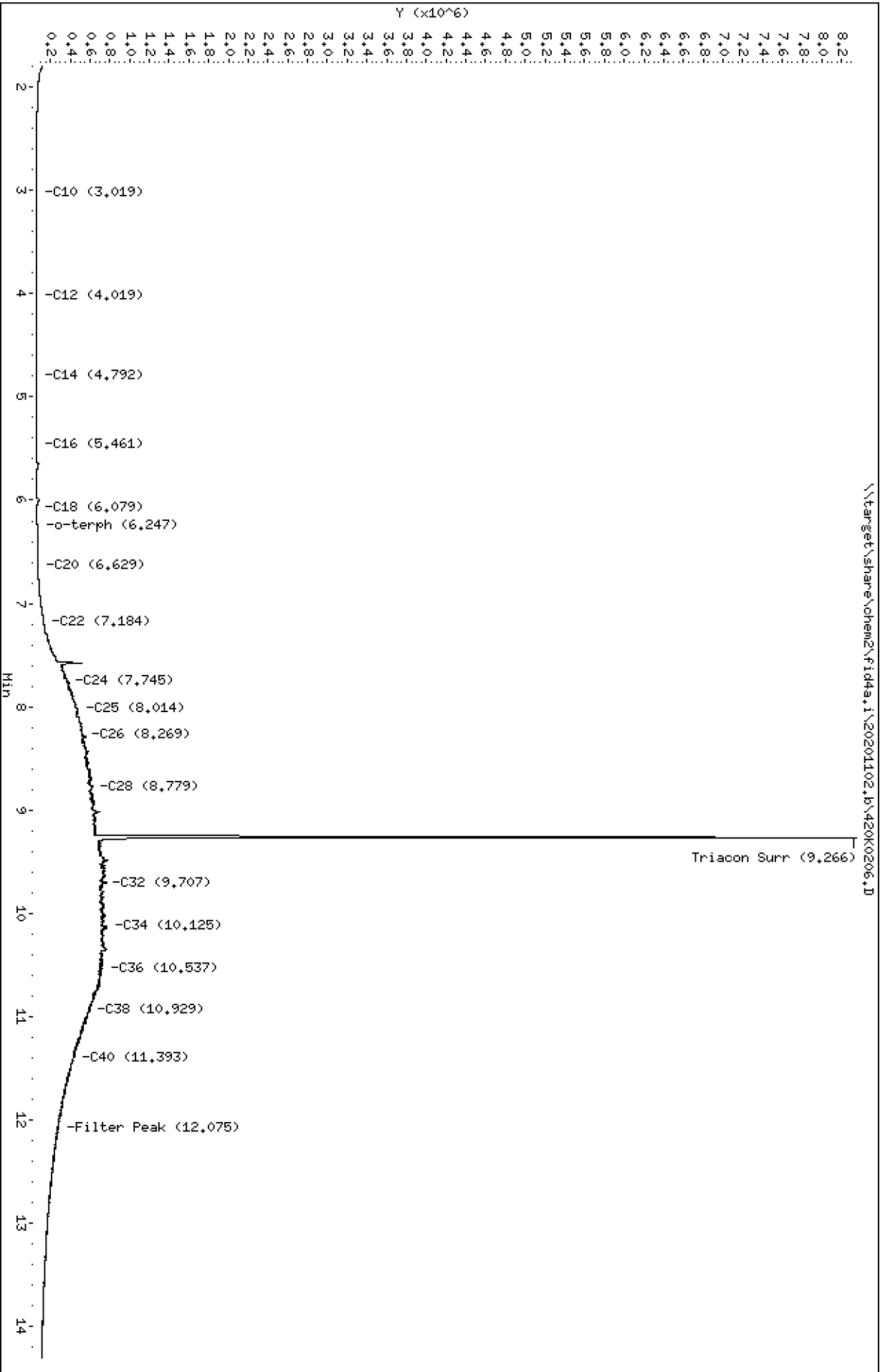


Data File: \\target\share\chem2\fid4a,1\20201102.b\420K0206.D
Date: 02-NOV-2020 10:10
Client ID:
Sample Info: SEQ-ICV2

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0206.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-NOV-2020 10:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

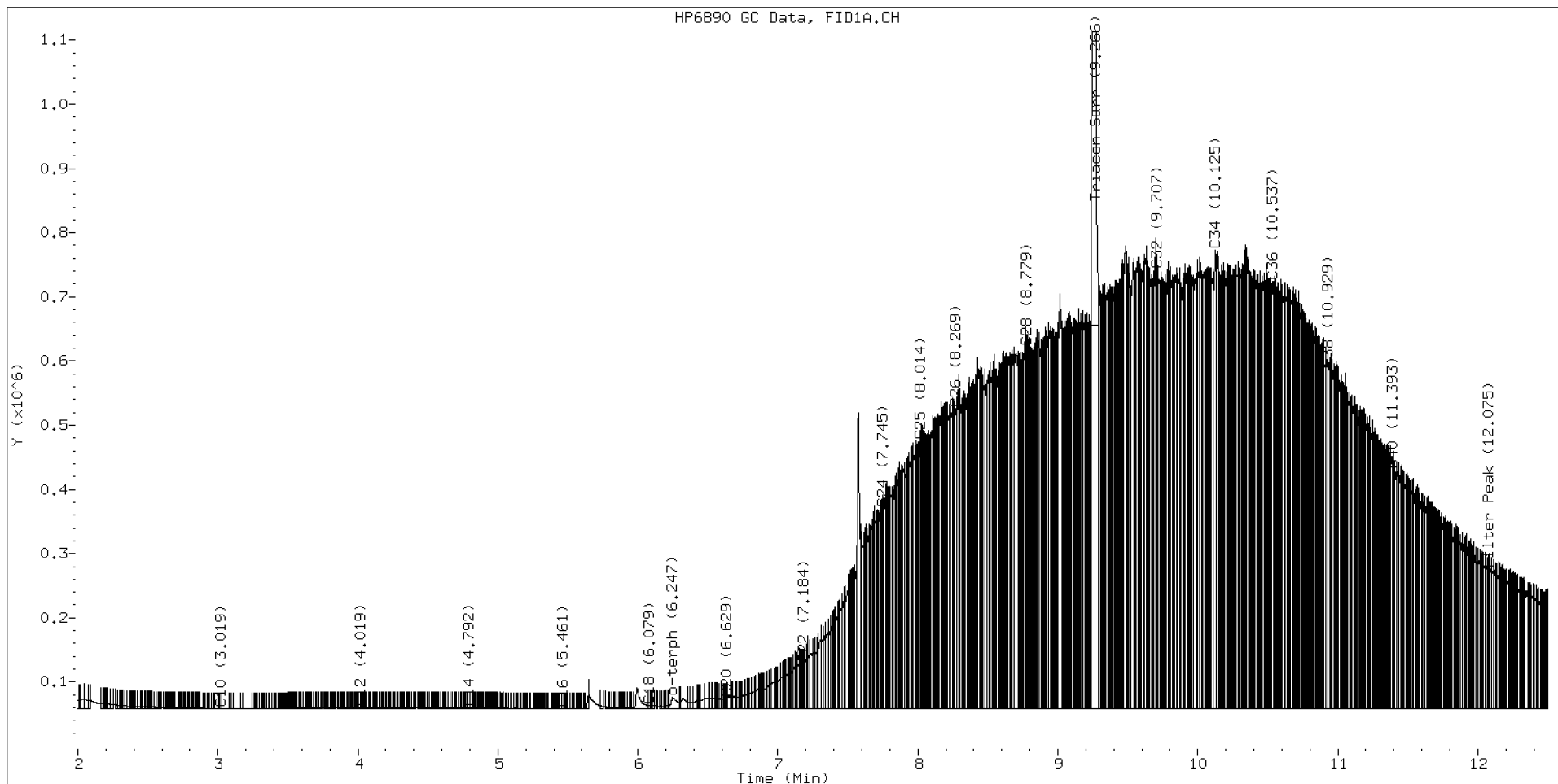
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.904	-0.050	31372	153084	WATPHD	(C12-C24)	8630664	54.2
C10	3.019	-0.013	378	194	WATPHM	(C24-C38)	109814018	1085.5
C12	4.019	0.003	1699	579	AK102	(C10-C25)	12272418	62.8
C14	4.792	-0.005	1288	918	AK103	(C25-C36)	92392635	1262.1
C16	5.461	-0.003	665	372	OR.DIES	(C10-C28)	37432985	191.0
C18	6.079	0.023	4466	3942				
C20	6.629	0.001	15807	7032	JET-A	(C10-C18)	251326	1.5
C22	7.184	-0.009	69530	27586				
C24	7.745	0.002	311043	168835				
C25	8.014	0.002	417193	362937				
C26	8.269	-0.003	467663	346796				
C28	8.779	0.002	562711	224336				
C32	9.707	0.001	683502	371053				
C34	10.125	-0.005	713842	924625				
Filter Peak	12.075	-0.000	216088	85492	BUNKERC	(C10-C38)	118490676	3001.5
C36	10.537	0.003	664921	523533				
C38	10.929	-0.001	529835	132064				
C40	11.393	0.006	371203	129552				
o-terph	6.247	-0.000	17150	49096				
Triacon Surr	9.266	-0.013	7693311	7418519	NAS DIES	(C10-C24)	8676658	44.5

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	49096	0.2
Triacontane	7418519	50.0 M

M Indicates the peak was manually integrated

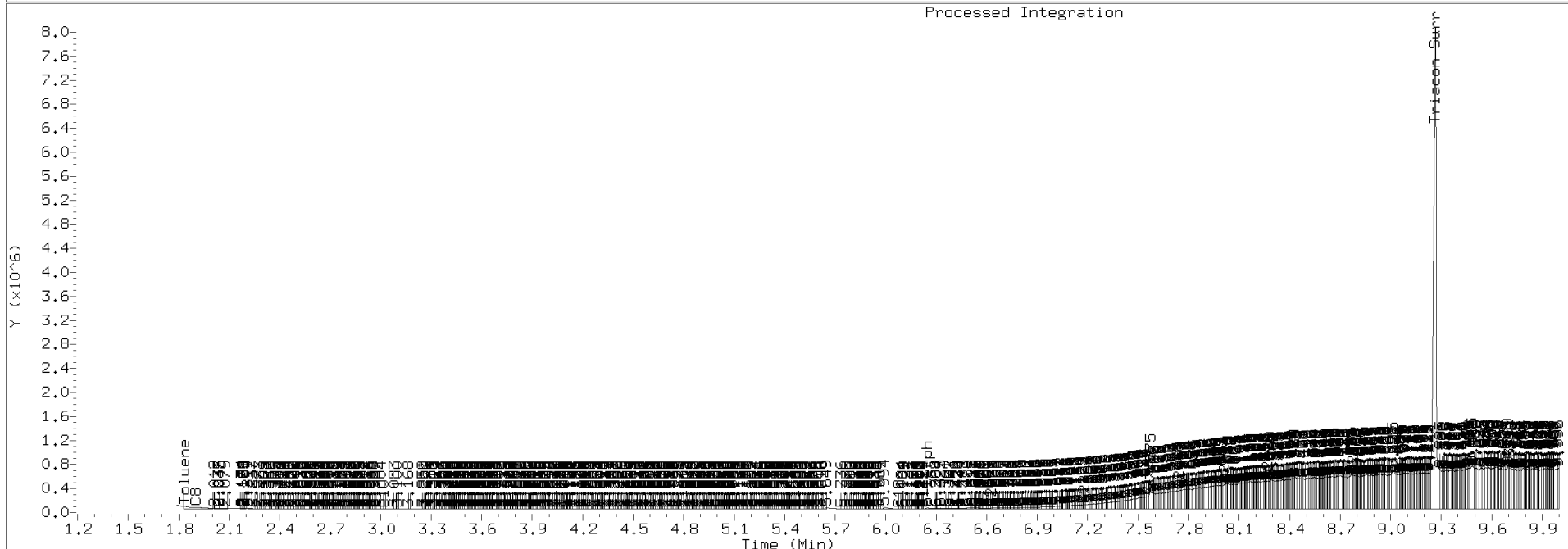
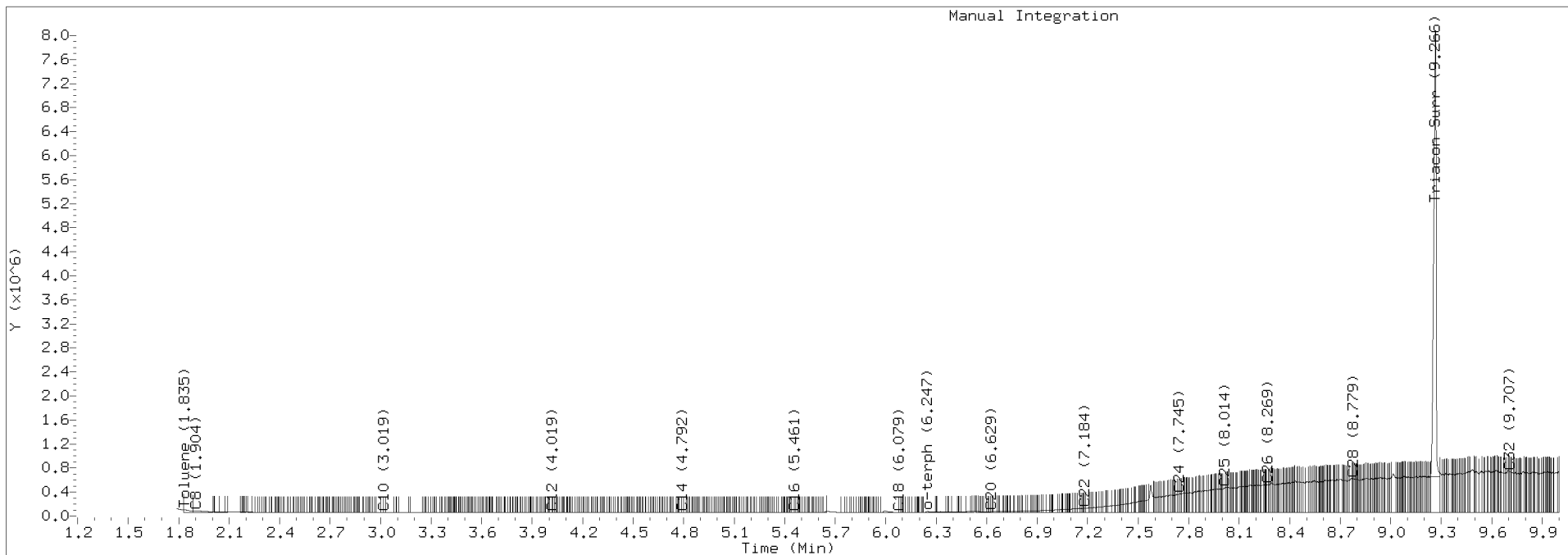
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0206.D Injection: 02-NOV-2020 10:10

Lab ID:SEQ-ICV2





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420K0213.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIK0016</u>	Injection Date: <u>11/02/20</u>
Lab Sample ID: <u>SIK0016-ICV3</u>	Injection Time: <u>12:33</u>
Sequence Name: <u>A/S LANDAU BUNKER C</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
o-Terphenyl	A	22.500	22.7	204701.9000	206237.7000		0.9	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201102,6\420K0213.D
Date: 02-NOV-2020 12:33

Client ID:

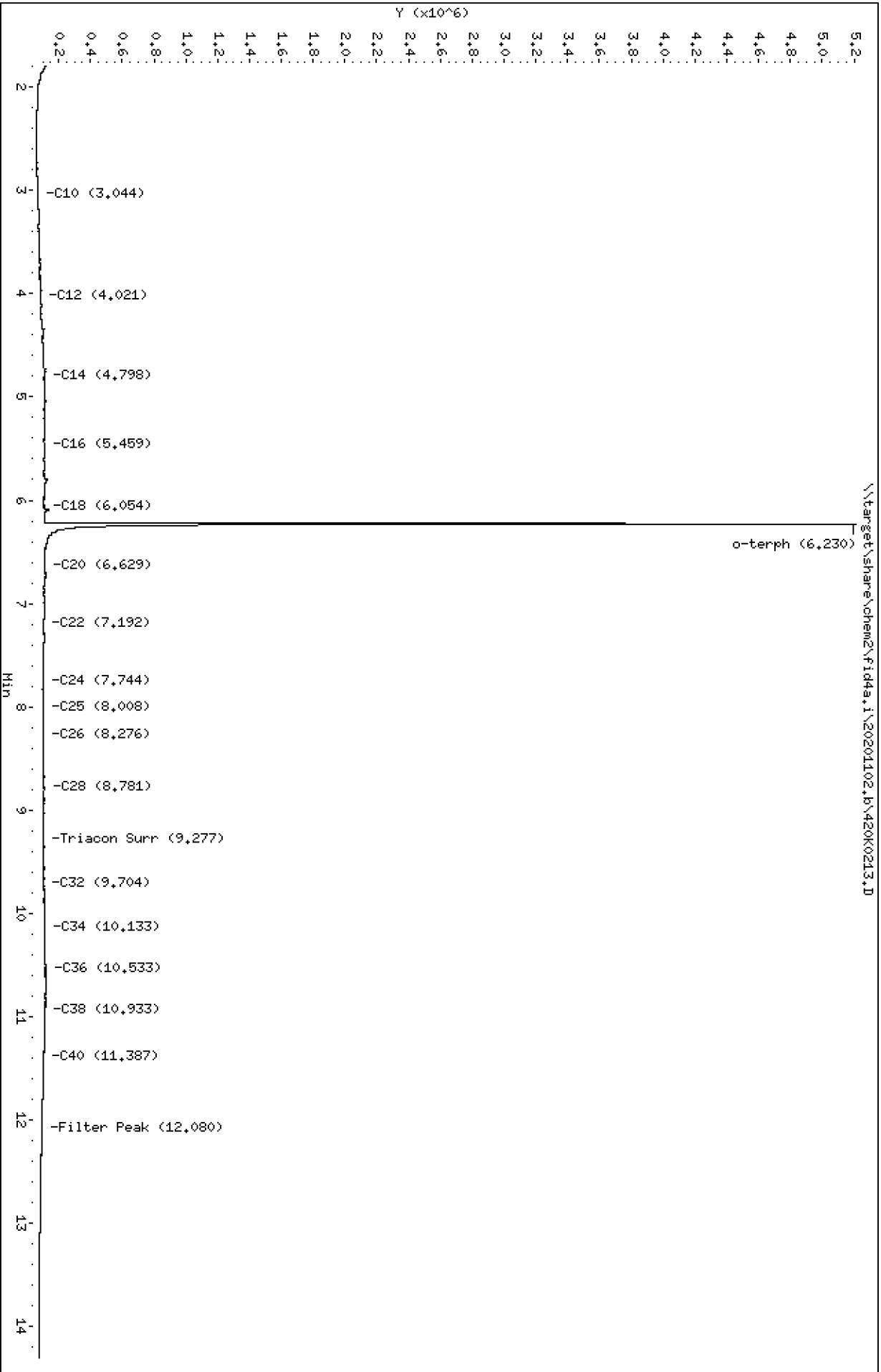
Sample Info: SEQ-ICV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0213.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-NOV-2020 12:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

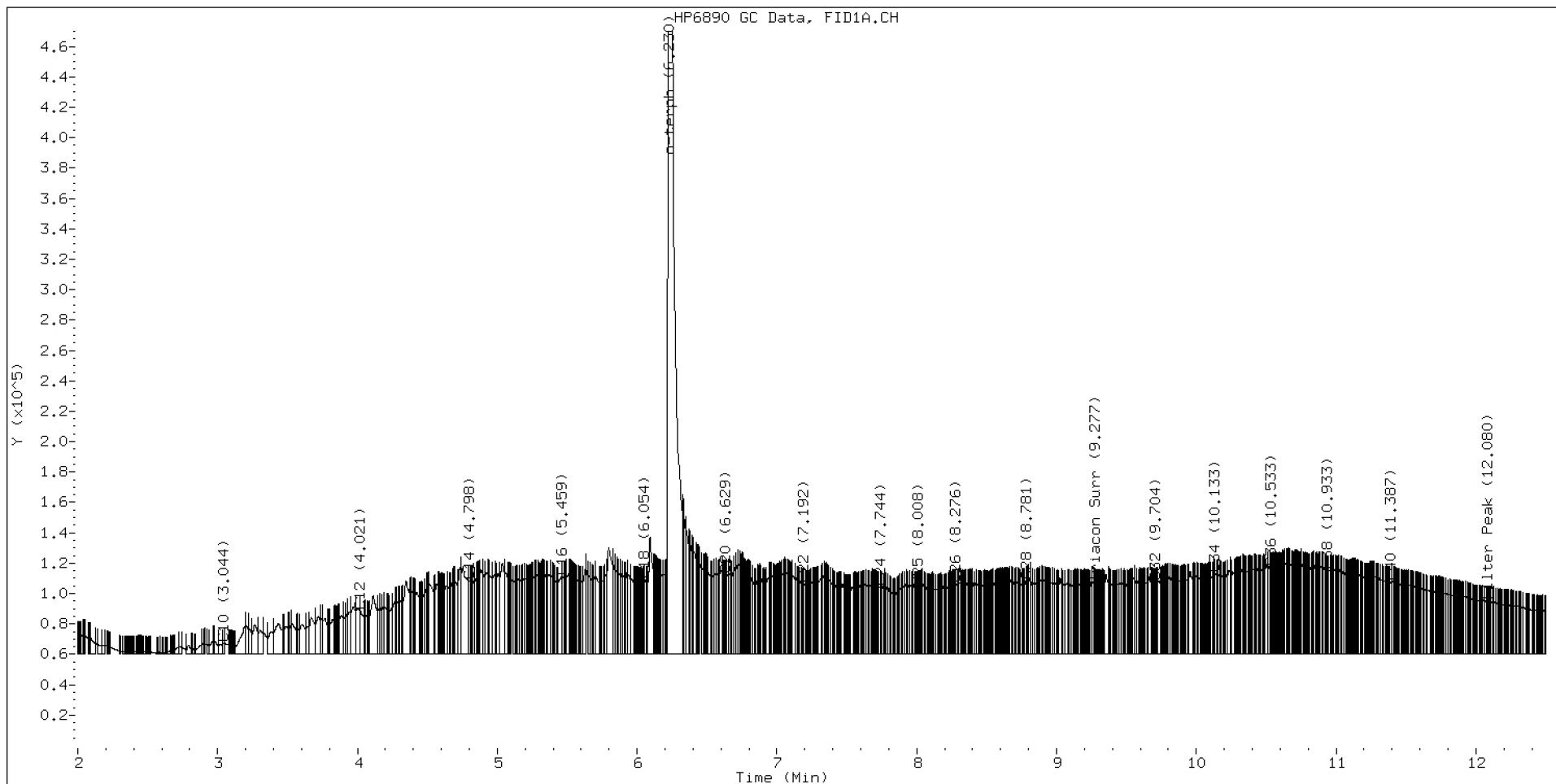
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.905	-0.049	29425	121927	WATPHD	(C12-C24)	10141433	63.6
C10	3.044	0.012	6803	6901	WATPHM	(C24-C38)	9120025	90.1
C12	4.021	0.005	27733	40280	AK102	(C10-C25)	11635353	59.5
C14	4.798	0.001	47843	38122	AK103	(C25-C36)	7369602	100.7
C16	5.459	-0.005	50282	92824	OR.DIES	(C10-C28)	13926769	71.1
C18	6.054	-0.002	48195	33149				
C20	6.629	0.000	51938	23197	JET-A	(C10-C18)	6617909	39.9
C22	7.192	-0.001	45794	36257				
C24	7.744	0.001	43476	10837				
C25	8.008	-0.003	43651	13061				
C26	8.276	0.004	45572	31655				
C28	8.781	0.004	47716	32741				
C32	9.704	-0.001	46788	30190				
C34	10.133	0.002	52271	15603				
Filter Peak	12.080	0.005	33980	18653	BUNKERC	(C10-C38)	20329330	515.0
C36	10.533	-0.000	56464	22507				
C38	10.933	0.002	54392	16254				
C40	11.387	0.000	47293	35175				
o-terph	6.230	-0.017	5152254	4640349				
Triacon Surr	9.277	-0.002	45837	24942	NAS DIES	(C10-C24)	11209305	57.4

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	4640349	22.7
Triacontane	24942	0.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



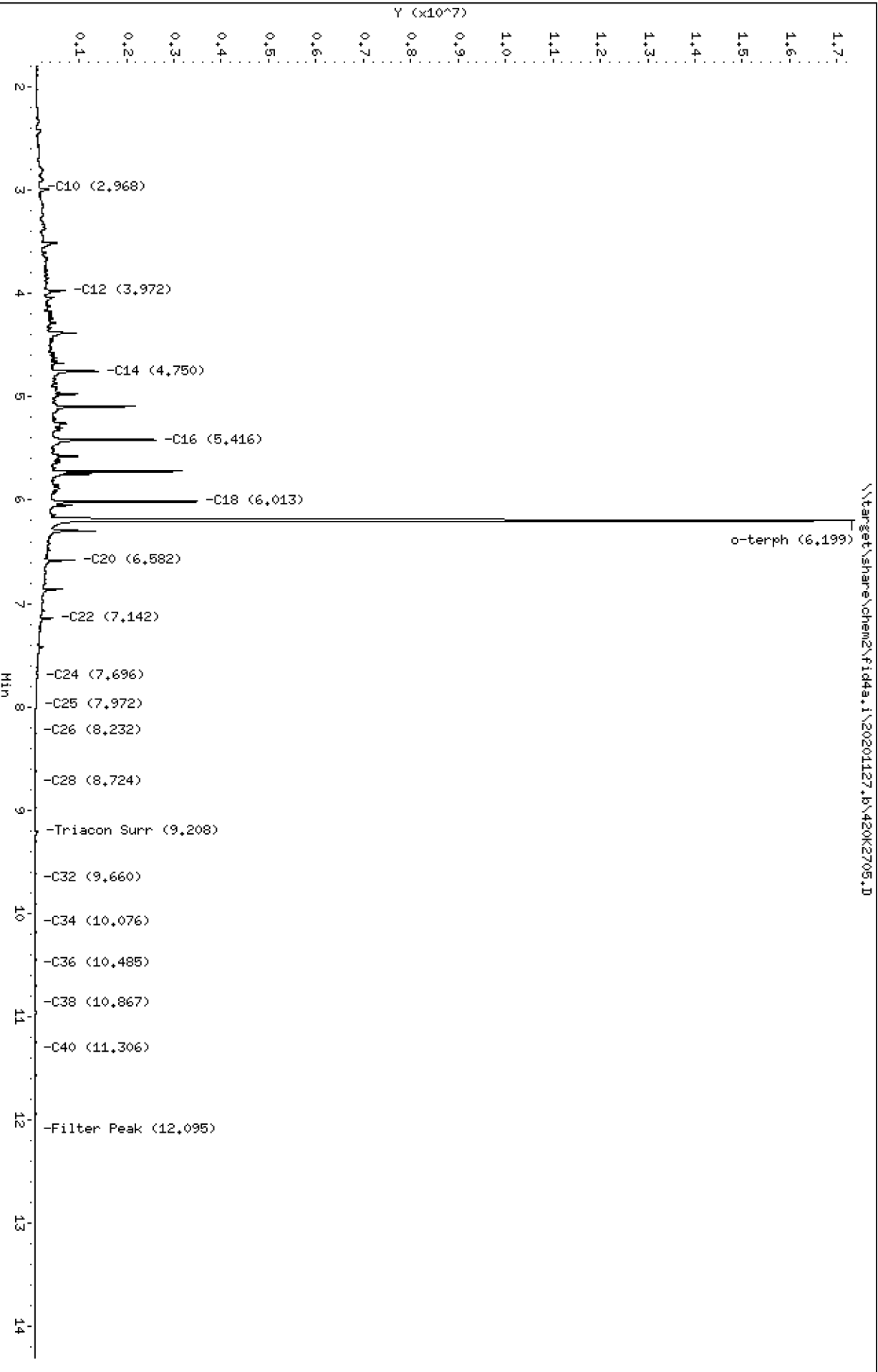
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Date: 27-NOV-2020 09:38
Client ID:
Sample Info: SEQ-ICV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2705.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 27-NOV-2020 09:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

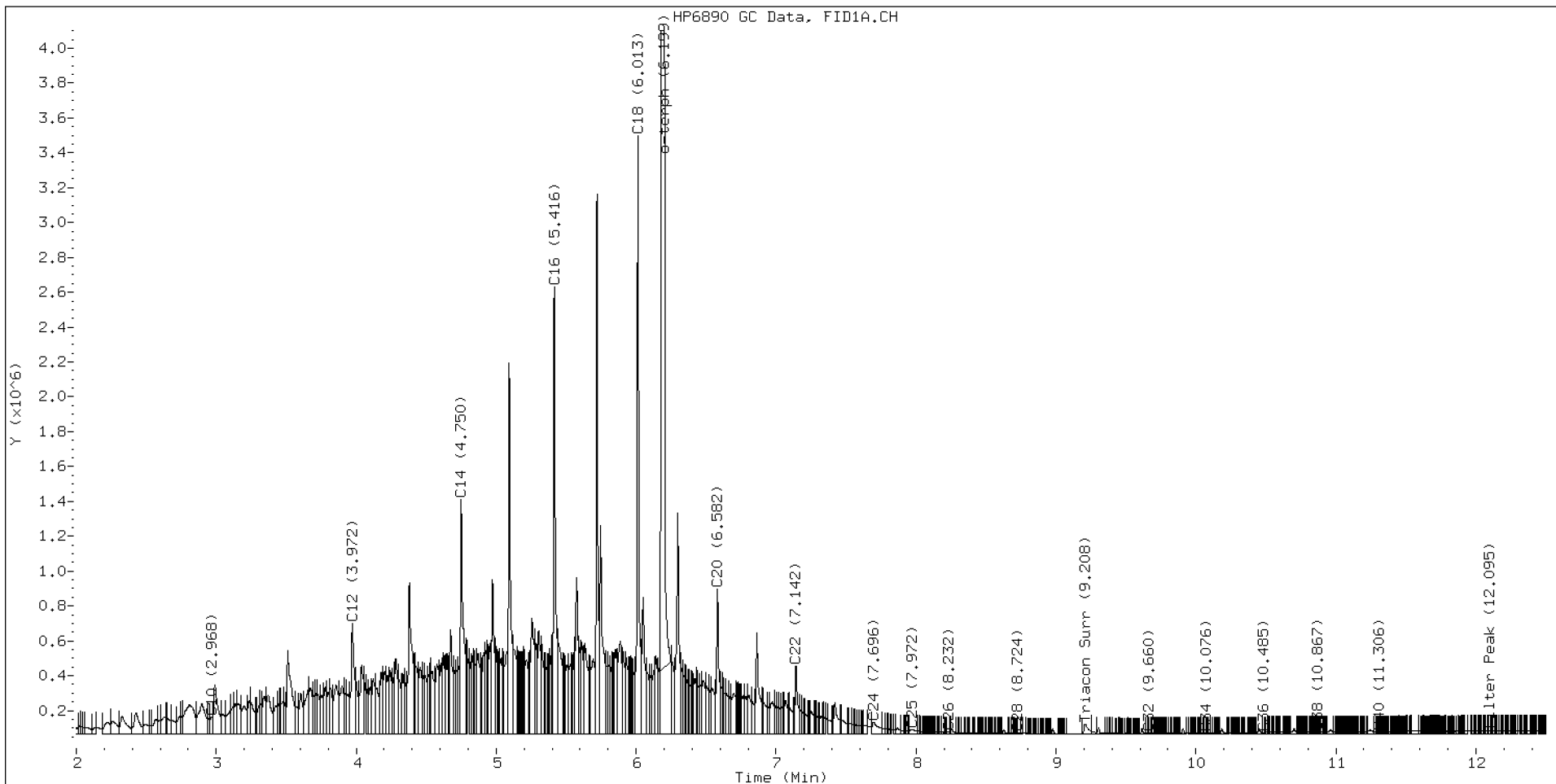
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.891	0.009	55279	110838	WATPHD	(C12-C24)	76219073	478.4
C10	2.968	-0.007	95912	114016	WATPHM	(C24-C38)	1163208	11.5
C12	3.972	0.005	631139	983194	AK102	(C10-C25)	88930197	454.9
C14	4.750	0.000	1341520	1810878	AK103	(C25-C36)	714872	9.8
C16	5.416	-0.000	2562614	2542395	OR.DIES	(C10-C28)	89284794	455.5
C18	6.013	-0.001	3428233	3082991				
C20	6.582	-0.004	830702	1032833	JET-A	(C10-C18)	68603545	413.7
C22	7.142	-0.006	387945	512471				
C24	7.696	0.000	65731	199144				
C25	7.972	0.008	23864	71763				
C26	8.232	0.007	9592	10268				
C28	8.724	-0.005	1518	615				
C32	9.660	0.004	1448	955				
C34	10.076	-0.004	2693	915				
Filter Peak	12.095	-0.000	13550	11445	BUNKERC	(C10-C38)	89876181	2276.7
C36	10.485	0.005	7080	7033				
C38	10.867	0.002	11428	6821				
C40	11.306	-0.003	13025	7145				
o-terph	6.199	-0.001	16921821	17925134				
Triacon Surr	9.208	-0.023	54515	109655	NAS DIES	(C10-C24)	88712974	454.6

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17925134	87.6 M
Triacontane	109655	0.7

M Indicates the peak was manually integrated

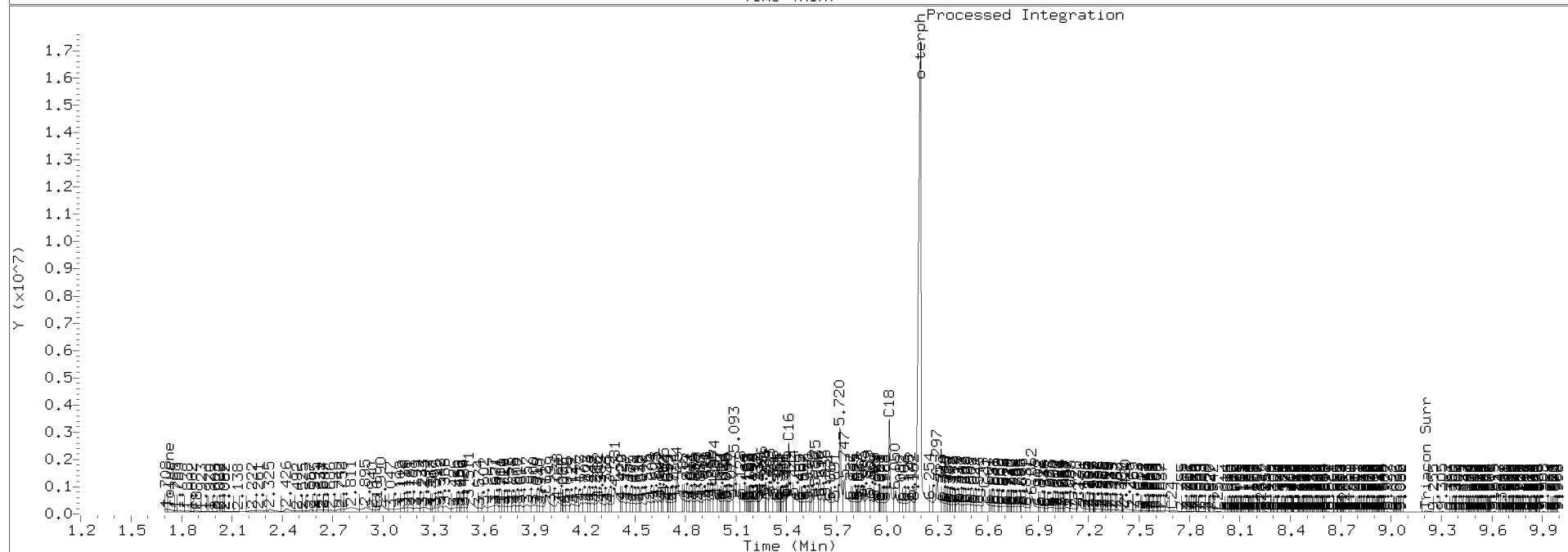
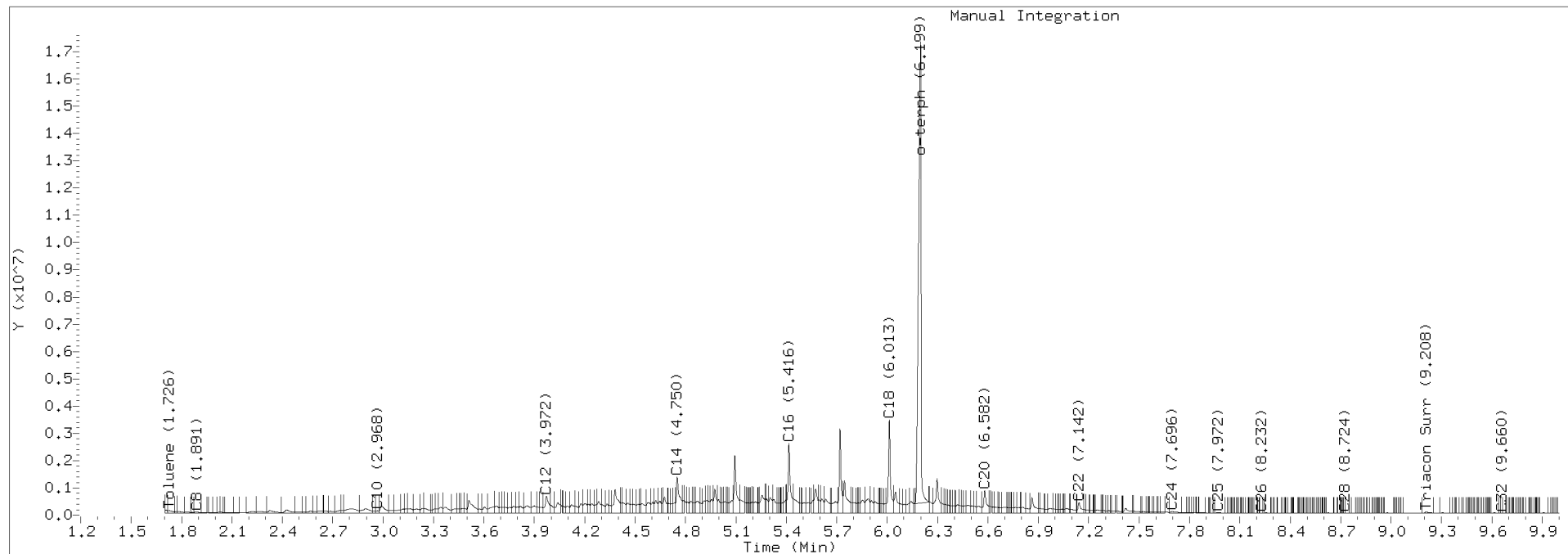
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2705.D Injection: 27-NOV-2020 09:38

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2706.D
Date: 27-NOV-2020 09:58

Client ID:

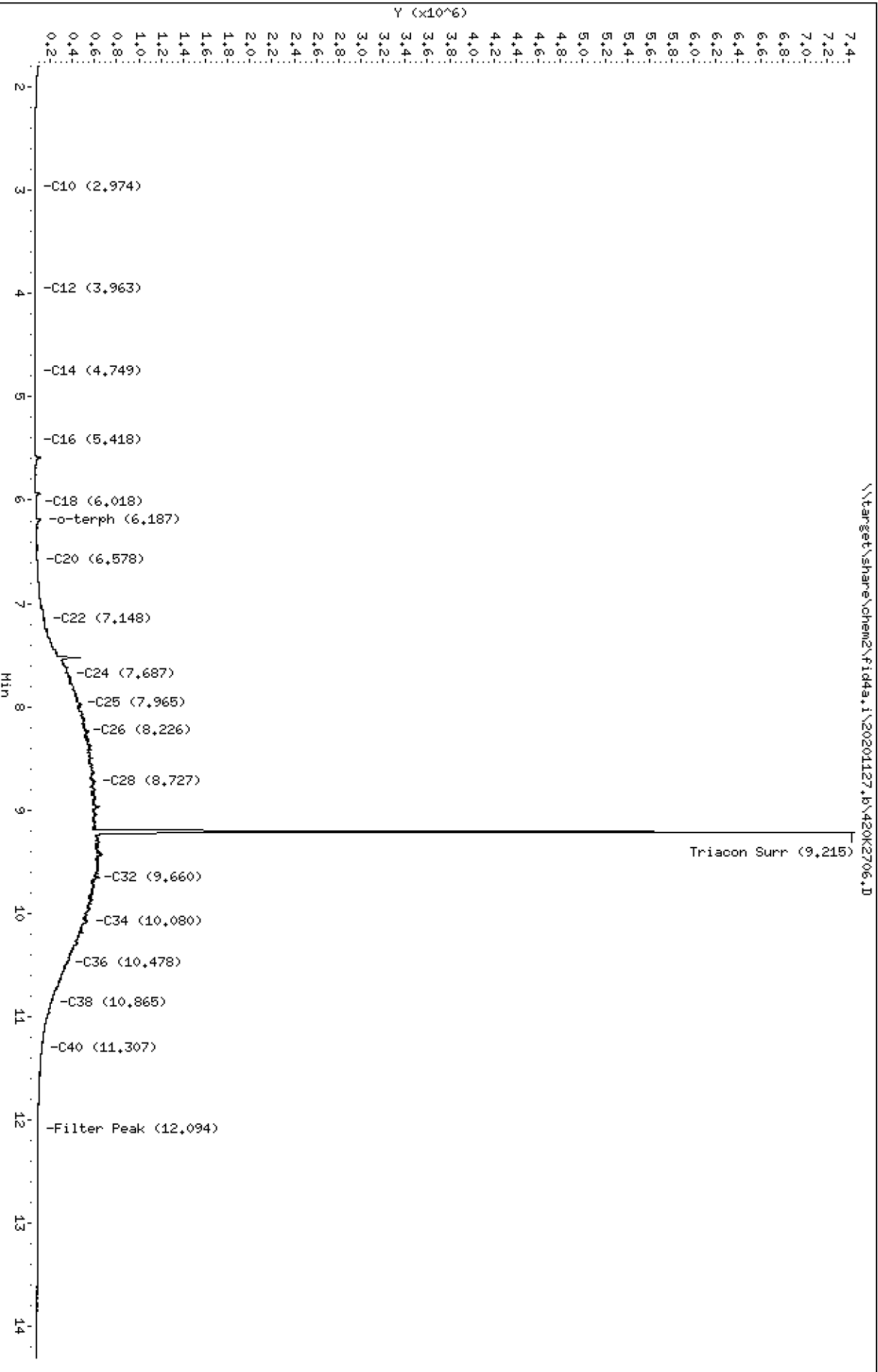
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2706.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 27-NOV-2020 09:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

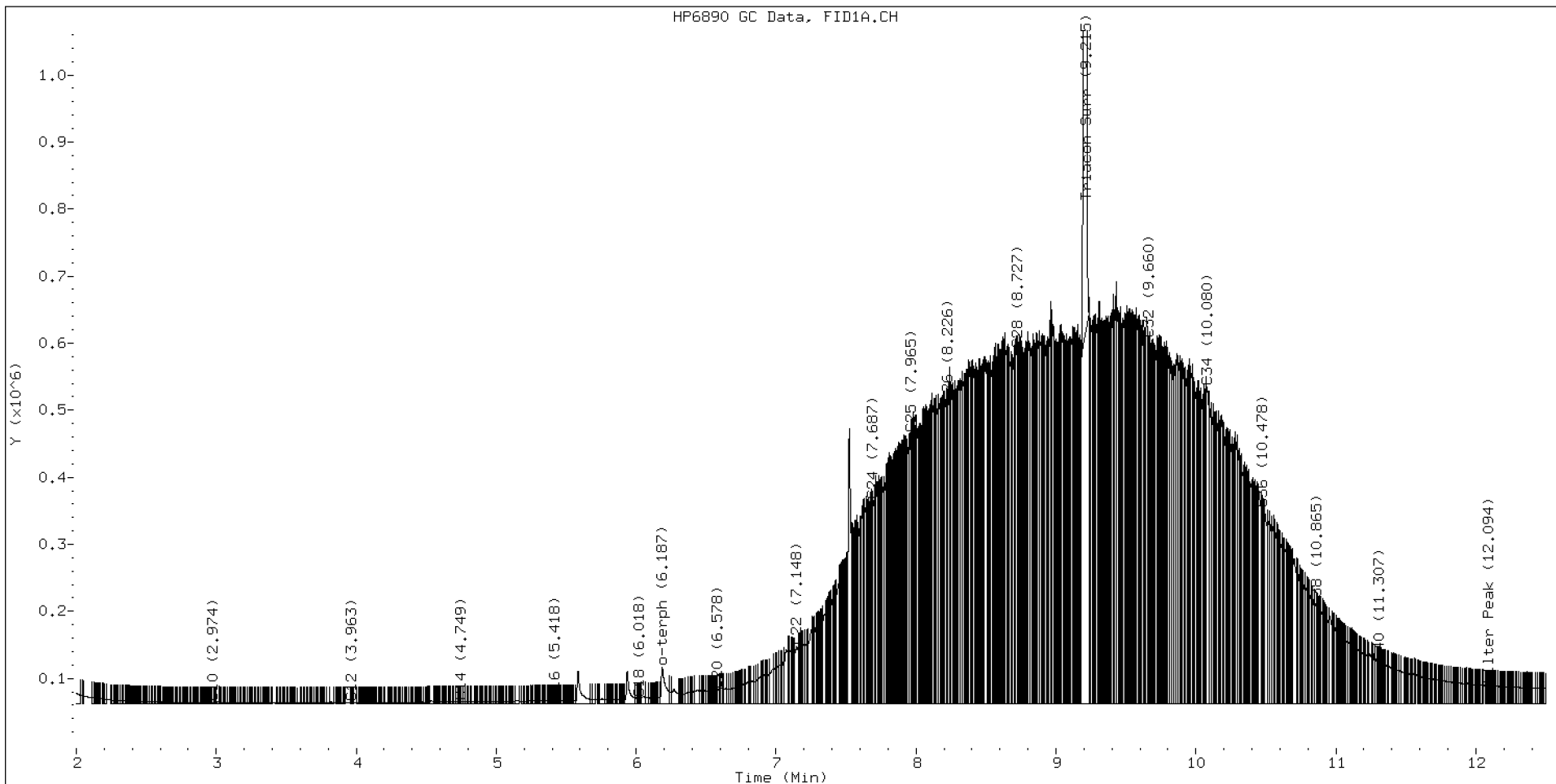
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.837	-0.045	28829	127524	WATPHD	(C12-C24)	9047518	56.8
C10	2.974	-0.002	1184	853	WATPHM	(C24-C38)	82752047	818.0
C12	3.963	-0.004	269	125	AK102	(C10-C25)	12601453	64.5
C14	4.749	-0.001	2301	673	AK103	(C25-C36)	74745416	1021.0
C16	5.418	0.002	3485	1206	OR.DIES	(C10-C28)	36591196	186.7
C18	6.018	0.003	7258	2876				
C20	6.578	-0.007	18811	5599	JET-A	(C10-C18)	498796	3.0
C22	7.148	0.000	84274	135542				
C24	7.687	-0.008	301893	163710				
C25	7.965	0.000	401686	80035				
C26	8.226	0.002	447555	155951				
C28	8.727	-0.002	528503	157220				
C32	9.660	0.004	543970	188229				
C34	10.080	0.000	471383	483311				
Filter Peak	12.094	-0.002	26238	14343	BUNKERC	(C10-C38)	91827993	2326.1
C36	10.478	-0.002	290589	143690				
C38	10.865	-0.001	143026	42669				
C40	11.307	-0.002	61878	42360				
o-terph	6.187	-0.013	54278	111130				
Triacon Surr	9.215	-0.016	6827946	6529750	NAS DIES	(C10-C24)	9075946	46.5

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	111130	0.5
Triacontane	6529750	44.0 M

M Indicates the peak was manually integrated

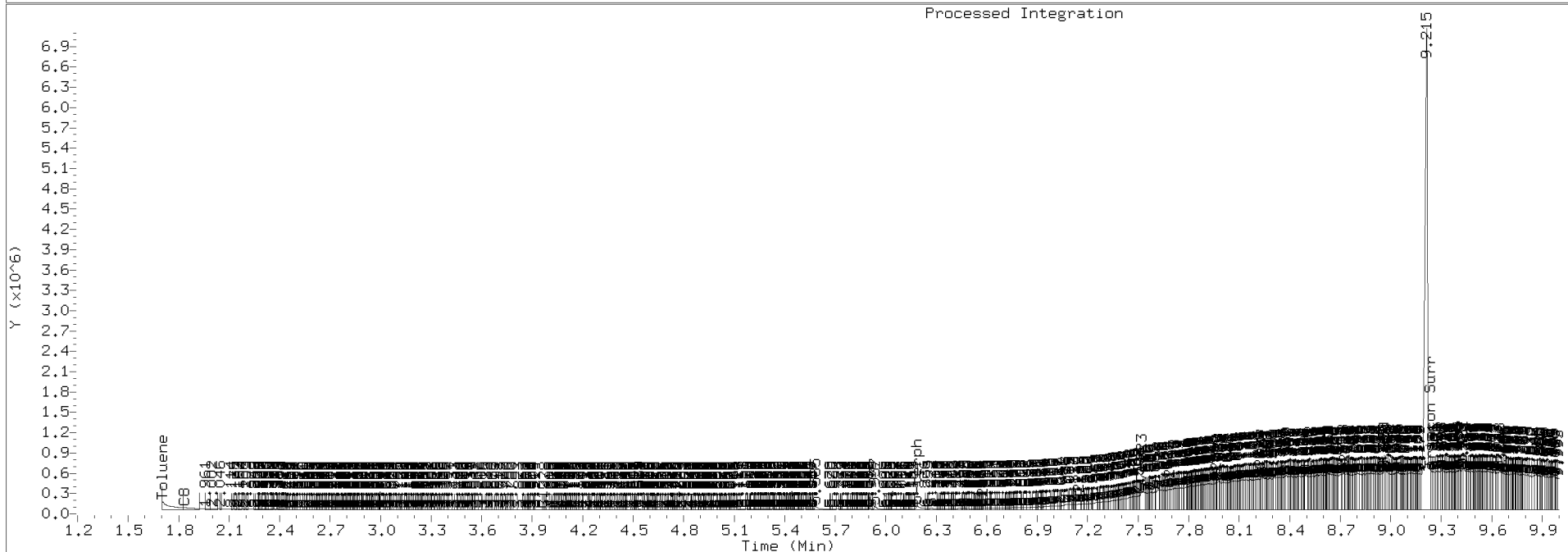
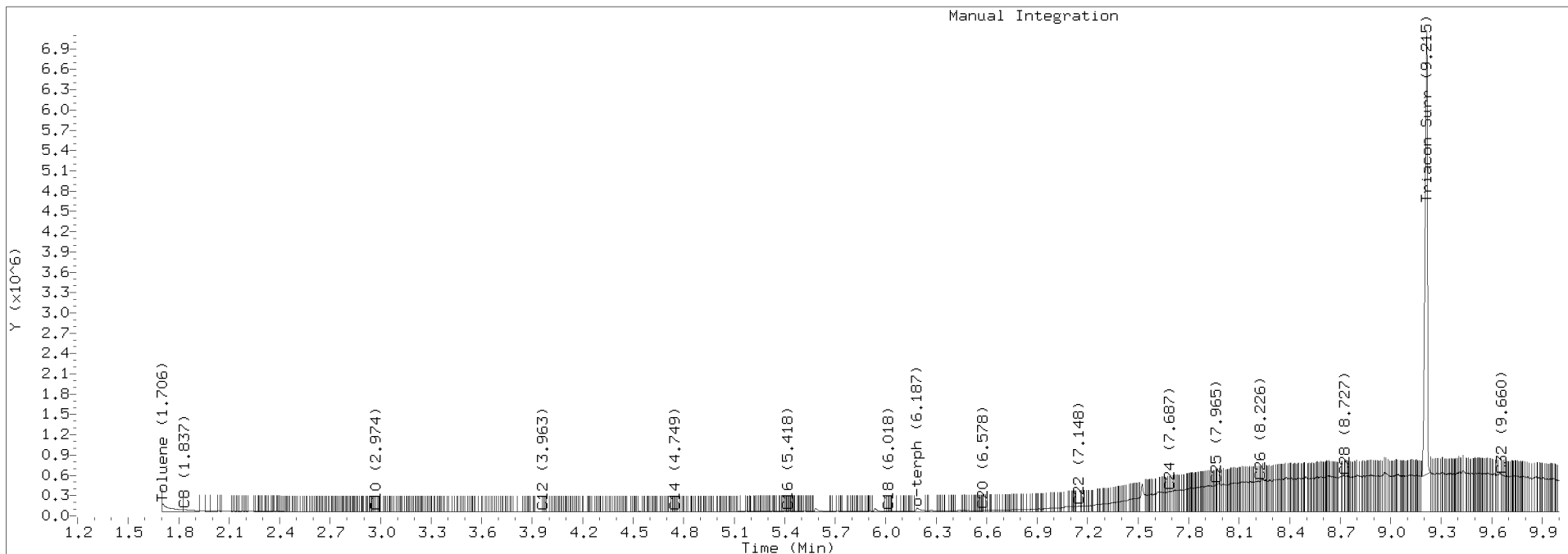
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2706.D Injection: 27-NOV-2020 09:58

Lab ID:SEQ-ICV2



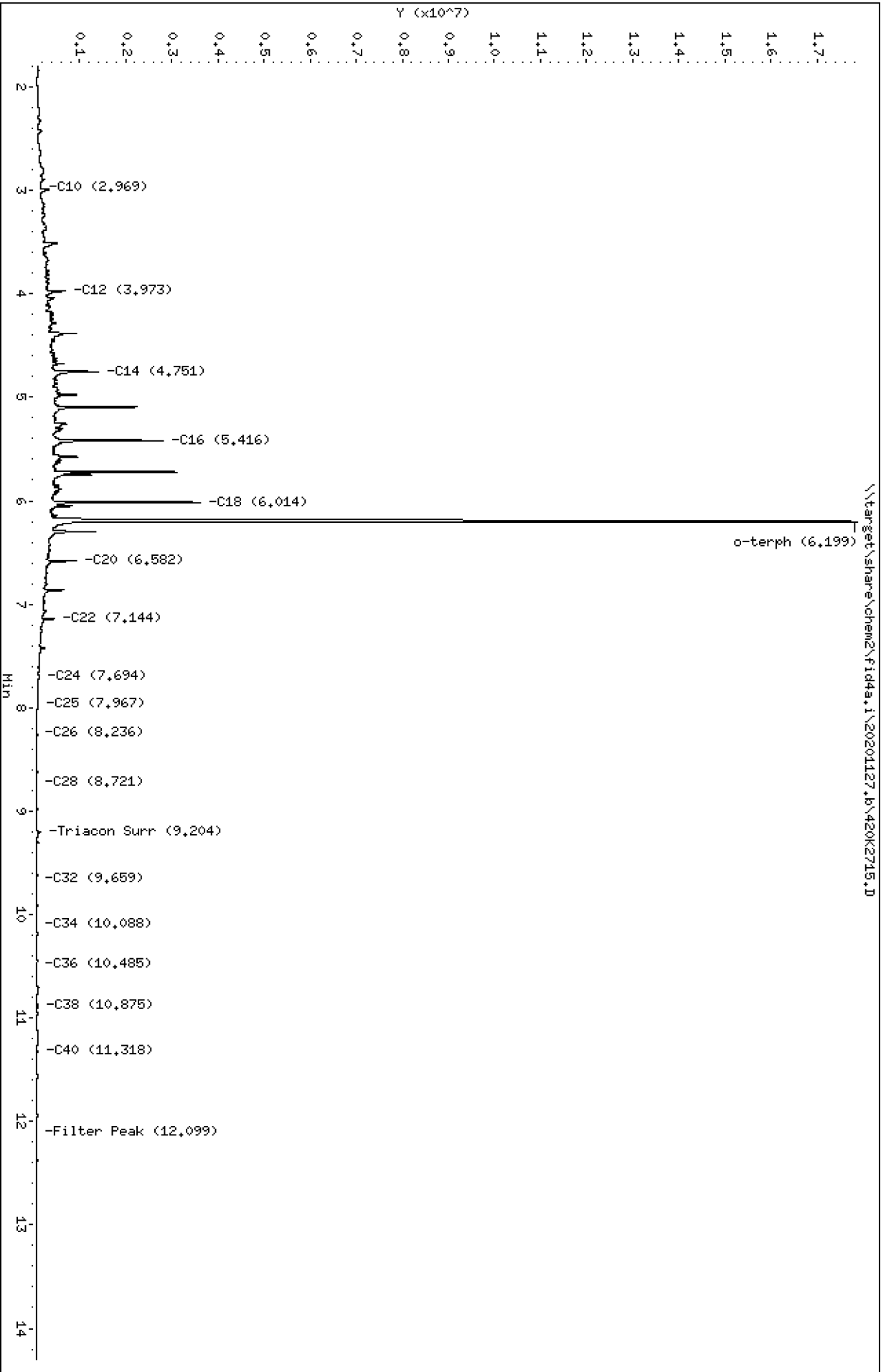
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Date : 27-NOV-2020 13:33
Client ID:
Sample Info: SEQ-ICV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2715.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 27-NOV-2020 13:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

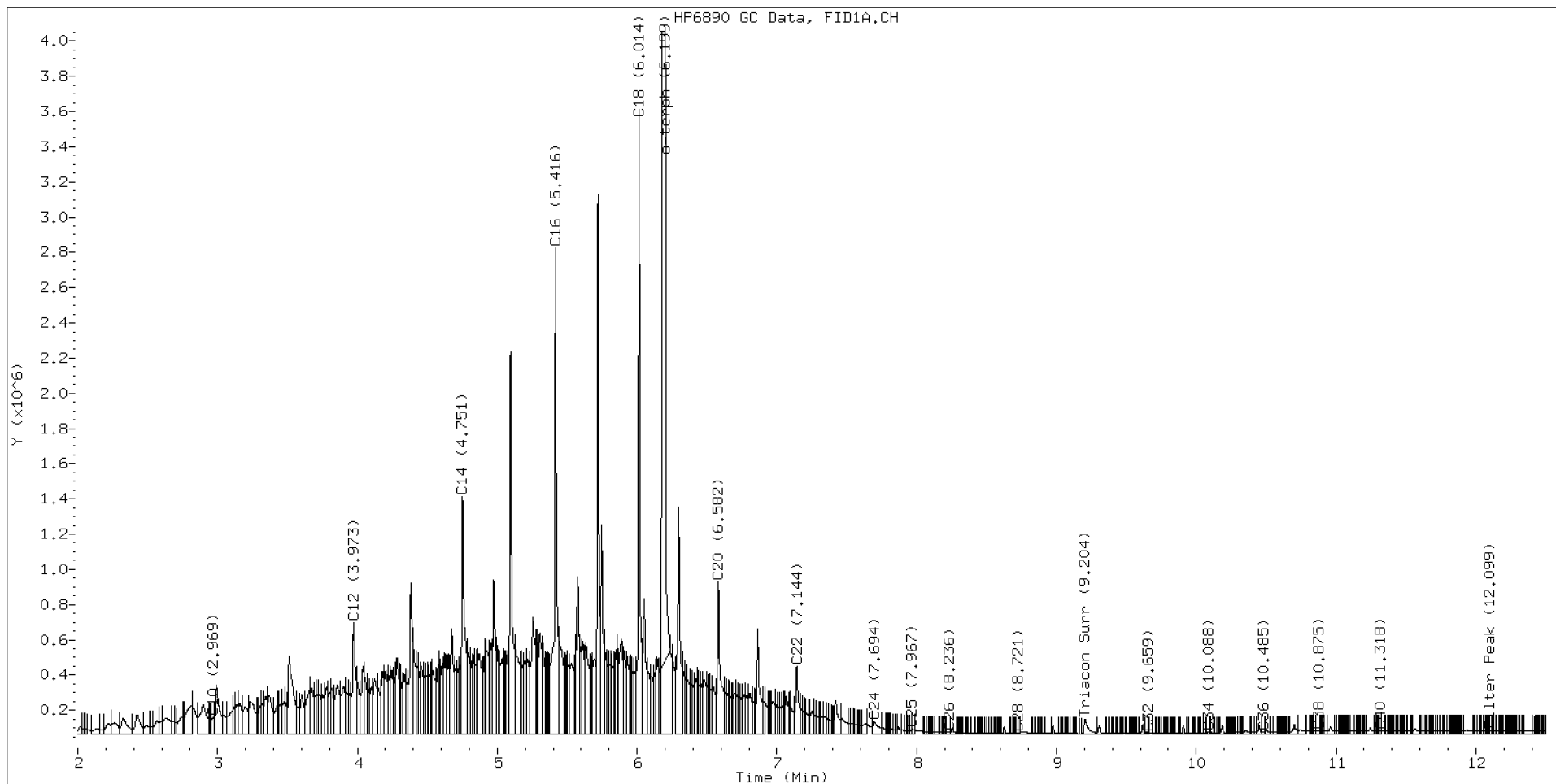
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	39904	116649	WATPHD	(C12-C24)	74267247	466.1
C10	2.969	-0.001	89837	110970	WATPHM	(C24-C38)	1428658	14.1
C12	3.973	0.009	632225	975512	AK102	(C10-C25)	86625093	443.1
C14	4.751	0.004	1345492	1852392	AK103	(C25-C36)	872941	11.9
C16	5.416	0.002	2755774	3330772	OR.DIES	(C10-C28)	86974110	443.7
C18	6.014	0.001	3543696	3151681				
C20	6.582	-0.002	858312	1319578	JET-A	(C10-C18)	66880330	403.3
C22	7.144	-0.004	384541	536928				
C24	7.694	0.000	70287	194007				
C25	7.967	0.004	24070	21683				
C26	8.236	0.011	9596	15000				
C28	8.721	-0.008	3181	1658				
C32	9.659	0.002	4751	2351				
C34	10.088	0.006	7348	9748				
Filter Peak	12.099	0.002	12202	3044	BUNKERC	(C10-C38)	87818709	2224.5
C36	10.485	0.002	11992	10807				
C38	10.875	0.002	15184	23088				
C40	11.318	0.004	15127	16398				
o-terph	6.199	0.000	17391834	17767257				
Triacon Surr	9.204	-0.025	80350	159773	NAS DIES	(C10-C24)	86390051	442.7

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17767257	86.8 M
Triacontane	159773	1.1

M Indicates the peak was manually integrated

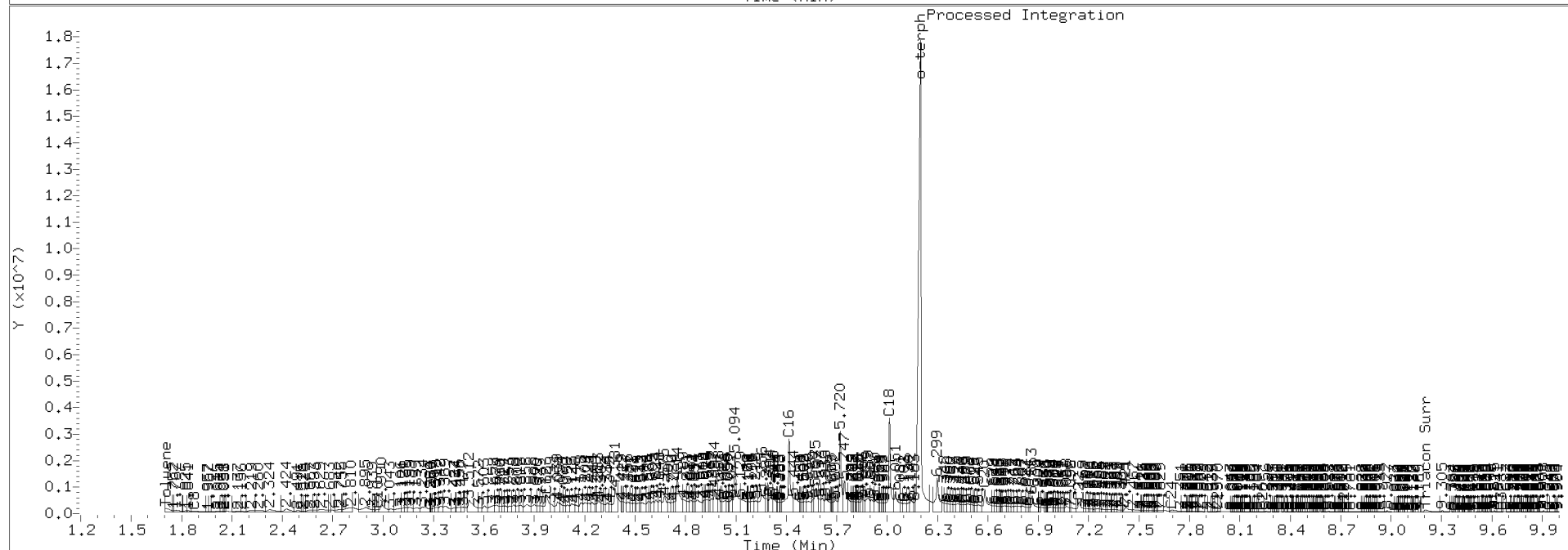
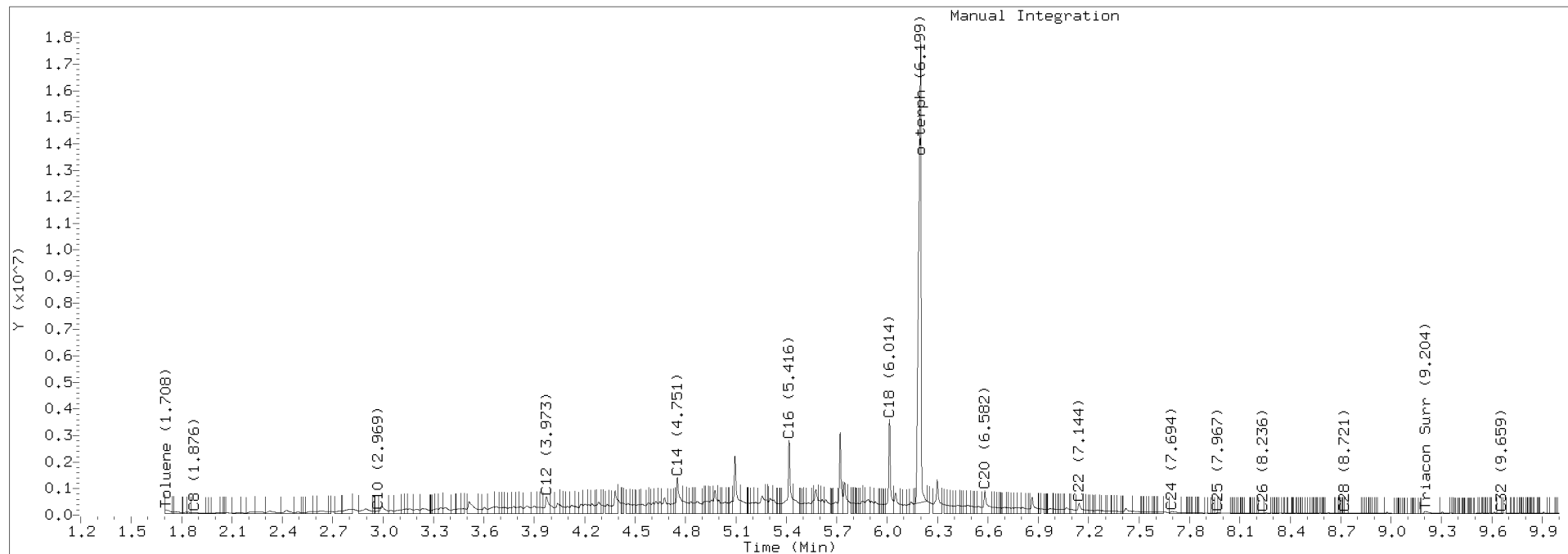
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2715.D Injection: 27-NOV-2020 13:33

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2716.D
Date: 27-NOV-2020 13:53

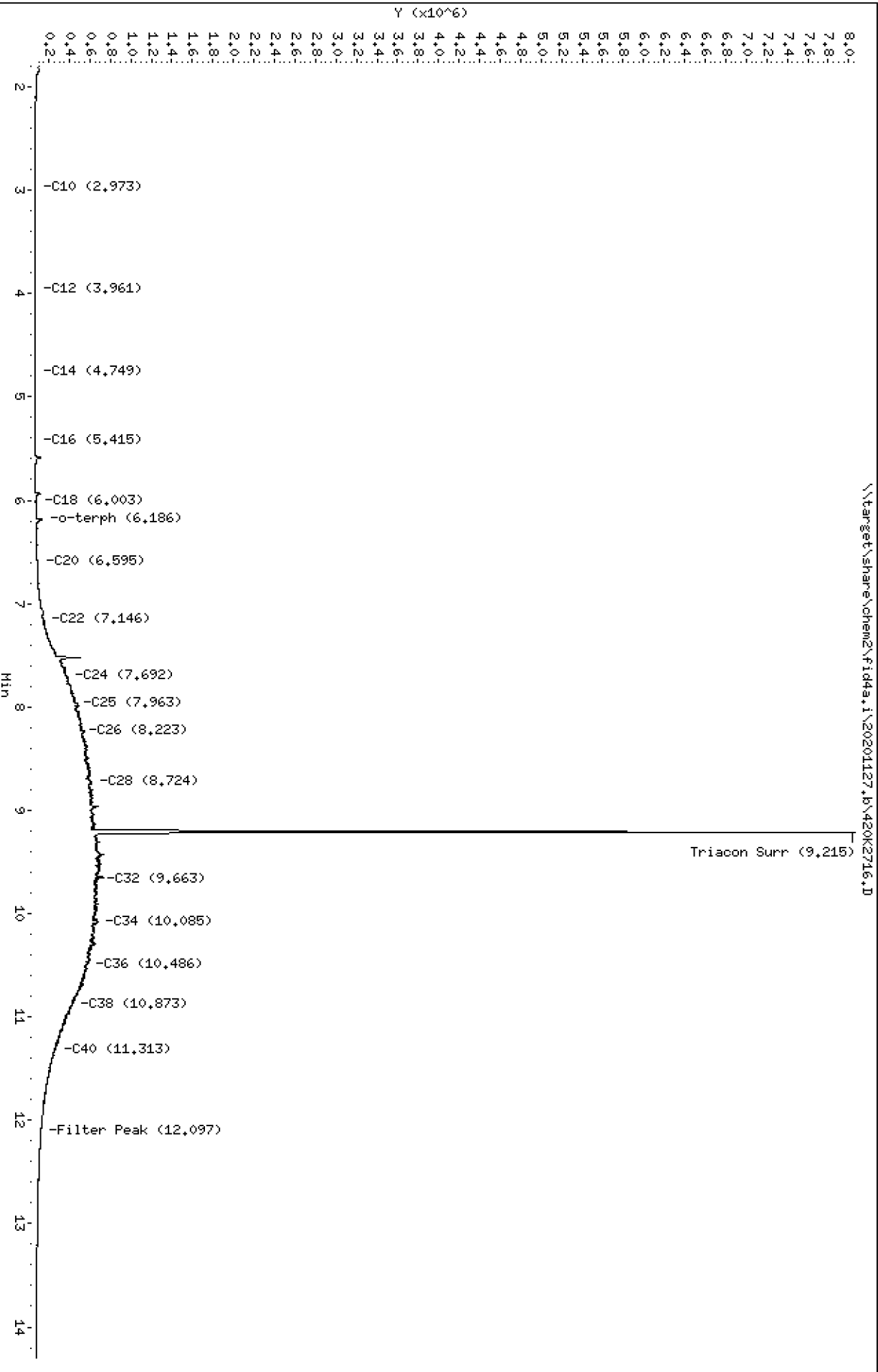
Client ID:
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2716.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 27-NOV-2020 13:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

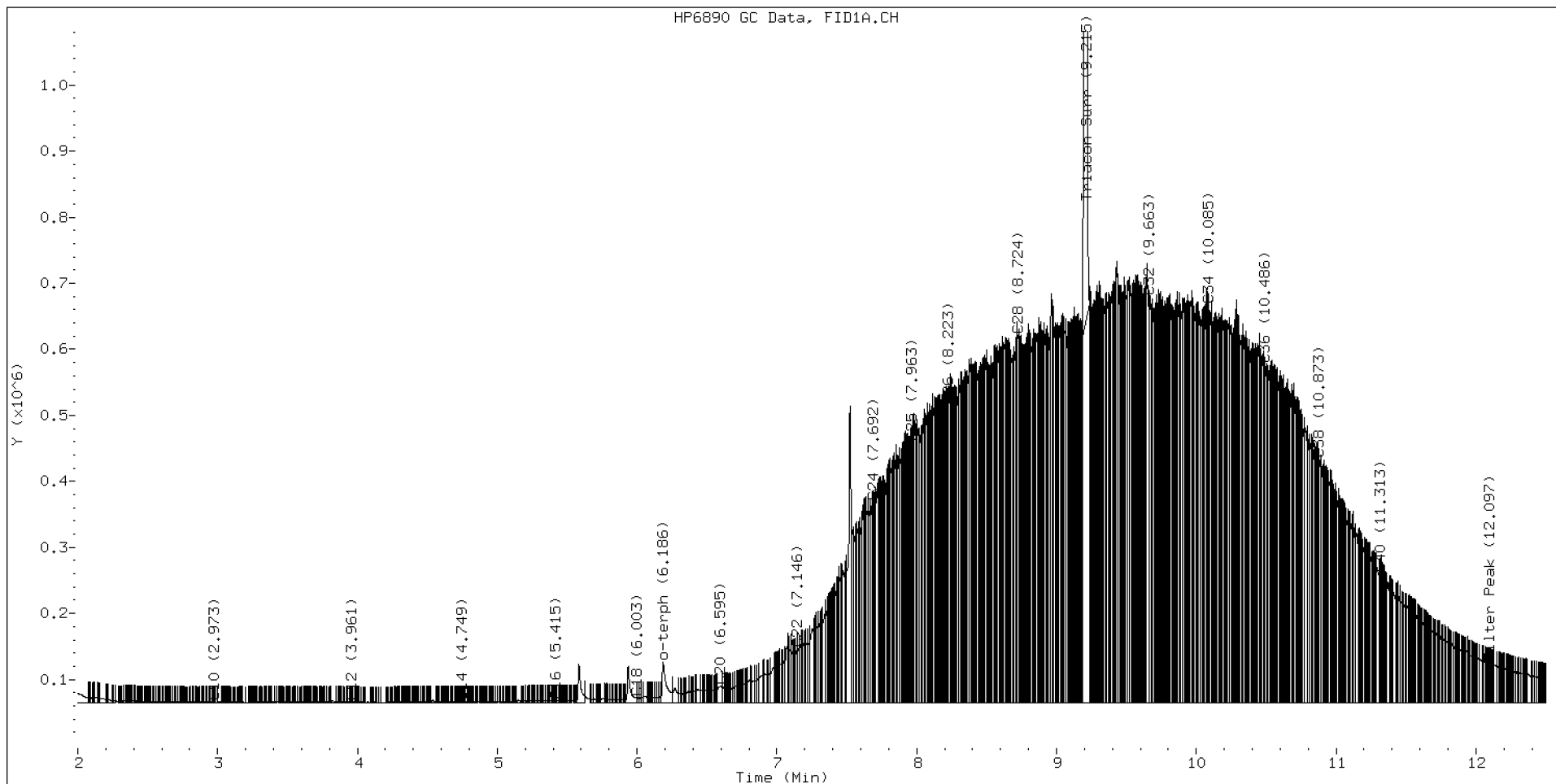
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.023	40763	137270	WATPHD	(C12-C24)	9148531	57.4
C10	2.973	0.003	352	109	WATPHM	(C24-C38)	97563051	964.4
C12	3.961	-0.003	576	216	AK102	(C10-C25)	12430873	63.6
C14	4.749	0.002	1276	609	AK103	(C25-C36)	84293012	1151.4
C16	5.415	0.001	2289	667	OR.DIES	(C10-C28)	37007946	188.8
C18	6.003	-0.011	6821	4968				
C20	6.595	0.011	24414	46709	JET-A	(C10-C18)	407415	2.5
C22	7.146	-0.002	82102	81684				
C24	7.692	-0.002	304531	149804				
C25	7.963	0.000	393779	78642				
C26	8.223	-0.002	448251	89499				
C28	8.724	-0.005	556450	359007				
C32	9.663	0.007	613734	181893				
C34	10.085	0.003	601068	209562				
Filter Peak	12.097	-0.001	59698	35244	BUNKERC	(C10-C38)	106736846	2703.8
C36	10.486	0.003	511775	254099				
C38	10.873	0.000	368473	164476				
C40	11.313	-0.001	195345	58400				
o-terph	6.186	-0.013	61414	131572				
Triacon Surr	9.215	-0.014	7412891	6841259	NAS DIES	(C10-C24)	9173795	47.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	131572	0.6
Triacontane	6841259	46.1 M

M Indicates the peak was manually integrated

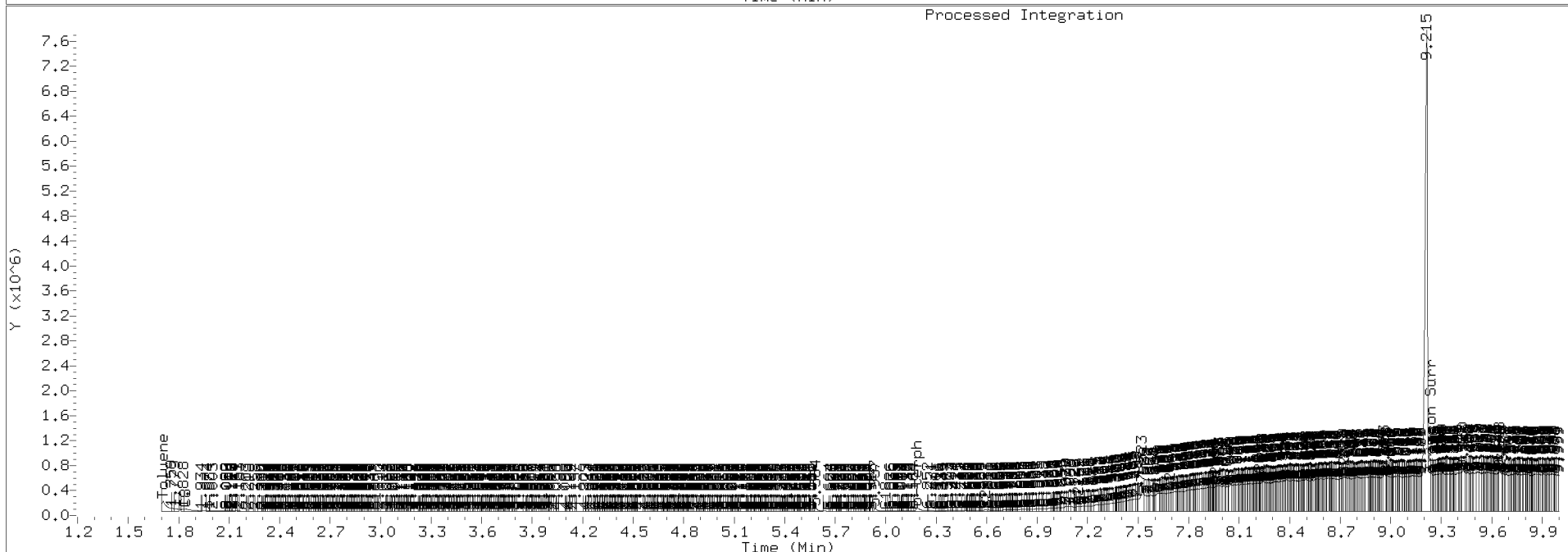
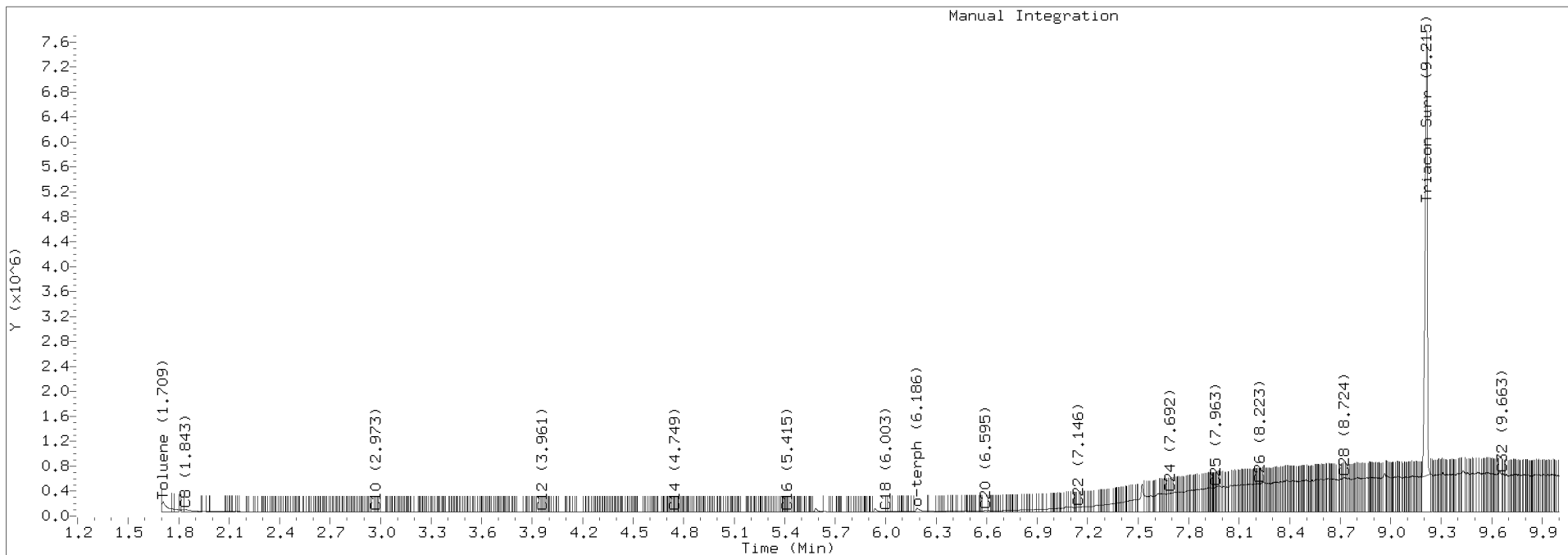
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2716.D Injection: 27-NOV-2020 13:53

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20201122,b\420K2205.D

Date: 22-NOV-2020 11:30

Client ID:

Sample Info: SIK0317-ICW1

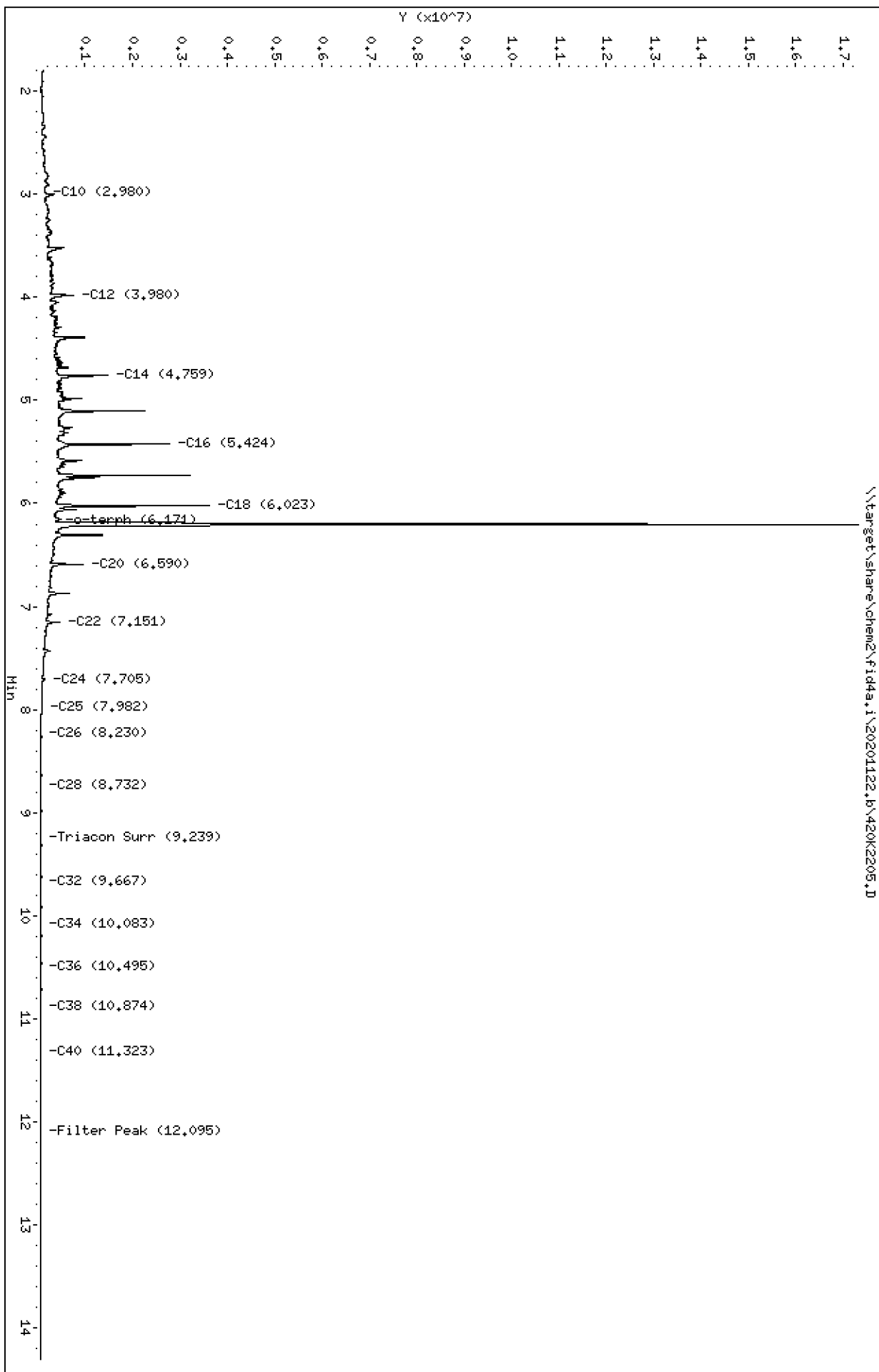
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2205.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-ICV1
Client ID:
Injection: 22-NOV-2020 11:30
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

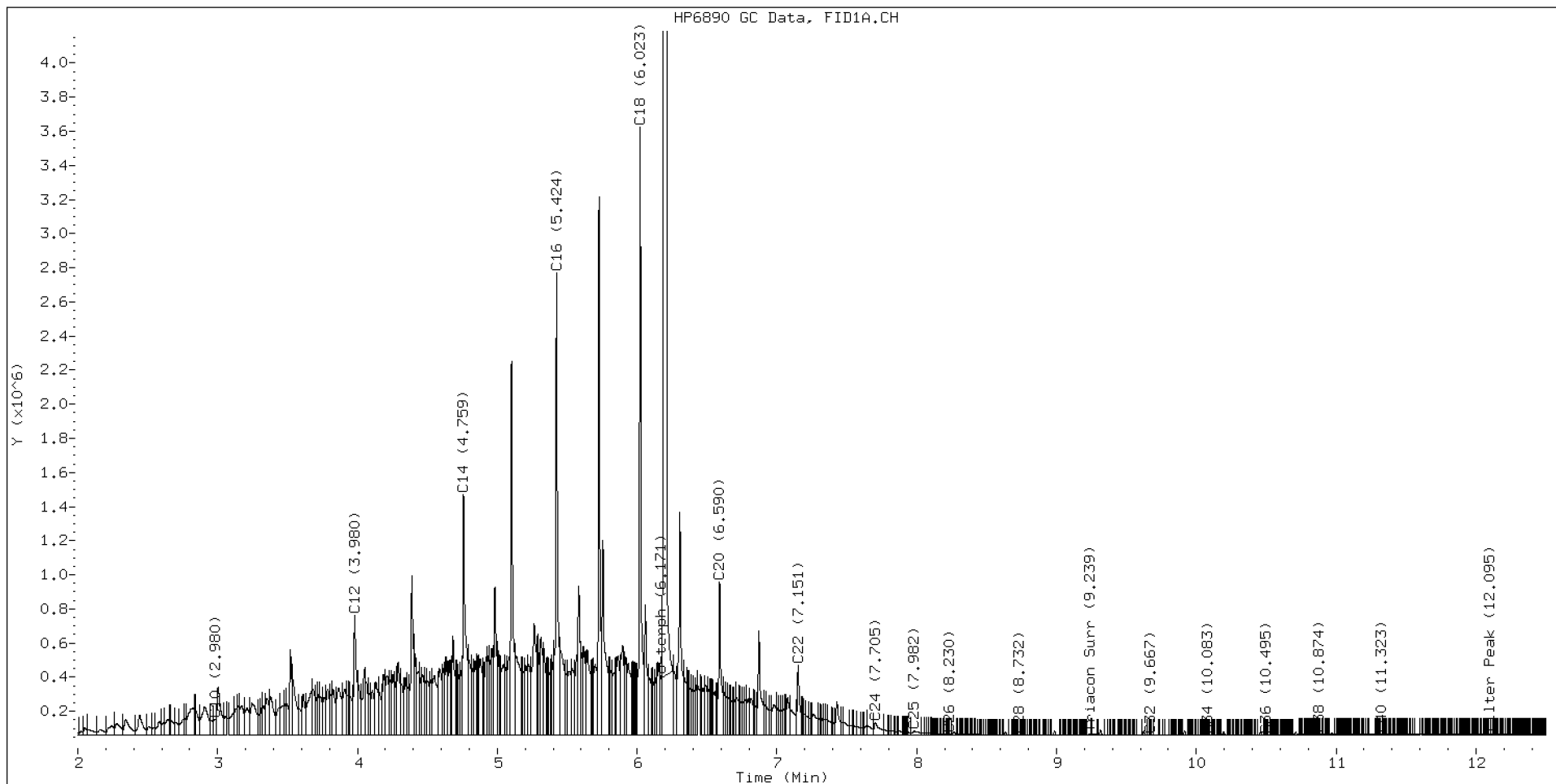
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.910	0.012	46222	82779	WATPHD	(C12-C24)	74908781	470.1
C10	2.980	-0.006	95987	113350	WATPHM	(C24-C38)	957298	9.5
C12	3.980	0.004	704653	967688	AK102	(C10-C25)	87593210	448.1
C14	4.759	0.001	1412840	1822539	AK103	(C25-C36)	620137	8.5
C16	5.424	-0.001	2712407	2611837	OR.DIES	(C10-C28)	87991905	448.9
C18	6.023	0.001	3563842	3060042				
C20	6.590	-0.002	898693	1034083	JET-A	(C10-C18)	68012216	410.1
C22	7.151	-0.004	408411	489083				
C24	7.705	0.001	75289	210710				
C25	7.982	0.009	24693	80398				
C26	8.230	-0.004	8023	2384				
C28	8.732	-0.006	2013	1567				
C32	9.667	0.004	340	146				
C34	10.083	-0.003	940	399				
Filter Peak	12.095	0.004	8319	8249	BUNKERC	(C10-C38)	88335297	2237.6
C36	10.495	0.009	3181	1728				
C38	10.874	-0.001	6176	2430				
C40	11.323	-0.001	7914	4314				
o-terph	6.208	0.000	16906943	17797835				
Triacon Surr	9.239	0.001	8583	10131	NAS DIES	(C10-C24)	87377999	447.8

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	17797835	86.9 M
Triacontane	10131	0.1

M Indicates the peak was manually integrated

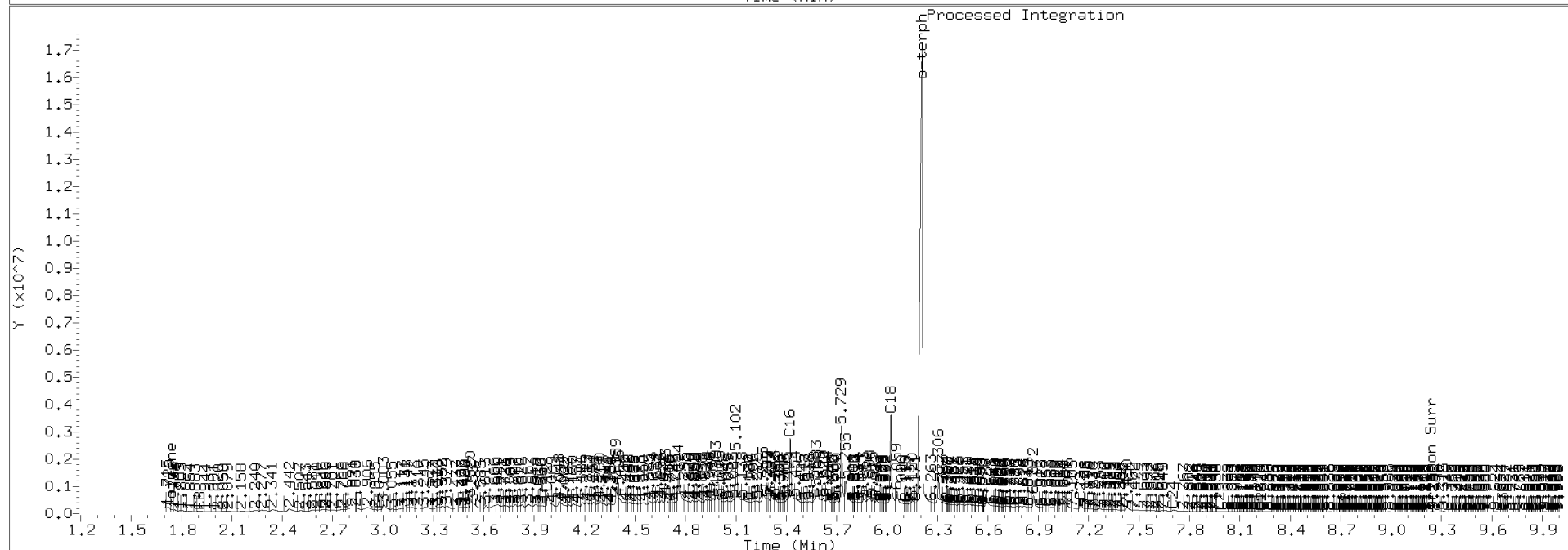
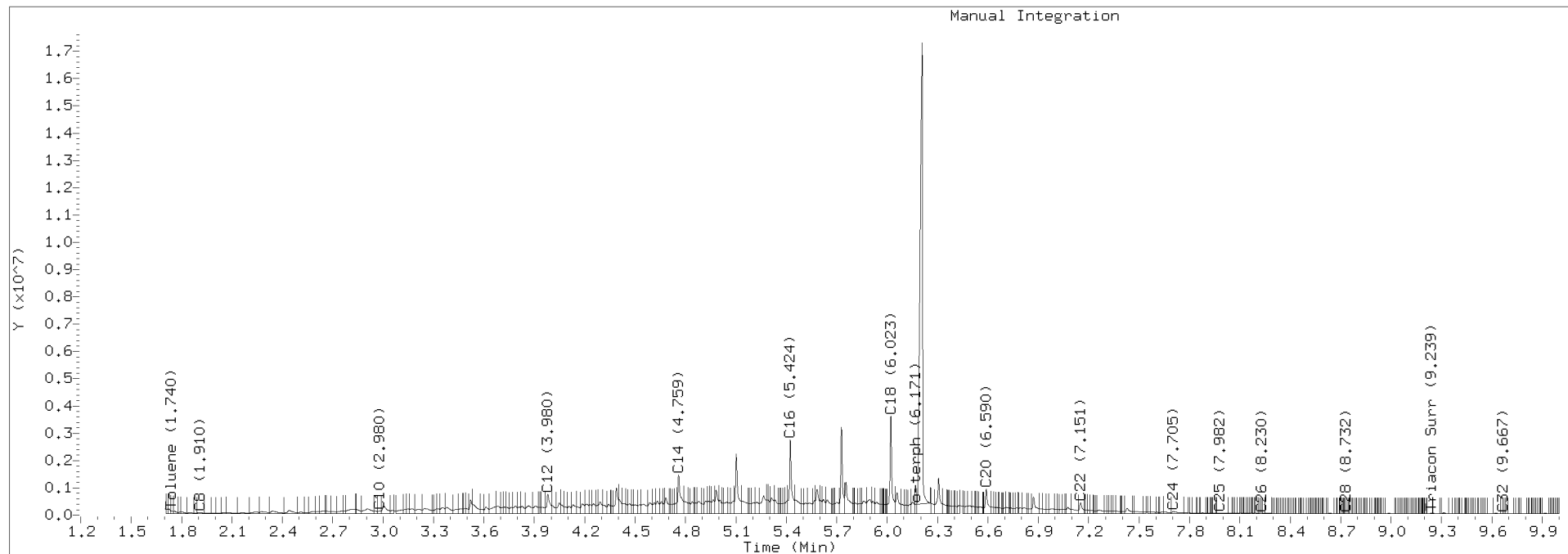
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2205.D Injection: 22-NOV-2020 11:30

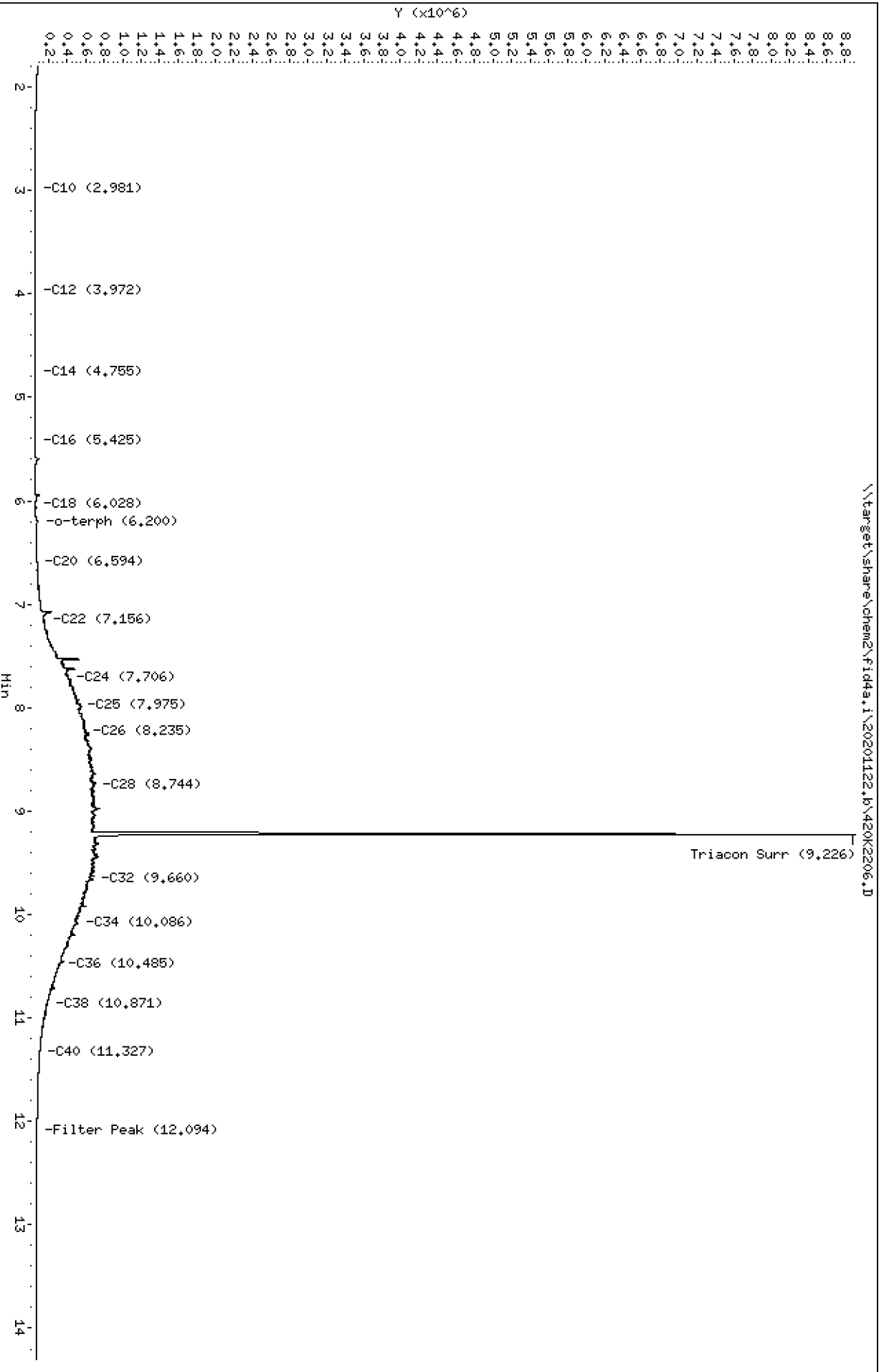
Lab ID:SIK0317-ICV1



Data File: \\target\share\chem2\fid4a,1\20201122,16\420K2206.D
Date : 22-NOV-2020 11:51
Client ID:
Sample Info: SIK0317-ICV2

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2206.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-ICV2
Client ID:
Injection: 22-NOV-2020 11:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

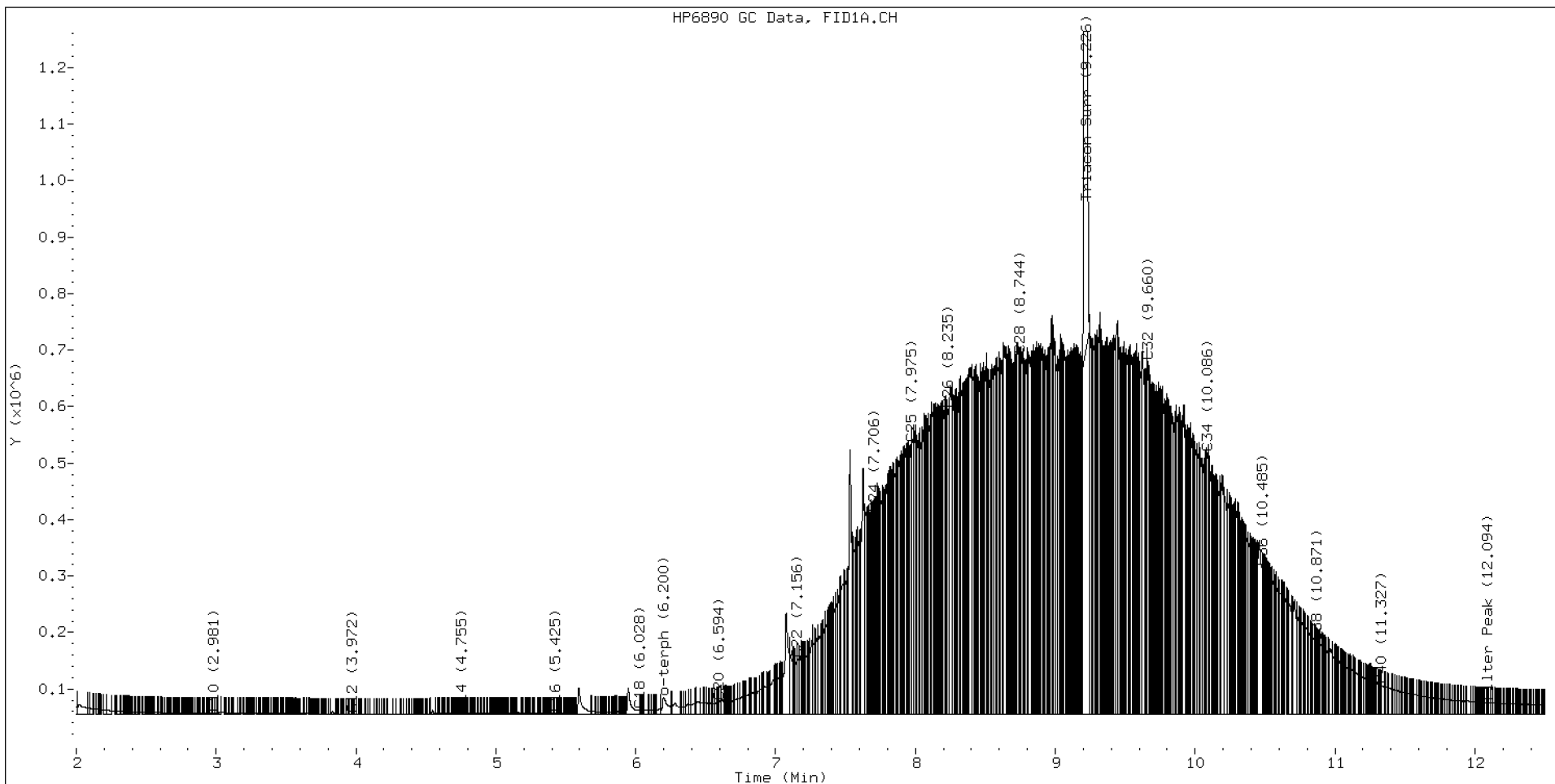
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.857	-0.041	28065	81563	WATPHD	(C12-C24)	10549240	66.2
C10	2.981	-0.005	2380	1454	WATPHM	(C24-C38)	91974632	909.1
C12	3.972	-0.004	446	287	AK102	(C10-C25)	14873179	76.1
C14	4.755	-0.003	1507	433	AK103	(C25-C36)	83946920	1146.7
C16	5.425	0.001	2440	1328	OR.DIES	(C10-C28)	43975860	224.4
C18	6.028	0.006	6682	1332				
C20	6.594	0.001	22185	10734	JET-A	(C10-C18)	448624	2.7
C22	7.156	0.001	98075	92756				
C24	7.706	0.002	355239	88373				
C25	7.975	0.002	479943	95627				
C26	8.235	0.001	539907	294380				
C28	8.744	0.006	635739	346248				
C32	9.660	-0.003	625510	366712				
C34	10.086	-0.000	461886	386860				
Filter Peak	12.094	0.003	20238	14083	BUNKERC	(C10-C38)	102594141	2598.8
C36	10.485	-0.001	260713	103705				
C38	10.871	-0.003	127942	75752				
C40	11.327	0.004	51658	23002				
o-terph	6.200	-0.008	29301	79961				
Triacon Surr	9.226	-0.011	8201946	7695884	NAS DIES	(C10-C24)	10619509	54.4

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	79961	0.4
Triacontane	7695884	51.9 M

M Indicates the peak was manually integrated

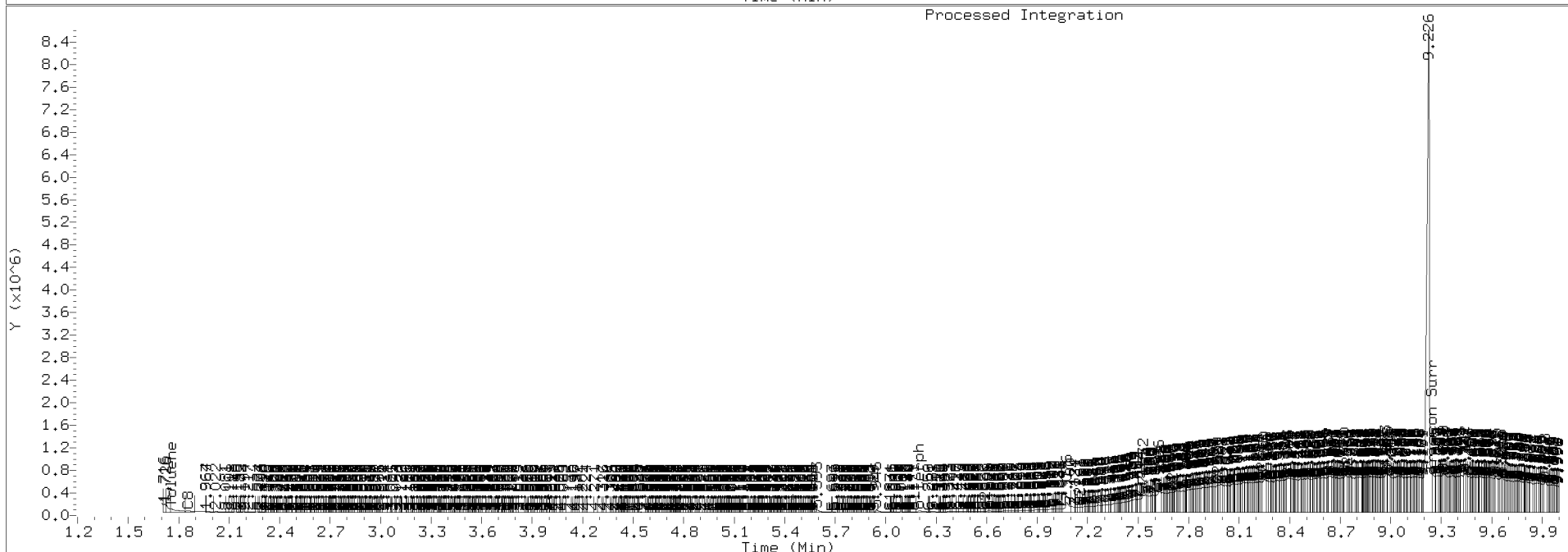
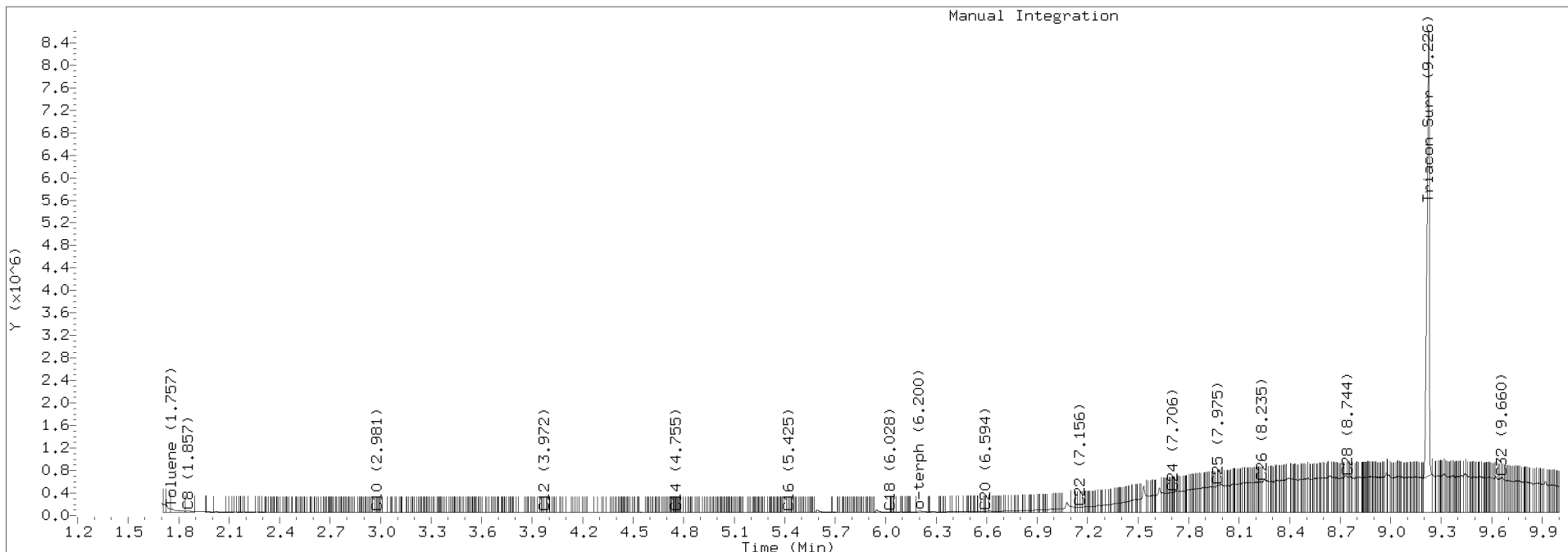
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2206.D Injection: 22-NOV-2020 11:51

Lab ID:SIK0317-ICV2



Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2405.D

Date: 24-NOV-2020 09:00

Client ID:

Sample Info: SEQ-ICV1

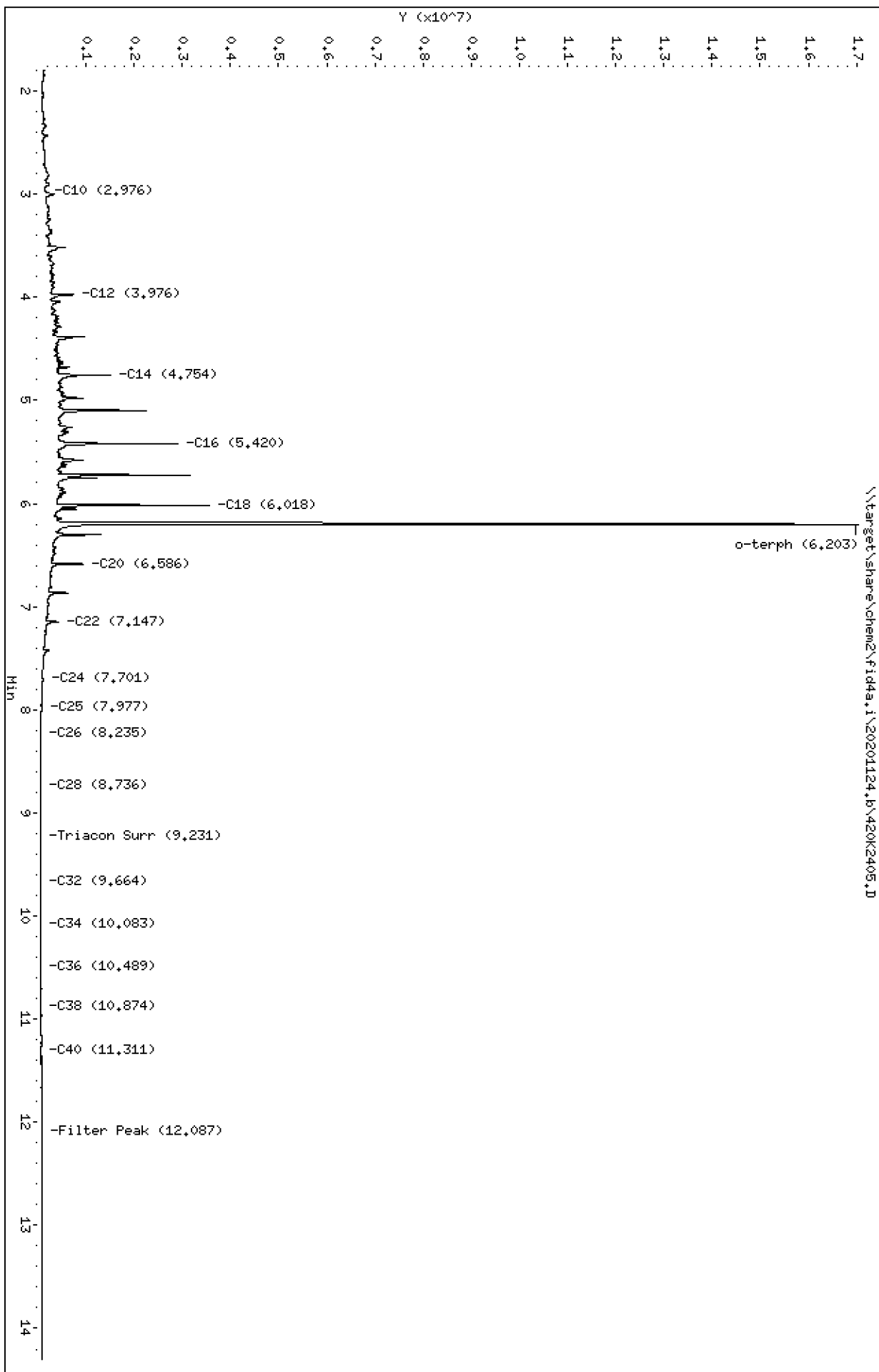
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2405.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 24-NOV-2020 09:00
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

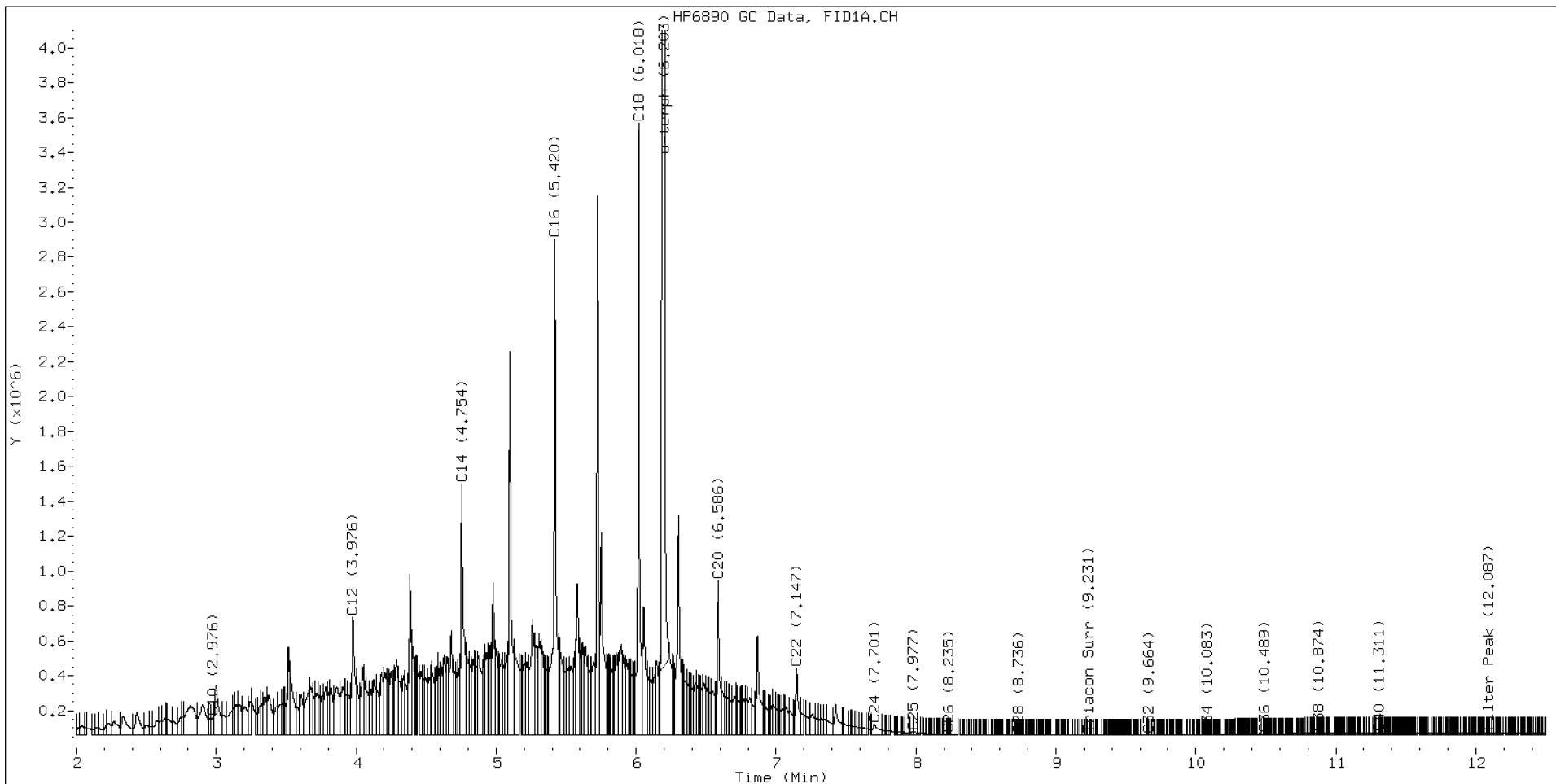
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.900	0.008	65042	130083	WATPHD	(C12-C24)	74967474	470.5
C10	2.976	-0.005	101177	125220	WATPHM	(C24-C38)	943732	9.3
C12	3.976	0.004	678522	1003759	AK102	(C10-C25)	87793061	449.1
C14	4.754	0.000	1441774	1793527	AK103	(C25-C36)	531663	7.3
C16	5.420	-0.001	2849284	3320282	OR.DIES	(C10-C28)	88080801	449.4
C18	6.018	-0.002	3511114	3084814				
C20	6.586	-0.005	888630	995070	JET-A	(C10-C18)	68089922	410.6
C22	7.147	-0.006	383133	522391				
C24	7.701	0.001	61638	173520				
C25	7.977	0.008	20605	26721				
C26	8.235	0.004	7189	5690				
C28	8.736	0.002	1125	646				
C32	9.664	0.002	1307	566				
C34	10.083	-0.003	3451	1368				
Filter Peak	12.087	-0.002	14751	5157	BUNKERC	(C10-C38)	88566853	2243.5
C36	10.489	0.001	7805	1553				
C38	10.874	-0.003	11799	5281				
C40	11.311	-0.006	13767	8226				
o-terph	6.203	-0.002	16581486	17359726				
Triacon Surr	9.231	-0.007	310	133	NAS DIES	(C10-C24)	87623122	449.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17359726	84.8 M
Triacontane	133	0.0

M Indicates the peak was manually integrated

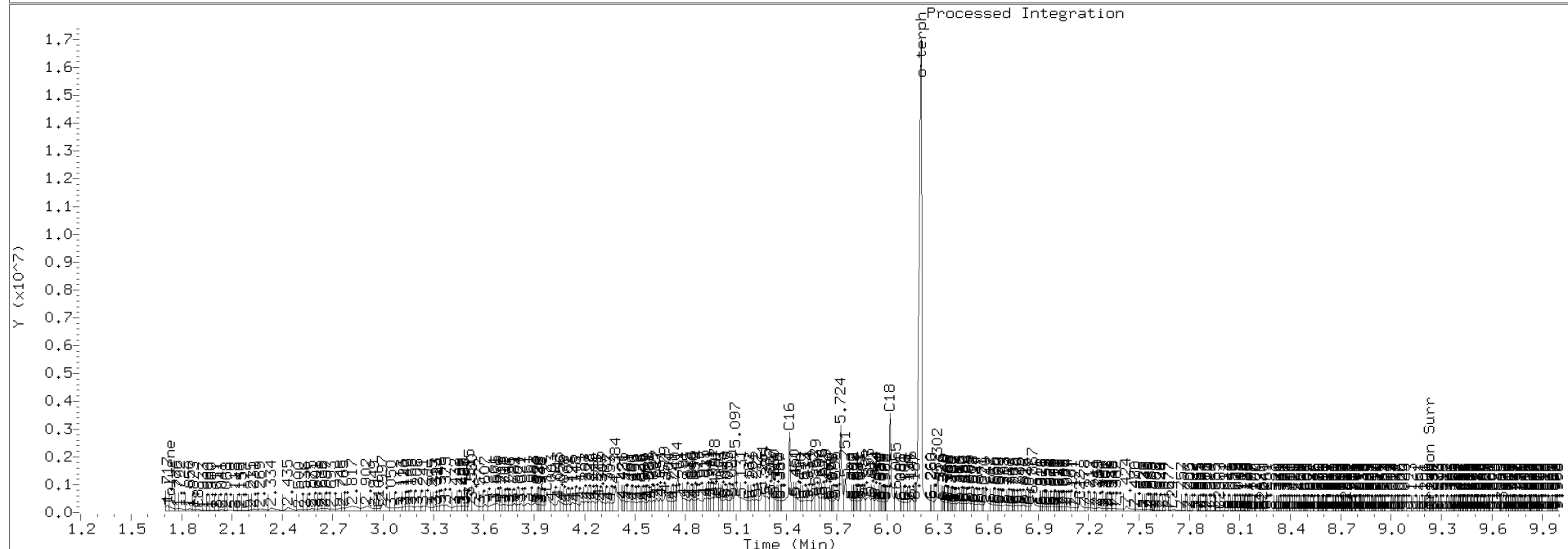
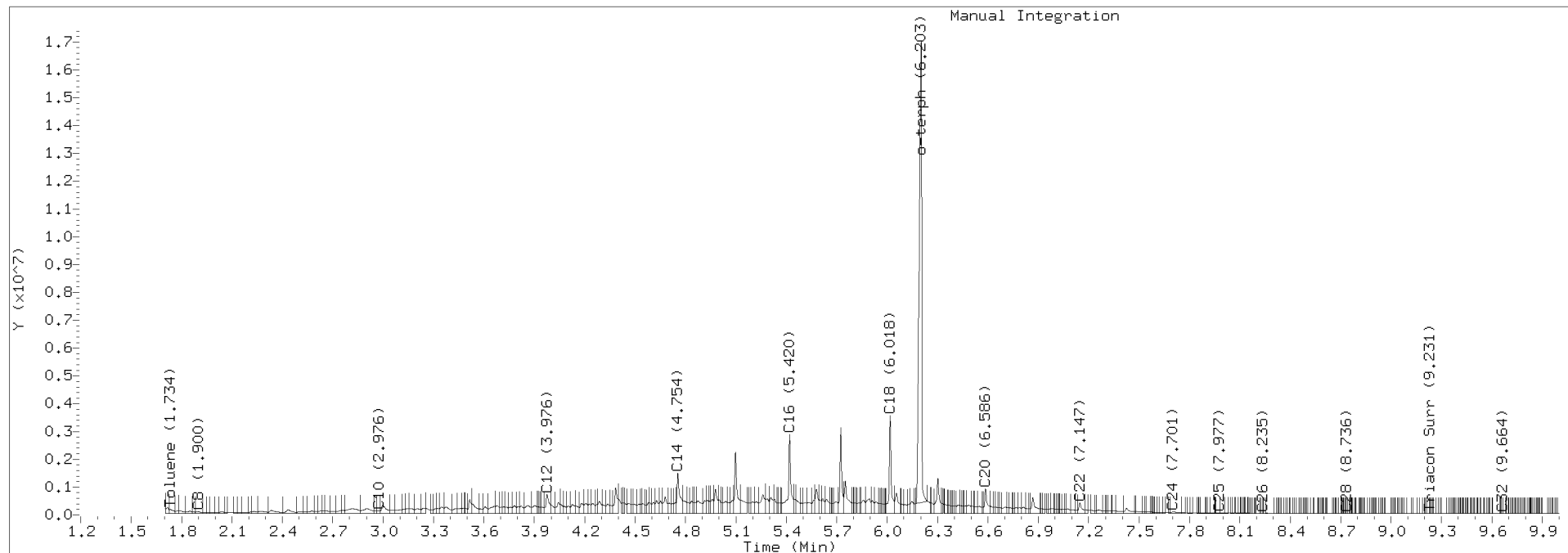
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2405.D Injection: 24-NOV-2020 09:00

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2406.D
Date: 24-NOV-2020 09:21

Client ID:

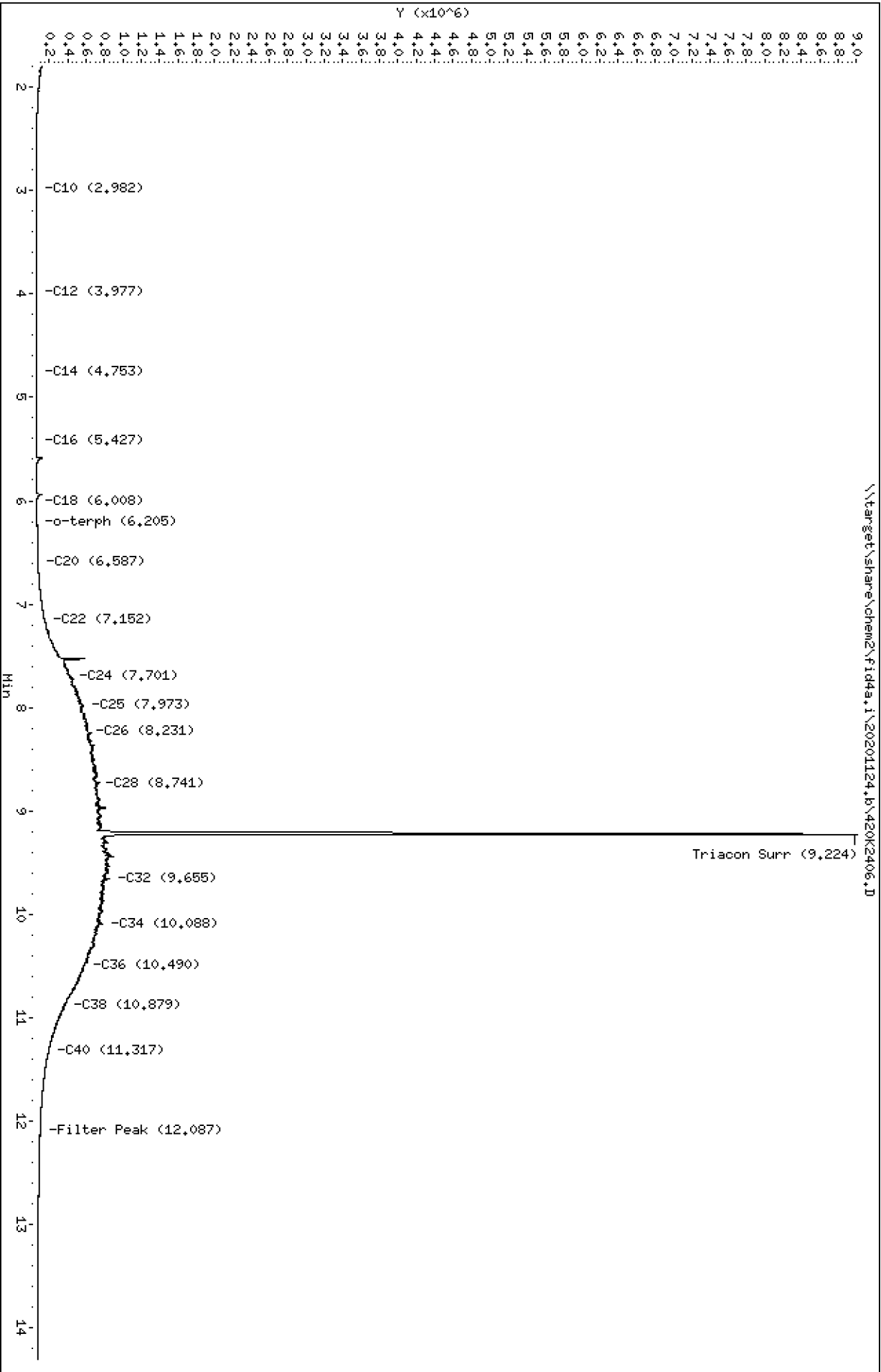
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2406.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 24-NOV-2020 09:21
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

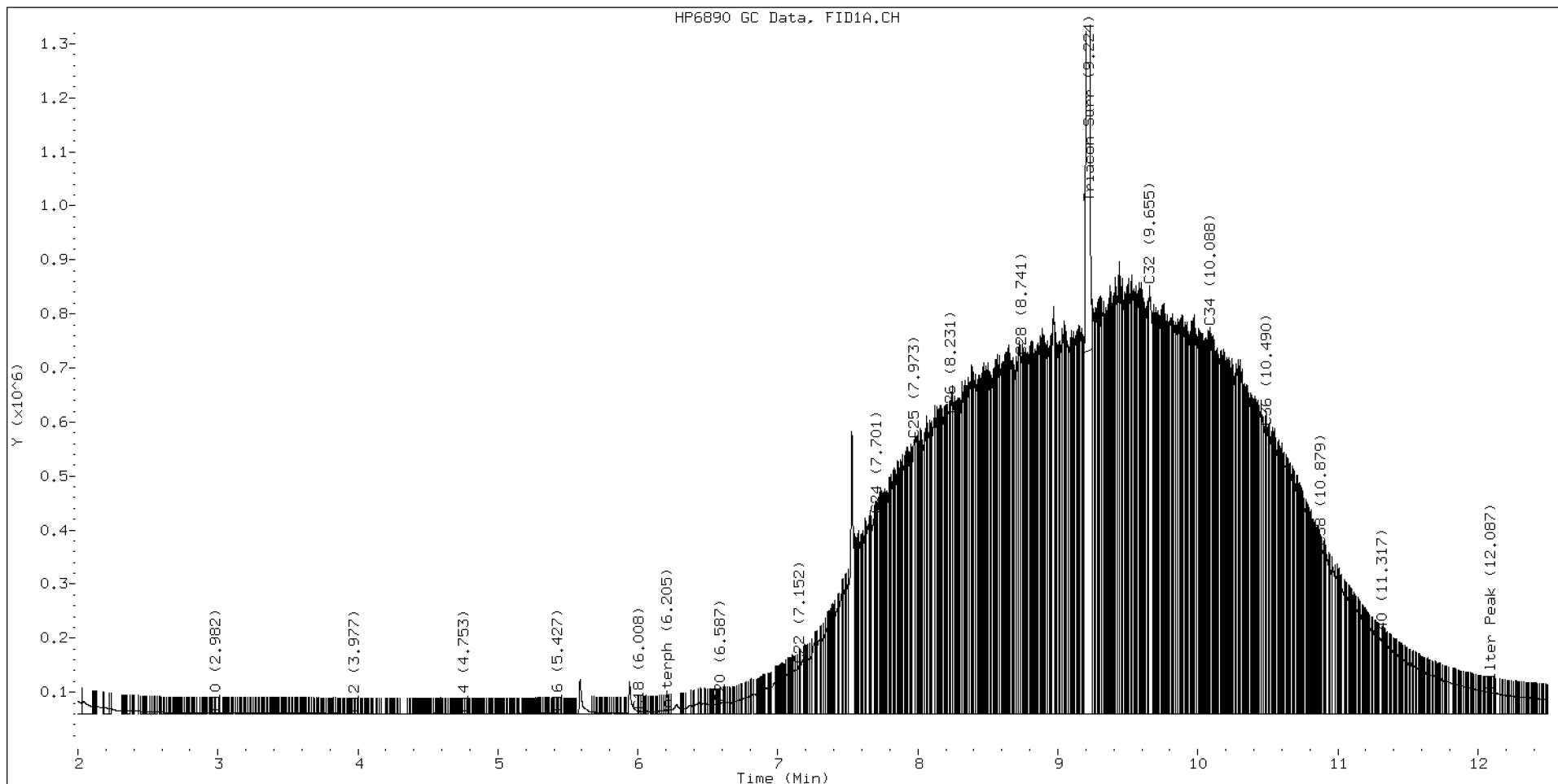
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.882	-0.011	47693	145324	WATPHD	(C12-C24)	10348582	64.9
C10	2.982	0.000	1679	733	WATPHM	(C24-C38)	114764860	1134.4
C12	3.977	0.005	612	173	AK102	(C10-C25)	14668206	75.0
C14	4.753	-0.001	746	600	AK103	(C25-C36)	101430306	1385.5
C16	5.427	0.007	1099	264	OR.DIES	(C10-C28)	44783804	228.5
C18	6.008	-0.011	5296	3975				
C20	6.587	-0.004	18884	8371	JET-A	(C10-C18)	355129	2.1
C22	7.152	-0.001	91276	82408				
C24	7.701	0.000	368659	146726				
C25	7.973	0.004	507914	587247				
C26	8.231	0.000	553329	192922				
C28	8.741	0.007	662190	328500				
C32	9.655	-0.007	793567	1318143				
C34	10.088	0.002	716540	660431				
Filter Peak	12.087	-0.001	39745	15741	BUNKERC	(C10-C38)	125192788	3171.3
C36	10.490	0.002	529922	157726				
C38	10.879	0.002	307964	212372				
C40	11.317	0.000	133948	40050				
o-terph	6.205	0.000	7104	4793				
Triacon Surr	9.224	-0.013	8275983	8675101	NAS DIES	(C10-C24)	10427928	53.4

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	4793	0.0
Triacontane	8675101	58.5 M

M Indicates the peak was manually integrated

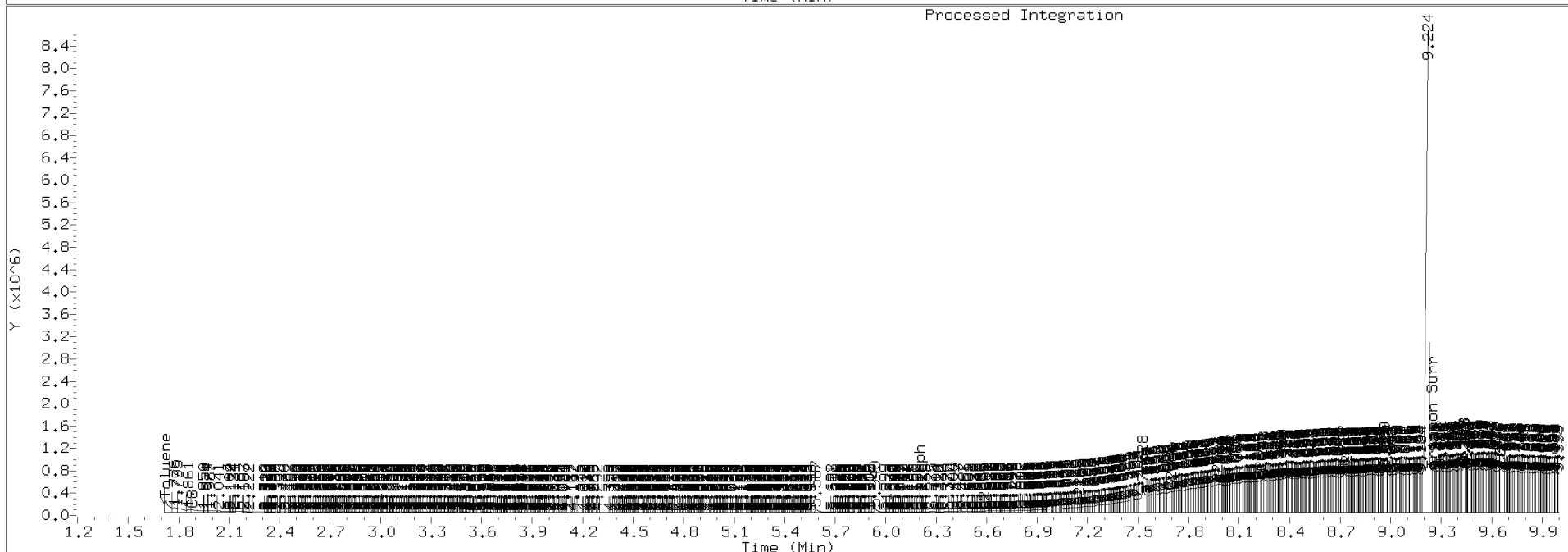
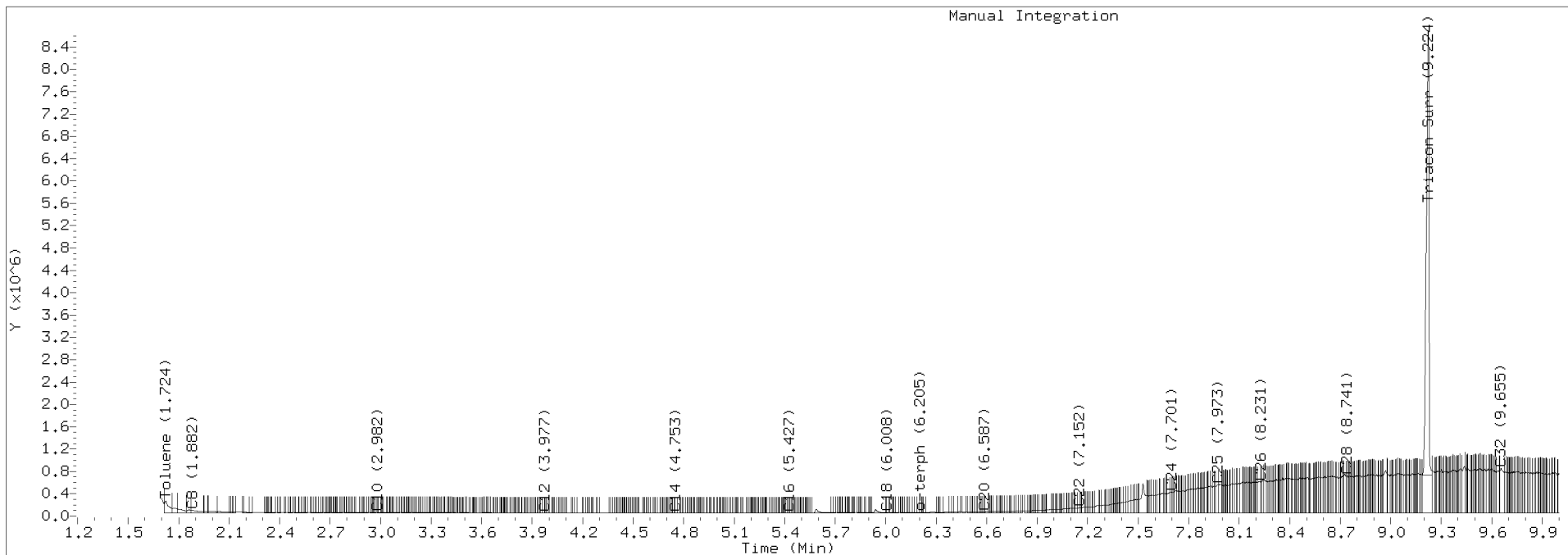
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2406.D Injection: 24-NOV-2020 09:21

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20201204,b\420L0403.D

Date : 04-DEC-2020 11:06

Client ID:

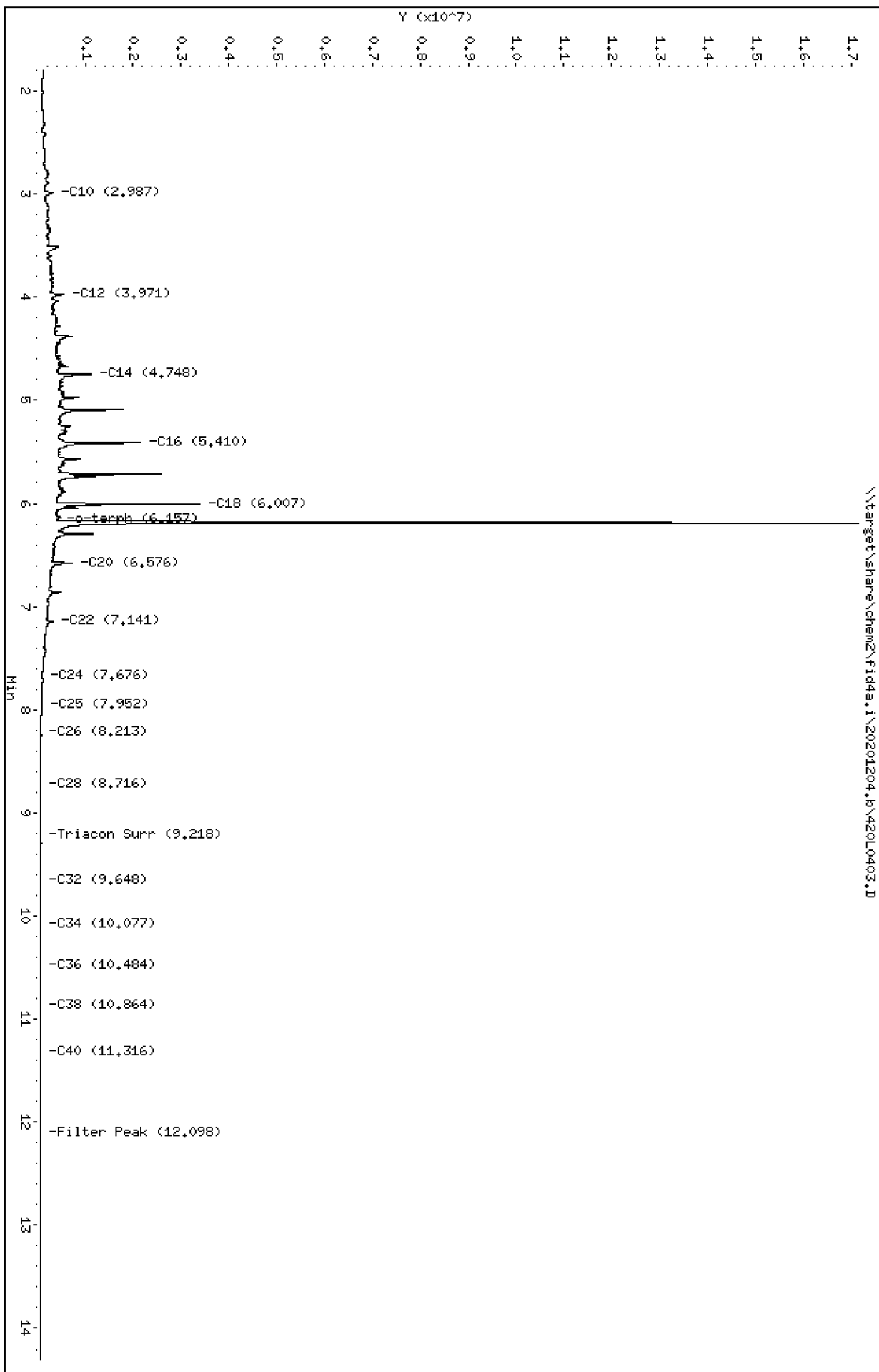
Sample Info: SIL0055-ICV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0403.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-ICV1
Client ID:
Injection: 04-DEC-2020 11:06
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

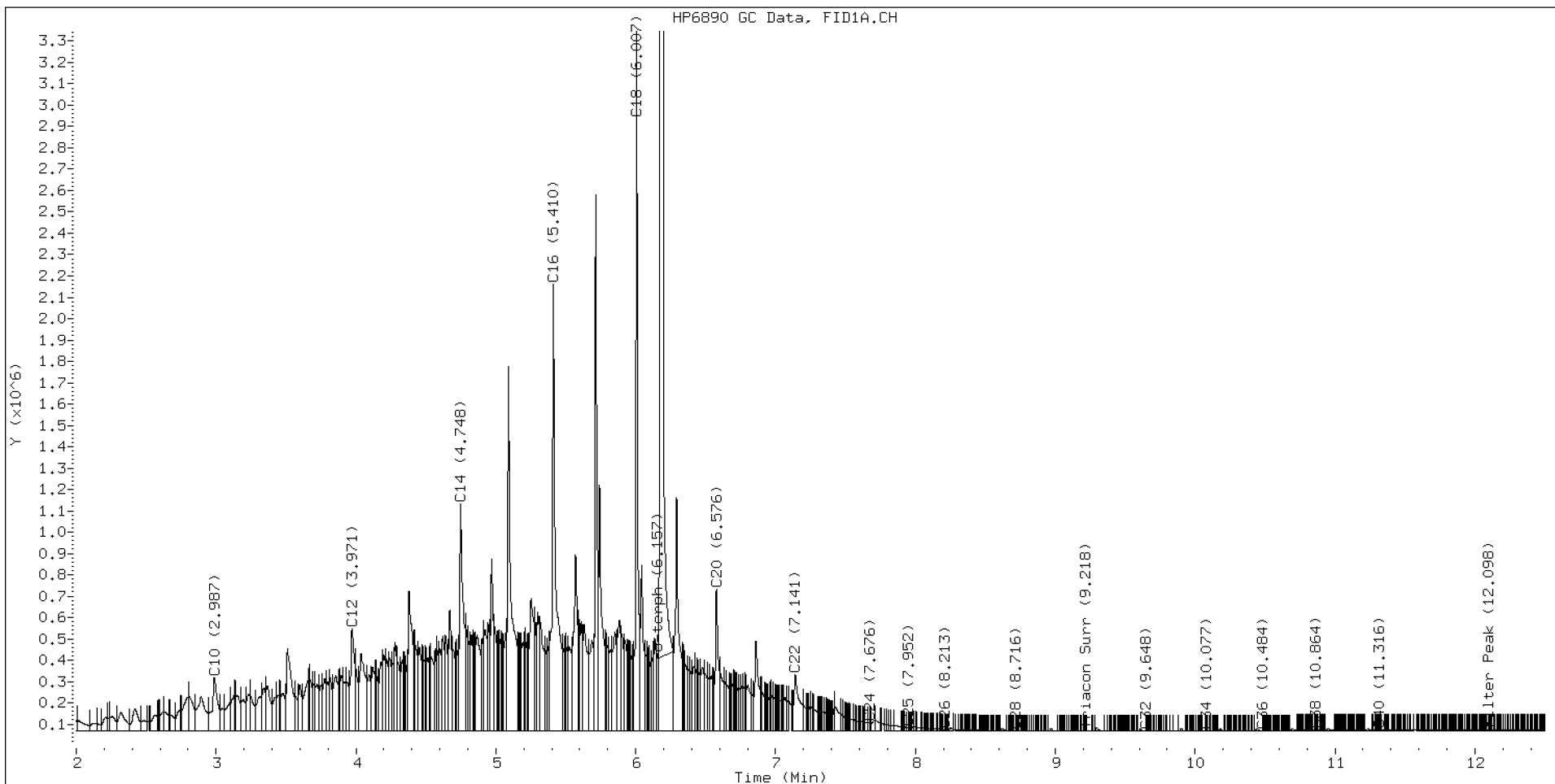
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.851	-0.013	69007	250953	WATPHD	(C12-C24)	75953571	476.7
C10	2.987	0.027	252637	711710	WATPHM	(C24-C38)	876368	8.7
C12	3.971	0.013	480772	862691	AK102	(C10-C25)	88278495	451.6
C14	4.748	0.002	1067559	1886303	AK103	(C25-C36)	569470	7.8
C16	5.410	-0.001	2095046	4038294	OR.DIES	(C10-C28)	88660807	452.4
C18	6.007	0.002	3325862	3002303				
C20	6.576	0.002	664296	976811	JET-A	(C10-C18)	68715666	414.3
C22	7.141	0.004	264298	711755				
C24	7.676	-0.010	39372	23272				
C25	7.952	-0.001	17386	6928				
C26	8.213	-0.001	8369	2077				
C28	8.716	-0.001	2207	746				
C32	9.648	0.003	754	266				
C34	10.077	0.007	654	205				
Filter Peak	12.098	0.000	6558	1636	BUNKERC	(C10-C38)	88946943	2253.1
C36	10.484	0.008	2762	678				
C38	10.864	-0.006	4998	1964				
C40	11.316	-0.001	6379	3474				
o-terph	6.192	0.002	16734997	17379770				
Triacon Surr	9.218	-0.003	455	170	NAS DIES	(C10-C24)	88070575	451.3

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17379770	84.9 M
Triacontane	170	0.0

M Indicates the peak was manually integrated

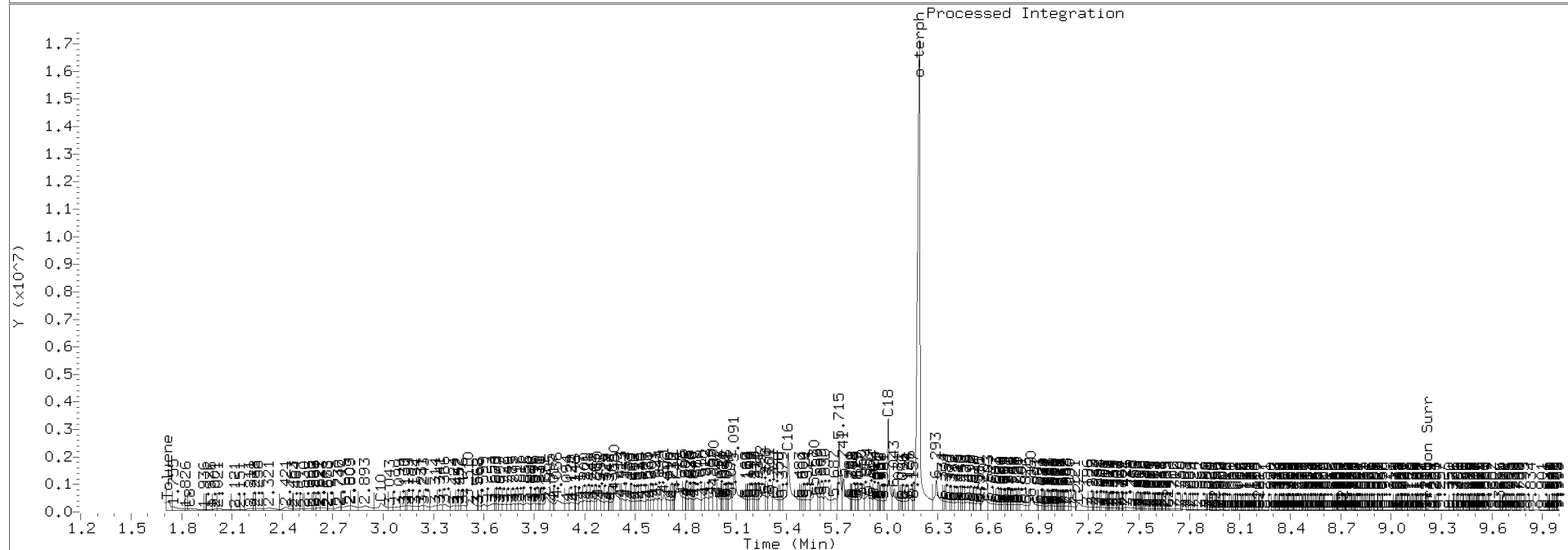
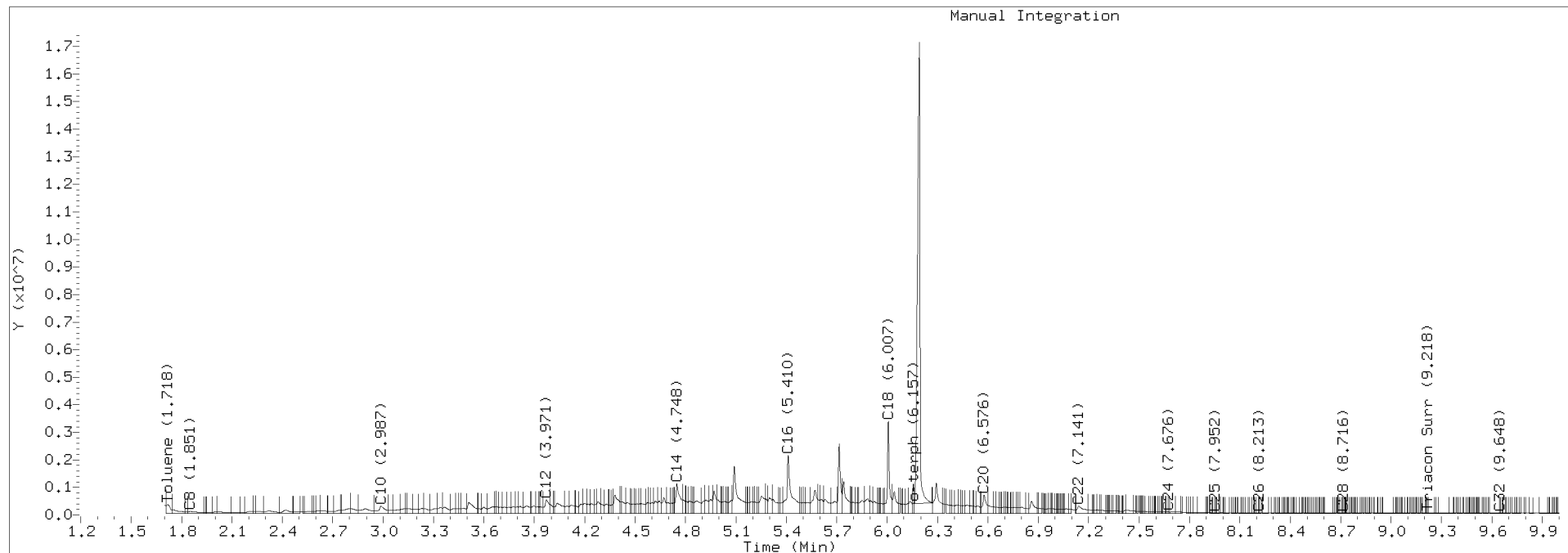
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0403.D Injection: 04-DEC-2020 11:06

Lab ID: SIL0055-ICV1





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420L0404.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0055</u>	Injection Date:	<u>12/04/20</u>
Lab Sample ID:	<u>SIL0055-ICV2</u>	Injection Time:	<u>11:26</u>
Sequence Name:	<u>MOIL ICV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	986	101166.0000	99771.2000		-1.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201204,b\420L0404.D

Date: 04-DEC-2020 11:26

Client ID:

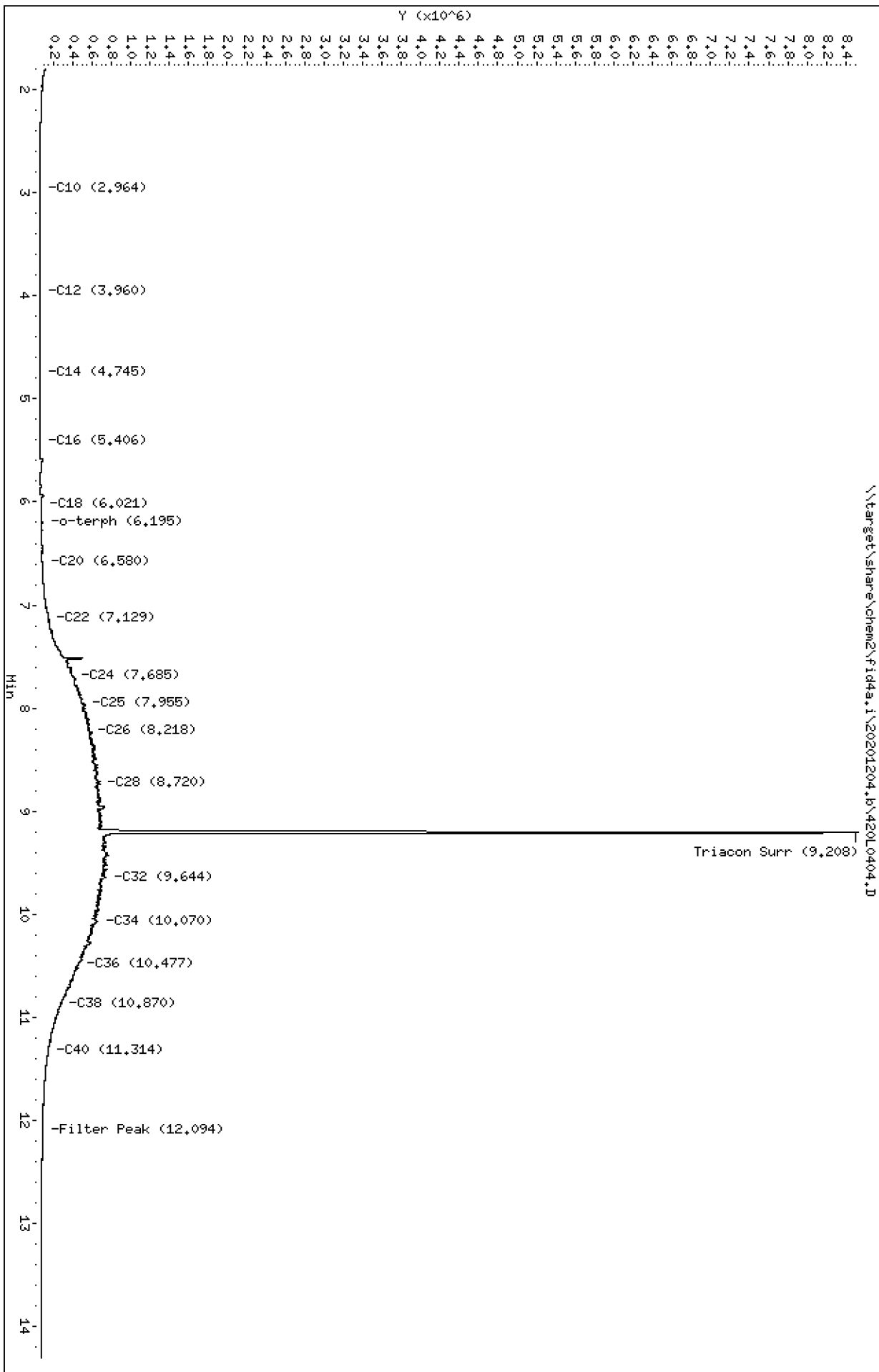
Sample Info: SIL0055-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0404.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-ICV2
Client ID:
Injection: 04-DEC-2020 11:26
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

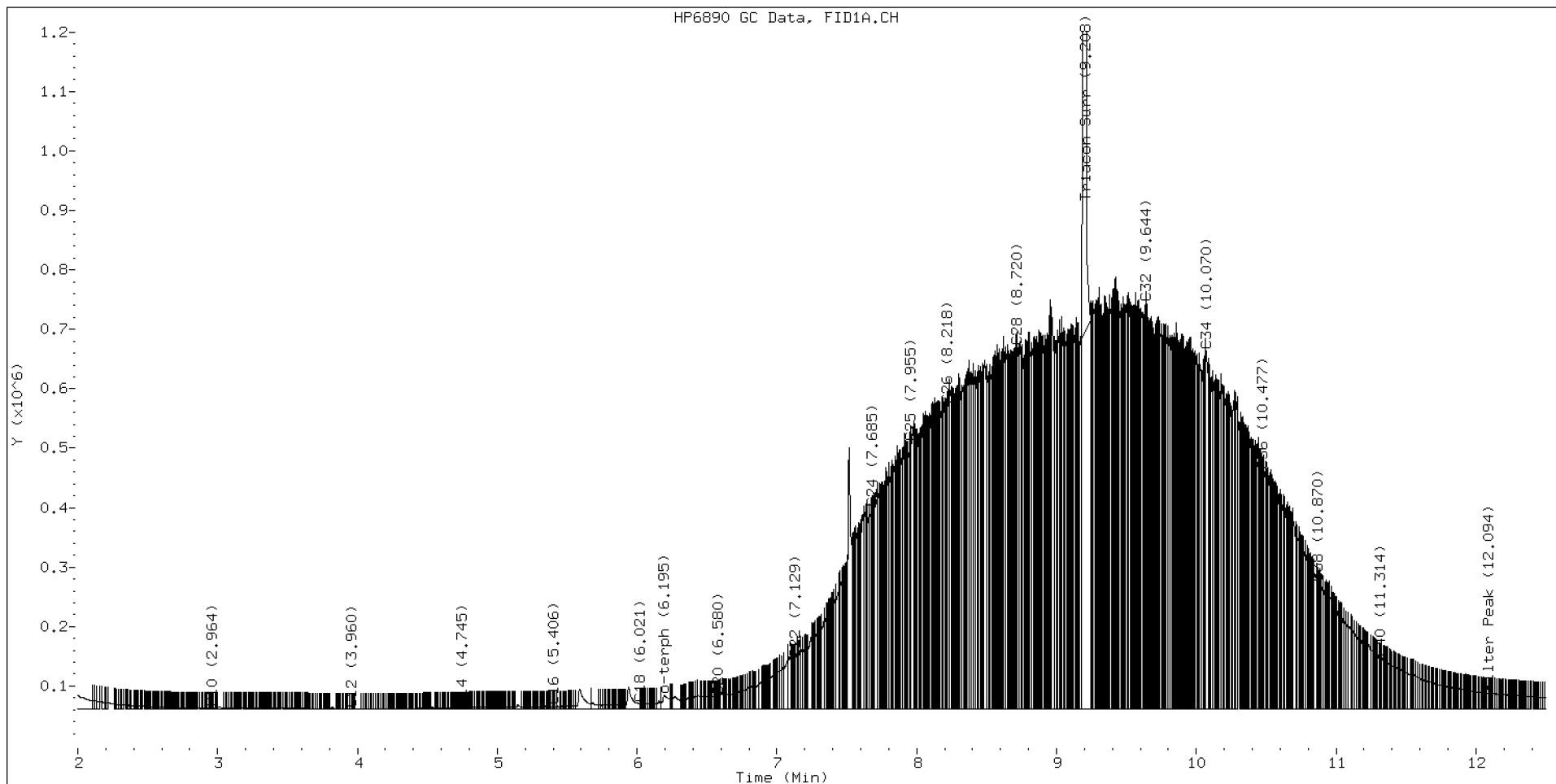
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.011	41764	219987	WATPHD	(C12-C24)	10083434	63.3
C10	2.964	0.004	2078	1229	WATPHM	(C24-C38)	99771199	986.2
C12	3.960	0.001	327	183	AK102	(C10-C25)	14108611	72.2
C14	4.745	-0.001	2857	704	AK103	(C25-C36)	89032214	1216.2
C16	5.406	-0.005	4698	2759	OR.DIES	(C10-C28)	41322107	210.8
C18	6.021	0.016	9403	2813				
C20	6.580	0.005	21907	11869	JET-A	(C10-C18)	646098	3.9
C22	7.129	-0.007	84604	46213				
C24	7.685	-0.001	338842	151228				
C25	7.955	0.002	448977	111440				
C26	8.218	0.004	511117	227063				
C28	8.720	0.002	609965	421922				
C32	9.644	-0.001	682526	368840				
C34	10.070	0.000	603472	612017				
Filter Peak	12.094	-0.004	26787	13306	BUNKERC	(C10-C38)	109944662	2785.0
C36	10.477	0.001	400813	119808				
C38	10.870	0.000	212992	116050				
C40	11.314	-0.003	86003	25622				
o-terph	6.195	0.005	22684	73570				
Triacon Surr	9.208	-0.013	7833421	7521742	NAS DIES	(C10-C24)	10173463	52.1

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	73570	0.4
Triacontane	7521742	50.7 M

M Indicates the peak was manually integrated

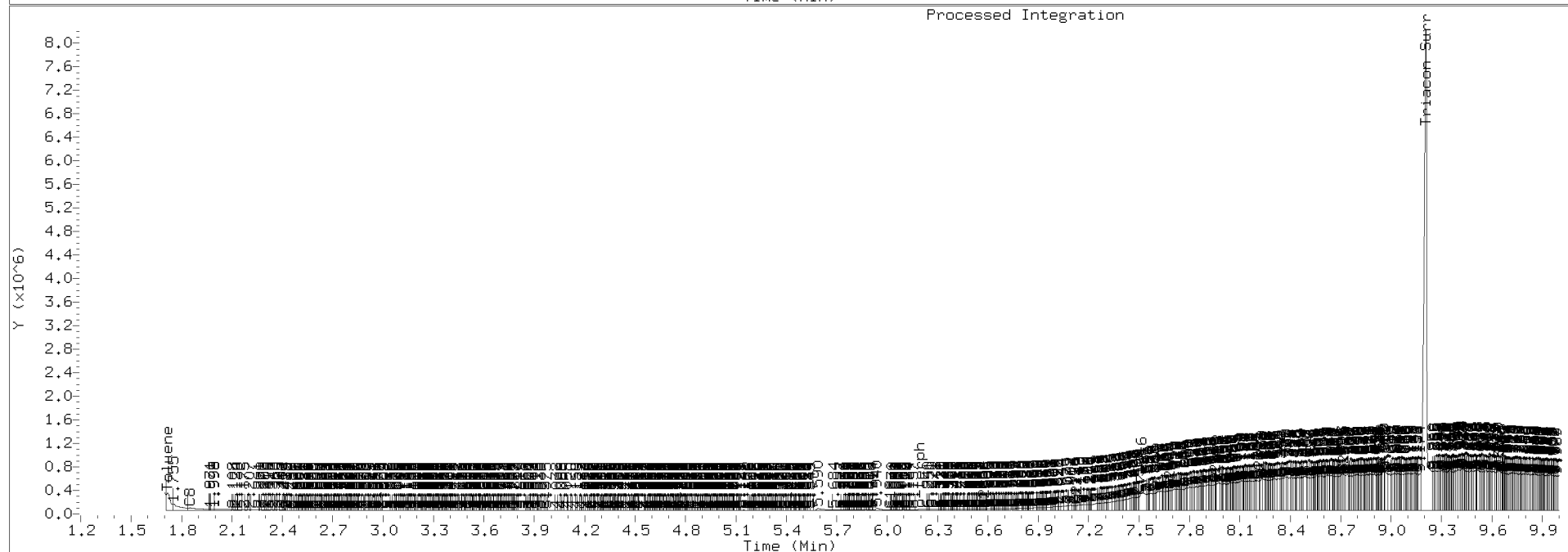
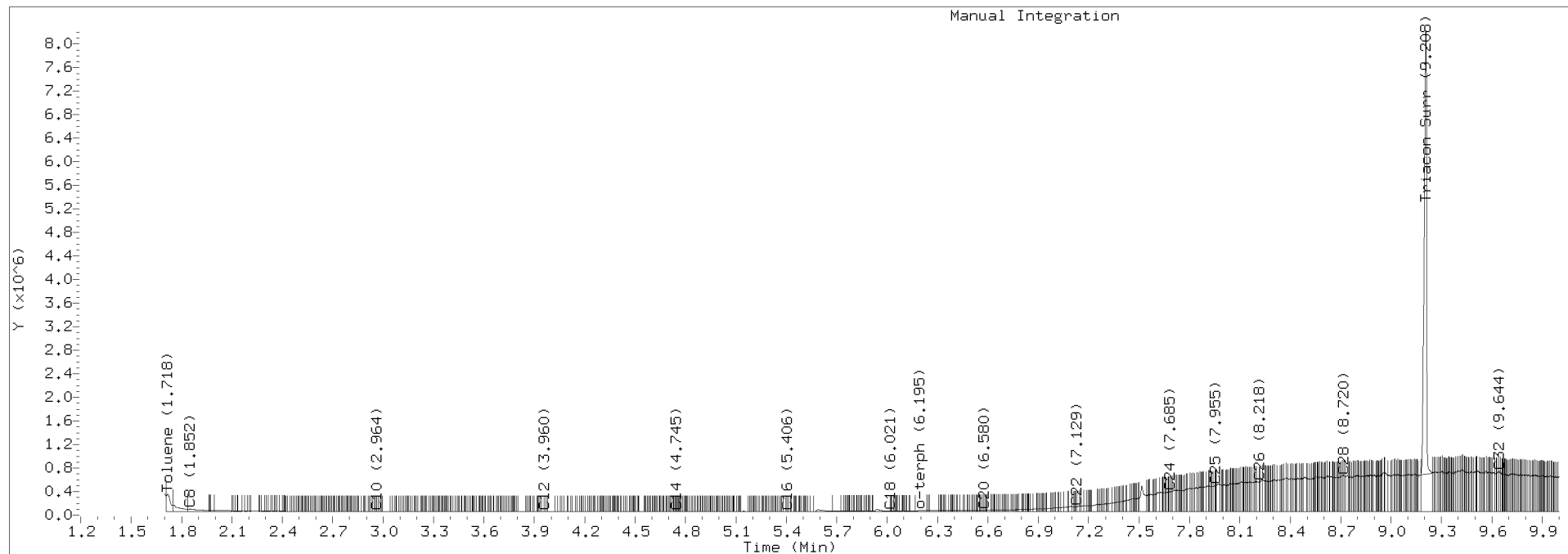
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0404.D Injection: 04-DEC-2020 11:26

Lab ID: SIL0055-ICV2



Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2963.D

Date: 30-NOV-2020 19:01

Client ID:

Sample Info: SIL0065-ICV1

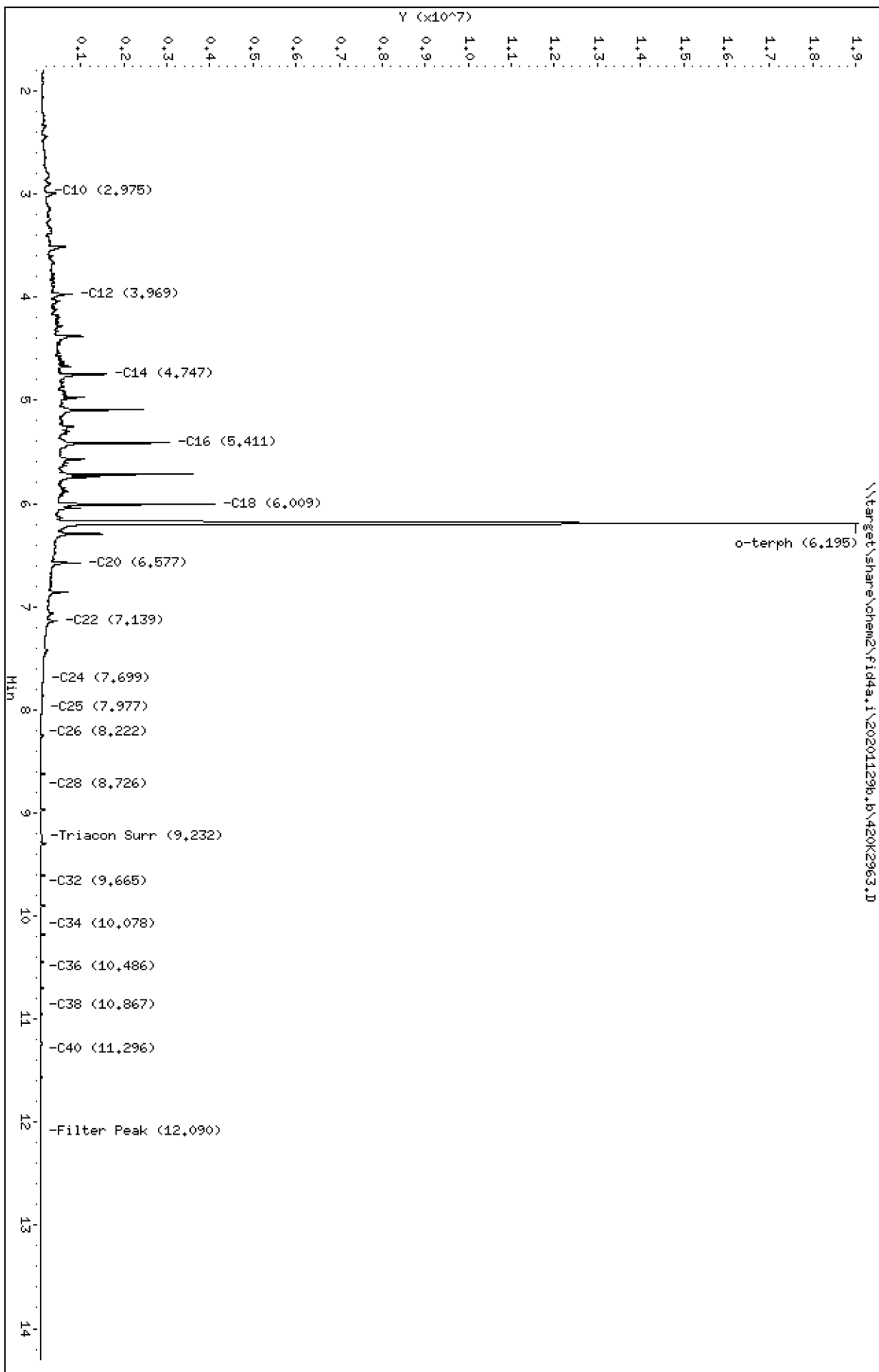
Column phase: RTX-1

Instrument: fid4a.1

Operator: JGR/CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2963.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0065-ICV1
Client ID:
Injection: 30-NOV-2020 19:01
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

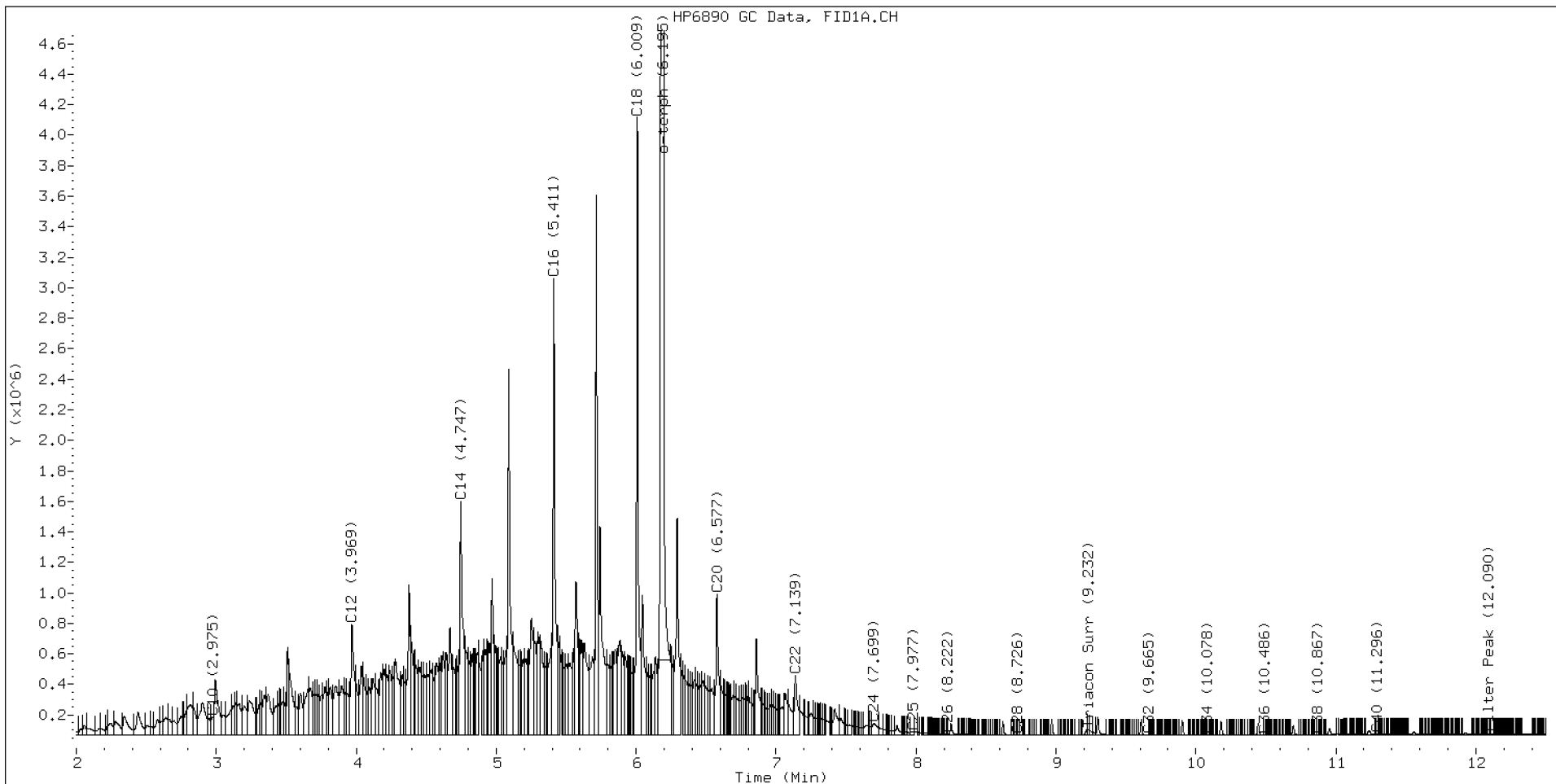
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.922	0.008	62851	115250	WATPHD	(C12-C24)	89869309	564.0
C10	2.975	-0.003	118583	133245	WATPHM	(C24-C38)	1603663	15.9
C12	3.969	0.006	725990	1182351	AK102	(C10-C25)	105164853	538.0
C14	4.747	0.001	1534139	2280994	AK103	(C25-C36)	1191170	16.3
C16	5.411	-0.001	2992479	3181494	OR.DIES	(C10-C28)	105660761	539.1
C18	6.009	-0.002	4055580	3624219				
C20	6.577	-0.004	924312	1195871	JET-A	(C10-C18)	81643822	492.3
C22	7.139	-0.005	388619	672378				
C24	7.699	0.007	76874	190769				
C25	7.977	0.018	24907	40537				
C26	8.222	0.001	8631	1711				
C28	8.726	0.001	2108	609				
C32	9.665	0.013	880	444				
C34	10.078	0.002	950	184				
Filter Peak	12.090	-0.007	6238	5213	BUNKERC	(C10-C38)	106503179	2697.8
C36	10.486	0.008	3314	2642				
C38	10.867	0.002	5059	2992				
C40	11.296	-0.006	6428	5042				
o-terph	6.195	-0.003	18500871	20724730				
Triacon Surr	9.232	0.002	36851	36096	NAS DIES	(C10-C24)	104899516	537.5

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20724730	101.2 M
Triacontane	36096	0.2

M Indicates the peak was manually integrated

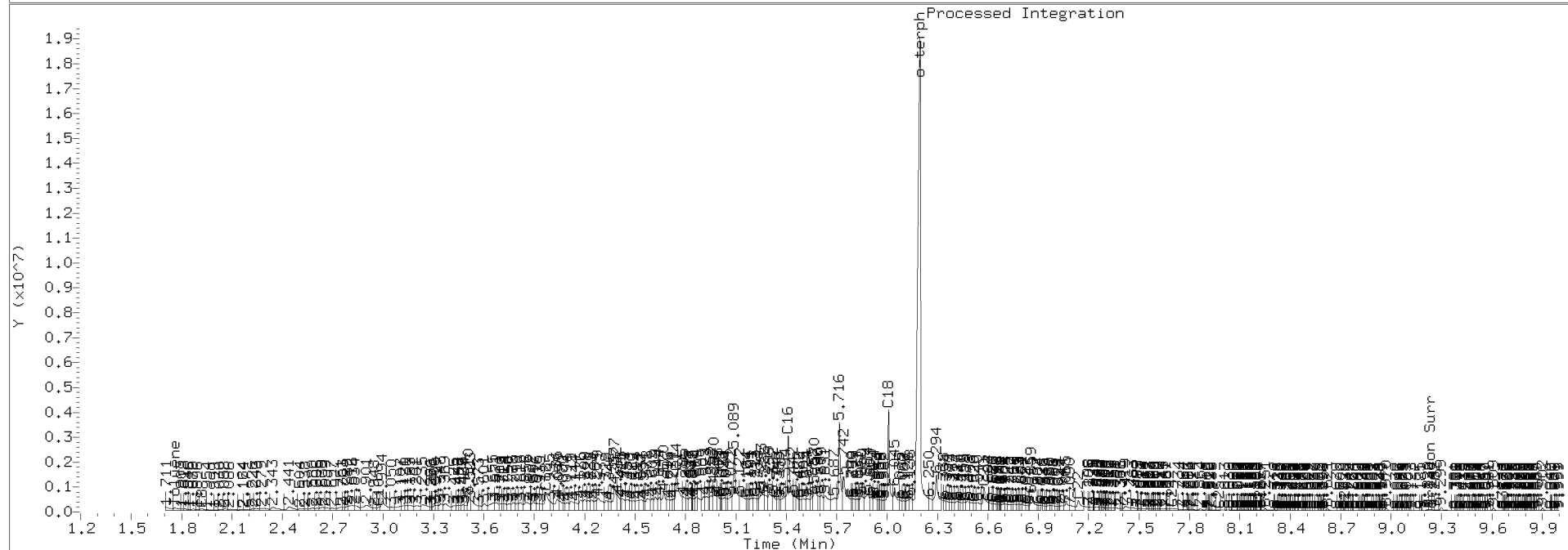
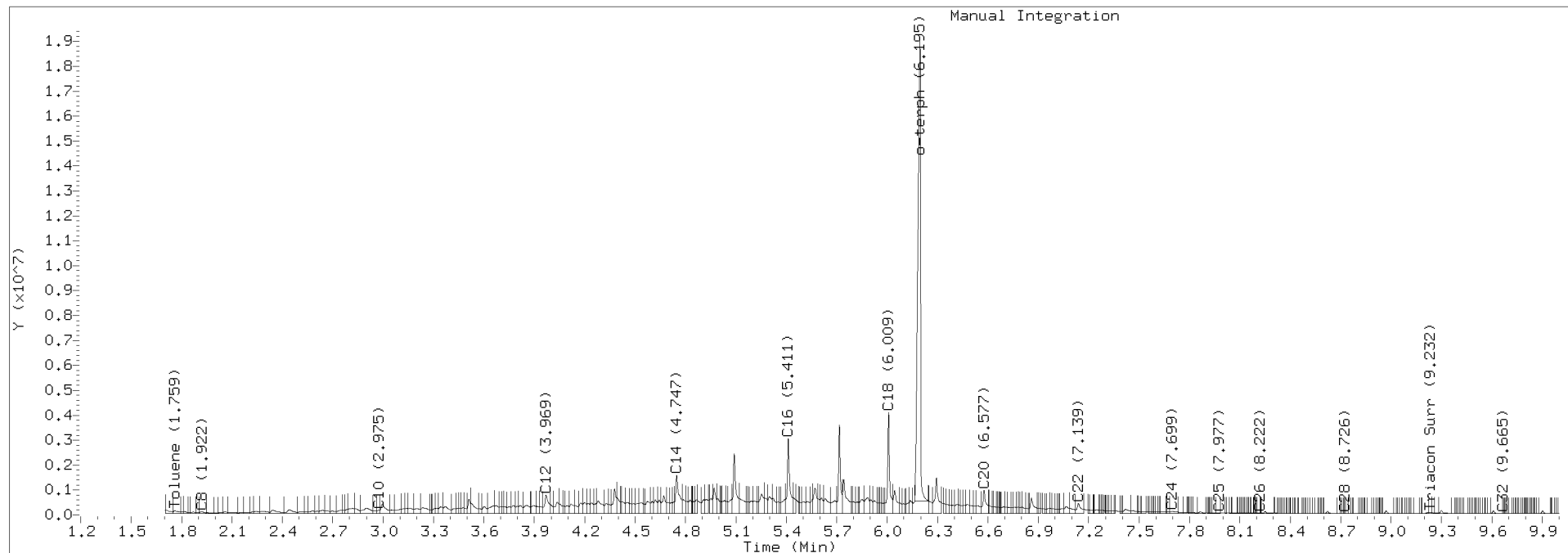
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2963.D Injection: 30-NOV-2020 19:01

Lab ID: SIL0065-ICV1



Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2964.D

Date: 30-NOV-2020 19:22

Client ID:

Sample Info: SIL0065-ICV2

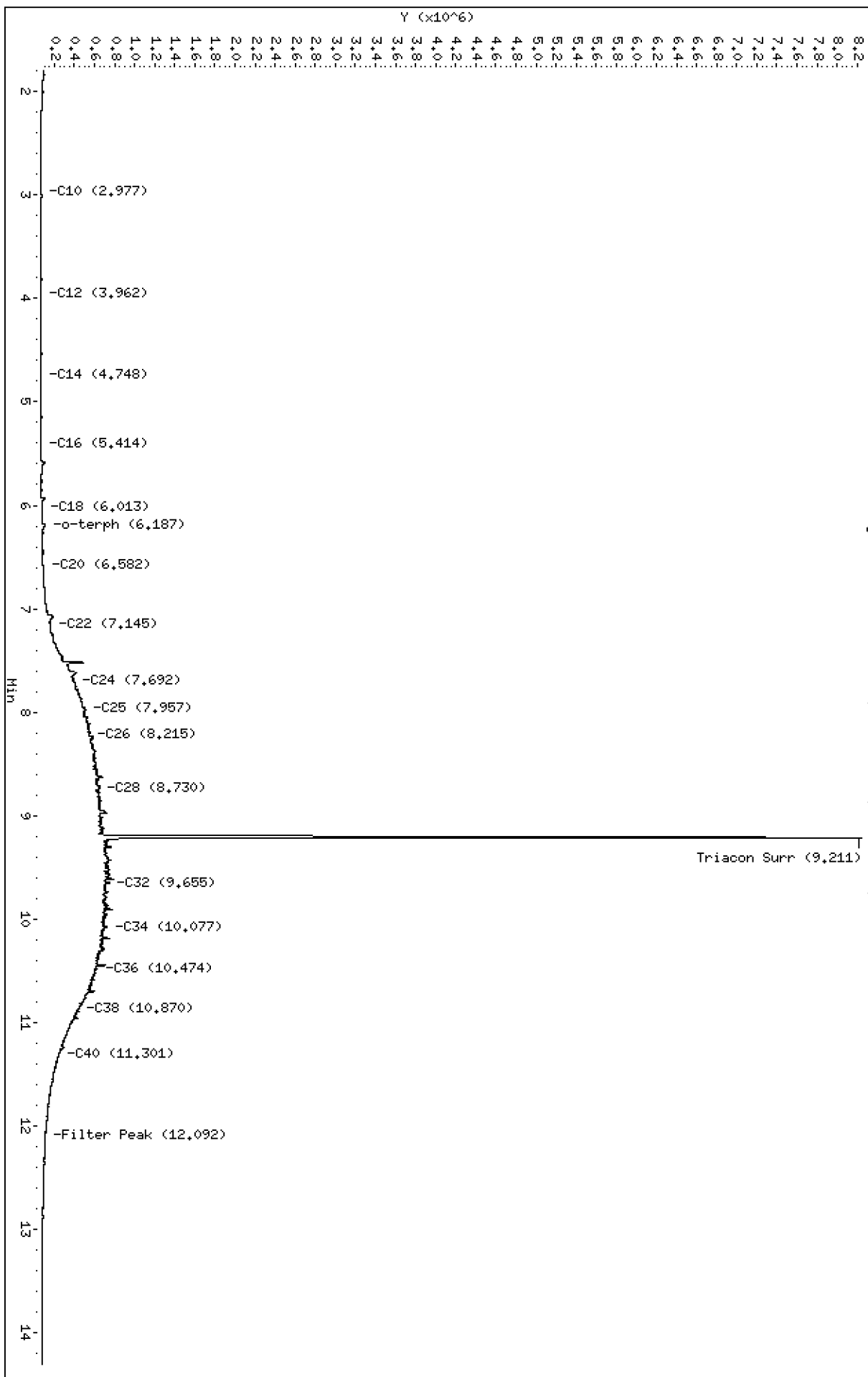
Column phase: RTX-1

Instrument: fid4a.i

Operator: JGR/CTO

Column diameter: 0.25

\\target\share\chem2\fid4a.i\20201129b.b\420K2964.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2964.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0065-ICV2
Client ID:
Injection: 30-NOV-2020 19:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

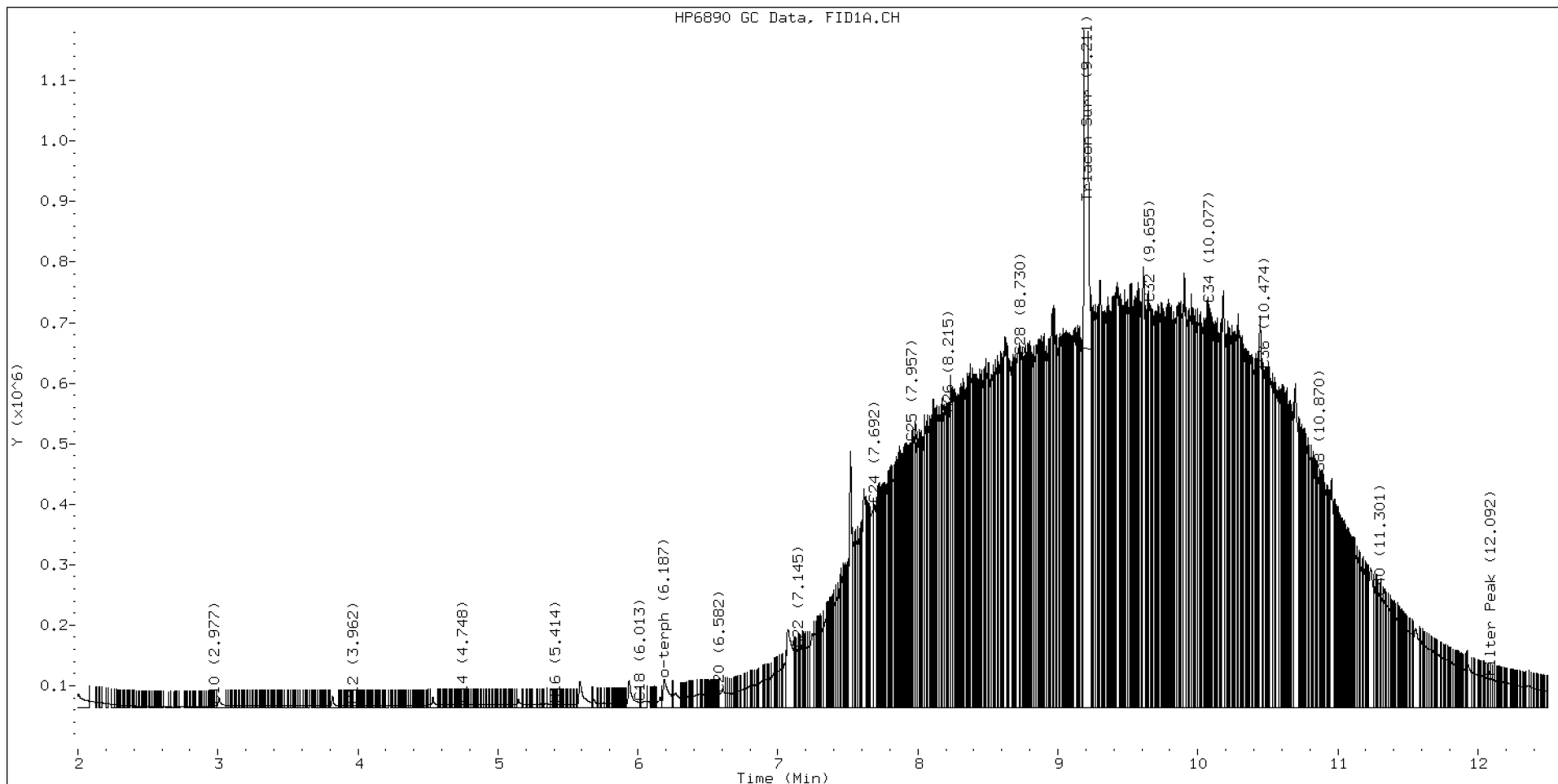
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.918	0.005	18400	52495	WATPHD	(C12-C24)	10288443	64.6
C10	2.977	-0.001	2269	1915	WATPHM	(C24-C38)	105804060	1045.8
C12	3.962	-0.001	2529	748	AK102	(C10-C25)	14348820	73.4
C14	4.748	0.002	4689	2992	AK103	(C25-C36)	91577750	1251.0
C16	5.414	0.002	4927	2665	OR.DIES	(C10-C28)	40747131	207.9
C18	6.013	0.003	8240	4879				
C20	6.582	0.001	21052	15317	JET-A	(C10-C18)	860160	5.2
C22	7.145	0.001	95507	33239				
C24	7.692	-0.000	335726	426063				
C25	7.957	-0.002	435877	213503				
C26	8.215	-0.006	485579	288699				
C28	8.730	0.005	578904	259325				
C32	9.655	0.002	667236	492049				
C34	10.077	0.001	665121	392412				
Filter Peak	12.092	-0.005	47866	41723	BUNKERC	(C10-C38)	116268177	2945.2
C36	10.474	-0.004	557210	356762				
C38	10.870	0.005	371860	165784				
C40	11.301	-0.001	181466	80681				
o-terph	6.187	-0.011	46413	119267				
Triacon Surr	9.211	-0.019	7587381	7325610	NAS DIES	(C10-C24)	10464116	53.6

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	119267	0.6
Triacontane	7325610	49.4 M

M Indicates the peak was manually integrated

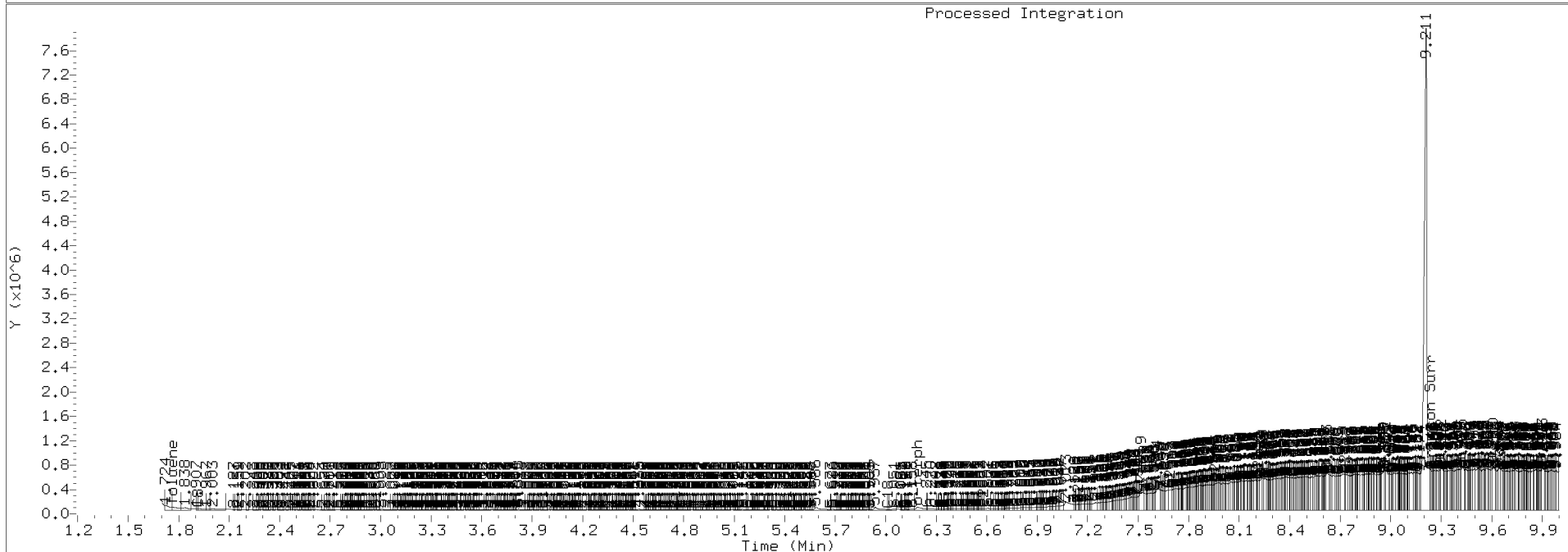
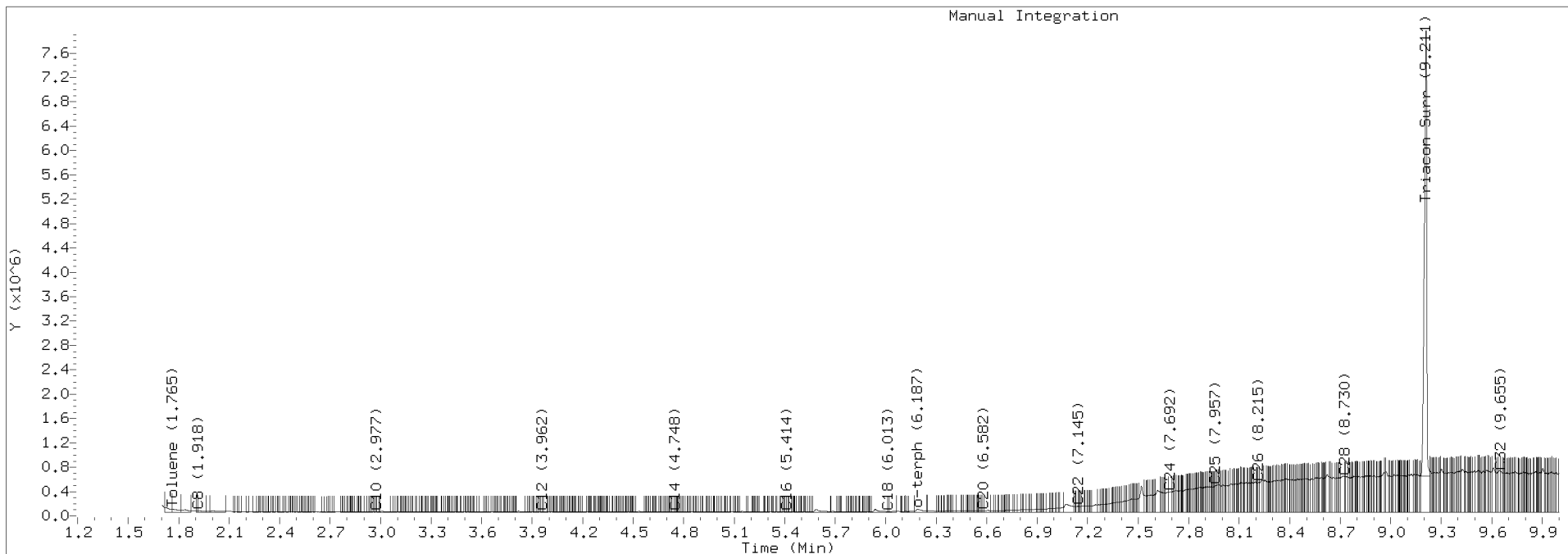
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2964.D Injection: 30-NOV-2020 19:22

Lab ID: SIL0065-ICV2





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420H1413.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIH0165</u>	Injection Date:	<u>08/14/20</u>
Lab Sample ID:	<u>SIH0165-CCV1</u>	Injection Time:	<u>11:59</u>
Sequence Name:	<u>DIESEL CCV</u>		

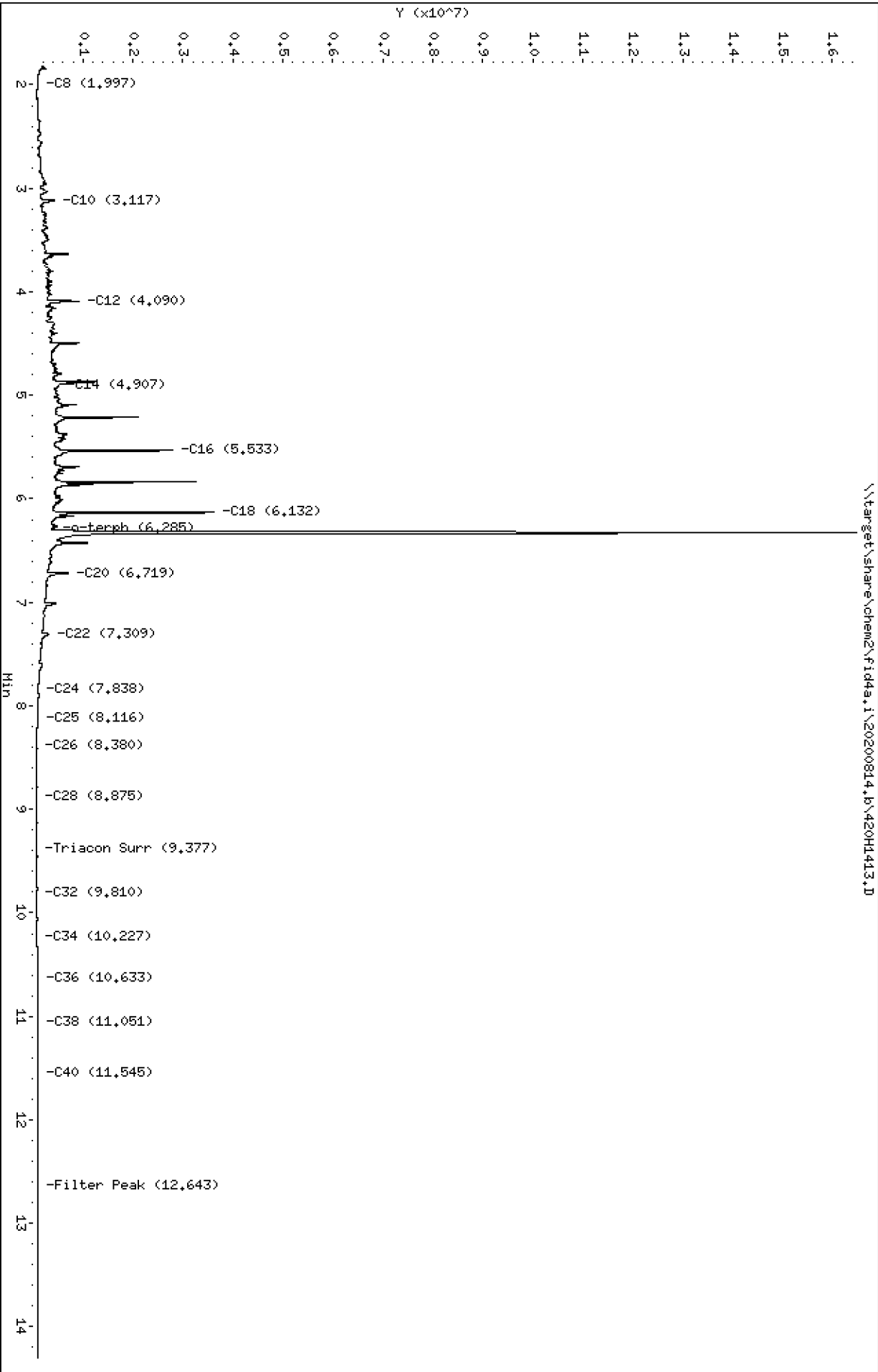
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	481	159336.7	153209.9		-3.8	+/-15
o-Terphenyl	A	90.000	79.3	204701.9	180393.1		-11.9	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20200814,b\420H1413.D
Date: 14-AUG-2020 11:59
Client ID:
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200814.b/420H1413.D
Method: 20200814.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/24/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 14-AUG-2020 11:59
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

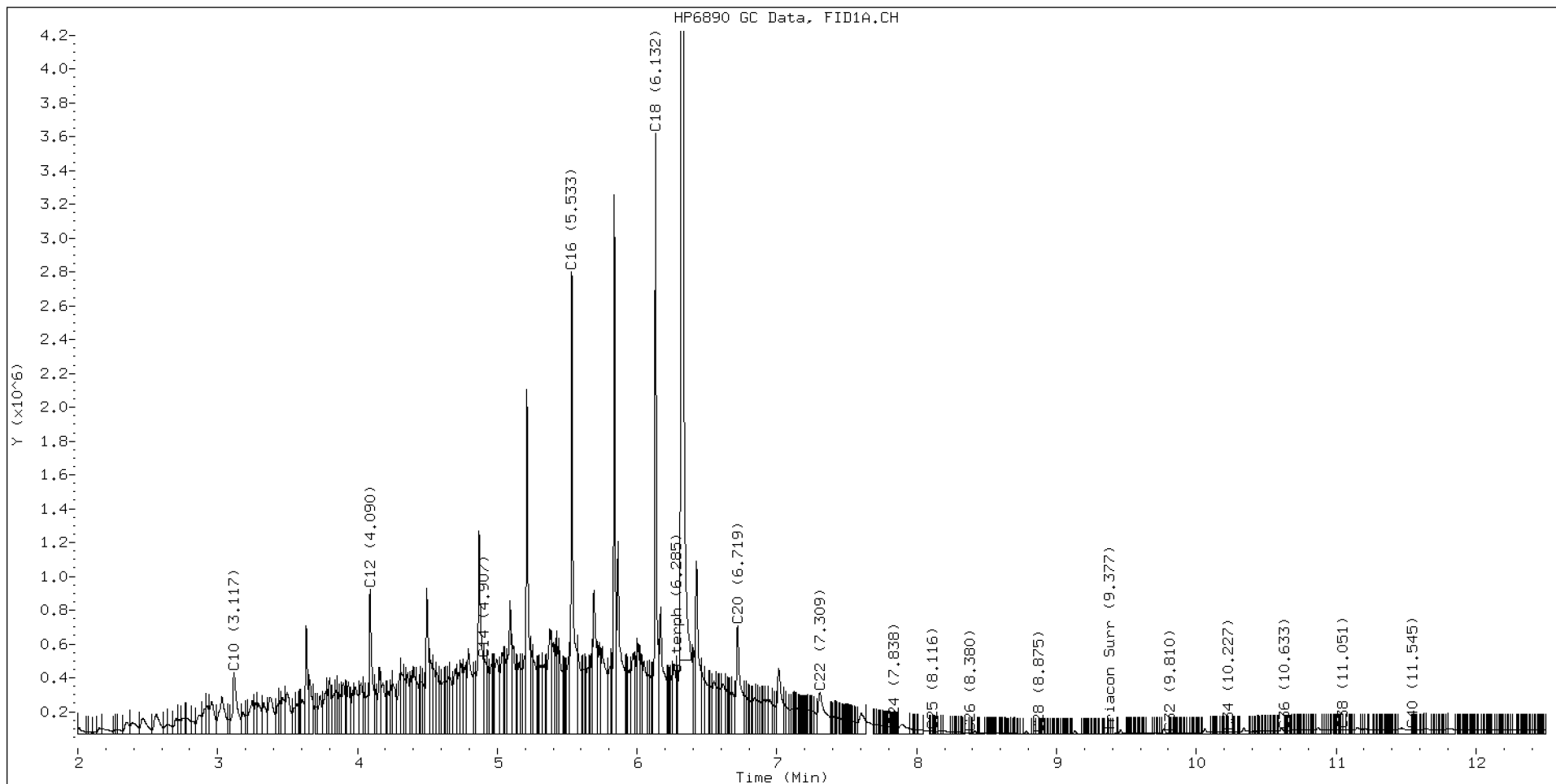
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.005	33555	26527	WATPHD	(C12-C24)	76604959	480.8
C10	3.117	0.011	360980	800884	WATPHM	(C24-C38)	2087736	20.6
C12	4.090	0.003	858002	1109180	AK102	(C10-C25)	90098220	460.9
C14	4.907	0.011	444696	641926	AK103	(C25-C36)	1192714	16.3
C16	5.533	-0.006	2733195	3097613	OR.DIES	(C10-C28)	90414159	461.3
C18	6.132	-0.001	3552120	3129904				
C20	6.719	-0.001	636483	1325665	JET-A	(C10-C18)	69968294	421.9
C22	7.309	0.022	248019	872467				
C24	7.838	0.001	39892	19883				
C25	8.116	0.009	16354	7274				
C26	8.380	0.009	7066	4723				
C28	8.875	-0.001	410	108				
C32	9.810	0.003	6271	1564				
C34	10.227	-0.005	10941	7550				
Filter Peak	12.643	0.007	25373	20242	CREOSOT	(C12-C22)	74914962	831.2
C36	10.633	-0.004	19294	9569				
C38	11.051	-0.001	25145	5023				
C40	11.545	-0.002	23988	7180				
o-terph	6.330	0.000	15978088	16235384				
Triacon Surr	9.377	-0.001	1405	784	NAS DIES	(C10-C24)	89766551	460.0

Range Times: NW Diesel(4.087 - 7.837) AK102(3.11 - 8.11) Jet A(3.11 - 6.13)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	16235384	79.3 M
Triacontane	784	0.0

M Indicates the peak was manually integrated

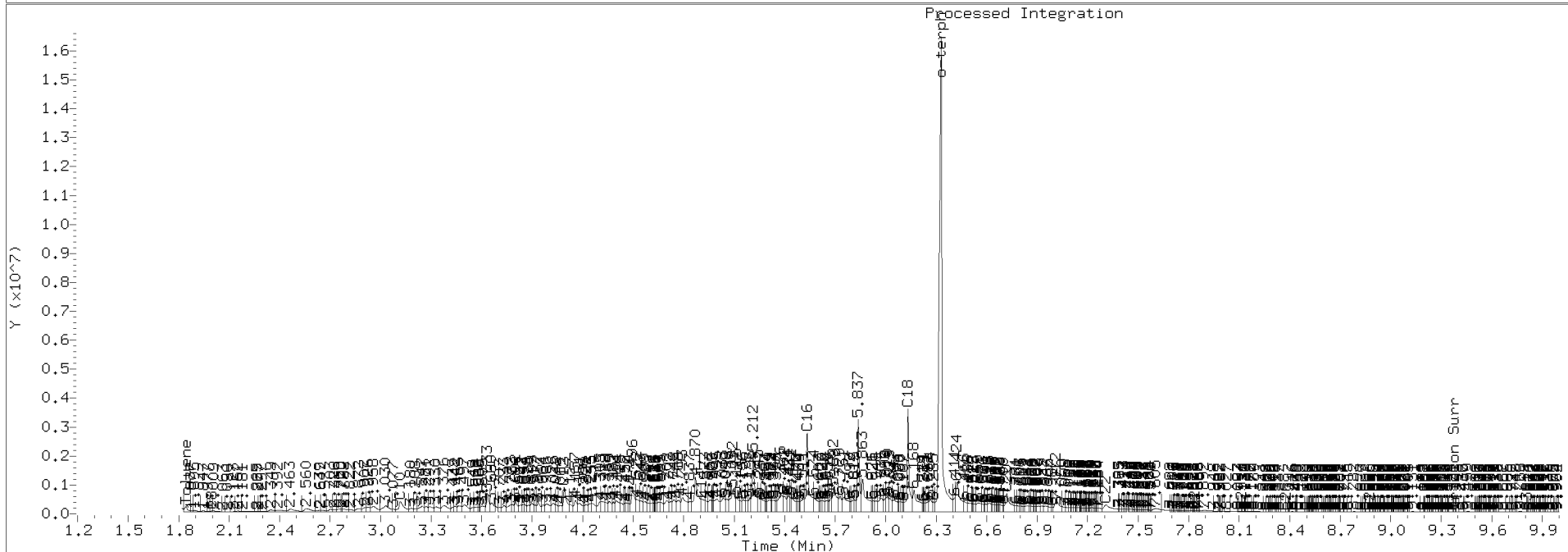
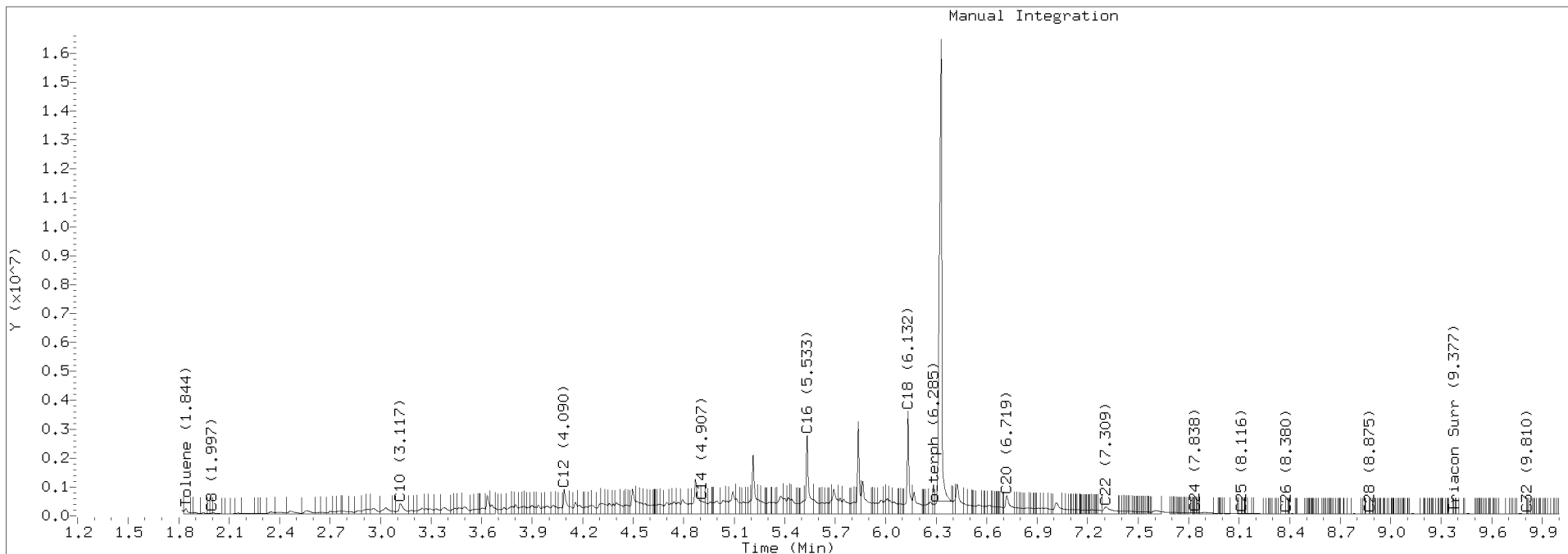
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200814.b/420H1413.D Injection: 14-AUG-2020 11:59

Lab ID:SEQ-CCV1





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420J0227.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIJ0042</u>	Injection Date:	<u>10/02/20</u>
Lab Sample ID:	<u>SIJ0042-CCV1</u>	Injection Time:	<u>17:33</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	447	159336.7	142557.1		-10.5	+/-15
o-Terphenyl	A	90.000	79.5	204701.9	180884.2		-11.7	+/-15

* Values outside of QC limits

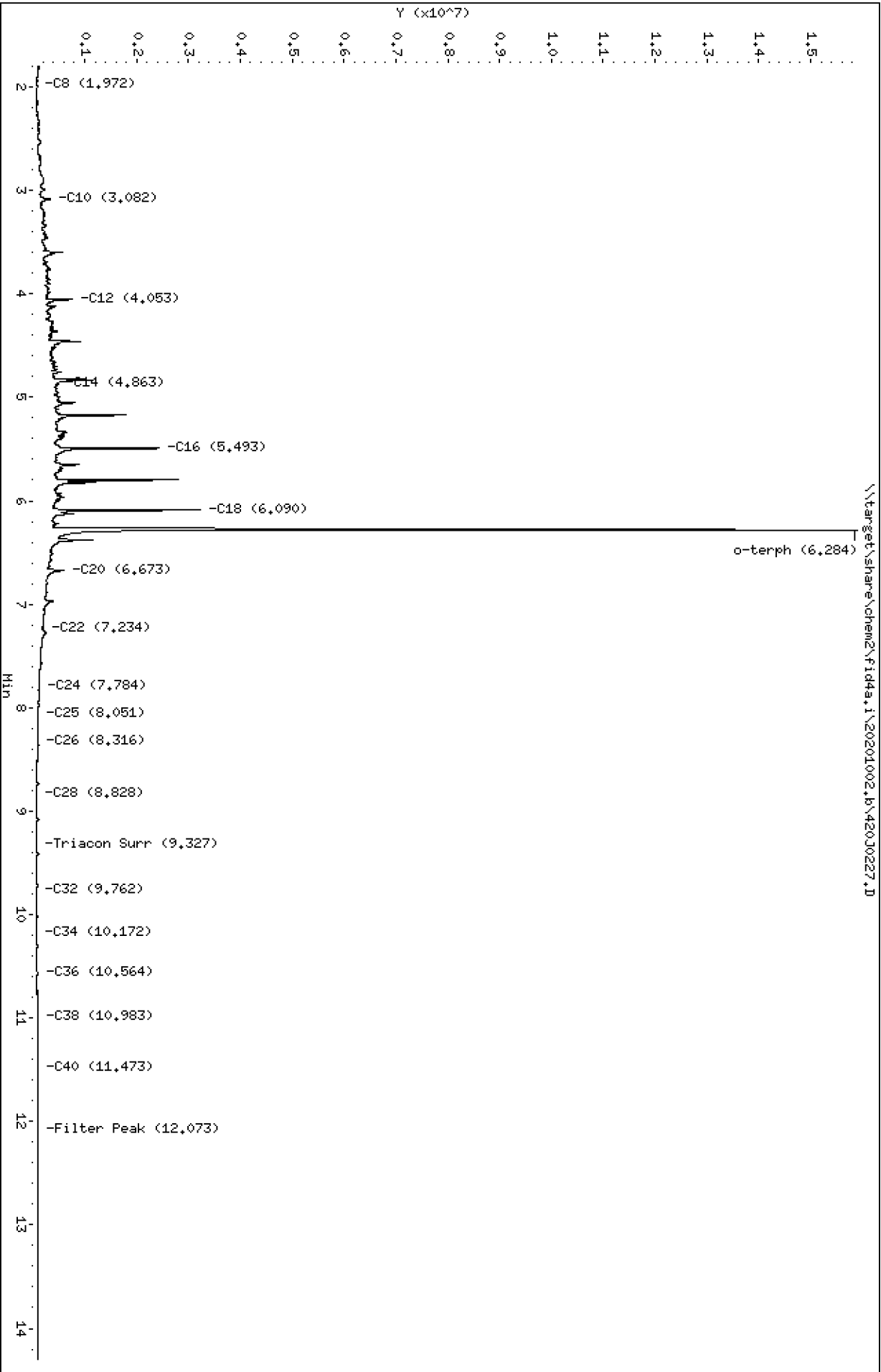
Data File: \\target\share\chem2\fid4a,1\20201002_b\420J0227.D
Date : 02-OCT-2020 17:33
Client ID:
Sample Info: SEQ-CCV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0227.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-OCT-2020 17:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

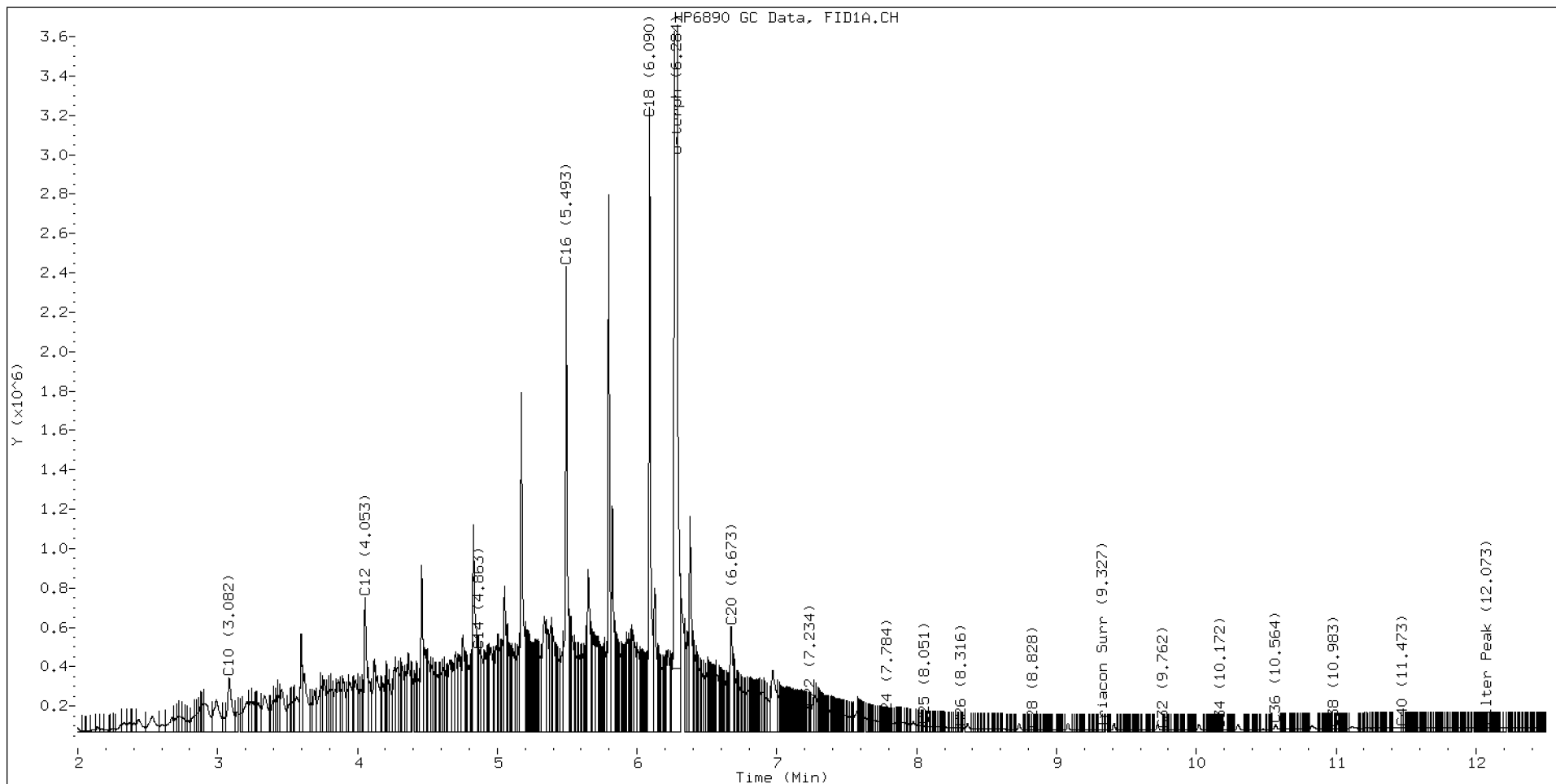
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.972	-0.014	9352	8051	WATPHD	(C12-C24)	71278543	447.3
C10	3.082	0.010	275290	604499	WATPHM	(C24-C38)	2595002	25.7
C12	4.053	0.001	678847	919302	AK102	(C10-C25)	83170245	425.4
C14	4.863	0.013	409591	81784	AK103	(C25-C36)	1818352	24.8
C16	5.493	-0.006	2358669	2412149	OR.DIES	(C10-C28)	84001487	428.6
C18	6.090	-0.002	3170614	2857622				
C20	6.673	-0.000	533120	754522	JET-A	(C10-C18)	63484632	382.8
C22	7.234	-0.002	119695	46935				
C24	7.784	-0.000	45383	13433				
C25	8.051	-0.004	27468	20294				
C26	8.316	-0.000	17075	9319				
C28	8.828	0.007	9161	4968				
C32	9.762	0.009	6982	2433				
C34	10.172	-0.005	7930	2763				
Filter Peak	12.073	0.004	16575	6608	CREOSOT	(C12-C22)	68914152	1218.7
C36	10.564	-0.013	34401	64674				
C38	10.983	0.003	15510	9262				
C40	11.473	0.018	17169	9419				
o-terph	6.284	-0.000	15509175	16279578				
Triacon Surr	9.327	0.007	6503	1296	NAS DIES	(C10-C24)	82734184	424.0

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16279578	79.5 M
Triacontane	1296	0.0

M Indicates the peak was manually integrated

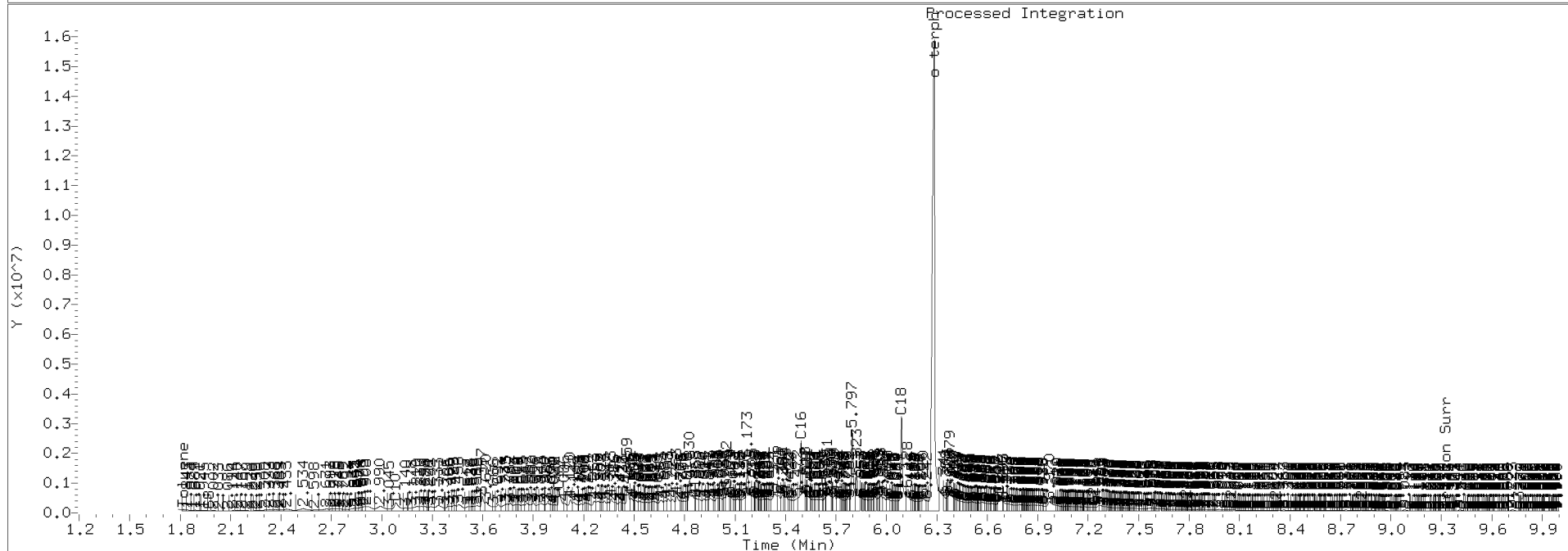
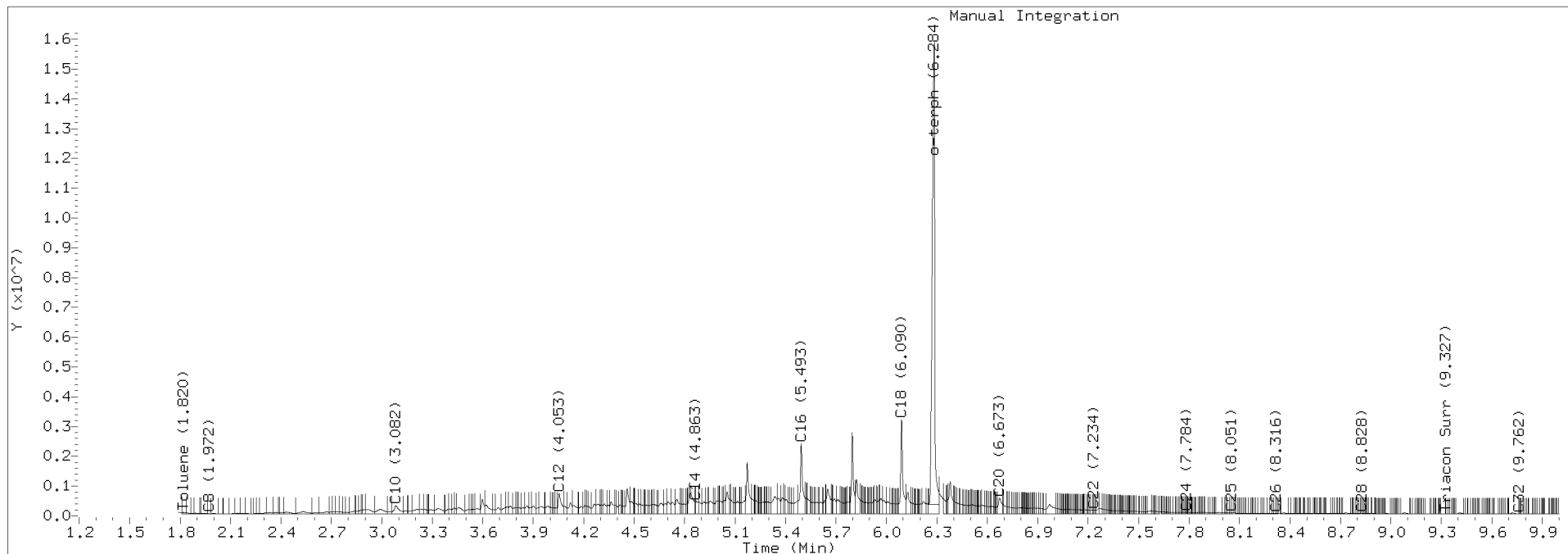
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0227.D Injection: 02-OCT-2020 17:33

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0216.D

Date: 02-NOV-2020 13:34

Client ID:

Sample Info: SEQ-CCV1

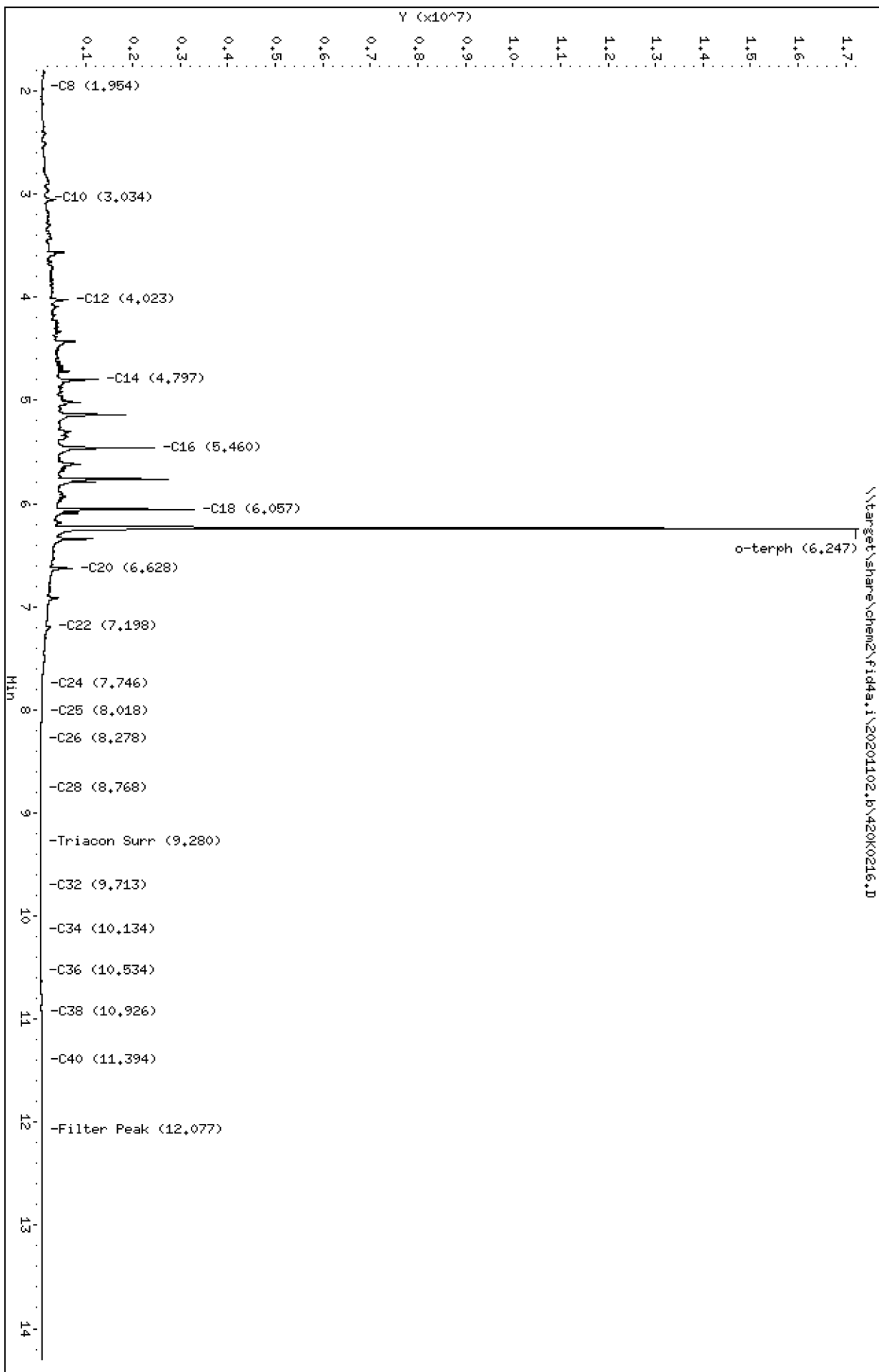
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0216.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-NOV-2020 13:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

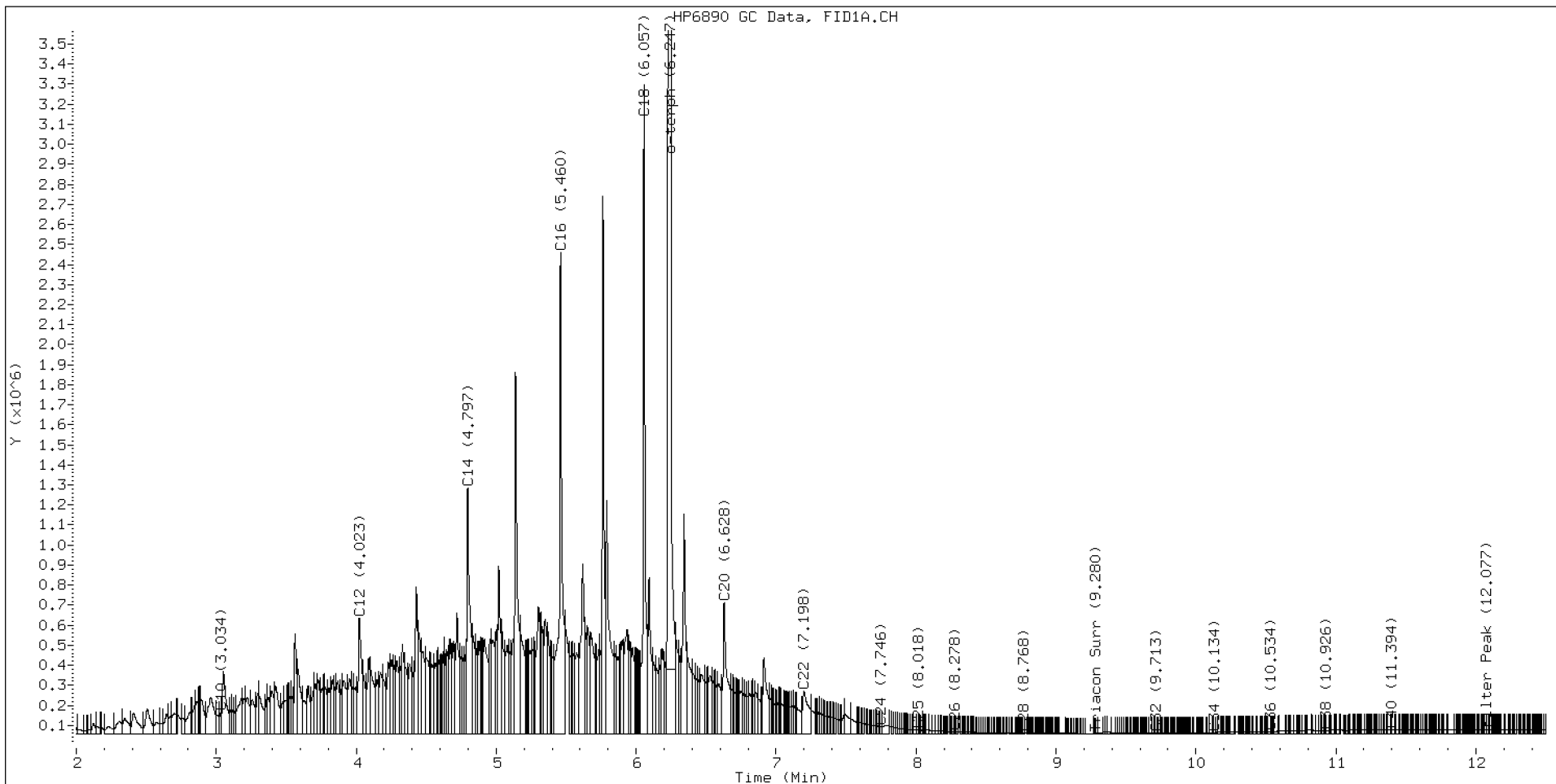
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.954	0.000	24971	20616	WATPHD	(C12-C24)	74763315	469.2
C10	3.034	0.002	105321	101464	WATPHM	(C24-C38)	1209447	12.0
C12	4.023	0.006	575267	930536	AK102	(C10-C25)	87571211	448.0
C14	4.797	-0.000	1223737	1816061	AK103	(C25-C36)	715520	9.8
C16	5.460	-0.004	2401544	3561647	OR.DIES	(C10-C28)	87913199	448.5
C18	6.057	0.000	3237914	3091821				
C20	6.628	-0.000	653899	1248522	JET-A	(C10-C18)	68713755	414.3
C22	7.198	0.005	208605	636302				
C24	7.746	0.003	33322	18203				
C25	8.018	0.006	16614	6601				
C26	8.278	0.006	7987	4343				
C28	8.768	-0.009	1583	1127				
C32	9.713	0.007	2142	1257				
C34	10.134	0.004	5373	3976				
Filter Peak	12.077	0.001	17799	13225	BUNKERC	(C10-C38)	88597423	2244.3
C36	10.534	0.000	10027	7461				
C38	10.926	-0.005	14614	5814				
C40	11.394	0.008	18404	11939				
o-terph	6.247	-0.000	16886621	17349107				
Triacon Surr	9.280	0.001	254	113	NAS DIES	(C10-C24)	87387977	447.8

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17349107	84.8 M
Triacontane	113	0.0

M Indicates the peak was manually integrated

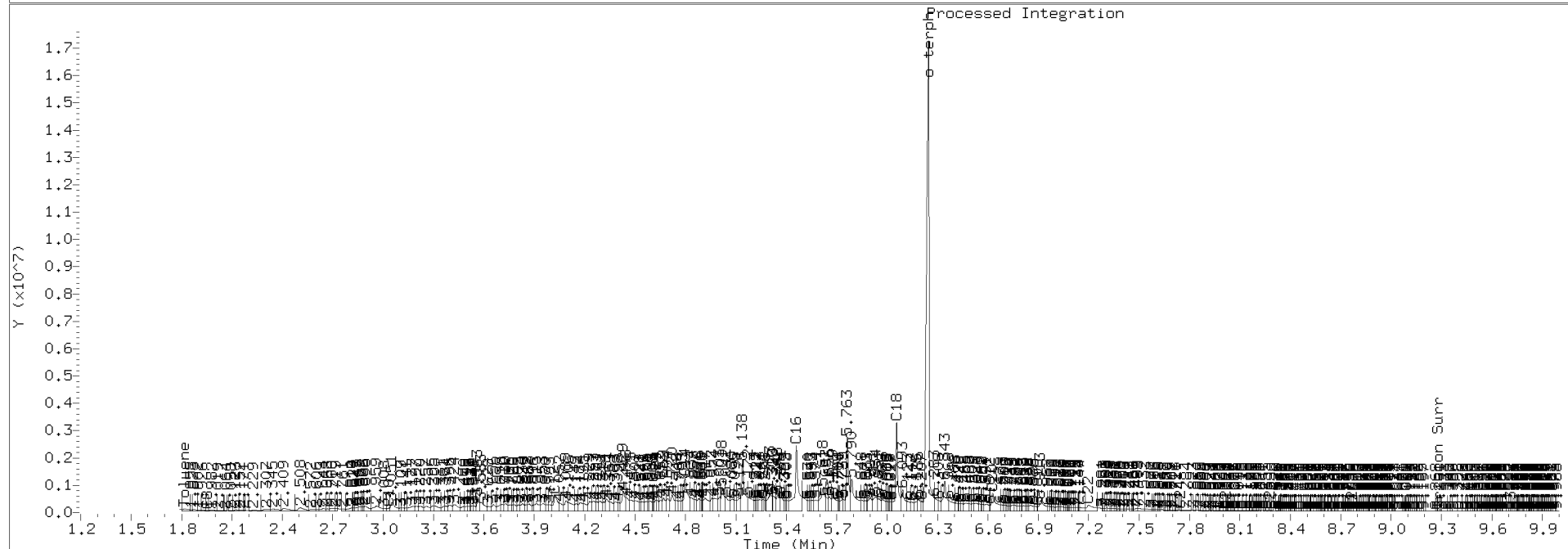
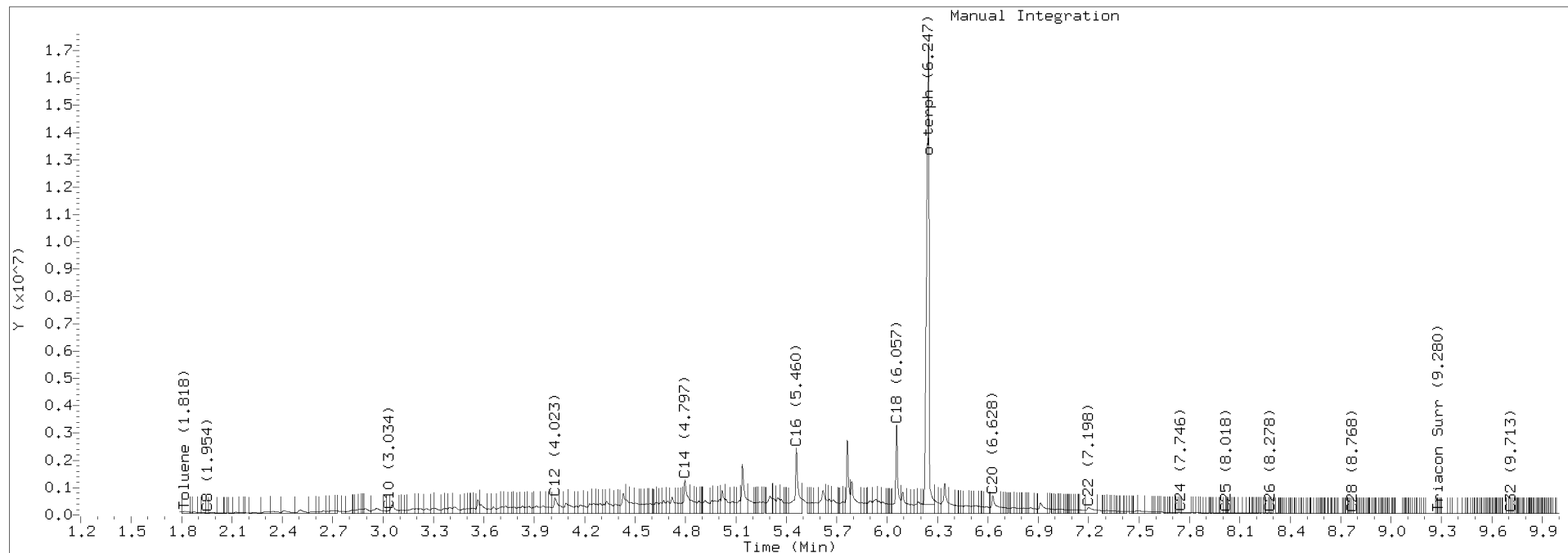
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0216.D Injection: 02-NOV-2020 13:34

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2711.D
Date: 27-NOV-2020 11:39

Client ID:

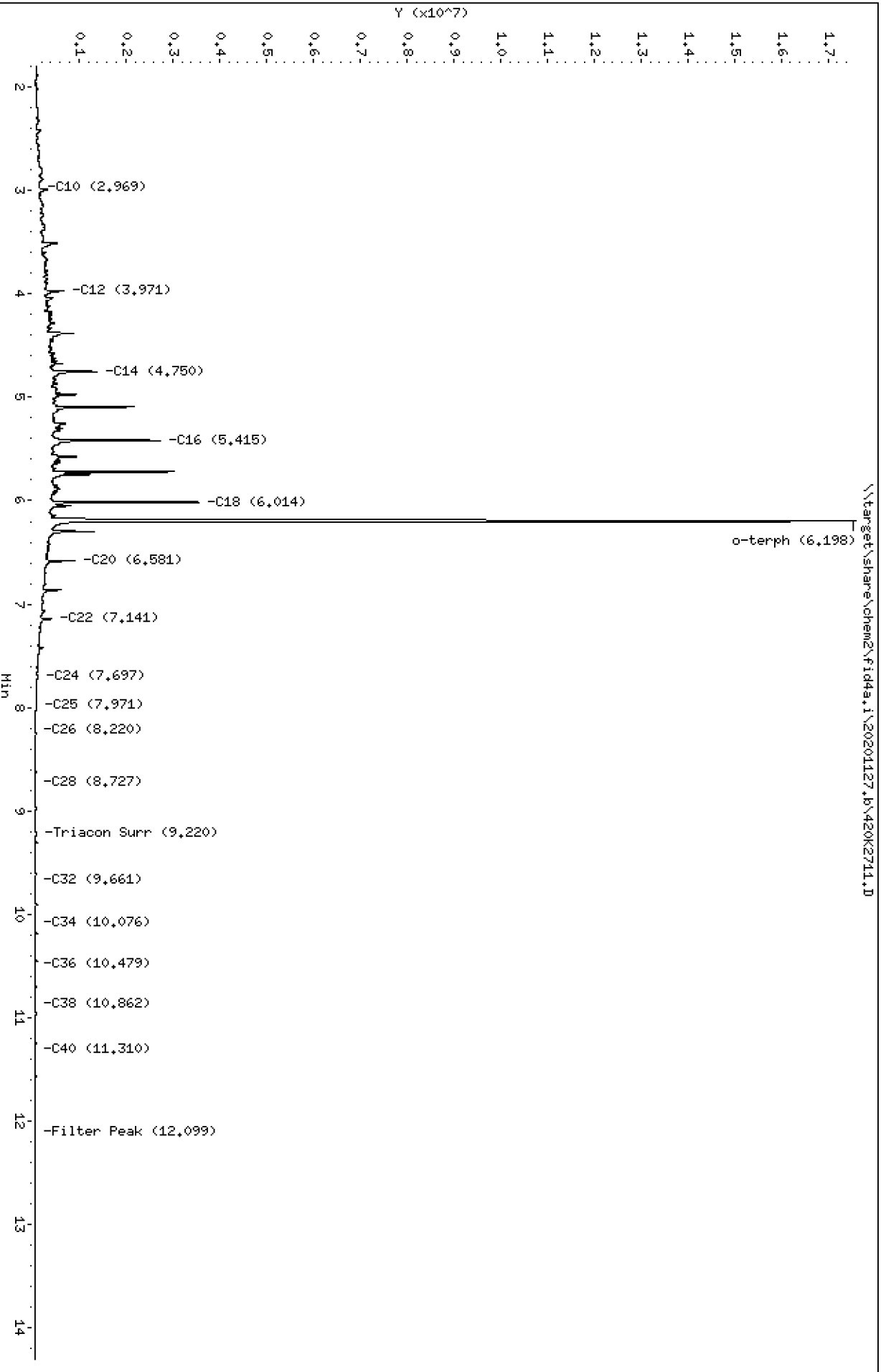
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2711.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 27-NOV-2020 11:39
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

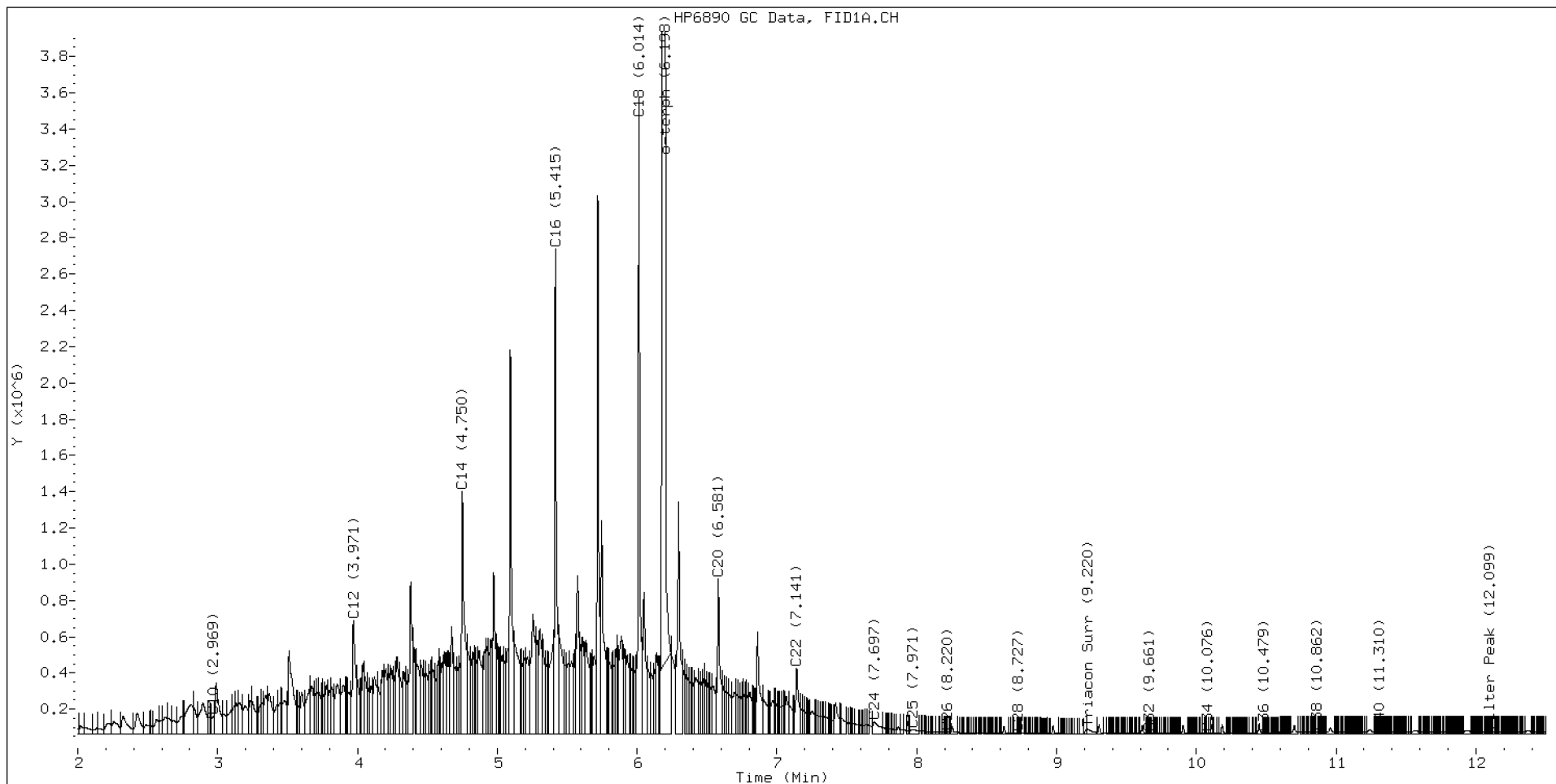
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.887	0.005	46704	87800	WATPHD	(C12-C24)	75577216	474.3
C10	2.969	-0.007	94305	115370	WATPHM	(C24-C38)	1149491	11.4
C12	3.971	0.004	625033	946730	AK102	(C10-C25)	88149209	450.9
C14	4.750	0.001	1337517	1822671	AK103	(C25-C36)	751687	10.3
C16	5.415	-0.001	2675506	2529397	OR.DIES	(C10-C28)	88503644	451.6
C18	6.014	-0.001	3514145	3089218				
C20	6.581	-0.004	854440	1111980	JET-A	(C10-C18)	68560983	413.4
C22	7.141	-0.007	358589	528134				
C24	7.697	0.002	66673	212912				
C25	7.971	0.007	23162	74056				
C26	8.220	-0.004	7742	2666				
C28	8.727	-0.002	1768	600				
C32	9.661	0.005	1157	328				
C34	10.076	-0.003	2564	1868				
Filter Peak	12.099	0.003	11818	4126	BUNKERC	(C10-C38)	89096189	2256.9
C36	10.479	-0.001	5767	1723				
C38	10.862	-0.003	9527	4726				
C40	11.310	0.002	11563	5170				
o-terph	6.198	-0.002	17139007	17589688				
Triacon Surr	9.220	-0.011	23927	59338	NAS DIES	(C10-C24)	87946698	450.7

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17589688	85.9 M
Triacontane	59338	0.4

M Indicates the peak was manually integrated

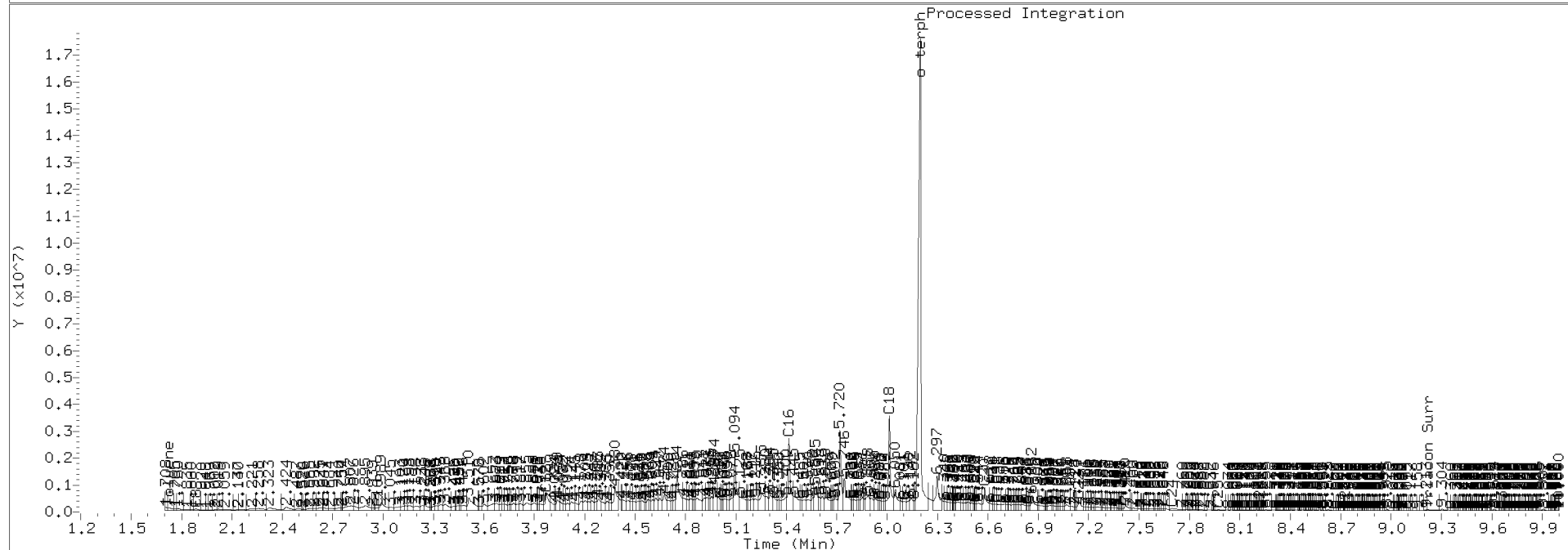
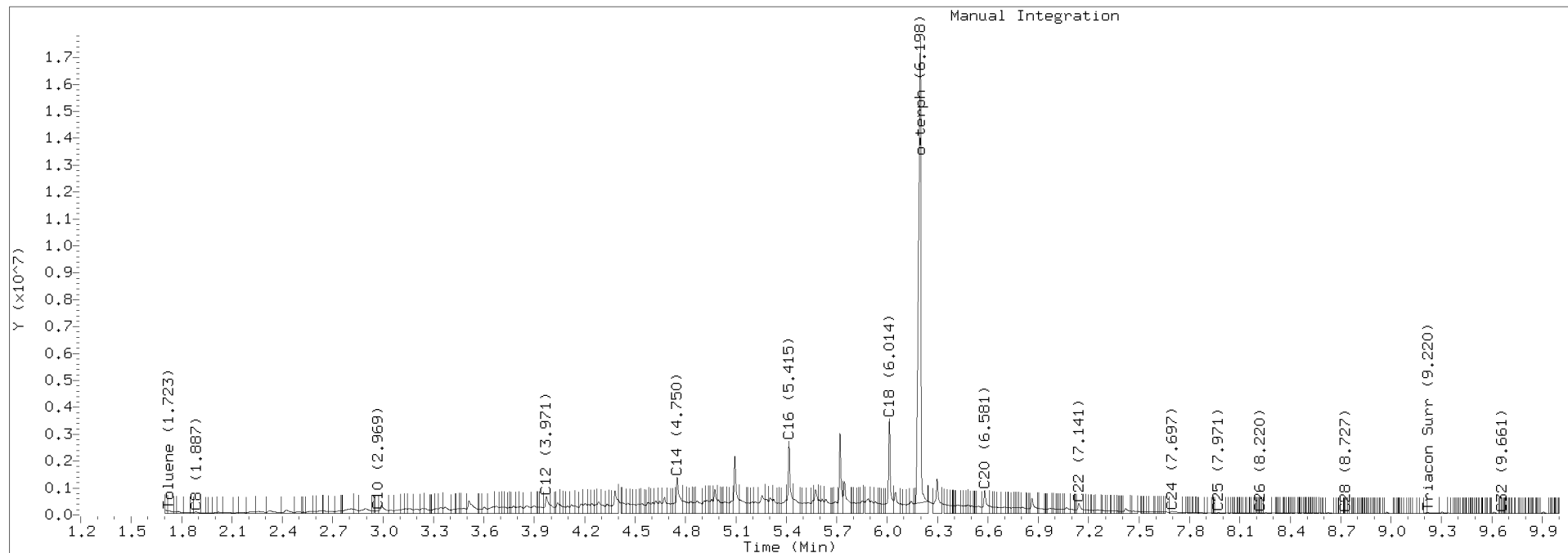
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2711.D Injection: 27-NOV-2020 11:39

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2712.D
Date: 27-NOV-2020 12:00

Client ID:

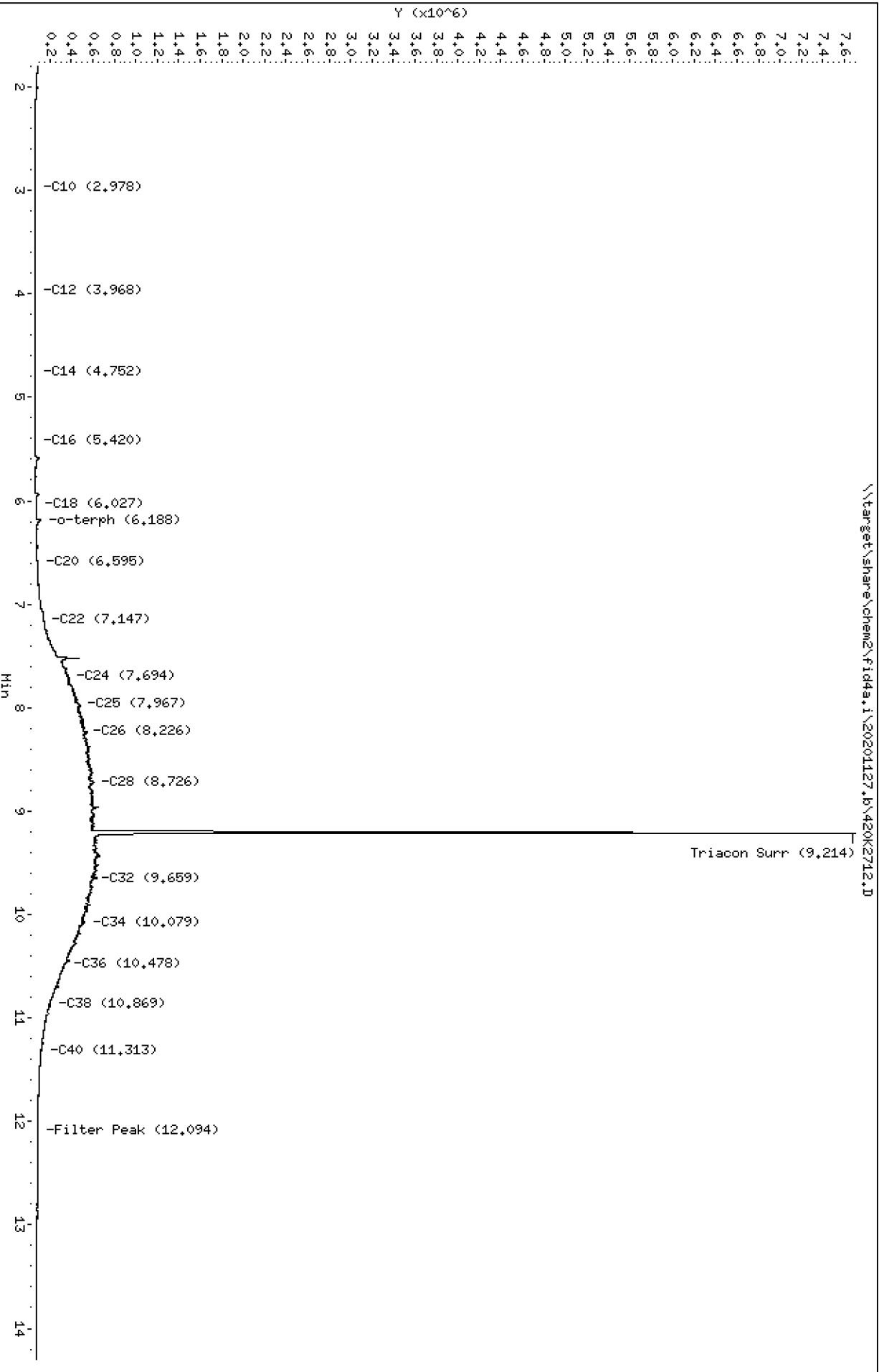
Sample Info: SEQ-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2712.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 27-NOV-2020 12:00
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

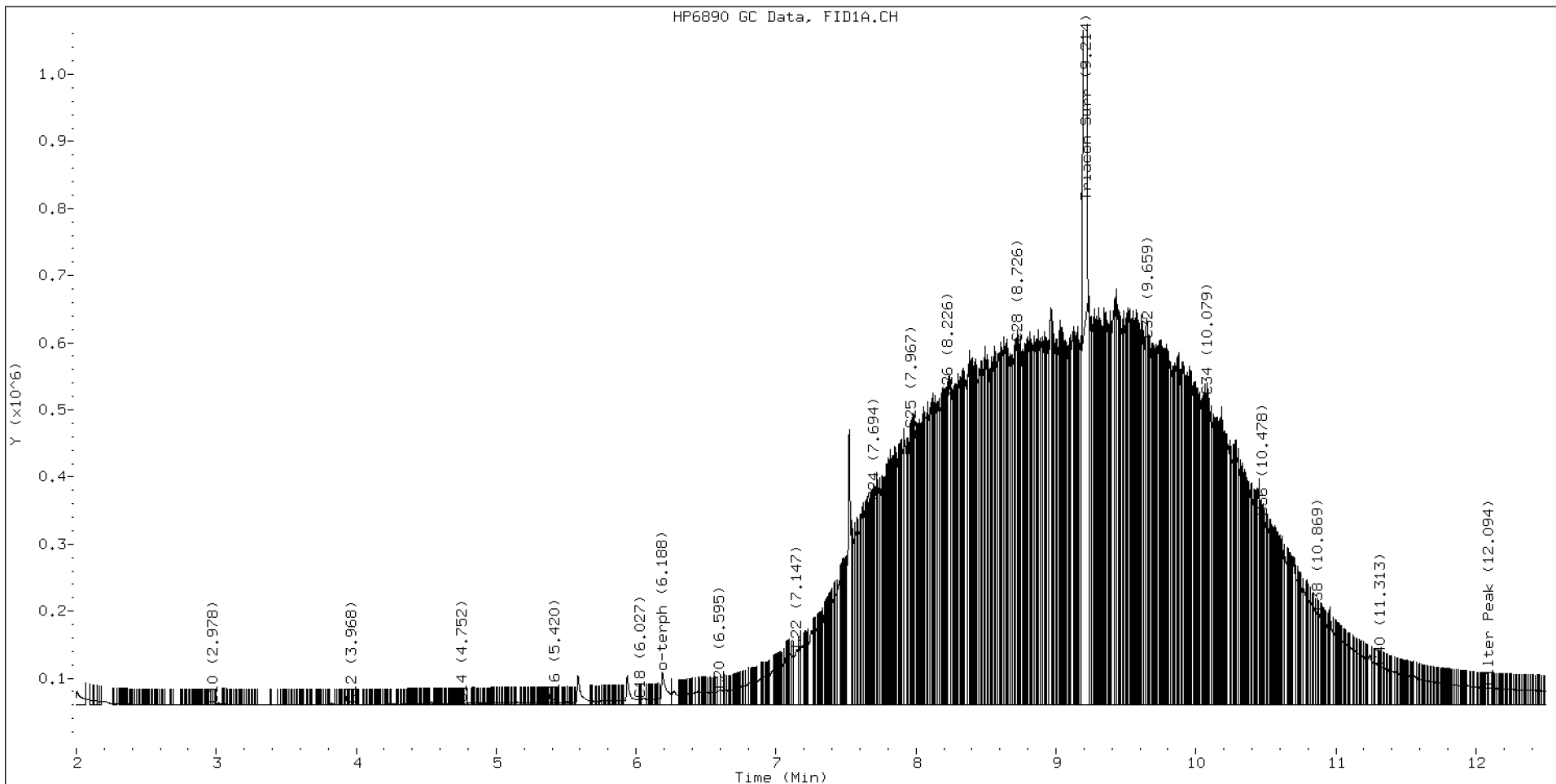
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.039	26209	108396	WATPHD	(C12-C24)	9113415	57.2
C10	2.978	0.002	717	535	WATPHM	(C24-C38)	82491555	815.4
C12	3.968	0.001	516	302	AK102	(C10-C25)	12725282	65.1
C14	4.752	0.002	2491	609	AK103	(C25-C36)	74621551	1019.3
C16	5.420	0.004	3930	1932	OR.DIES	(C10-C28)	36985217	188.7
C18	6.027	0.012	7709	3418				
C20	6.595	0.010	22196	34249	JET-A	(C10-C18)	538486	3.2
C22	7.147	-0.001	83022	147531				
C24	7.694	-0.002	302585	90378				
C25	7.967	0.002	410581	162704				
C26	8.226	0.002	460448	136945				
C28	8.726	-0.003	538865	213751				
C32	9.659	0.002	543875	295314				
C34	10.079	-0.000	460474	136668				
Filter Peak	12.094	-0.002	25063	29636	BUNKERC	(C10-C38)	91634193	2321.2
C36	10.478	-0.002	279583	69454				
C38	10.869	0.003	138292	60988				
C40	11.313	0.004	57804	31571				
o-terph	6.188	-0.013	48841	120133				
Triacon Surr	9.214	-0.018	7067054	6479231	NAS DIES	(C10-C24)	9142637	46.8

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	120133	0.6
Triacontane	6479231	43.7 M

M Indicates the peak was manually integrated

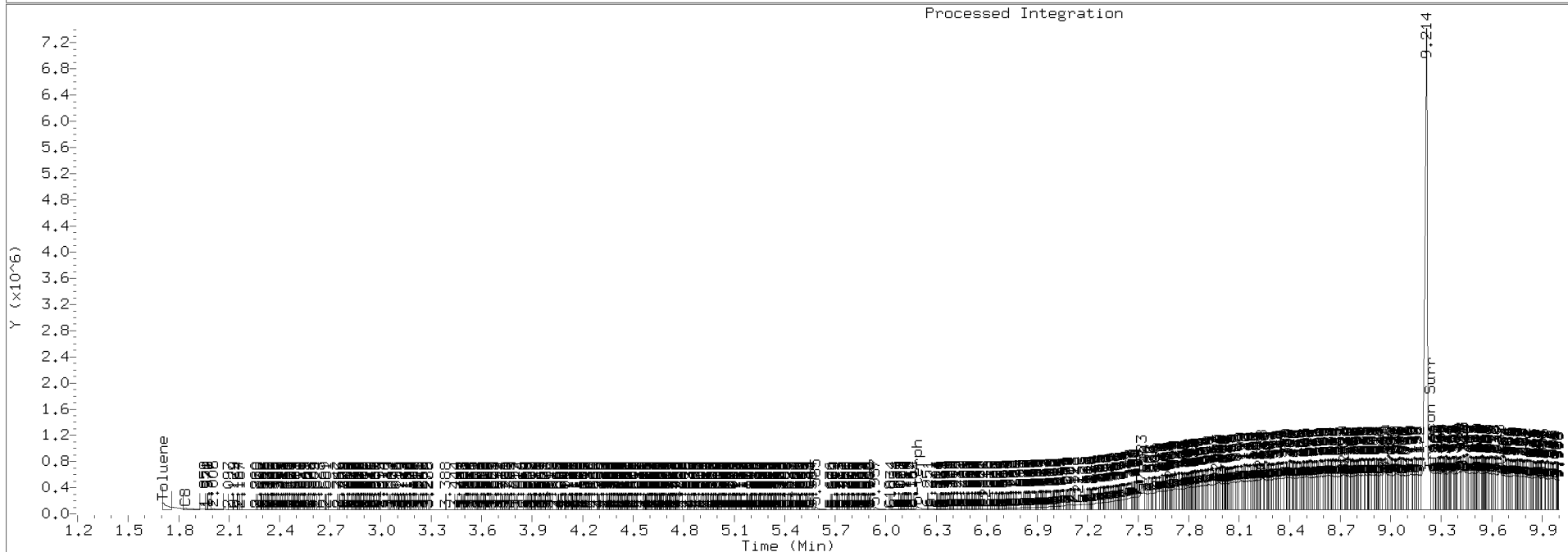
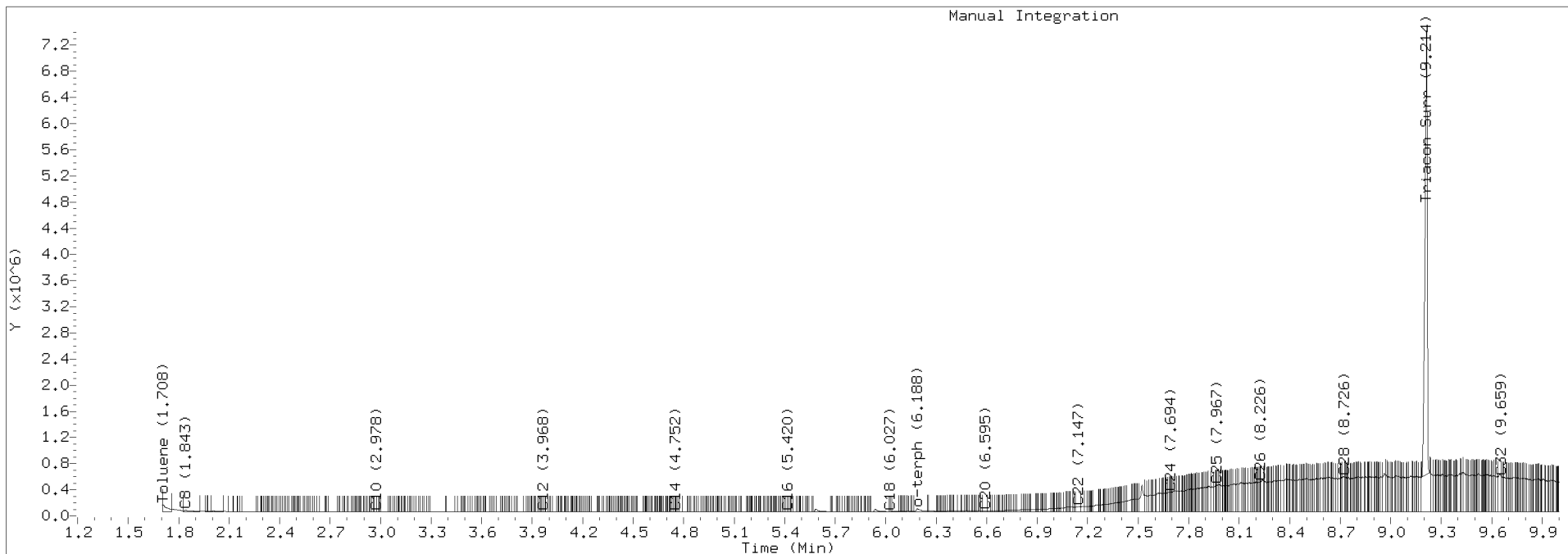
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2712.D Injection: 27-NOV-2020 12:00

Lab ID:SEQ-CCV2



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2721.D
Date: 27-NOV-2020 15:35

Client ID:

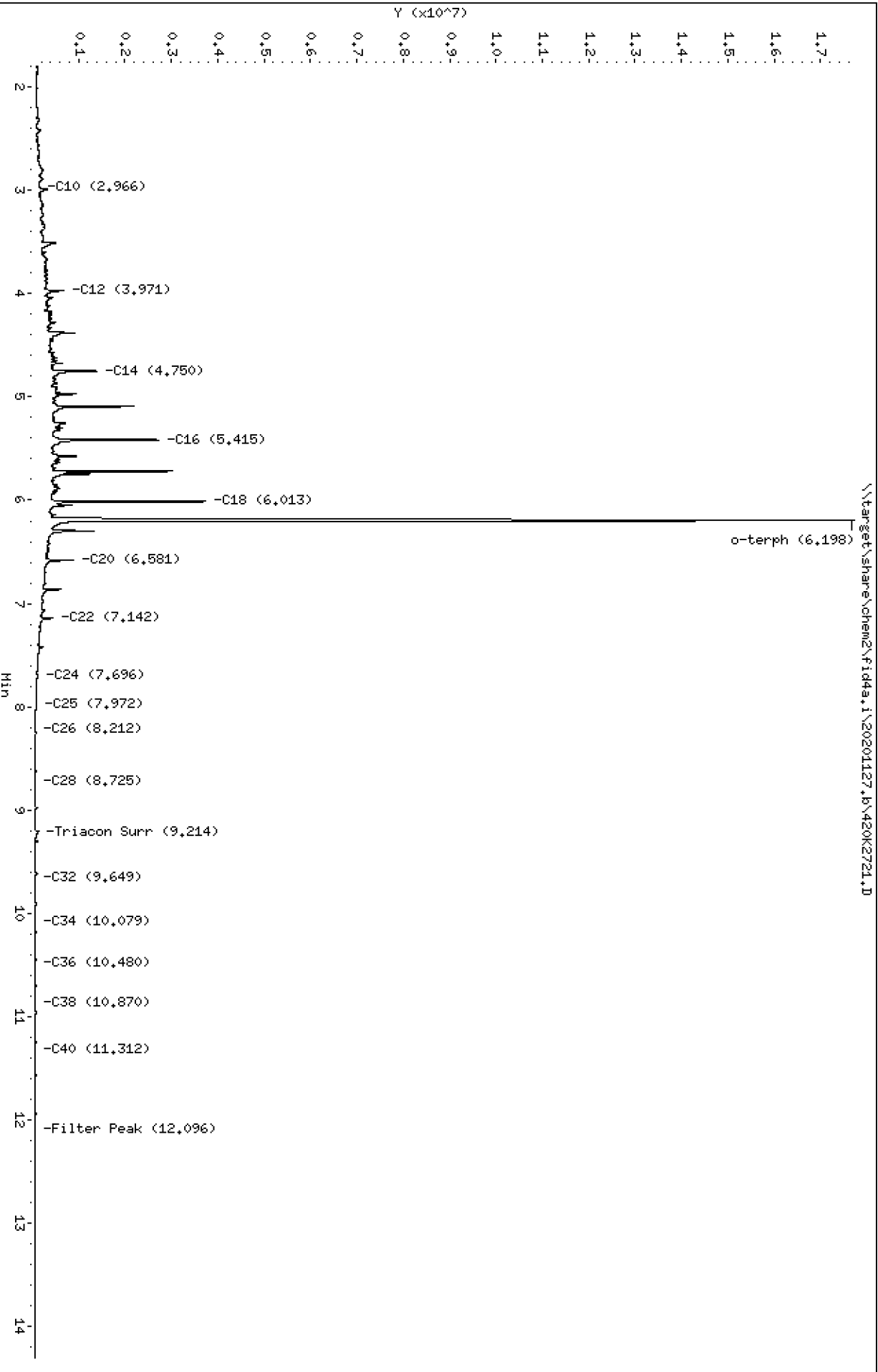
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2721.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 27-NOV-2020 15:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

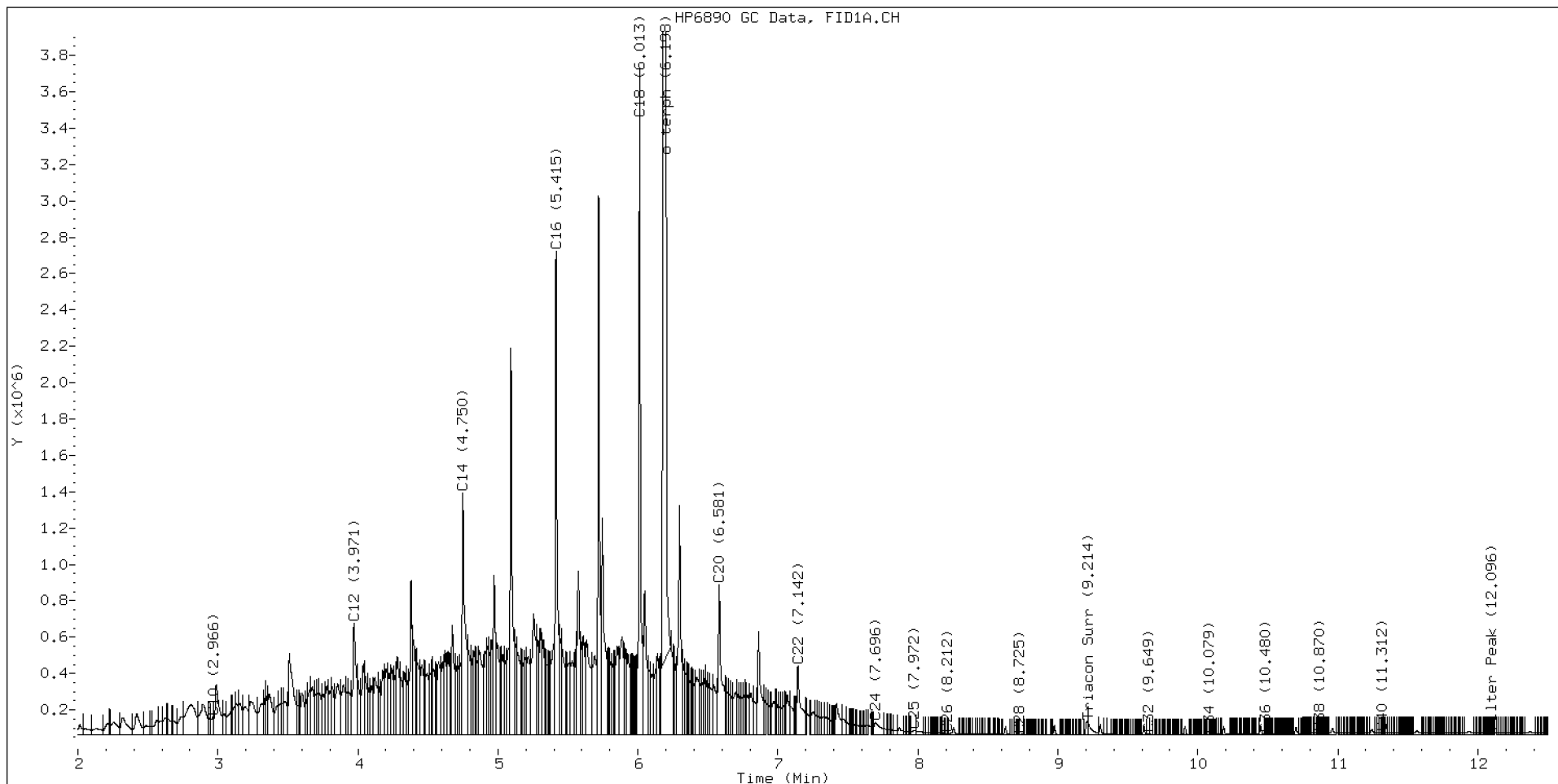
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.873	0.007	51498	153198	WATPHD	(C12-C24)	78570128	493.1
C10	2.966	-0.004	95448	121889	WATPHM	(C24-C38)	1303743	12.9
C12	3.971	0.007	611631	960999	AK102	(C10-C25)	91305168	467.1
C14	4.750	0.002	1331930	1903170	AK103	(C25-C36)	874287	11.9
C16	5.415	0.001	2660074	2562848	OR.DIES	(C10-C28)	91713233	467.9
C18	6.013	-0.000	3667843	3152165				
C20	6.581	-0.004	826398	1321763	JET-A	(C10-C18)	70391815	424.4
C22	7.142	-0.005	376203	765360				
C24	7.696	0.001	67333	212061				
C25	7.972	0.010	23282	40178				
C26	8.212	-0.013	7423	2906				
C28	8.725	-0.004	1653	608				
C32	9.649	-0.008	3857	3735				
C34	10.079	-0.003	2475	975				
Filter Peak	12.096	-0.001	10865	4339	BUNKERC	(C10-C38)	92381398	2340.1
C36	10.480	-0.004	5589	3040				
C38	10.870	-0.004	9115	4983				
C40	11.312	-0.001	11007	8203				
o-terph	6.198	-0.001	17244719	17657096				
Triacon Surr	9.214	-0.015	66418	128891	NAS DIES	(C10-C24)	91077655	466.7

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17657096	86.3 M
Triacontane	128891	0.9

M Indicates the peak was manually integrated

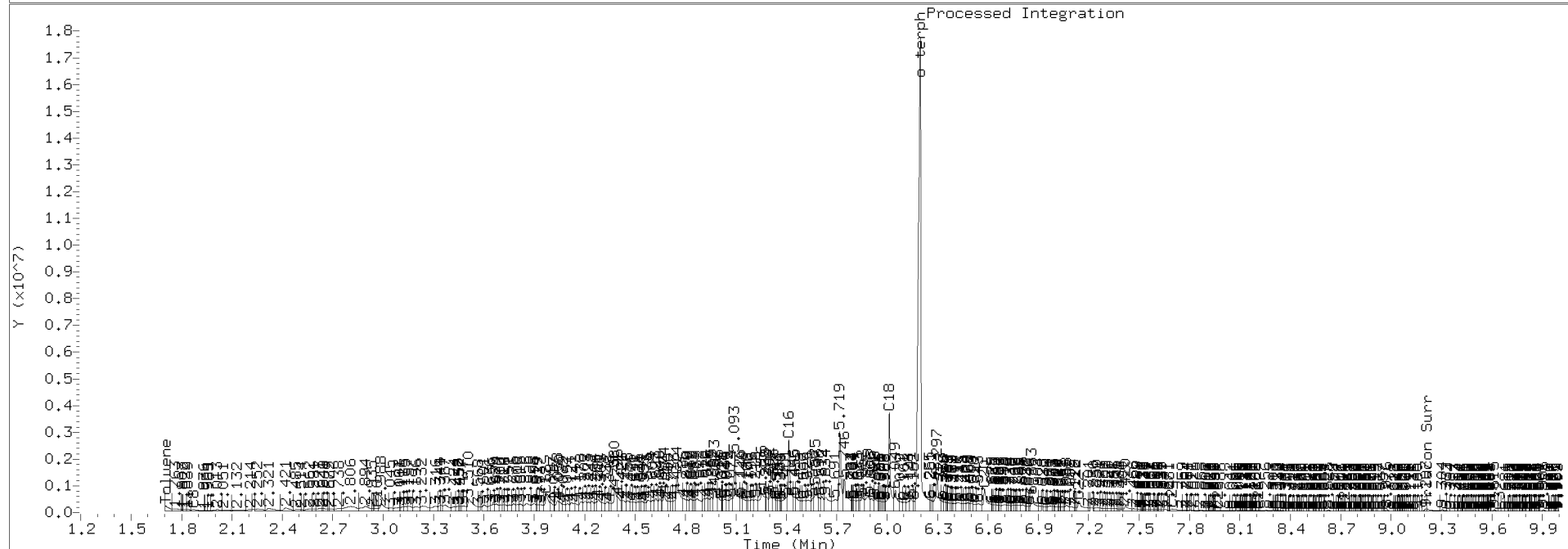
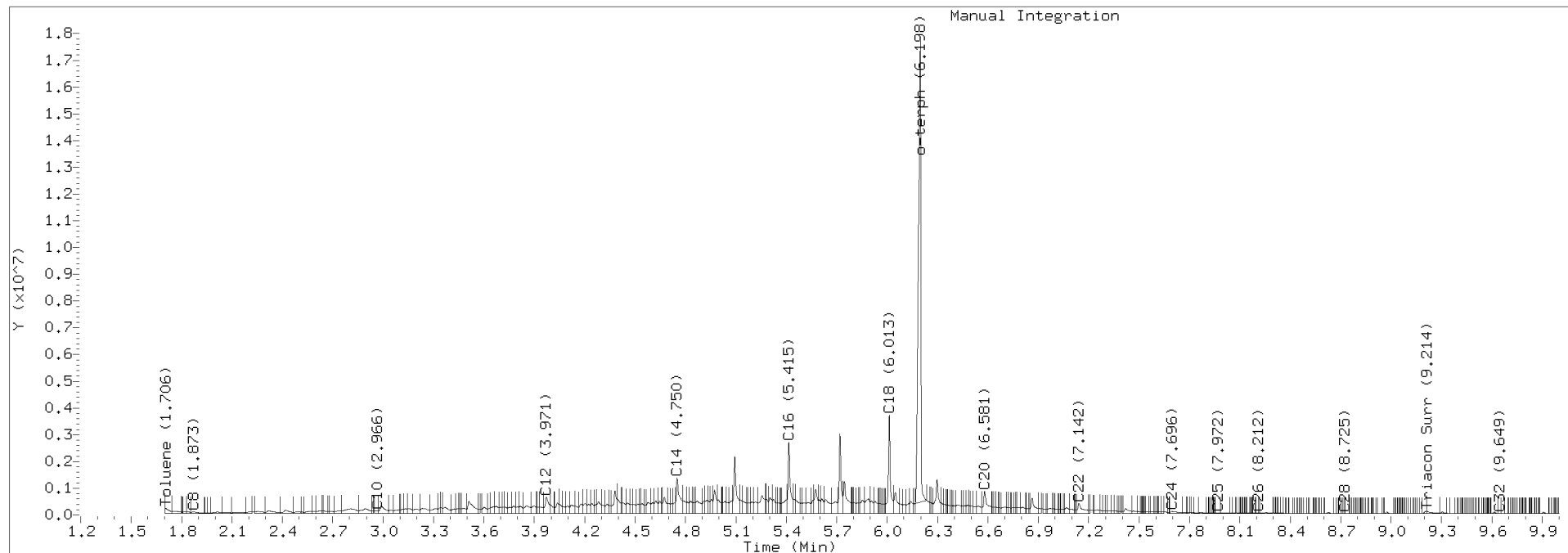
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2721.D Injection: 27-NOV-2020 15:35

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2722.D
Date: 27-NOV-2020 15:55

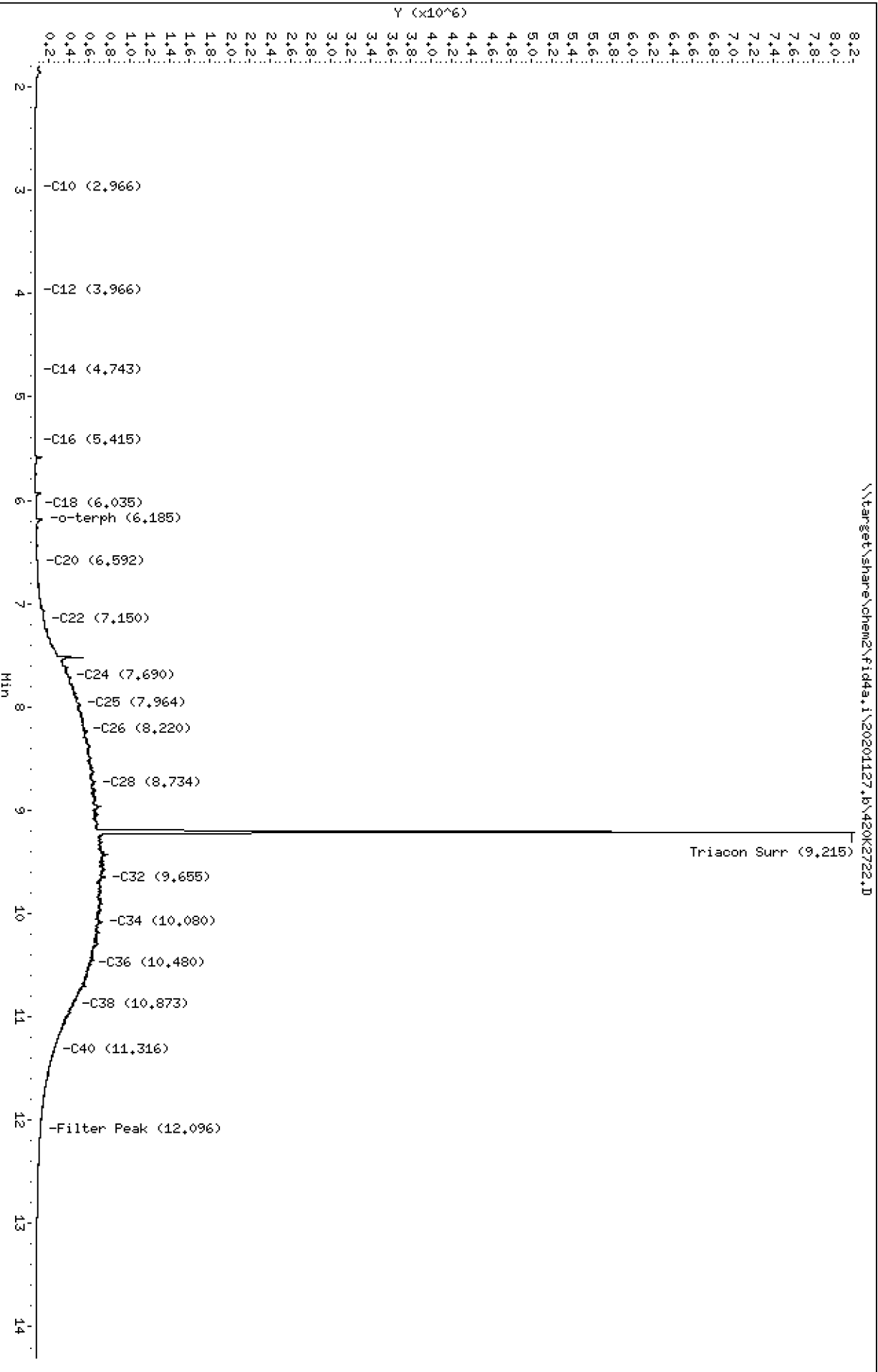
Client ID:
Sample Info: SEQ-OCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2722.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 27-NOV-2020 15:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

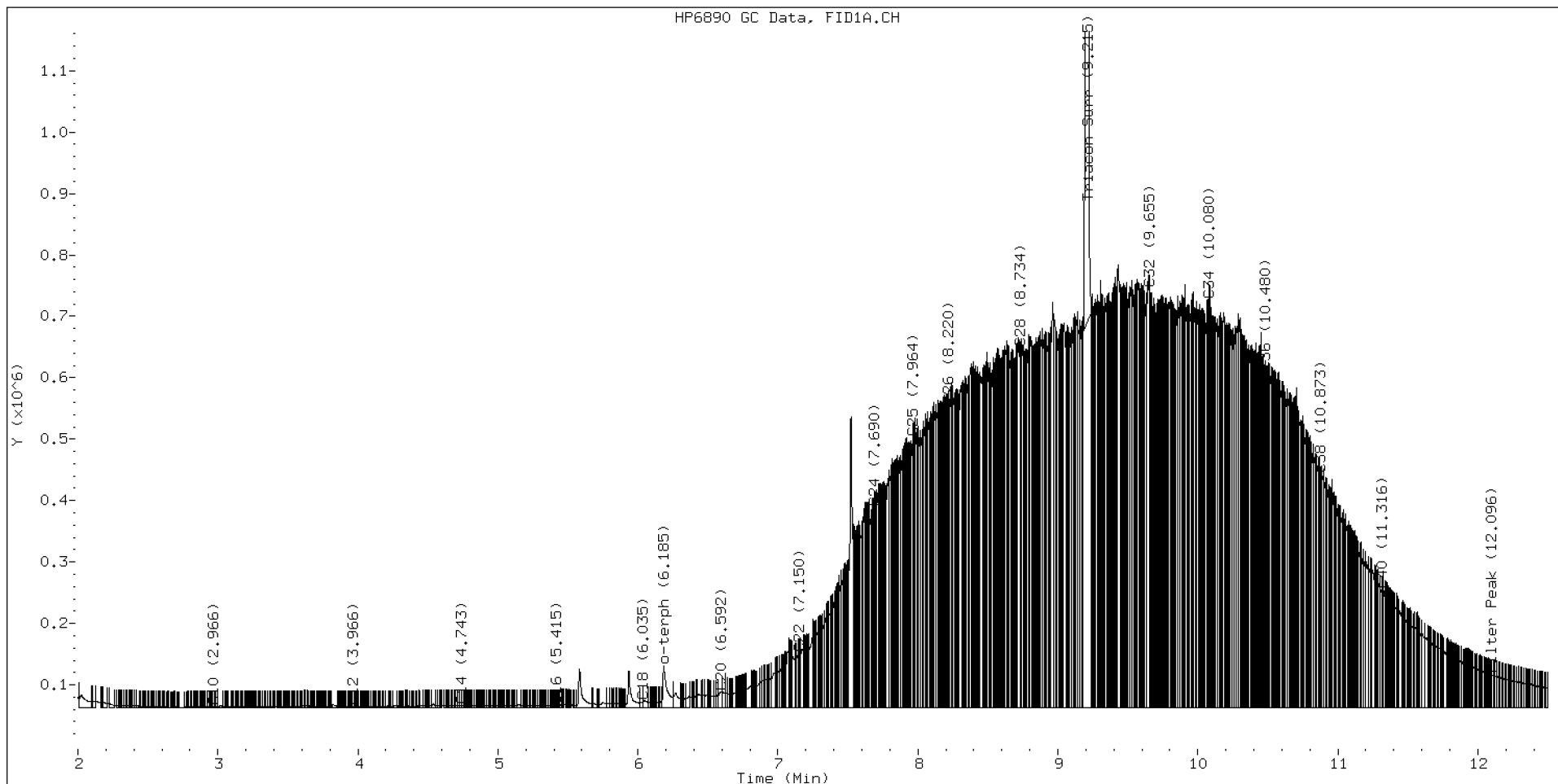
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.860	-0.005	51430	175379	WATPHD	(C12-C24)	9796120	61.5
C10	2.966	-0.004	795	529	WATPHM	(C24-C38)	105651493	1044.3
C12	3.966	0.002	1755	1234	AK102	(C10-C25)	13738919	70.3
C14	4.743	-0.005	2531	2247	AK103	(C25-C36)	91248654	1246.5
C16	5.415	0.000	3450	684	OR.DIES	(C10-C28)	39876989	203.5
C18	6.035	0.021	8731	12254				
C20	6.592	0.008	24738	46861	JET-A	(C10-C18)	617602	3.7
C22	7.150	0.002	87003	26039				
C24	7.690	-0.004	326055	145993				
C25	7.964	0.001	438853	359120				
C26	8.220	-0.005	491641	217863				
C28	8.734	0.005	584562	317294				
C32	9.655	-0.002	681294	401122				
C34	10.080	-0.001	662993	228380				
Filter Peak	12.096	-0.001	52539	15687	BUNKERC	(C10-C38)	115530248	2926.5
C36	10.480	-0.003	546417	162375				
C38	10.873	-0.000	379103	168027				
C40	11.316	0.003	190446	103879				
o-terph	6.185	-0.014	66682	143512				
Triacon Surr	9.215	-0.014	7518736	7372665	NAS DIES	(C10-C24)	9878755	50.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	143512	0.7
Triacontane	7372665	49.7 M

M Indicates the peak was manually integrated

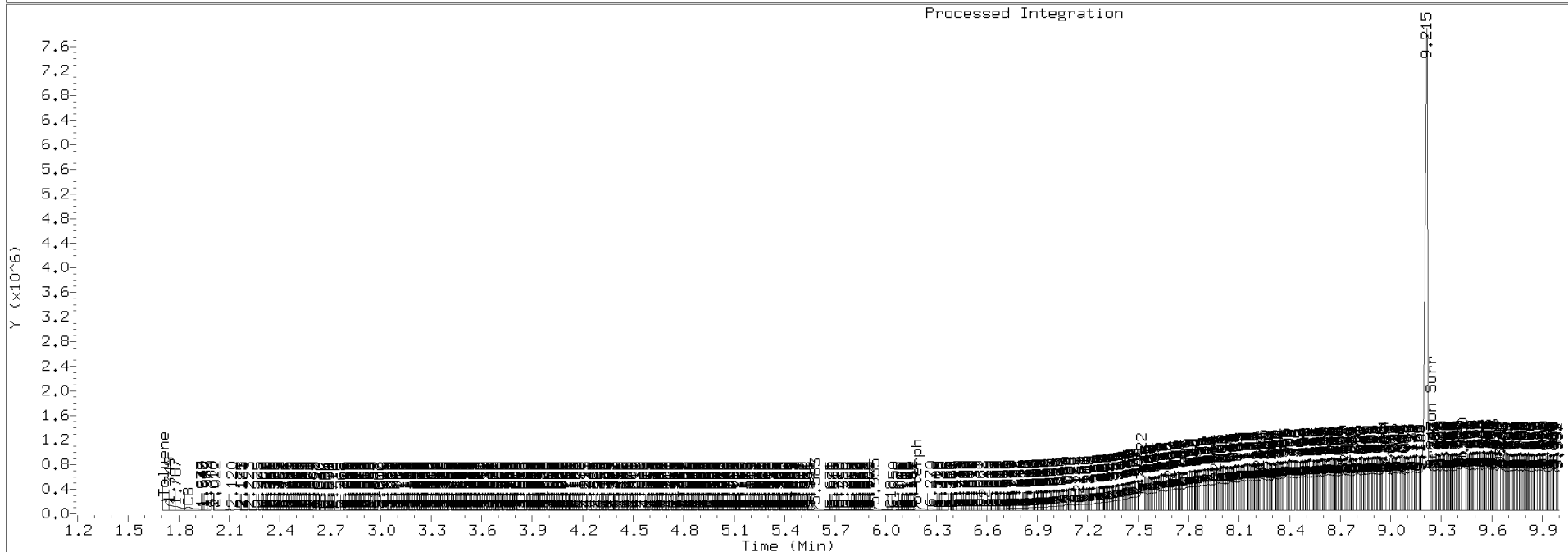
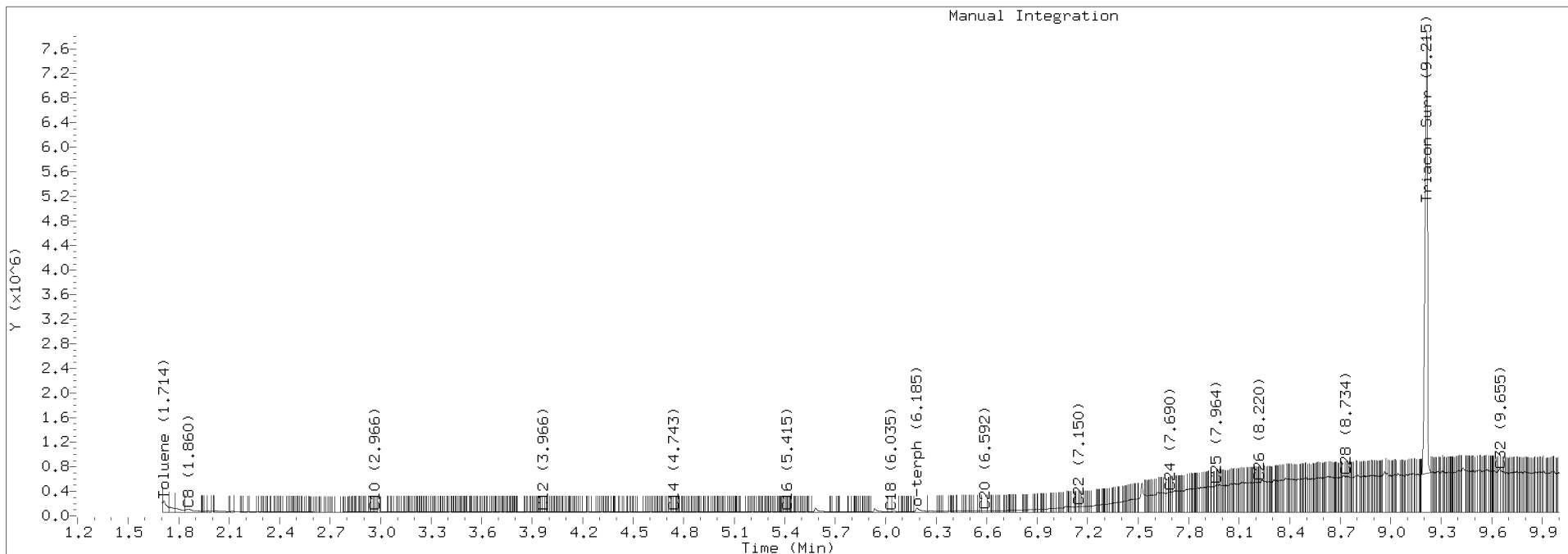
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2722.D Injection: 27-NOV-2020 15:55

Lab ID:SEQ-CCV2



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2733.D

Date: 27-NOV-2020 22:08

Client ID:

Sample Info: SIK0381-CCWS

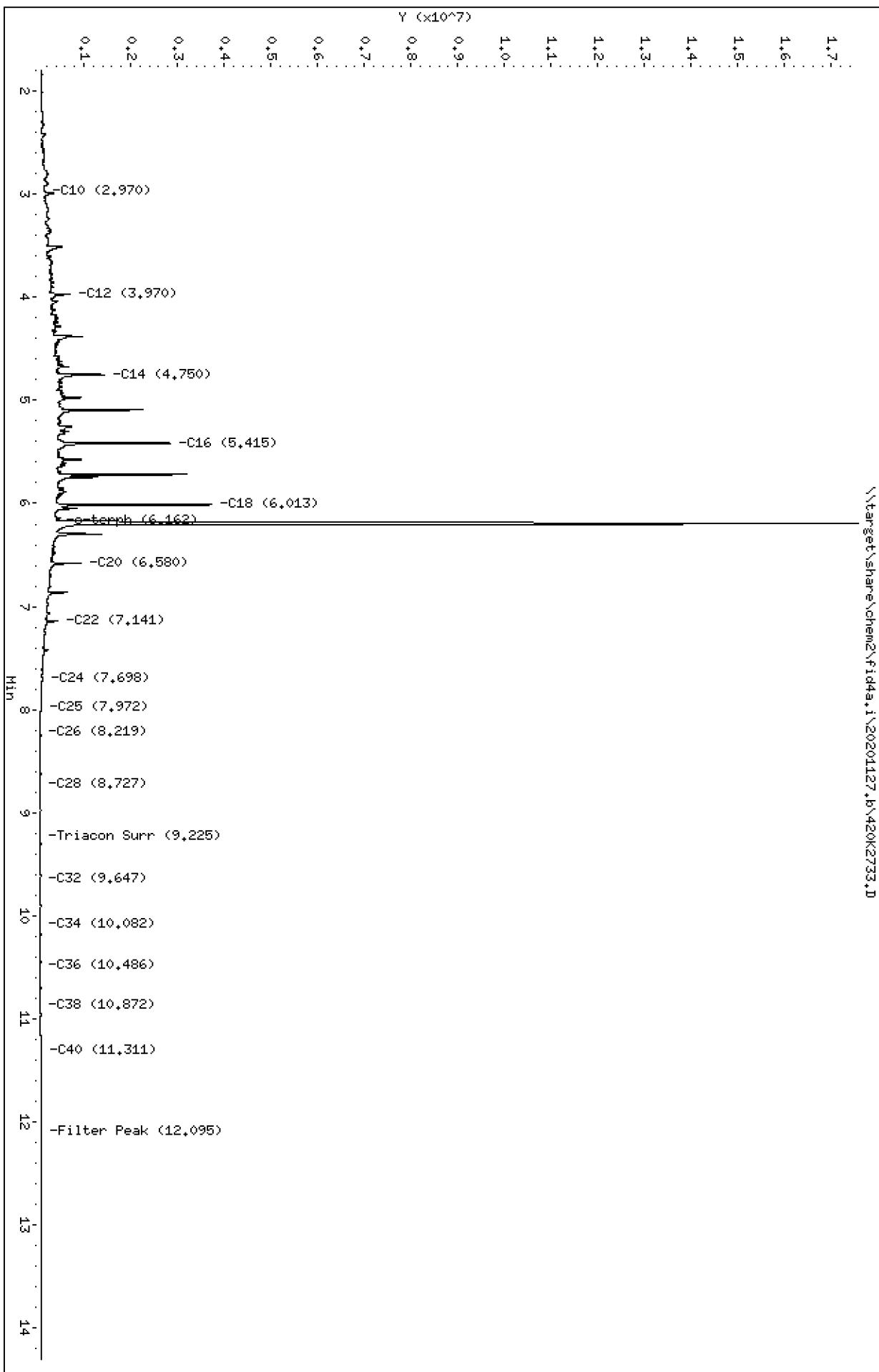
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2733.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV5
Client ID:
Injection: 27-NOV-2020 22:08
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

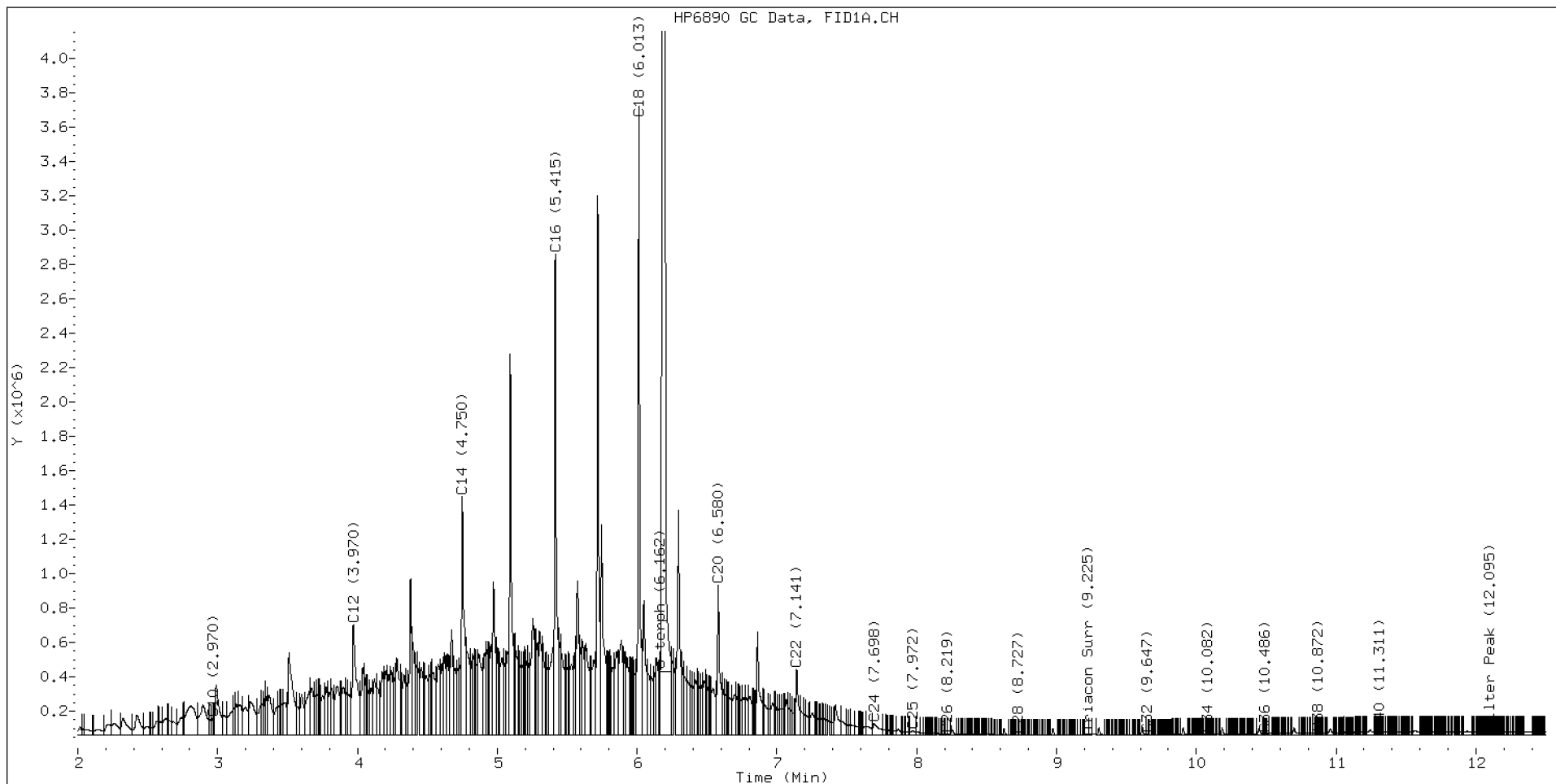
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	43601	143022	WATPHD	(C12-C24)	78323428	491.6
C10	2.970	-0.000	97462	33971	WATPHM	(C24-C38)	1289473	12.7
C12	3.970	0.006	641047	1370617	AK102	(C10-C25)	91555344	468.3
C14	4.750	0.002	1390470	1859296	AK103	(C25-C36)	778883	10.6
C16	5.415	0.000	2798936	2566336	OR.DIES	(C10-C28)	91894328	468.9
C18	6.013	-0.000	3663274	3246899				
C20	6.580	-0.004	875218	1104679	JET-A	(C10-C18)	71267110	429.7
C22	7.141	-0.006	381326	532284				
C24	7.698	0.004	65927	201619				
C25	7.972	0.010	22002	48272				
C26	8.219	-0.006	6473	1610				
C28	8.727	-0.002	915	221				
C32	9.647	-0.010	2522	2261				
C34	10.082	0.000	4331	1293				
Filter Peak	12.095	-0.002	15652	3126	BUNKERC	(C10-C38)	92616749	2346.1
C36	10.486	0.003	8256	5325				
C38	10.872	-0.001	12807	5713				
C40	11.311	-0.002	15711	8614				
o-terph	6.197	-0.002	17147590	18375424				
Triacon Surr	9.225	-0.004	6403	7713	NAS DIES	(C10-C24)	91327276	468.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18375424	89.8 M
Triacontane	7713	0.1

M Indicates the peak was manually integrated

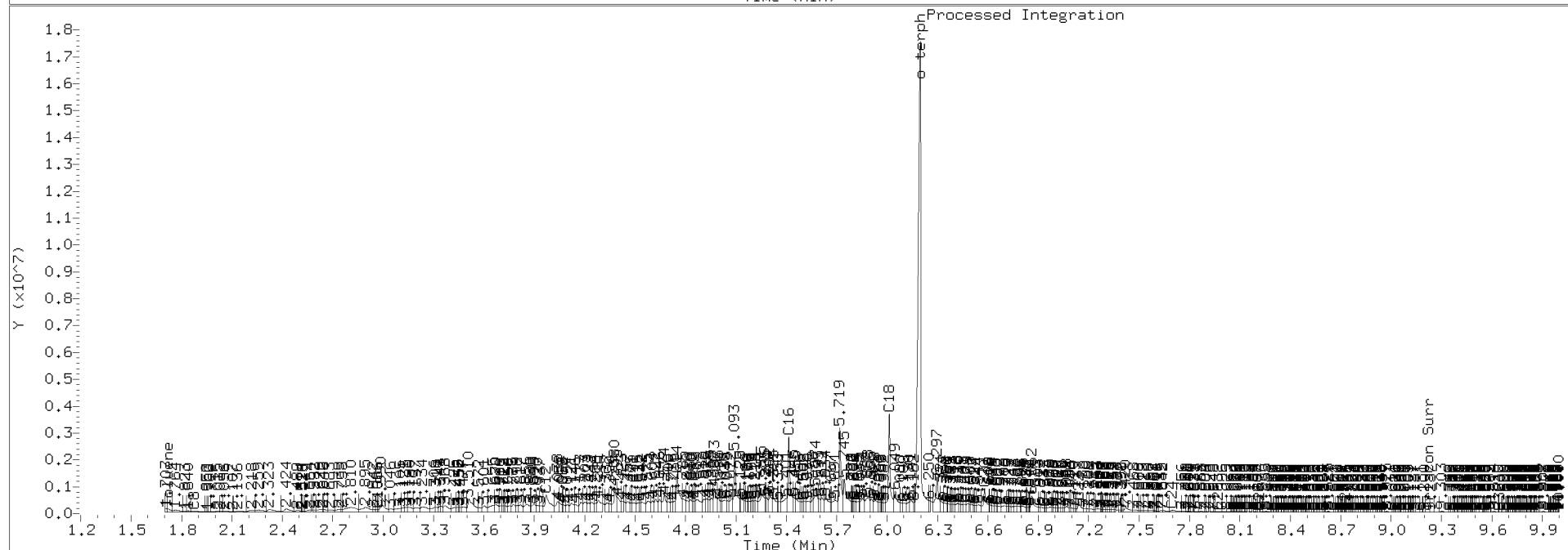
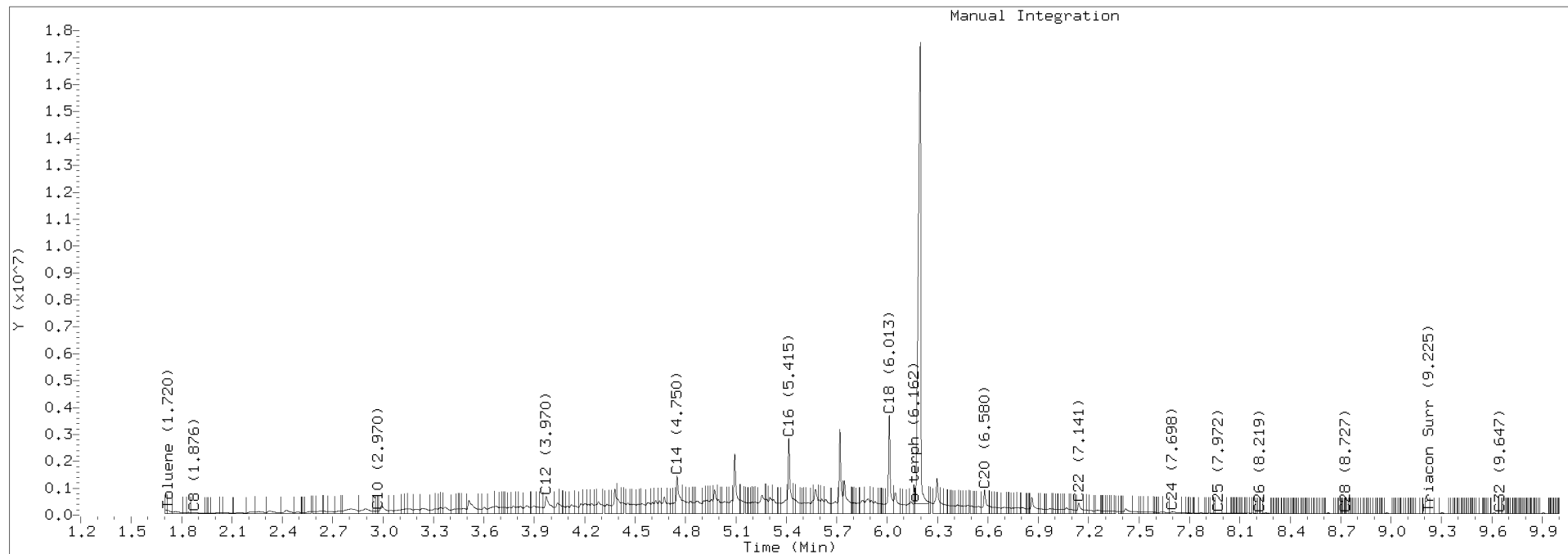
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2733.D Injection: 27-NOV-2020 22:08

Lab ID:SIK0381-CCV5





CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420K2734.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIK0381</u>	Injection Date: <u>11/27/20</u>
Lab Sample ID: <u>SIK0381-CCV6</u>	Injection Time: <u>22:28</u>
Sequence Name: <u>MOIL CCV</u>	

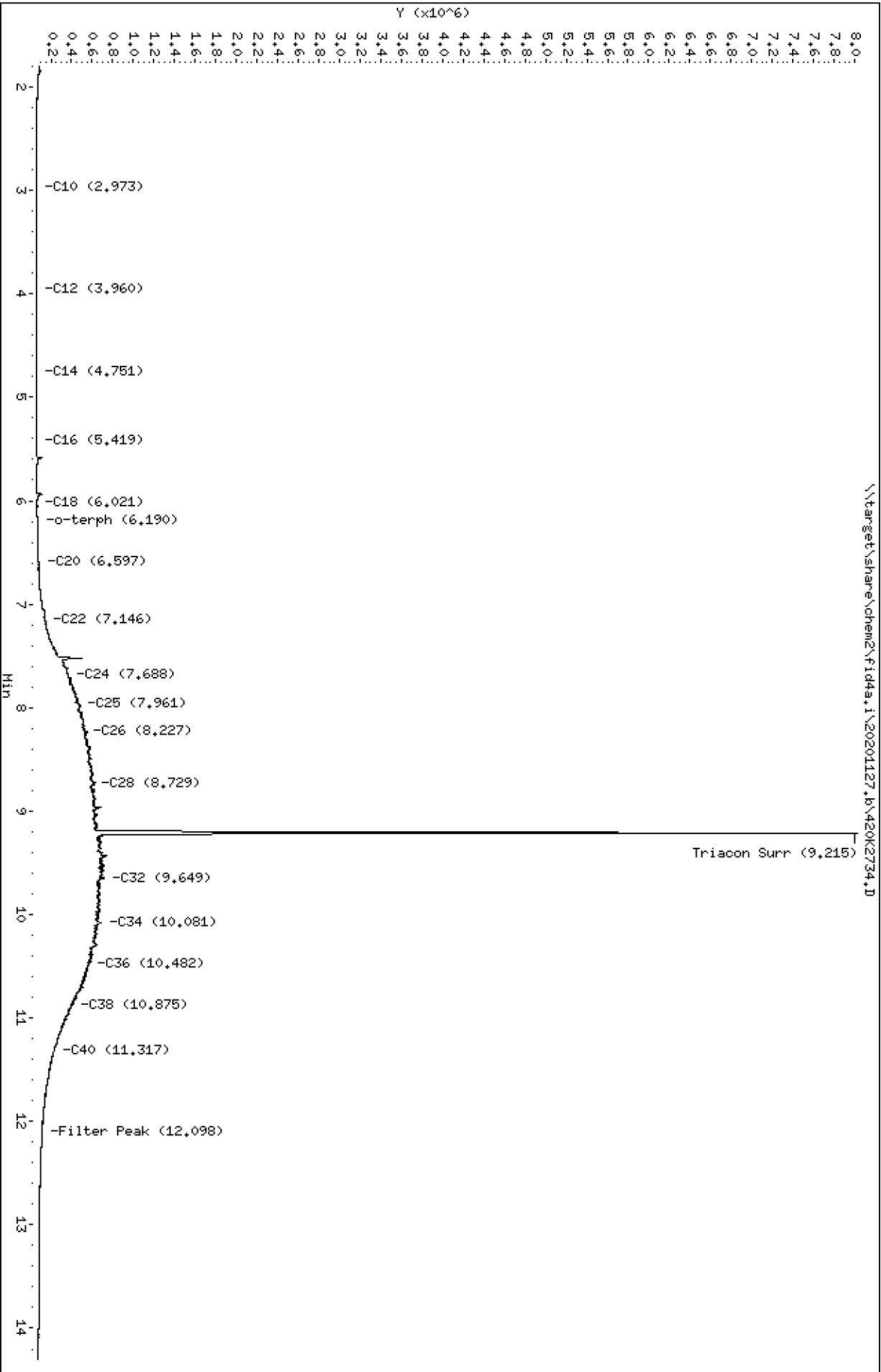
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	983	101166	99487.32		-1.7	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2734.D
Date: 27-NOV-2020 22:28
Client ID:
Sample Info: SIK0381-CCW6

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2734.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV6
Client ID:
Injection: 27-NOV-2020 22:28
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

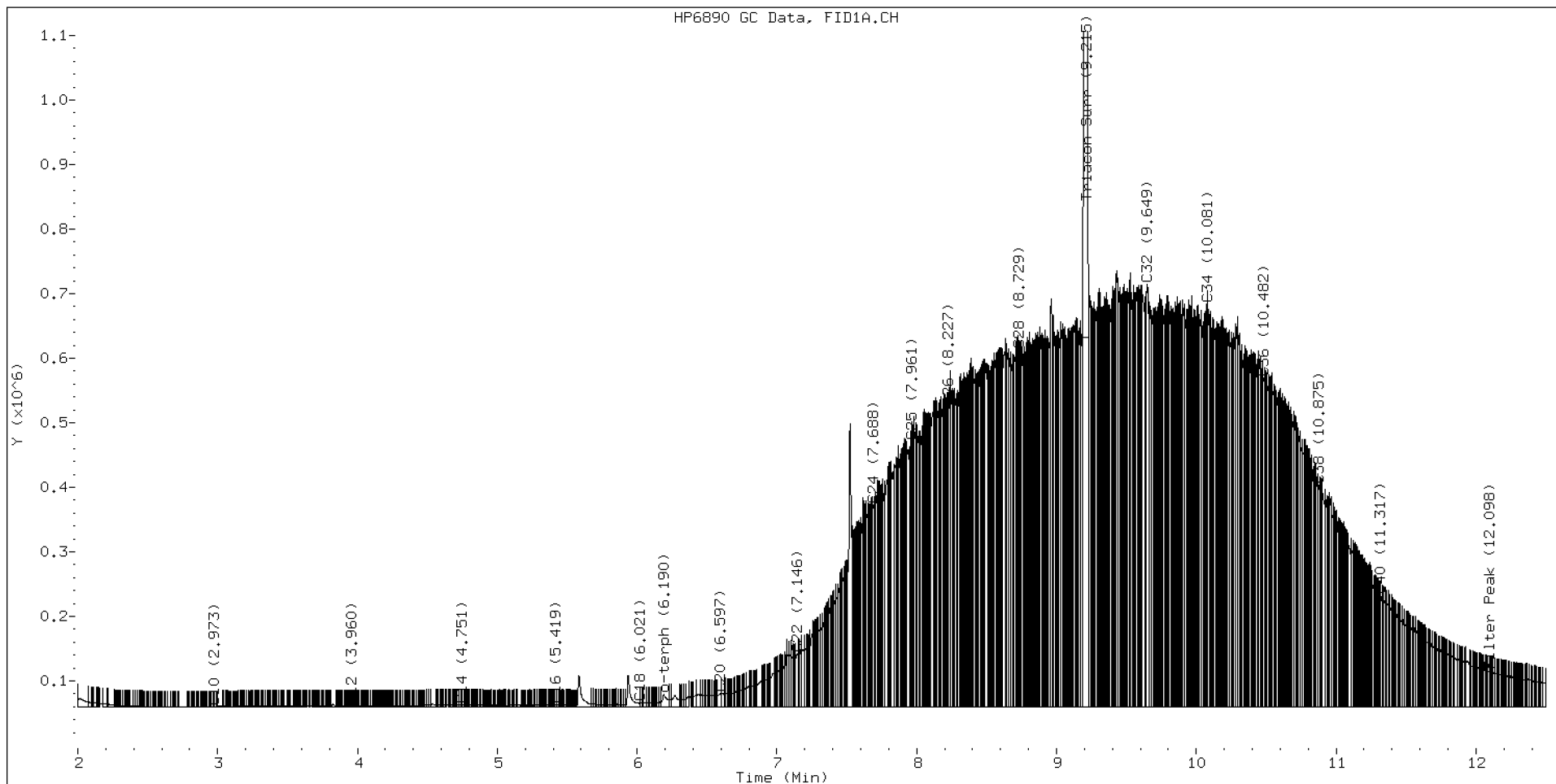
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.023	36850	134426	WATPHD	(C12-C24)	9189197	57.7
C10	2.973	0.003	466	231	WATPHM	(C24-C38)	99487320	983.4
C12	3.960	-0.004	1825	448	AK102	(C10-C25)	12883100	65.9
C14	4.751	0.004	2926	2236	AK103	(C25-C36)	86133243	1176.6
C16	5.419	0.005	2734	2383	OR.DIES	(C10-C28)	38108220	194.4
C18	6.021	0.007	5768	1146				
C20	6.597	0.013	21115	34987	JET-A	(C10-C18)	537851	3.2
C22	7.146	-0.002	82353	86958				
C24	7.688	-0.006	313793	322530				
C25	7.961	-0.001	411043	142875				
C26	8.227	0.002	465180	92819				
C28	8.729	-0.000	553131	137534				
C32	9.649	-0.008	654492	884961				
C34	10.081	-0.000	624843	575478				
Filter Peak	12.098	0.001	54262	21525	BUNKERC	(C10-C38)	108760568	2755.0
C36	10.482	-0.001	510440	379845				
C38	10.875	0.001	344180	253779				
C40	11.317	0.004	173055	118644				
o-terph	6.190	-0.009	18697	48803				
Triacon Surr	9.215	-0.014	7393680	6974880	NAS DIES	(C10-C24)	9273248	47.5

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	48803	0.2
Triacontane	6974880	47.0 M

M Indicates the peak was manually integrated

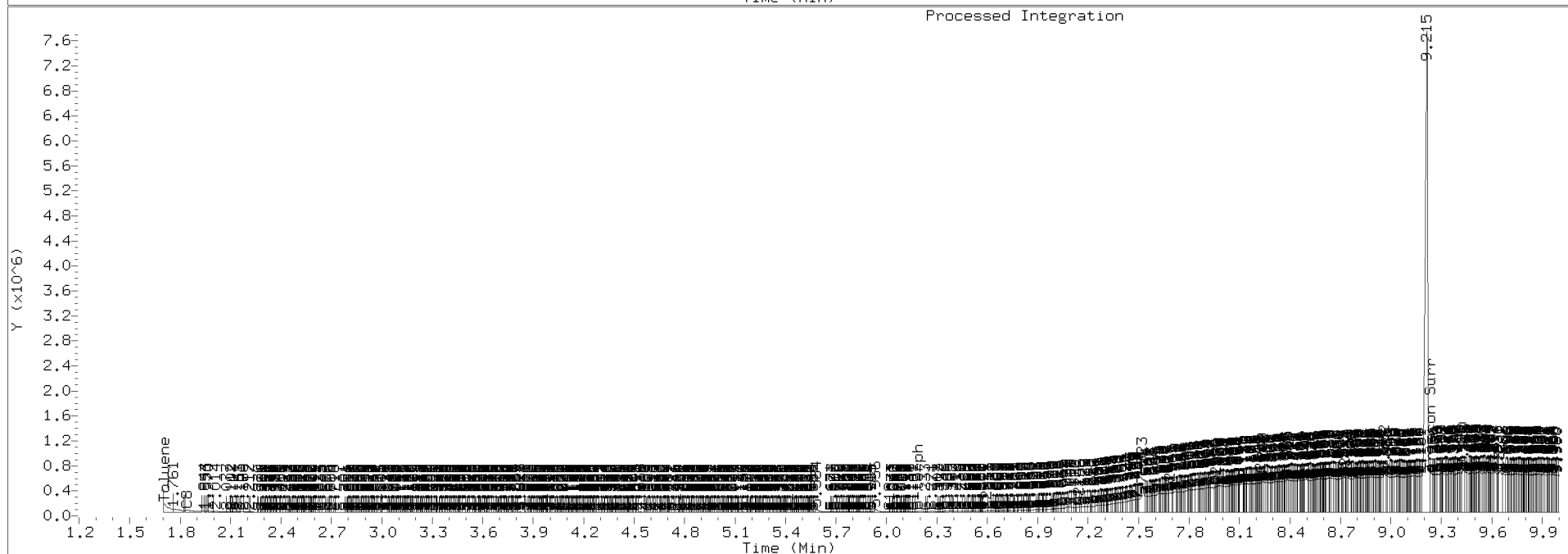
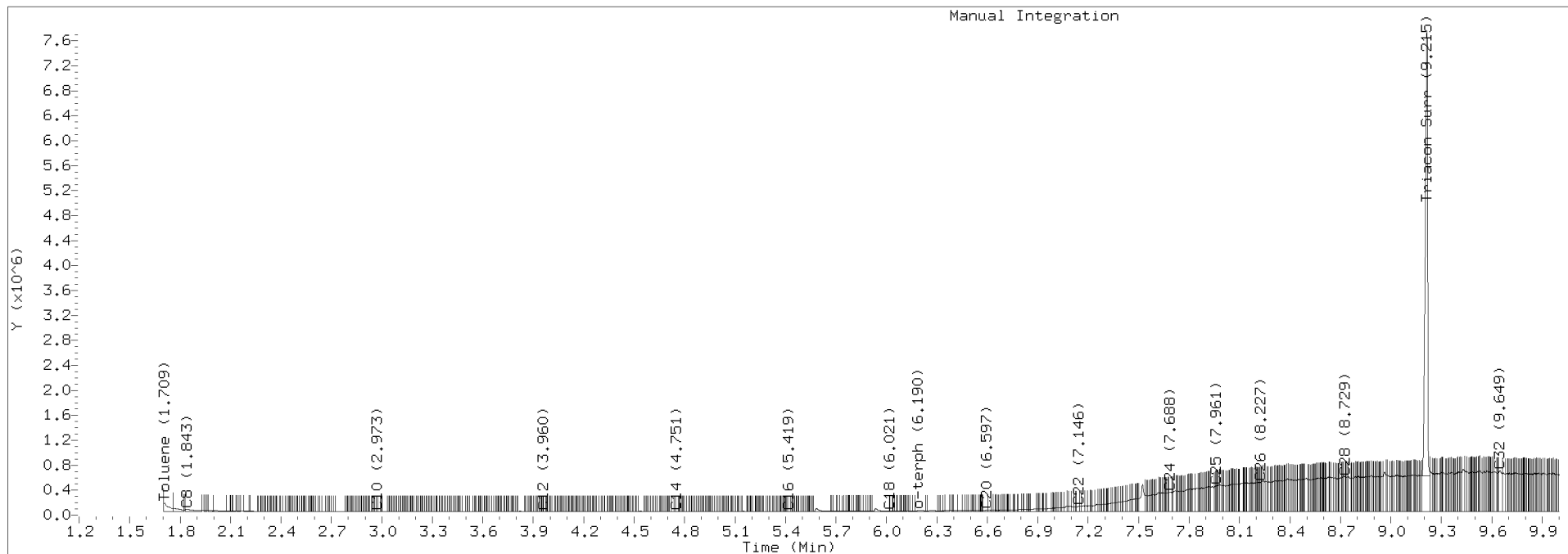
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2734.D Injection: 27-NOV-2020 22:28

Lab ID:SIK0381-CCV6



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2749.D

Date: 28-NOV-2020 03:31

Client ID:

Sample Info: SIK0381-CCV7

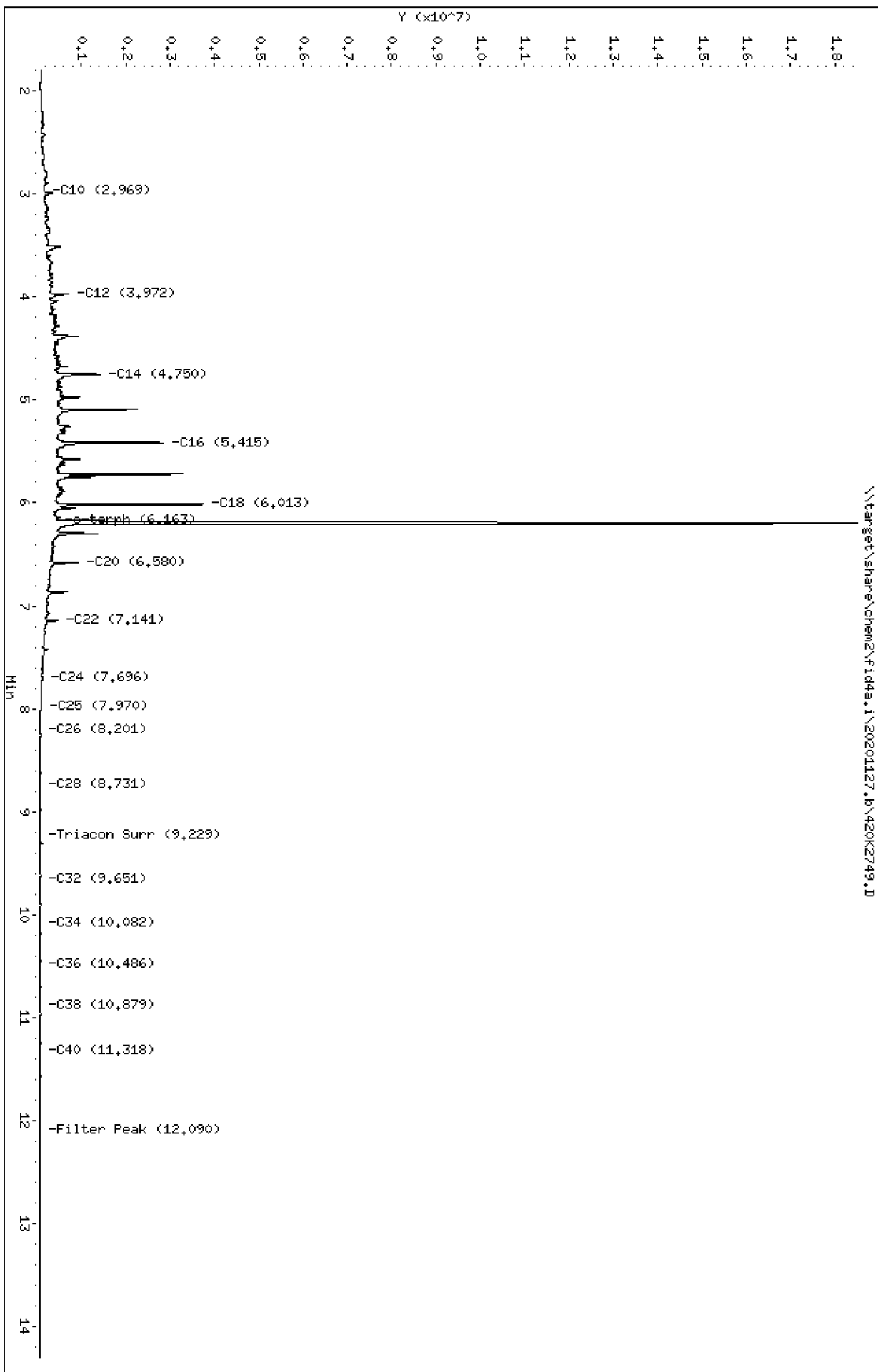
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2749.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV7
Client ID:
Injection: 28-NOV-2020 03:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

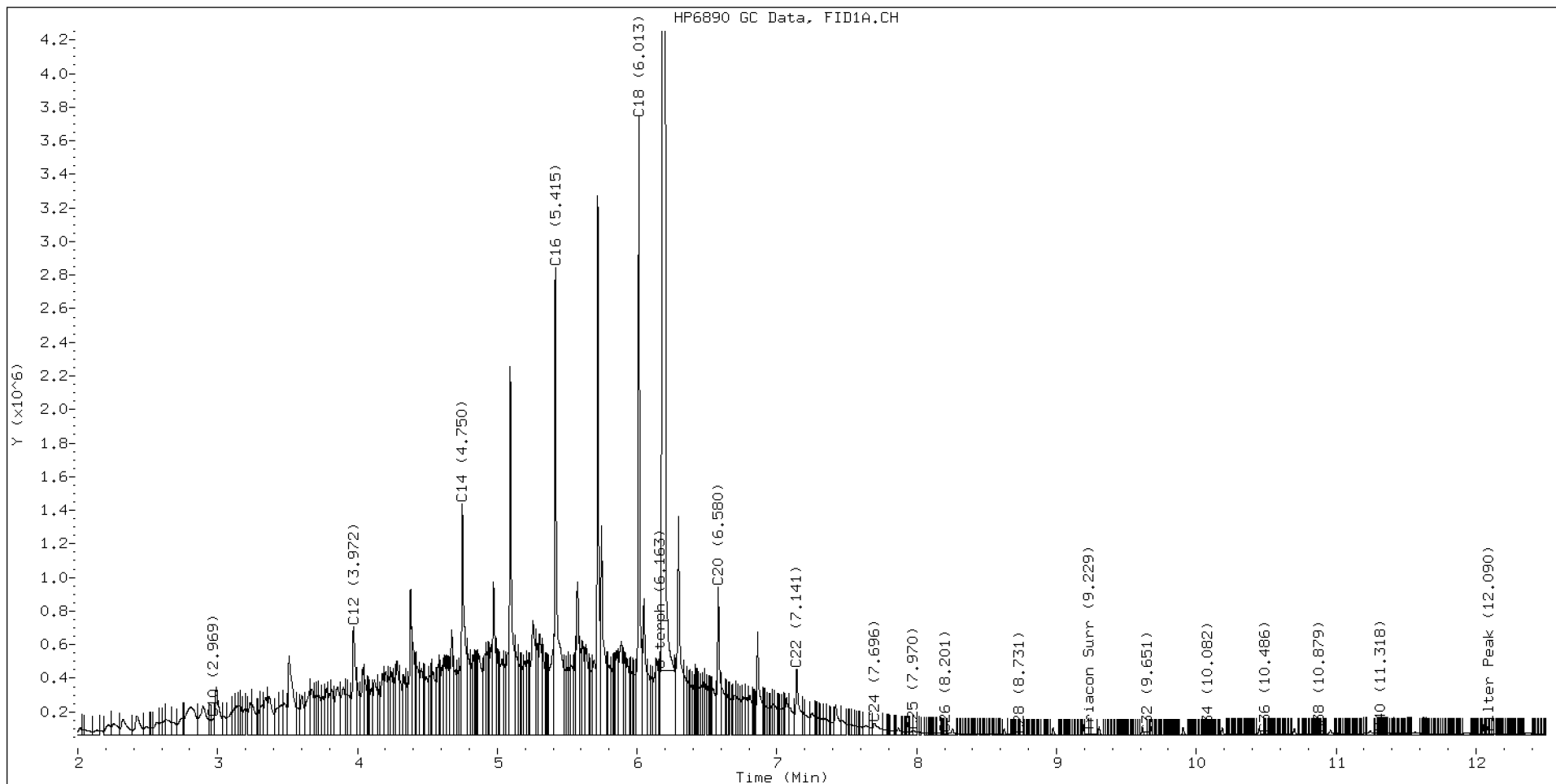
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	40321	123310	WATPHD	(C12-C24)	79779165	500.7
C10	2.969	-0.001	95752	118340	WATPHM	(C24-C38)	1154106	11.4
C12	3.972	0.008	644939	1014931	AK102	(C10-C25)	92867655	475.0
C14	4.750	0.002	1374597	1924599	AK103	(C25-C36)	736353	10.1
C16	5.415	0.001	2783785	3773802	OR.DIES	(C10-C28)	93256922	475.8
C18	6.013	-0.000	3682014	3311646				
C20	6.580	-0.004	879647	1094857	JET-A	(C10-C18)	71954213	433.9
C22	7.141	-0.006	390701	673682				
C24	7.696	0.002	69829	212628				
C25	7.970	0.008	23914	25239				
C26	8.201	-0.024	8315	4949				
C28	8.731	0.002	1971	791				
C32	9.651	-0.005	1228	784				
C34	10.082	0.000	1702	411				
Filter Peak	12.090	-0.007	8203	3659	BUNKERC	(C10-C38)	93770473	2375.3
C36	10.486	0.003	4661	2526				
C38	10.879	0.005	7505	1496				
C40	11.318	0.005	8946	5758				
o-terph	6.198	-0.001	18059140	18728210				
Triacon Surr	9.229	-0.000	7048	6044	NAS DIES	(C10-C24)	92616367	474.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18728210	91.5 M
Triacontane	6044	0.0

M Indicates the peak was manually integrated

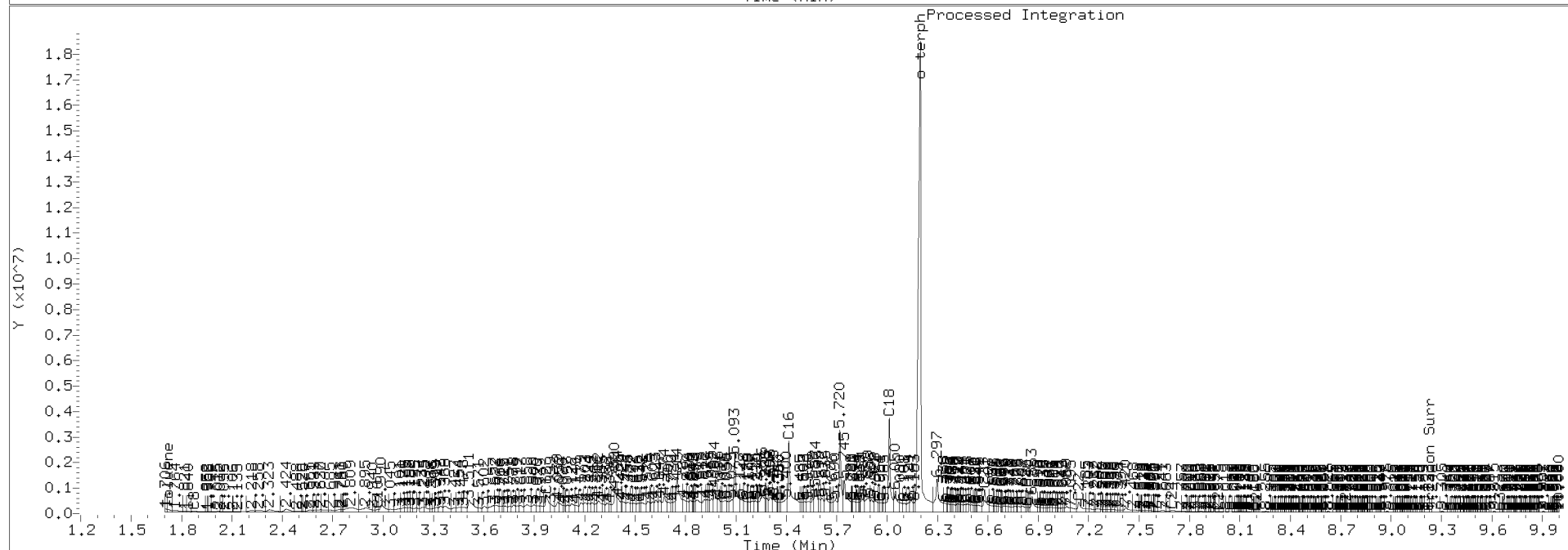
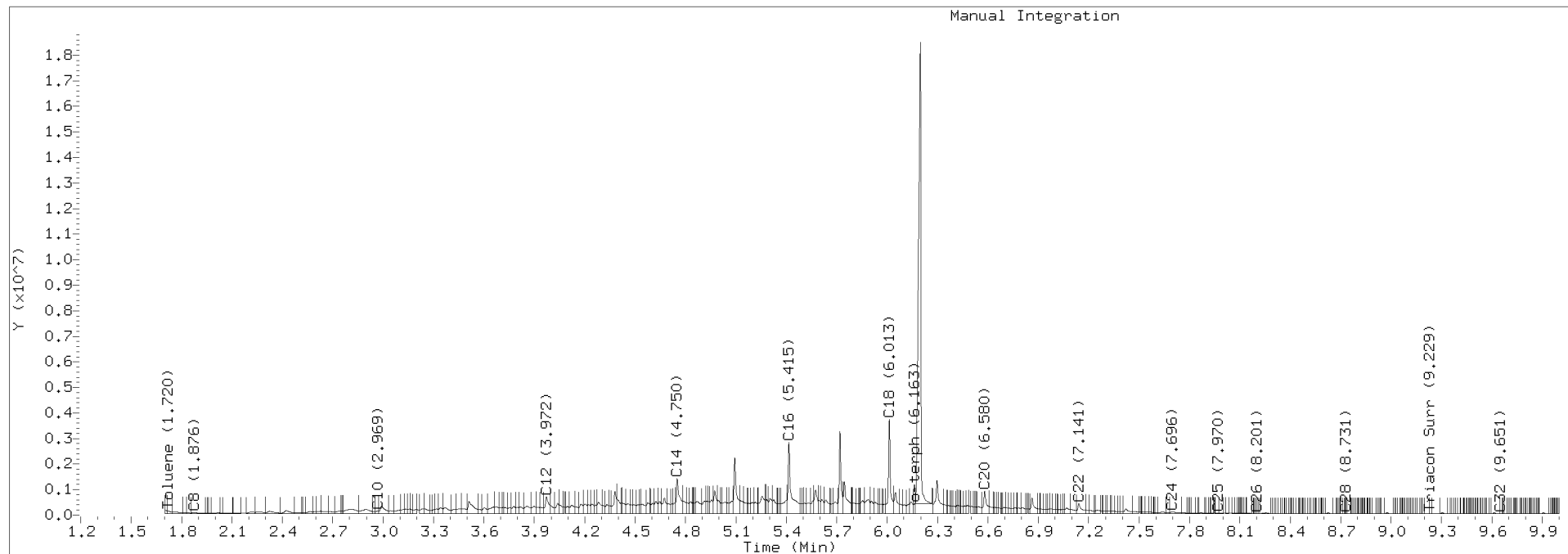
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2749.D Injection: 28-NOV-2020 03:31

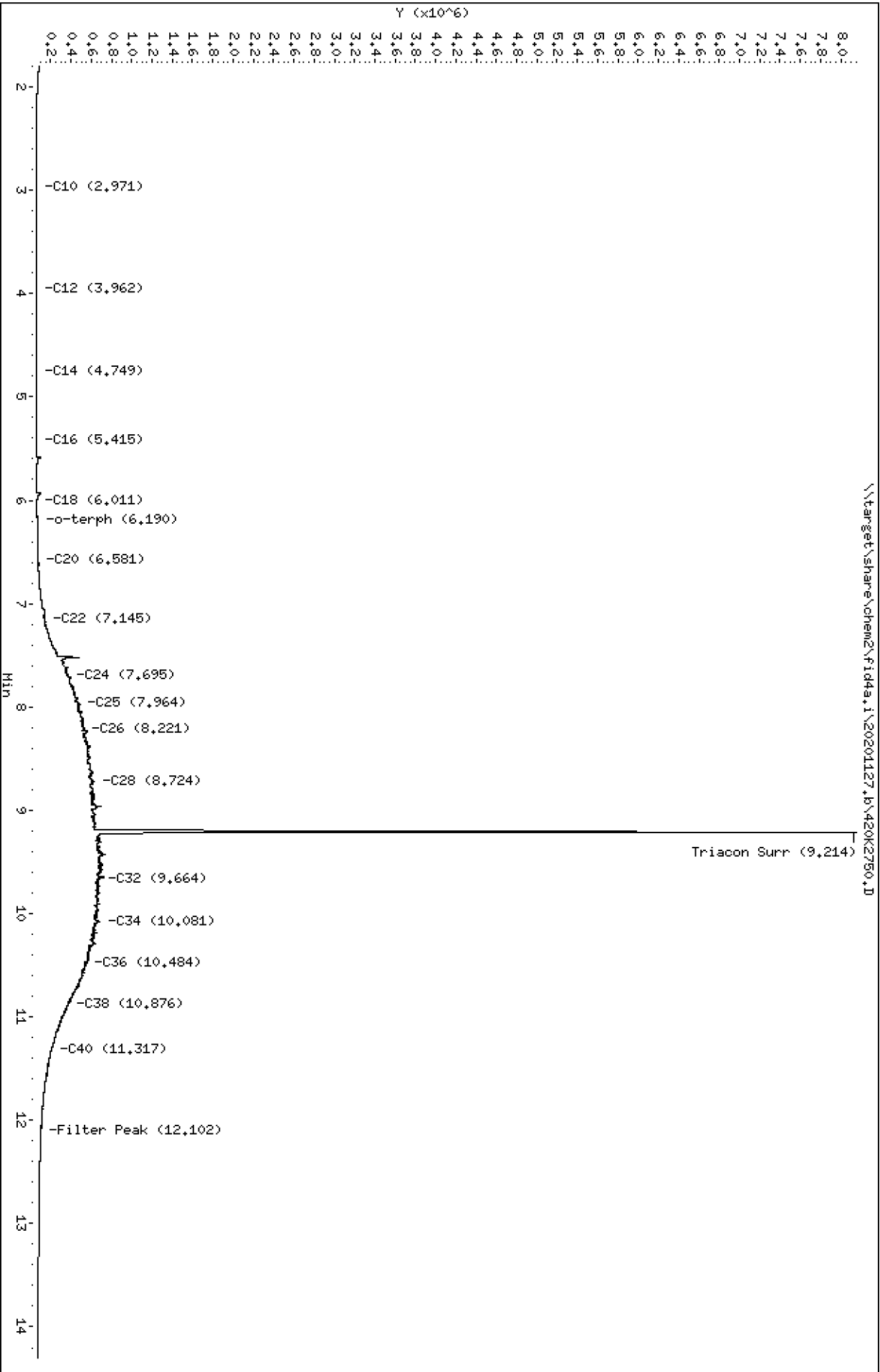
Lab ID:SIK0381-CCV7



Data File: \\target\share\chem2\fid4a,1\20201127,b\420K2750.D
Date: 28-NOV-2020 03:51
Client ID:
Sample Info: SIK0381-CCW8

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2750.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV8
Client ID:
Injection: 28-NOV-2020 03:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

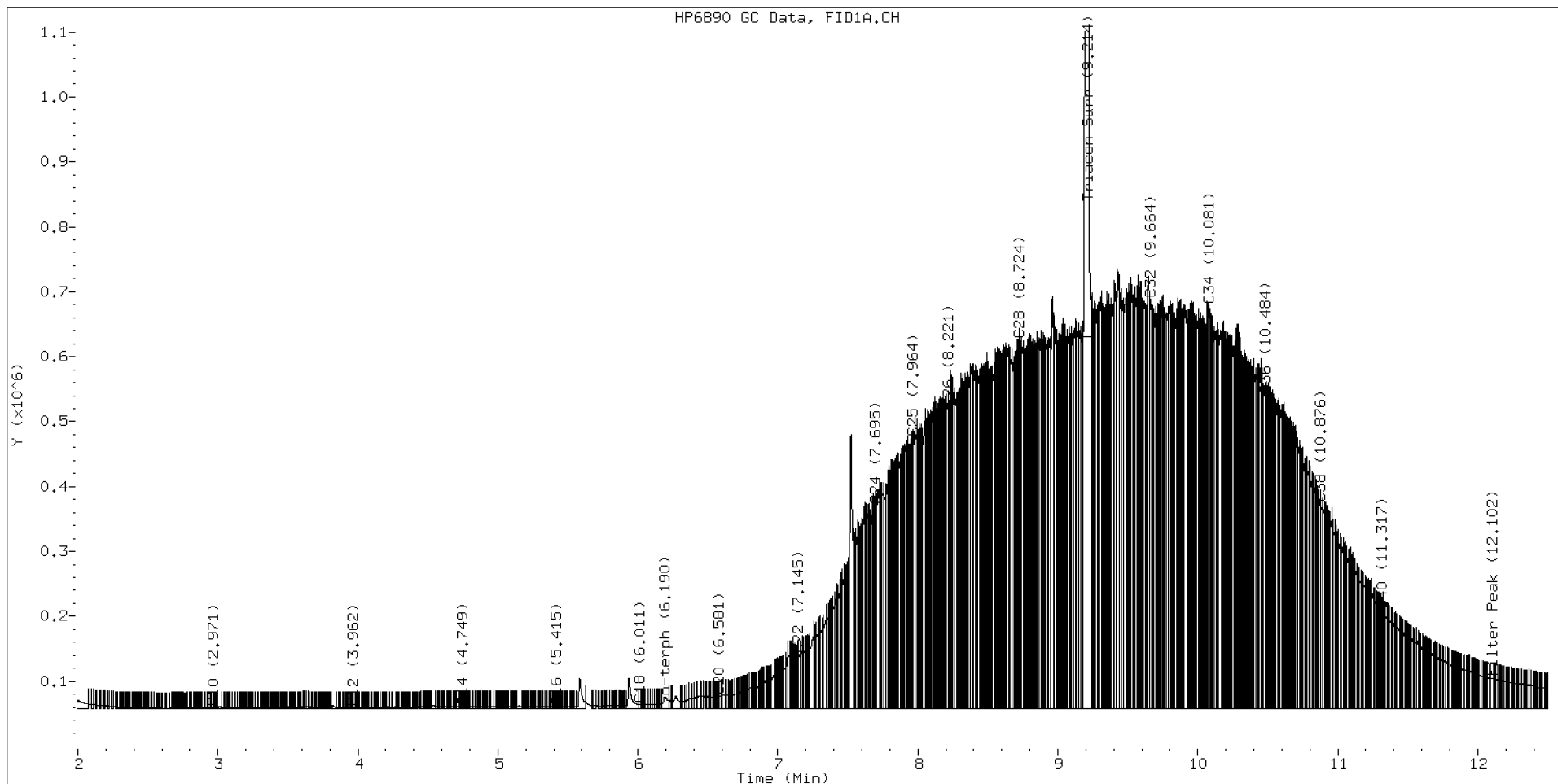
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.840	-0.026	24429	98816	WATPHD	(C12-C24)	9100512	57.1
C10	2.971	0.001	902	510	WATPHM	(C24-C38)	98368334	972.3
C12	3.962	-0.002	1500	642	AK102	(C10-C25)	12692903	64.9
C14	4.749	0.001	2460	1689	AK103	(C25-C36)	85979882	1174.5
C16	5.415	0.001	2514	1468	OR.DIES	(C10-C28)	37866025	193.2
C18	6.011	-0.002	5837	3150				
C20	6.581	-0.004	17968	7031	JET-A	(C10-C18)	494717	3.0
C22	7.145	-0.003	83281	32777				
C24	7.695	0.001	312168	107875				
C25	7.964	0.001	416413	225564				
C26	8.221	-0.004	461842	137589				
C28	8.724	-0.005	567185	307931				
C32	9.664	0.007	630015	432896				
C34	10.081	-0.000	620264	365070				
Filter Peak	12.102	0.005	46749	50659	BUNKERC	(C10-C38)	107556444	2724.5
C36	10.484	0.001	482851	192282				
C38	10.876	0.002	314957	124913				
C40	11.317	0.004	149717	51989				
o-terph	6.190	-0.009	17452	40980				
Triacon Surr	9.214	-0.015	7524651	7011770	NAS DIES	(C10-C24)	9188109	47.1

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	40980	0.2
Triacontane	7011770	47.3 M

M Indicates the peak was manually integrated

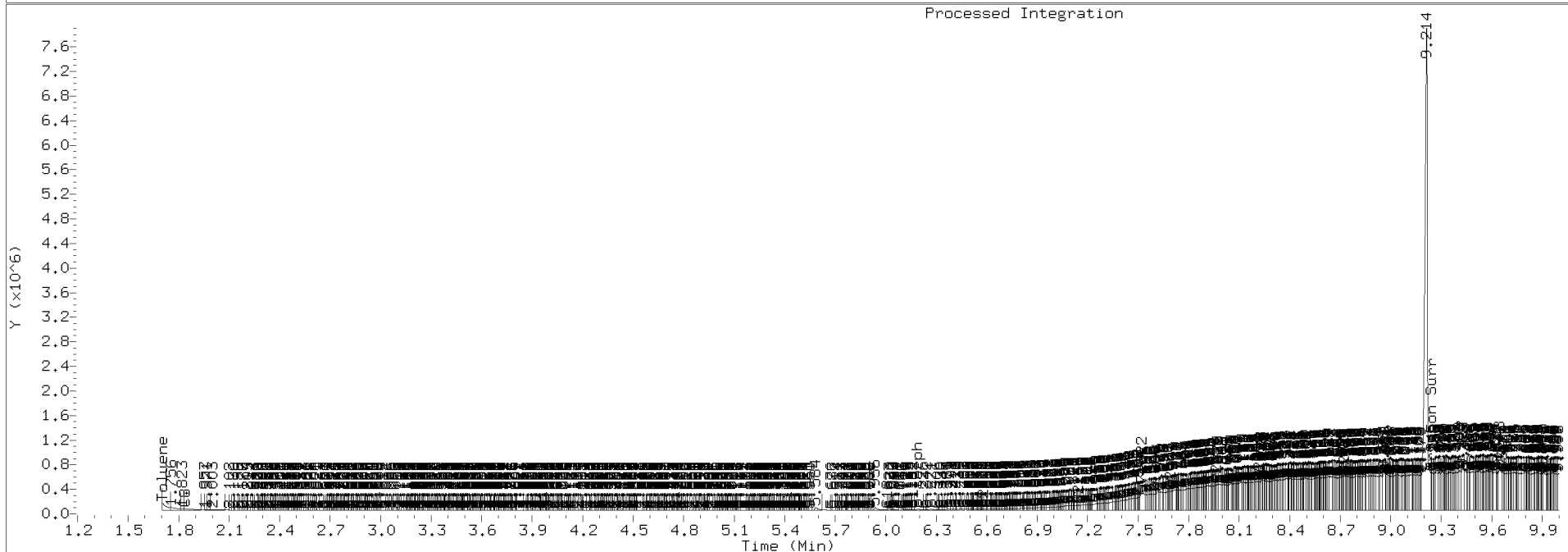
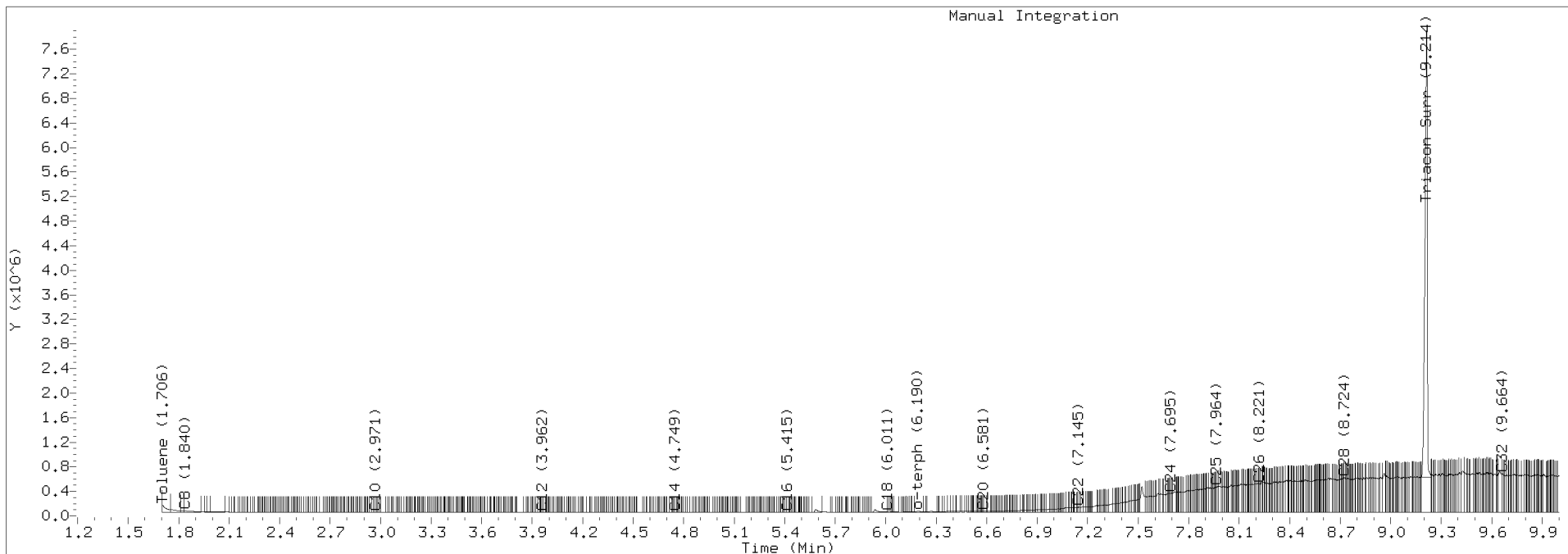
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2750.D Injection: 28-NOV-2020 03:51

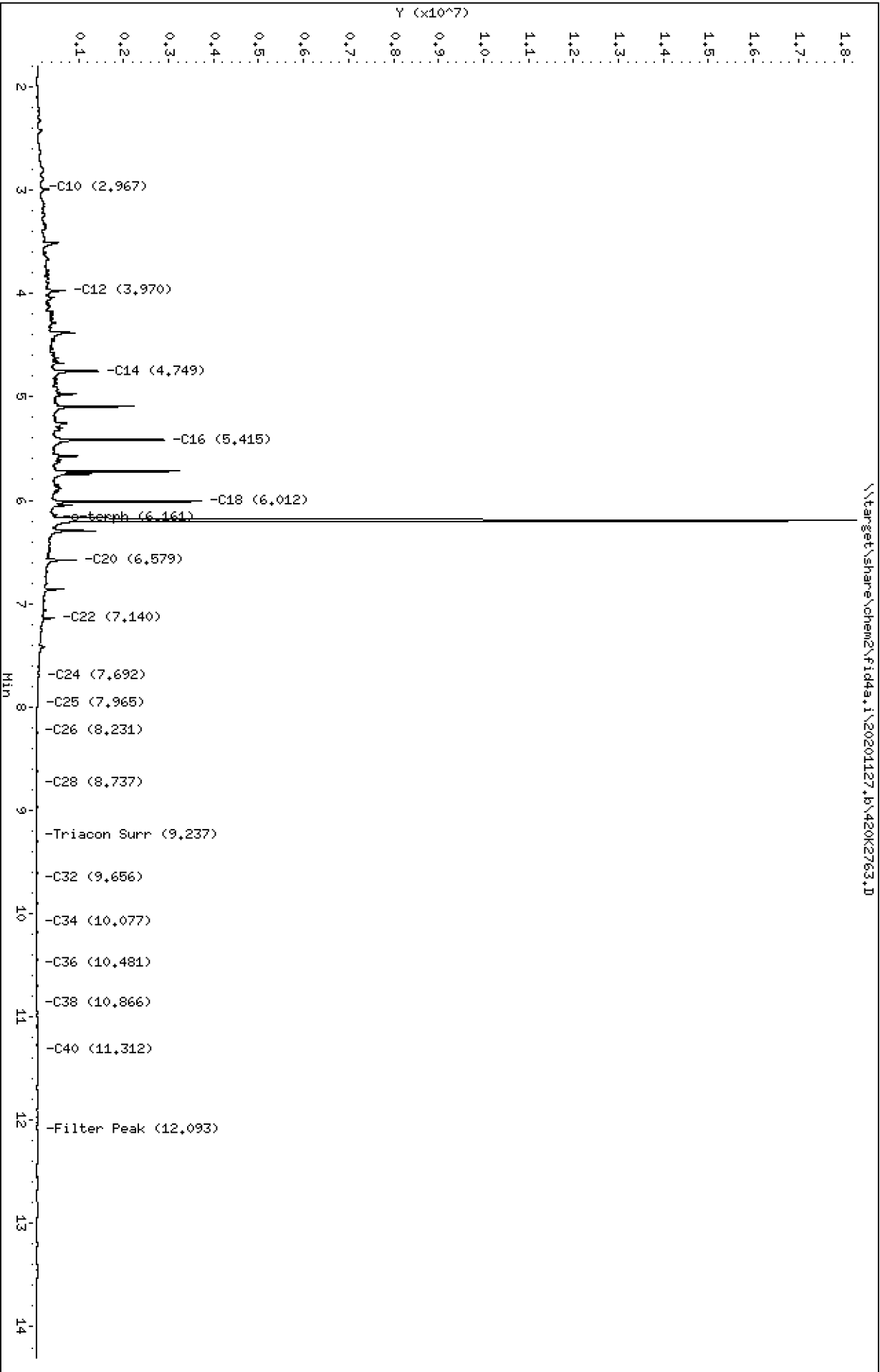
Lab ID:SIK0381-CCV8



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2763.D
Date: 28-NOV-2020 08:14
Client ID:
Sample Info: SIK0381-CCV9

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2763.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV9
Client ID:
Injection: 28-NOV-2020 08:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

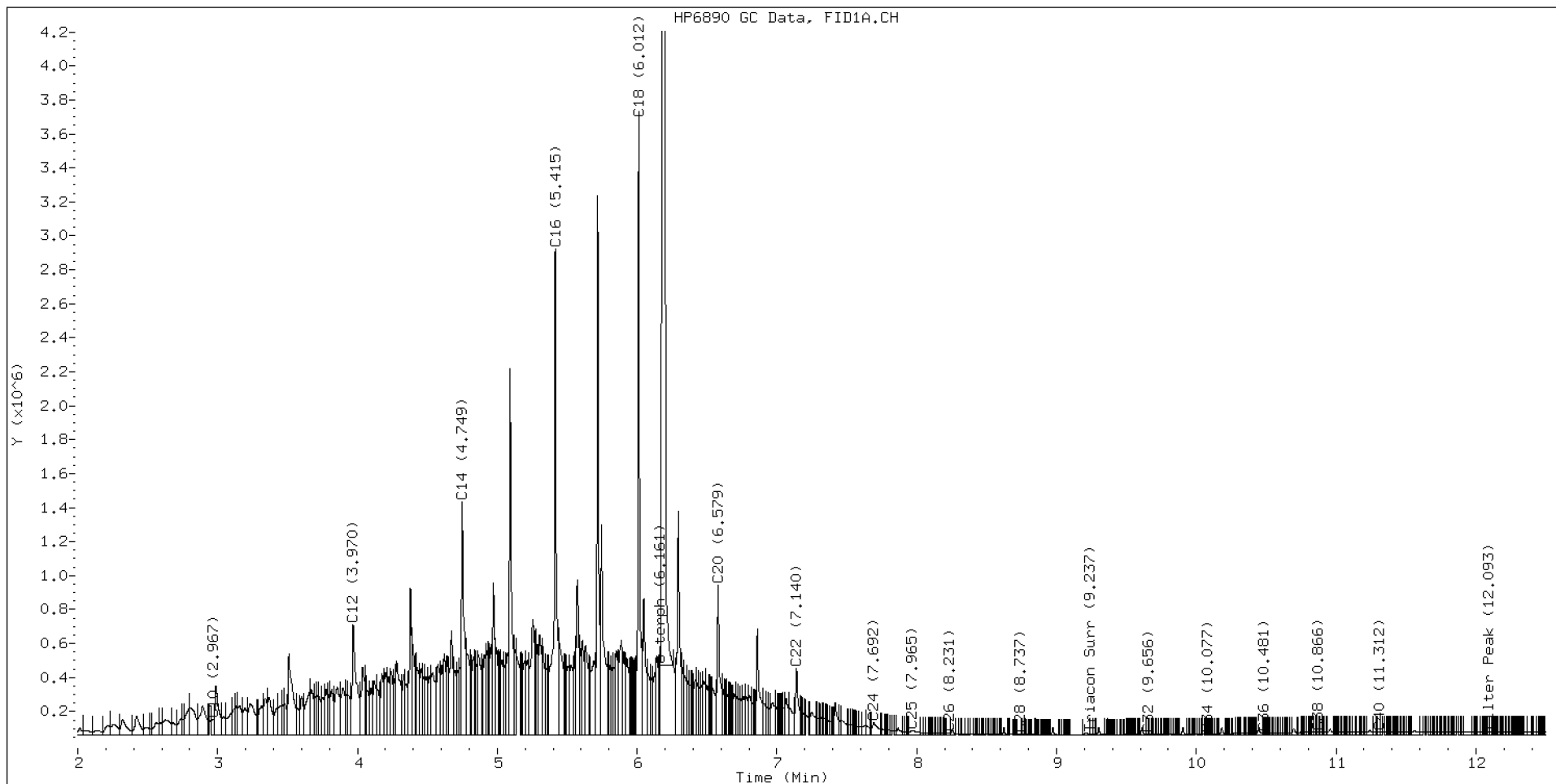
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.872	0.006	35294	107267	WATPHD	(C12-C24)	78319817	491.5
C10	2.967	-0.003	89362	110743	WATPHM	(C24-C38)	1425973	14.1
C12	3.970	0.006	645751	1301417	AK102	(C10-C25)	90999339	465.5
C14	4.749	0.001	1371692	1884794	AK103	(C25-C36)	861435	11.8
C16	5.415	0.001	2858657	3435178	OR.DIES	(C10-C28)	91359463	466.1
C18	6.012	-0.001	3669443	3124305				
C20	6.579	-0.005	880382	1124300	JET-A	(C10-C18)	69804829	420.9
C22	7.140	-0.008	391526	571053				
C24	7.692	-0.002	71036	192573				
C25	7.965	0.002	24836	91144				
C26	8.231	0.006	9730	15787				
C28	8.737	0.008	2019	3095				
C32	9.656	-0.000	1971	293				
C34	10.077	-0.005	4354	1287				
Filter Peak	12.093	-0.005	15292	9856	BUNKERC	(C10-C38)	92179908	2335.0
C36	10.481	-0.002	10512	7246				
C38	10.866	-0.008	14577	13661				
C40	11.312	-0.001	16693	20152				
o-terph	6.198	-0.001	17815786	18347405				
Triacon Surr	9.237	0.008	5065	6118	NAS DIES	(C10-C24)	90753935	465.1

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18347405	89.6 M
Triacontane	6118	0.0

M Indicates the peak was manually integrated

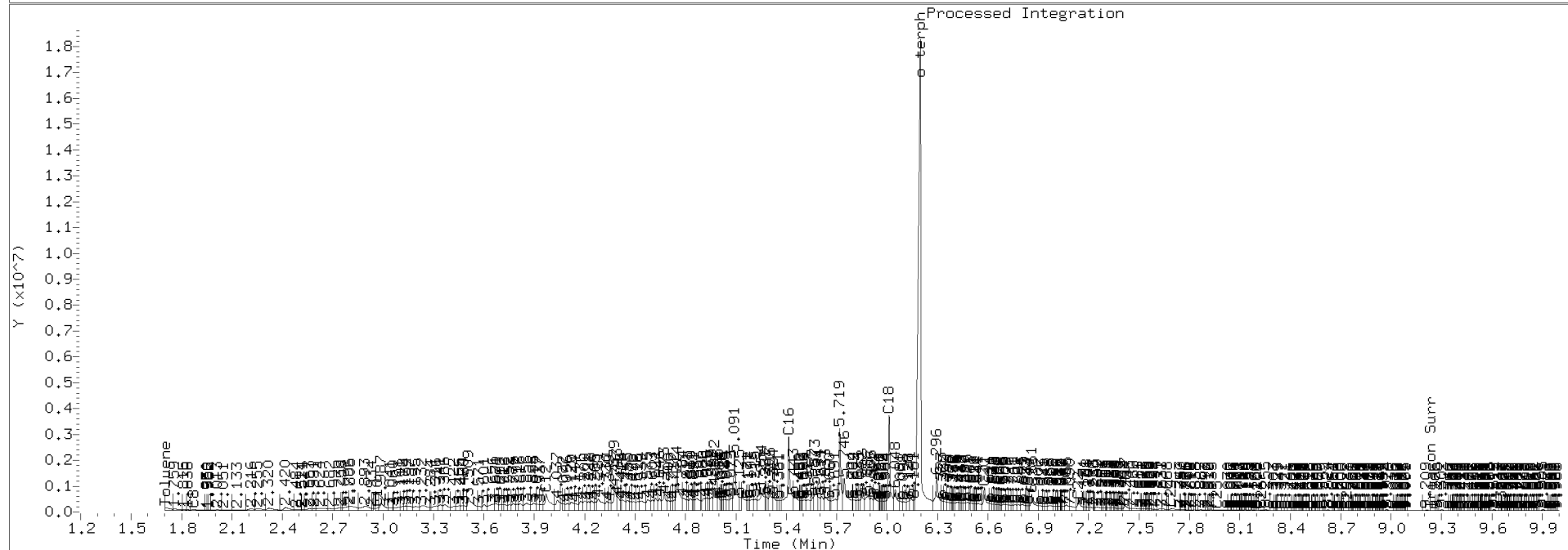
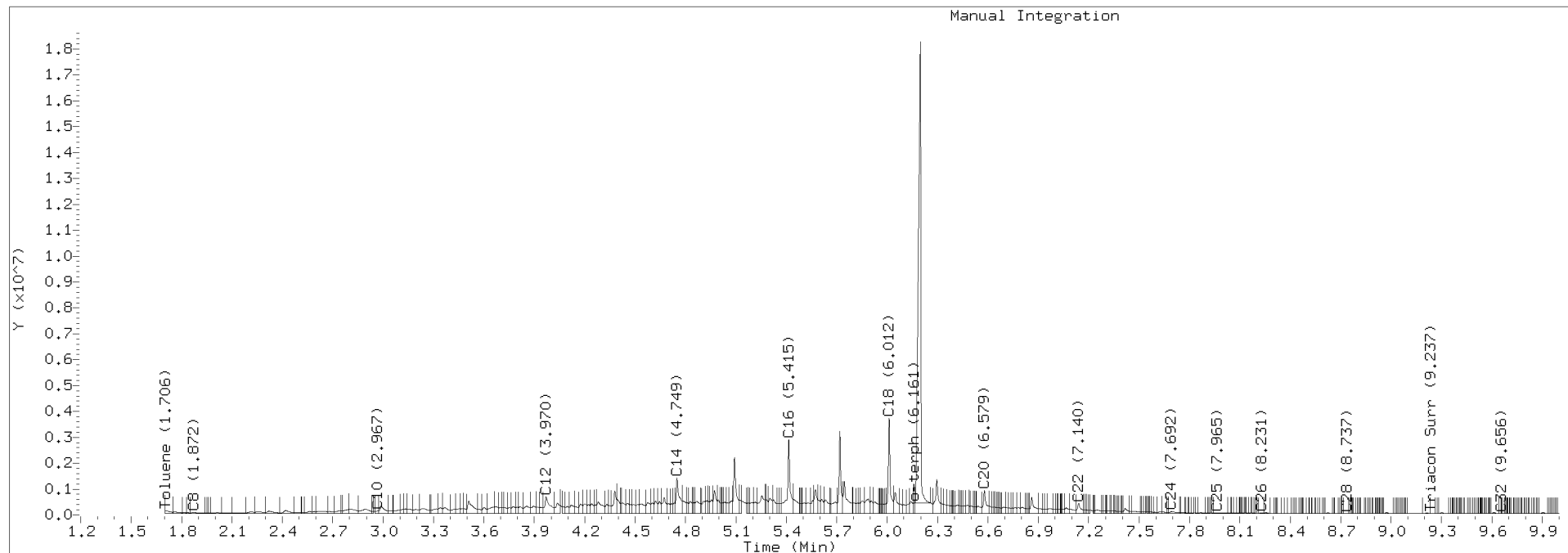
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2763.D Injection: 28-NOV-2020 08:14

Lab ID:SIK0381-CCV9

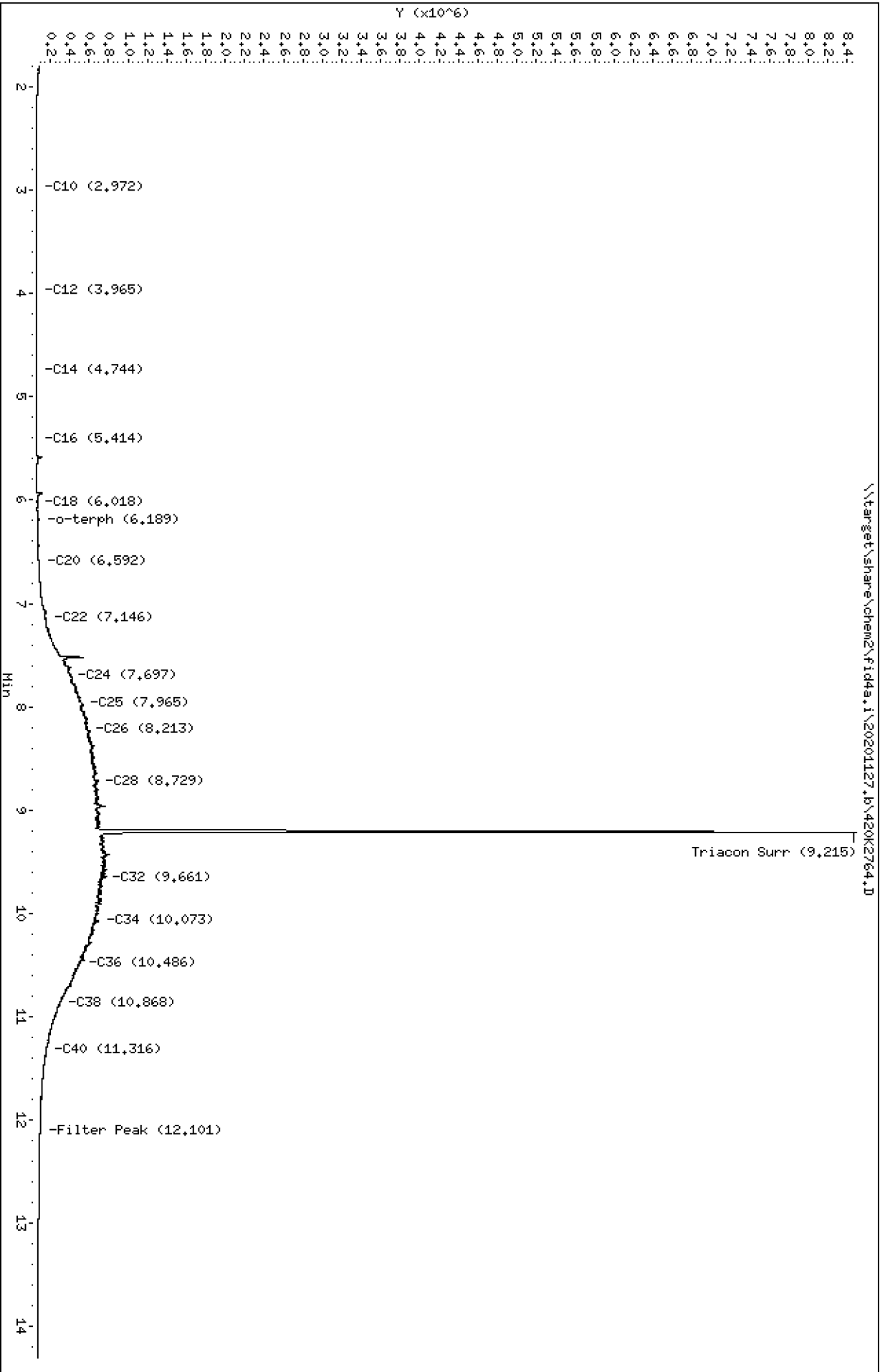


Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2764.D
Date: 28-NOV-2020 08:34
Client ID:
Sample Info: SIK0381-CCWA

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2764.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVA
Client ID:
Injection: 28-NOV-2020 08:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

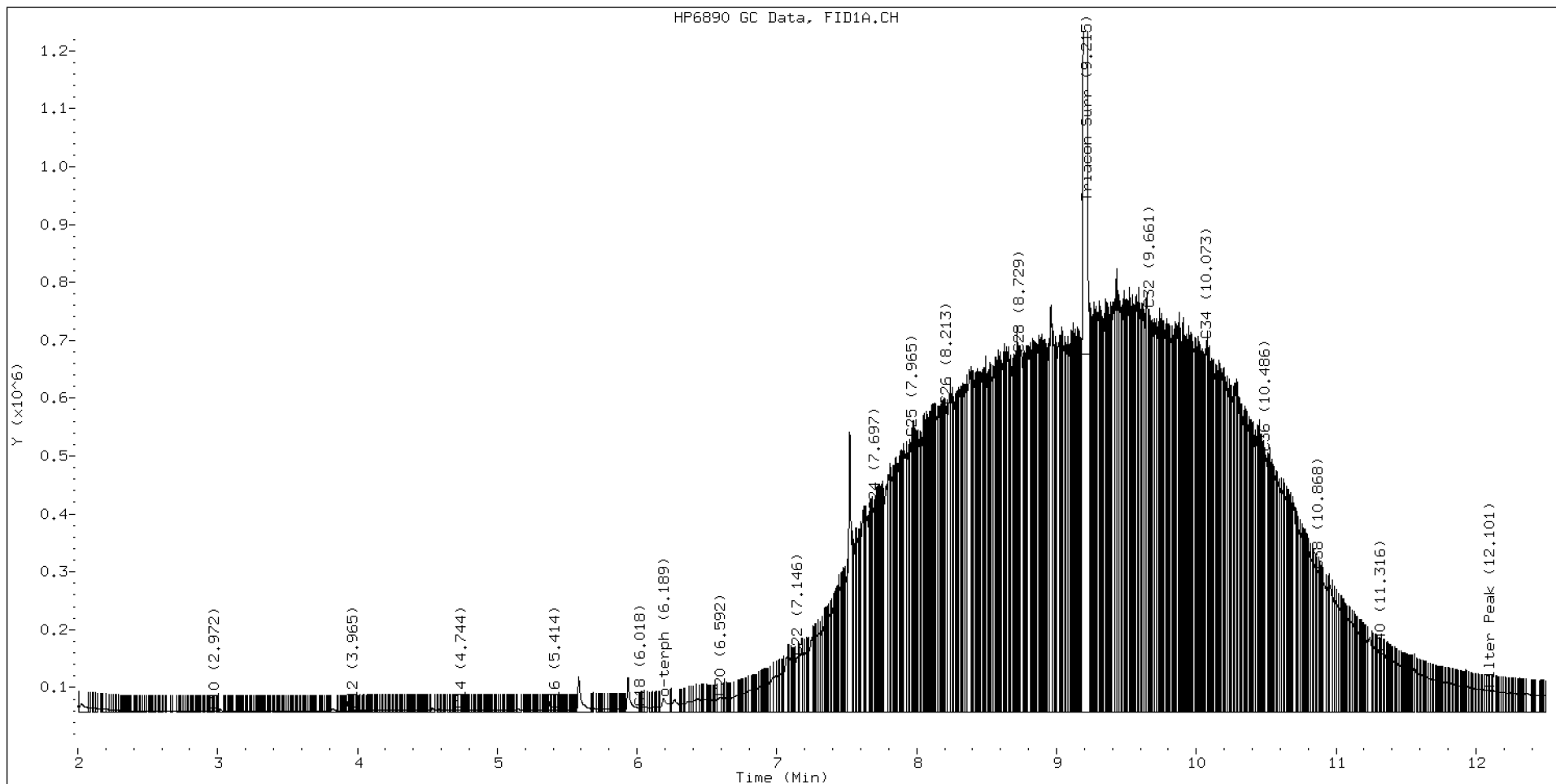
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.862	-0.004	22566	77525	WATPHD	(C12-C24)	10420785	65.4
C10	2.972	0.002	627	167	WATPHM	(C24-C38)	103839013	1026.4
C12	3.965	0.001	1873	987	AK102	(C10-C25)	14448464	73.9
C14	4.744	-0.004	3336	2423	AK103	(C25-C36)	92595060	1264.8
C16	5.414	-0.000	3120	1702	OR.DIES	(C10-C28)	42653385	217.6
C18	6.018	0.005	6907	2063				
C20	6.592	0.008	24013	42499	JET-A	(C10-C18)	602992	3.6
C22	7.146	-0.002	94795	118991				
C24	7.697	0.003	345414	120270				
C25	7.965	0.002	472370	233810				
C26	8.213	-0.012	528265	469329				
C28	8.729	-0.000	618196	214365				
C32	9.661	0.004	694454	408529				
C34	10.073	-0.009	640351	563977				
Filter Peak	12.101	0.003	36429	25278	BUNKERC	(C10-C38)	114333069	2896.2
C36	10.486	0.002	446096	218938				
C38	10.868	-0.005	243017	145058				
C40	11.316	0.003	100954	40140				
o-terph	6.189	-0.010	21851	63205				
Triacon Surr	9.215	-0.014	7818670	7865040	NAS DIES	(C10-C24)	10494056	53.8

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	63205	0.3
Triacontane	7865040	53.0 M

M Indicates the peak was manually integrated

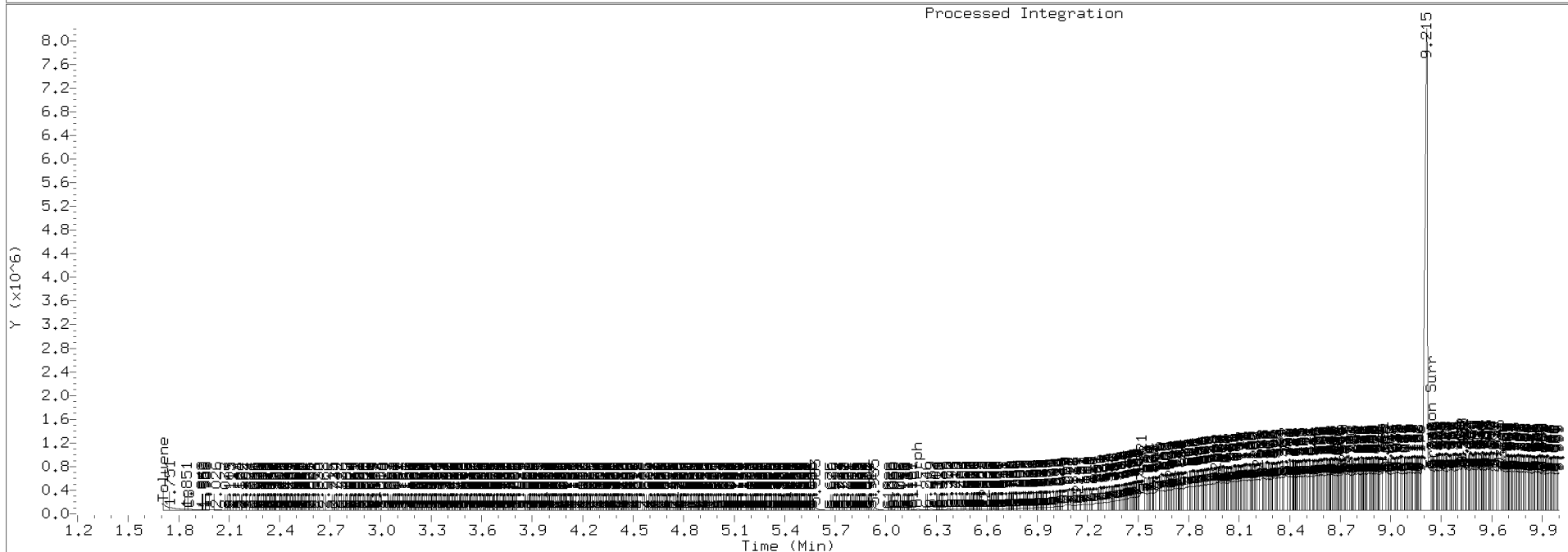
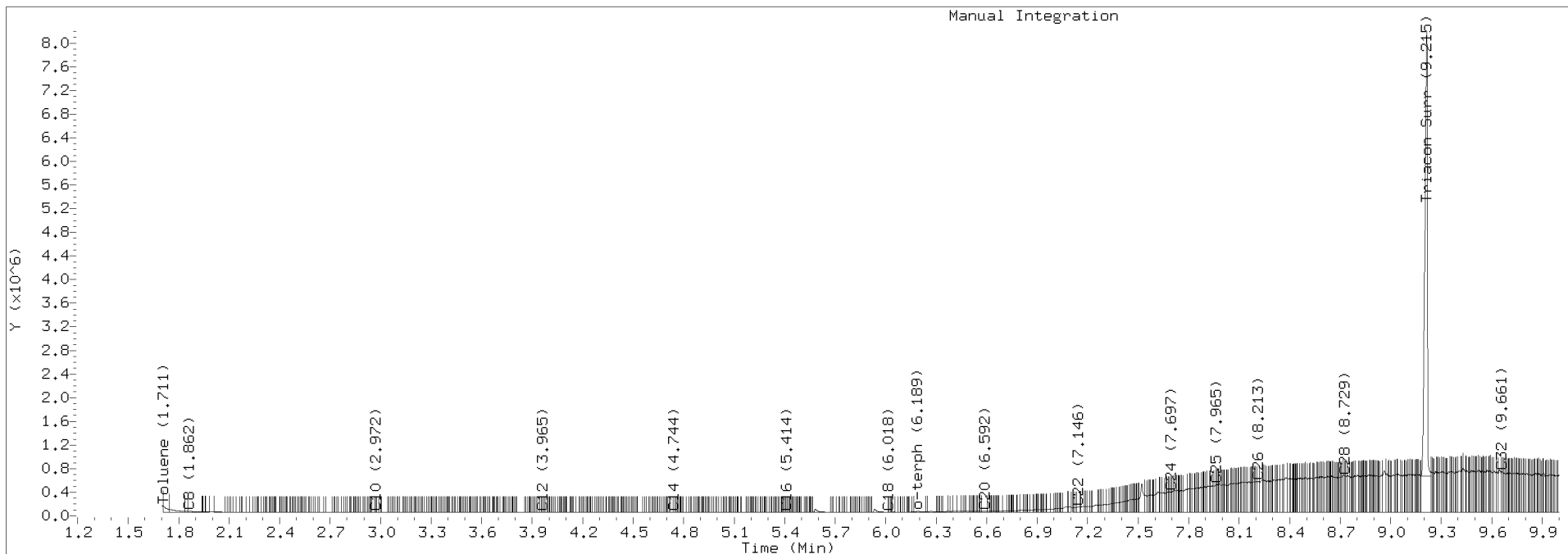
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2764.D Injection: 28-NOV-2020 08:34

Lab ID:SIK0381-CCVA



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2777.D

Date: 28-NOV-2020 12:57

Client ID:

Sample Info: SIK0381-CCVB

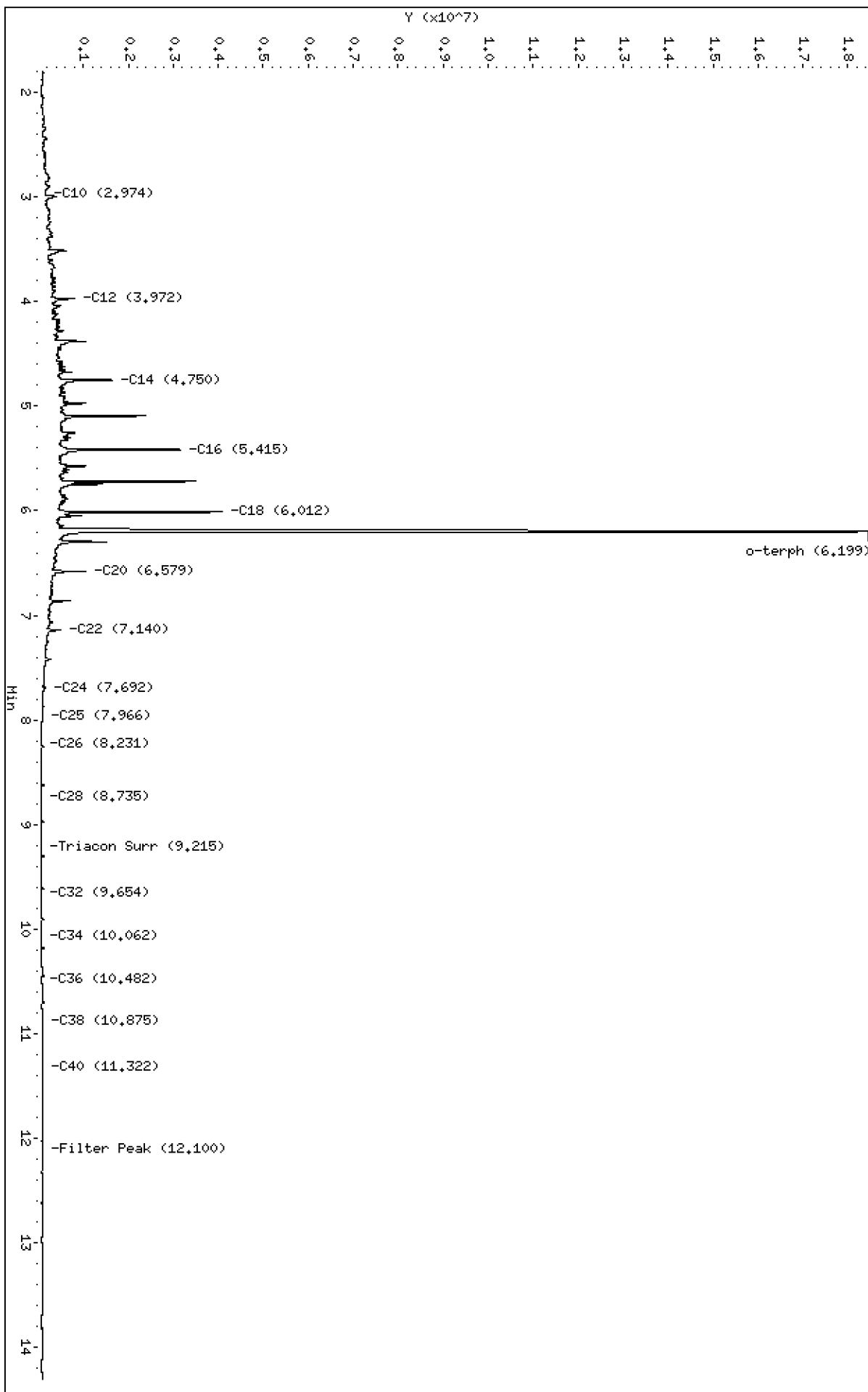
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201127,8\420K2777.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2777.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVB
Client ID:
Injection: 28-NOV-2020 12:57
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

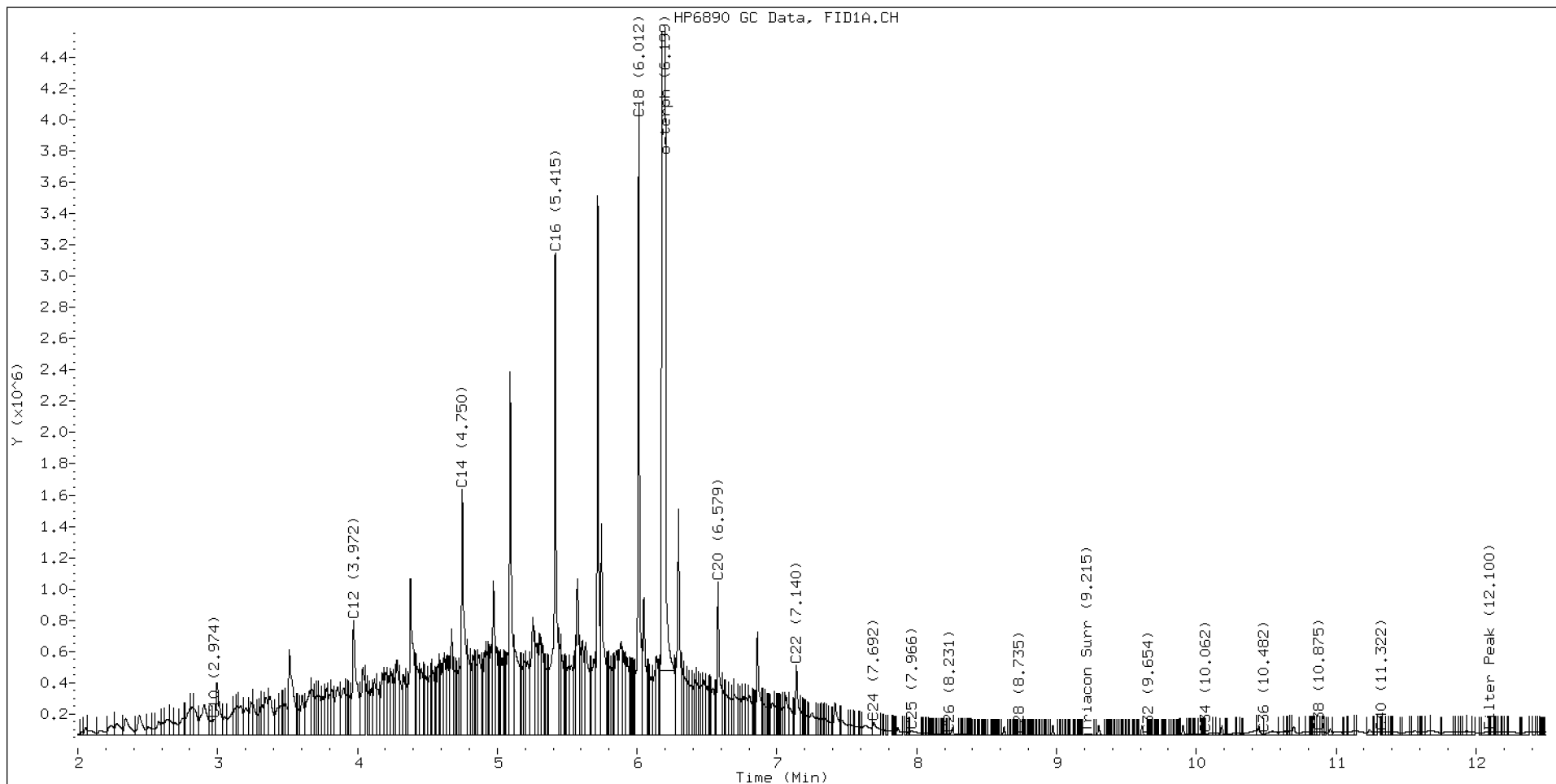
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.866	-0.000	33765	38370	WATPHD	(C12-C24)	86887556	545.3
C10	2.974	0.004	102811	115355	WATPHM	(C24-C38)	1894498	18.7
C12	3.972	0.008	734196	1463187	AK102	(C10-C25)	100944668	516.4
C14	4.750	0.002	1570598	2118388	AK103	(C25-C36)	1205419	16.5
C16	5.415	0.001	3085030	3814468	OR.DIES	(C10-C28)	101391675	517.3
C18	6.012	-0.001	4033317	3625107				
C20	6.579	-0.005	977688	1197130	JET-A	(C10-C18)	77899869	469.7
C22	7.140	-0.008	444675	630199				
C24	7.692	-0.002	83765	202493				
C25	7.966	0.003	27564	97833				
C26	8.231	0.006	10676	11571				
C28	8.735	0.006	2588	2176				
C32	9.654	-0.003	2839	1518				
C34	10.062	-0.020	8760	3049				
Filter Peak	12.100	0.002	19504	11557	BUNKERC	(C10-C38)	102661689	2600.5
C36	10.482	-0.002	10442	3640				
C38	10.875	0.002	20592	27231				
C40	11.322	0.009	19708	10724				
o-terph	6.199	-0.000	18035154	20335334				
Triacon Surr	9.215	-0.014	10414	28826	NAS DIES	(C10-C24)	100767190	516.4

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20335334	99.3 M
Triacontane	28826	0.2

M Indicates the peak was manually integrated

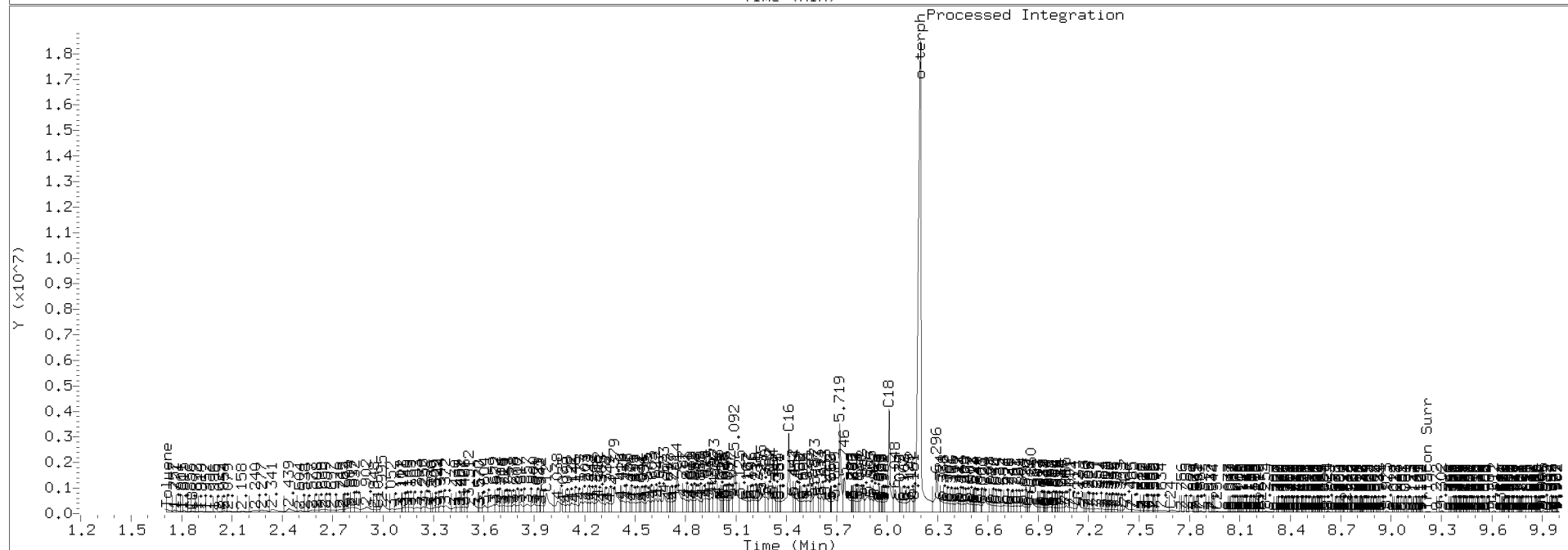
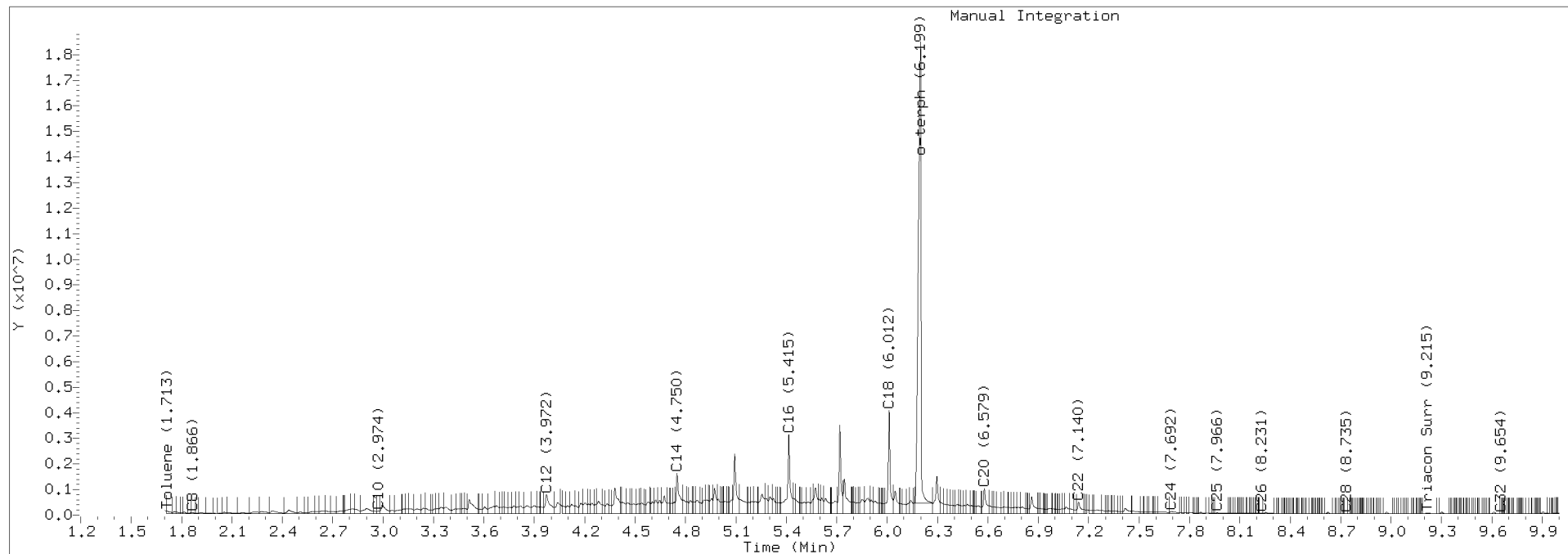
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2777.D Injection: 28-NOV-2020 12:57

Lab ID:SIK0381-CCVB

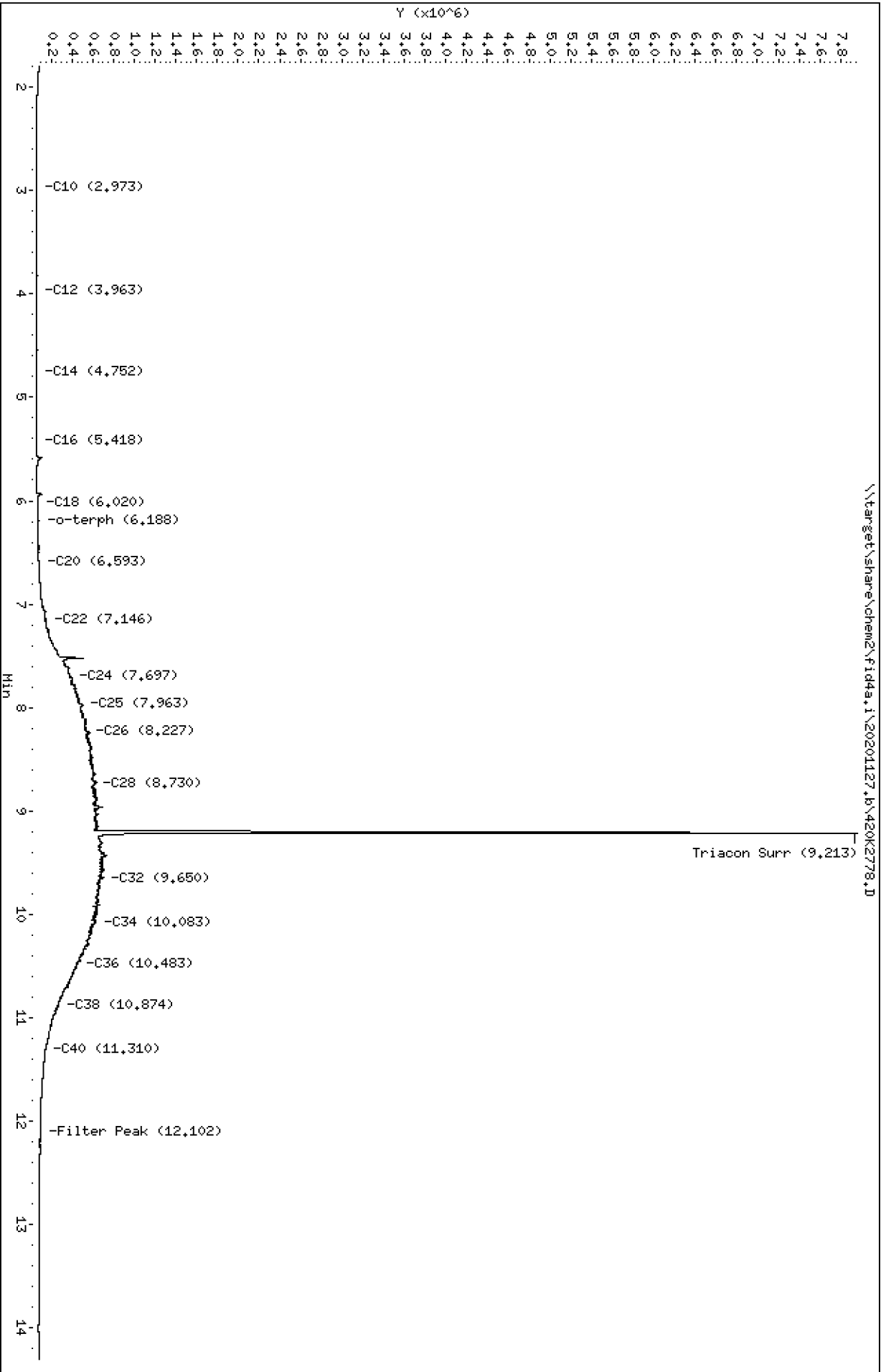


Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2778.D
Date: 28-NOV-2020 13:17
Client ID:
Sample Info: SIK0381-CCWC

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2778.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVC
Client ID:
Injection: 28-NOV-2020 13:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

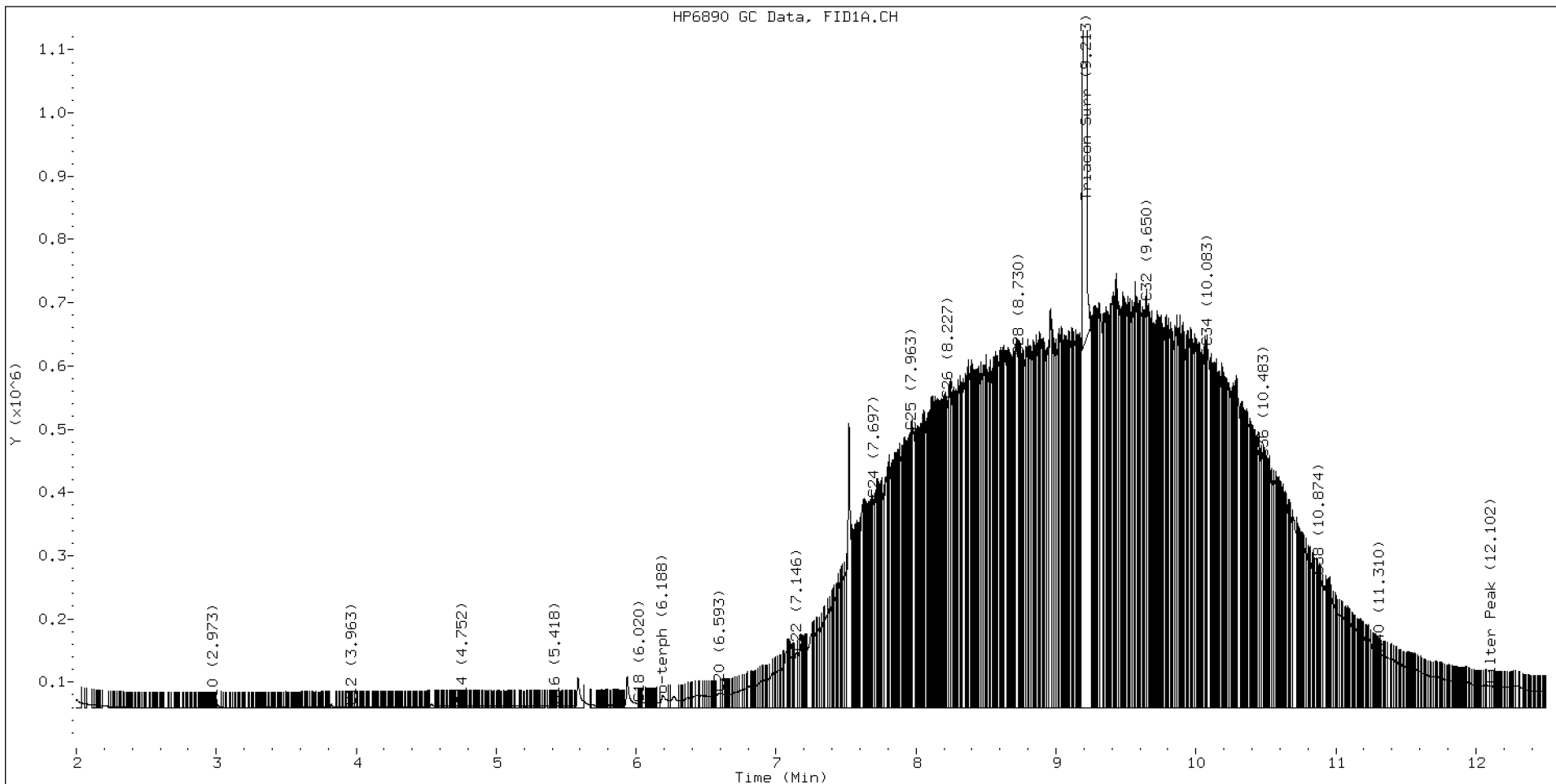
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.828	-0.037	23147	95258	WATPHD	(C12-C24)	9821763	61.6
C10	2.973	0.003	762	428	WATPHM	(C24-C38)	94166479	930.8
C12	3.963	-0.001	2038	971	AK102	(C10-C25)	13507446	69.1
C14	4.752	0.004	3488	2027	AK103	(C25-C36)	84431525	1153.3
C16	5.418	0.004	3420	1666	OR.DIES	(C10-C28)	39145078	199.7
C18	6.020	0.007	7617	1900				
C20	6.593	0.008	24379	38508	JET-A	(C10-C18)	615923	3.7
C22	7.146	-0.002	88019	122450				
C24	7.697	0.003	330927	305957				
C25	7.963	0.001	437650	299662				
C26	8.227	0.002	486151	263716				
C28	8.730	0.001	556379	138570				
C32	9.650	-0.007	641020	533941				
C34	10.083	0.001	571205	689683				
Filter Peak	12.102	0.004	35131	26225	BUNKERC	(C10-C38)	104075713	2636.3
C36	10.483	-0.001	394701	175789				
C38	10.874	0.001	208185	72023				
C40	11.310	-0.003	85936	46774				
o-terph	6.188	-0.011	20455	51425				
Triacon Surr	9.213	-0.016	7321247	7122409	NAS DIES	(C10-C24)	9909234	50.8

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	51425	0.3
Triacontane	7122409	48.0 M

M Indicates the peak was manually integrated

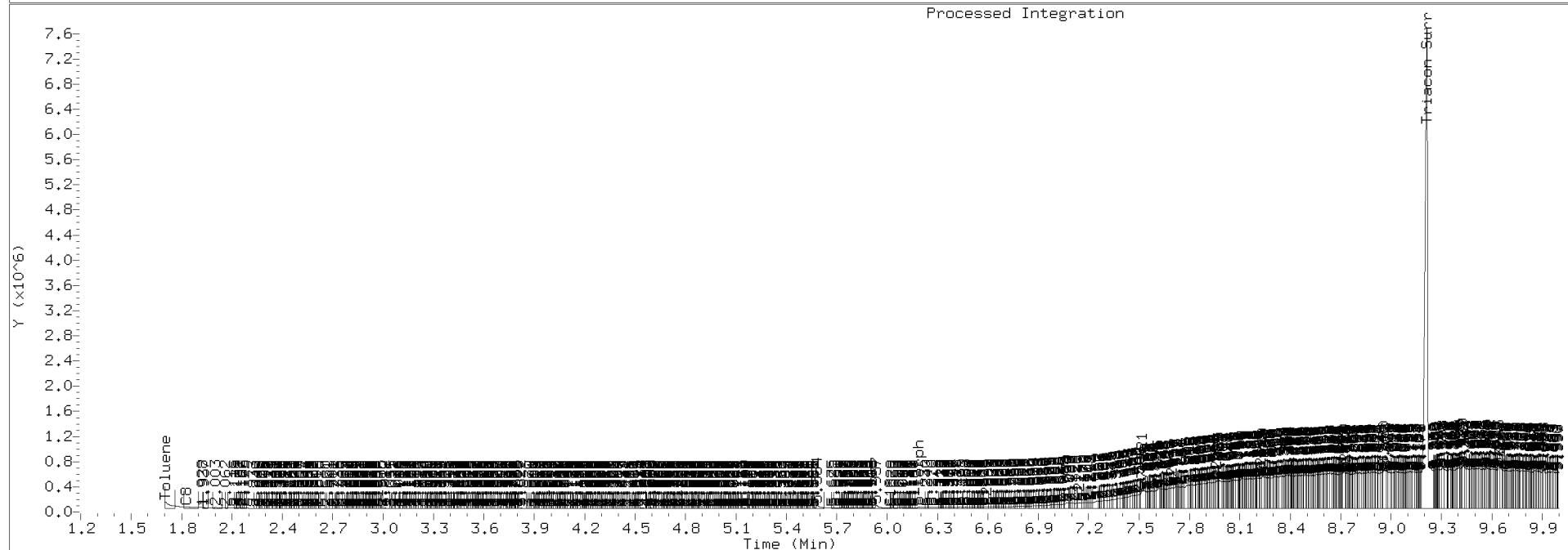
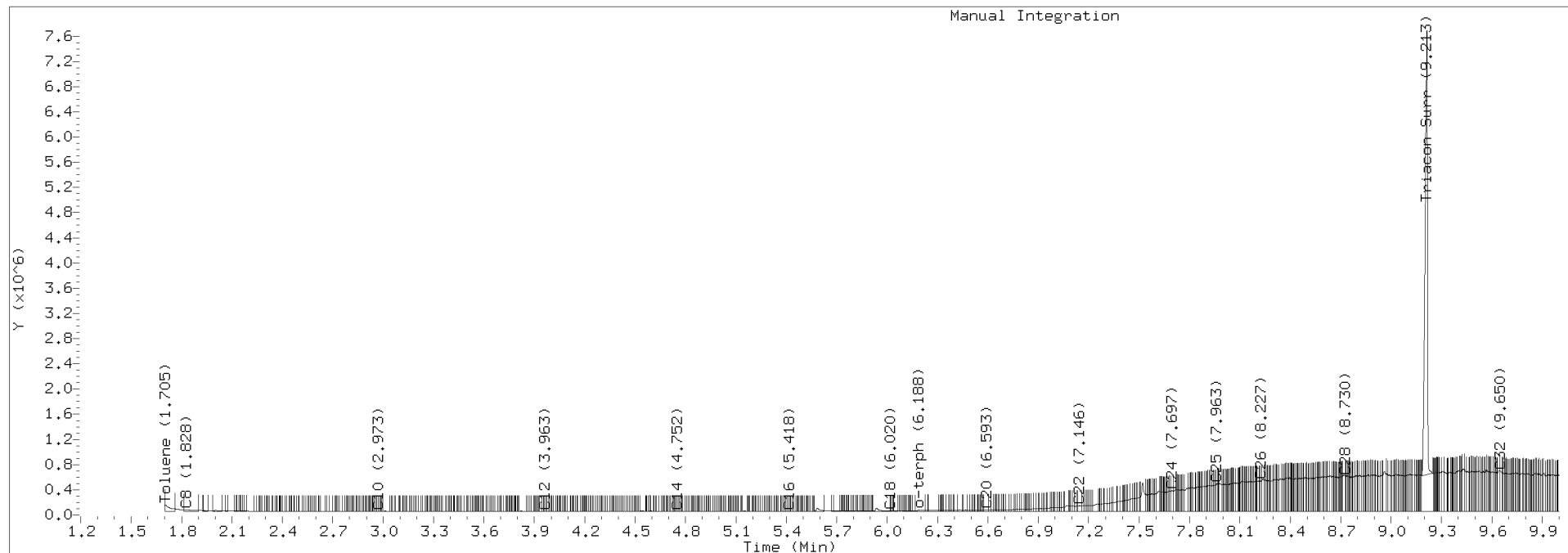
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2778.D Injection: 28-NOV-2020 13:17

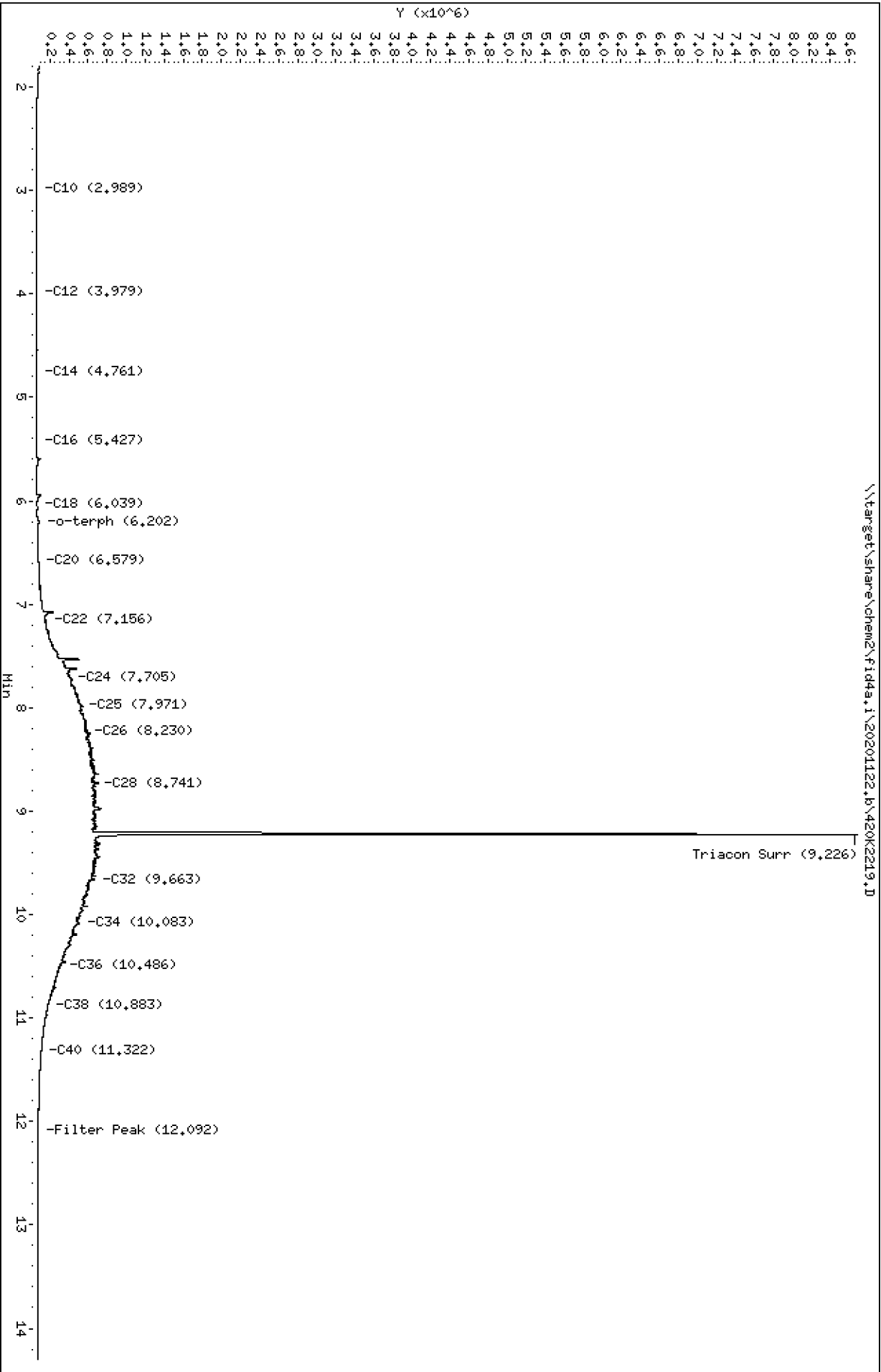
Lab ID:SIK0381-CCVC



Data File: \\target\share\chem2\fid4a,1\20201122,6\420K2219.D
Date: 22-NOV-2020 16:14
Client ID:
Sample Info: SIK0317-CCW1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2219.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV1
Client ID:
Injection: 22-NOV-2020 16:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

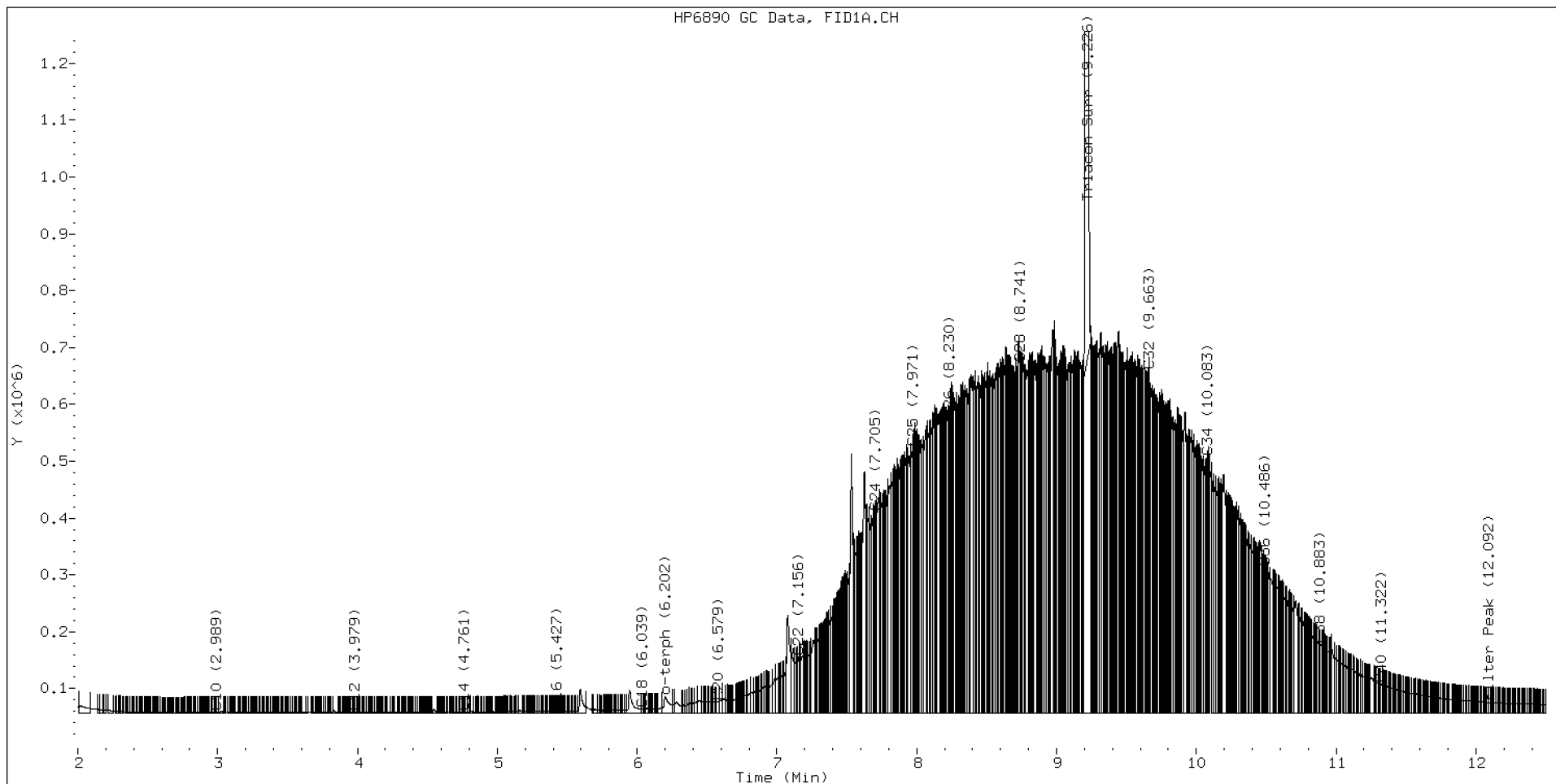
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.894	-0.004	16980	36810	WATPHD	(C12-C24)	10408751	65.3
C10	2.989	0.003	652	215	WATPHM	(C24-C38)	89455472	884.2
C12	3.979	0.003	830	342	AK102	(C10-C25)	14336355	73.3
C14	4.761	0.003	2209	1508	AK103	(C25-C36)	81843694	1118.0
C16	5.427	0.003	2705	1181	OR.DIES	(C10-C28)	42533013	217.0
C18	6.039	0.018	6986	4414				
C20	6.579	-0.014	19767	21142	JET-A	(C10-C18)	458861	2.8
C22	7.156	0.001	98436	66301				
C24	7.705	0.002	353278	139461				
C25	7.971	-0.002	467191	365588				
C26	8.230	-0.004	516841	154421				
C28	8.741	0.003	615682	214057				
C32	9.663	0.000	603005	290468				
C34	10.083	-0.003	449999	287305				
Filter Peak	12.092	0.001	18211	3638	BUNKERC	(C10-C38)	99918056	2531.0
C36	10.486	0.000	256800	89117				
C38	10.883	0.008	121233	54063				
C40	11.322	-0.002	50051	34834				
o-terph	6.202	-0.006	28155	77066				
Triacon Surr	9.226	-0.012	7998233	7499573	NAS DIES	(C10-C24)	10462583	53.6

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	77066	0.4
Triacontane	7499573	50.5 M

M Indicates the peak was manually integrated

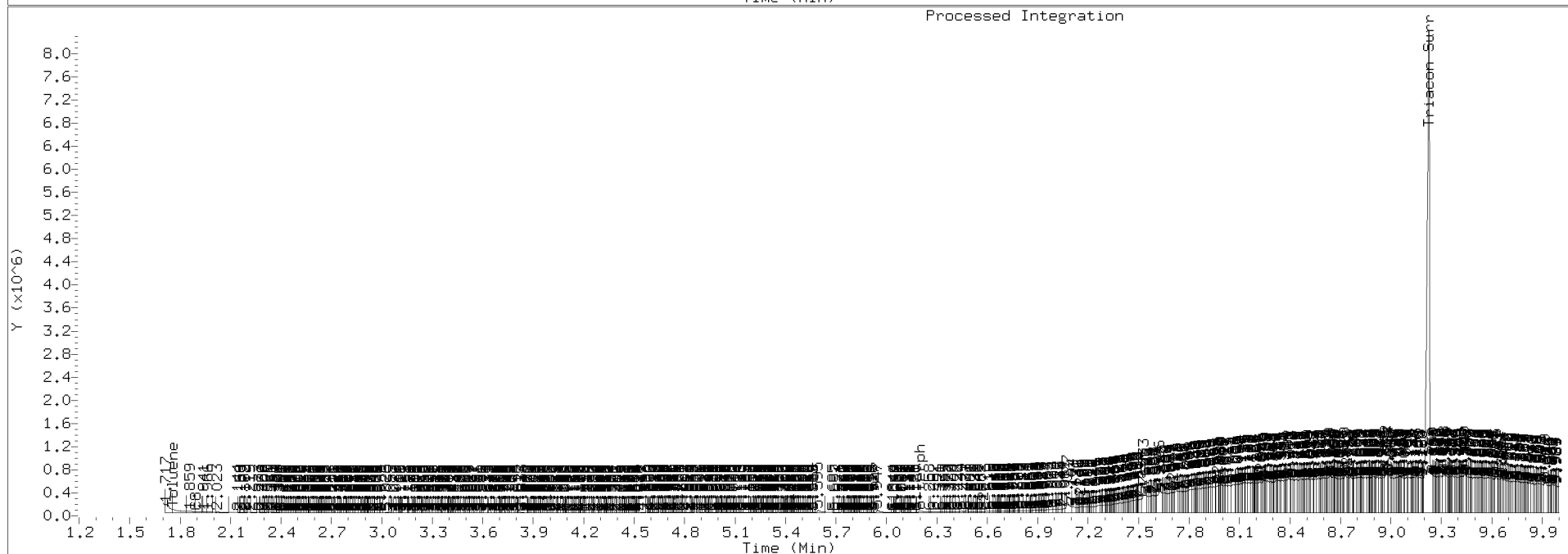
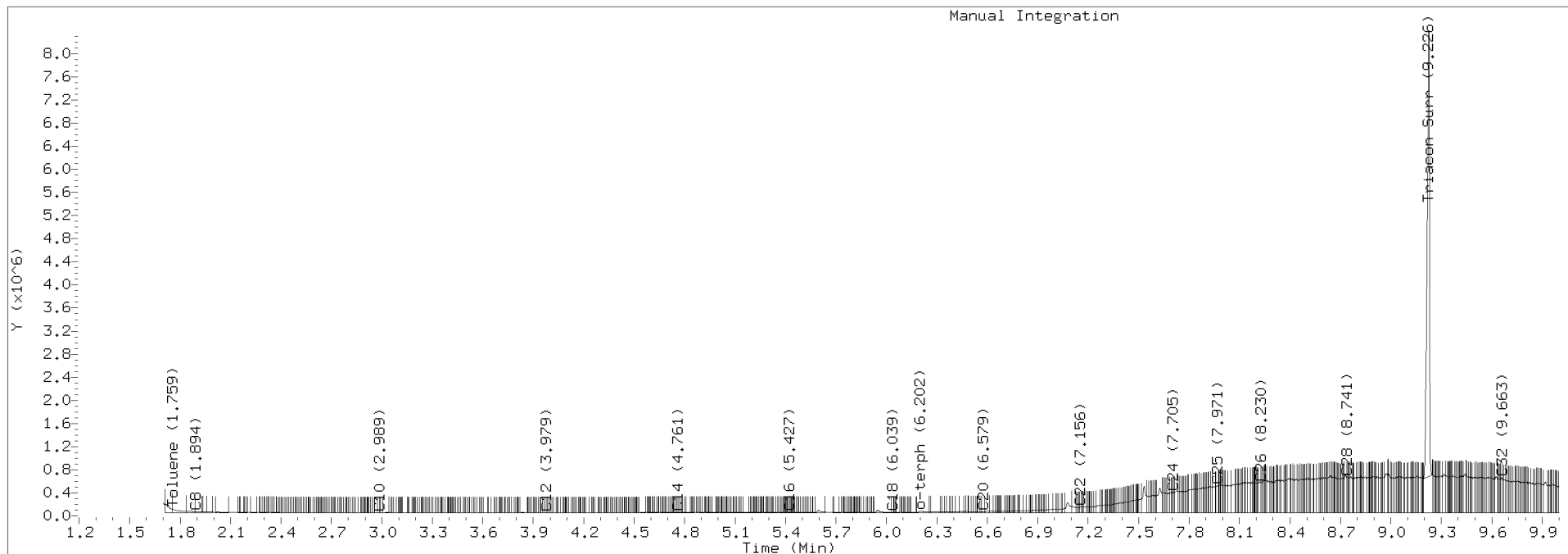
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2219.D Injection: 22-NOV-2020 16:14

Lab ID:SIK0317-CCV1





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2220.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0409</u>	Injection Date:	<u>11/22/20</u>
Lab Sample ID:	<u>SIK0409-CCV2</u>	Injection Time:	<u>16:34</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	454	159336.7	144549.3		-9.3	+/-15
o-Terphenyl	A	90.000	83.9	204701.9	190827.8		-6.8	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201122,b\420K2220.D

Date: 22-NOV-2020 16:34

Client ID:

Sample Info: SIK0317-CCV2

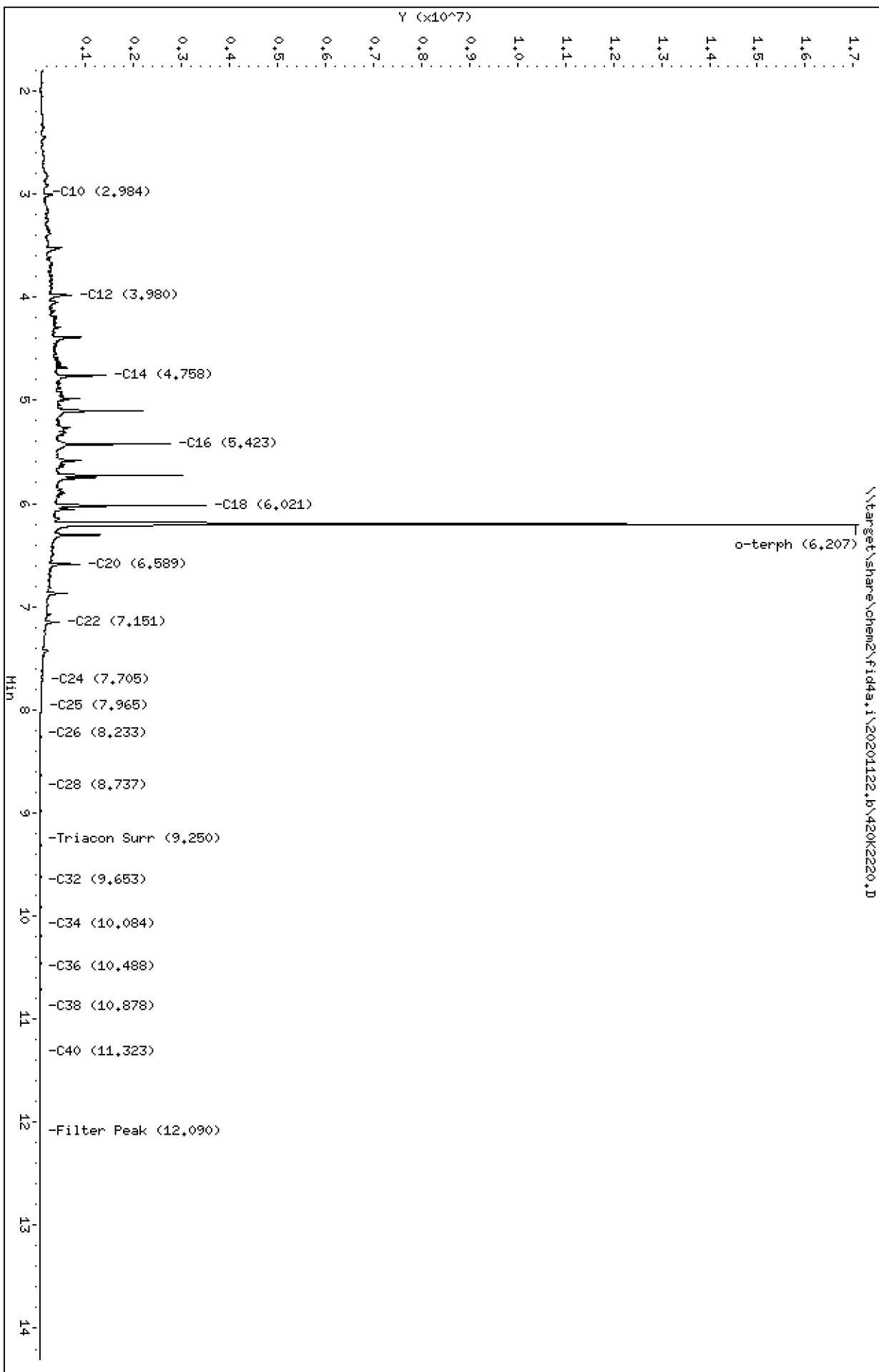
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2220.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV2
Client ID:
Injection: 22-NOV-2020 16:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

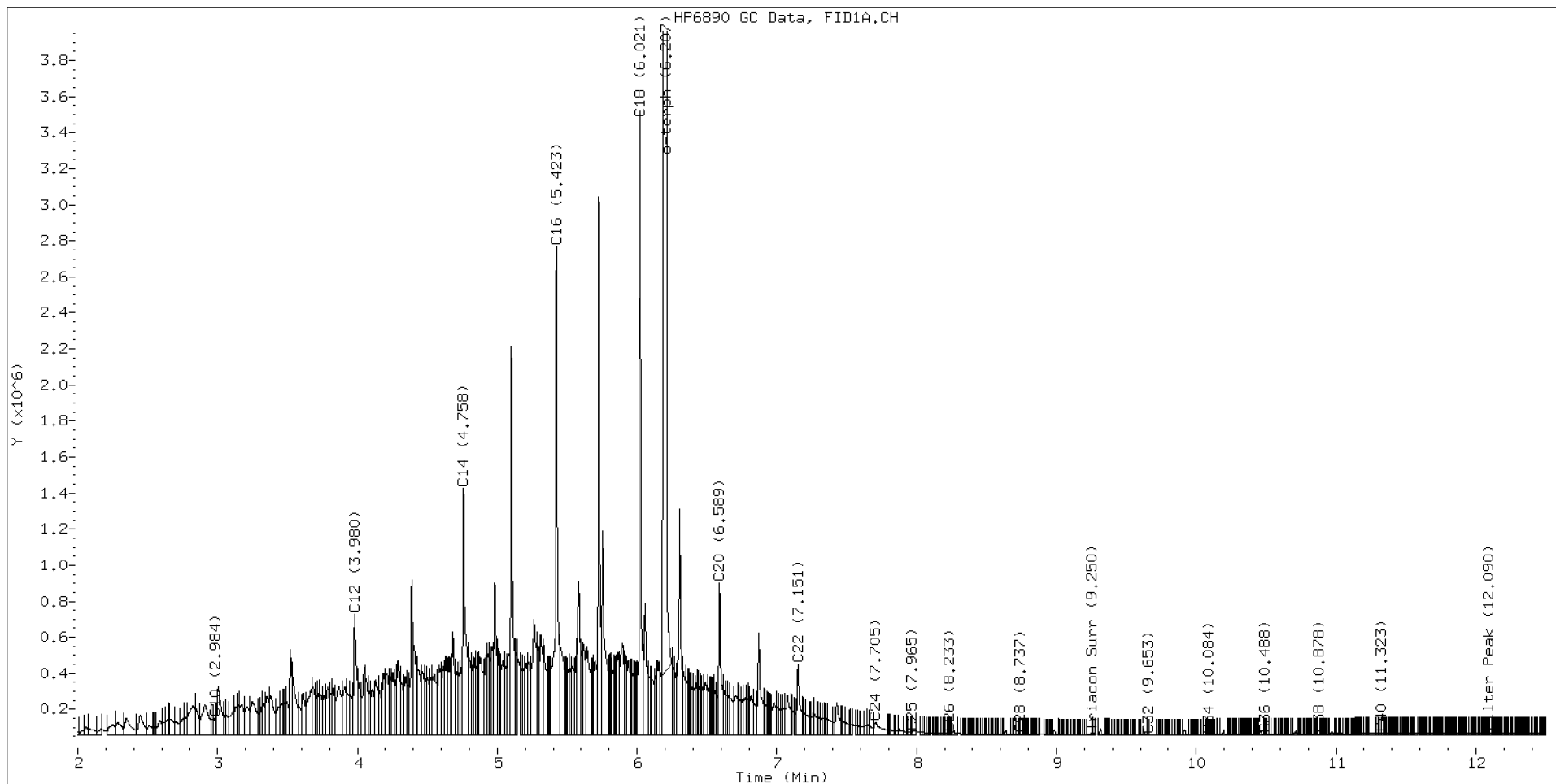
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.890	-0.009	24682	22504	WATPHD	(C12-C24)	72274635	453.6
C10	2.984	-0.002	93644	41804	WATPHM	(C24-C38)	870744	8.6
C12	3.980	0.004	666056	955998	AK102	(C10-C25)	84689629	433.2
C14	4.758	0.000	1367455	1786227	AK103	(C25-C36)	590965	8.1
C16	5.423	-0.001	2709921	3147849	OR.DIES	(C10-C28)	85040253	433.9
C18	6.021	-0.001	3464331	2996594				
C20	6.589	-0.004	839076	957424	JET-A	(C10-C18)	65631780	395.7
C22	7.151	-0.004	389320	545129				
C24	7.705	0.001	70050	254373				
C25	7.965	-0.008	15248	2282				
C26	8.233	-0.001	7486	2604				
C28	8.737	-0.001	2082	816				
C32	9.653	-0.010	496	285				
C34	10.084	-0.002	841	412				
Filter Peak	12.090	-0.001	7747	2691	BUNKERC	(C10-C38)	85399880	2163.3
C36	10.488	0.002	3214	1425				
C38	10.878	0.004	6220	5544				
C40	11.323	-0.001	7782	1940				
o-terph	6.207	-0.001	16683514	17174500				
Triacon Surr	9.250	0.012	7344	9181	NAS DIES	(C10-C24)	84529136	433.2

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	17174500	83.9 M
Triacontane	9181	0.1

M Indicates the peak was manually integrated

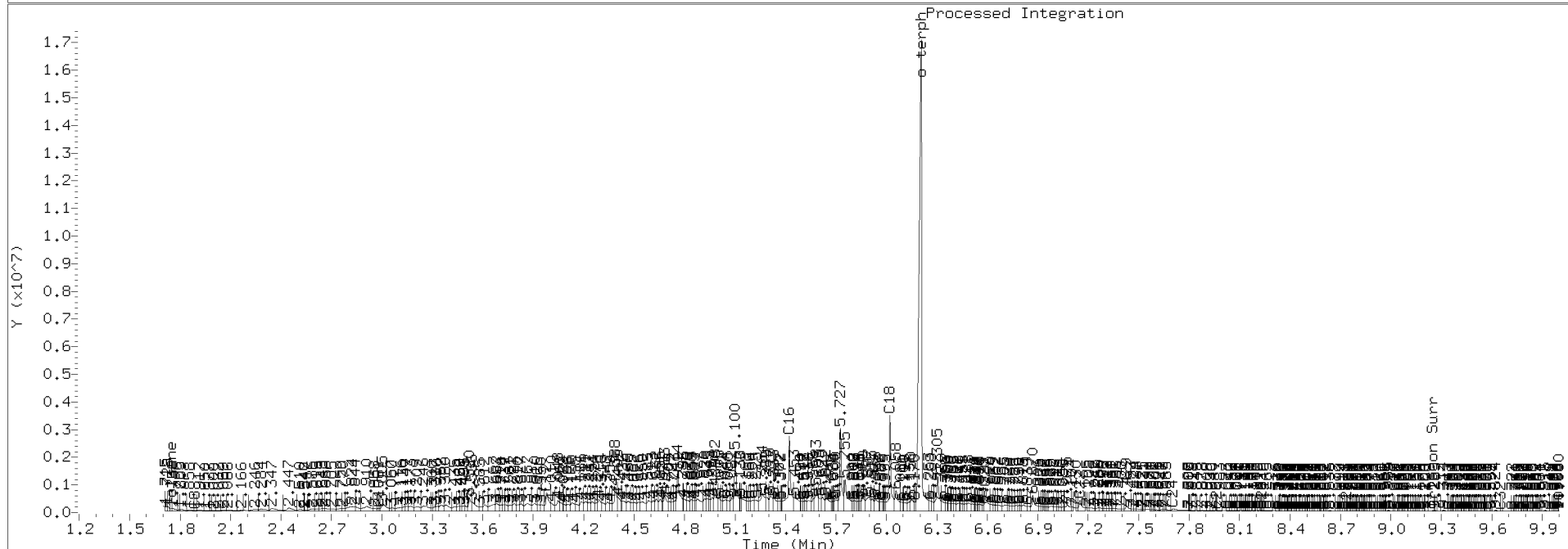
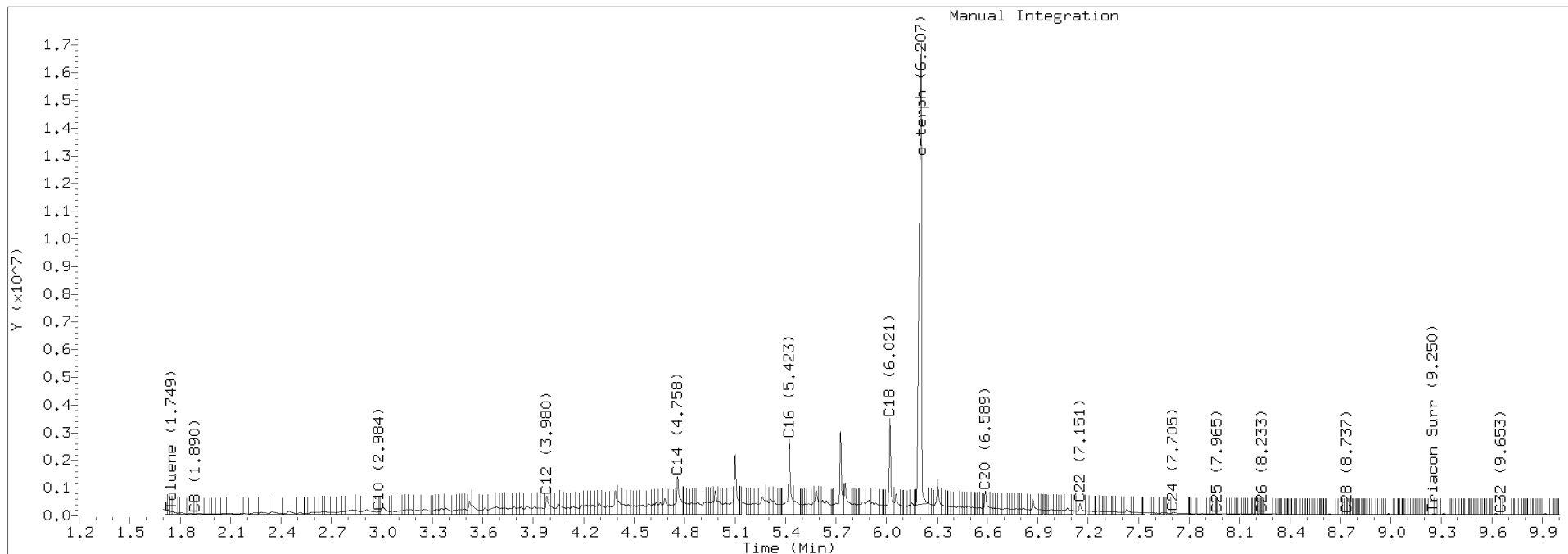
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2220.D Injection: 22-NOV-2020 16:34

Lab ID:SIK0317-CCV2



Data File: \\target\share\chem2\fid4a,1\20201122,6\420K2237.D

Date: 22-NOV-2020 22:17

Client ID:

Sample Info: SIK0317-CCV3

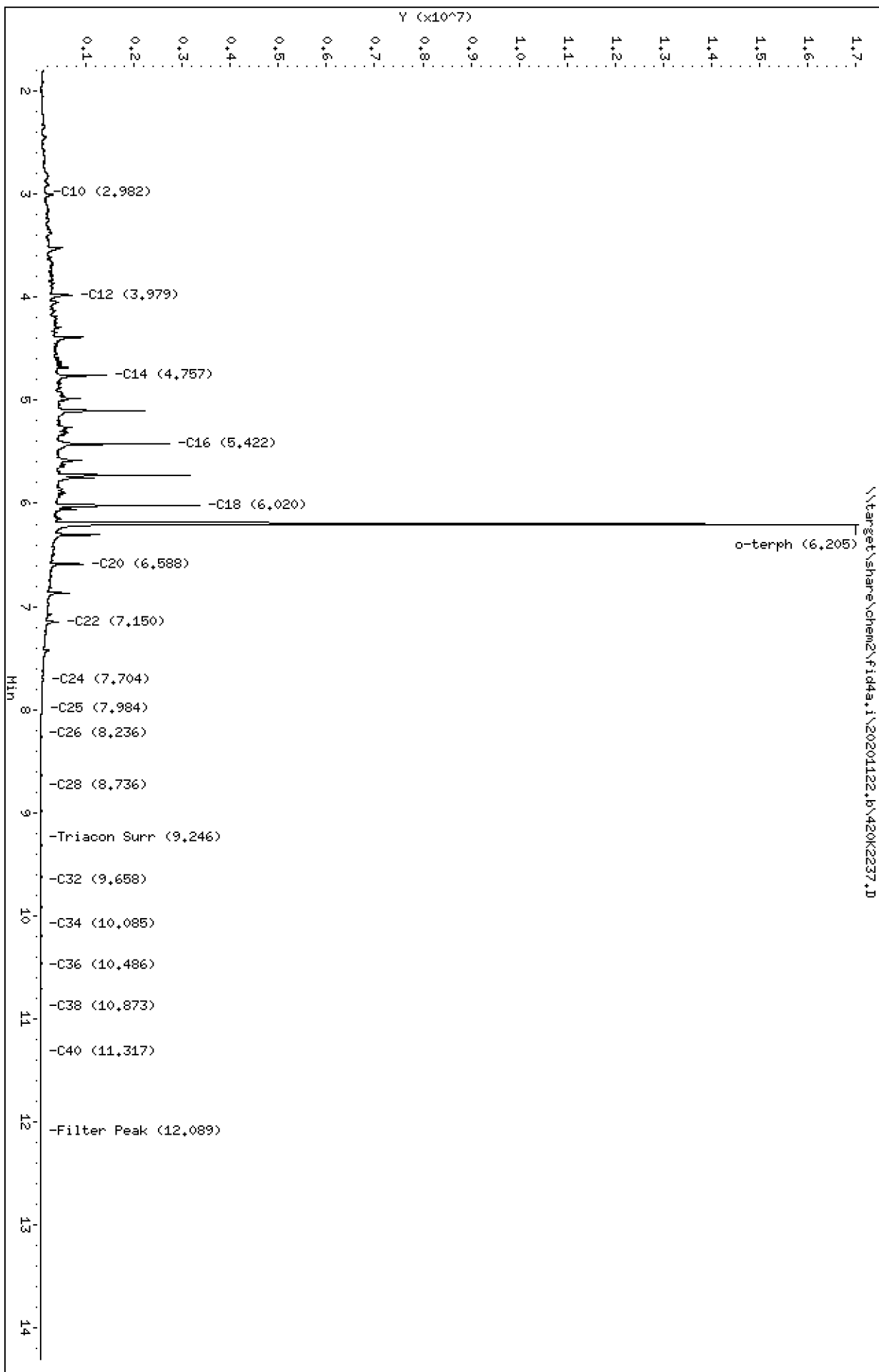
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2237.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV3
Client ID:
Injection: 22-NOV-2020 22:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

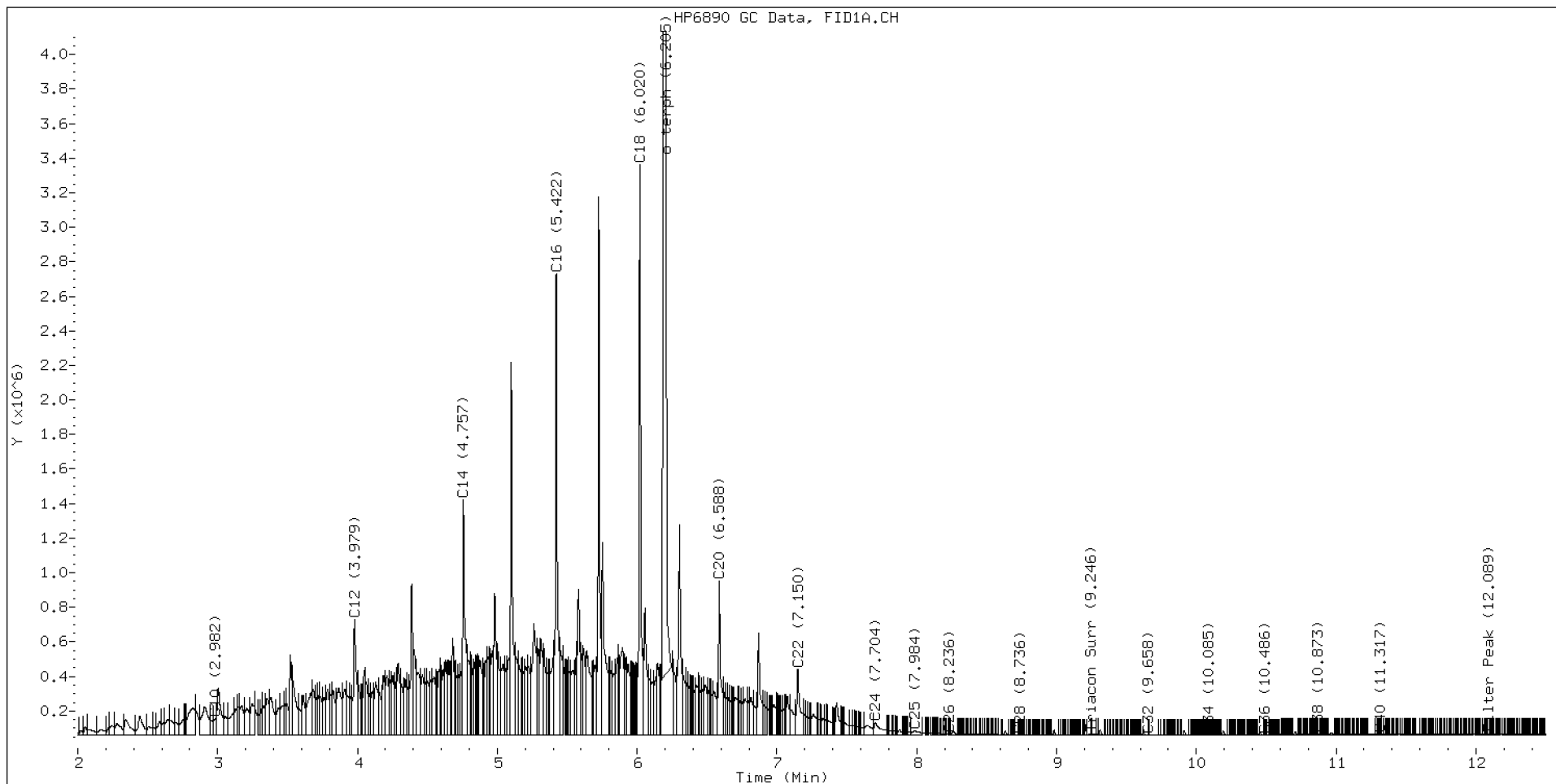
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.886	-0.012	27463	26958	WATPHD	(C12-C24)	72477066	454.9
C10	2.982	-0.004	94390	106357	WATPHM	(C24-C38)	895632	8.9
C12	3.979	0.004	668416	937206	AK102	(C10-C25)	84670311	433.1
C14	4.757	-0.001	1361387	1727595	AK103	(C25-C36)	602153	8.2
C16	5.422	-0.002	2670078	2505512	OR.DIES	(C10-C28)	85042459	433.9
C18	6.020	-0.002	3302579	2957820				
C20	6.588	-0.005	889817	1041450	JET-A	(C10-C18)	65296895	393.7
C22	7.150	-0.005	379805	603468				
C24	7.704	0.001	70110	247124				
C25	7.984	0.011	23710	86773				
C26	8.236	0.002	7922	2350				
C28	8.736	-0.002	2215	973				
C32	9.658	-0.005	380	159				
C34	10.085	-0.001	800	373				
Filter Peak	12.089	-0.002	4608	2968	BUNKERC	(C10-C38)	85382345	2162.8
C36	10.486	0.000	2775	1224				
C38	10.873	-0.002	5298	3406				
C40	11.317	-0.007	6182	4588				
o-terph	6.205	-0.002	16637607	17248214				
Triacon Surr	9.246	0.008	7837	8200	NAS DIES	(C10-C24)	84486713	432.9

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	17248214	84.3 M
Triacontane	8200	0.1

M Indicates the peak was manually integrated

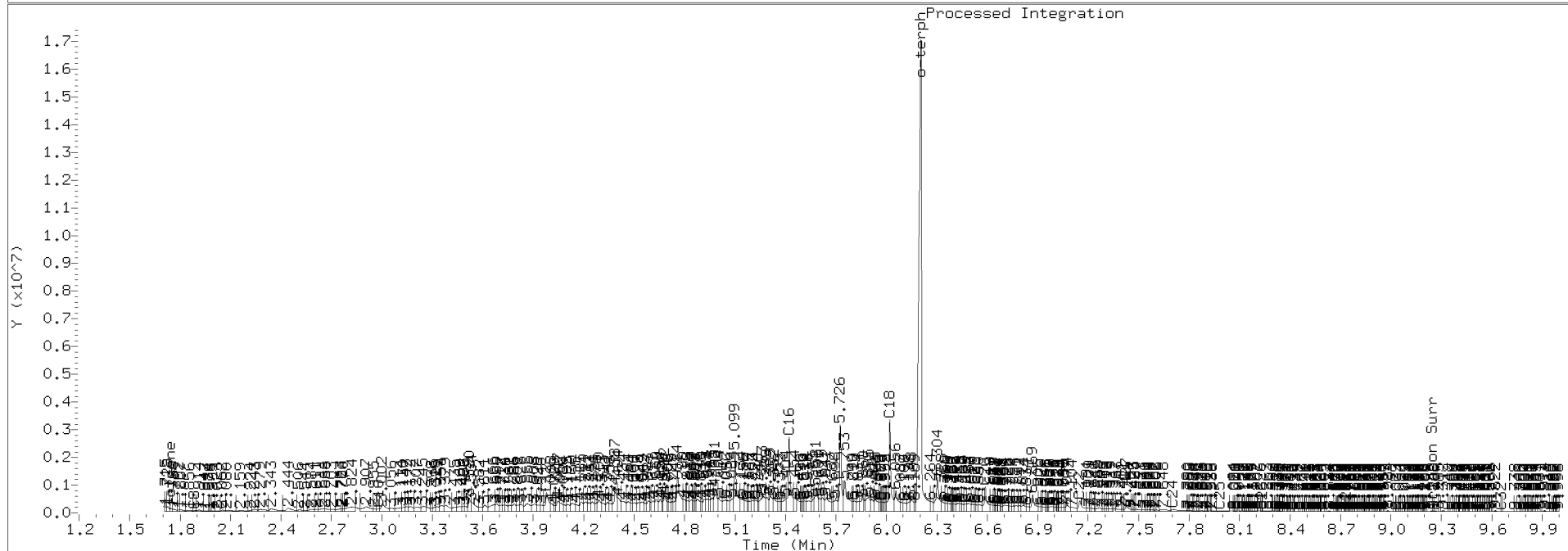
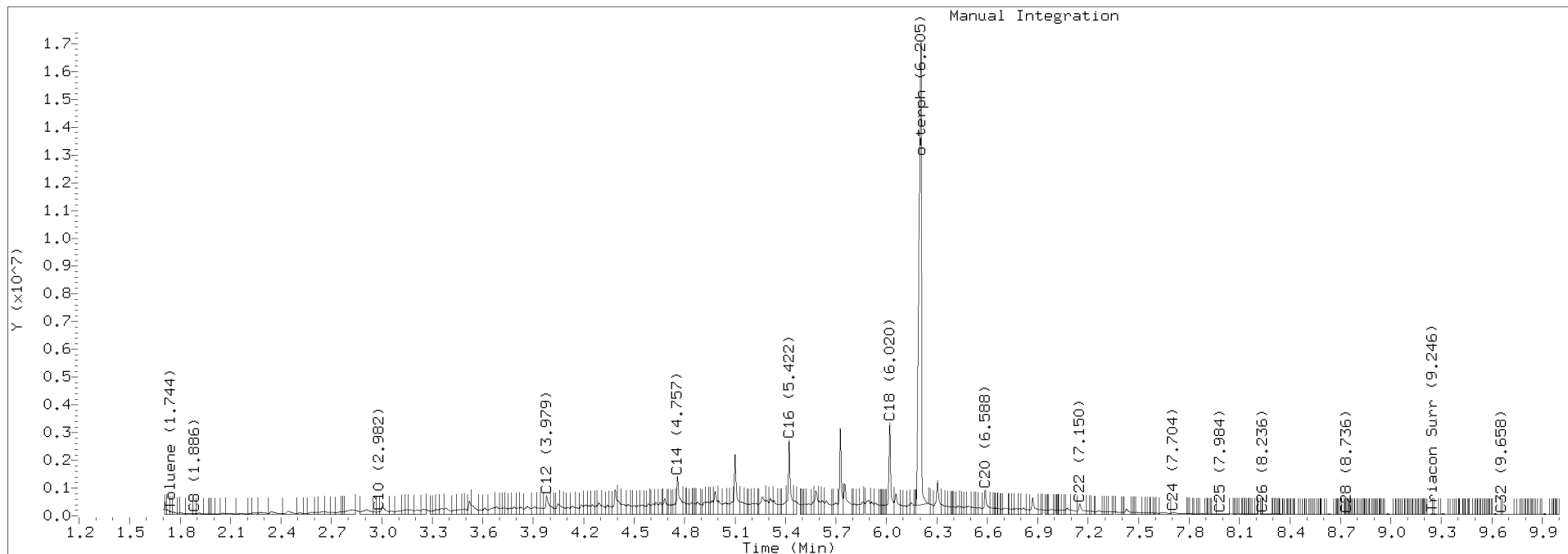
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2237.D Injection: 22-NOV-2020 22:17

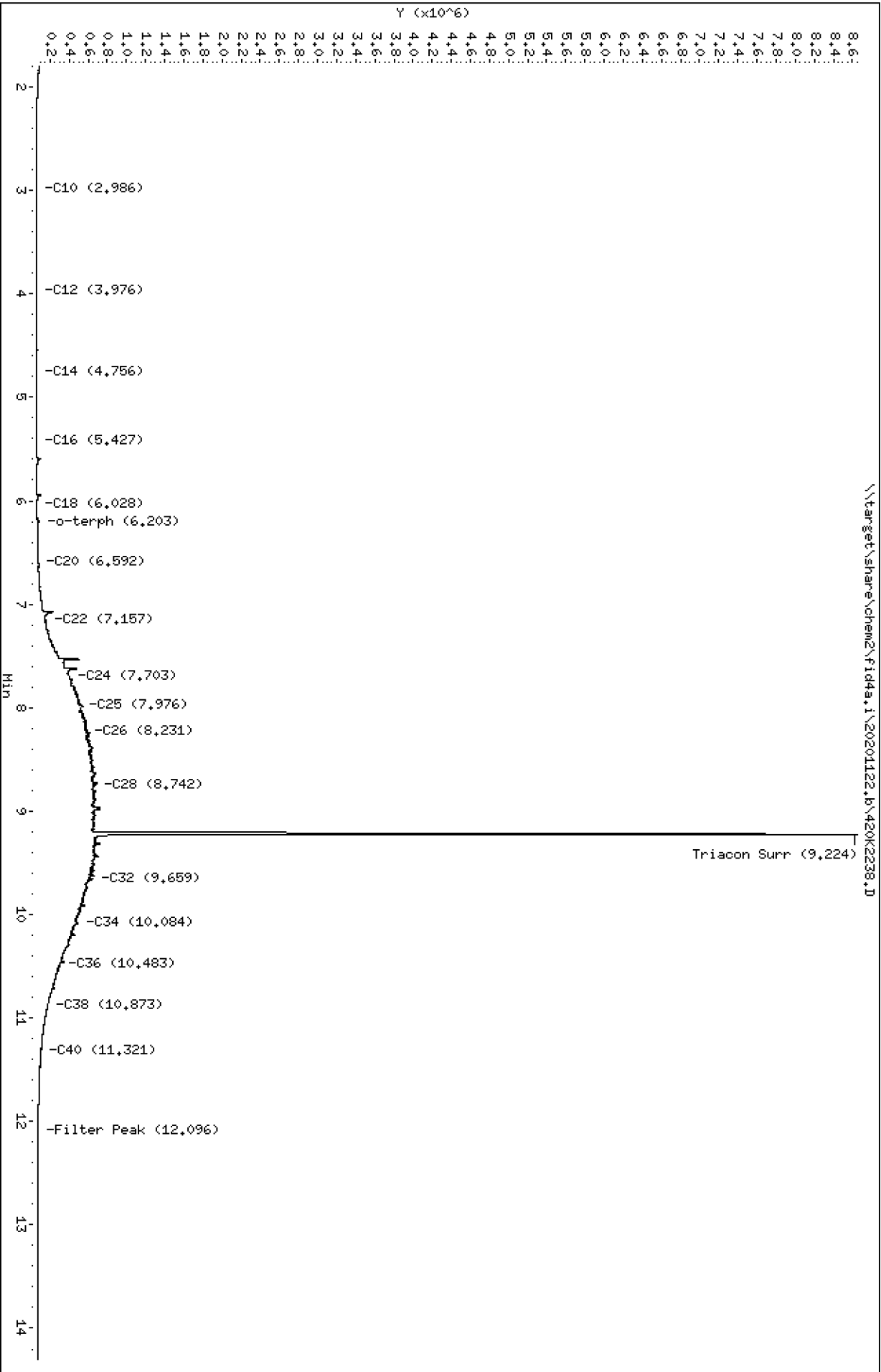
Lab ID:SIK0317-CCV3



Data File: \\target\share\chem2\fid4a,1\20201122,16\420K2238.D
Date: 22-NOV-2020 22:38
Client ID:
Sample Info: SIK0317-CCV4

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2238.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV4
Client ID:
Injection: 22-NOV-2020 22:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

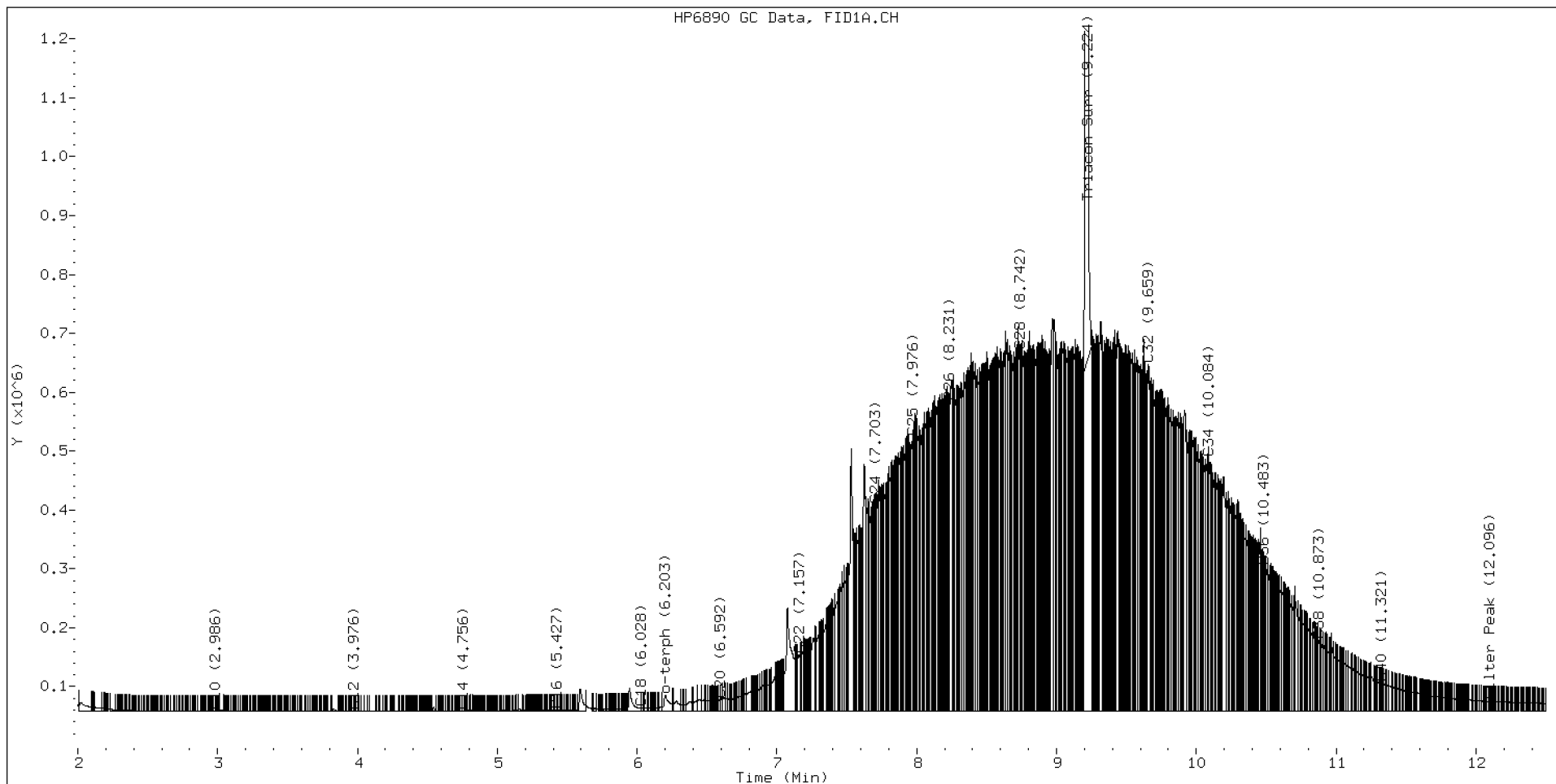
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.891	-0.007	17772	47505	WATPHD	(C12-C24)	10081222	63.3
C10	2.986	-0.000	641	398	WATPHM	(C24-C38)	87413842	864.1
C12	3.976	0.000	456	179	AK102	(C10-C25)	14264772	73.0
C14	4.756	-0.001	1633	1235	AK103	(C25-C36)	79563439	1086.8
C16	5.427	0.003	2017	399	OR.DIES	(C10-C28)	42455269	216.6
C18	6.028	0.006	5760	1996				
C20	6.592	-0.000	19584	14284	JET-A	(C10-C18)	370834	2.2
C22	7.157	0.002	97105	126167				
C24	7.703	-0.000	350140	155949				
C25	7.976	0.003	466055	183667				
C26	8.231	-0.003	525579	233959				
C28	8.742	0.005	612996	333085				
C32	9.659	-0.004	589372	647589				
C34	10.084	-0.002	429778	253965				
Filter Peak	12.096	0.005	17013	3398	BUNKERC	(C10-C38)	97538785	2470.8
C36	10.483	-0.003	246266	133584				
C38	10.873	-0.001	120419	71056				
C40	11.321	-0.002	48577	16898				
o-terph	6.203	-0.005	27456	74592				
Triacon Surr	9.224	-0.014	7995656	7422829	NAS DIES	(C10-C24)	10124943	51.9

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	74592	0.4
Triacontane	7422829	50.0 M

M Indicates the peak was manually integrated

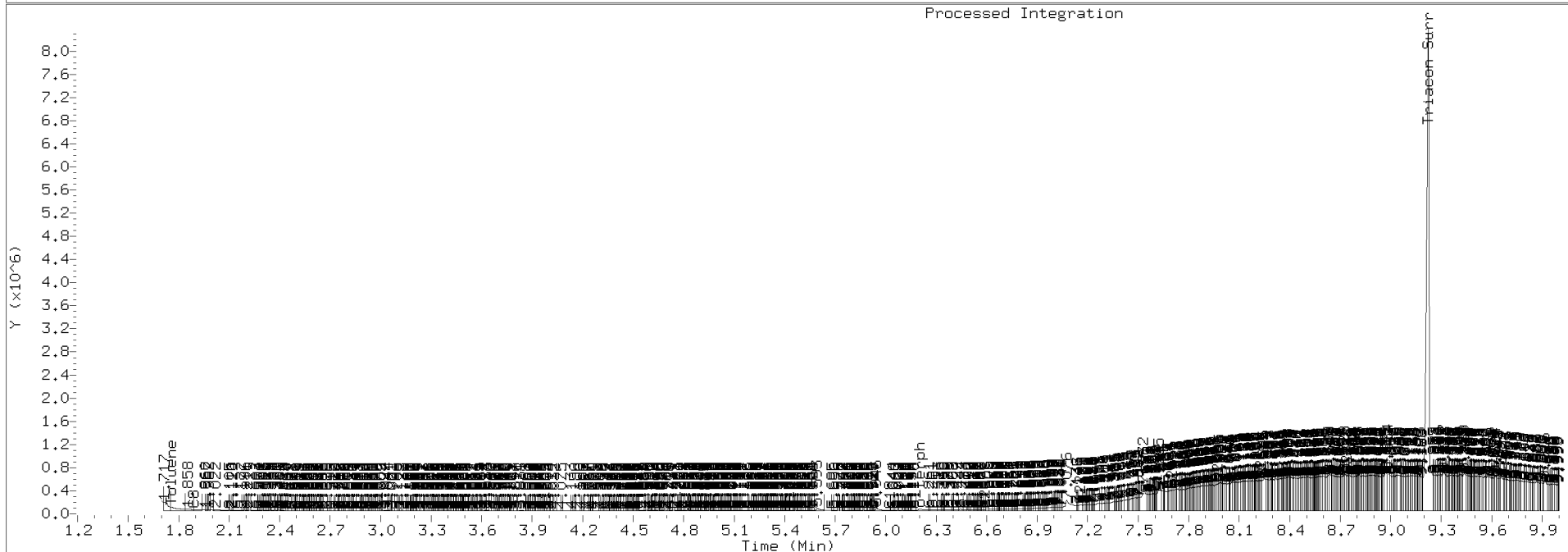
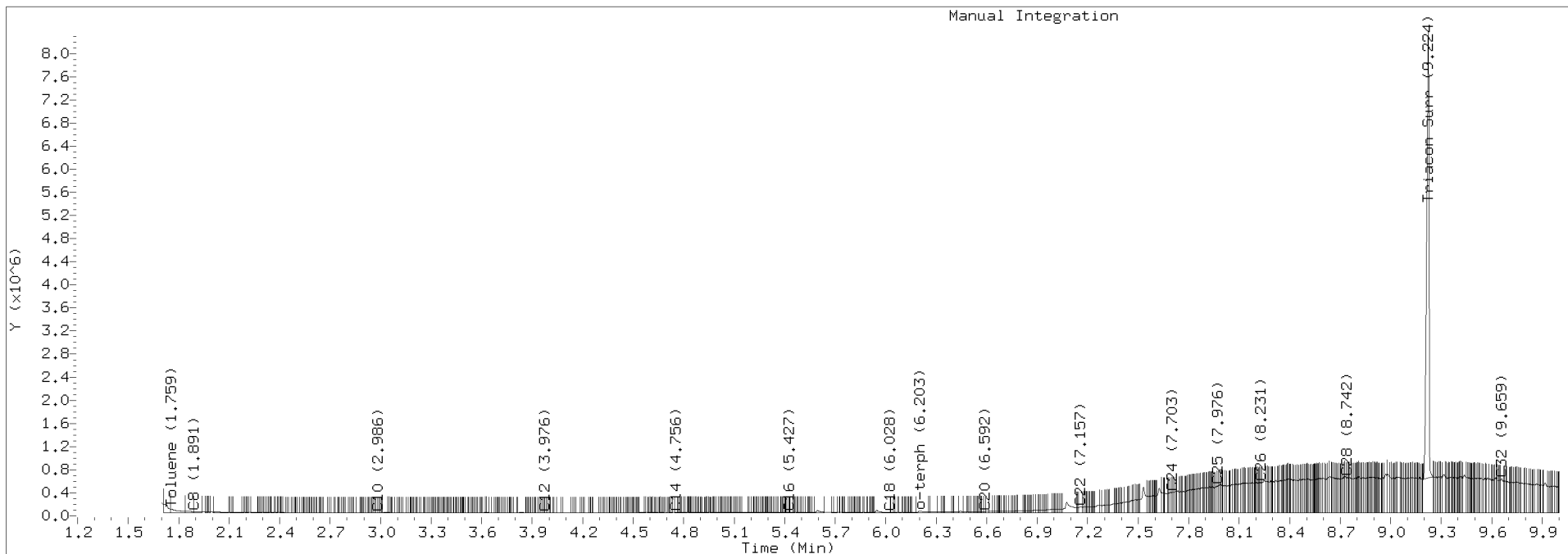
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2238.D Injection: 22-NOV-2020 22:38

Lab ID:SIK0317-CCV4



Data File: \\target\share\chem2\fid4a,1\20201122,6\420K2249.D

Date: 23-NOV-2020 02:20

Client ID:

Sample Info: SIK0317-CCWS

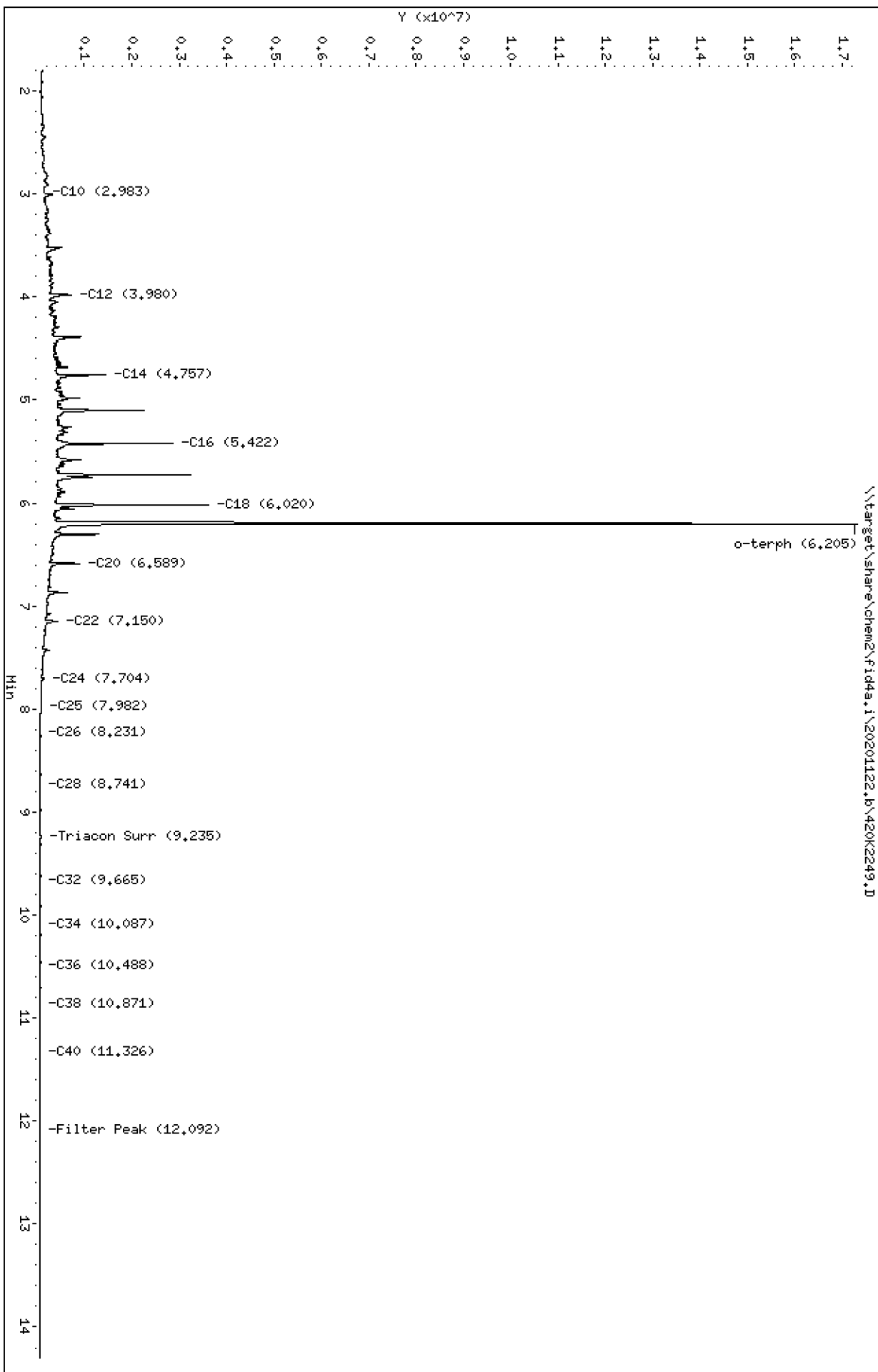
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2249.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV5
Client ID:
Injection: 23-NOV-2020 02:20
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

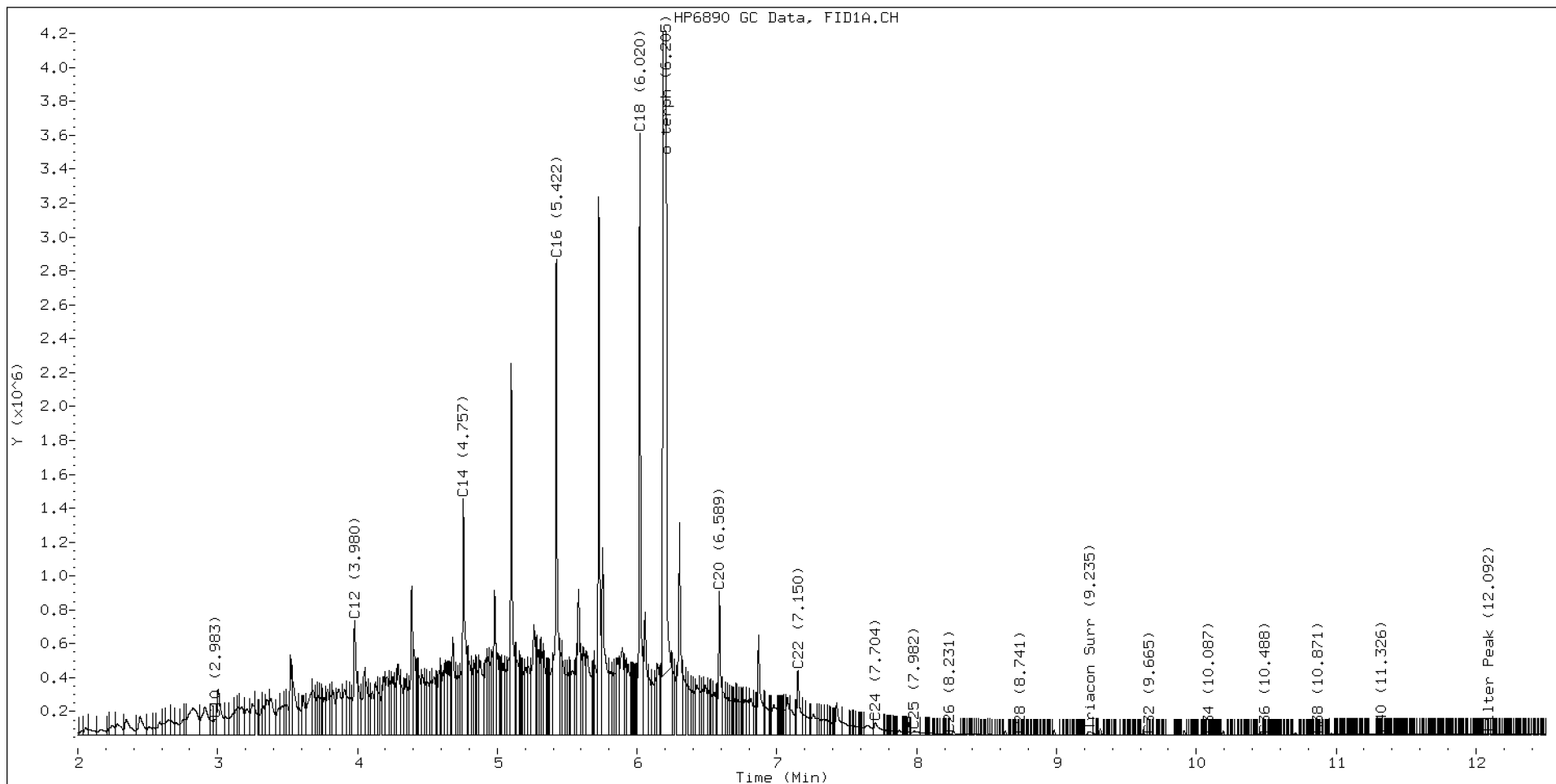
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.889	-0.010	27199	26803	WATPHD	(C12-C24)	73656064	462.3
C10	2.983	-0.003	96368	114107	WATPHM	(C24-C38)	986642	9.8
C12	3.980	0.004	675702	952267	AK102	(C10-C25)	86013677	440.0
C14	4.757	-0.000	1397756	1713661	AK103	(C25-C36)	672065	9.2
C16	5.422	-0.002	2810187	2945979	OR.DIES	(C10-C28)	86439169	441.0
C18	6.020	-0.002	3550817	3023571				
C20	6.589	-0.004	848960	986499	JET-A	(C10-C18)	66604496	401.6
C22	7.150	-0.005	383227	536712				
C24	7.704	0.000	75095	209825				
C25	7.982	0.010	24661	77613				
C26	8.231	-0.003	8323	2475				
C28	8.741	0.004	2650	1642				
C32	9.665	0.002	265	150				
C34	10.087	0.001	553	158				
Filter Peak	12.092	0.001	6703	1335	BUNKERC	(C10-C38)	86780147	2198.2
C36	10.488	0.002	2545	748				
C38	10.871	-0.003	4837	1682				
C40	11.326	0.003	6227	1550				
o-terph	6.205	-0.002	16887839	17571092				
Triacon Surr	9.235	-0.003	21880	46099	NAS DIES	(C10-C24)	85793505	439.6

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	17571092	85.8 M
Triacontane	46099	0.3

M Indicates the peak was manually integrated

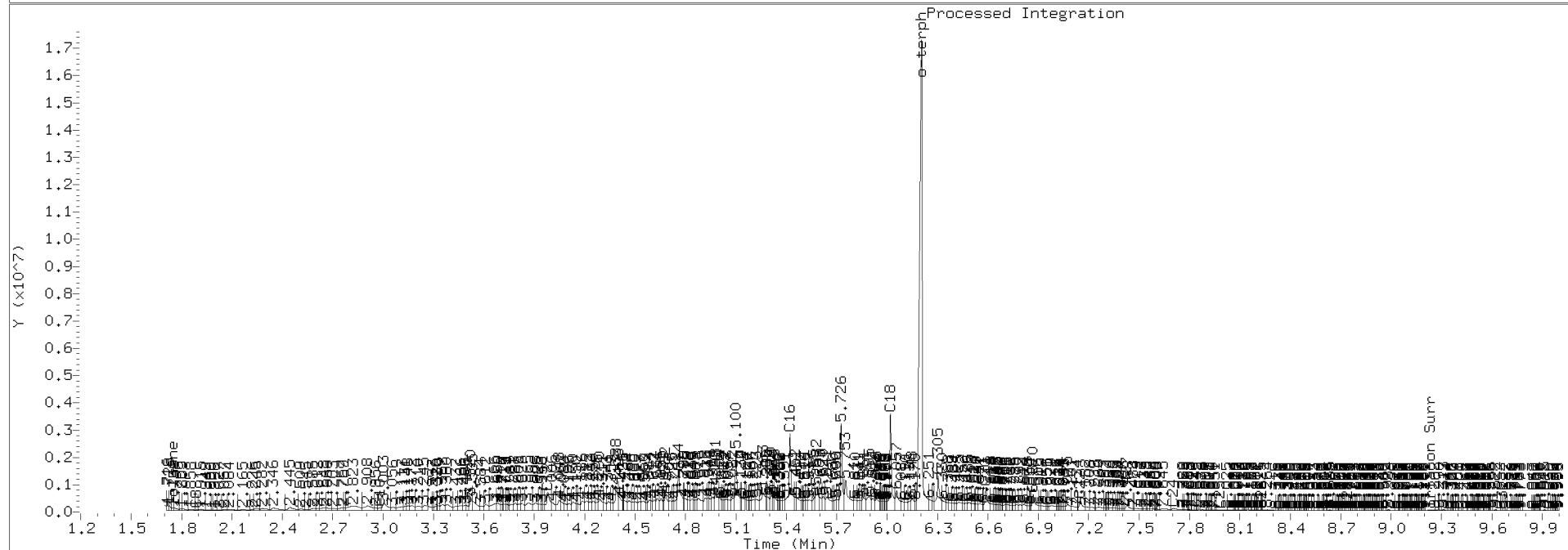
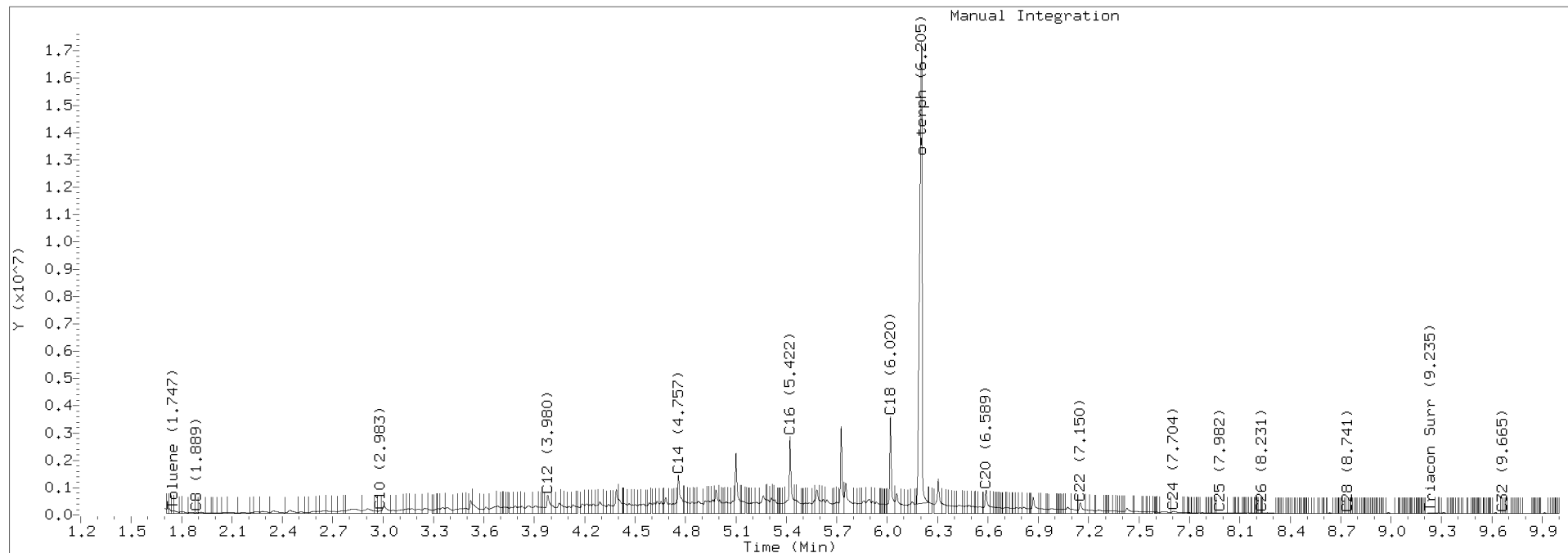
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2249.D Injection: 23-NOV-2020 02:20

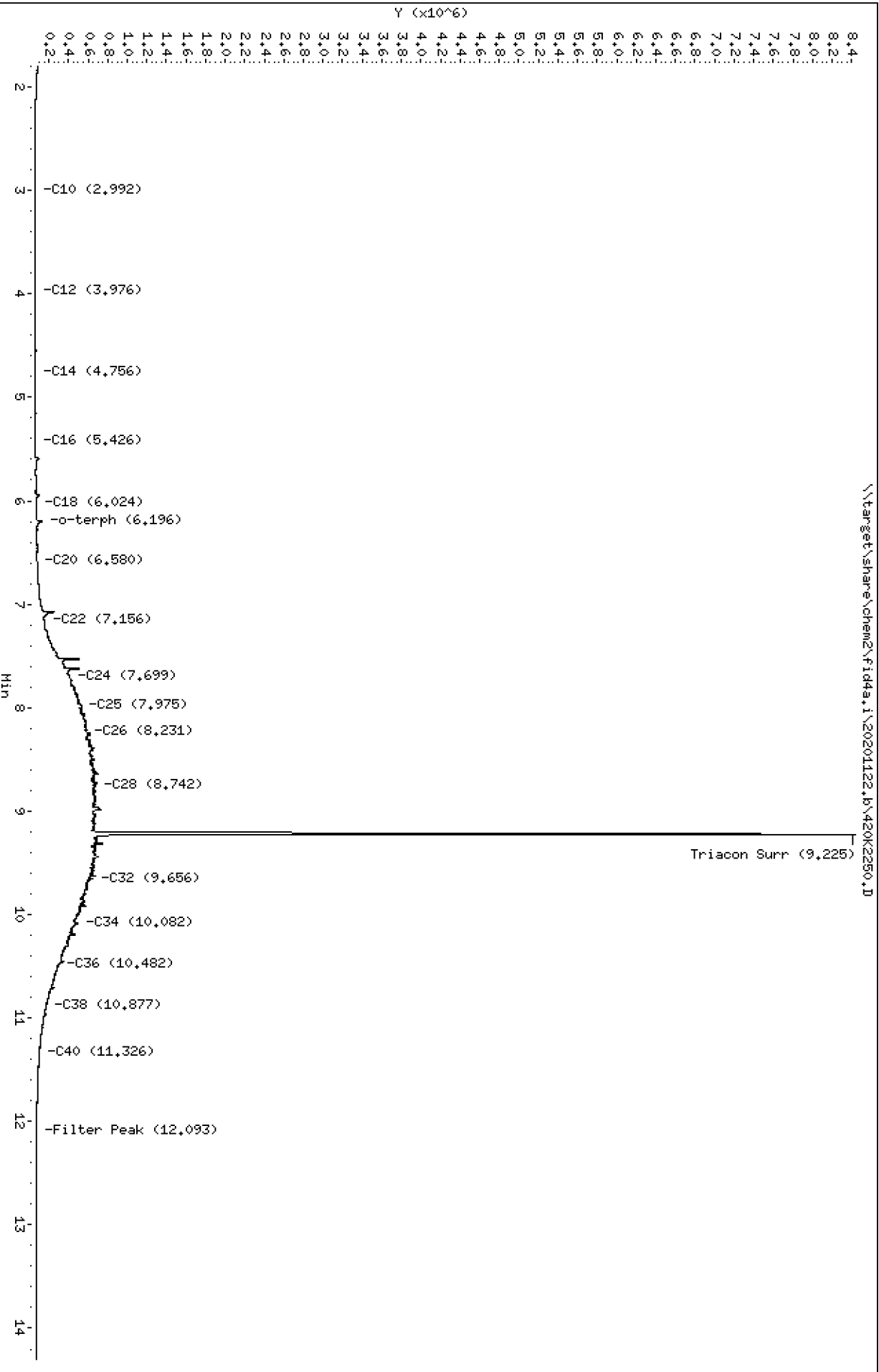
Lab ID:SIK0317-CCV5



Data File: \\target\share\chem2\fid4a,1\20201122,6\420K2250.D
Date: 23-NOV-2020 02:40
Client ID:
Sample Info: SIK0317-CCW6

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2250.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV6
Client ID:
Injection: 23-NOV-2020 02:40
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

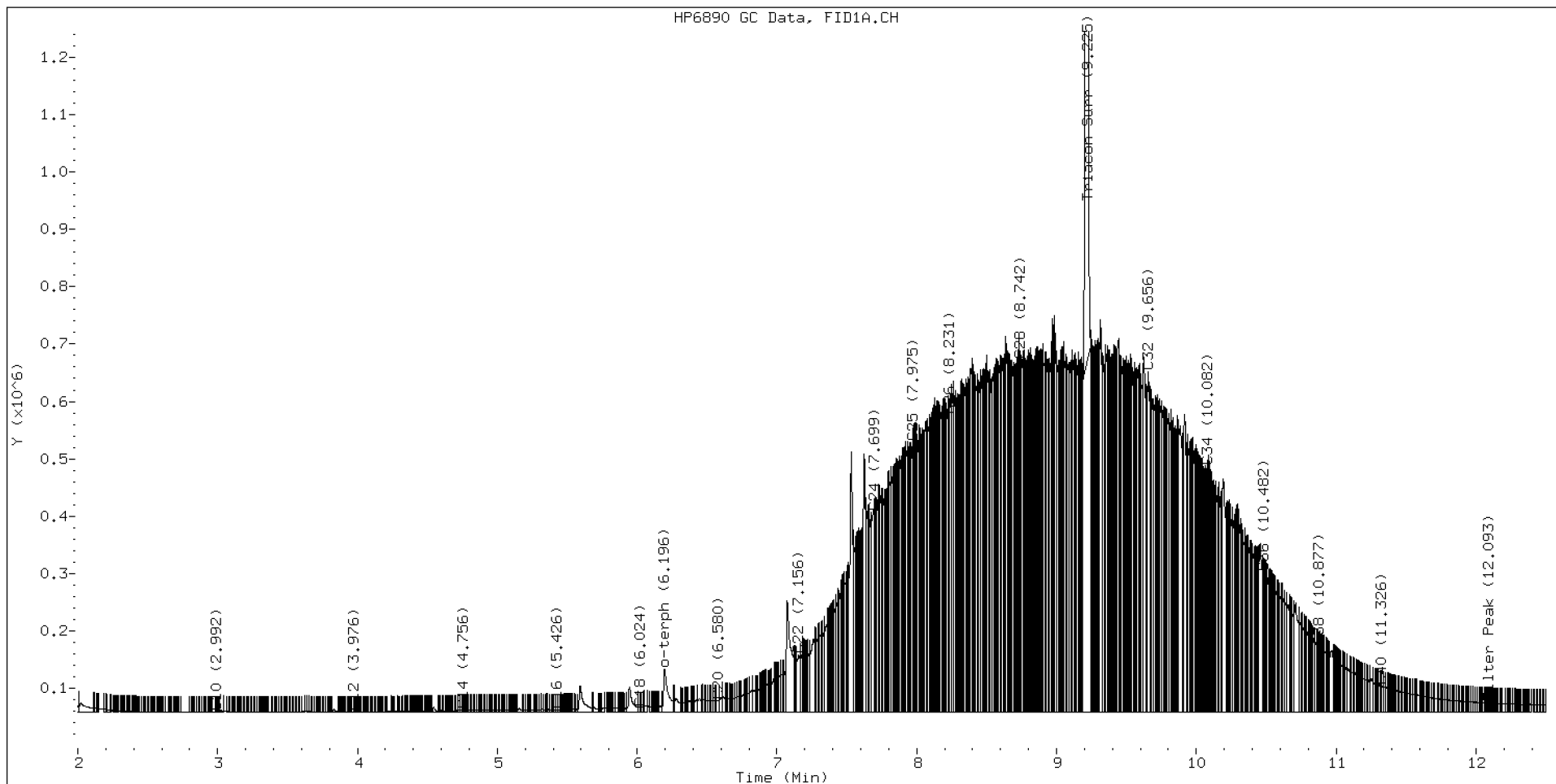
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.858	-0.040	26073	110493	WATPHD	(C12-C24)	10817543	67.9
C10	2.992	0.006	847	389	WATPHM	(C24-C38)	88380673	873.6
C12	3.976	-0.000	1280	779	AK102	(C10-C25)	15000408	76.7
C14	4.756	-0.001	3270	807	AK103	(C25-C36)	80564858	1100.5
C16	5.426	0.002	4885	4559	OR.DIES	(C10-C28)	43161434	220.2
C18	6.024	0.002	8698	3471				
C20	6.580	-0.013	21000	20638	JET-A	(C10-C18)	677688	4.1
C22	7.156	0.000	99988	160347				
C24	7.699	-0.005	349425	121892				
C25	7.975	0.002	470128	162837				
C26	8.231	-0.004	517866	103506				
C28	8.742	0.005	614159	303567				
C32	9.656	-0.006	593722	759472				
C34	10.082	-0.004	429443	212485				
Filter Peak	12.093	0.002	16333	13777	BUNKERC	(C10-C38)	99259783	2514.4
C36	10.482	-0.004	243962	133290				
C38	10.877	0.003	115582	57460				
C40	11.326	0.002	46303	47407				
o-terph	6.196	-0.012	74739	173156				
Triacon Surr	9.225	-0.013	7761763	7415973	NAS DIES	(C10-C24)	10879111	55.7

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	173156	0.8
Triacontane	7415973	50.0 M

M Indicates the peak was manually integrated

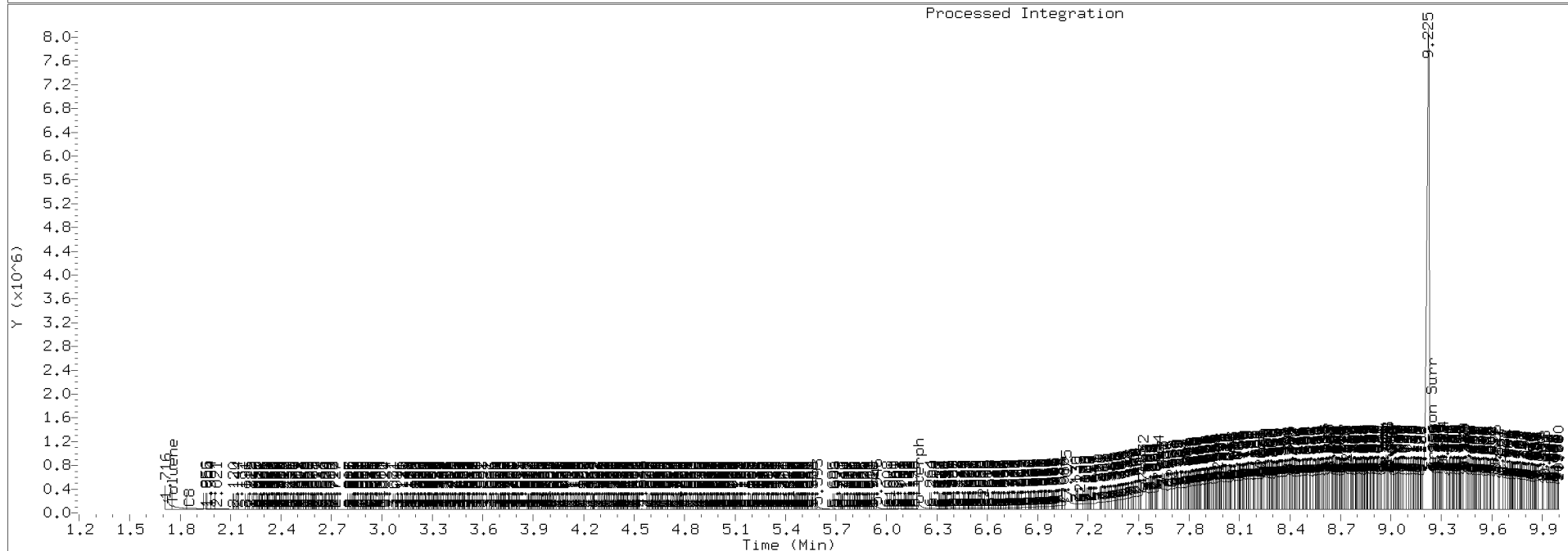
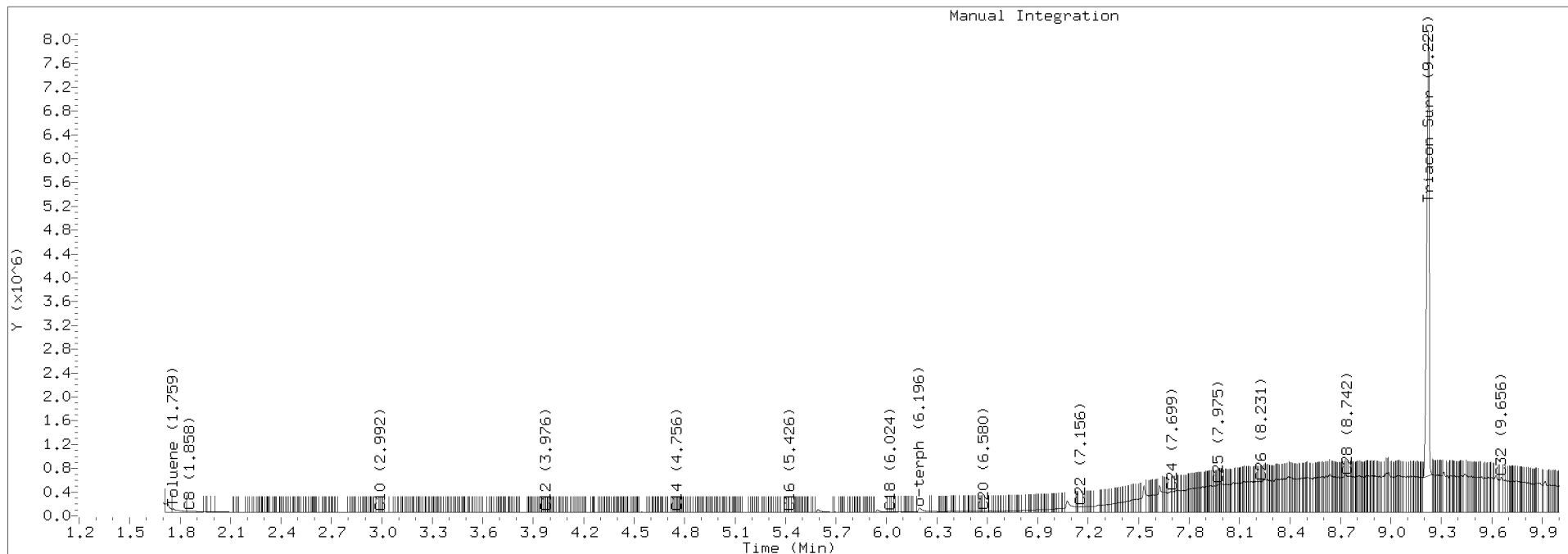
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2250.D Injection: 23-NOV-2020 02:40

Lab ID:SIK0317-CCV6





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2260.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0409</u>	Injection Date:	<u>11/23/20</u>
Lab Sample ID:	<u>SIK0409-CCV7</u>	Injection Time:	<u>06:02</u>
Sequence Name:	<u>DIESEL CCV</u>		

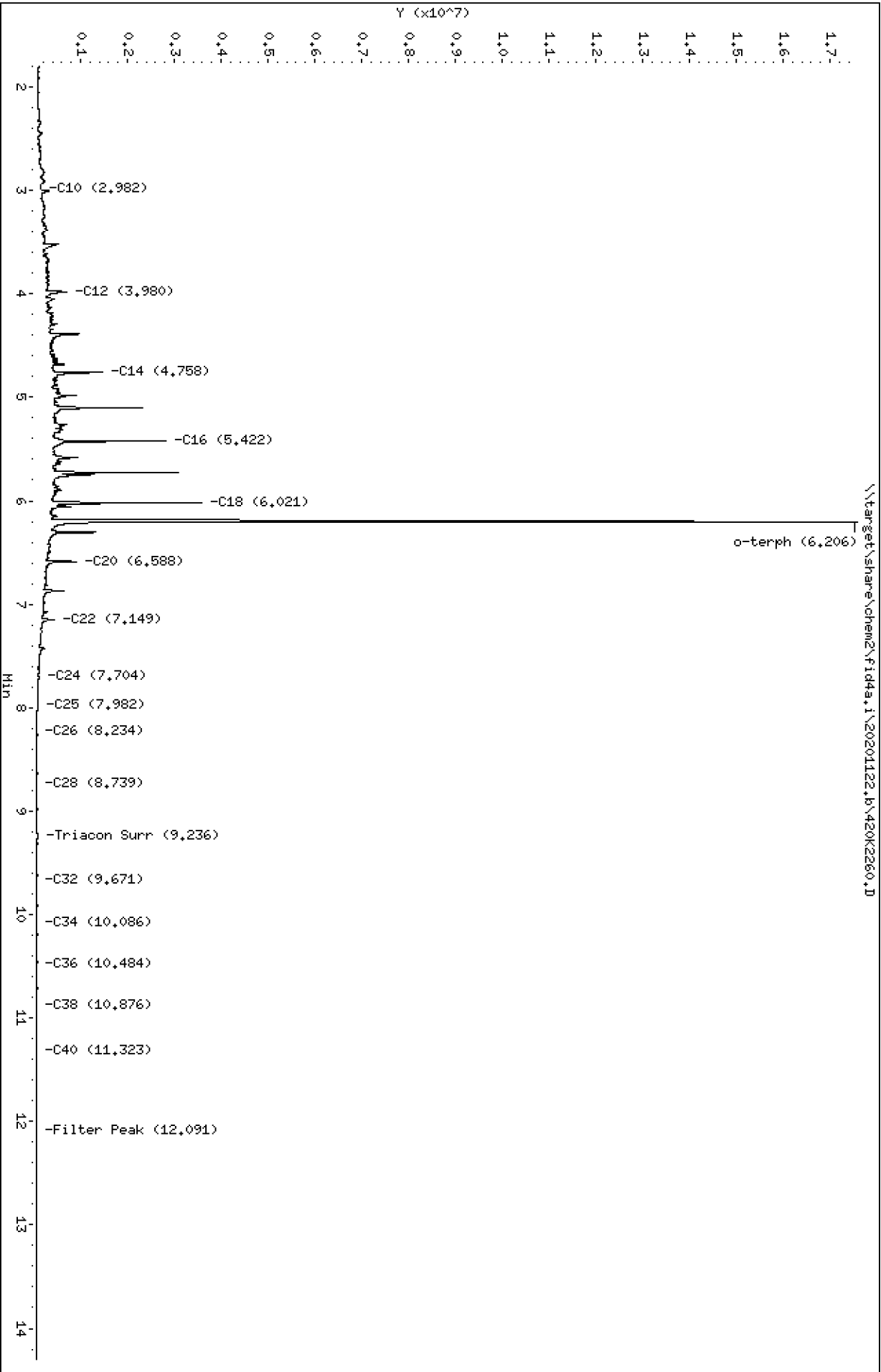
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	467	159336.7	148757.7		-6.6	+/-15
o-Terphenyl	A	90.000	86.0	204701.9	195655.3		-4.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201122,8\420K2260.D
Date: 23-NOV-2020 06:02
Client ID:
Sample Info: SIK0317-CCV7

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2260.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV7
Client ID:
Injection: 23-NOV-2020 06:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

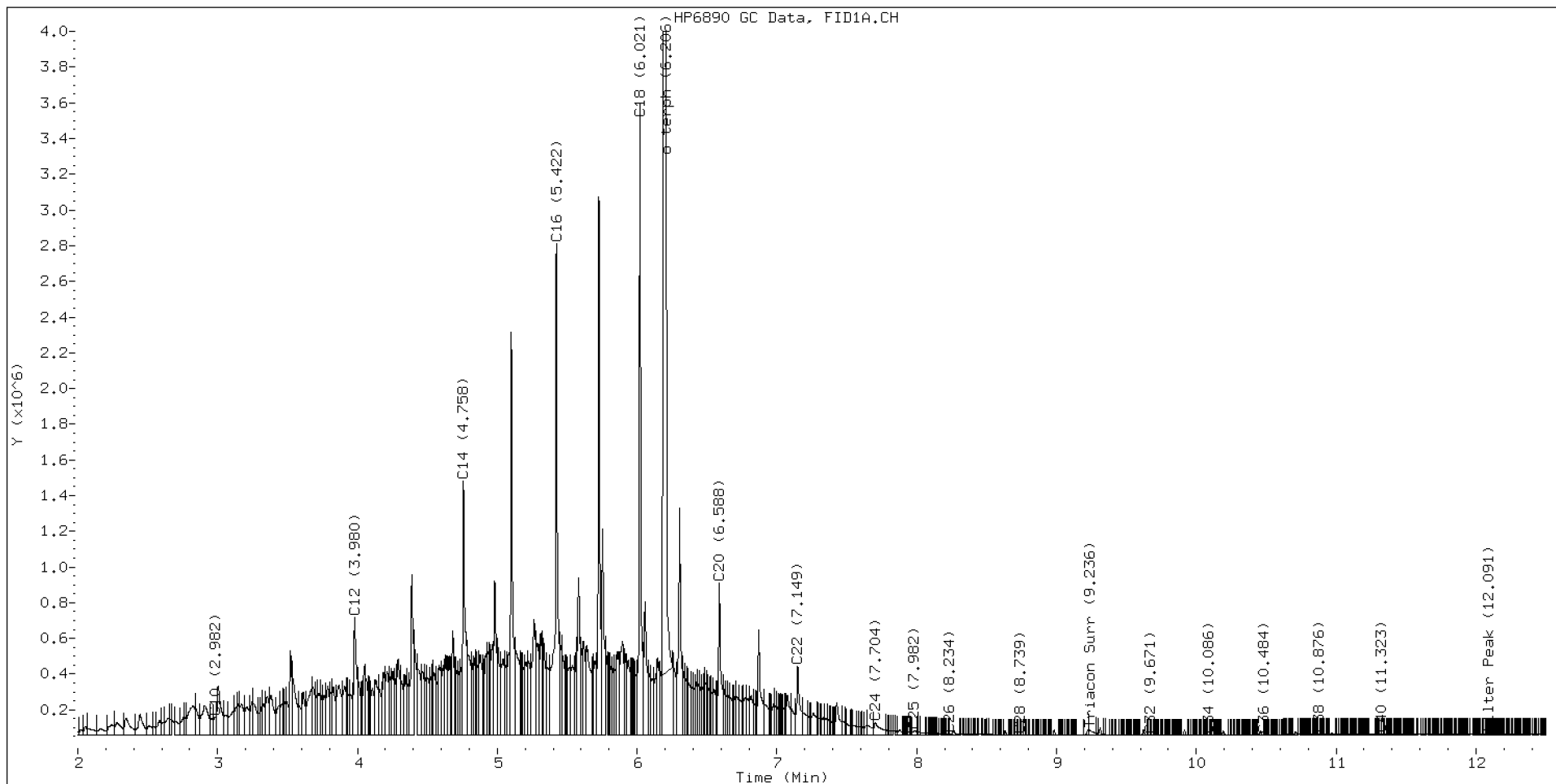
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.885	-0.013	29970	29500	WATPHD	(C12-C24)	74378870	466.8
C10	2.982	-0.004	99551	117914	WATPHM	(C24-C38)	939363	9.3
C12	3.980	0.004	658620	977106	AK102	(C10-C25)	87233278	446.2
C14	4.758	0.000	1426172	1736910	AK103	(C25-C36)	644643	8.8
C16	5.422	-0.002	2753613	3463224	OR.DIES	(C10-C28)	87612998	447.0
C18	6.021	-0.001	3540263	3079045				
C20	6.588	-0.005	854332	994740	JET-A	(C10-C18)	67498164	407.0
C22	7.149	-0.006	383703	610870				
C24	7.704	0.000	72381	235672				
C25	7.982	0.009	23320	43581				
C26	8.234	0.000	7586	1885				
C28	8.739	0.001	1812	357				
C32	9.671	0.008	367	126				
C34	10.086	0.000	1026	581				
Filter Peak	12.091	0.000	7676	2667	BUNKERC	(C10-C38)	87993015	2229.0
C36	10.484	-0.002	3241	2238				
C38	10.876	0.002	5787	4574				
C40	11.323	-0.001	7288	2175				
o-terph	6.206	-0.002	17174717	17608979				
Triacon Surr	9.236	-0.002	29815	60797	NAS DIES	(C10-C24)	87053651	446.1

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	17608979	86.0 M
Triacontane	60797	0.4

M Indicates the peak was manually integrated

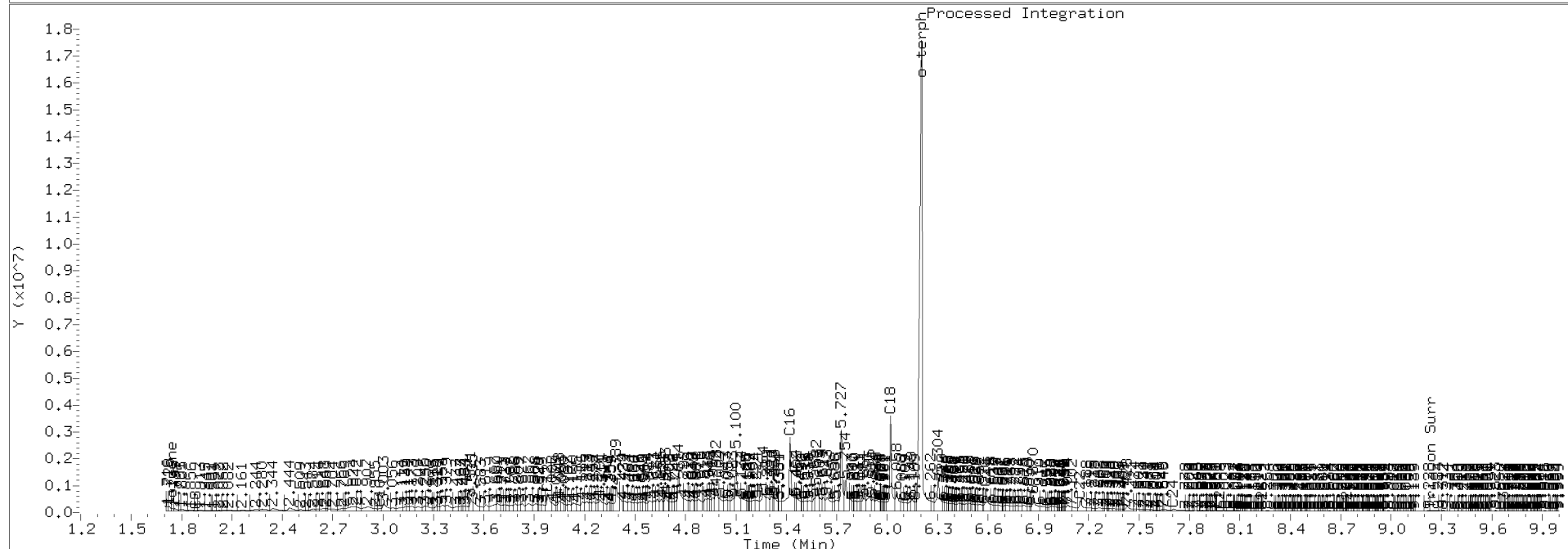
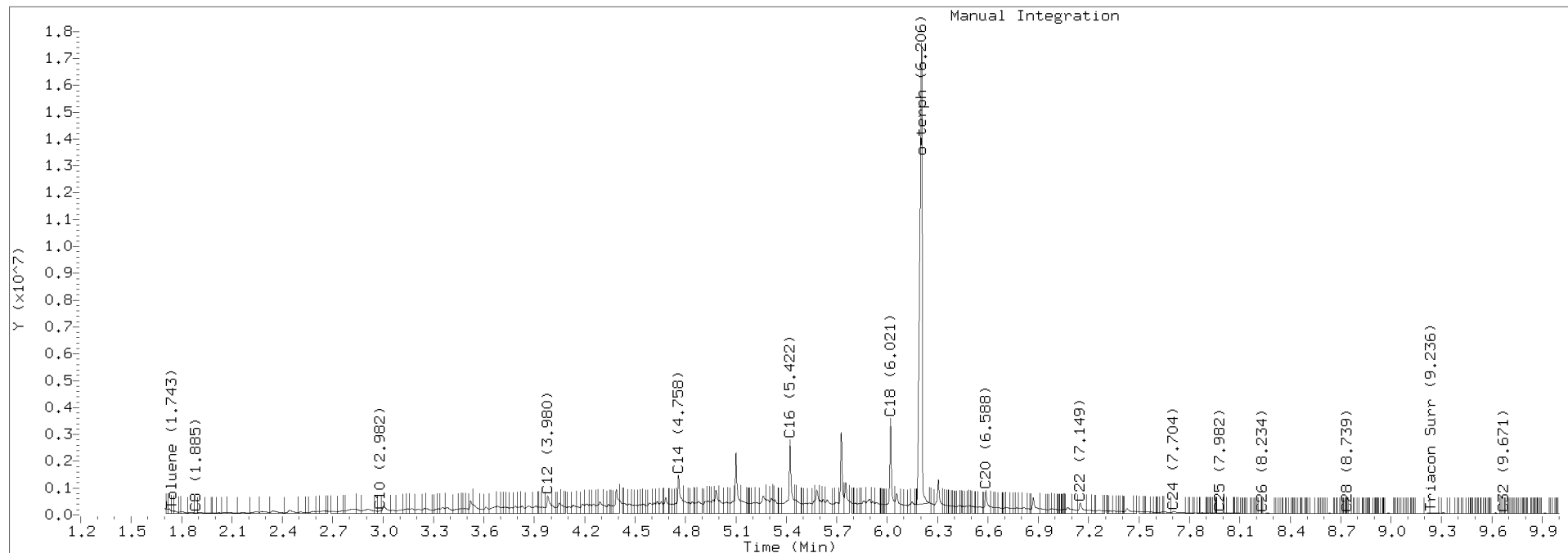
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2260.D Injection: 23-NOV-2020 06:02

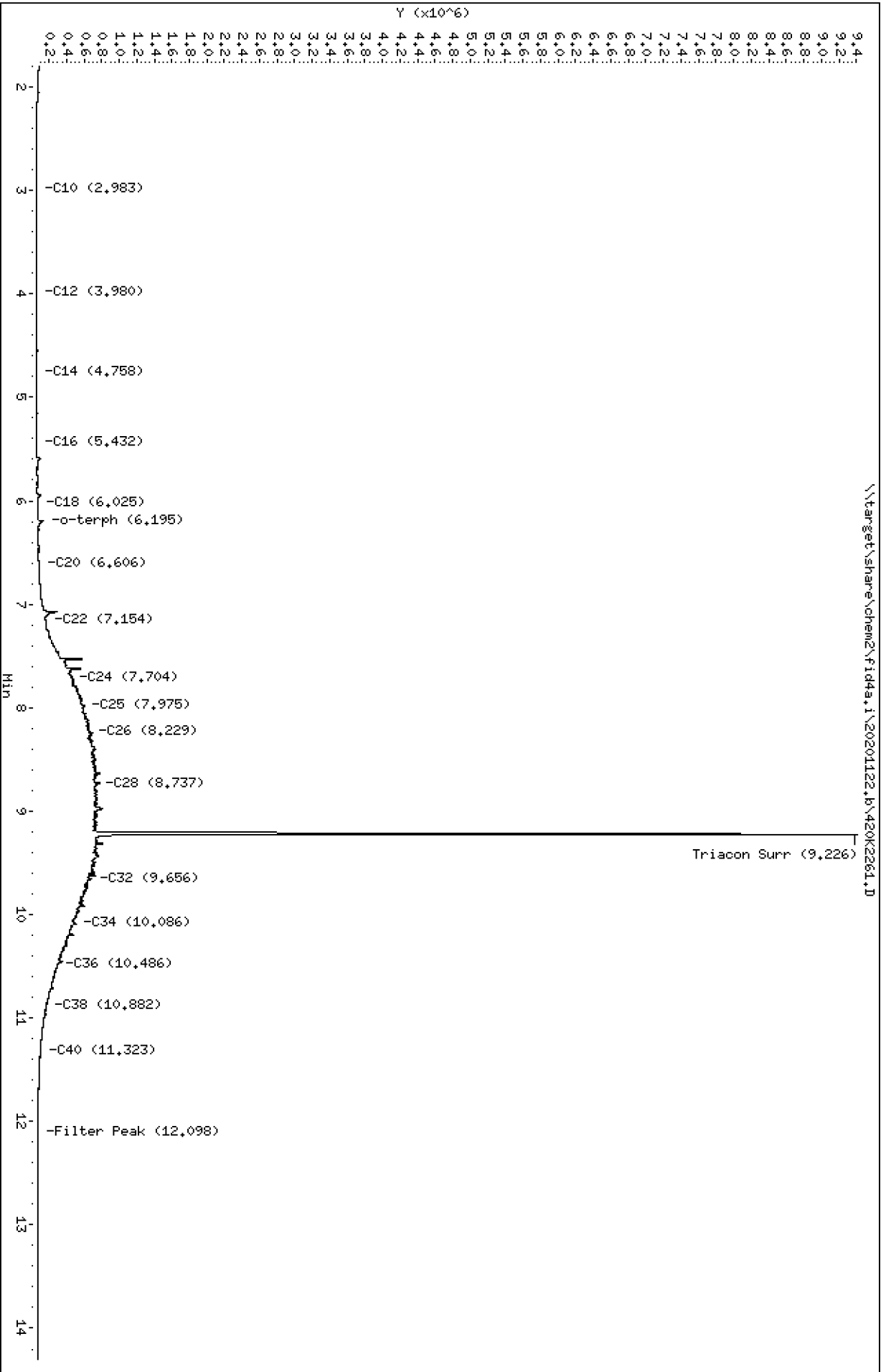
Lab ID:SIK0317-CCV7



Data File: \\target\share\chem2\fid4a,1\20201122,8\420K2261.D
Date: 23-NOV-2020 06:22
Client ID:
Sample Info: SIK0317-CCW8

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201122.b/420K2261.D
Method: 20201122.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/30/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0317-CCV8
Client ID:
Injection: 23-NOV-2020 06:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

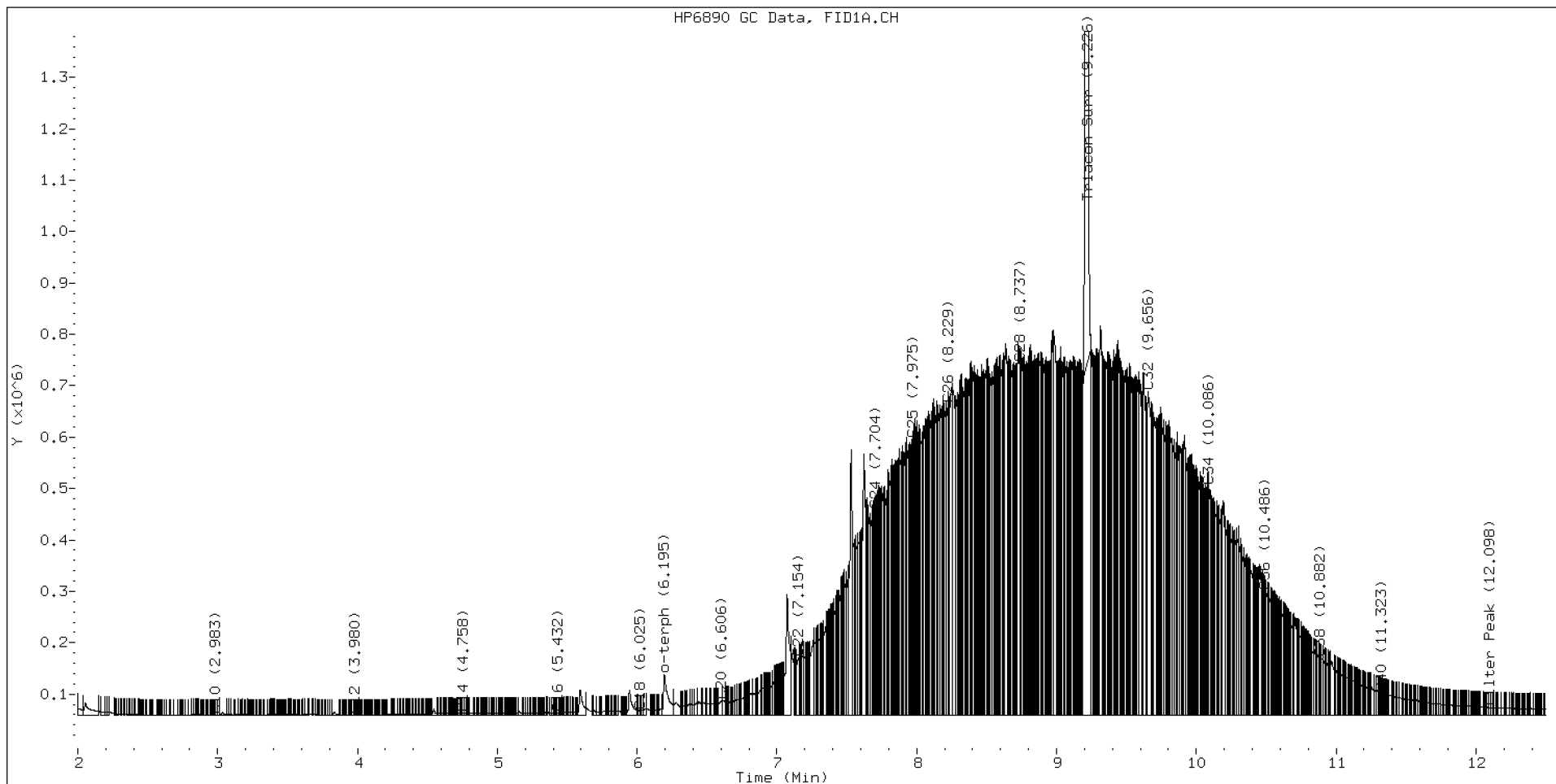
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.896	-0.002	22717	55011	WATPHD	(C12-C24)	11974360	75.2
C10	2.983	-0.003	1019	463	WATPHM	(C24-C38)	96397380	952.9
C12	3.980	0.004	1182	636	AK102	(C10-C25)	16753988	85.7
C14	4.758	0.001	3692	2163	AK103	(C25-C36)	88144132	1204.0
C16	5.432	0.008	4945	3418	OR.DIES	(C10-C28)	48651578	248.2
C18	6.025	0.003	9059	3603				
C20	6.606	0.013	28613	48032	JET-A	(C10-C18)	705019	4.3
C22	7.154	-0.001	111443	158959				
C24	7.704	0.001	398331	99252				
C25	7.975	0.002	536107	265008				
C26	8.229	-0.005	605250	299332				
C28	8.737	-0.000	684401	136546				
C32	9.656	-0.006	631187	1027784				
C34	10.086	-0.000	445021	132995				
Filter Peak	12.098	0.007	15354	15200	BUNKERC	(C10-C38)	108451140	2747.2
C36	10.486	-0.000	241588	120677				
C38	10.882	0.008	110677	60531				
C40	11.323	-0.000	43575	12987				
o-terph	6.195	-0.013	78819	185273				
Triacon Surr	9.226	-0.012	8658207	8288909	NAS DIES	(C10-C24)	12053761	61.8

Range Times: NW Diesel(3.976 - 7.703) AK102(2.99 - 7.97) Jet A(2.99 - 6.02)
NW M.Oil(7.70 - 10.87) AK103(7.97 - 10.49) OR Diesel(2.99 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	185273	0.9
Triacontane	8288909	55.9 M

M Indicates the peak was manually integrated

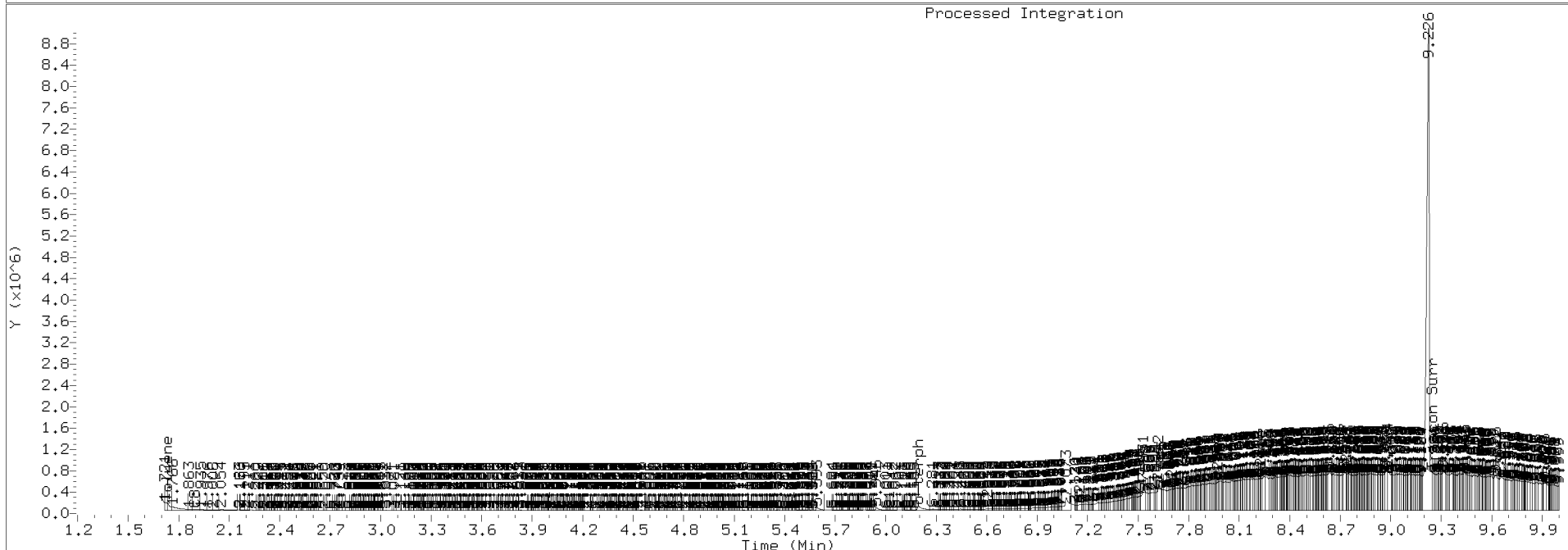
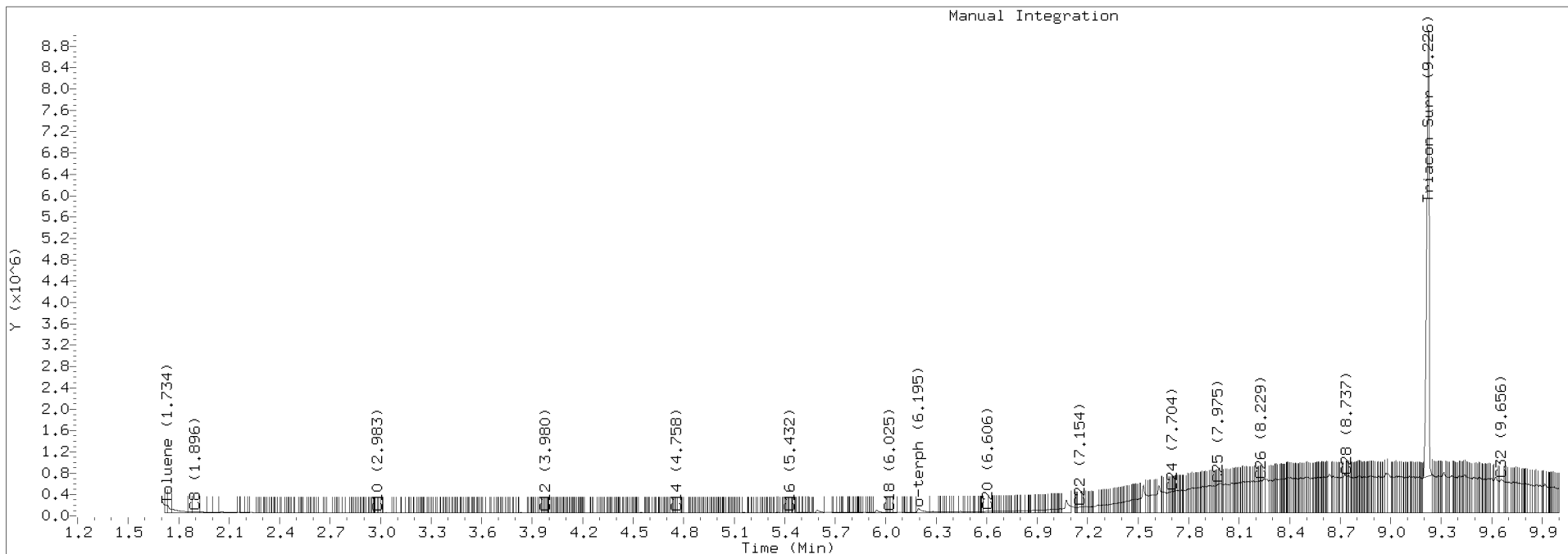
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201122.b/420K2261.D Injection: 23-NOV-2020 06:22

Lab ID:SIK0317-CCV8



Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2417.D
Date: 24-NOV-2020 13:05

Client ID:

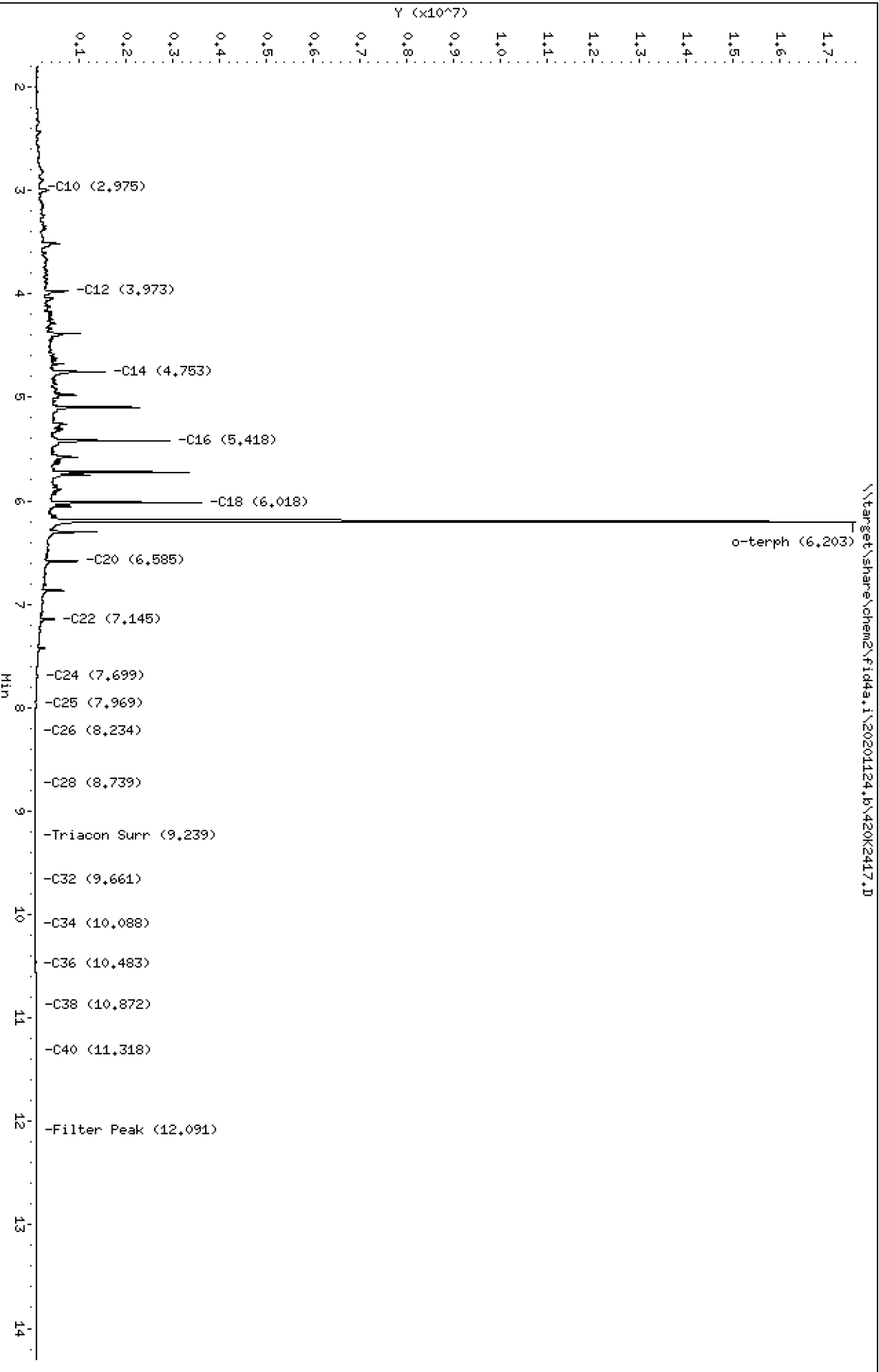
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2417.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 24-NOV-2020 13:05
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

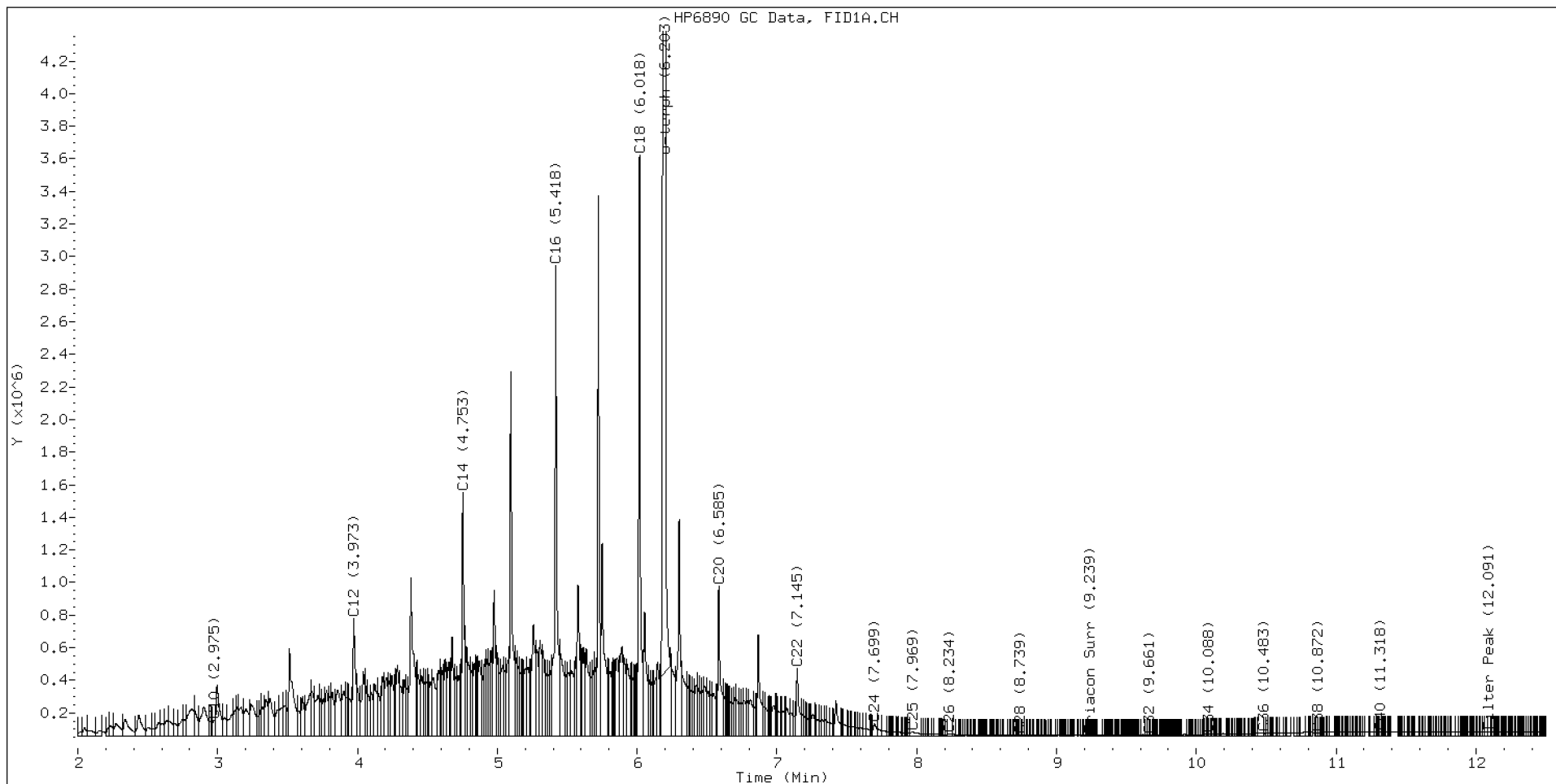
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.880	-0.012	30583	29678	WATPHD	(C12-C24)	76503105	480.1
C10	2.975	-0.006	93829	93170	WATPHM	(C24-C38)	1336211	13.2
C12	3.973	0.002	717338	1000107	AK102	(C10-C25)	89190363	456.2
C14	4.753	-0.000	1493243	1334457	AK103	(C25-C36)	745299	10.2
C16	5.418	-0.002	2881451	3086929	OR.DIES	(C10-C28)	89474667	456.5
C18	6.018	-0.002	3559385	3093325				
C20	6.585	-0.005	914580	1095675	JET-A	(C10-C18)	68882685	415.3
C22	7.145	-0.008	413897	527036				
C24	7.699	-0.001	73486	124952				
C25	7.969	0.000	24848	81492				
C26	8.234	0.004	8777	16368				
C28	8.739	0.005	1223	999				
C32	9.661	-0.001	3268	811				
C34	10.088	0.001	7005	2423				
Filter Peak	12.091	0.002	22013	32708	BUNKERC	(C10-C38)	90317323	2287.8
C36	10.483	-0.005	13302	10470				
C38	10.872	-0.005	18560	15687				
C40	11.318	0.002	21913	19348				
o-terph	6.203	-0.001	17156626	17871987				
Triacon Surr	9.239	0.002	833	383	NAS DIES	(C10-C24)	88981113	456.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17871987	87.3 M
Triacontane	383	0.0

M Indicates the peak was manually integrated

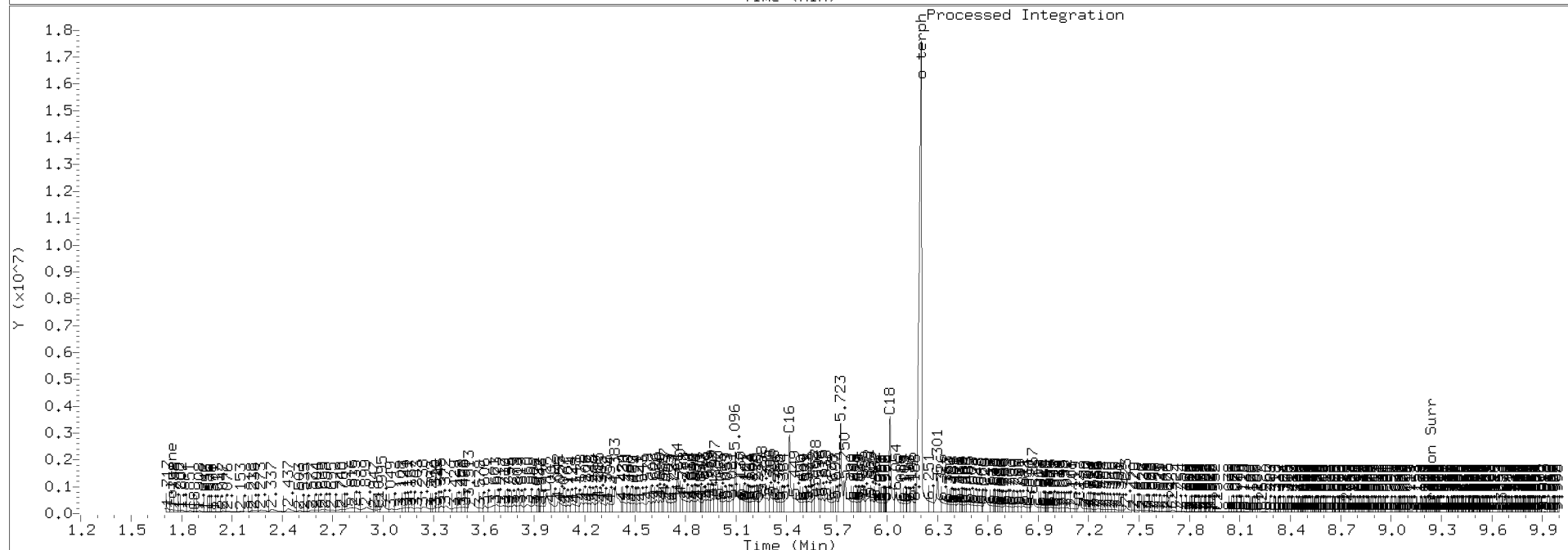
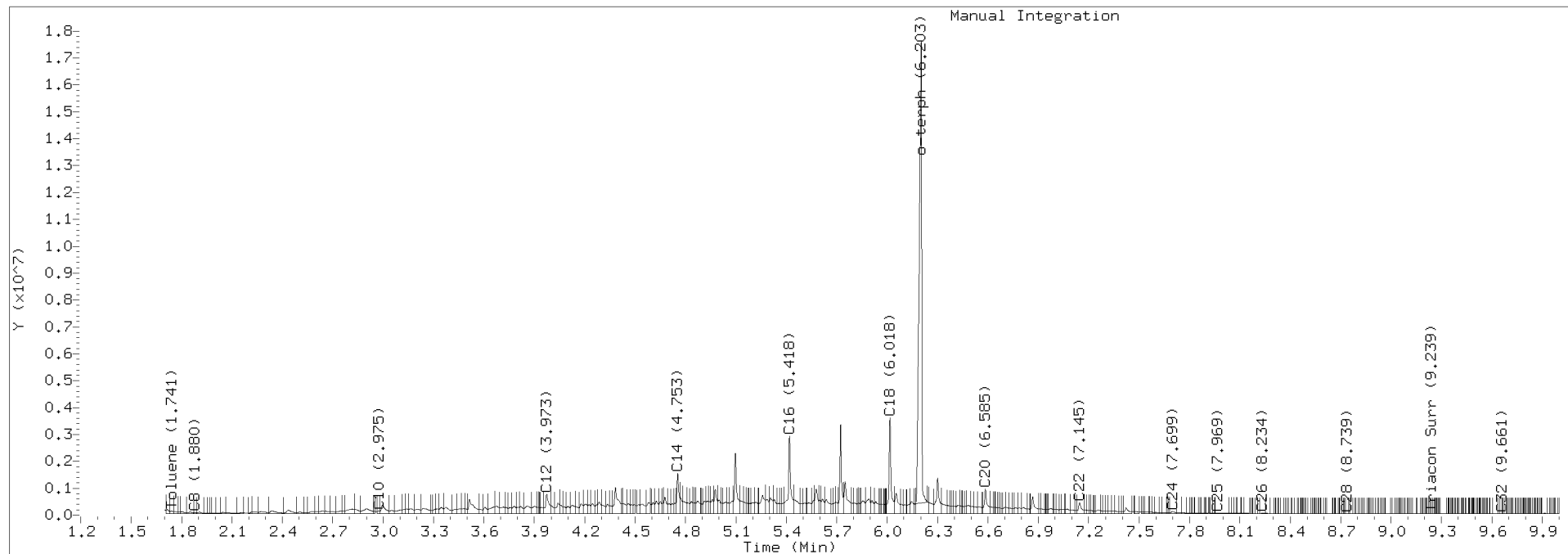
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2417.D Injection: 24-NOV-2020 13:05

Lab ID:SEQ-CCV1





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2418.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0016</u>	Injection Date:	<u>11/24/20</u>
Lab Sample ID:	<u>SIL0016-CCV2</u>	Injection Time:	<u>13:26</u>
Sequence Name:	<u>MOIL CCV</u>		

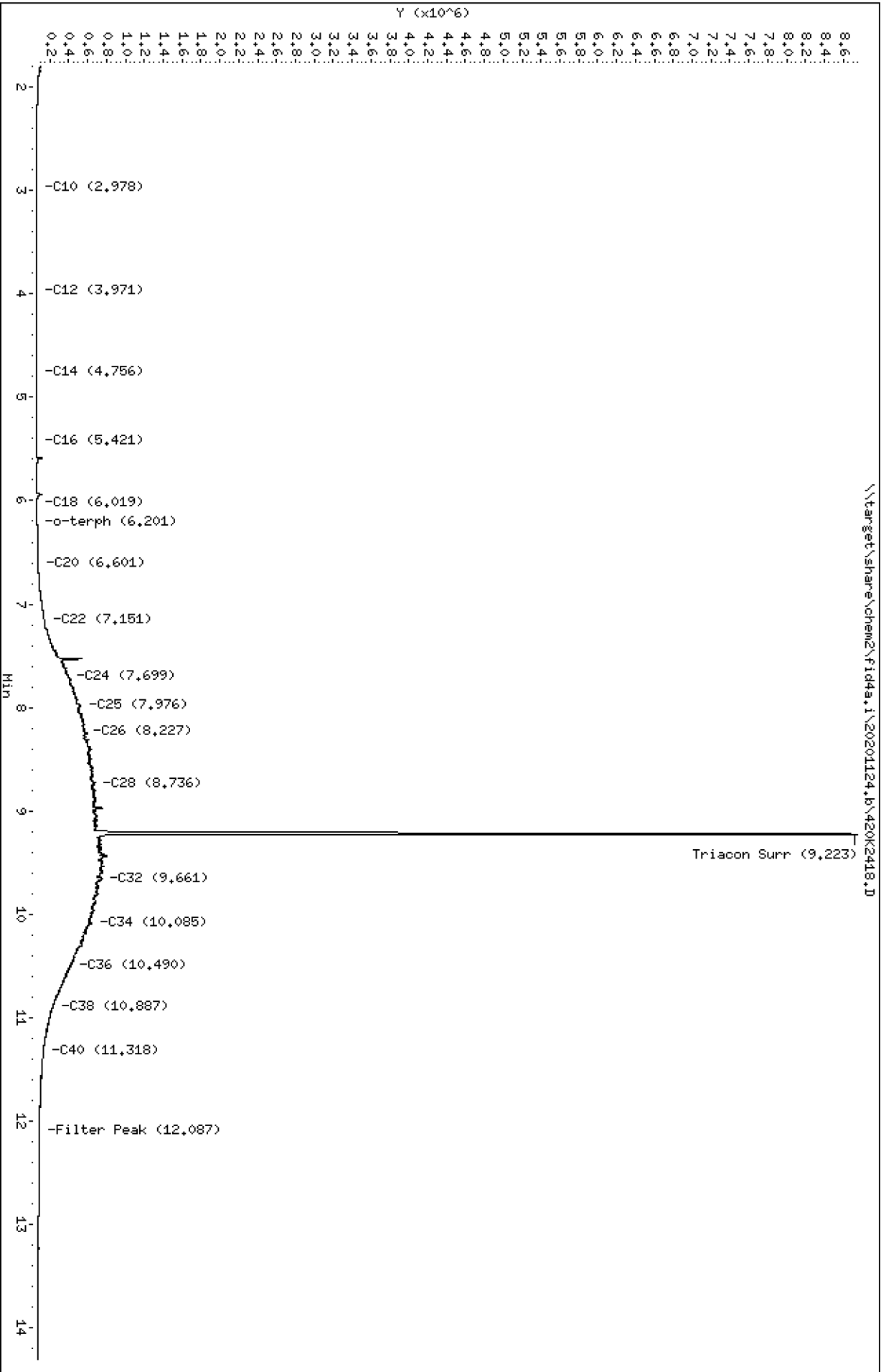
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	975	101166	98664.61		-2.5	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2418.D
Date: 24-NOV-2020 13:26
Client ID:
Sample Info: SEQ-OCV2

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2418.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 24-NOV-2020 13:26
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

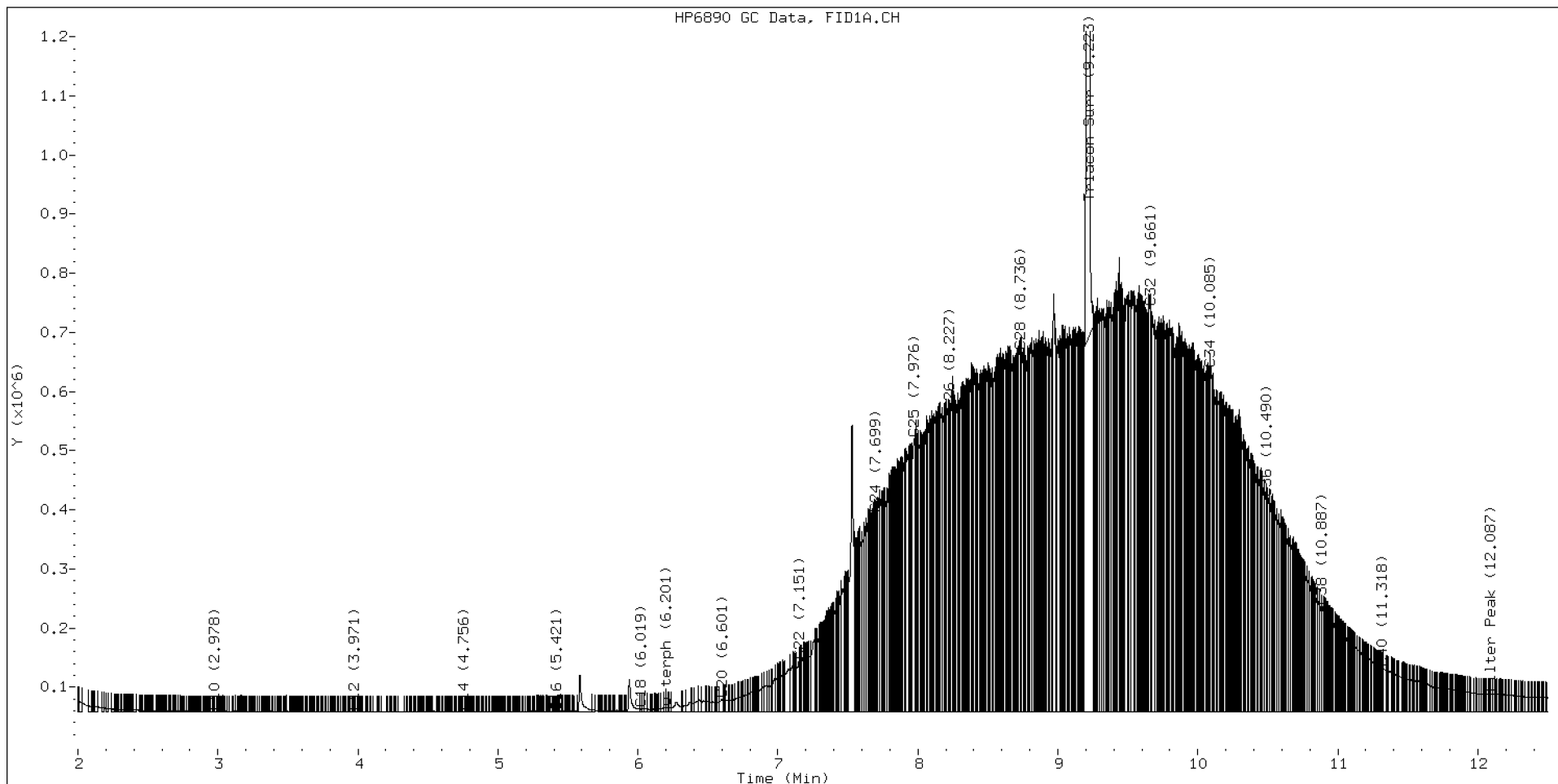
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.040	43566	174464	WATPHD	(C12-C24)	9582391	60.1
C10	2.978	-0.003	952	573	WATPHM	(C24-C38)	98664605	975.3
C12	3.971	0.000	415	136	AK102	(C10-C25)	13506729	69.1
C14	4.756	0.002	796	399	AK103	(C25-C36)	89141376	1217.7
C16	5.421	0.000	1206	349	OR.DIES	(C10-C28)	40950439	208.9
C18	6.019	-0.001	4815	2861				
C20	6.601	0.010	20998	39008	JET-A	(C10-C18)	330956	2.0
C22	7.151	-0.002	87078	112513				
C24	7.699	-0.002	334676	83205				
C25	7.976	0.007	462615	493248				
C26	8.227	-0.003	508232	200928				
C28	8.736	0.002	610147	152127				
C32	9.661	-0.001	685127	565530				
C34	10.085	-0.002	580433	286271				
Filter Peak	12.087	-0.002	30224	13494	BUNKERC	(C10-C38)	108295622	2743.2
C36	10.490	0.002	362555	90161				
C38	10.887	0.010	178990	182795				
C40	11.318	0.002	74789	44290				
o-terph	6.201	-0.003	7145	5902				
Triacon Surr	9.223	-0.014	8056838	7784757	NAS DIES	(C10-C24)	9631018	49.4

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	5902	0.0
Triacontane	7784757	52.5 M

M Indicates the peak was manually integrated

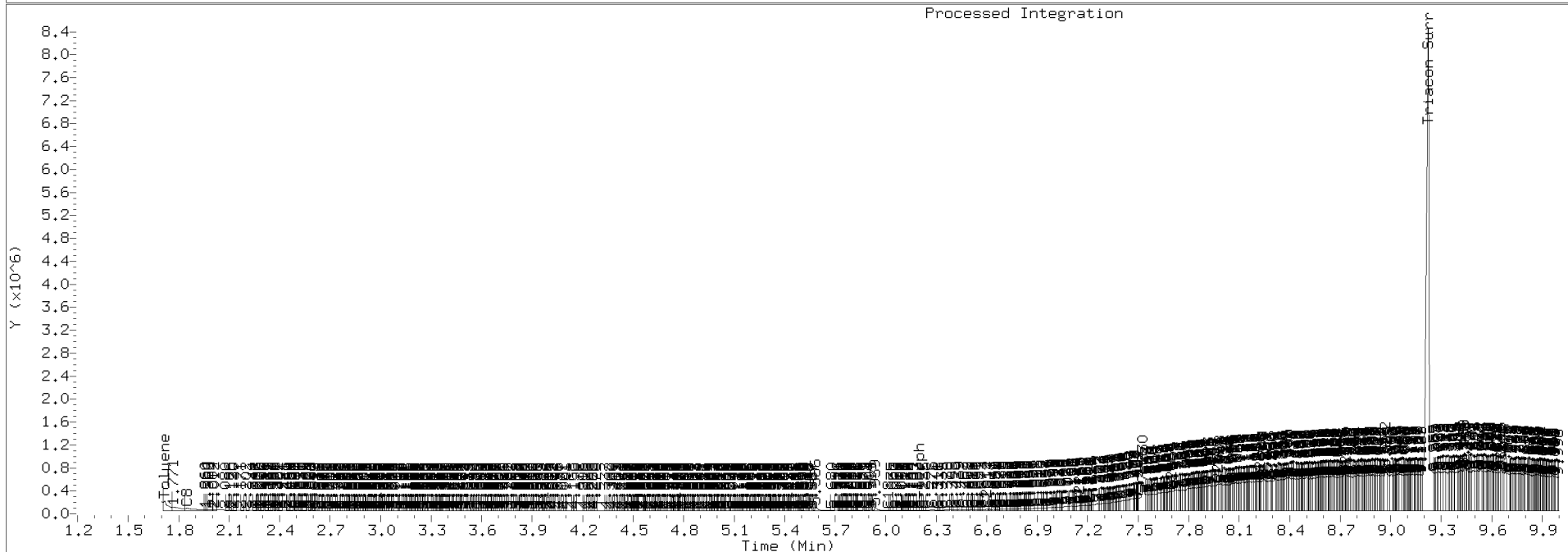
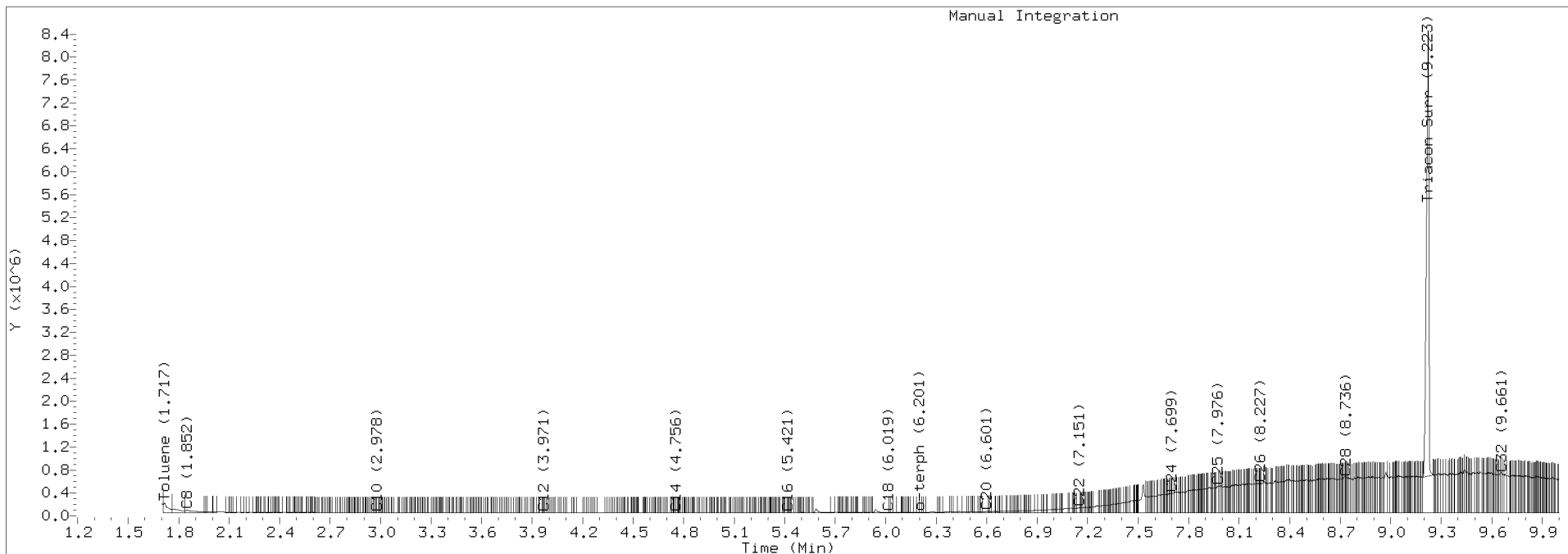
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2418.D Injection: 24-NOV-2020 13:26

Lab ID:SEQ-CCV2

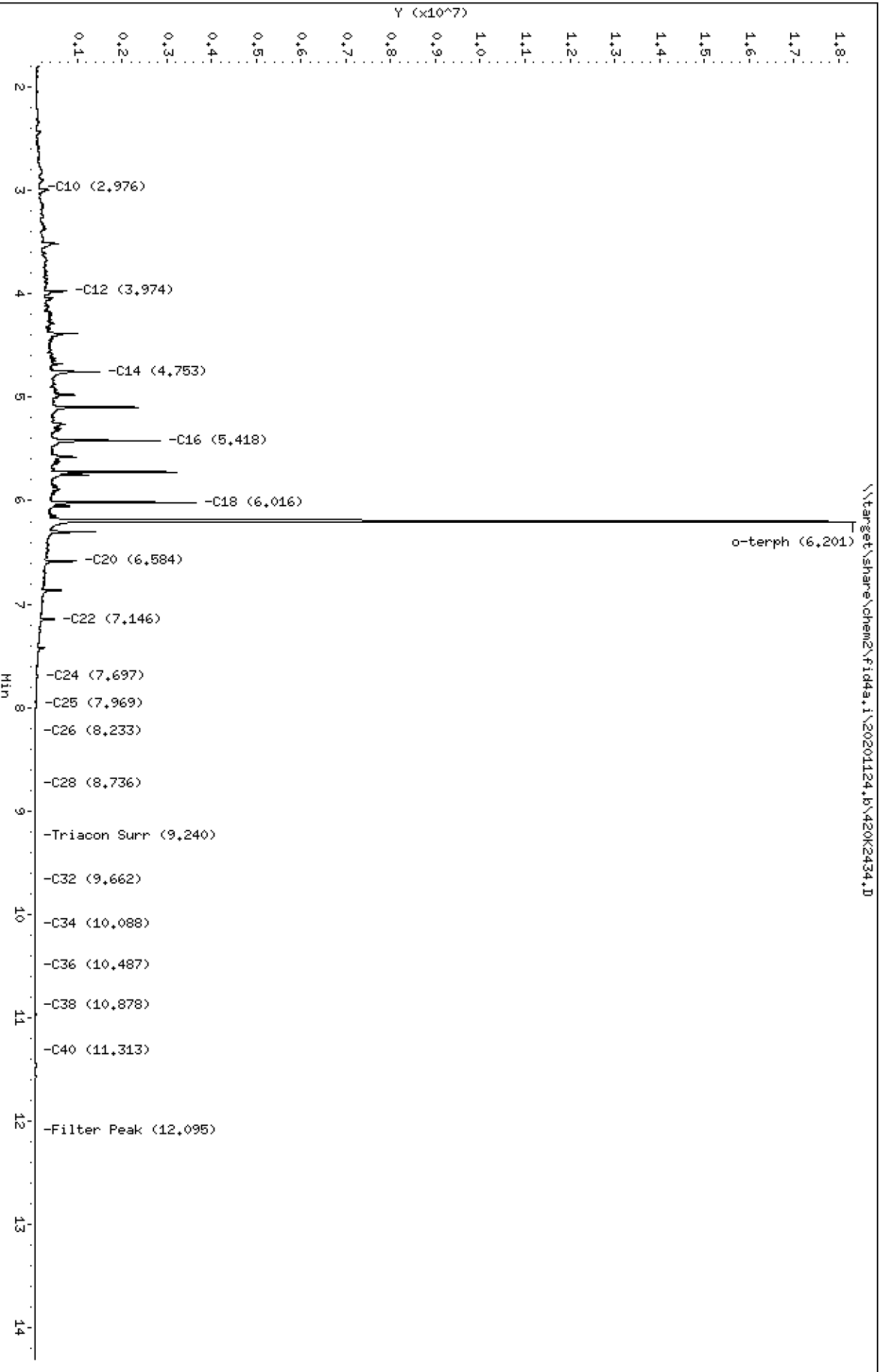


Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2434.D
Date: 24-NOV-2020 18:52
Client ID:
Sample Info: SEQ-CCV3

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2434.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV3
Client ID:
Injection: 24-NOV-2020 18:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

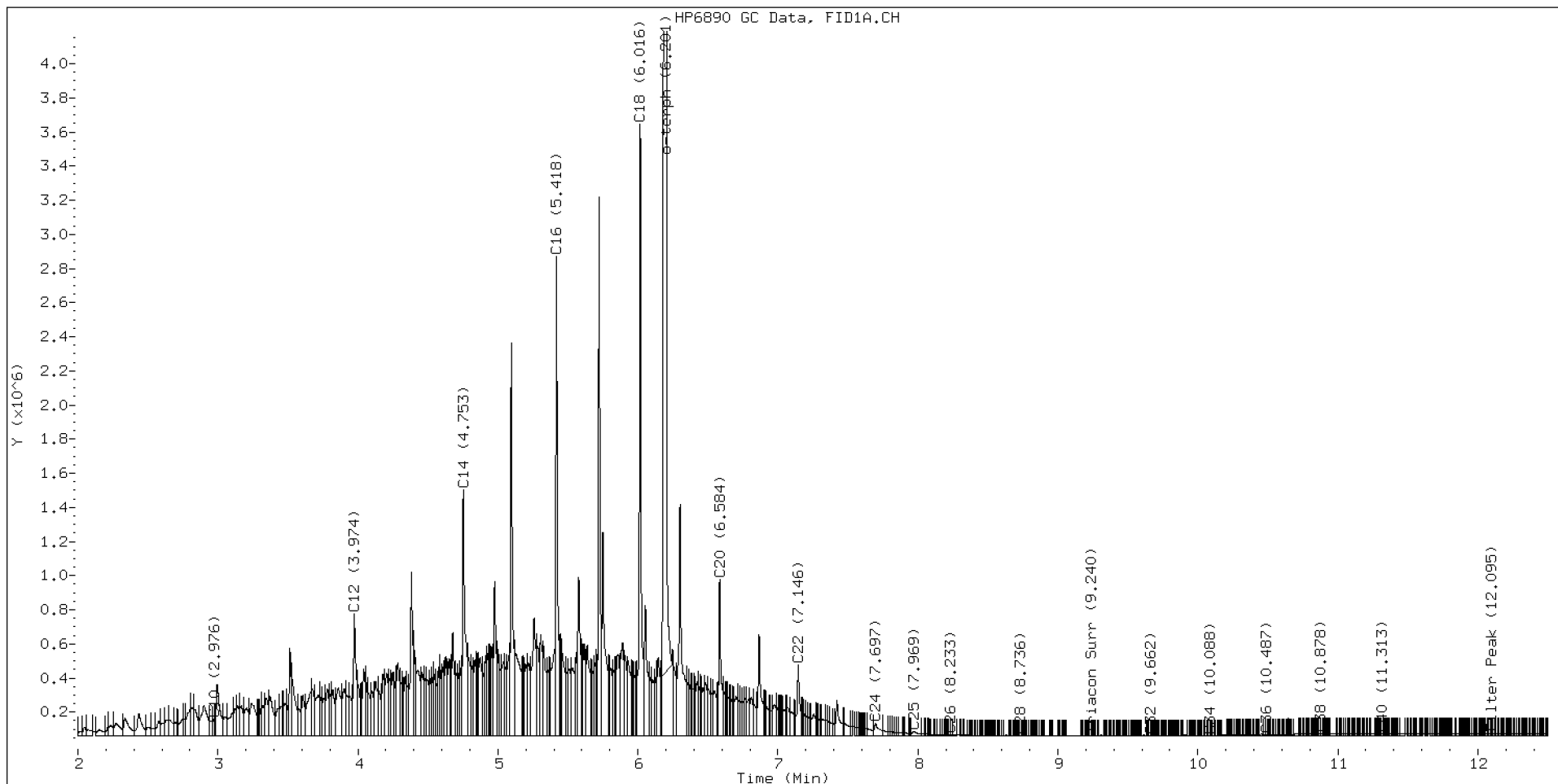
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.906	0.013	55579	103742	WATPHD	(C12-C24)	77358749	485.5
C10	2.976	-0.006	98169	39100	WATPHM	(C24-C38)	1057698	10.5
C12	3.974	0.002	713304	975351	AK102	(C10-C25)	90398919	462.4
C14	4.753	-0.001	1439918	1878193	AK103	(C25-C36)	559659	7.6
C16	5.418	-0.003	2808885	2482141	OR.DIES	(C10-C28)	90692120	462.7
C18	6.016	-0.003	3586358	3200790				
C20	6.584	-0.007	918190	1047094	JET-A	(C10-C18)	70040788	422.3
C22	7.146	-0.008	419162	548920				
C24	7.697	-0.003	72517	182439				
C25	7.969	-0.000	24213	79968				
C26	8.233	0.002	9064	7656				
C28	8.736	0.002	1200	565				
C32	9.662	-0.000	1494	935				
C34	10.088	0.002	3655	1092				
Filter Peak	12.095	0.006	14758	2949	BUNKERC	(C10-C38)	91218087	2310.7
C36	10.487	-0.001	8448	7078				
C38	10.878	0.001	12424	3718				
C40	11.313	-0.003	14635	10203				
o-terph	6.201	-0.003	17940523	18066335				
Triacon Surr	9.240	0.002	338	135	NAS DIES	(C10-C24)	90160390	462.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18066335	88.3 M
Triacontane	135	0.0

M Indicates the peak was manually integrated

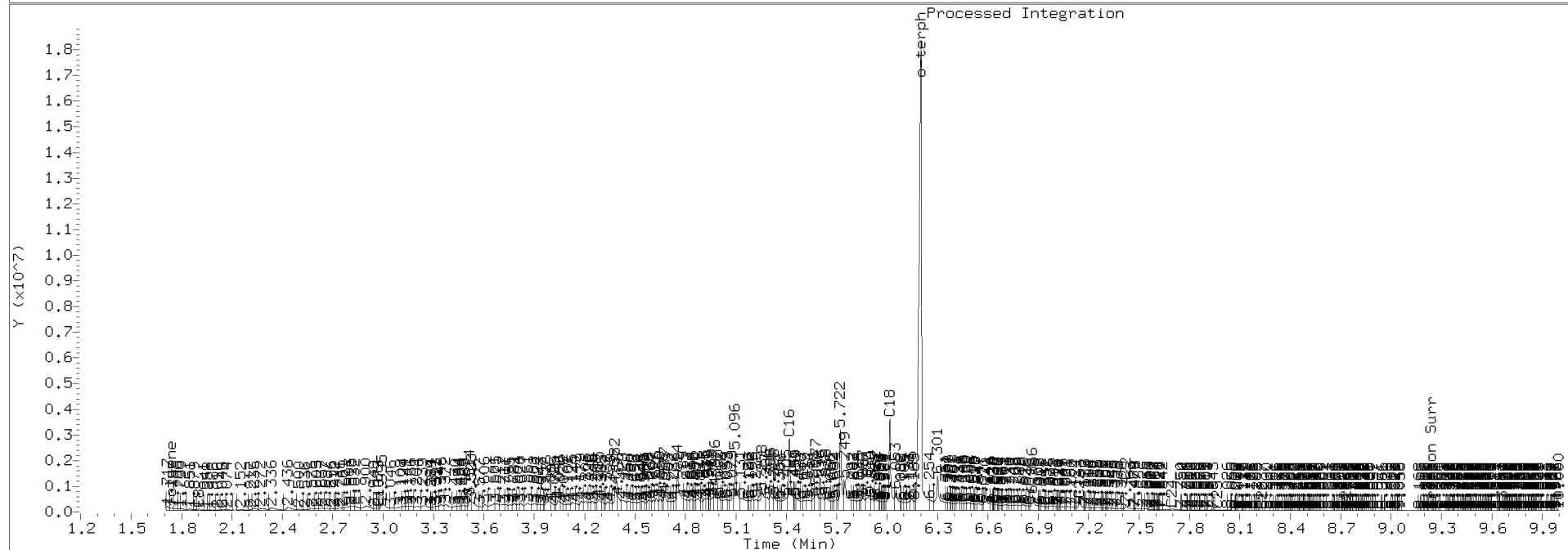
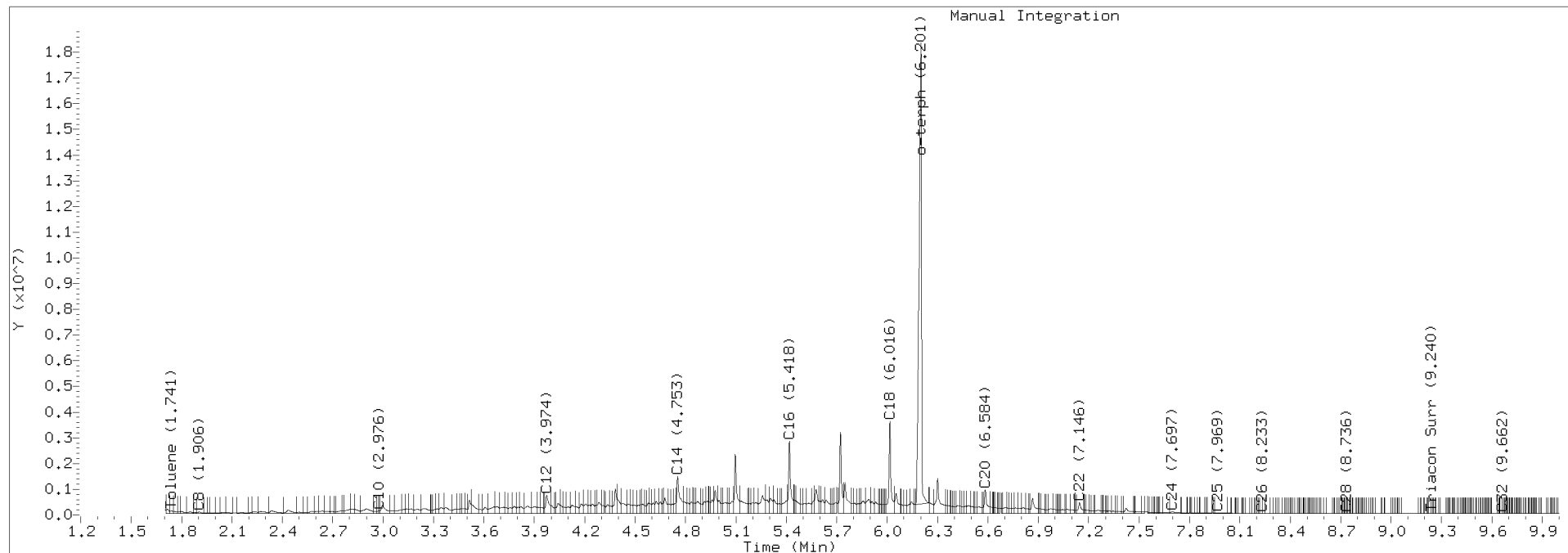
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2434.D Injection: 24-NOV-2020 18:52

Lab ID:SEQ-CCV3



Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2435.D
Date: 24-NOV-2020 19:12

Client ID:

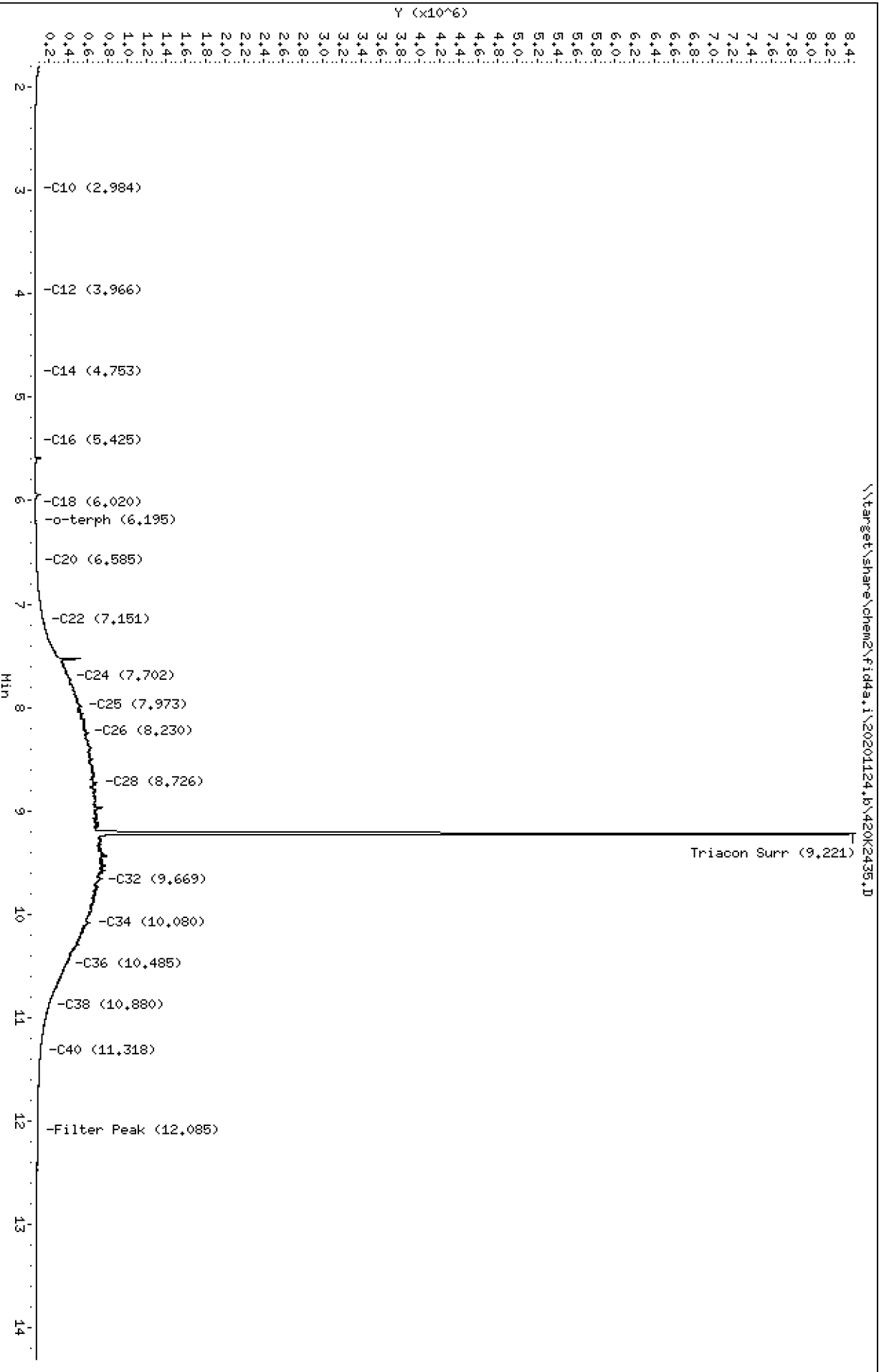
Sample Info: SEQ-CCV4

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2435.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV4
Client ID:
Injection: 24-NOV-2020 19:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

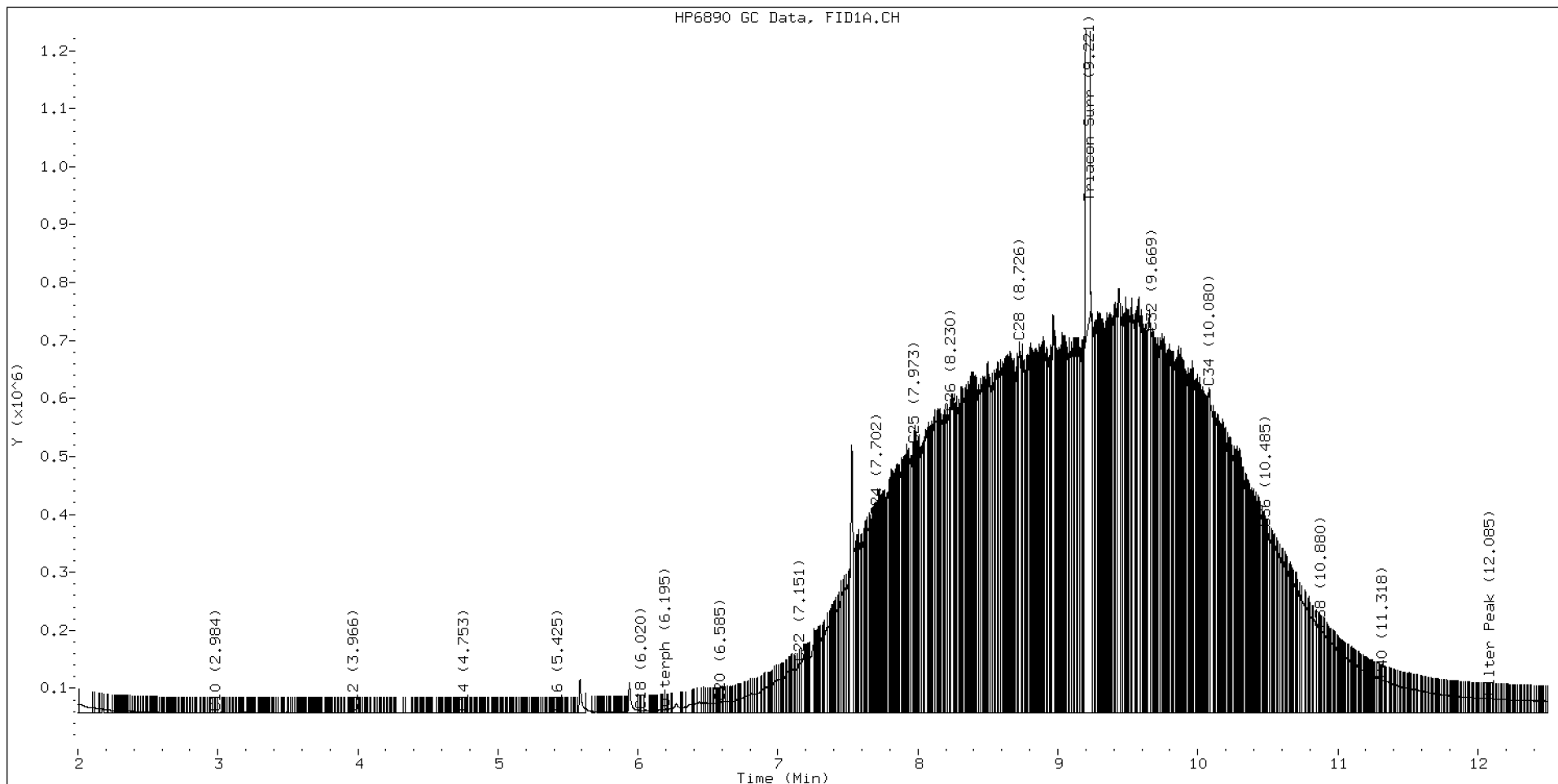
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.853	-0.039	40073	158451	WATPHD	(C12-C24)	9681917	60.8
C10	2.984	0.002	892	252	WATPHM	(C24-C38)	95708311	946.1
C12	3.966	-0.005	387	143	AK102	(C10-C25)	13635523	69.8
C14	4.753	-0.001	770	518	AK103	(C25-C36)	87106914	1189.9
C16	5.425	0.004	902	448	OR.DIES	(C10-C28)	41388691	211.2
C18	6.020	-0.000	4699	2306				
C20	6.585	-0.006	17830	8662	JET-A	(C10-C18)	287021	1.7
C22	7.151	-0.002	86775	97702				
C24	7.702	0.002	338710	84484				
C25	7.973	0.004	462675	295258				
C26	8.230	-0.000	517936	255835				
C28	8.726	-0.008	640726	824350				
C32	9.669	0.007	656652	520943				
C34	10.080	-0.006	561226	650788				
Filter Peak	12.085	-0.004	25191	13812	BUNKERC	(C10-C38)	105437024	2670.8
C36	10.485	-0.003	318521	188880				
C38	10.880	0.002	143844	56923				
C40	11.318	0.002	57742	45395				
o-terph	6.195	-0.009	7056	6879				
Triacon Surr	9.221	-0.016	7735934	7660809	NAS DIES	(C10-C24)	9728713	49.9

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	6879	0.0
Triacontane	7660809	51.6 M

M Indicates the peak was manually integrated

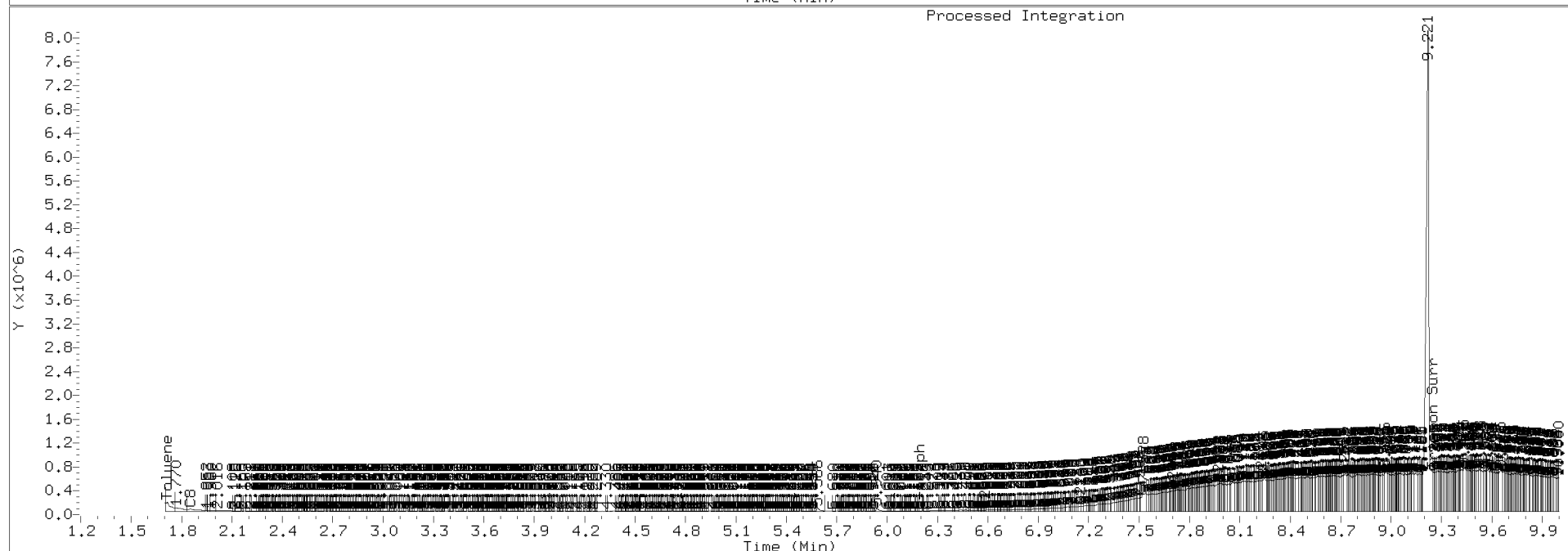
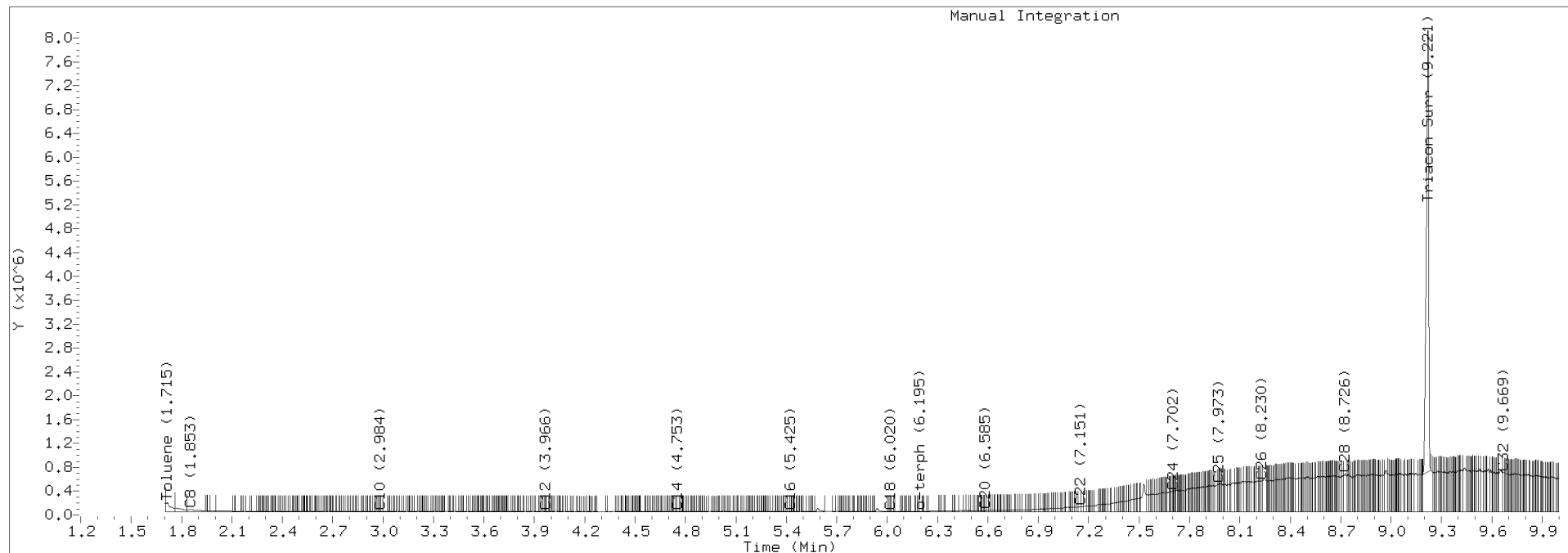
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2435.D Injection: 24-NOV-2020 19:12

Lab ID:SEQ-CCV4



Data File: \\target\share\chem2\fid4a,1\20201204,b\42010416.D

Date: 04-DEC-2020 15:29

Client ID:

Sample Info: SIL0055-CCV1

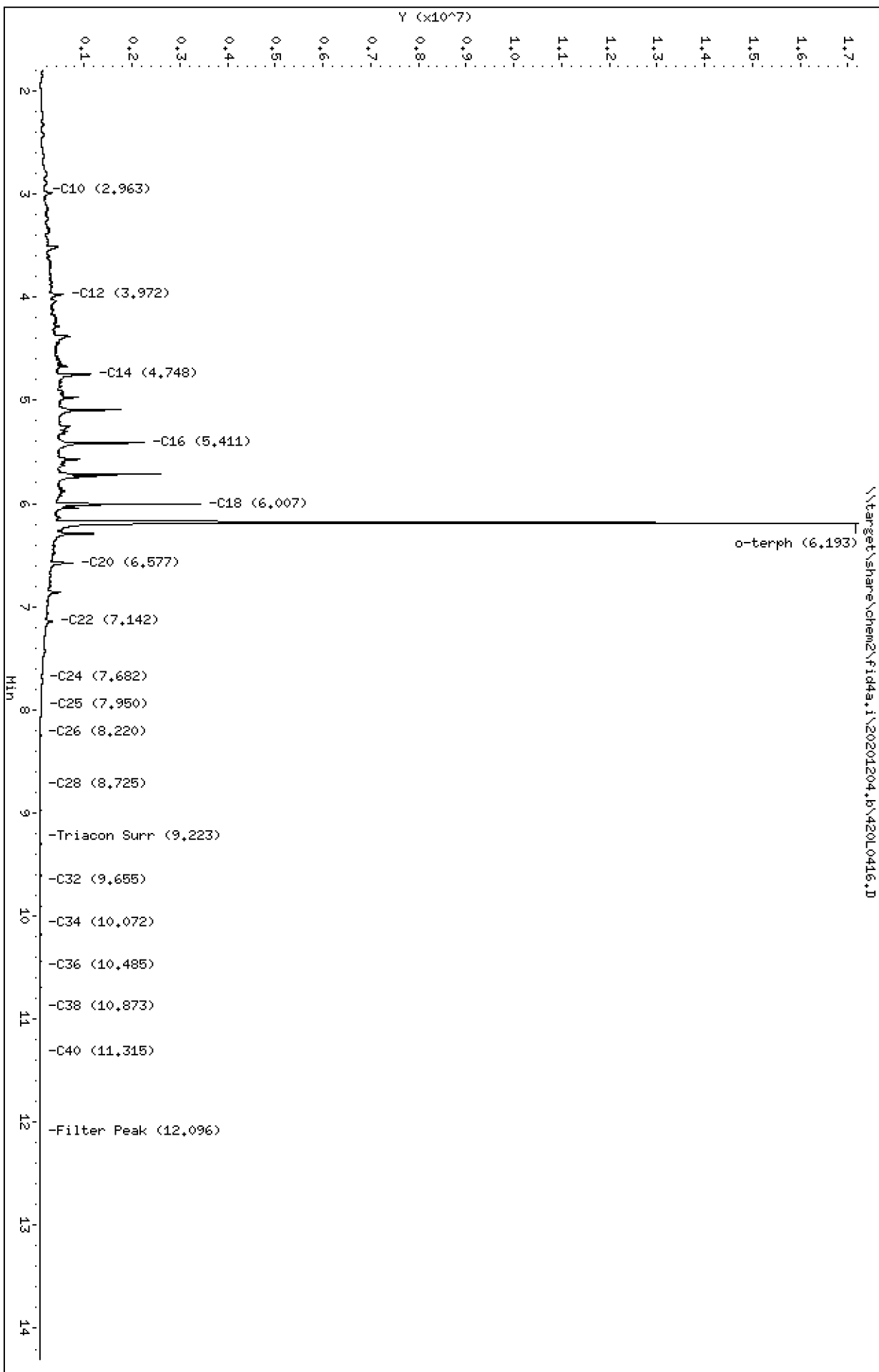
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0416.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV1
Client ID:
Injection: 04-DEC-2020 15:29
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

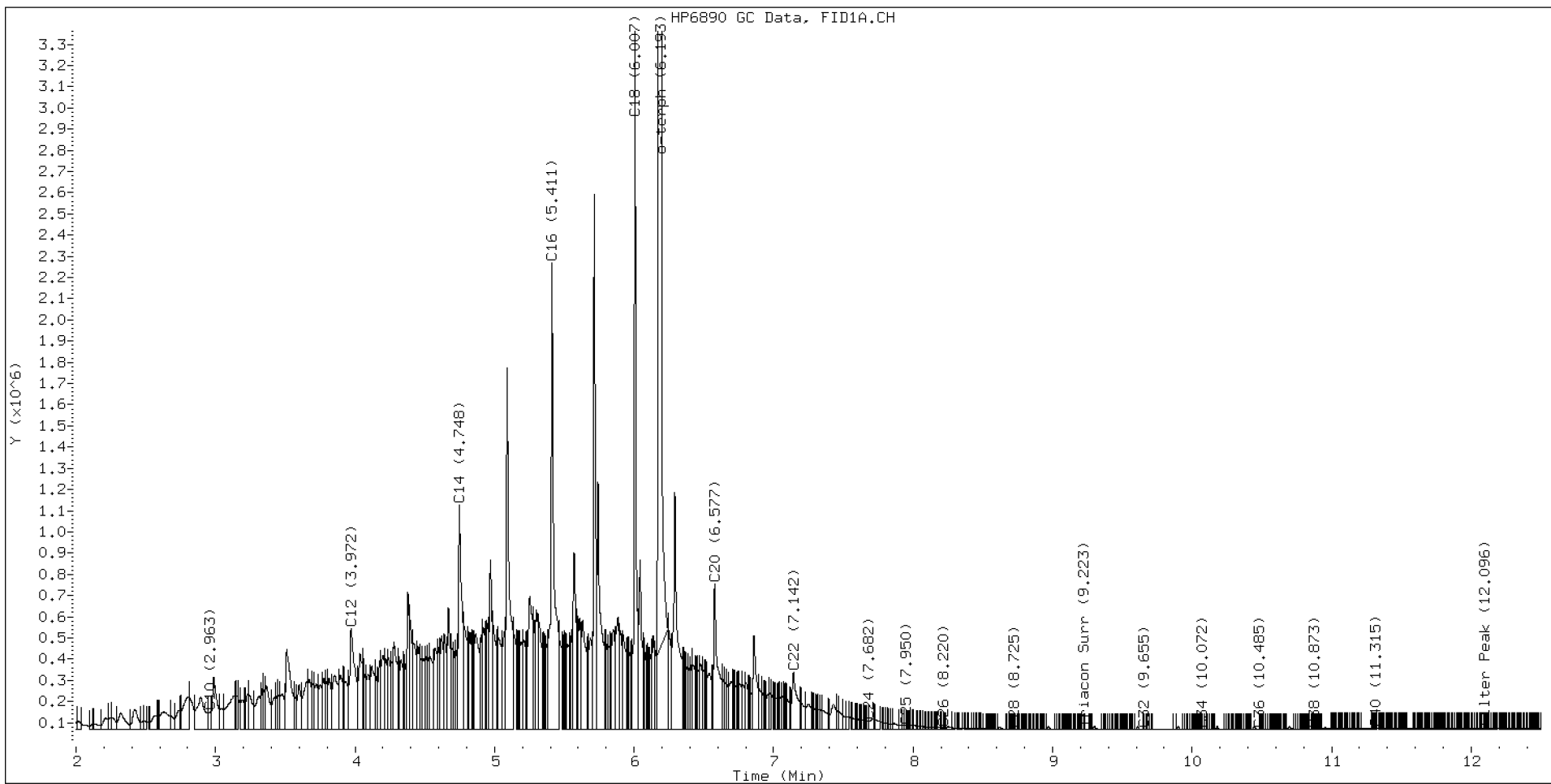
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.850	-0.013	54393	184219	WATPHD	(C12-C24)	76063234	477.4
C10	2.963	0.003	85709	86215	WATPHM	(C24-C38)	957698	9.5
C12	3.972	0.014	477820	1248997	AK102	(C10-C25)	87942653	449.9
C14	4.748	0.002	1062688	1755639	AK103	(C25-C36)	643164	8.8
C16	5.411	0.000	2200300	3822161	OR.DIES	(C10-C28)	88390472	451.0
C18	6.007	0.002	3370285	3074925				
C20	6.577	0.003	686753	1372778	JET-A	(C10-C18)	67070827	404.4
C22	7.142	0.006	269561	698141				
C24	7.682	-0.003	41021	12225				
C25	7.950	-0.002	19022	11241				
C26	8.220	0.007	9285	4577				
C28	8.725	0.008	2588	760				
C32	9.655	0.009	690	268				
C34	10.072	0.002	556	151				
Filter Peak	12.096	-0.001	5676	3367	BUNKERC	(C10-C38)	88676466	2246.3
C36	10.485	0.009	2365	696				
C38	10.873	0.003	4242	1677				
C40	11.315	-0.001	5563	3020				
o-terph	6.193	0.003	16759700	17509305				
Triacon Surr	9.223	0.002	488	109	NAS DIES	(C10-C24)	87718769	449.5

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17509305	85.5 M
Triacontane	109	0.0

M Indicates the peak was manually integrated

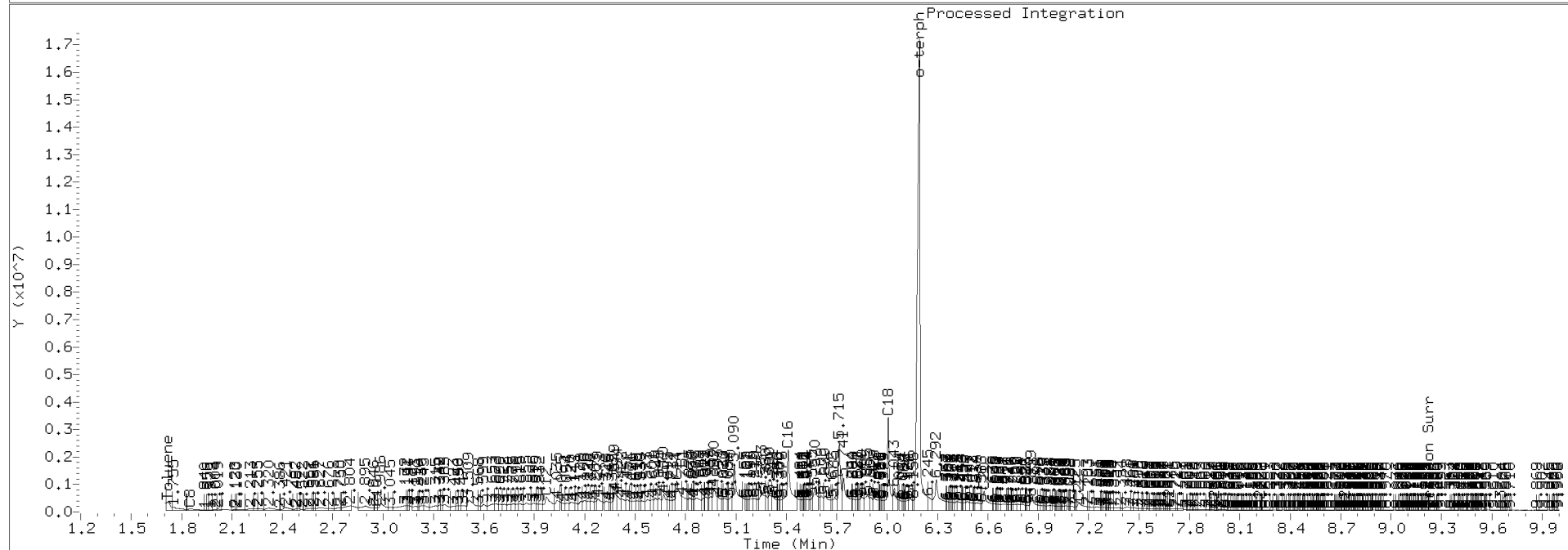
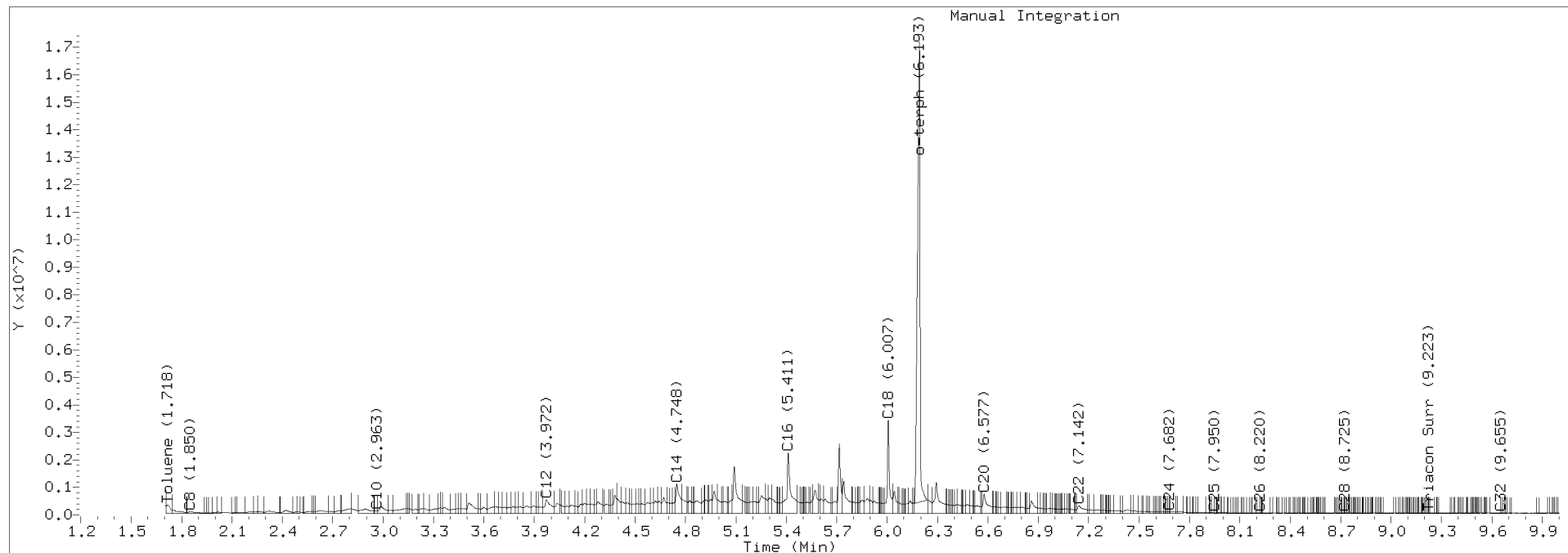
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0416.D Injection: 04-DEC-2020 15:29

Lab ID: SIL0055-CCV1





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420L0417.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0055</u>	Injection Date:	<u>12/04/20</u>
Lab Sample ID:	<u>SIL0055-CCV2</u>	Injection Time:	<u>15:49</u>
Sequence Name:	<u>MOIL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	998	101166	100966.8		-0.2	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201204,b\42010417.D

Date: 04-DEC-2020 15:49

Client ID:

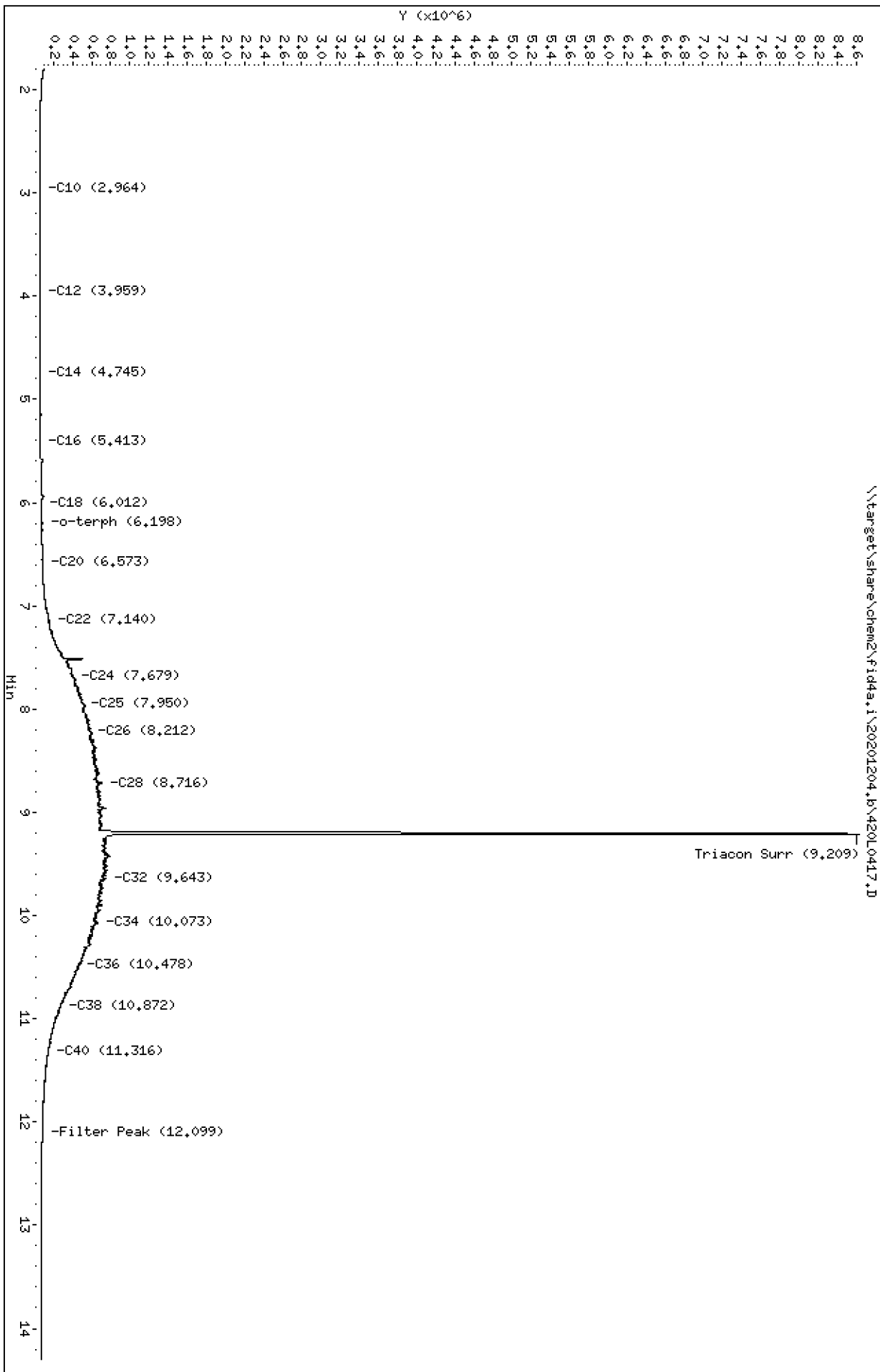
Sample Info: SIL0055-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0417.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV2
Client ID:
Injection: 04-DEC-2020 15:49
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

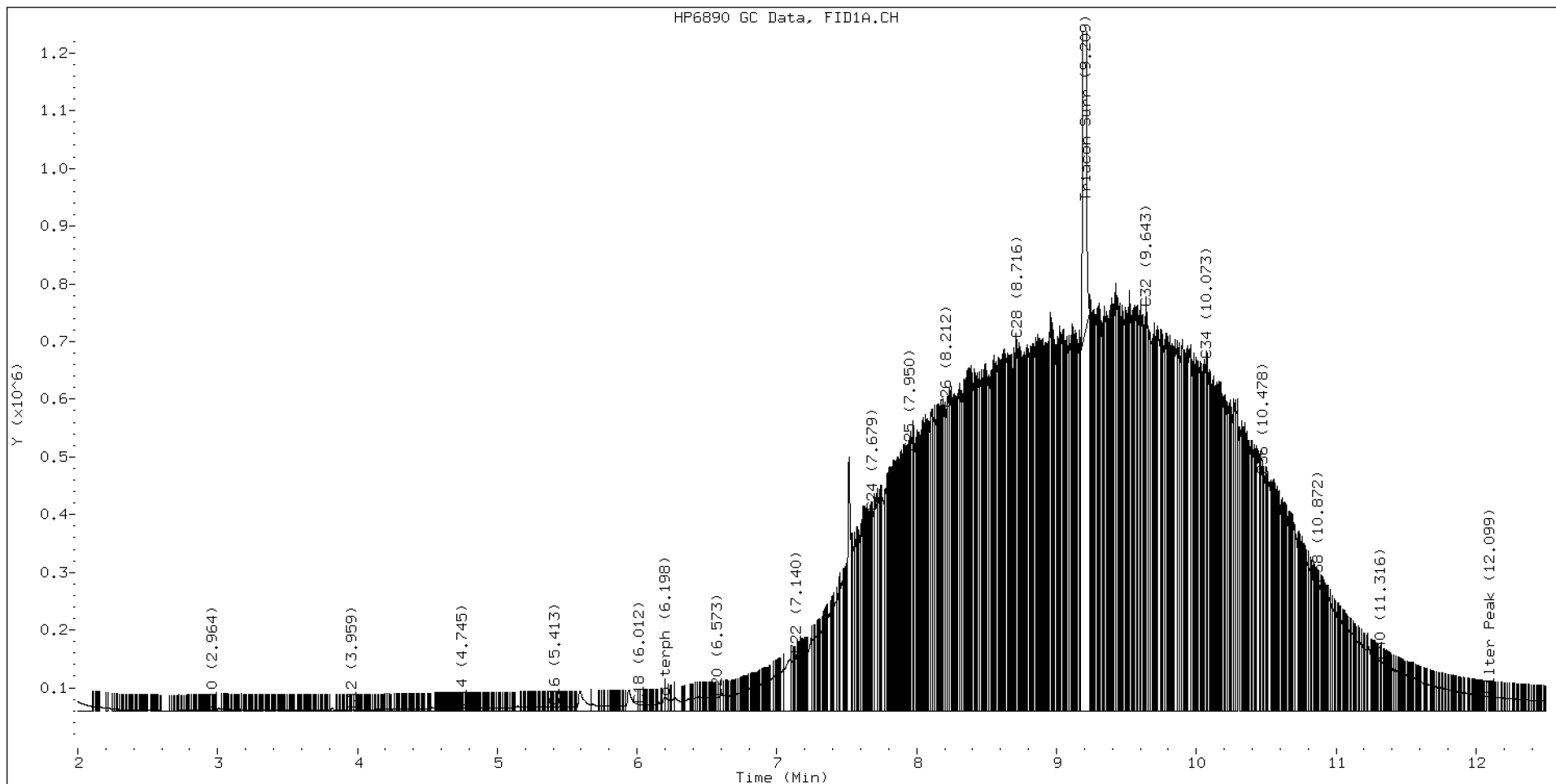
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.012	33627	154324	WATPHD	(C12-C24)	10630227	66.7
C10	2.964	0.004	1465	543	WATPHM	(C24-C38)	100966802	998.0
C12	3.959	0.001	1618	858	AK102	(C10-C25)	14630323	74.8
C14	4.745	-0.001	4819	3073	AK103	(C25-C36)	90461363	1235.7
C16	5.413	0.002	6350	4398	OR.DIES	(C10-C28)	42424460	216.5
C18	6.012	0.007	11049	9192				
C20	6.573	-0.001	22609	11228	JET-A	(C10-C18)	846167	5.1
C22	7.140	0.004	96475	91474				
C24	7.679	-0.006	343303	253592				
C25	7.950	-0.003	447557	200193				
C26	8.212	-0.002	522160	257833				
C28	8.716	-0.002	643050	529695				
C32	9.643	-0.003	696687	636489				
C34	10.073	0.002	606422	209796				
Filter Peak	12.099	0.002	24567	9764	BUNKERC	(C10-C38)	111694609	2829.3
C36	10.478	0.002	407577	181861				
C38	10.872	0.002	219509	130602				
C40	11.316	-0.001	85522	38271				
o-terph	6.198	0.007	23637	27350				
Triacon Surr	9.209	-0.012	7911991	7619296	NAS DIES	(C10-C24)	10727806	55.0

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	27350	0.1
Triacontane	7619296	51.4 M

M Indicates the peak was manually integrated

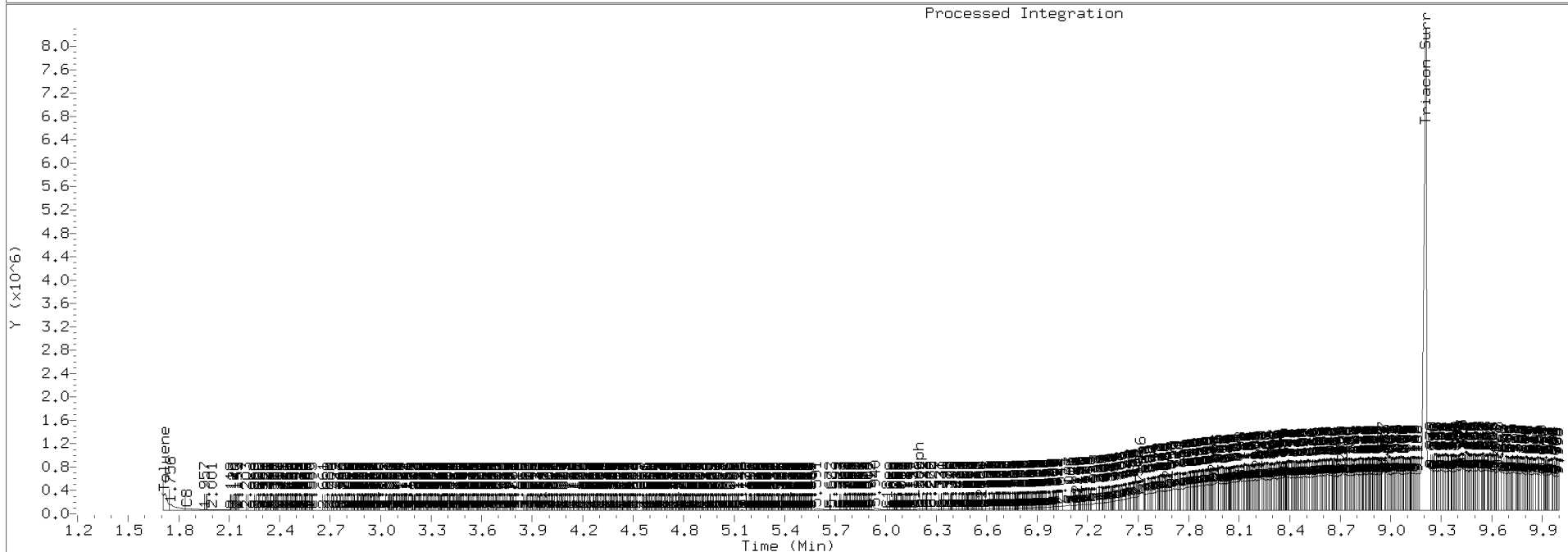
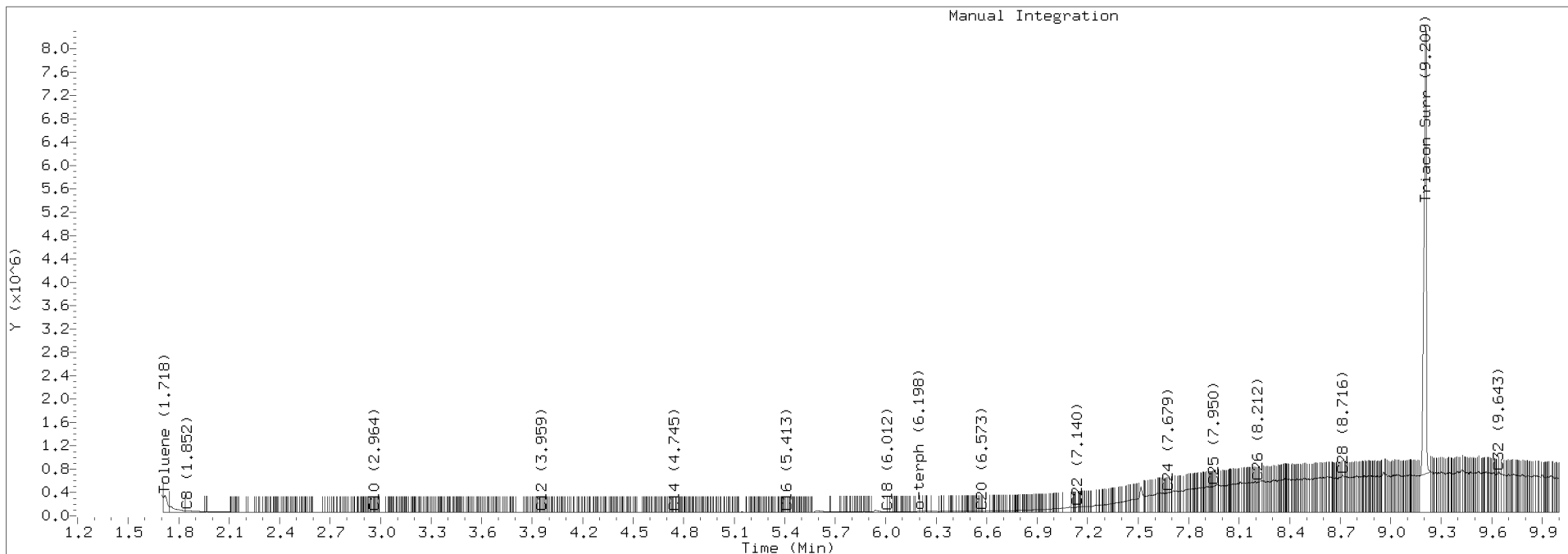
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0417.D Injection: 04-DEC-2020 15:49

Lab ID: SIL0055-CCV2



Data File: \\target\share\chem2\fid4a,1\20201204,b\42010429.D

Date: 04-DEC-2020 19:53

Client ID:

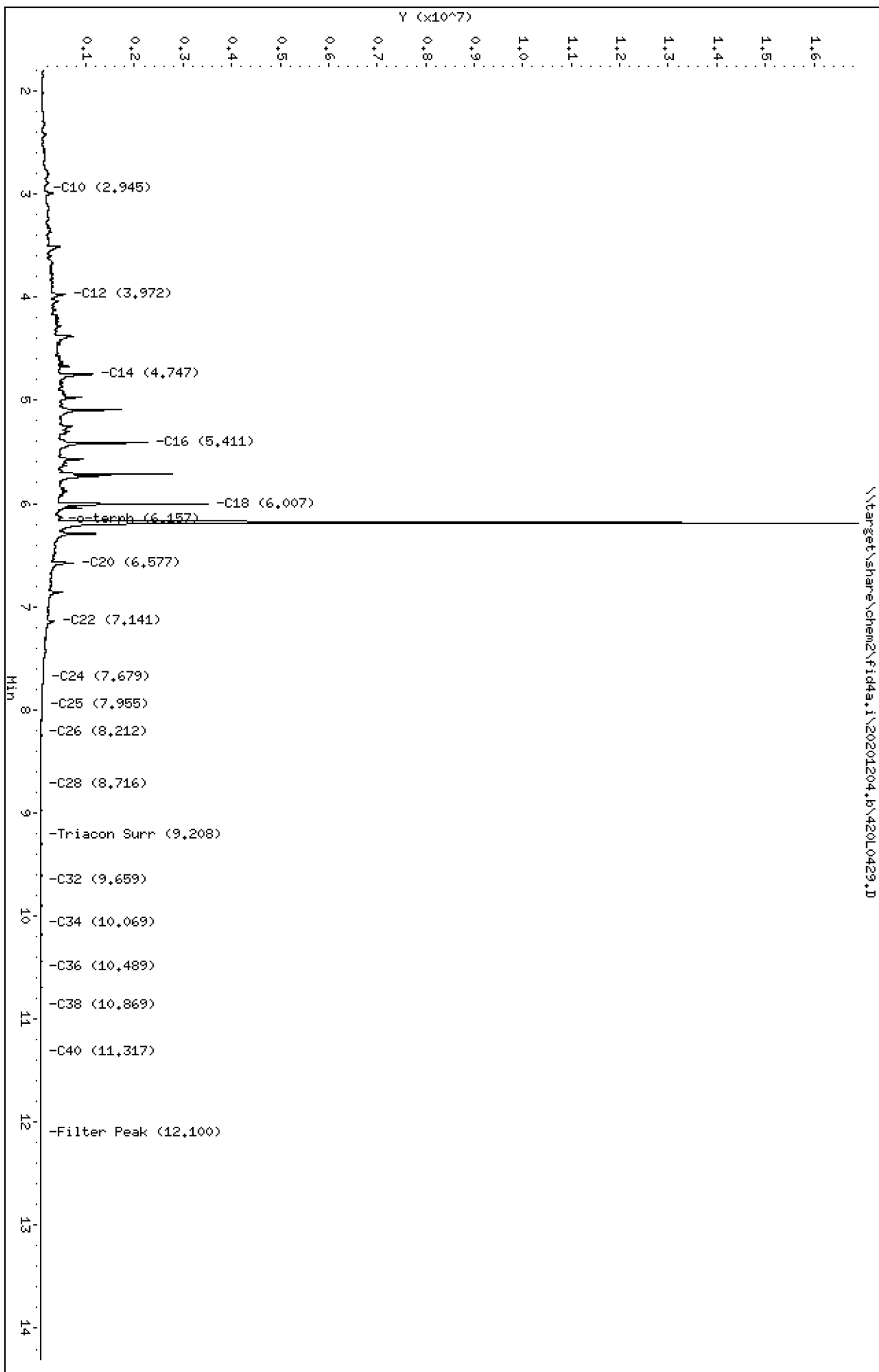
Sample Info: SIL0055-CCV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0429.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV3
Client ID:
Injection: 04-DEC-2020 19:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

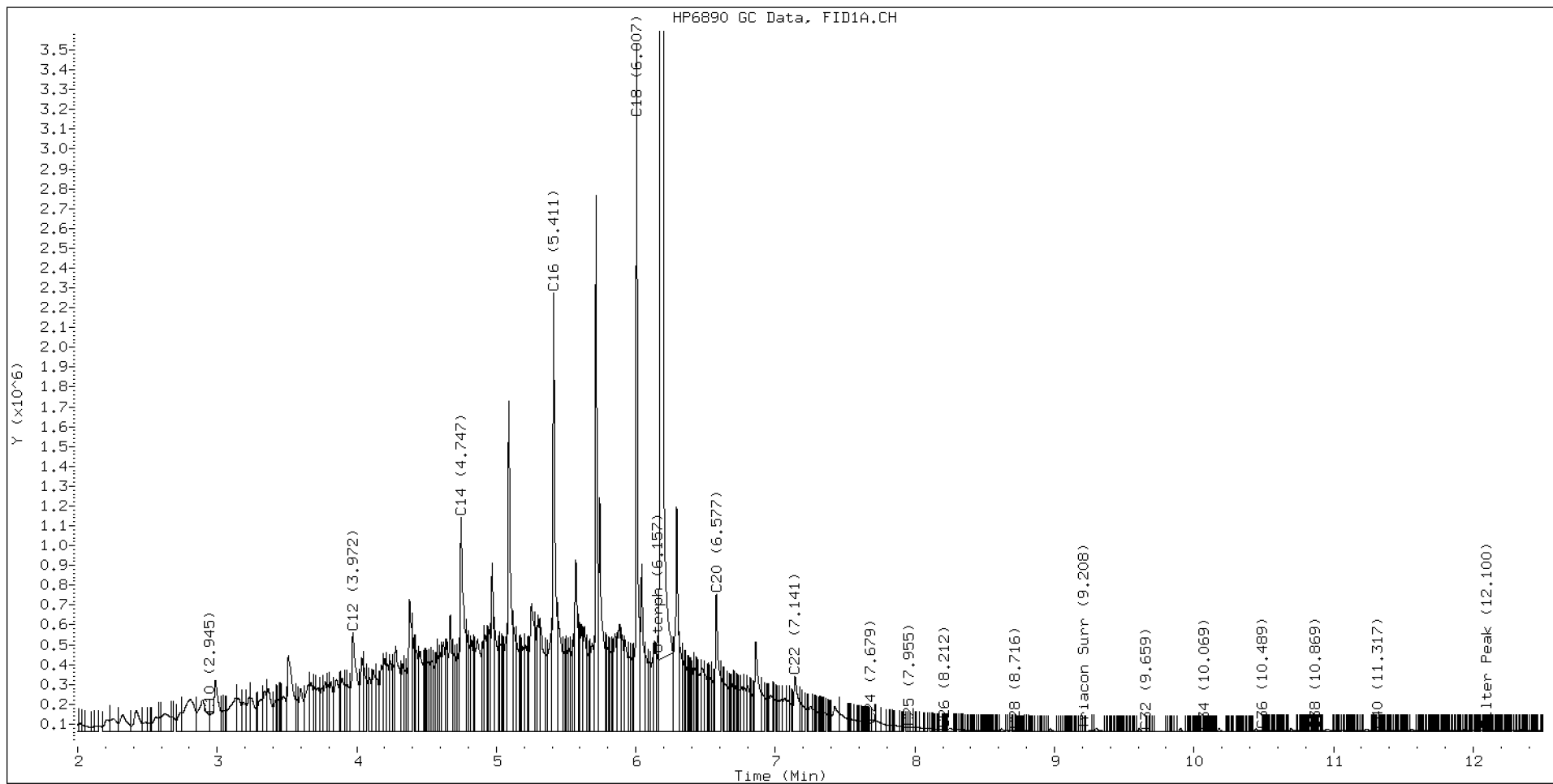
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.850	-0.014	56542	208725	WATPHD	(C12-C24)	78440854	492.3
C10	2.945	-0.015	84483	29390	WATPHM	(C24-C38)	985066	9.7
C12	3.972	0.013	495309	1289743	AK102	(C10-C25)	90937526	465.2
C14	4.747	0.001	1080329	2050378	AK103	(C25-C36)	624968	8.5
C16	5.411	-0.000	2210291	2735755	OR.DIES	(C10-C28)	91361121	466.1
C18	6.007	0.001	3463534	3184957				
C20	6.577	0.002	691504	1170796	JET-A	(C10-C18)	70243686	423.5
C22	7.141	0.005	277332	622482				
C24	7.679	-0.006	43702	21767				
C25	7.955	0.002	20404	13135				
C26	8.212	-0.002	10448	7157				
C28	8.716	-0.001	2702	1829				
C32	9.659	0.014	506	279				
C34	10.069	-0.001	626	149				
Filter Peak	12.100	0.002	7521	4132	BUNKERC	(C10-C38)	91669671	2322.1
C36	10.489	0.013	3218	947				
C38	10.869	-0.001	5310	2096				
C40	11.317	-0.000	7016	6220				
o-terph	6.192	0.002	16481859	18176810				
Triacon Surr	9.208	-0.013	330	194	NAS DIES	(C10-C24)	90684605	464.7

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	18176810	88.8 M
Triacontane	194	0.0

M Indicates the peak was manually integrated

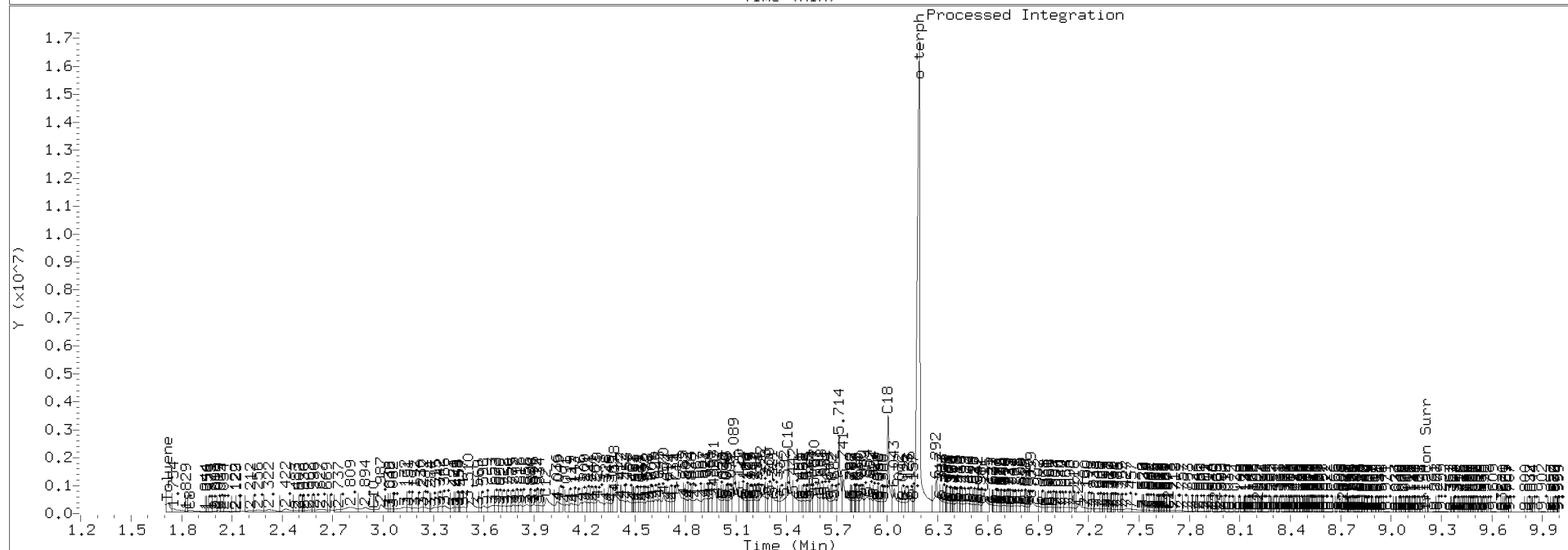
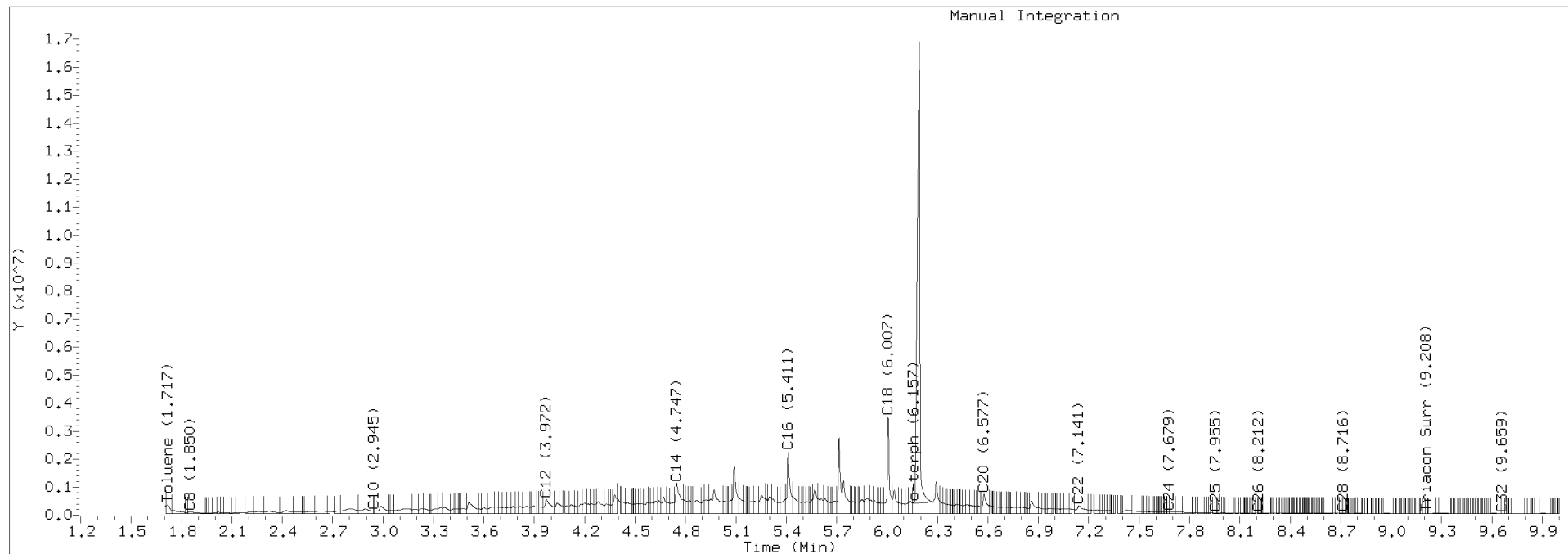
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0429.D Injection: 04-DEC-2020 19:53

Lab ID: SIL0055-CCV3





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420L0430.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0055</u>	Injection Date:	<u>12/04/20</u>
Lab Sample ID:	<u>SIL0055-CCV4</u>	Injection Time:	<u>20:13</u>
Sequence Name:	<u>MOIL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	993	101166	100467.9		-0.7	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201204,8\42010430.D

Date : 04-DEC-2020 20:13

Client ID:

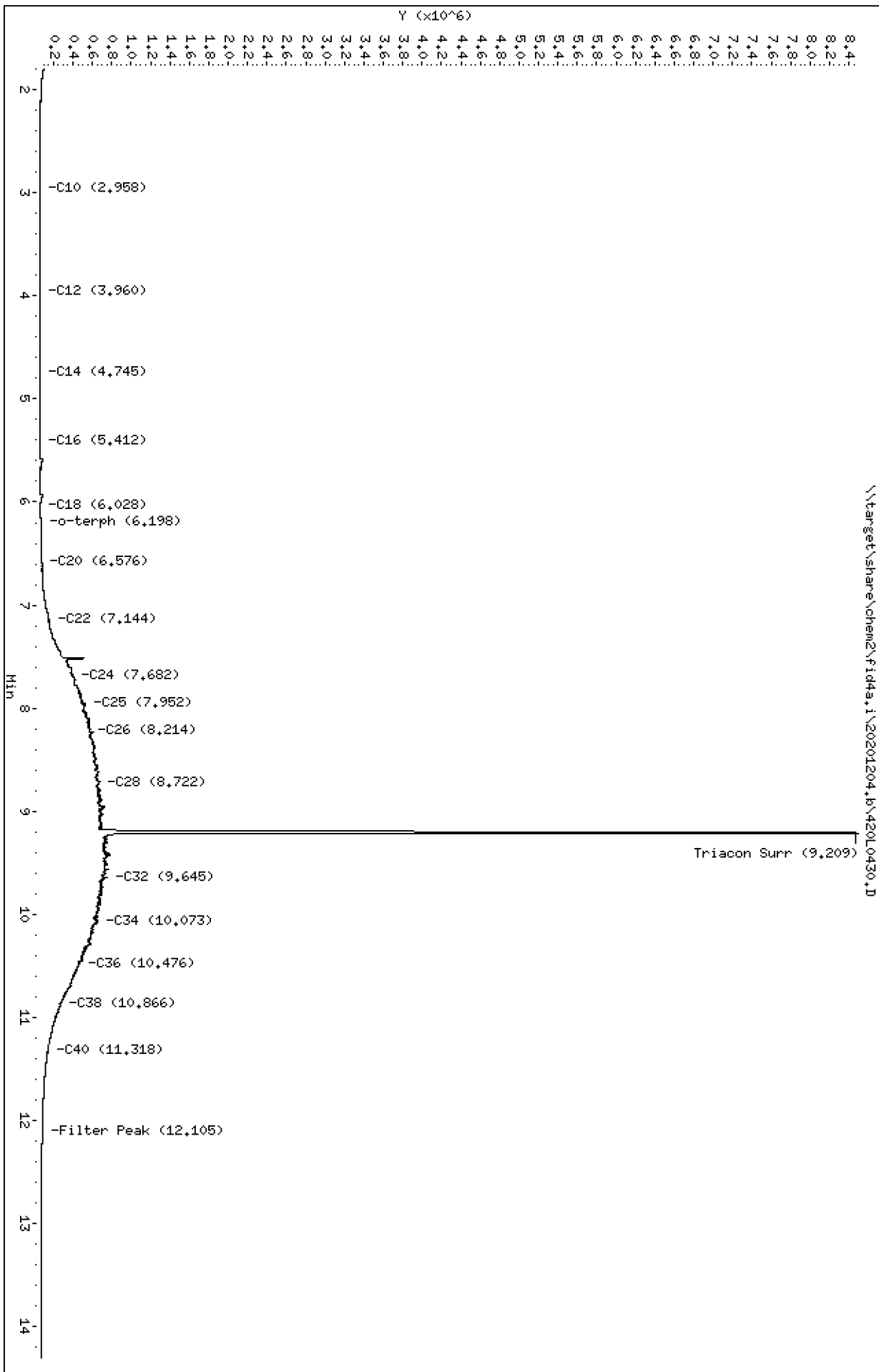
Sample Info: SIL0055-CCV4

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0430.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV4
Client ID:
Injection: 04-DEC-2020 20:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

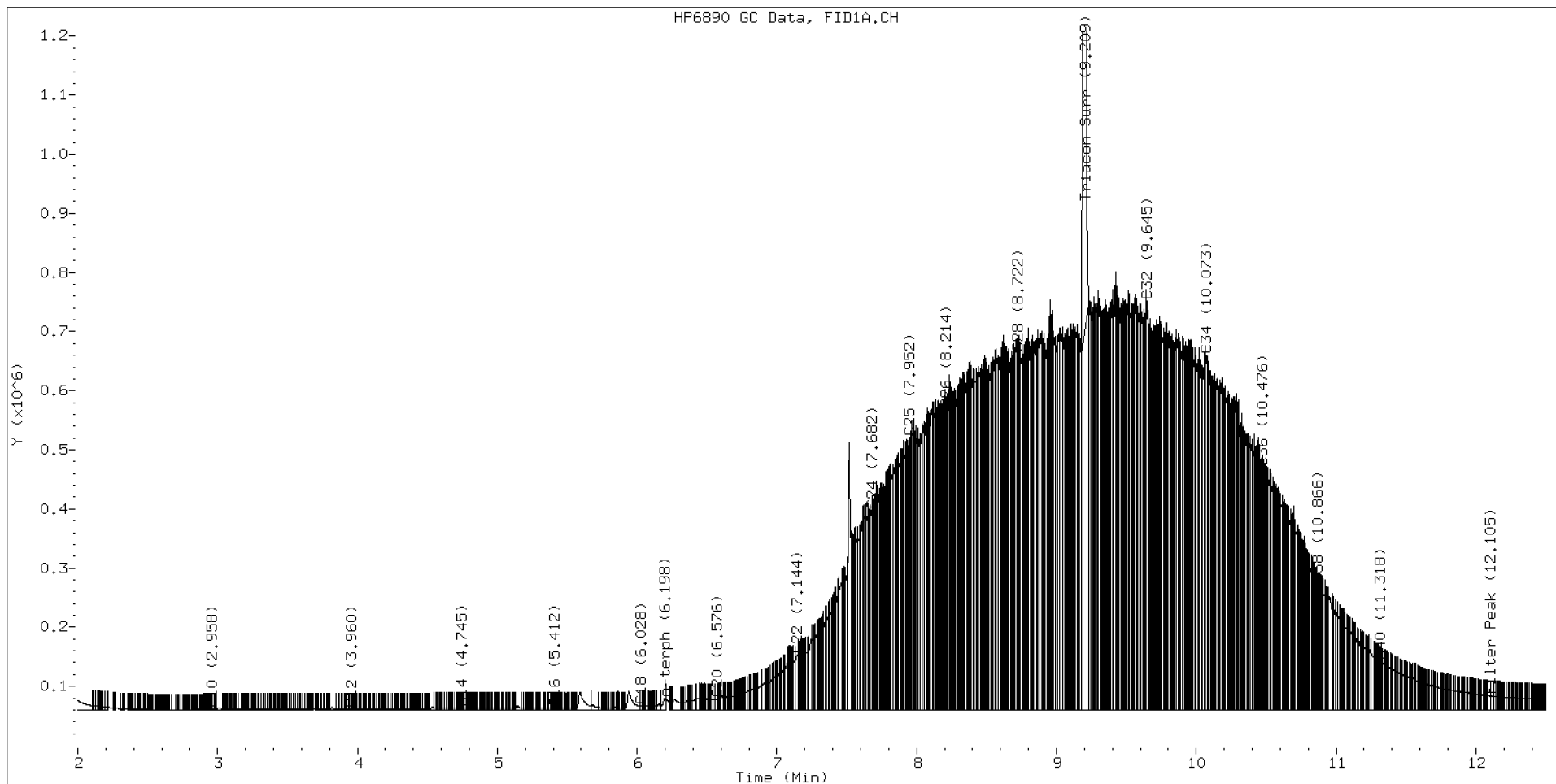
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.851	-0.012	32581	154487	WATPHD	(C12-C24)	9879096	62.0
C10	2.958	-0.002	1316	694	WATPHM	(C24-C38)	100467945	993.1
C12	3.960	0.001	1438	420	AK102	(C10-C25)	13781656	70.5
C14	4.745	-0.001	3000	1478	AK103	(C25-C36)	90077511	1230.5
C16	5.412	0.001	2978	2031	OR.DIES	(C10-C28)	41569785	212.1
C18	6.028	0.023	6405	3493				
C20	6.576	0.001	18412	5459	JET-A	(C10-C18)	589171	3.6
C22	7.144	0.008	92883	140870				
C24	7.682	-0.003	338197	134289				
C25	7.952	-0.000	460409	201095				
C26	8.214	0.000	508416	126565				
C28	8.722	0.005	604265	120726				
C32	9.645	-0.000	691572	535831				
C34	10.073	0.003	600989	441853				
Filter Peak	12.105	0.007	23485	8194	BUNKERC	(C10-C38)	110454969	2797.9
C36	10.476	-0.000	409720	161942				
C38	10.866	-0.005	212609	94221				
C40	11.318	0.001	82175	36542				
o-terph	6.198	0.008	18709	26576				
Triacon Surr	9.209	-0.012	7788028	7615110	NAS DIES	(C10-C24)	9987025	51.2

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	26576	0.1
Triacontane	7615110	51.3 M

M Indicates the peak was manually integrated

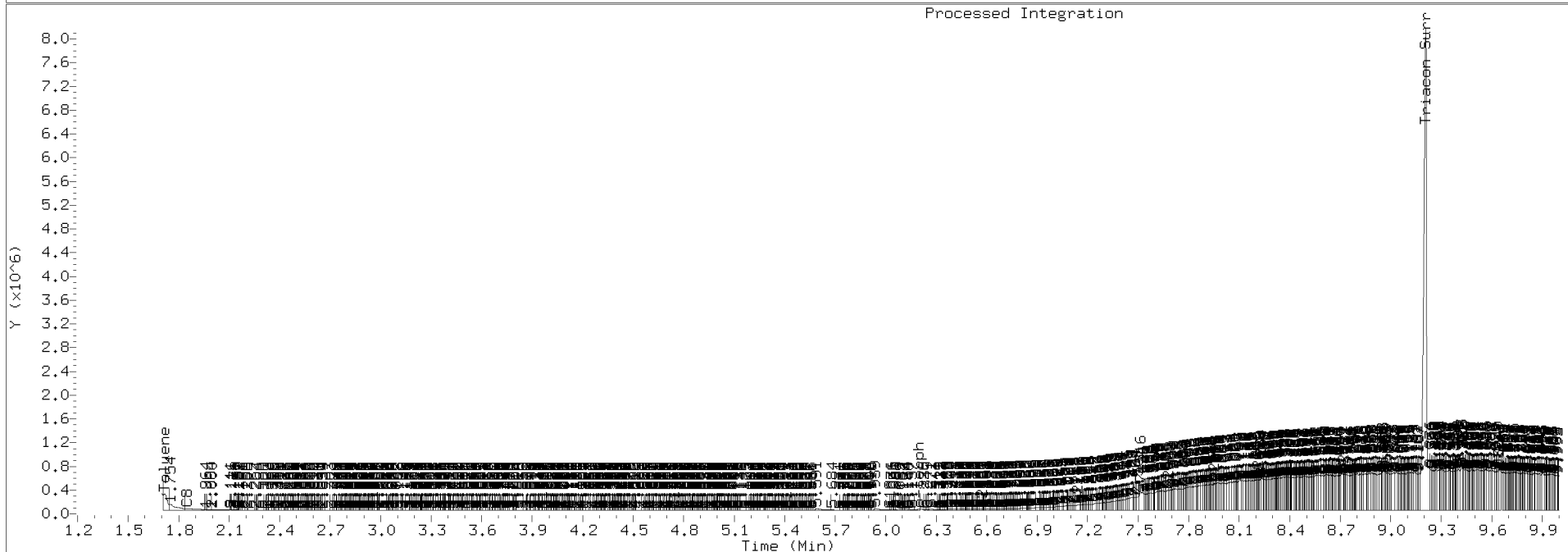
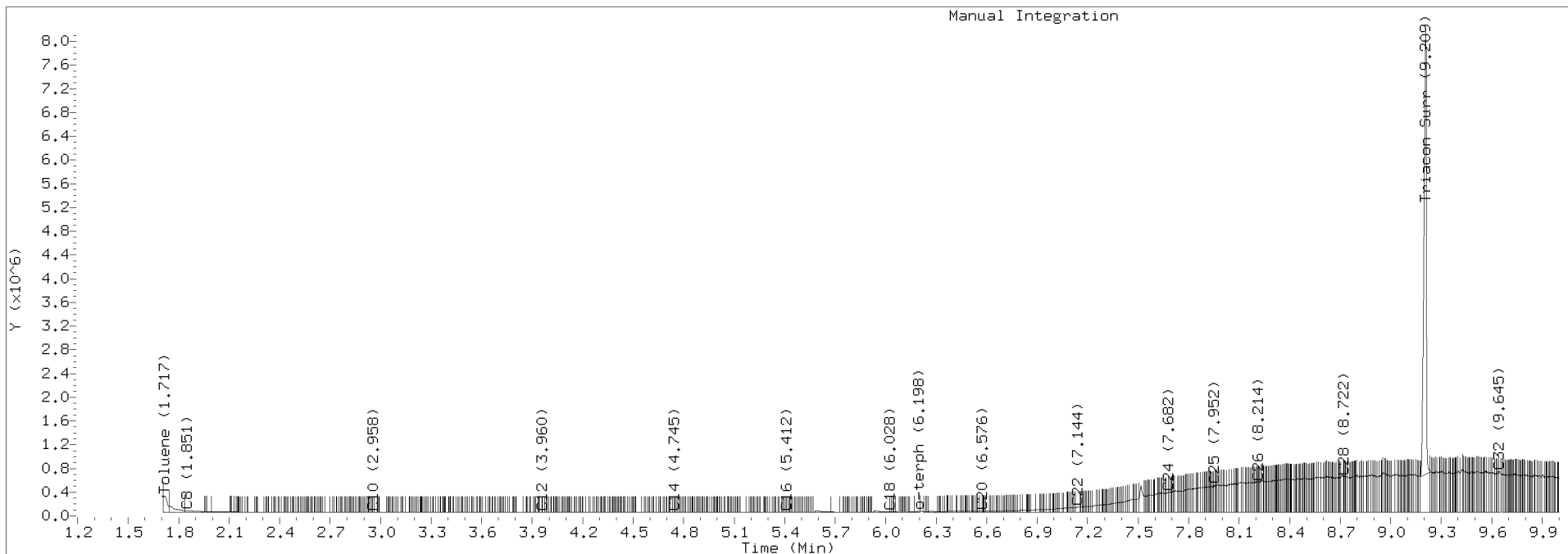
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0430.D Injection: 04-DEC-2020 20:13

Lab ID: SIL0055-CCV4



Data File: \\target\share\chem2\fid4a,1\20201204,b\42010443.D

Date: 05-DEC-2020 00:35

Client ID:

Sample Info: SIL0055-CCWS

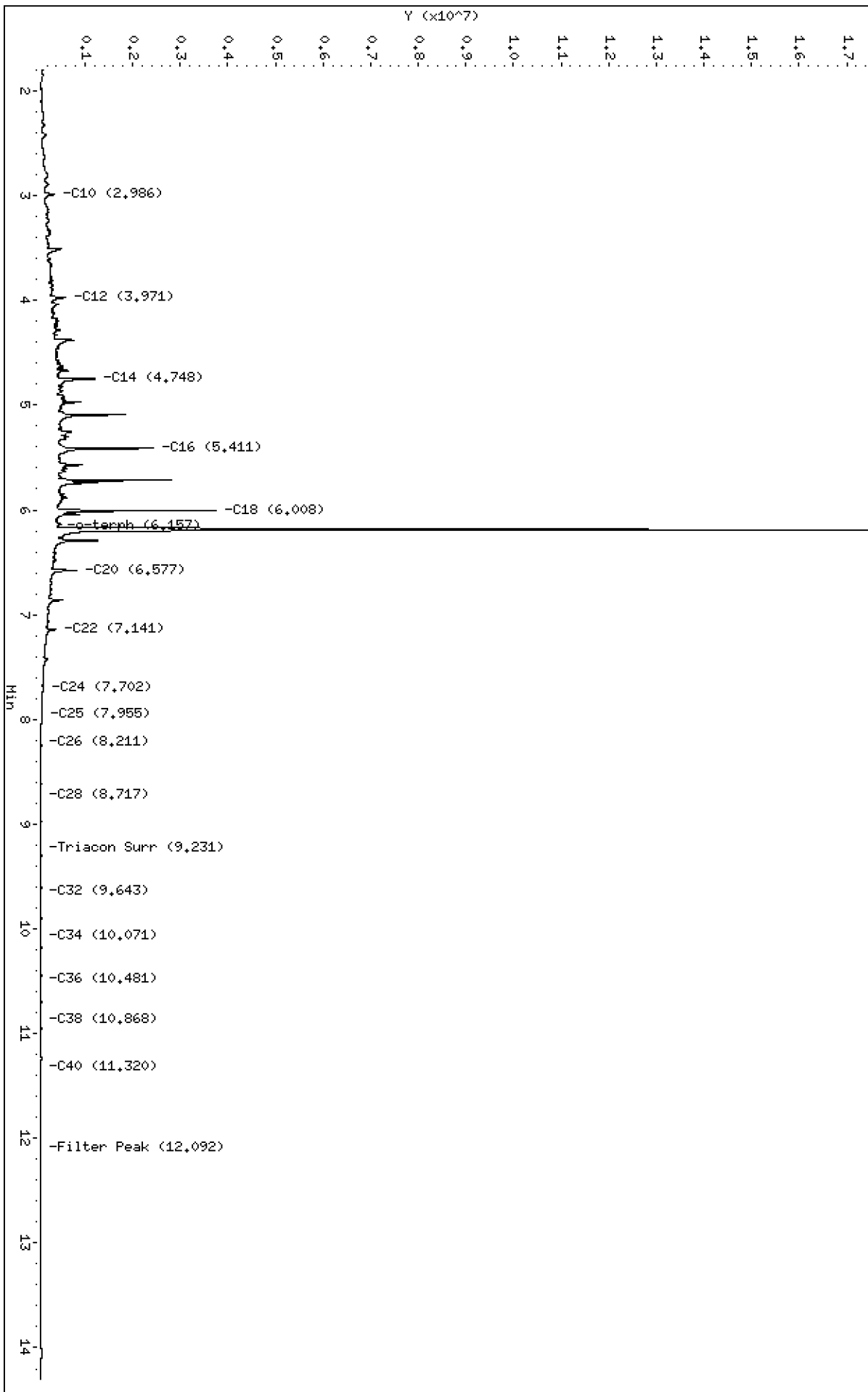
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201204,b\42010443.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0443.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV5
Client ID:
Injection: 05-DEC-2020 00:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

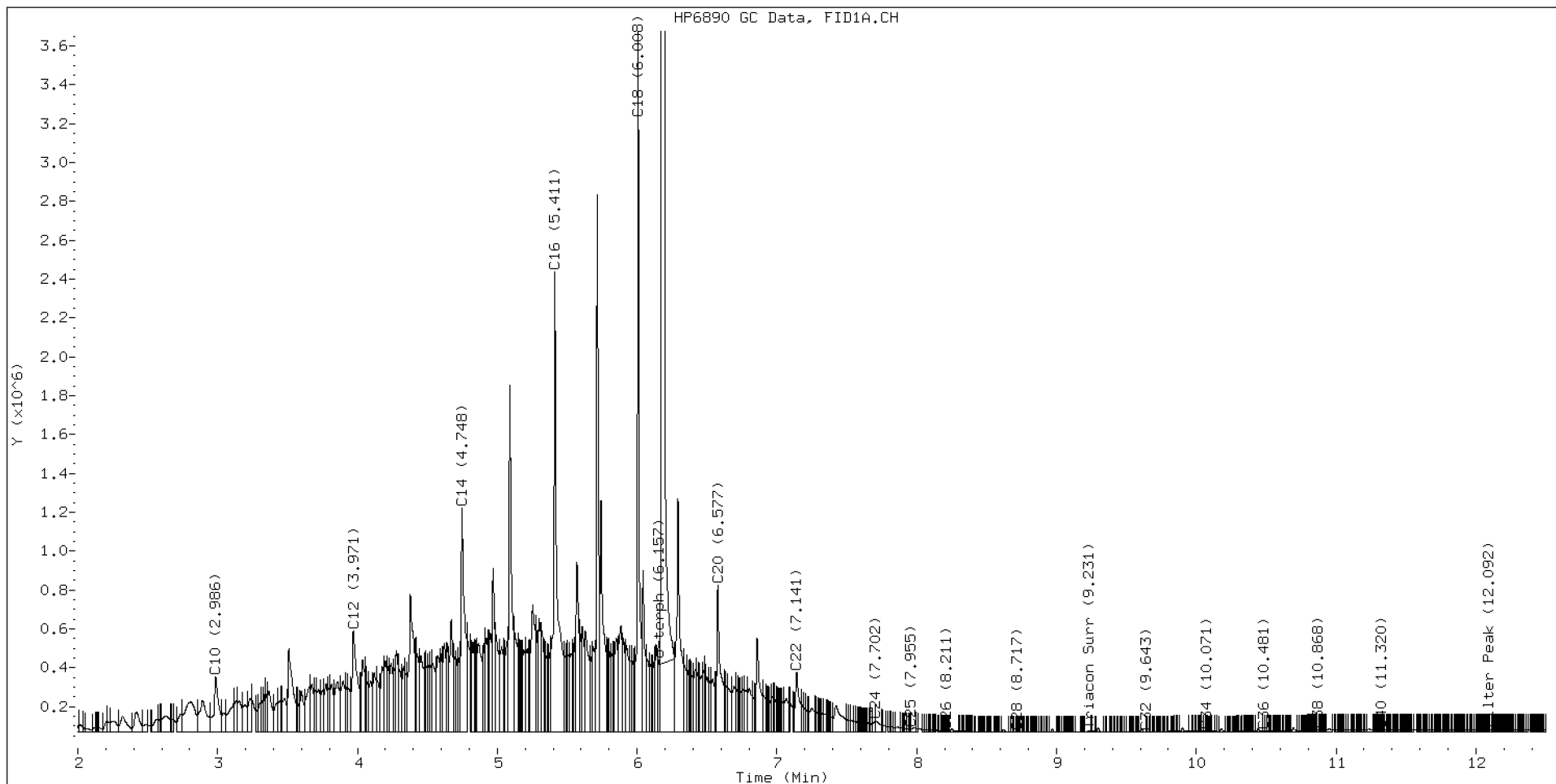
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.011	52891	168528	WATPHD	(C12-C24)	77691780	487.6
C10	2.986	0.026	284603	693782	WATPHM	(C24-C38)	1236161	12.2
C12	3.971	0.012	523251	1293547	AK102	(C10-C25)	89615072	458.4
C14	4.748	0.002	1151283	1946955	AK103	(C25-C36)	766153	10.5
C16	5.411	0.000	2369693	4246482	OR.DIES	(C10-C28)	89974429	459.1
C18	6.008	0.003	3688613	3194745				
C20	6.577	0.003	754622	1399972	JET-A	(C10-C18)	68819321	415.0
C22	7.141	0.005	309264	599033				
C24	7.702	0.017	59118	70839				
C25	7.955	0.002	17343	6047				
C26	8.211	-0.003	7809	5751				
C28	8.717	-0.001	1133	332				
C32	9.643	-0.002	2690	1306				
C34	10.071	0.000	4968	984				
Filter Peak	12.092	-0.006	12460	8045	BUNKERC	(C10-C38)	90612087	2295.3
C36	10.481	0.004	6749	5320				
C38	10.868	-0.002	10933	10304				
C40	11.320	0.003	12317	6123				
o-terph	6.193	0.003	17083510	18380638				
Triacon Surr	9.231	0.009	7170	12845	NAS DIES	(C10-C24)	89375926	458.0

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	18380638	89.8 M
Triacontane	12845	0.1

M Indicates the peak was manually integrated

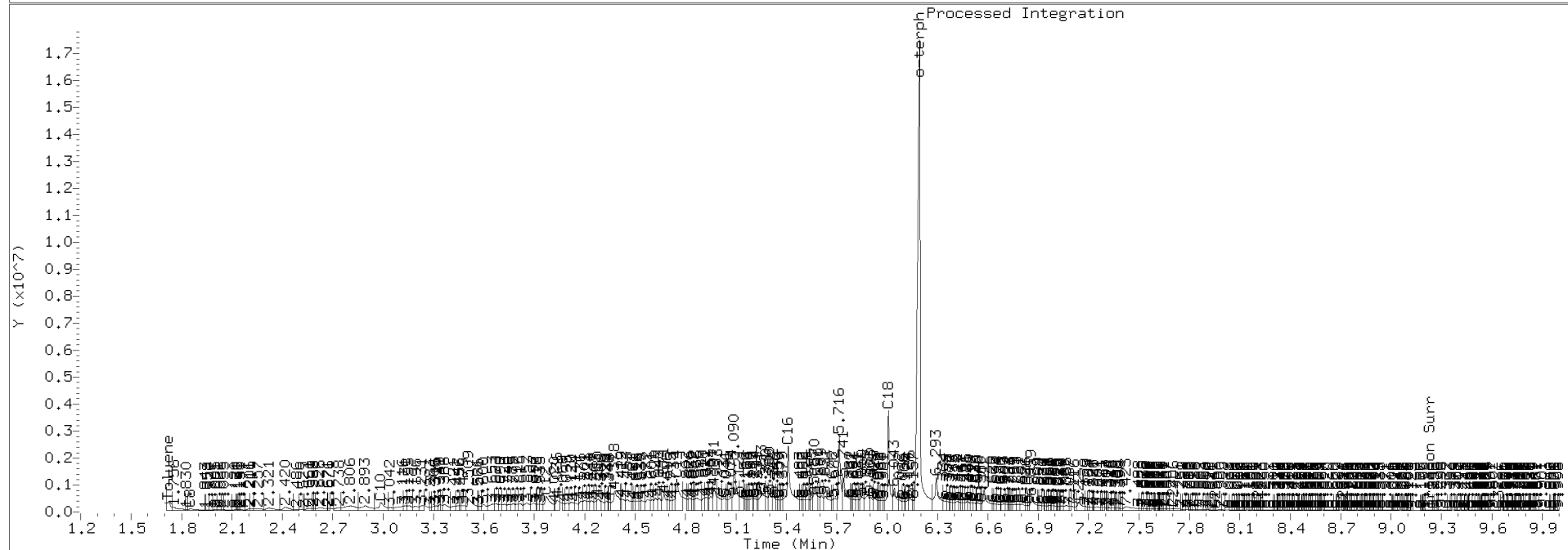
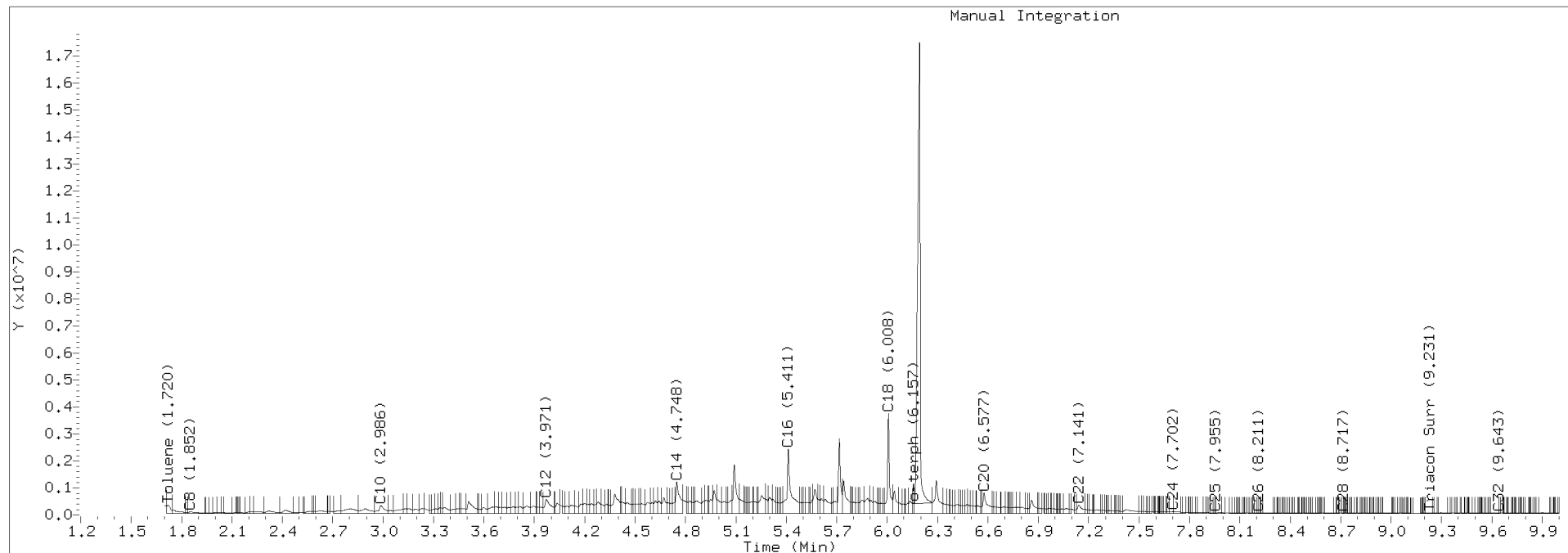
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0443.D Injection: 05-DEC-2020 00:35

Lab ID: SIL0055-CCV5



Data File: \\target\share\chem2\fid4a,1\20201204,b\420L0444.D

Date: 05-DEC-2020 00:55

Client ID:

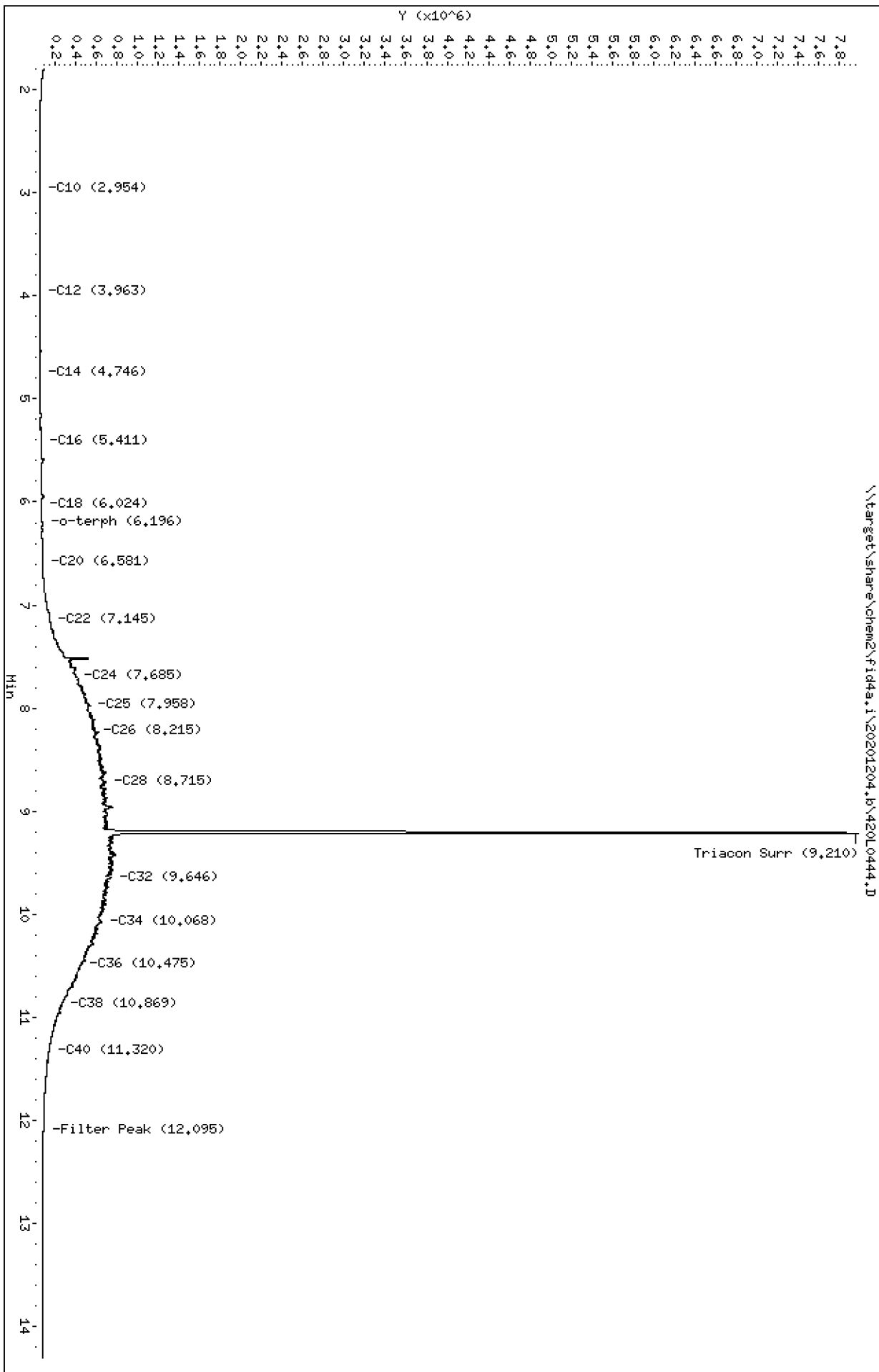
Sample Info: SIL0055-CCW6

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201204.b/420L0444.D
Method: 20201204.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/05/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0055-CCV6
Client ID:
Injection: 05-DEC-2020 00:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

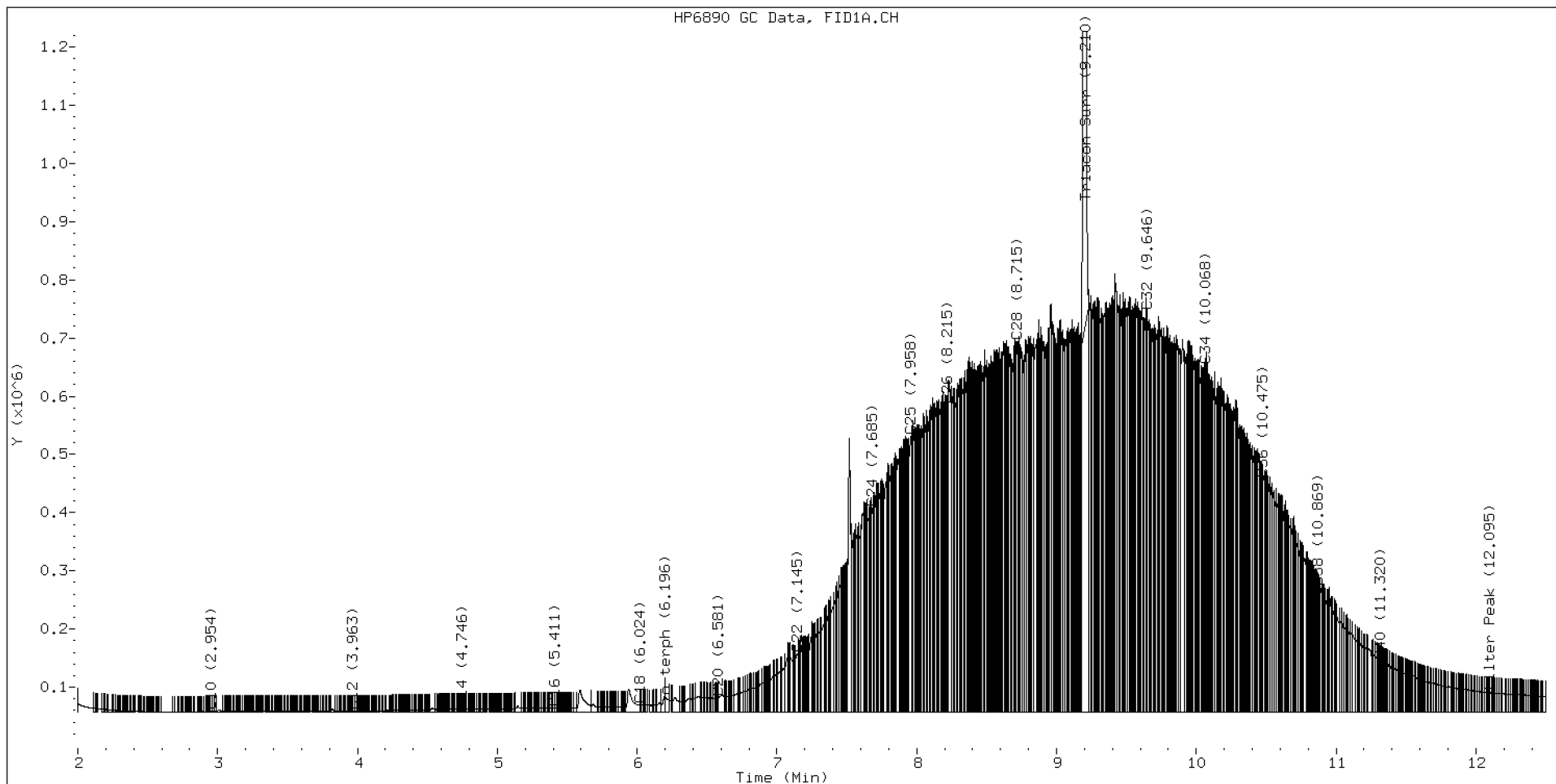
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.011	32907	144859	WATPHD	(C12-C24)	11070736	69.5
C10	2.954	-0.006	1204	1021	WATPHM	(C24-C38)	101729752	1005.6
C12	3.963	0.004	1903	1399	AK102	(C10-C25)	15022382	76.8
C14	4.746	0.000	5173	2818	AK103	(C25-C36)	91328848	1247.6
C16	5.411	0.000	6790	1690	OR.DIES	(C10-C28)	43165670	220.2
C18	6.024	0.019	11672	4646				
C20	6.581	0.007	24771	20617	JET-A	(C10-C18)	945533	5.7
C22	7.145	0.009	99449	128865				
C24	7.685	0.000	351185	259707				
C25	7.958	0.005	474345	456487				
C26	8.215	0.002	527933	261257				
C28	8.715	-0.003	636027	592962				
C32	9.646	0.001	687832	272312				
C34	10.068	-0.002	595956	265047				
Filter Peak	12.095	-0.003	33382	8336	BUNKERC	(C10-C38)	112909081	2860.1
C36	10.475	-0.001	401239	99864				
C38	10.869	-0.001	214458	53214				
C40	11.320	0.003	88384	30736				
o-terph	6.196	0.006	26251	26155				
Triacon Surr	9.210	-0.011	7256388	7791150	NAS DIES	(C10-C24)	11179329	57.3

Range Times: NW Diesel(3.959 - 7.685) AK102(2.96 - 7.95) Jet A(2.96 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.95 - 10.48) OR Diesel(2.96 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	26155	0.1
Triacontane	7791150	52.5 M

M Indicates the peak was manually integrated

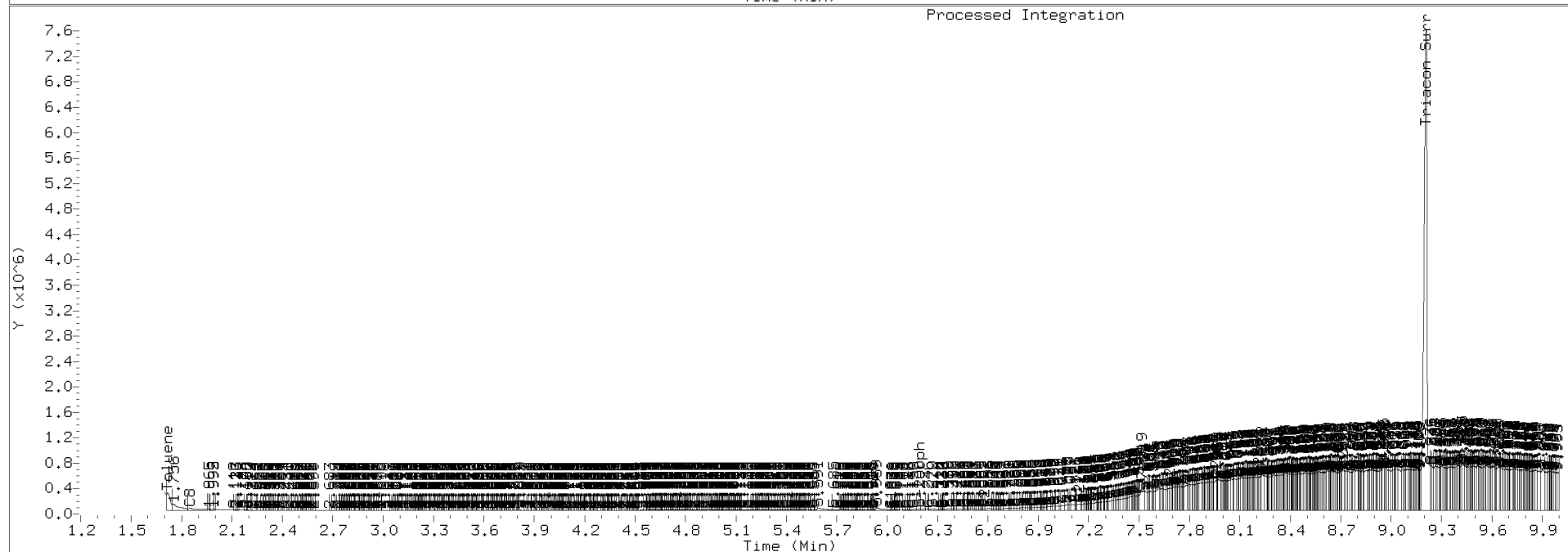
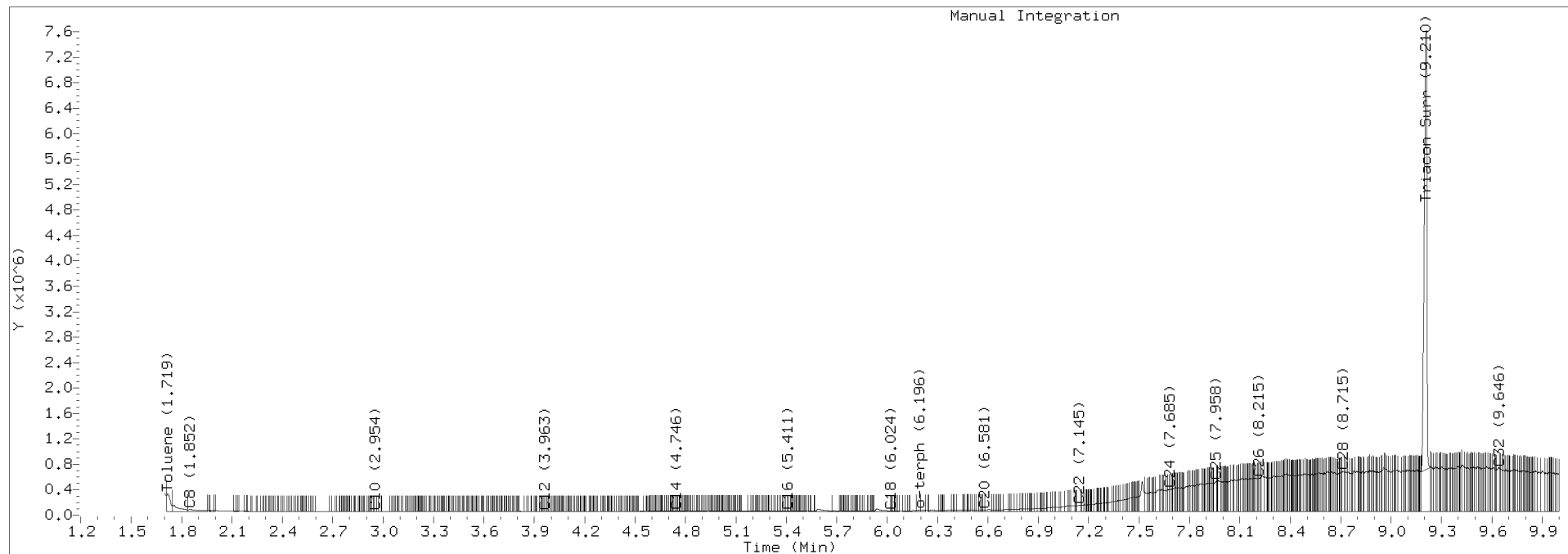
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201204.b/420L0444.D Injection: 05-DEC-2020 00:55

Lab ID: SIL0055-CCV6





CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420K2971.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIL0065</u>	Injection Date: <u>11/30/20</u>
Lab Sample ID: <u>SIL0065-CCV1</u>	Injection Time: <u>21:42</u>
Sequence Name: <u>DIESEL CCV</u>	

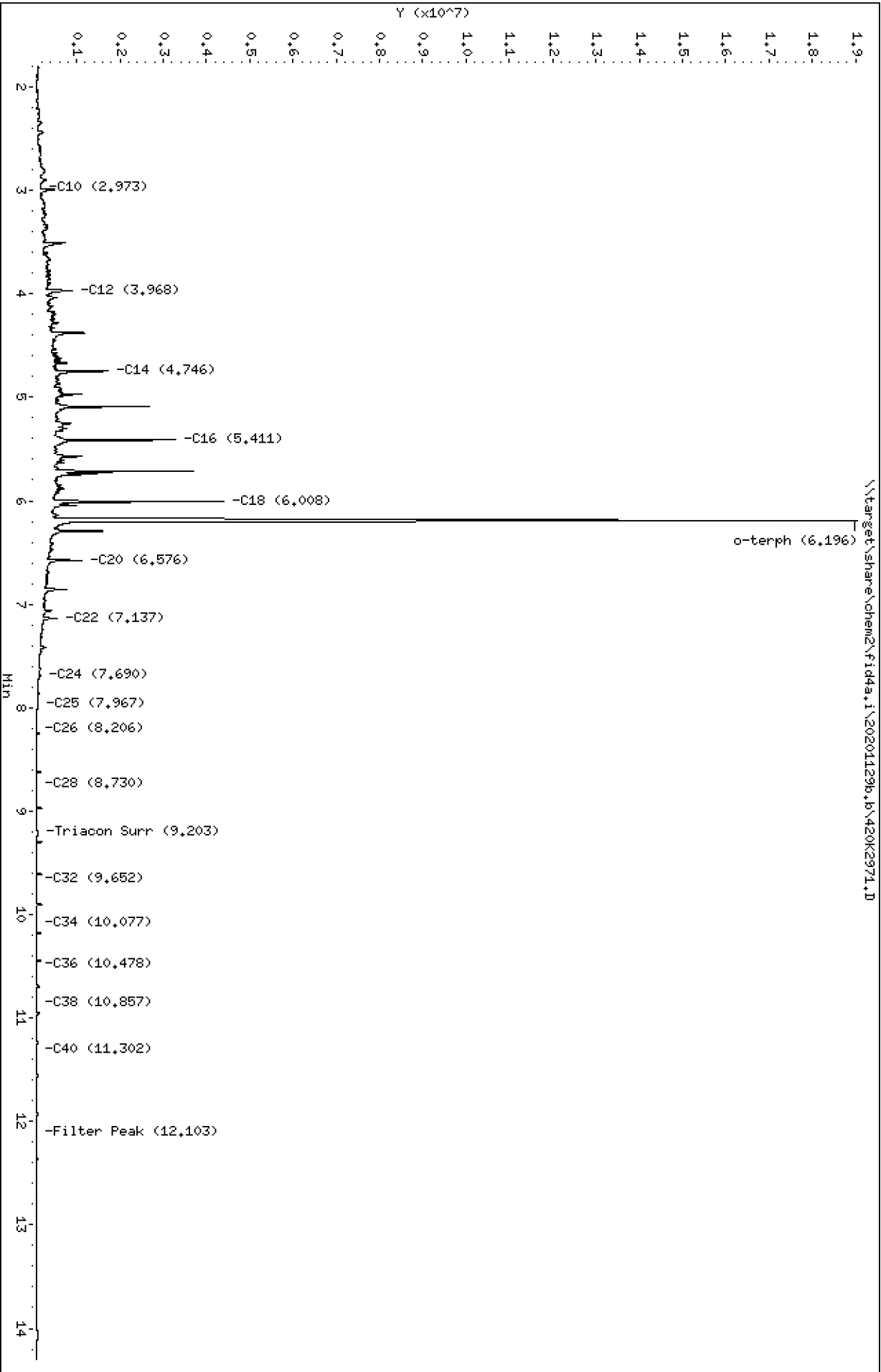
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	570	159336.7	181732.1		14.1	+/-15
o-Terphenyl	A	90.000	103	204701.9	235005.6		14.8	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2971.D
Date: 30-NOV-2020 21:42
Client ID:
Sample Info: SIL0065-CCV1

Column phase: RTX-1

Instrument: fid4a.i
Operator: JGR/CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2971.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0065-CCV1
Client ID:
Injection: 30-NOV-2020 21:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

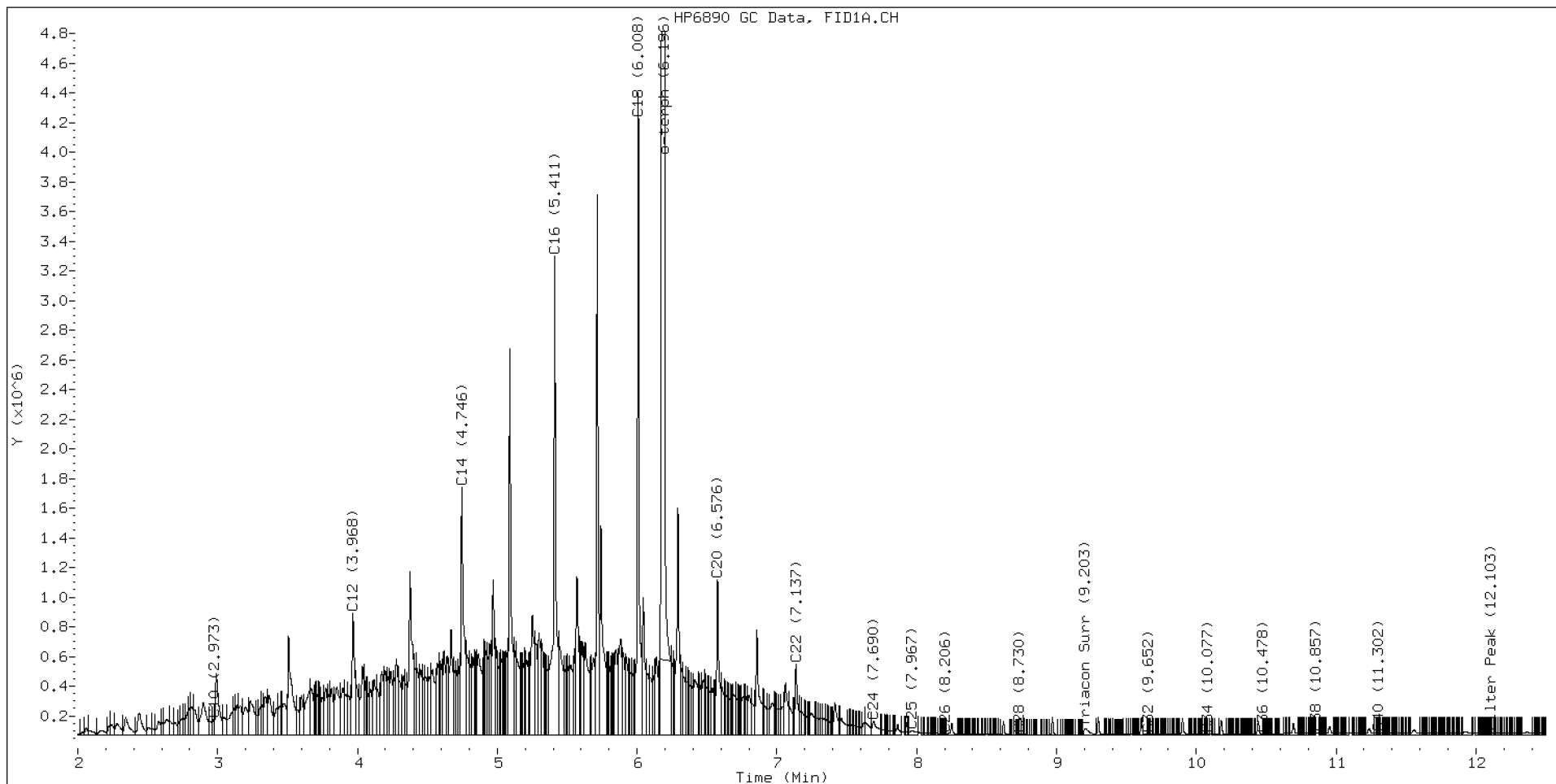
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.922	0.008	41481	65848	WATPHD	(C12-C24)	90866040	570.3
C10	2.973	-0.005	102608	99318	WATPHM	(C24-C38)	1895372	18.7
C12	3.968	0.004	819983	1189448	AK102	(C10-C25)	105412061	539.2
C14	4.746	-0.000	1670082	2181964	AK103	(C25-C36)	1341905	18.3
C16	5.411	-0.001	3226531	4057834	OR.DIES	(C10-C28)	105884557	540.2
C18	6.008	-0.002	4327607	3776632				
C20	6.576	-0.005	1046301	1212846	JET-A	(C10-C18)	81564212	491.8
C22	7.137	-0.007	478125	604299				
C24	7.690	-0.002	91380	236818				
C25	7.967	0.007	28462	86171				
C26	8.206	-0.015	7261	3902				
C28	8.730	0.005	2633	1449				
C32	9.652	-0.001	3306	1779				
C34	10.077	0.001	7453	2227				
Filter Peak	12.103	0.006	12268	3059	BUNKERC	(C10-C38)	107024422	2711.0
C36	10.478	-0.000	7576	4126				
C38	10.857	-0.008	11557	7371				
C40	11.302	-0.000	12664	5665				
o-terph	6.196	-0.003	18467373	21150495				
Triacon Surr	9.203	-0.027	44206	107324	NAS DIES	(C10-C24)	105129050	538.7

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	21150495	103.3 M
Triacontane	107324	0.7

M Indicates the peak was manually integrated

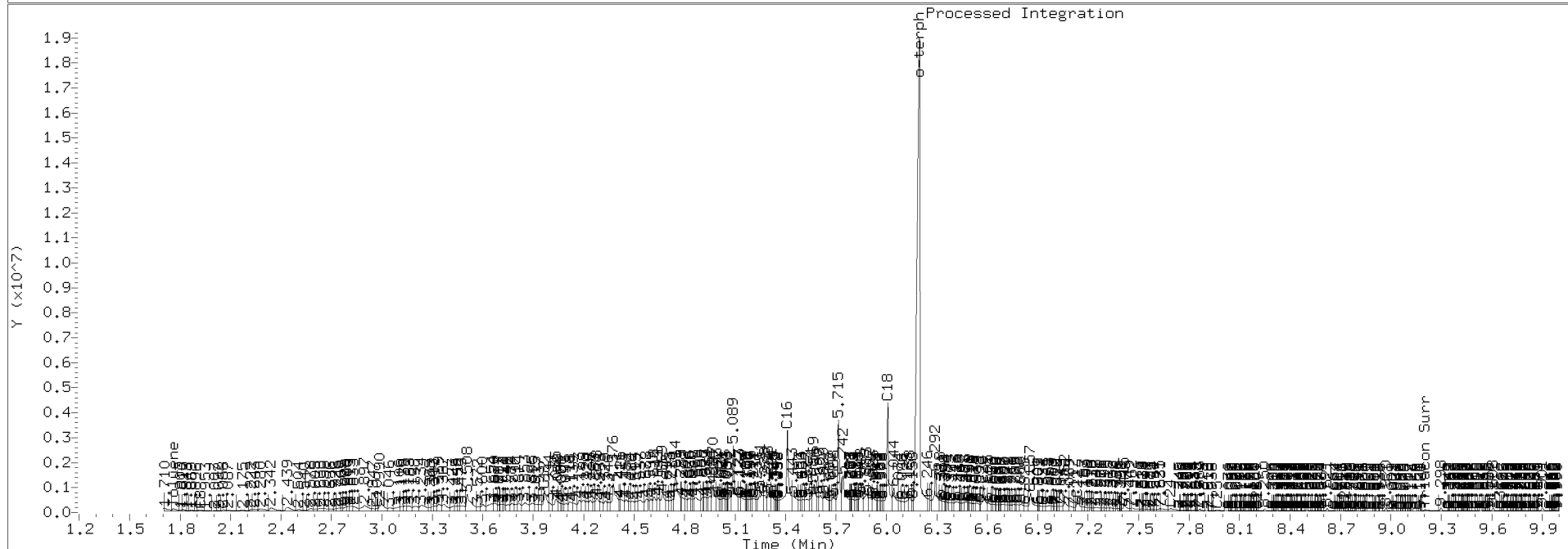
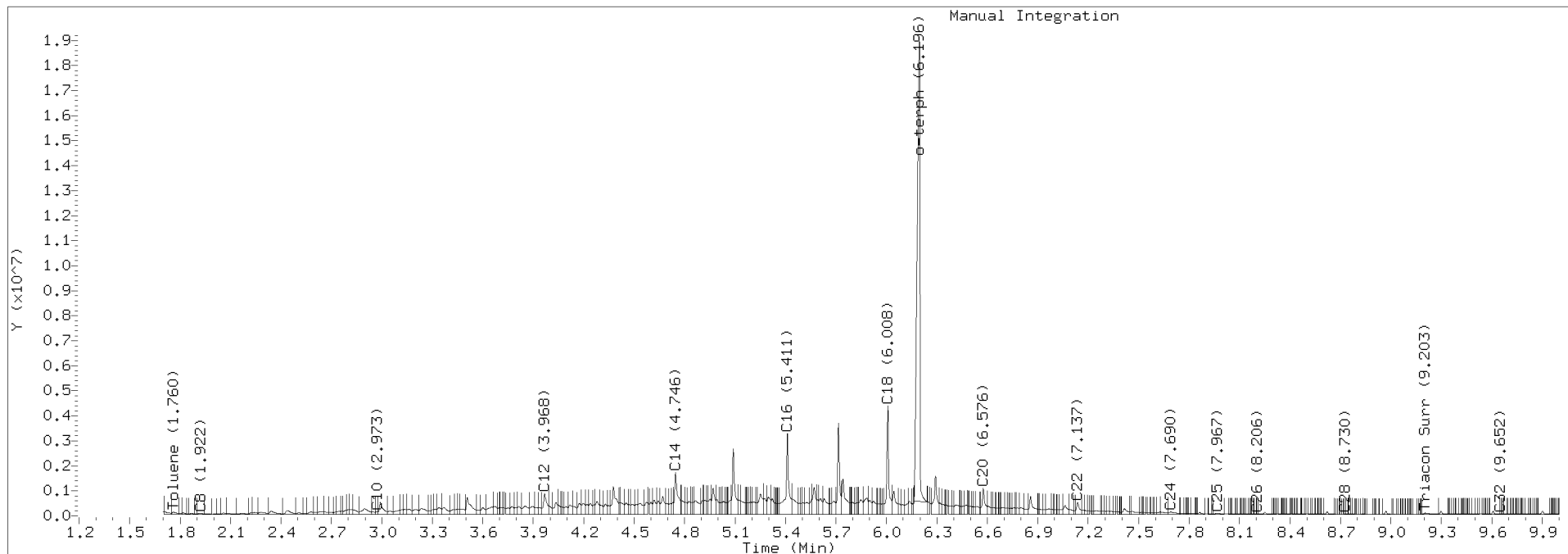
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2971.D Injection: 30-NOV-2020 21:42

Lab ID: SIL0065-CCV1



Data File: \\target\share\chem2\fid4a.i\20201129b.b\420K2972.D

Date: 30-NOV-2020 22:02

Client ID:

Sample Info: SIL0065-CCV2

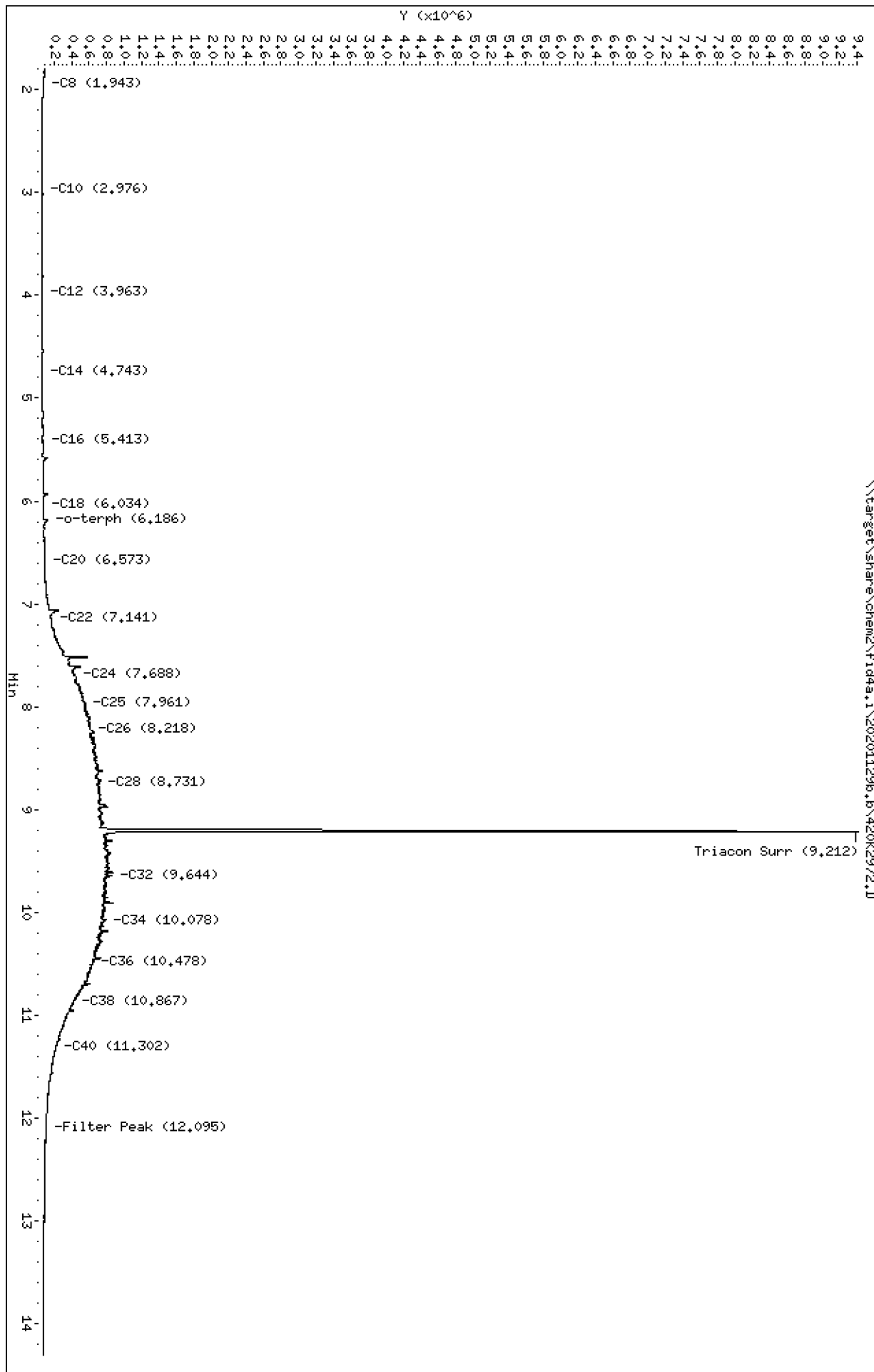
Column phase: RTX-1

Instrument: fid4a.i

Operator: JGR/CTO

Column diameter: 0.25

\\target\share\chem2\fid4a.i\20201129b.b\420K2972.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201129b.b/420K2972.D
Method: 20201129b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 12/04/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0065-CCV2
Client ID:
Injection: 30-NOV-2020 22:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

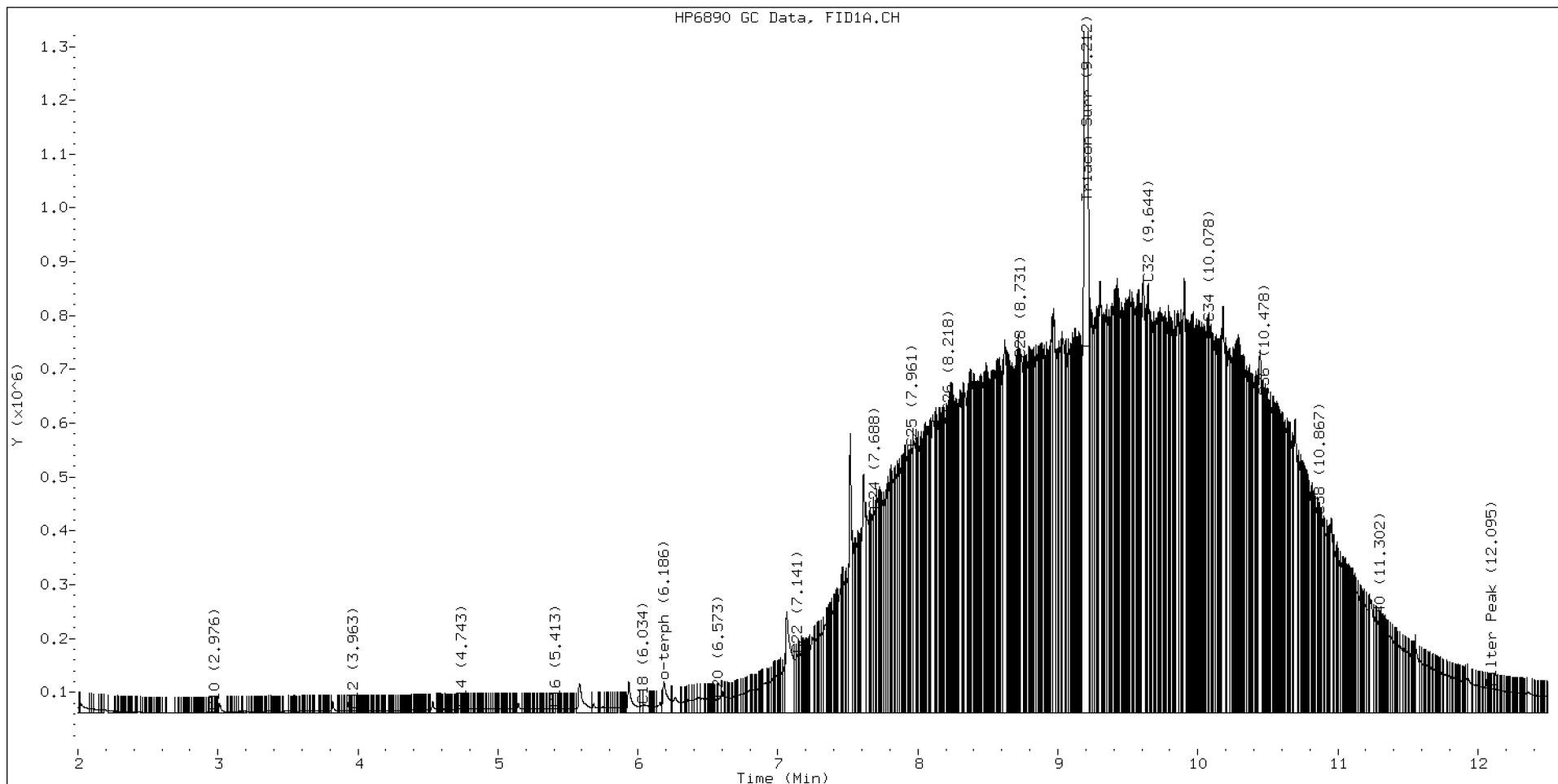
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.943	0.030	13915	12862	WATPHD	(C12-C24)	12189105	76.5
C10	2.976	-0.003	1837	1016	WATPHM	(C24-C38)	117025368	1156.8
C12	3.963	-0.000	3897	2319	AK102	(C10-C25)	16691336	85.4
C14	4.743	-0.003	7213	2502	AK103	(C25-C36)	102121092	1395.0
C16	5.413	0.001	7853	2735	OR.DIES	(C10-C28)	46570515	237.6
C18	6.034	0.024	13577	19094				
C20	6.573	-0.008	25843	8899	JET-A	(C10-C18)	1249890	7.5
C22	7.141	-0.003	108274	99376				
C24	7.688	-0.003	376131	223481				
C25	7.961	0.002	491420	340144				
C26	8.218	-0.003	556118	138492				
C28	8.731	0.006	655774	260516				
C32	9.644	-0.008	796999	943461				
C34	10.078	0.002	725316	323431				
Filter Peak	12.095	-0.002	45559	27146	BUNKERC	(C10-C38)	129433689	3278.7
C36	10.478	-0.000	585997	174710				
C38	10.867	0.002	366389	127483				
C40	11.302	-0.000	162800	56380				
o-terph	6.186	-0.013	57492	144169				
Triacon Surr	9.212	-0.018	8671782	8297220	NAS DIES	(C10-C24)	12408321	63.6

Range Times: NW Diesel(3.964 - 7.692) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	144169	0.7
Triacontane	8297220	55.9 M

M Indicates the peak was manually integrated

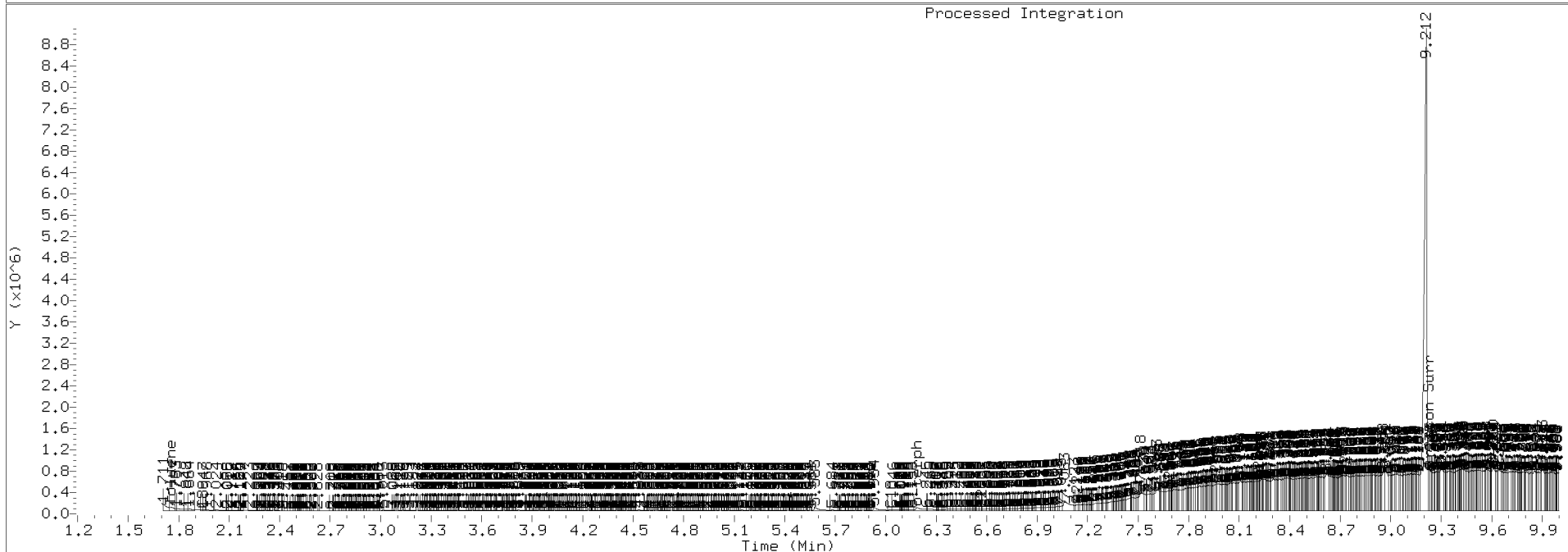
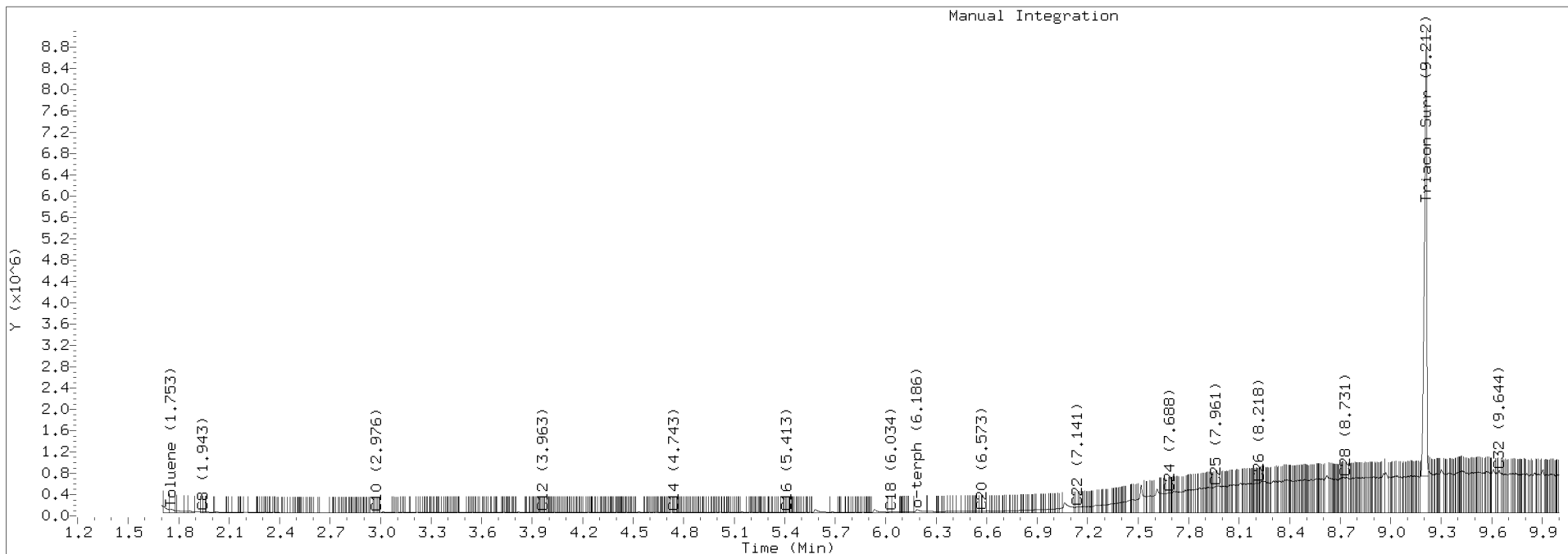
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201129b.b/420K2972.D Injection: 30-NOV-2020 22:02

Lab ID: SIL0065-CCV2





ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SHJ0406

Instrument: FID4

Calibration: CJ00089

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SHJ0406-IBL1	419J2505.D	NA	10/25/19 13:11
Instrument Blank	SHJ0406-IBL2	419J2506.D	NA	10/25/19 13:31
DIESEL 50	SHJ0406-CAL1	419J2507.D	NA	10/25/19 13:52
DIESEL 100	SHJ0406-CAL2	419J2508.D	NA	10/25/19 14:12
DIESEL 250	SHJ0406-CAL3	419J2509.D	NA	10/25/19 14:32
DIESEL 500	SHJ0406-CAL4	419J2510.D	NA	10/25/19 14:53
DIESEL 1000	SHJ0406-CAL5	419J2511.D	NA	10/25/19 15:13
DIESEL 2500	SHJ0406-CAL6	419J2512.D	NA	10/25/19 15:32
DIESEL SCV	SHJ0406-SCV1	419J2513.D	NA	10/25/19 15:52
MOIL 100	SHJ0406-CAL7	419J2514.D	NA	10/25/19 16:12
MOIL 250	SHJ0406-CAL8	419J2515.D	NA	10/25/19 16:33
MOIL 500	SHJ0406-CAL9	419J2516.D	NA	10/25/19 16:53
MOIL 1000	SHJ0406-CALA	419J2517.D	NA	10/25/19 17:13
MOIL 2500	SHJ0406-CALB	419J2518.D	NA	10/25/19 17:34
MOIL 5000	SHJ0406-CALC	419J2519.D	NA	10/25/19 17:54
MOIL SCV	SHJ0406-SCV2	419J2520.D	NA	10/25/19 18:14



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019	11:37	419J2501.D	1	RINSE	
2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BHJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BHJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2336	419J2536.D	19J0373-05	1	o-terph,	Triacon Surr,
2357	419J2537.D	19J0373-06	1	Triacon Surr,	
0017	419J2538.D	19J0373-07	1	Triacon Surr,	
0037	419J2539.D	19J0373-08	1	Triacon Surr,	
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1	Triacon Surr,	

Security Status Report

Date: 30-Oct-2019 07:25

419J2507.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2508.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2509.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2510.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2511.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2513.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2514.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2515.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2516.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2517.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2518.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2519.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2520.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2521.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2525.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2526.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2527.D	Data Locked	j rains, 30-Oct-2019 07:20

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0740	420F0201.D	RINSE		1	NO MANUAL INTEGRATION
0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

Date: 02-Jun-2020 12:52

420F0201.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0202.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0203.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0204.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0205.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0206.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0207.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0208.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0209.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Sequence: SIH0092 Instrument: FID4
Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIH0092-IBL1	420H1003B.D	NA	08/10/20 08:50
Instrument Blank	SIH0092-IBL2	420H1004B.D	NA	08/10/20 09:10
CREOSOTE 100	SIH0092-CAL1	420H1008.D	NA	08/10/20 11:44
CREOSOTE 250	SIH0092-CAL2	420H1009.D	NA	08/10/20 12:03
CREOSOTE 500	SIH0092-CAL3	420H1010.D	NA	08/10/20 12:23
CREOSOTE 1000	SIH0092-CAL4	420H1011.D	NA	08/10/20 12:43
CREOSOTE 2500	SIH0092-CAL5	420H1012.D	NA	08/10/20 13:02
CREOSOTE 5000	SIH0092-CAL6	420H1013.D	NA	08/10/20 13:22

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	10-AUG-2020	08:11	420H1001.D	1	RINSE	
2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
46	11-AUG-2020	01:44	420H1046.D	1	BIH0166-BS1	
47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
50	11-AUG-2020	03:03	420H1050.D	1	BIH0166-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	11-AUG-2020	03:22	420H1051.D	1	20H0082-02	
52	11-AUG-2020	03:42	420H1052.D	1	20H0082-03	
53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0811	420H1001.D	RINSE		1	NO MANUAL INTEGRATION
0830	420H1002.D	RINSE		1	NO MANUAL INTEGRATION
0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1003.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1004.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1006.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIH0165

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIH0165-IBL1	420H1403.D	NA	08/14/20 08:43
Instrument Blank	SIH0165-IBL2	420H1404.D	NA	08/14/20 09:03
ZZZZZ	20H0120-01	420H1410.D	Solid	08/14/20 11:00
ZZZZZ	20H0120-02	420H1411.D	Solid	08/14/20 11:20
ZZZZZ	20H0120-03	420H1412.D	Solid	08/14/20 11:39
DIESEL CCV	SIH0165-CCV1	420H1413.D	NA	08/14/20 11:59
MOIL CCV	SIH0165-CCV2	420H1414.D	NA	08/14/20 12:18
JETA CAL	SIH0165-CAL1	420H1416.D	NA	08/14/20 12:58
ZZZZZ	BIH0255-BLK1	420H1417.D	Water	08/14/20 13:17
ZZZZZ	BIH0255-BS1	420H1418.D	Water	08/14/20 13:37
ZZZZZ	BIH0255-BSD1	420H1419.D	Water	08/14/20 13:56
ZZZZZ	20H0139-03	420H1420.D	Water	08/14/20 14:16
ZZZZZ	20H0139-04	420H1421.D	Water	08/14/20 14:36
ZZZZZ	20H0139-05	420H1422.D	Water	08/14/20 14:55
ZZZZZ	20H0142-01	420H1423.D	Water	08/14/20 15:15
ZZZZZ	BIH0199-BLK1	420H1424.D	Water	08/14/20 15:34
ZZZZZ	BIH0199-BS1	420H1425.D	Water	08/14/20 15:54
ZZZZZ	BIH0199-BSD1	420H1426.D	Water	08/14/20 16:14
ZZZZZ	20H0099-01	420H1427.D	Water	08/14/20 16:33
ZZZZZ	20H0099-02	420H1428.D	Water	08/14/20 16:53
ZZZZZ	20H0099-03	420H1429.D	Water	08/14/20 17:13
ZZZZZ	20H0099-04	420H1430.D	Water	08/14/20 17:32
DIESEL CCV	SIH0165-CCV4	420H1431.D	NA	08/14/20 17:52
MOIL CCV	SIH0165-CCV5	420H1432.D	NA	08/14/20 18:11
JETA CCV	SIH0165-CCV6	420H1433.D	NA	08/14/20 18:31
ZZZZZ	BIH0218-BLK1	420H1434.D	Water	08/14/20 18:51
ZZZZZ	BIH0218-BS1	420H1435.D	Water	08/14/20 19:10
ZZZZZ	BIH0218-BSD1	420H1436.D	Water	08/14/20 19:30
ZZZZZ	20H0114-01	420H1437.D	Water	08/14/20 19:49
ZZZZZ	20H0114-02	420H1438.D	Water	08/14/20 20:09

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	14-AUG-2020	08:04	420H1401.D	1	RINSE	
2	14-AUG-2020	08:23	420H1402.D	1	RINSE	
3	14-AUG-2020	08:43	420H1403.D	1	SEQ-IBL1	
4	14-AUG-2020	09:03	420H1404.D	1	SEQ-IBL2	
5	14-AUG-2020	09:22	420H1405.D	1	SEQ-ICV1	
6	14-AUG-2020	09:42	420H1406.D	1	SEQ-ICV2	
7	14-AUG-2020	10:01	420H1407.D	1	SEQ-ICV3	
8	14-AUG-2020	10:21	420H1408.D	1	BIH0223-BLK1	
9	14-AUG-2020	10:41	420H1409.D	1	BIH0223-BS1	
10	14-AUG-2020	11:00	420H1410.D	1	20H0120-01	
11	14-AUG-2020	11:20	420H1411.D	1	20H0120-02	
12	14-AUG-2020	11:39	420H1412.D	1	20H0120-03	
13	14-AUG-2020	11:59	420H1413.D	1	SEQ-CCV1	
14	14-AUG-2020	12:18	420H1414.D	1	SEQ-CCV2	
15	14-AUG-2020	12:38	420H1415.D	1	SEQ-CCV3	
16	14-AUG-2020	12:58	420H1416.D	1	SEQ-ICV4	
17	14-AUG-2020	13:17	420H1417.D	1	BIH0255-BLK1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 14-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0804	420H1401.D	RINSE		1	NO MANUAL INTEGRATION
0823	420H1402.D	RINSE		1	NO MANUAL INTEGRATION
0843	420H1403.D	SEQ-IBL1		1	C40,
0903	420H1404.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0922	420H1405.D	SEQ-ICV1		1	o-terph,
0942	420H1406.D	SEQ-ICV2		1	Triacon Surr,
1001	420H1407.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
1021	420H1408.D	BIH0223-BLK1		1	o-terph,
1041	420H1409.D	BIH0223-BS1		1	NO MANUAL INTEGRATION
1100	420H1410.D	20H0120-01		1	o-terph, Triacon Surr,
1120	420H1411.D	20H0120-02		1	o-terph, Triacon Surr,
1139	420H1412.D	20H0120-03		1	o-terph, Triacon Surr,
1159	420H1413.D	SEQ-CCV1		1	o-terph,
1218	420H1414.D	SEQ-CCV2		1	Triacon Surr,
1238	420H1415.D	SEQ-CCV3		1	NO MANUAL INTEGRATION

Security Status Report

Date: 14-Aug-2020 13:57

420H1401.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1402.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1403.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1404.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1405.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1406.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1407.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1408.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1409.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1410.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1411.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1412.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1413.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1414.D	Data Locked	christopher, 14-Aug-2020 13:52
420H1415.D	Data Locked	christopher, 14-Aug-2020 13:52



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIJ0042

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIJ0042-IBL1	420J0203.D	NA	10/02/20 09:21
Instrument Blank	SIJ0042-IBL2	420J0204.D	NA	10/02/20 09:42
DIESEL ICV	SIJ0042-ICV1	420J0205.D	NA	10/02/20 10:02
MOIL ICV	SIJ0042-ICV2	420J0206.D	NA	10/02/20 10:22
A/S CREOSOTE 100	SIJ0042-CAL1	420J0207.D	NA	10/02/20 10:43
A/S CREOSOTE 250	SIJ0042-CAL2	420J0208.D	NA	10/02/20 11:04
A/S CREOSOTE 500	SIJ0042-CAL3	420J0209.D	NA	10/02/20 11:24
A/S CREOSOTE 1000	SIJ0042-CAL4	420J0210.D	NA	10/02/20 11:45
A/S CREOSOTE 2500	SIJ0042-CAL5	420J0211.D	NA	10/02/20 12:05
A/S CREOSOTE 5000	SIJ0042-CAL6	420J0212.D	NA	10/02/20 12:26
A/S CREOSOTE ICV	SIJ0042-ICV3	420J0213.D	NA	10/02/20 12:46
ZZZZZ	BII0597-BLK1	420J0214.D	Water	10/02/20 13:07
ZZZZZ	BII0597-BS1	420J0215.D	Water	10/02/20 13:27
ZZZZZ	BII0597-BSD1	420J0216.D	Water	10/02/20 13:48
ZZZZZ	20I0229-02	420J0217.D	Water	10/02/20 14:08
ZZZZZ	20I0229-03	420J0218.D	Water	10/02/20 14:29
ZZZZZ	20I0229-04	420J0219.D	Water	10/02/20 14:50
ZZZZZ	20I0229-05	420J0220.D	Water	10/02/20 15:10
ZZZZZ	20I0229-06	420J0221.D	Water	10/02/20 15:31
ZZZZZ	20I0229-07	420J0222.D	Water	10/02/20 15:51
ZZZZZ	20I0229-08	420J0223.D	Water	10/02/20 16:12
ZZZZZ	20I0229-09	420J0224.D	Water	10/02/20 16:32
ZZZZZ	20I0229-10	420J0225.D	Water	10/02/20 16:52
ZZZZZ	20I0229-11	420J0226.D	Water	10/02/20 17:13
DIESEL CCV	SIJ0042-CCV1	420J0227.D	NA	10/02/20 17:33
MOIL CCV	SIJ0042-CCV2	420J0228.D	NA	10/02/20 17:54
A/S CREOSOTE CCV	SIJ0042-CCV3	420J0229.D	NA	10/02/20 18:14
ZZZZZ	20I0229-12	420J0230.D	Water	10/02/20 18:35
ZZZZZ	20I0229-13	420J0231.D	Water	10/02/20 18:55
ZZZZZ	20I0229-14	420J0232.D	Water	10/02/20 19:16



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIJ0042

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20I0229-15	420J0233.D	Water	10/02/20 19:36
ZZZZZ	20I0229-16	420J0234.D	Water	10/02/20 19:57
ZZZZZ	20I0307-01	420J0235.D	Water	10/02/20 20:17
ZZZZZ	20I0307-02	420J0236.D	Water	10/02/20 20:37
ZZZZZ	20I0307-03	420J0237.D	Water	10/02/20 20:58
ZZZZZ	20I0307-04	420J0238.D	Water	10/02/20 21:18
DIESEL CCV	SIJ0042-CCV4	420J0239.D	NA	10/02/20 21:39
MOIL CCV	SIJ0042-CCV5	420J0240.D	NA	10/02/20 21:59
A/S CREOSOTE CCV	SIJ0042-CCV6	420J0241.D	NA	10/02/20 22:20
ZZZZZ	20I0350-01	420J0242.D	Water	10/02/20 22:40
ZZZZZ	20I0350-02	420J0243.D	Water	10/02/20 23:00
ZZZZZ	20I0350-03	420J0244.D	Water	10/02/20 23:21
ZZZZZ	20I0350-04	420J0245.D	Water	10/02/20 23:41
ZZZZZ	20I0350-05	420J0246.D	Water	10/03/20 00:02
ZZZZZ	20I0350-06	420J0247.D	Water	10/03/20 00:22
ZZZZZ	20I0350-07	420J0248.D	Water	10/03/20 00:42
ZZZZZ	20I0217-01	420J0249.D	Water	10/03/20 01:03
ZZZZZ	20I0217-02	420J0250.D	Water	10/03/20 01:23
DIESEL CCV	SIJ0042-CCV7	420J0252.D	NA	10/03/20 02:04
MOIL CCV	SIJ0042-CCV8	420J0253.D	NA	10/03/20 02:24



ANALYSIS SEQUENCE

SIJ0042

Instrument: FID4
Calibration ID: DA00022

Printed: 10/11/2020 10:46:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIJ0042-IBL1	QC		1		I006239			
SIJ0042-IBL2	QC		2		I006241			
SIJ0042-ICV1	QC		3		I008275			
SIJ0042-ICV2	QC		4		I008935			
SIJ0042-CAL1	QC		5		I009068			
SIJ0042-CAL2	QC		6		I009067			
SIJ0042-CAL3	QC		7		I009066			
SIJ0042-CAL4	QC		8		I009064			
SIJ0042-CAL5	QC		9		I009065			
SIJ0042-CAL6	QC		10		I009005			
SIJ0042-ICV3	QC		11		I009064			
BII0597-BLK1	QC		12					
BII0597-BS1	QC		13					
BII0597-BSD1	QC		14					
20I0229-02	PH NW (Extractables) low lev	C 01	15				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-03	PH NW (Extractables) low lev	C 01	16				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-04	PH NW (Extractables) low lev	C 01	17				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-05	PH NW (Extractables) low lev	C 01	18				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-06	PH NW (Extractables) low lev	C 01	19				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-07	PH NW (Extractables) low lev	C 01	20				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-08	PH NW (Extractables) low lev	C 01	21				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIJ0042

Instrument: FID4
Calibration ID: DA00022

Printed: 10/11/2020 10:46:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20I0229-09	PH NW (Extractables) low lev	C 01	22				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-10	PH NW (Extractables) low lev	C 01	23				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-11	PH NW (Extractables) low lev	C 01	24				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
SIJ0042-CCV1	QC		25		I008275			
SIJ0042-CCV2	QC		26		I008935			
SIJ0042-CCV3	QC		27		I009064			
20I0229-12	PH NW (Extractables) low lev	C 01	28				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-13	PH NW (Extractables) low lev	C 01	29				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-14	PH NW (Extractables) low lev	C 01	30				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-15	PH NW (Extractables) low lev	C 01	31				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0229-16	PH NW (Extractables) low lev	C 01	32				Landau Associates, Inc.	Plus Creosote, Acid cleaned. Some san
20I0307-01	PH NW (Extractables) low lev	O 01	33				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-02	PH NW (Extractables) low lev	O 01	34				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-03	PH NW (Extractables) low lev	O 01	35				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0307-04	PH NW (Extractables) low lev	O 01	36				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
SIJ0042-CCV4	QC		37		I008275			
SIJ0042-CCV5	QC		38		I008935			
SIJ0042-CCV6	QC		39		I009064			
20I0350-01	PH NW (Extractables) low lev	A 01	40				Geosyntec Consultants	
20I0350-02	PH NW (Extractables) low lev	A 01	41				Geosyntec Consultants	
20I0350-03	PH NW (Extractables) low lev	A 01	42				Geosyntec Consultants	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIJ0042

Instrument: FID4
Calibration ID: DA00022

Printed: 10/11/2020 10:46:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20I0350-04	PH NW (Extractables) low lev	A 01	43				Geosyntec Consultants	
20I0350-05	PH NW (Extractables) low lev	A 01	44				Geosyntec Consultants	
20I0350-06	PH NW (Extractables) low lev	A 01	45				Geosyntec Consultants	
20I0350-07	PH NW (Extractables) low lev	A 01	46				Geosyntec Consultants	
20I0217-01	PH NW (Extractables) low lev	K 01	47				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
20I0217-02	PH NW (Extractables) low lev	K 01	48				Joint Base Lewis McChord- Fort Lewis WA	Clin 1004
SIJ0042-CCV7	QC		49		I008275			
SIJ0042-CCV8	QC		50		I008935			

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - fid4a.i\20201002.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-OCT-2020	08:41	420J0201.D	1	RINSE	
2	02-OCT-2020	09:01	420J0202.D	1	RINSE	
3	02-OCT-2020	09:21	420J0203.D	1	SEQ-IBL1	
4	02-OCT-2020	09:42	420J0204.D	1	SEQ-IBL2	
5	02-OCT-2020	10:02	420J0205.D	1	SEQ-ICV1	
6	02-OCT-2020	10:22	420J0206.D	1	SEQ-ICV2	
7	02-OCT-2020	10:43	420J0207.D	1	SEQ-CAL1	
8	02-OCT-2020	11:04	420J0208.D	1	SEQ-CAL2	
9	02-OCT-2020	11:24	420J0209.D	1	SEQ-CAL3	
10	02-OCT-2020	11:45	420J0210.D	1	SEQ-CAL4	
11	02-OCT-2020	12:05	420J0211.D	1	SEQ-CAL5	
12	02-OCT-2020	12:26	420J0212.D	1	SEQ-CAL6	
13	02-OCT-2020	12:46	420J0213.D	1	SEQ-ICV3	
14	02-OCT-2020	13:07	420J0214.D	1	BII0597-BLK1	
15	02-OCT-2020	13:27	420J0215.D	1	BII0597-BS1	
16	02-OCT-2020	13:48	420J0216.D	1	BII0597-BSD1	
17	02-OCT-2020	14:08	420J0217.D	1	20I0229-02	
18	02-OCT-2020	14:29	420J0218.D	1	20I0229-03	
19	02-OCT-2020	14:50	420J0219.D	1	20I0229-04	
20	02-OCT-2020	15:10	420J0220.D	1	20I0229-05	
21	02-OCT-2020	15:31	420J0221.D	1	20I0229-06	
22	02-OCT-2020	15:51	420J0222.D	1	20I0229-07	
23	02-OCT-2020	16:12	420J0223.D	1	20I0229-08	
24	02-OCT-2020	16:32	420J0224.D	1	20I0229-09	
25	02-OCT-2020	16:52	420J0225.D	1	20I0229-10	
26	02-OCT-2020	17:13	420J0226.D	1	20I0229-11	
27	02-OCT-2020	17:33	420J0227.D	1	SEQ-CCV1	
28	02-OCT-2020	17:54	420J0228.D	1	SEQ-CCV2	
29	02-OCT-2020	18:14	420J0229.D	1	SEQ-CCV3	
30	02-OCT-2020	18:35	420J0230.D	1	20I0229-12	
31	02-OCT-2020	18:55	420J0231.D	1	20I0229-13	
32	02-OCT-2020	19:16	420J0232.D	1	20I0229-14	
33	02-OCT-2020	19:36	420J0233.D	1	20I0229-15	
34	02-OCT-2020	19:57	420J0234.D	1	20I0229-16	
35	02-OCT-2020	20:17	420J0235.D	1	20I0307-01	
36	02-OCT-2020	20:37	420J0236.D	1	20I0307-02	
37	02-OCT-2020	20:58	420J0237.D	1	20I0307-03	
38	02-OCT-2020	21:18	420J0238.D	1	20I0307-04	
39	02-OCT-2020	21:39	420J0239.D	1	SEQ-CCV4	
40	02-OCT-2020	21:59	420J0240.D	1	SEQ-CCV5	
41	02-OCT-2020	22:20	420J0241.D	1	SEQ-CCV6	
42	02-OCT-2020	22:40	420J0242.D	1	20I0350-01	
43	02-OCT-2020	23:00	420J0243.D	1	20I0350-02	
44	02-OCT-2020	23:21	420J0244.D	1	20I0350-03	
45	02-OCT-2020	23:41	420J0245.D	1	20I0350-04	
46	03-OCT-2020	00:02	420J0246.D	1	20I0350-05	
47	03-OCT-2020	00:22	420J0247.D	1	20I0350-06	
48	03-OCT-2020	00:42	420J0248.D	1	20I0350-07	
49	03-OCT-2020	01:03	420J0249.D	1	20I0217-01	
50	03-OCT-2020	01:23	420J0250.D	200	20I0217-02	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	03-OCT-2020	01:44	420J0251.D	50	20I0217-02	
52	03-OCT-2020	02:04	420J0252.D	1	SEQ-CCV7	
53	03-OCT-2020	02:24	420J0253.D	1	SEQ-CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-OCT-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	420J0201.D	RINSE		1	NO MANUAL INTEGRATION
0901	420J0202.D	RINSE		1	NO MANUAL INTEGRATION
0921	420J0203.D	SEQ-IBL1		1	C40, Triacon Surr,
0942	420J0204.D	SEQ-IBL2		1	Triacon Surr,
1002	420J0205.D	SEQ-ICV1		1	o-terph,
1022	420J0206.D	SEQ-ICV2		1	Triacon Surr,
1043	420J0207.D	SEQ-CAL1		1	o-terph,
1104	420J0208.D	SEQ-CAL2		1	o-terph,
1124	420J0209.D	SEQ-CAL3		1	o-terph,
1145	420J0210.D	SEQ-CAL4		1	o-terph,
1205	420J0211.D	SEQ-CAL5		1	o-terph,
1226	420J0212.D	SEQ-CAL6		1	o-terph,
1246	420J0213.D	SEQ-ICV3		1	o-terph,
1307	420J0214.D	BII0597-BLK1		1	Triacon Surr,
1327	420J0215.D	BII0597-BS1		1	o-terph,
1348	420J0216.D	BII0597-BSD1		1	o-terph,
1408	420J0217.D	20I0229-02		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1429	420J0218.D	20I0229-03	1		NO MANUAL INTEGRATION
1450	420J0219.D	20I0229-04	1		NO MANUAL INTEGRATION
1510	420J0220.D	20I0229-05	1		NO MANUAL INTEGRATION
1531	420J0221.D	20I0229-06	1		NO MANUAL INTEGRATION
1551	420J0222.D	20I0229-07	1		Triacon Surr,
1612	420J0223.D	20I0229-08	1		NO MANUAL INTEGRATION
1632	420J0224.D	20I0229-09	1		NO MANUAL INTEGRATION
1652	420J0225.D	20I0229-10	1		NO MANUAL INTEGRATION
1713	420J0226.D	20I0229-11	1		NO MANUAL INTEGRATION
1733	420J0227.D	SEQ-CCV1	1		o-terph,
1754	420J0228.D	SEQ-CCV2	1		Triacon Surr,
1814	420J0229.D	SEQ-CCV3	1		o-terph,
1835	420J0230.D	20I0229-12	1		NO MANUAL INTEGRATION
1855	420J0231.D	20I0229-13	1		NO MANUAL INTEGRATION
1916	420J0232.D	20I0229-14	1		NO MANUAL INTEGRATION
1936	420J0233.D	20I0229-15	1		NO MANUAL INTEGRATION
1957	420J0234.D	20I0229-16	1		o-terph,
2017	420J0235.D	20I0307-01	1		o-terph, Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201002.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2037	420J0236.D	20I0307-02	1	o-terph,	Triacon Surr,
2058	420J0237.D	20I0307-03	1	o-terph,	Triacon Surr,
2118	420J0238.D	20I0307-04	1	o-terph,	Triacon Surr,
2139	420J0239.D	SEQ-CCV4	1	o-terph,	
2159	420J0240.D	SEQ-CCV5	1	Triacon Surr,	
2220	420J0241.D	SEQ-CCV6	1	o-terph,	
2240	420J0242.D	20I0350-01	1	NO MANUAL INTEGRATION	
2300	420J0243.D	20I0350-02	1	o-terph,	
2321	420J0244.D	20I0350-03	1	o-terph,	
2341	420J0245.D	20I0350-04	1	o-terph,	Triacon Surr,
0002	420J0246.D	20I0350-05	1	o-terph,	
0022	420J0247.D	20I0350-06	1	o-terph,	
0042	420J0248.D	20I0350-07	1	o-terph,	Triacon Surr,
0103	420J0249.D	20I0217-01	1	o-terph,	Triacon Surr,
0123	420J0250.D	20I0217-02	200	o-terph,	Triacon Surr,
0144	420J0251.D	20I0217-02	50	NO MANUAL INTEGRATION	
0204	420J0252.D	SEQ-CCV7	1	o-terph,	
0224	420J0253.D	SEQ-CCV8	1	Triacon Surr,	

420J0245.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0246.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0247.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0248.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0249.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0250.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0251.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0252.D	Data Locked	christopher, 11-Oct-2020 10:45
420J0253.D	Data Locked	christopher, 11-Oct-2020 10:45



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0016

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIK0016-IBL1	420K0203.D	NA	11/02/20 09:10
Instrument Blank	SIK0016-IBL2	420K0204.D	NA	11/02/20 09:30
DIESEL ICV	SIK0016-ICV1	420K0205.D	NA	11/02/20 09:50
MOIL ICV	SIK0016-ICV2	420K0206.D	NA	11/02/20 10:10
A/S LANDAU BUNKER C 100	SIK0016-CAL1	420K0207.D	NA	11/02/20 10:31
A/S LANDAU BUNKER C 250	SIK0016-CAL2	420K0208.D	NA	11/02/20 10:51
A/S LANDAU BUNKER C 500	SIK0016-CAL3	420K0209.D	NA	11/02/20 11:11
A/S LANDAU BUNKER C 1000	SIK0016-CAL4	420K0210.D	NA	11/02/20 11:32
A/S LANDAU BUNKER C 2500	SIK0016-CAL5	420K0211.D	NA	11/02/20 11:52
A/S LANDAU BUNKER C 5000	SIK0016-CAL6	420K0212.D	NA	11/02/20 12:13
A/S LANDAU BUNKER C	SIK0016-ICV3	420K0213.D	NA	11/02/20 12:33
ZZZZZ	20J0250-02	420K0214.D	Solid	11/02/20 12:53
ZZZZZ	20J0265-01	420K0215.D	Water	11/02/20 13:14
DIESEL CCV	SIK0016-CCV1	420K0216.D	NA	11/02/20 13:34
MOIL CCV	SIK0016-CCV2	420K0217.D	NA	11/02/20 13:55
A/S LANDAU BUNKER C	SIK0016-CCV3	420K0218.D	NA	11/02/20 14:15
ZZZZZ	BIJ0617-BLK1	420K0219.D	Water	11/02/20 14:36
ZZZZZ	BIJ0617-BS1	420K0220.D	Water	11/02/20 14:56
ZZZZZ	BIJ0617-BSD1	420K0221.D	Water	11/02/20 15:17
ZZZZZ	20J0265-02	420K0224.D	Water	11/02/20 16:18
ZZZZZ	20J0265-03	420K0225.D	Water	11/02/20 16:39
ZZZZZ	20J0265-04	420K0226.D	Water	11/02/20 16:59
ZZZZZ	20J0265-05	420K0227.D	Water	11/02/20 17:19
ZZZZZ	20J0265-06	420K0228.D	Water	11/02/20 17:40
ZZZZZ	20J0265-07	420K0229.D	Water	11/02/20 18:00
ZZZZZ	20J0265-08	420K0230.D	Water	11/02/20 18:21
ZZZZZ	20J0265-09	420K0231.D	Water	11/02/20 18:41
ZZZZZ	20J0265-10	420K0232.D	Water	11/02/20 19:01
ZZZZZ	20J0265-11	420K0233.D	Water	11/02/20 19:22
DIESEL CCV	SIK0016-CCV4	420K0234.D	NA	11/02/20 19:42



ANALYSIS SEQUENCE

SIK0016

Instrument: FID4
Calibration ID: DA00022

Printed: 11/3/2020 9:50:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIK0016-IBL1	QC		1		I006239			
SIK0016-IBL2	QC		2		I006241			
SIK0016-ICV1	QC		3		I008275			
SIK0016-ICV2	QC		4		I008935			
SIK0016-CAL1	QC		5		I010265			
SIK0016-CAL2	QC		6		I010264			
SIK0016-CAL3	QC		7		I010263			
SIK0016-CAL4	QC		8		I010262			
SIK0016-CAL5	QC		9		I010261			
SIK0016-CAL6	QC		10		I010260			
SIK0016-ICV3	QC		11		I010263			
20J0250-02	PH NW (Extractables) low lev	A 01	12				Seattle Public Utilities	A/S Clean up version
20J0265-01	PH NW (Extractables) low lev	A 01	13				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
SIK0016-CCV1	QC		14		I008275			
SIK0016-CCV2	QC		15		I008935			
SIK0016-CCV3	QC		16		I010263			
BIJ0617-BLK1	QC		17					
BIJ0617-BS1	QC		18					
BIJ0617-BSD1	QC		19					
BIJ0617-MS1	QC		20					
BIJ0617-MSD1	QC		21					

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIK0016

Instrument: FID4
Calibration ID: DA00022

Printed: 11/3/2020 9:50:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20J0265-02	PH NW (Extractables) low lev	A 01	22				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-03	PH NW (Extractables) low lev	A 01	23				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-04	PH NW (Extractables) low lev	A 01	24				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-05	PH NW (Extractables) low lev	A 01	25				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-06	PH NW (Extractables) low lev	A 01	26				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-07	PH NW (Extractables) low lev	A 01	27				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-08	PH NW (Extractables) low lev	A 01	28				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-09	PH NW (Extractables) low lev	A 01	29				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-10	PH NW (Extractables) low lev	A 01	30				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
20J0265-11	PH NW (Extractables) low lev	A 01	31				Landau Associates, Inc. - Spokane	Curving for Bunker C, Acid/Si clean, C
SIK0016-CCV4	QC		32		I008275			
SIK0016-CCV5	QC		33		I008935			
SIK0016-CCV6	QC		34		I010263			

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - fid4a.i\20201102.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-NOV-2020	08:29	420K0201.D	1	RINSE	
2	02-NOV-2020	08:49	420K0202.D	1	RINSE	
3	02-NOV-2020	09:10	420K0203.D	1	SEQ-IBL1	
4	02-NOV-2020	09:30	420K0204.D	1	SEQ-IBL2	
5	02-NOV-2020	09:50	420K0205.D	1	SEQ-ICV1	
6	02-NOV-2020	10:10	420K0206.D	1	SEQ-ICV2	
7	02-NOV-2020	10:31	420K0207.D	1	SEQ-CAL1	
8	02-NOV-2020	10:51	420K0208.D	1	SEQ-CAL2	
9	02-NOV-2020	11:11	420K0209.D	1	SEQ-CAL3	
10	02-NOV-2020	11:32	420K0210.D	1	SEQ-CAL4	
11	02-NOV-2020	11:52	420K0211.D	1	SEQ-CAL5	
12	02-NOV-2020	12:13	420K0212.D	1	SEQ-CAL6	
13	02-NOV-2020	12:33	420K0213.D	1	SEQ-ICV3	
14	02-NOV-2020	12:53	420K0214.D	1	20J0250-02	
15	02-NOV-2020	13:14	420K0215.D	1	20J0265-01	
16	02-NOV-2020	13:34	420K0216.D	1	SEQ-CCV1	
17	02-NOV-2020	13:55	420K0217.D	1	SEQ-CCV2	
18	02-NOV-2020	14:15	420K0218.D	1	SEQ-CCV3	
19	02-NOV-2020	14:36	420K0219.D	1	BIJ0617-BLK1	
20	02-NOV-2020	14:56	420K0220.D	1	BIJ0617-BS1	
21	02-NOV-2020	15:17	420K0221.D	1	BIJ0617-BSD1	
22	02-NOV-2020	15:37	420K0222.D	1	BIJ0617-MS1	
23	02-NOV-2020	15:58	420K0223.D	1	BIJ0617-MSD1	
24	02-NOV-2020	16:18	420K0224.D	1	20J0265-02	
25	02-NOV-2020	16:39	420K0225.D	1	20J0265-03	
26	02-NOV-2020	16:59	420K0226.D	1	20J0265-04	
27	02-NOV-2020	17:19	420K0227.D	1	20J0265-05	
28	02-NOV-2020	17:40	420K0228.D	1	20J0265-06	
29	02-NOV-2020	18:00	420K0229.D	1	20J0265-07	
30	02-NOV-2020	18:21	420K0230.D	1	20J0265-08	
31	02-NOV-2020	18:41	420K0231.D	1	20J0265-09	
32	02-NOV-2020	19:01	420K0232.D	1	20J0265-10	
33	02-NOV-2020	19:22	420K0233.D	1	20J0265-11	
34	02-NOV-2020	19:42	420K0234.D	1	SEQ-CCV4	
35	02-NOV-2020	20:02	420K0235.D	1	SEQ-CCV5	
36	02-NOV-2020	20:23	420K0236.D	1	SEQ-CCV6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0829	420K0201.D	RINSE		1	NO MANUAL INTEGRATION
0849	420K0202.D	RINSE		1	NO MANUAL INTEGRATION
0910	420K0203.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0930	420K0204.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0950	420K0205.D	SEQ-ICV1		1	o-terph,
1010	420K0206.D	SEQ-ICV2		1	Triacon Surr,
1031	420K0207.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1051	420K0208.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
1111	420K0209.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
1132	420K0210.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
1152	420K0211.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
1213	420K0212.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
1233	420K0213.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
1253	420K0214.D	20J0250-02		1	o-terph, Triacon Surr,
1314	420K0215.D	20J0265-01		1	NO MANUAL INTEGRATION
1334	420K0216.D	SEQ-CCV1		1	o-terph,
1355	420K0217.D	SEQ-CCV2		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1415	420K0218.D	SEQ-CCV3	1		NO MANUAL INTEGRATION
1436	420K0219.D	BIJ0617-BLK1	1		NO MANUAL INTEGRATION
1456	420K0220.D	BIJ0617-BS1	1		o-terph,
1517	420K0221.D	BIJ0617-BSD1	1		o-terph,
1537	420K0222.D	BIJ0617-MS1	1		o-terph,
1558	420K0223.D	BIJ0617-MSD1	1		o-terph,
1618	420K0224.D	20J0265-02	1		NO MANUAL INTEGRATION
1639	420K0225.D	20J0265-03	1		NO MANUAL INTEGRATION
1659	420K0226.D	20J0265-04	1		NO MANUAL INTEGRATION
1719	420K0227.D	20J0265-05	1		NO MANUAL INTEGRATION
1740	420K0228.D	20J0265-06	1		NO MANUAL INTEGRATION
1800	420K0229.D	20J0265-07	1		NO MANUAL INTEGRATION
1821	420K0230.D	20J0265-08	1		NO MANUAL INTEGRATION
1841	420K0231.D	20J0265-09	1		NO MANUAL INTEGRATION
1901	420K0232.D	20J0265-10	1		NO MANUAL INTEGRATION
1922	420K0233.D	20J0265-11	1		NO MANUAL INTEGRATION
1942	420K0234.D	SEQ-CCV4	1		o-terph,
2002	420K0235.D	SEQ-CCV5	1		Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201102.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2023	420K0236.D	SEQ-CCV6	1		NO MANUAL INTEGRATION

Security Status Report

Date: 03-Nov-2020 09:49

420K0201.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0202.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0203.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0204.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0205.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0206.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0207.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0208.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0209.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0210.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0211.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0212.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0213.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0214.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0215.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0216.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0217.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0218.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0219.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0220.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0221.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0222.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0223.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0224.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0225.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0226.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0227.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0228.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0229.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0230.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0231.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0232.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0233.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0234.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0235.D	Data Locked	christopher,	03-Nov-2020	09:38
420K0236.D	Data Locked	christopher,	03-Nov-2020	09:38



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0381</u>	Instrument:	<u>FID4</u>
		Calibration:	<u>DA00022</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIK0381-IBL1	420K2703.D	NA	11/27/20 08:58
Instrument Blank	SIK0381-IBL2	420K2704.D	NA	11/27/20 09:18
DIESEL ICV	SIK0381-ICV1	420K2705.D	NA	11/27/20 09:38
MOIL ICV	SIK0381-ICV2	420K2706.D	NA	11/27/20 09:58
ZZZZZ	20K0352-01	420K2717.D	Water	11/27/20 10:18
DIESEL CCV	SIK0381-CCV1	420K2711.D	NA	11/27/20 11:39
MOIL CCV	SIK0381-CCV2	420K2712.D	NA	11/27/20 12:00
RT2	SIK0381-IBL3	420K2713.D	NA	11/27/20 12:52
IB2	SIK0381-IBL4	420K2714.D	NA	11/27/20 13:13
DIESEL	SIK0381-ICV3	420K2715.D	NA	11/27/20 13:33
MOIL	SIK0381-ICV4	420K2716.D	NA	11/27/20 13:53
ZZZZZ	BIK0721-BLK1	420K2718.D	Water	11/27/20 14:34
ZZZZZ	BIK0721-BS1	420K2719.D	Water	11/27/20 14:54
ZZZZZ	BIK0721-BSD1	420K2720.D	Water	11/27/20 15:15
DIESEL CCV	SIK0381-CCV3	420K2721.D	NA	11/27/20 15:35
MOIL CCV	SIK0381-CCV4	420K2722.D	NA	11/27/20 15:55
ZZZZZ	20K0126-02	420K2723.D	Solid	11/27/20 18:45
ZZZZZ	20K0126-06	420K2724.D	Solid	11/27/20 19:06
ZZZZZ	20K0126-07	420K2725.D	Solid	11/27/20 19:26
ZZZZZ	20K0126-12	420K2726.D	Solid	11/27/20 19:46
ZZZZZ	20K0126-16	420K2727.D	Solid	11/27/20 20:06
ZZZZZ	20K0126-18	420K2730.D	Solid	11/27/20 21:07
ZZZZZ	20K0126-24	420K2731.D	Solid	11/27/20 21:27
ZZZZZ	20K0126-11	420K2732.D	Solid	11/27/20 21:48
DIESEL CCV	SIK0381-CCV5	420K2733.D	NA	11/27/20 22:08
MOIL CCV	SIK0381-CCV6	420K2734.D	NA	11/27/20 22:28
PP18-10	20K0008-16	420K2736.D	Solid	11/27/20 23:09
ZZZZZ	20K0188-01	420K2739.D	Solid	11/28/20 00:09
ZZZZZ	20K0188-03	420K2742.D	Solid	11/28/20 01:10
ZZZZZ	20K0188-10	420K2743.D	Solid	11/28/20 01:30



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0381

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20K0188-11	420K2744.D	Solid	11/28/20 01:50
ZZZZZ	20K0188-13	420K2745.D	Solid	11/28/20 02:10
ZZZZZ	20K0188-14	420K2746.D	Solid	11/28/20 02:31
ZZZZZ	20K0188-15	420K2747.D	Solid	11/28/20 02:51
ZZZZZ	20K0188-16	420K2748.D	Solid	11/28/20 03:11
DIESEL CCV	SIK0381-CCV7	420K2749.D	NA	11/28/20 03:31
MOIL CCV	SIK0381-CCV8	420K2750.D	NA	11/28/20 03:51
ZZZZZ	20K0188-17	420K2751.D	Solid	11/28/20 04:12
ZZZZZ	20K0188-21	420K2752.D	Solid	11/28/20 04:32
ZZZZZ	20K0078-11RE1	420K2753.D	Solid	11/28/20 04:52
ZZZZZ	BIK0776-BLK1	420K2754.D	Solid	11/28/20 05:12
ZZZZZ	BIK0776-BS1	420K2755.D	Solid	11/28/20 05:32
ZZZZZ	20K0387-02	420K2757.D	Solid	11/28/20 06:13
ZZZZZ	20K0387-03	420K2758.D	Solid	11/28/20 06:33
ZZZZZ	20K0388-01	420K2759.D	Solid	11/28/20 06:53
ZZZZZ	20K0388-04	420K2762.D	Solid	11/28/20 07:54
DIESEL CCV	SIK0381-CCV9	420K2763.D	NA	11/28/20 08:14
MOIL CCV	SIK0381-CCVA	420K2764.D	NA	11/28/20 08:34
ZZZZZ	20K0388-05	420K2765.D	Solid	11/28/20 08:54
DIESEL CCV	SIK0381-CCVB	420K2777.D	NA	11/28/20 12:57
MOIL CCV	SIK0381-CCVC	420K2778.D	NA	11/28/20 13:17



ANALYSIS SEQUENCE

SIK0381

Instrument: FID4
Calibration ID: DA00022

Element Column ID: G004923

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0381-IBL1	Retention Time Standard	QC		1	I006239		
SIK0381-IBL2	Instrument Blank	QC		2	I006241		
SIK0381-ICV1	DIESEL ICV	QC		3	I008275		
SIK0381-ICV2	MOIL ICV	QC		4	I008935		
SIK0381-CCV1	DIESEL CCV	QC		5	I008275		
SIK0381-CCV2	MOIL CCV	QC		6	I008935		
SIK0381-IBL3	RT2	QC		7	I006239		
SIK0381-IBL4	IB2	QC		8	I006241		
SIK0381-ICV3	DIESEL	QC		9	I008275		
SIK0381-ICV4	MOIL	QC		10	I008935		
20K0352-01	STAR_003EFF_11232020	TPH NW (Extractables) low level	E 01	11			
BIK0721-BLK1	Blank	QC		12			
BIK0721-BS1	LCS	QC		13			
BIK0721-BSD1	LCS Dup	QC		14			
SIK0381-CCV3	DIESEL CCV	QC		15	I008275		
SIK0381-CCV4	MOIL CCV	QC		16	I008935		
20K0126-02	PP15-5	TPH NW (Extractables) low level	A 01	17			
20K0126-06	PP16-2.5	TPH NW (Extractables) low level	A 01	18			
20K0126-07	PP16-5	TPH NW (Extractables) low level	A 01	19			
20K0126-12	PP13-5	TPH NW (Extractables) low level	A 01	20			
20K0126-16	PP7-2.5	TPH NW (Extractables) low level	A 01	21			
BIK0527-MS1	Matrix Spike	QC		22			



ANALYSIS SEQUENCE

SIK0381

Instrument: FID4
Calibration ID: DA00022

Element Column ID: G004923

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
BIK0527-MSD1	Matrix Spike Dup	QC		23			
20K0126-18	PP7-7.5	TPH NW (Extractables) low level	A 01	24			
20K0126-24	PP3-5	TPH NW (Extractables) low level	A 01	25			
20K0126-11	PP13-2.5	TPH NW (Extractables) low level	A 01	26			
SIK0381-CCV5	DIESEL CCV	QC		27	I008275		
SIK0381-CCV6	MOIL CCV	QC		28	I008935		
20K0008-16	PP18-10	TPH NW (Extractables) low level	A 02	29			
BIK0528-BLK1	Blank	QC		30			
BIK0528-BS1	LCS	QC		31			
20K0188-01	JSMPTDI-039SC-A-00-01-20110	TPH NW (Extractables)	A 01	32			
BIK0528-MS1	Matrix Spike	QC		33			
BIK0528-MSD1	Matrix Spike Dup	QC		34			
20K0188-03	JSMPTDI-039SC-B-02-04-20110	TPH NW (Extractables)	A 01	35			
20K0188-10	JSMPTDI-044SC-A-00-01-20110	TPH NW (Extractables)	A 01	36			
20K0188-11	JSMPTDI-044SC-A-10-11-20110	TPH NW (Extractables)	A 01	37			
20K0188-13	JSMPTDI-044SC-B-02-04-20110	TPH NW (Extractables)	A 01	38			
20K0188-14	JSMPTDI-044SC-B-04-06-20110	TPH NW (Extractables)	A 01	39			
20K0188-15	JSMPTDI-044SC-B-06-08-20110	TPH NW (Extractables)	A 01	40			
20K0188-16	JSMPTDI-044SC-B-08-10-20110	TPH NW (Extractables)	A 01	41			
SIK0381-CCV7	DIESEL CCV	QC		42	I008275		
SIK0381-CCV8	MOIL CCV	QC		43	I008935		
20K0188-17	JSMPTDI-044SC-B-10-12-20110	TPH NW (Extractables)	A 01	44			



ANALYSIS SEQUENCE

SIK0381

Instrument: FID4
Calibration ID: DA00022

Element Column ID: G004923

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
20K0188-21	SMPDI-1044SC-B-02-04-20110	TPH NW (Extractables)	A 01	45			
20K0078-11RE1	BOL-LAI-05-S(1-2.5)-20201103	TPH NW (Extractables) low level	A 02	46			Added 11/30/2020 by JGR
BIK0776-BLK1	Blank	QC		47			
BIK0776-BS1	LCS	QC		48			
20K0387-02	PGW-V-208-11/2020	TPH NW (Extractables) low level	A 01	49			
20K0387-03	PGW-V-209-11/2020	TPH NW (Extractables) low level	A 01	50			
20K0388-01	PGW-V-112-11/2020	TPH NW (Extractables) low level	A 01	51			
20K0388-04	PGW-V-115-11/2020	TPH NW (Extractables) low level	A 01	52			
20K0388-06	PGW-V-117-11/2020	TPH NW (Extractables) low level	A 01	53			
SIK0381-CCV9	DIESEL CCV	QC		54	I008275		
SIK0381-CCVA	MOIL CCV	QC		55	I008935		
20K0388-05	PGW-V-116-11/2020	TPH NW (Extractables) low level	A 01	56			
SIK0381-CCVB	DIESEL CCV	QC		57	I008275		
SIK0381-CCVC	MOIL CCV	QC		58	I008935		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201127.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	27-NOV-2020	08:17	420K2701.D	1	RINSE	
2	27-NOV-2020	08:37	420K2702.D	1	RINSE	
3	27-NOV-2020	08:58	420K2703.D	1	SEQ-IBL1	
4	27-NOV-2020	09:18	420K2704.D	1	SEQ-IBL2	
5	27-NOV-2020	09:38	420K2705.D	1	SEQ-ICV1	
6	27-NOV-2020	09:58	420K2706.D	1	SEQ-ICV2	
7	27-NOV-2020	10:18	420K2707.D	1	20K0352-01	
8	27-NOV-2020	10:39	420K2708.D	1	BIK0721-BLK1	
9	27-NOV-2020	10:59	420K2709.D	1	BIK0721-BS1	
10	27-NOV-2020	11:19	420K2710.D	1	BIK0721-BSD1	
11	27-NOV-2020	11:39	420K2711.D	1	SEQ-CCV1	
12	27-NOV-2020	12:00	420K2712.D	1	SEQ-CCV2	
13	27-NOV-2020	12:52	420K2713.D	1	SIK0381-IBL1	
14	27-NOV-2020	13:13	420K2714.D	1	SEQ-IBL2	
15	27-NOV-2020	13:33	420K2715.D	1	SEQ-ICV1	
16	27-NOV-2020	13:53	420K2716.D	1	SEQ-ICV2	
17	27-NOV-2020	14:14	420K2717.D	1	20K0352-01	
18	27-NOV-2020	14:34	420K2718.D	1	BIK0721-BLK1	
19	27-NOV-2020	14:54	420K2719.D	1	BIK0721-BS1	
20	27-NOV-2020	15:15	420K2720.D	1	BIK0721-BSD1	
21	27-NOV-2020	15:35	420K2721.D	1	SEQ-CCV1	
22	27-NOV-2020	15:55	420K2722.D	1	SEQ-CCV2	
23	27-NOV-2020	18:45	420K2723.D	1	20K0126-02	
24	27-NOV-2020	19:06	420K2724.D	10	20K0126-06	
25	27-NOV-2020	19:26	420K2725.D	1	20K0126-07	
26	27-NOV-2020	19:46	420K2726.D	1	20K0126-12	
27	27-NOV-2020	20:06	420K2727.D	1	20K0126-16	
28	27-NOV-2020	20:26	420K2728.D	1	BIK0527-MS1	
29	27-NOV-2020	20:47	420K2729.D	1	BIK0527-MSD1	
30	27-NOV-2020	21:07	420K2730.D	1	20K0126-18	
31	27-NOV-2020	21:27	420K2731.D	1	20K0126-24	
32	27-NOV-2020	21:48	420K2732.D	50	20K0126-11	
33	27-NOV-2020	22:08	420K2733.D	1	SIK0381-CCV5	
34	27-NOV-2020	22:28	420K2734.D	1	SIK0381-CCV6	
35	27-NOV-2020	22:48	420K2735.D	10	20K0126-22	
36	27-NOV-2020	23:09	420K2736.D	5	20K008-16	
37	27-NOV-2020	23:29	420K2737.D	1	BIK0528-BLK1	
38	27-NOV-2020	23:49	420K2738.D	1	BIK0528-BS1	
39	28-NOV-2020	00:09	420K2739.D	1	20K0188-01	
40	28-NOV-2020	00:29	420K2740.D	1	BIK0528-MS1	
41	28-NOV-2020	00:50	420K2741.D	1	BIK0528-MSD1	
42	28-NOV-2020	01:10	420K2742.D	1	20K0188-03	
43	28-NOV-2020	01:30	420K2743.D	1	20K0188-10	
44	28-NOV-2020	01:50	420K2744.D	1	20K0188-11	
45	28-NOV-2020	02:10	420K2745.D	1	20K0188-13	

46	28-NOV-2020	02:31	420K2746.D	1	20K0188-14
47	28-NOV-2020	02:51	420K2747.D	1	20K0188-15
48	28-NOV-2020	03:11	420K2748.D	1	20K0188-16
49	28-NOV-2020	03:31	420K2749.D	1	SIK0381-CCV7
50	28-NOV-2020	03:51	420K2750.D	1	SIK0381-CCV8

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	28-NOV-2020	04:12	420K2751.D	1	20K0188-17	
52	28-NOV-2020	04:32	420K2752.D	1	20K0188-21	
53	28-NOV-2020	04:52	420K2753.D	10	20K0078-11	
54	28-NOV-2020	05:12	420K2754.D	1	BIK0776-BLK1	
55	28-NOV-2020	05:32	420K2755.D	1	BIK0776-BS1	
56	28-NOV-2020	05:52	420K2756.D	10	20K0387-01	
57	28-NOV-2020	06:13	420K2757.D	10	20K0387-02	
58	28-NOV-2020	06:33	420K2758.D	10	20K0387-03	
59	28-NOV-2020	06:53	420K2759.D	10	20K0388-01	
60	28-NOV-2020	07:13	420K2760.D	10	20K0388-02	
61	28-NOV-2020	07:33	420K2761.D	10	20K0388-03	
62	28-NOV-2020	07:54	420K2762.D	10	20K0388-04	
63	28-NOV-2020	08:14	420K2763.D	1	SIK0381-CCV9	
64	28-NOV-2020	08:34	420K2764.D	1	SIK0381-CCVA	
65	28-NOV-2020	08:54	420K2765.D	10	20K0388-05	
66	28-NOV-2020	09:14	420K2766.D	1	BIK0345-BLK1	
67	28-NOV-2020	09:35	420K2767.D	1	BIK0345-BS1	
68	28-NOV-2020	09:55	420K2768.D	1	20J0290-05	
69	28-NOV-2020	10:15	420K2769.D	1	BIK0568-BLK1	
70	28-NOV-2020	10:35	420K2770.D	1	BIK0568-BS1	
71	28-NOV-2020	10:56	420K2771.D	1	BIK0568-BSD1	
72	28-NOV-2020	11:16	420K2772.D	1	20K0154-01	
73	28-NOV-2020	11:36	420K2773.D	1	20K0154-02	
74	28-NOV-2020	11:56	420K2774.D	1	20K0154-04	
75	28-NOV-2020	12:16	420K2775.D	1	20K0154-05	
76	28-NOV-2020	12:37	420K2776.D	10	20K0388-06	
77	28-NOV-2020	12:57	420K2777.D	1	SIK0381-CCVB	
78	28-NOV-2020	13:17	420K2778.D	1	SIK0381-CCVC	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201127.b

Instrument: fid4a.i Date: 27-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
0817	420K2701.D	RINSE	1	NO MANUAL INTEGRATION
0837	420K2702.D	RINSE	1	NO MANUAL INTEGRATION
0858	420K2703.D	SEQ-IBL1	1	NO MANUAL INTEGRATION
0918	420K2704.D	SEQ-IBL2	1	NO MANUAL INTEGRATION
0938	420K2705.D	SEQ-ICV1	1	o-terph,
0958	420K2706.D	SEQ-ICV2	1	Triacon Surr,
1018	420K2707.D	20K0352-01	1	NO MANUAL INTEGRATION
1039	420K2708.D	BIK0721-BLK1	1	NO MANUAL INTEGRATION
1059	420K2709.D	BIK0721-BS1	1	o-terph,
1119	420K2710.D	BIK0721-BSD1	1	o-terph,
1139	420K2711.D	SEQ-CCV1	1	o-terph,
1200	420K2712.D	SEQ-CCV2	1	Triacon Surr,
1252	420K2713.D	SIK0381-IBL1	1	NO MANUAL INTEGRATION
1313	420K2714.D	SEQ-IBL2	1	NO MANUAL INTEGRATION
1333	420K2715.D	SEQ-ICV1	1	o-terph,
1353	420K2716.D	SEQ-ICV2	1	Triacon Surr,
1414	420K2717.D	20K0352-01	1	NO MANUAL INTEGRATION

Instrument: fid4a.i Date: 27-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
1434	420K2718.D	BIK0721-BLK1	1	NO MANUAL INTEGRATION
1454	420K2719.D	BIK0721-BS1	1	o-terph,
1515	420K2720.D	BIK0721-BSD1	1	o-terph,
1535	420K2721.D	SEQ-CCV1	1	o-terph,
1555	420K2722.D	SEQ-CCV2	1	Triacon Surr,
1845	420K2723.D	20K0126-02	1	o-terph, Triacon Surr,
1906	420K2724.D	20K0126-06	10	o-terph, Triacon Surr,
1926	420K2725.D	20K0126-07	1	o-terph, Triacon Surr,
1946	420K2726.D	20K0126-12	1	o-terph, Triacon Surr,
2006	420K2727.D	20K0126-16	1	o-terph, Triacon Surr,
2026	420K2728.D	BIK0527-MS1	1	o-terph, Triacon Surr,
2047	420K2729.D	BIK0527-MSD1	1	NO MANUAL INTEGRATION
2107	420K2730.D	20K0126-18	1	o-terph, Triacon Surr,
2127	420K2731.D	20K0126-24	1	Triacon Surr,
2148	420K2732.D	20K0126-11	50	o-terph, Triacon Surr,
2208	420K2733.D	SIK0381-CCV5	1	o-terph,
2228	420K2734.D	SIK0381-CCV6	1	Triacon Surr,
2248	420K2735.D	20K0126-22	10	o-terph, Triacon Surr,

Instrument: fid4a.i Date: 27-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
2309	420K2736.D	20K008-16	5	o-terph, Triacon Surr,
2329	420K2737.D	BIK0528-BLK1	1	NO MANUAL INTEGRATION
2349	420K2738.D	BIK0528-BS1	1	o-terph,
0009	420K2739.D	20K0188-01	1	o-terph, Triacon Surr,
0029	420K2740.D	BIK0528-MS1	1	o-terph, Triacon Surr,
0050	420K2741.D	BIK0528-MSD1	1	o-terph, Triacon Surr,
0110	420K2742.D	20K0188-03	1	NO MANUAL INTEGRATION
0130	420K2743.D	20K0188-10	1	Triacon Surr,
0150	420K2744.D	20K0188-11	1	o-terph, Triacon Surr,
0210	420K2745.D	20K0188-13	1	o-terph, Triacon Surr,
0231	420K2746.D	20K0188-14	1	o-terph, Triacon Surr,
0251	420K2747.D	20K0188-15	1	o-terph, Triacon Surr,
0311	420K2748.D	20K0188-16	1	o-terph, Triacon Surr,
0331	420K2749.D	SIK0381-CCV7	1	o-terph,
0351	420K2750.D	SIK0381-CCV8	1	Triacon Surr,
0412	420K2751.D	20K0188-17	1	o-terph, Triacon Surr,
0432	420K2752.D	20K0188-21	1	o-terph, Triacon Surr,
0452	420K2753.D	20K0078-11	10	o-terph, Triacon Surr,

Instrument: fid4a.i Date: 28-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
0512	420K2754.D	BIK0776-BLK1	1	NO MANUAL INTEGRATION
0532	420K2755.D	BIK0776-BS1	1	o-terph,
0552	420K2756.D	20K0387-01	10	o-terph, Triacon Surr,
0613	420K2757.D	20K0387-02	10	o-terph, Triacon Surr,
0633	420K2758.D	20K0387-03	10	o-terph, Triacon Surr,
0653	420K2759.D	20K0388-01	10	o-terph, Triacon Surr,
0713	420K2760.D	20K0388-02	10	o-terph, Triacon Surr,
0733	420K2761.D	20K0388-03	10	o-terph, Triacon Surr,
0754	420K2762.D	20K0388-04	10	Triacon Surr,
0814	420K2763.D	SIK0381-CCV9	1	o-terph,
0834	420K2764.D	SIK0381-CCVA	1	Triacon Surr,
0854	420K2765.D	20K0388-05	10	Triacon Surr,
0914	420K2766.D	BIK0345-BLK1	1	NO MANUAL INTEGRATION
0935	420K2767.D	BIK0345-BS1	1	NO MANUAL INTEGRATION
0955	420K2768.D	20J0290-05	1	o-terph, Triacon Surr,
1015	420K2769.D	BIK0568-BLK1	1	NO MANUAL INTEGRATION
1035	420K2770.D	BIK0568-BS1	1	o-terph,
1056	420K2771.D	BIK0568-BSD1	1	o-terph,

Instrument: fid4a.i Date: 28-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
1116	420K2772.D	20K0154-01	1	o-terph, Triacon Surr,
1136	420K2773.D	20K0154-02	1	NO MANUAL INTEGRATION
1156	420K2774.D	20K0154-04	1	o-terph,
1216	420K2775.D	20K0154-05	1	Triacon Surr,
1237	420K2776.D	20K0388-06	10	o-terph, Triacon Surr,
1257	420K2777.D	SIK0381-CCVB	1	o-terph,
1317	420K2778.D	SIK0381-CCVC	1	Triacon Surr,

Security Status Report

Date: 02-Dec-2020 06:50

420K2701.D	Data Locked	van,	02-Dec-2020	06:50
420K2702.D	Data Locked	van,	02-Dec-2020	06:50
420K2703.D	Data Locked	van,	02-Dec-2020	06:50
420K2704.D	Data Locked	van,	02-Dec-2020	06:50
420K2705.D	Data Locked	van,	02-Dec-2020	06:50
420K2706.D	Data Locked	van,	02-Dec-2020	06:50
420K2707.D	Data Locked	van,	02-Dec-2020	06:50
420K2708.D	Data Locked	van,	02-Dec-2020	06:50
420K2709.D	Data Locked	van,	02-Dec-2020	06:50
420K2710.D	Data Locked	van,	02-Dec-2020	06:50
420K2711.D	Data Locked	van,	02-Dec-2020	06:50
420K2712.D	Data Locked	van,	02-Dec-2020	06:50
420K2713.D	Data Locked	van,	02-Dec-2020	06:50
420K2714.D	Data Locked	van,	02-Dec-2020	06:50
420K2715.D	Data Locked	van,	02-Dec-2020	06:50
420K2716.D	Data Locked	van,	02-Dec-2020	06:50
420K2717.D	Data Locked	van,	02-Dec-2020	06:50
420K2718.D	Data Locked	van,	02-Dec-2020	06:50
420K2719.D	Data Locked	van,	02-Dec-2020	06:50
420K2720.D	Data Locked	van,	02-Dec-2020	06:50
420K2721.D	Data Locked	van,	02-Dec-2020	06:50
420K2722.D	Data Locked	van,	02-Dec-2020	06:50
420K2723.D	Data Locked	van,	02-Dec-2020	06:50
420K2724.D	Data Locked	van,	02-Dec-2020	06:50
420K2725.D	Data Locked	van,	02-Dec-2020	06:50
420K2726.D	Data Locked	van,	02-Dec-2020	06:50
420K2727.D	Data Locked	van,	02-Dec-2020	06:50
420K2728.D	Data Locked	van,	02-Dec-2020	06:50
420K2729.D	Data Locked	van,	02-Dec-2020	06:50
420K2730.D	Data Locked	van,	02-Dec-2020	06:50
420K2731.D	Data Locked	van,	02-Dec-2020	06:50
420K2732.D	Data Locked	van,	02-Dec-2020	06:50
420K2733.D	Data Locked	van,	02-Dec-2020	06:50
420K2734.D	Data Locked	van,	02-Dec-2020	06:50
420K2735.D	Data Locked	van,	02-Dec-2020	06:50
420K2736.D	Data Locked	van,	02-Dec-2020	06:50
420K2737.D	Data Locked	van,	02-Dec-2020	06:50
420K2738.D	Data Locked	van,	02-Dec-2020	06:50
420K2739.D	Data Locked	van,	02-Dec-2020	06:50
420K2740.D	Data Locked	van,	02-Dec-2020	06:50
420K2741.D	Data Locked	van,	02-Dec-2020	06:50
420K2742.D	Data Locked	van,	02-Dec-2020	06:50
420K2743.D	Data Locked	van,	02-Dec-2020	06:50
420K2744.D	Data Locked	van,	02-Dec-2020	06:50

420K2745.D	Data Locked	van, 02-Dec-2020 06:50
420K2746.D	Data Locked	van, 02-Dec-2020 06:50
420K2747.D	Data Locked	van, 02-Dec-2020 06:50
420K2748.D	Data Locked	van, 02-Dec-2020 06:50
420K2749.D	Data Locked	van, 02-Dec-2020 06:50
420K2750.D	Data Locked	van, 02-Dec-2020 06:50
420K2751.D	Data Locked	van, 02-Dec-2020 06:50
420K2752.D	Data Locked	van, 02-Dec-2020 06:50
420K2753.D	Data Locked	van, 02-Dec-2020 06:50
420K2754.D	Data Locked	van, 02-Dec-2020 06:50
420K2755.D	Data Locked	van, 02-Dec-2020 06:50
420K2756.D	Data Locked	van, 02-Dec-2020 06:50
420K2757.D	Data Locked	van, 02-Dec-2020 06:50
420K2758.D	Data Locked	van, 02-Dec-2020 06:50
420K2759.D	Data Locked	van, 02-Dec-2020 06:50
420K2760.D	Data Locked	van, 02-Dec-2020 06:50
420K2761.D	Data Locked	van, 02-Dec-2020 06:50
420K2762.D	Data Locked	van, 02-Dec-2020 06:50
420K2763.D	Data Locked	van, 02-Dec-2020 06:50
420K2764.D	Data Locked	van, 02-Dec-2020 06:50
420K2765.D	Data Locked	van, 02-Dec-2020 06:50
420K2766.D	Data Locked	van, 02-Dec-2020 06:50
420K2767.D	Data Locked	van, 02-Dec-2020 06:50
420K2768.D	Data Locked	van, 02-Dec-2020 06:50
420K2769.D	Data Locked	van, 02-Dec-2020 06:50
420K2770.D	Data Locked	van, 02-Dec-2020 06:50
420K2771.D	Data Locked	van, 02-Dec-2020 06:50
420K2772.D	Data Locked	van, 02-Dec-2020 06:50
420K2773.D	Data Locked	van, 02-Dec-2020 06:50
420K2774.D	Data Locked	van, 02-Dec-2020 06:50
420K2775.D	Data Locked	van, 02-Dec-2020 06:50
420K2776.D	Data Locked	van, 02-Dec-2020 06:50
420K2777.D	Data Locked	van, 02-Dec-2020 06:50
420K2778.D	Data Locked	van, 02-Dec-2020 06:50



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0409

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIK0409-IBL1	420K2203.D	NA	11/22/20 10:50
Instrument Blank	SIK0409-IBL2	420K2204.D	NA	11/22/20 11:10
DIESEL ICV	SIK0409-ICV1	420K2205.D	NA	11/22/20 11:30
MOIL ICV	SIK0409-ICV2	420K2206.D	NA	11/22/20 11:51
ZZZZZ	20K0117-35	420K2207.D	Solid	11/22/20 12:11
ZZZZZ	20K0117-36	420K2208.D	Solid	11/22/20 12:31
ZZZZZ	20K0191-31	420K2209.D	Solid	11/22/20 12:51
ZZZZZ	20K0117-01	420K2212.D	Solid	11/22/20 13:52
ZZZZZ	20K0117-02	420K2213.D	Solid	11/22/20 14:12
ZZZZZ	20K0117-03	420K2214.D	Solid	11/22/20 14:33
ZZZZZ	20K0117-07	420K2215.D	Solid	11/22/20 14:53
ZZZZZ	20K0117-08	420K2216.D	Solid	11/22/20 15:13
ZZZZZ	20K0117-09	420K2217.D	Solid	11/22/20 15:33
ZZZZZ	20K0117-12	420K2218.D	Solid	11/22/20 15:53
MOIL CCV	SIK0409-CCV1	420K2219.D	NA	11/22/20 16:14
DIESEL CCV	SIK0409-CCV2	420K2220.D	NA	11/22/20 16:34
ZZZZZ	20K0117-13	420K2221.D	Solid	11/22/20 16:54
ZZZZZ	20K0117-16	420K2222.D	Solid	11/22/20 17:14
ZZZZZ	20K0117-17	420K2223.D	Solid	11/22/20 17:34
ZZZZZ	20K0117-18	420K2224.D	Solid	11/22/20 17:55
ZZZZZ	20K0117-19	420K2225.D	Solid	11/22/20 18:15
ZZZZZ	20K0117-39	420K2226.D	Solid	11/22/20 18:35
ZZZZZ	20K0102-01	420K2231.D	Solid	11/22/20 20:16
ZZZZZ	20K0102-02	420K2234.D	Solid	11/22/20 21:17
ZZZZZ	20K0102-04	420K2235.D	Solid	11/22/20 21:37
ZZZZZ	20K0102-05	420K2236.D	Solid	11/22/20 21:57
DIESEL CCV	SIK0409-CCV3	420K2237.D	NA	11/22/20 22:17
MOIL CCV	SIK0409-CCV4	420K2238.D	NA	11/22/20 22:38
ZZZZZ	20K0102-06	420K2239.D	Solid	11/22/20 22:58
ZZZZZ	20K0102-07	420K2240.D	Solid	11/22/20 23:18



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0409

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20K0102-11	420K2241.D	Solid	11/22/20 23:38
ZZZZZ	20K0102-12	420K2242.D	Solid	11/22/20 23:58
ZZZZZ	20K0102-14	420K2243.D	Solid	11/23/20 00:19
ZZZZZ	20K0102-16	420K2244.D	Solid	11/23/20 00:39
ZZZZZ	20K0102-17	420K2245.D	Solid	11/23/20 00:59
ZZZZZ	20K0102-18	420K2246.D	Solid	11/23/20 01:19
ZZZZZ	20K0102-20	420K2247.D	Solid	11/23/20 01:39
ZZZZZ	20K0102-21	420K2248.D	Solid	11/23/20 02:00
DIESEL CCV	SIK0409-CCV5	420K2249.D	NA	11/23/20 02:20
MOIL CCV	SIK0409-CCV6	420K2250.D	NA	11/23/20 02:40
ZZZZZ	20K0102-22	420K2251.D	Solid	11/23/20 03:00
ZZZZZ	20K0102-24	420K2252.D	Solid	11/23/20 03:20
ZZZZZ	20K0102-25	420K2253.D	Solid	11/23/20 03:41
ZZZZZ	20K0102-26	420K2254.D	Solid	11/23/20 04:01
ZZZZZ	20K0102-27	420K2255.D	Solid	11/23/20 04:21
ZZZZZ	20K0102-28	420K2256.D	Solid	11/23/20 04:41
Blank	BIK0337-BLK1	420K2257.D	Solid	11/23/20 05:01
LCS	BIK0337-BS1	420K2258.D	Solid	11/23/20 05:22
LCS Dup	BIK0337-BSD1	420K2259.D	Solid	11/23/20 05:42
DIESEL CCV	SIK0409-CCV7	420K2260.D	NA	11/23/20 06:02
MOIL CCV	SIK0409-CCV8	420K2261.D	NA	11/23/20 06:22



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIL0016

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIL0016-IBL1	420K2403.D	NA	11/24/20 08:20
Instrument Blank	SIL0016-IBL2	420K2404.D	NA	11/24/20 08:40
DIESEL ICV	SIL0016-ICV1	420K2405.D	NA	11/24/20 09:00
MOIL ICV	SIL0016-ICV2	420K2406.D	NA	11/24/20 09:21
PP18-5	20K0008-14	420K2407.D	Solid	11/24/20 09:41
PP19-2.5	20K0008-20	420K2408.D	Solid	11/24/20 10:01
PP19-7.5	20K0008-22	420K2410.D	Solid	11/24/20 10:42
PP20-5	20K0008-26	420K2411.D	Solid	11/24/20 11:02
PP20-10	20K0008-28	420K2412.D	Solid	11/24/20 11:23
PP31-2.5	20K0008-31	420K2413.D	Solid	11/24/20 11:43
PP31-7.5	20K0008-33	420K2414.D	Solid	11/24/20 12:04
PP17-2	20K0008-01	420K2416.D	Solid	11/24/20 12:44
DIESEL CCV	SIL0016-CCV1	420K2417.D	NA	11/24/20 13:05
MOIL CCV	SIL0016-CCV2	420K2418.D	NA	11/24/20 13:26
PP22-2.5	20K0008-07	420K2419.D	Solid	11/24/20 13:46
ZZZZZ	BIK0190-BLK1	420K2421.D	Water	11/24/20 14:27
ZZZZZ	BIK0190-BS1	420K2422.D	Water	11/24/20 14:48
ZZZZZ	BIK0190-BSD1	420K2423.D	Water	11/24/20 15:08
ZZZZZ	20K0078-03	420K2424.D	Water	11/24/20 15:28
ZZZZZ	20K0078-05	420K2425.D	Water	11/24/20 15:49
ZZZZZ	BIK0527-BLK1	420K2426.D	Solid	11/24/20 16:09
ZZZZZ	BIK0527-BS1	420K2427.D	Solid	11/24/20 16:30
ZZZZZ	20K0115-01	420K2428.D	Solid	11/24/20 16:50
ZZZZZ	20K0115-02	420K2429.D	Solid	11/24/20 17:10
ZZZZZ	20K0115-04	420K2430.D	Solid	11/24/20 17:30
ZZZZZ	20K0115-05	420K2431.D	Solid	11/24/20 17:51
ZZZZZ	20K0115-10	420K2432.D	Solid	11/24/20 18:11
ZZZZZ	20K0126-01	420K2433.D	Solid	11/24/20 18:31
DIESEL CCV	SIL0016-CCV3	420K2434.D	NA	11/24/20 18:52
MOIL CCV	SIL0016-CCV4	420K2435.D	NA	11/24/20 19:12



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIL0055

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIL0055-IBL1	420L0401.D	NA	12/04/20 10:26
Instrument Blank	SIL0055-IBL2	420L0402.D	NA	12/04/20 10:46
DIESEL ICV	SIL0055-ICV1	420L0403.D	NA	12/04/20 11:06
MOIL ICV	SIL0055-ICV2	420L0404.D	NA	12/04/20 11:26
ZZZZZ	20K0350-02	420L0405.D	Solid	12/04/20 11:46
ZZZZZ	20K0350-03	420L0406.D	Solid	12/04/20 12:06
ZZZZZ	20K0350-04	420L0407.D	Solid	12/04/20 12:27
ZZZZZ	20K0350-05	420L0408.D	Solid	12/04/20 12:47
ZZZZZ	20K0350-06	420L0409.D	Solid	12/04/20 13:07
ZZZZZ	20K0350-07	420L0410.D	Solid	12/04/20 13:27
ZZZZZ	20K0170-01	420L0413.D	Solid	12/04/20 14:28
ZZZZZ	20K0170-02	420L0414.D	Solid	12/04/20 14:48
ZZZZZ	20K0170-11	420L0415.D	Solid	12/04/20 15:09
DIESEL CCV	SIL0055-CCV1	420L0416.D	NA	12/04/20 15:29
MOIL CCV	SIL0055-CCV2	420L0417.D	NA	12/04/20 15:49
ZZZZZ	20K0170-12	420L0418.D	Solid	12/04/20 16:10
ZZZZZ	20K0170-23	420L0419.D	Solid	12/04/20 16:30
ZZZZZ	20K0170-24	420L0420.D	Solid	12/04/20 16:51
ZZZZZ	20K0350-08	420L0423.D	Solid	12/04/20 17:51
ZZZZZ	20K0291-11	420L0426.D	Solid	12/04/20 18:52
ZZZZZ	20K0291-16	420L0427.D	Solid	12/04/20 19:12
ZZZZZ	20K0201-05	420L0428.D	Solid	12/04/20 19:33
DIESEL CCV	SIL0055-CCV3	420L0429.D	NA	12/04/20 19:53
MOIL CCV	SIL0055-CCV4	420L0430.D	NA	12/04/20 20:13
ZZZZZ	20L0014-01	420L0434.D	Solid	12/04/20 21:34
ZZZZZ	20L0015-01	420L0435.D	Solid	12/04/20 21:54
ZZZZZ	20L0015-02	420L0436.D	Solid	12/04/20 22:14
ZZZZZ	20J0420-04RE1	420L0437.D	Solid	12/04/20 22:34
ZZZZZ	20J0420-05RE1	420L0438.D	Solid	12/04/20 22:54
ZZZZZ	20J0420-06RE1	420L0439.D	Solid	12/04/20 23:14



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIL0055

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
PP17-7.5	20K0008-03RE1	420L0440.D	Solid	12/04/20 23:35
PP22-7.5	20K0008-09RE1	420L0441.D	Solid	12/04/20 23:55
ZZZZZ	20K0204-05RE1	420L0442.D	Solid	12/05/20 00:15
DIESEL CCV	SIL0055-CCV5	420L0443.D	NA	12/05/20 00:35
MOIL CCV	SIL0055-CCV6	420L0444.D	NA	12/05/20 00:55



ANALYSIS SEQUENCE

SIL0055

Instrument: FID4

Element Column ID: G004923

Calibration ID: DA00022

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIL0055-IBL1	Retention Time Standard	QC		1	I006239		
SIL0055-IBL2	Instrument Blank	QC		2	I006241		
SIL0055-ICV1	DIESEL ICV	QC		3	I008275		
SIL0055-ICV2	MOIL ICV	QC		4	I008935		
20K0350-02	NCPDI-050SG-201118	TPH NW (Extractables)	A 01	5			
20K0350-03	NCPDI-055SG-201119	TPH NW (Extractables)	A 01	6			
20K0350-04	NCPDI-071SG-201118	TPH NW (Extractables)	A 01	7			
20K0350-05	NCPDI-074SG-201119	TPH NW (Extractables)	A 01	8			
20K0350-06	NCPDI-075SG-201119	TPH NW (Extractables)	A 01	9			
20K0350-07	NCPDI-076SG-201119	TPH NW (Extractables)	A 01	10			
BIL0010-BLK1	Blank	QC		11			
BIL0010-BS1	LCS	QC		12			
20K0170-01	JSMPI-013SC-A-00-01-20110	TPH NW (Extractables)	A 01	13			
20K0170-02	JSMPI-013SC-A-01-02-20110	TPH NW (Extractables)	A 01	14			
20K0170-11	JSMPI-018SC-A-00-01-20110	TPH NW (Extractables)	A 01	15			
SIL0055-CCV1	DIESEL CCV	QC		16	I008275		
SIL0055-CCV2	MOIL CCV	QC		17	I008935		
20K0170-12	JSMPI-018SC-A-05-06-20110	TPH NW (Extractables)	A 01	18			
20K0170-23	JSMPI-022SC-A-00-01-20110	TPH NW (Extractables)	A 01	19			
20K0170-24	JSMPI-022SC-A-02-03-20110	TPH NW (Extractables)	A 01	20			
BIL0112-BLK1	Blank	QC		21			
BIL0112-BS1	LCS	QC		22			



ANALYSIS SEQUENCE

SIL0055

Instrument: FID4
Calibration ID: DA00022

Element Column ID: G004923

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
20K0350-08	NCPDI-077SG-201119	TPH NW (Extractables)	A 01	23			
BIL0112-MS1	Matrix Spike	QC		24			
BIL0112-MSD1	Matrix Spike Dup	QC		25			
20K0291-11	JSMPI-002SC-B-02-04-20111	TPH NW (Extractables)	B 03	26			
20K0291-16	JSMPI-004SC-B-02-04-20111	TPH NW (Extractables)	A 03	27			
20K0201-05	BOL-LAI-19-S(5-6.5)20201110	TPH NW (Extractables) low level	A 02	28			
SIL0055-CCV3	DIESEL CCV	QC		29	I008275		
SIL0055-CCV4	MOIL CCV	QC		30	I008935		
BIL0096-BLK1	Blank	QC		31			
BIL0096-BS1	LCS	QC		32			
20L0014-01	Disposal	TPH NW (Extractables)	B 02	33			
20L0015-01	Clearance 01	TPH NW (Extractables)	A 01	34			
20L0015-02	Clearance 02	TPH NW (Extractables)	A 01	35			
20J0420-04RE1	BOF-LAI-05-S(1-3)-20201029	TPH NW (Extractables) low level	A 02	36			Added 12/5/2020 by VTS
20J0420-05RE1	BOF-LAI-05-S(10-12)-20201029	TPH NW (Extractables) low level	A 02	37			Added 12/5/2020 by VTS
20J0420-06RE1	BOF-LAI-05-S(47.7-48.2)-20201029	TPH NW (Extractables) low level	A 02	38			Added 12/5/2020 by VTS
20K0008-03RE1	PP17-7.5	TPH NW (Extractables) low level	A 02	39			Added 12/5/2020 by VTS
20K0008-09RE1	PP22-7.5	TPH NW (Extractables) low level	A 02	40			Added 12/5/2020 by VTS
20K0204-05RE1	JSMPI-006SC-A-00-01-20111	TPH NW (Extractables)	A 02	41			Added 12/5/2020 by VTS
SIL0055-CCV5	DIESEL CCV	QC		42	I008275		
SIL0055-CCV6	MOIL CCV	QC		43	I008935		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201204.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	04-DEC-2020	10:26	420L0401.D	1	SIL0055-IBL1	
2	04-DEC-2020	10:46	420L0402.D	1	SIL0055-IBL2	
3	04-DEC-2020	11:06	420L0403.D	1	SIL0055-ICV1	
4	04-DEC-2020	11:26	420L0404.D	1	SIL0055-ICV2	
5	04-DEC-2020	11:46	420L0405.D	1	20K0350-02	
6	04-DEC-2020	12:06	420L0406.D	1	20K0350-03	
7	04-DEC-2020	12:27	420L0407.D	1	20K0350-04	
8	04-DEC-2020	12:47	420L0408.D	1	20K0350-05	
9	04-DEC-2020	13:07	420L0409.D	1	20K0350-06	
10	04-DEC-2020	13:27	420L0410.D	1	20K0350-07	
11	04-DEC-2020	13:47	420L0411.D	1	BIL0010-BLK1	
12	04-DEC-2020	14:08	420L0412.D	1	BIL0010-BS1	
13	04-DEC-2020	14:28	420L0413.D	1	20K0170-01	
14	04-DEC-2020	14:48	420L0414.D	1	20K0170-02	
15	04-DEC-2020	15:09	420L0415.D	1	20K0170-11	
16	04-DEC-2020	15:29	420L0416.D	1	SIL0055-CCV1	
17	04-DEC-2020	15:49	420L0417.D	1	SIL0055-CCV2	
18	04-DEC-2020	16:10	420L0418.D	1	20K0170-12	
19	04-DEC-2020	16:30	420L0419.D	1	20K0170-23	
20	04-DEC-2020	16:51	420L0420.D	1	20K0170-24	
21	04-DEC-2020	17:11	420L0421.D	1	BIL0112-BLK1	
22	04-DEC-2020	17:31	420L0422.D	1	BIL0112-BS1	
23	04-DEC-2020	17:51	420L0423.D	3	20K0350-08	
24	04-DEC-2020	18:12	420L0424.D	3	BIL0112-MS1	
25	04-DEC-2020	18:32	420L0425.D	3	BIL0112-MSD1	
26	04-DEC-2020	18:52	420L0426.D	5	20K0291-11	
27	04-DEC-2020	19:12	420L0427.D	3	20K0291-16	
28	04-DEC-2020	19:33	420L0428.D	3	20K0201-05	
29	04-DEC-2020	19:53	420L0429.D	1	SIL0055-CCV3	
30	04-DEC-2020	20:13	420L0430.D	1	SIL0055-CCV4	
31	04-DEC-2020	20:33	420L0431.D	1	BIL0096-BLK1	
32	04-DEC-2020	20:53	420L0432.D	1	BIL0096-BS1	
33	04-DEC-2020	21:14	420L0433.D	3	20L0013-01	
34	04-DEC-2020	21:34	420L0434.D	3	20L0014-01	
35	04-DEC-2020	21:54	420L0435.D	1	20L0015-01	
36	04-DEC-2020	22:14	420L0436.D	1	20L0015-02	
37	04-DEC-2020	22:34	420L0437.D	1	20J0420-04RE1	
38	04-DEC-2020	22:54	420L0438.D	1	20J0420-05RE1	
39	04-DEC-2020	23:14	420L0439.D	1	20J0420-06RE1	
40	04-DEC-2020	23:35	420L0440.D	1	20K0008-03RE1	
41	04-DEC-2020	23:55	420L0441.D	1	20K0008-09RE1	
42	05-DEC-2020	00:15	420L0442.D	1	20K0204-05RE1	
43	05-DEC-2020	00:35	420L0443.D	1	SIL0055-CCV5	
44	05-DEC-2020	00:55	420L0444.D	1	SIL0055-CCV6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201204.b

Instrument: fid4a.i Date: 04-DEC-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
1026	420L0401.D	SIL0055-IBL1	1	NO MANUAL INTEGRATION
1046	420L0402.D	SIL0055-IBL2	1	NO MANUAL INTEGRATION
1106	420L0403.D	SIL0055-ICV1	1	o-terph,
1126	420L0404.D	SIL0055-ICV2	1	Triacon Surr,
1146	420L0405.D	20K0350-02	1	o-terph, Triacon Surr,
1206	420L0406.D	20K0350-03	1	o-terph, Triacon Surr,
1227	420L0407.D	20K0350-04	1	o-terph, Triacon Surr,
1247	420L0408.D	20K0350-05	1	Triacon Surr,
1307	420L0409.D	20K0350-06	1	Triacon Surr,
1327	420L0410.D	20K0350-07	1	o-terph, Triacon Surr,
1347	420L0411.D	BIL0010-BLK1	1	NO MANUAL INTEGRATION
1408	420L0412.D	BIL0010-BS1	1	o-terph,
1428	420L0413.D	20K0170-01	1	o-terph, Triacon Surr,
1448	420L0414.D	20K0170-02	1	o-terph, Triacon Surr,
1509	420L0415.D	20K0170-11	1	o-terph, Triacon Surr,
1529	420L0416.D	SIL0055-CCV1	1	o-terph,
1549	420L0417.D	SIL0055-CCV2	1	Triacon Surr,

Instrument: fid4a.i Date: 04-DEC-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
1610	420L0418.D	20K0170-12	1	o-terph, Triacon Surr,
1630	420L0419.D	20K0170-23	1	o-terph, Triacon Surr,
1651	420L0420.D	20K0170-24	1	o-terph, Triacon Surr,
1711	420L0421.D	BIL0112-BLK1	1	NO MANUAL INTEGRATION
1731	420L0422.D	BIL0112-BS1	1	o-terph,
1751	420L0423.D	20K0350-08	3	o-terph, Triacon Surr,
1812	420L0424.D	BIL0112-MS1	3	o-terph, Triacon Surr,
1832	420L0425.D	BIL0112-MSD1	3	o-terph, Triacon Surr,
1852	420L0426.D	20K0291-11	5	o-terph, Triacon Surr,
1912	420L0427.D	20K0291-16	3	o-terph, Triacon Surr,
1933	420L0428.D	20K0201-05	3	o-terph, Triacon Surr,
1953	420L0429.D	SIL0055-CCV3	1	o-terph,
2013	420L0430.D	SIL0055-CCV4	1	Triacon Surr,
2033	420L0431.D	BIL0096-BLK1	1	NO MANUAL INTEGRATION
2053	420L0432.D	BIL0096-BS1	1	o-terph,
2114	420L0433.D	20L0013-01	3	NO MANUAL INTEGRATION
2134	420L0434.D	20L0014-01	3	o-terph, Triacon Surr,
2154	420L0435.D	20L0015-01	1	o-terph, Triacon Surr,

Instrument: fid4a.i Date: 04-DEC-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
2214	420L0436.D	20L0015-02	1	o-terph, Triacon Surr,
2234	420L0437.D	20J0420-04RE1	1	o-terph, Triacon Surr,
2254	420L0438.D	20J0420-05RE1	1	o-terph, Triacon Surr,
2314	420L0439.D	20J0420-06RE1	1	Triacon Surr,
2335	420L0440.D	20K0008-03RE1	1	o-terph, Triacon Surr,
2355	420L0441.D	20K0008-09RE1	1	o-terph, Triacon Surr,
0015	420L0442.D	20K0204-05RE1	1	o-terph, Triacon Surr,
0035	420L0443.D	SIL0055-CCV5	1	o-terph,
0055	420L0444.D	SIL0055-CCV6	1	Triacon Surr,

Security Status Report

Date: 05-Dec-2020 12:50

420L0401.D	Data Locked	van,	05-Dec-2020	10:56
420L0402.D	Data Locked	van,	05-Dec-2020	10:56
420L0403.D	Data Locked	van,	05-Dec-2020	10:56
420L0404.D	Data Locked	van,	05-Dec-2020	10:56
420L0405.D	Data Locked	van,	05-Dec-2020	10:56
420L0406.D	Data Locked	van,	05-Dec-2020	10:56
420L0407.D	Data Locked	van,	05-Dec-2020	10:56
420L0408.D	Data Locked	van,	05-Dec-2020	10:56
420L0409.D	Data Locked	van,	05-Dec-2020	10:56
420L0410.D	Data Locked	van,	05-Dec-2020	10:56
420L0411.D	Data Locked	van,	05-Dec-2020	10:56
420L0412.D	Data Locked	van,	05-Dec-2020	10:56
420L0413.D	Data Locked	van,	05-Dec-2020	10:56
420L0414.D	Data Locked	van,	05-Dec-2020	10:56
420L0415.D	Data Locked	van,	05-Dec-2020	10:56
420L0416.D	Data Locked	van,	05-Dec-2020	10:56
420L0417.D	Data Locked	van,	05-Dec-2020	10:56
420L0418.D	Data Locked	van,	05-Dec-2020	10:56
420L0419.D	Data Locked	van,	05-Dec-2020	10:56
420L0420.D	Data Locked	van,	05-Dec-2020	10:56
420L0421.D	Data Locked	van,	05-Dec-2020	10:56
420L0422.D	Data Locked	van,	05-Dec-2020	10:56
420L0423.D	Data Locked	van,	05-Dec-2020	10:56
420L0424.D	Data Locked	van,	05-Dec-2020	10:56
420L0425.D	Data Locked	van,	05-Dec-2020	10:56
420L0426.D	Data Locked	van,	05-Dec-2020	10:56
420L0427.D	Data Locked	van,	05-Dec-2020	10:56
420L0428.D	Data Locked	van,	05-Dec-2020	10:56
420L0429.D	Data Locked	van,	05-Dec-2020	10:56
420L0430.D	Data Locked	van,	05-Dec-2020	10:56
420L0431.D	Data Locked	van,	05-Dec-2020	10:56
420L0432.D	Data Locked	van,	05-Dec-2020	10:56
420L0433.D	Data Locked	van,	05-Dec-2020	10:56
420L0434.D	Data Locked	van,	05-Dec-2020	10:56
420L0435.D	Data Locked	van,	05-Dec-2020	10:56
420L0436.D	Data Locked	van,	05-Dec-2020	10:56
420L0437.D	Data Locked	van,	05-Dec-2020	10:56
420L0438.D	Data Locked	van,	05-Dec-2020	10:56
420L0439.D	Data Locked	van,	05-Dec-2020	10:56
420L0440.D	Data Locked	van,	05-Dec-2020	10:56
420L0441.D	Data Locked	van,	05-Dec-2020	10:56
420L0442.D	Data Locked	van,	05-Dec-2020	10:56
420L0443.D	Data Locked	van,	05-Dec-2020	10:56
420L0444.D	Data Locked	van,	05-Dec-2020	10:56

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SIL0055

Analyst: VJ

Date: 12/4/2020

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
20K0350, BIL0112-MS MSD	200	DCM	400	3				
20K0291-11	100	DCM	400	5				
20K0291-16, 20K0201 -5	200	DCM	400	3				
20L0013-1, 20L0014-1	200	DCM	400	3				



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIL0065

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIL0065-IBL1	420K2961.D	NA	11/30/20 18:21
Instrument Blank	SIL0065-IBL2	420K2962.D	NA	11/30/20 18:41
DIESEL ICV	SIL0065-ICV1	420K2963.D	NA	11/30/20 19:01
MOIL ICV	SIL0065-ICV2	420K2964.D	NA	11/30/20 19:22
ZZZZZ	20J0420-04	420K2965.D	Solid	11/30/20 19:42
ZZZZZ	20J0420-05	420K2966.D	Solid	11/30/20 20:02
ZZZZZ	20J0420-06	420K2967.D	Solid	11/30/20 20:22
PP17-7.5	20K0008-03	420K2968.D	Solid	11/30/20 20:42
PP22-7.5	20K0008-09	420K2969.D	Solid	11/30/20 21:02
ZZZZZ	20K0204-05	420K2970.D	Solid	11/30/20 21:22
DIESEL CCV	SIL0065-CCV1	420K2971.D	NA	11/30/20 21:42
MOIL CCV	SIL0065-CCV2	420K2972.D	NA	11/30/20 22:02



ANALYSIS SEQUENCE

SIL0065

Instrument: FID4

Element Column ID: G004923

Calibration ID: DA00022

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIL0065-IBL1	Retention Time Standard	QC		1	I006239		
SIL0065-IBL2	Instrument Blank	QC		2	I006241		
SIL0065-ICV1	DIESEL ICV	QC		3	I008275		
SIL0065-ICV2	MOIL ICV	QC		4	I008935		
20J0420-04	BOF-LAI-05-S(1-3)-20201029	TPH NW (Extractables) low level	A 02	5			
20J0420-05	BOF-LAI-05-S(10-12)-20201029	TPH NW (Extractables) low level	A 02	6			
20J0420-06	BOF-LAI-05-S(47.7-48.2)-20201029	TPH NW (Extractables) low level	A 02	7			
20K0008-03	PP17-7.5	TPH NW (Extractables) low level	A 02	8			
20K0008-09	PP22-7.5	TPH NW (Extractables) low level	A 02	9			
20K0204-05	JSMPTDI-006SC-A-00-01-20111	TPH NW (Extractables)	A 02	10			
SIL0065-CCV1	DIESEL CCV	QC		11	I008275		
SIL0065-CCV2	MOIL CCV	QC		12	I008935		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129b.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	30-NOV-2020	17:41	420K2959.D	1	SEQ-CCV9	
2	30-NOV-2020	18:01	420K2960.D	1	SEQ-CCVA	
3	30-NOV-2020	18:21	420K2961.D	1	SIL0065-IBL1	
4	30-NOV-2020	18:41	420K2962.D	1	SIL0065-IBL2	
5	30-NOV-2020	19:01	420K2963.D	1	SIL0065-ICV1	
6	30-NOV-2020	19:22	420K2964.D	1	SIL0065-ICV2	
7	30-NOV-2020	19:42	420K2965.D	1	20J0420-04	
8	30-NOV-2020	20:02	420K2966.D	1	20J0420-05	
9	30-NOV-2020	20:22	420K2967.D	1	20J0420-06	
10	30-NOV-2020	20:42	420K2968.D	1	20K0008-03	
11	30-NOV-2020	21:02	420K2969.D	1	20K0008-09	
12	30-NOV-2020	21:22	420K2970.D	1	20K0204-05	
13	30-NOV-2020	21:42	420K2971.D	1	SIL0065-CCV1	
14	30-NOV-2020	22:02	420K2972.D	1	SIL0065-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20201129b.b

Instrument: fid4a.i Date: 30-NOV-2020

Time	Filename	LabID	DF	Manually Integrated Compounds
1741	420K2959.D	SEQ-CCV9	1	NO MANUAL INTEGRATION
1801	420K2960.D	SEQ-CCVA	1	NO MANUAL INTEGRATION
1821	420K2961.D	SIL0065-IBL1	1	Toluene, C8,
1841	420K2962.D	SIL0065-IBL2	1	NO MANUAL INTEGRATION
1901	420K2963.D	SIL0065-ICV1	1	o-terph,
1922	420K2964.D	SIL0065-ICV2	1	Triacon Surr,
1942	420K2965.D	20J0420-04	1	NO MANUAL INTEGRATION
2002	420K2966.D	20J0420-05	1	o-terph, Triacon Surr,
2022	420K2967.D	20J0420-06	1	Triacon Surr,
2042	420K2968.D	20K0008-03	1	o-terph, Triacon Surr,
2102	420K2969.D	20K0008-09	1	o-terph, Triacon Surr,
2122	420K2970.D	20K0204-05	1	o-terph, Triacon Surr,
2142	420K2971.D	SIL0065-CCV1	1	o-terph,
2202	420K2972.D	SIL0065-CCV2	1	Triacon Surr,

Security Status Report

Date: 04-Dec-2020 14:31

420K2959.D	Data Locked	van,	04-Dec-2020	14:31
420K2960.D	Data Locked	van,	04-Dec-2020	14:31
420K2961.D	Data Locked	van,	04-Dec-2020	14:31
420K2962.D	Data Locked	van,	04-Dec-2020	14:31
420K2963.D	Data Locked	van,	04-Dec-2020	14:31
420K2964.D	Data Locked	van,	04-Dec-2020	14:31
420K2965.D	Data Locked	van,	04-Dec-2020	14:31
420K2966.D	Data Locked	van,	04-Dec-2020	14:31
420K2967.D	Data Locked	van,	04-Dec-2020	14:31
420K2968.D	Data Locked	van,	04-Dec-2020	14:31
420K2969.D	Data Locked	van,	04-Dec-2020	14:31
420K2970.D	Data Locked	van,	04-Dec-2020	14:31
420K2971.D	Data Locked	van,	04-Dec-2020	14:31
420K2972.D	Data Locked	van,	04-Dec-2020	14:31



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0381</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0381-IBL1 (Water)			Lab File ID: 420K2703.D			Analyzed: 11/27/20 08:58		
o-Terphenyl	100.00	106	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0381-IBL2 (Water)			Lab File ID: 420K2704.D			Analyzed: 11/27/20 09:18		
o-Terphenyl	100.00	102	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0381-ICV1 (Water)			Lab File ID: 420K2705.D			Analyzed: 11/27/20 09:38		
o-Terphenyl	90.000	97.3	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-CCV1 (Water)			Lab File ID: 420K2711.D			Analyzed: 11/27/20 11:39		
o-Terphenyl	90.000	95.4	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-IBL3 (Water)			Lab File ID: 420K2713.D			Analyzed: 11/27/20 12:52		
o-Terphenyl	100.00	107	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0381-IBL4 (Water)			Lab File ID: 420K2714.D			Analyzed: 11/27/20 13:13		
o-Terphenyl	100.00	110	50 - 150	6.2	6.66	-0.4600	N/A	
SIK0381-ICV3 (Water)			Lab File ID: 420K2715.D			Analyzed: 11/27/20 13:33		
o-Terphenyl	90.000	96.4	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-CCV3 (Water)			Lab File ID: 420K2721.D			Analyzed: 11/27/20 15:35		
o-Terphenyl	90.000	95.9	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-CCV5 (Water)			Lab File ID: 420K2733.D			Analyzed: 11/27/20 22:08		
o-Terphenyl	90.000	99.8	85 - 115	6.2	6.66	-0.4600	N/A	
20K0008-16 (Solid)			Lab File ID: 420K2736.D			Analyzed: 11/27/20 23:09		
o-Terphenyl	15.946	107	50 - 150	6.18	6.66	-0.4800	N/A	
SIK0381-CCV7 (Water)			Lab File ID: 420K2749.D			Analyzed: 11/28/20 03:31		
o-Terphenyl	90.000	102	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-CCV9 (Water)			Lab File ID: 420K2763.D			Analyzed: 11/28/20 08:14		
o-Terphenyl	90.000	99.6	85 - 115	6.2	6.66	-0.4600	N/A	
SIK0381-CCVB (Water)			Lab File ID: 420K2777.D			Analyzed: 11/28/20 12:57		
o-Terphenyl	90.000	110	85 - 115	6.2	6.66	-0.4600	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0409</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0409-IBL1 (Solid)			Lab File ID: 420K2203.D			Analyzed: 11/22/20 10:50		
o-Terphenyl	100.00	96.0	50 - 150	6.21	6.66	-0.4500	N/A	
SIK0409-IBL2 (Solid)			Lab File ID: 420K2204.D			Analyzed: 11/22/20 11:10		
o-Terphenyl	100.00	103	50 - 150	6.21	6.66	-0.4500	N/A	
SIK0409-ICV1 (Solid)			Lab File ID: 420K2205.D			Analyzed: 11/22/20 11:30		
o-Terphenyl	90.000	96.6	85 - 115	6.21	6.66	-0.4500	N/A	
SIK0409-CCV2 (Solid)			Lab File ID: 420K2220.D			Analyzed: 11/22/20 16:34		
o-Terphenyl	90.000	93.2	85 - 115	6.21	6.66	-0.4500	N/A	
SIK0409-CCV3 (Solid)			Lab File ID: 420K2237.D			Analyzed: 11/22/20 22:17		
o-Terphenyl	90.000	93.7	85 - 115	6.21	6.66	-0.4500	N/A	
SIK0409-CCV5 (Solid)			Lab File ID: 420K2249.D			Analyzed: 11/23/20 02:20		
o-Terphenyl	90.000	95.3	85 - 115	6.21	6.66	-0.4500	N/A	
BIK0337-BLK1 (Solid)			Lab File ID: 420K2257.D			Analyzed: 11/23/20 05:01		
o-Terphenyl	11.250	88.7	50 - 150	6.21	6.66	-0.4500	N/A	
BIK0337-BS1 (Solid)			Lab File ID: 420K2258.D			Analyzed: 11/23/20 05:22		
o-Terphenyl	11.250	104	50 - 150	6.21	6.66	-0.4500	N/A	
BIK0337-BSD1 (Solid)			Lab File ID: 420K2259.D			Analyzed: 11/23/20 05:42		
o-Terphenyl	11.250	98.2	50 - 150	6.21	6.66	-0.4500	N/A	
SIK0409-CCV7 (Solid)			Lab File ID: 420K2260.D			Analyzed: 11/23/20 06:02		
o-Terphenyl	90.000	95.6	85 - 115	6.21	6.66	-0.4500	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0016</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0016-IBL1 (Solid)			Lab File ID: 420K2403.D			Analyzed: 11/24/20 08:20		
o-Terphenyl	100.00	102	50 - 150	6.2	6.66	-0.4600	N/A	
SIL0016-IBL2 (Solid)			Lab File ID: 420K2404.D			Analyzed: 11/24/20 08:40		
o-Terphenyl	100.00	112	50 - 150	6.21	6.66	-0.4500	N/A	
SIL0016-ICV1 (Solid)			Lab File ID: 420K2405.D			Analyzed: 11/24/20 09:00		
o-Terphenyl	90.000	94.2	85 - 115	6.2	6.66	-0.4600	N/A	
20K0008-14 (Solid)			Lab File ID: 420K2407.D			Analyzed: 11/24/20 09:41		
o-Terphenyl	13.987	89.8	50 - 150	6.19	6.66	-0.4700	N/A	
20K0008-20 (Solid)			Lab File ID: 420K2408.D			Analyzed: 11/24/20 10:01		
o-Terphenyl	14.494	96.9	50 - 150	6.19	6.66	-0.4700	N/A	
20K0008-22 (Solid)			Lab File ID: 420K2410.D			Analyzed: 11/24/20 10:42		
o-Terphenyl	15.176	103	50 - 150	6.21	6.66	-0.4500	N/A	
20K0008-26 (Solid)			Lab File ID: 420K2411.D			Analyzed: 11/24/20 11:02		
o-Terphenyl	13.972	94.5	50 - 150	6.2	6.66	-0.4600	N/A	
20K0008-28 (Solid)			Lab File ID: 420K2412.D			Analyzed: 11/24/20 11:23		
o-Terphenyl	15.532	99.5	50 - 150	6.21	6.66	-0.4500	N/A	
20K0008-31 (Solid)			Lab File ID: 420K2413.D			Analyzed: 11/24/20 11:43		
o-Terphenyl	13.278	101	50 - 150	6.19	6.66	-0.4700	N/A	
20K0008-33 (Solid)			Lab File ID: 420K2414.D			Analyzed: 11/24/20 12:04		
o-Terphenyl	13.325	89.8	50 - 150	6.19	6.66	-0.4700	N/A	
20K0008-01 (Solid)			Lab File ID: 420K2416.D			Analyzed: 11/24/20 12:44		
o-Terphenyl	14.621	124	50 - 150	6.18	6.66	-0.4800	N/A	
SIL0016-CCV1 (Solid)			Lab File ID: 420K2417.D			Analyzed: 11/24/20 13:05		
o-Terphenyl	90.000	97.0	85 - 115	6.2	6.66	-0.4600	N/A	
20K0008-07 (Solid)			Lab File ID: 420K2419.D			Analyzed: 11/24/20 13:46		
o-Terphenyl	12.045	80.0	50 - 150	6.19	6.66	-0.4700	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG/WO: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Sequence: SIL0016 Instrument: FID4
Calibration: DA00022 Calibration Date: 10/25/2019

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0016-CCV3 (Solid)			Lab File ID: 420K2434.D			Analyzed: 11/24/20 18:52		
o-Terphenyl	90.000	98.1	85 - 115	6.2	6.66	-0.4600	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIL0055</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0055-IBL1 (Solid)			Lab File ID: 420L0401.D			Analyzed: 12/04/20 10:26		
o-Terphenyl	100.00	97.4	50 - 150	6.19	6.66	-0.4700	N/A	
SIL0055-IBL2 (Solid)			Lab File ID: 420L0402.D			Analyzed: 12/04/20 10:46		
o-Terphenyl	100.00	96.0	50 - 150	6.19	6.66	-0.4700	N/A	
SIL0055-ICV1 (Solid)			Lab File ID: 420L0403.D			Analyzed: 12/04/20 11:06		
o-Terphenyl	90.000	94.3	85 - 115	6.19	6.66	-0.4700	N/A	
SIL0055-CCV1 (Solid)			Lab File ID: 420L0416.D			Analyzed: 12/04/20 15:29		
o-Terphenyl	90.000	95.0	85 - 115	6.19	6.66	-0.4700	N/A	
SIL0055-CCV3 (Solid)			Lab File ID: 420L0429.D			Analyzed: 12/04/20 19:53		
o-Terphenyl	90.000	98.7	85 - 115	6.19	6.66	-0.4700	N/A	
20K0008-03RE1 (Solid)			Lab File ID: 420L0440.D			Analyzed: 12/04/20 23:35		
o-Terphenyl	17.054	92.3	50 - 150	6.19	6.66	-0.4700	N/A	
20K0008-09RE1 (Solid)			Lab File ID: 420L0441.D			Analyzed: 12/04/20 23:55		
o-Terphenyl	15.514	90.7	50 - 150	6.19	6.66	-0.4700	N/A	
SIL0055-CCV5 (Solid)			Lab File ID: 420L0443.D			Analyzed: 12/05/20 00:35		
o-Terphenyl	90.000	99.8	85 - 115	6.19	6.66	-0.4700	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIL0065</u>	Instrument: <u>FID4</u>
Calibration: <u>DA00022</u>	Calibration Date: <u>11/02/2020</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0065-IBL1 (Solid)			Lab File ID: 420K2961.D			Analyzed: 11/30/20 18:21		
o-Terphenyl	100.00	129	50 - 150	6.2	6.66	-0.4600	N/A	
SIL0065-IBL2 (Solid)			Lab File ID: 420K2962.D			Analyzed: 11/30/20 18:41		
o-Terphenyl	100.00	110	50 - 150	6.2	6.66	-0.4600	N/A	
SIL0065-ICV1 (Solid)			Lab File ID: 420K2963.D			Analyzed: 11/30/20 19:01		
o-Terphenyl	90.000	112	85 - 115	6.2	6.66	-0.4600	N/A	
20K0008-03 (Solid)			Lab File ID: 420K2968.D			Analyzed: 11/30/20 20:42		
o-Terphenyl	17.054	91.9	50 - 150	6.2	6.66	-0.4600	N/A	
20K0008-09 (Solid)			Lab File ID: 420K2969.D			Analyzed: 11/30/20 21:02		
o-Terphenyl	15.514	97.2	50 - 150	6.2	6.66	-0.4600	N/A	
SIL0065-CCV1 (Solid)			Lab File ID: 420K2971.D			Analyzed: 11/30/20 21:42		
o-Terphenyl	90.000	115	85 - 115	6.2	6.66	-0.4600	N/A	



HOLDING TIME SUMMARY

Analysis: **NWTPH-Dx**

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP17-2 20K0008-01	10/29/20 08:50	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 12:44	12	40	
PP17-7.5 20K0008-03	10/29/20 09:00	10/30/20 11:45	11/12/20 14:55	14	14	11/30/20 20:42	18	40	
PP17-7.5 20K0008-03RE1	10/29/20 09:00	10/30/20 11:45	11/12/20 14:55	14	14	12/04/20 23:35	22	40	
PP22-2.5 20K0008-07	10/29/20 10:15	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 13:46	12	40	
PP22-7.5 20K0008-09	10/29/20 10:25	10/30/20 11:45	11/12/20 14:55	14	14	11/30/20 21:02	18	40	
PP22-7.5 20K0008-09RE1	10/29/20 10:25	10/30/20 11:45	11/12/20 14:55	14	14	12/04/20 23:55	22	40	
PP18-5 20K0008-14	10/29/20 11:20	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 09:41	12	40	
PP18-10 20K0008-16	10/29/20 11:30	10/30/20 11:45	11/12/20 14:55	14	14	11/27/20 23:09	15	40	
PP19-2.5 20K0008-20	10/29/20 13:30	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 10:01	12	40	
PP19-7.5 20K0008-22	10/29/20 13:40	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 10:42	12	40	
PP20-5 20K0008-26	10/29/20 14:30	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 11:02	12	40	
PP20-10 20K0008-28	10/29/20 14:40	10/30/20 11:45	11/12/20 14:55	14	14	11/24/20 11:23	12	40	
PP31-2.5 20K0008-31	10/29/20 15:25	10/30/20 11:45	11/12/20 14:55	13	14	11/24/20 11:43	12	40	
PP31-7.5 20K0008-33	10/29/20 15:35	10/30/20 11:45	11/12/20 14:55	13	14	11/24/20 12:04	12	40	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L



Dual Column

PP17-2

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-01 A File ID: 20111708ECD5.D
 Sampled: 10/29/20 08:50 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 21:28
 % Solids: 76.64 Preparation: EPA 3546 (Microwave) Initial/Final: 6.52 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	20	400	160	400	U
11104-28-2	Aroclor 1221	1	20	400	160	400	U
11141-16-5	Aroclor 1232	1	20	400	160	400	U
53469-21-9	Aroclor 1242	1	20	400	160	400	U
12672-29-6	Aroclor 1248	2	20	9910	160	400	D
11097-69-1	Aroclor 1254	2	20	6740	160	400	D
11096-82-5	Aroclor 1260	2	20	1880	186	400	D
37324-23-5	Aroclor 1262	1	20	400	186	400	U
11100-14-4	Aroclor 1268	1	20	400	186	400	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	40.025	44.1	110	40 - 133	
<i>Tetrachlorometaxylene</i>	1	40.025	38.1	95.2	53 - 120	
<i>Decachlorobiphenyl</i>	2	40.025			40 - 133	NRS
<i>Tetrachlorometaxylene</i>	2	40.025	33.9	84.6	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111708ECD5.D
Data file 2: /20201117.b/20201117.b/20111708ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-01RE1
Client ID:
Injection Date: 17-NOV-2020 21:28
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 20.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.001	73256	6.312	-0.001	47641	11.7	Tetrachloro-m-xylene
13.899	-0.010	78695	14.530	-0.001	109105	36.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	95.2	84.6
Decachlorobiphenyl	110.1	160.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2632844	-2.6
Hexabromobiphenyl	3964848	3020017	-23.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2187593	-24.9
Hexabromobiphenyl	2801720	2736641	-2.3

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.478	-0.003	160484	149.1	1	7.779	-0.003	234033	193.0
Aroclor-1016	2	7.835	-0.003	704272	206.2	2	8.348	-0.005	632508	256.9
Aroclor-1016	3	7.970	-0.003	262631	187.2	3	8.542	-0.005	174839	169.1
Aroclor-1016	4	8.283	-0.002	431712	463.4	4	9.184	-0.003	457906	601.3
Total CollAve (4 peaks):				251.5		Total Col2Ave (4 peaks):				305.1
Corrected Ave (3 peaks):				180.8		Corrected Ave (3 peaks):				206.3
										RPD = 19
										RPD = 13
Aroclor-1221	1	5.079	-0.002	11672	46.2	1	5.647	-0.006	25045	127.8
Aroclor-1221	2	6.547	-0.007	32370	90.3	2	6.874	-0.005	15326	38.6
Aroclor-1221	3	6.635	-0.005	62622	61.6	3	7.083	-0.005	10518	49.2
Total CollAve (3 peaks):				66.0		Total Col2Ave (3 peaks):				71.8
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
										RPD = 8
Aroclor-1232	1	5.079	-0.002	11672	77.4	1	5.647	-0.006	25045	219.0
Aroclor-1232	2	7.478	-0.005	160484	338.9	2	7.779	-0.007	234033	415.0
Aroclor-1232	3	7.835	-0.001	704272	481.9	3	8.348	-0.009	632508	597.6
Aroclor-1232	4	7.970	-0.004	262631	430.3	4	8.542	-0.007	174839	393.6
Total CollAve (4 peaks):				392.1		Total Col2Ave (4 peaks):				406.3
Corrected Ave (3 peaks):				282.2		Corrected Ave (3 peaks):				342.6
										RPD = 20
										RPD = 19
Aroclor-1242	1	7.478	-0.003	160484	189.1	1	7.779	-0.003	234033	241.0
Aroclor-1242	2	7.835	-0.002	704272	262.7	2	8.348	-0.005	632508	319.1
Aroclor-1242	3	9.065	-0.009	587253	602.9	3	9.680	-0.010	430224	665.7
Aroclor-1242	4	9.337	-0.017	892392	838.5	4	10.018	-0.013	698819	878.4
Total CollAve (4 peaks):				473.3		Total Col2Ave (4 peaks):				526.1
Corrected Ave (3 peaks):				351.6		Corrected Ave (3 peaks):				408.6
										RPD = 11
										RPD = 15
Aroclor-1248	1	8.561	-0.004	469897	338.6	1	8.787	-0.003	422417	507.5
Aroclor-1248	2	8.723	-0.005	533827	317.6	2	9.184	-0.003	457906	461.7
Aroclor-1248	3	9.120	-0.008	790453	378.9	3	9.604	-0.008	617303	472.1
Aroclor-1248	4	9.337	-0.015	892392	573.2	4	10.018	-0.011	698819	538.6
Total CollAve (4 peaks):				402.1		Total Col2Ave (4 peaks):				495.0
Corrected Ave (3 peaks):				345.0		Corrected Ave (3 peaks):				480.4
										RPD = 21
										RPD = 33
Aroclor-1254	1	9.120	-0.009	790453	425.0	1	9.894	-0.004	643122	484.0
Aroclor-1254	2	9.416	-0.003	546672	218.6	2	10.018	0.027	698819	1003.1
Aroclor-1254	3	9.488	-0.003	209128	219.7	3	10.408	-0.003	289250	284.1
Aroclor-1254	4	9.786	0.011	1583275	957.9	4	10.554	-0.005	623334	281.4
Aroclor-1254	5	9.902	-0.002	791355	243.6	5	11.314	-0.012	403590	296.7
Total CollAve (5 peaks):				412.9		Total Col2Ave (5 peaks):				469.9
Corrected Ave (4 peaks):				276.7		Corrected Ave (4 peaks):				336.6
										RPD = 13
										RPD = 20
Aroclor-1260	1	11.419	-0.008	149529	84.5	1	11.622	-0.005	124795	76.2
Aroclor-1260	2	11.779	-0.008	388116	87.7	2	12.073	-0.004	222644	112.1
Aroclor-1260	3	12.171	-0.011	233615	97.5	3	12.327	-0.006	348895	88.4
Aroclor-1260	4	12.283	-0.006	90452	91.8	4	13.629	-0.005	104869	98.5
Aroclor-1260	5	12.353	-0.009	102053	88.1	NS	---	---	---	---
Total CollAve (5 peaks):				89.9		Total Col2Ave (4 peaks):				93.8
Corrected Ave (4 peaks):				88.0		Corrected Ave (3 peaks):				87.7
										RPD = 4
										RPD = 0
Aroclor-1262	1	11.110	-0.009	133969	51.9	1	11.622	-0.010	124795	49.4
Aroclor-1262	2	11.779	-0.009	388116	70.3	2	12.073	-0.008	222644	112.9
Aroclor-1262	3	12.171	-0.011	233615	121.3	3	12.327	-0.010	348895	69.2
Aroclor-1262	4	12.283	-0.008	90452	53.5	4	12.845	-0.010	95813	53.6
Aroclor-1262	5	12.353	-0.010	102053	51.9	NS	---	---	---	---
Total CollAve (5 peaks):				69.8		Total Col2Ave (4 peaks):				71.3
Corrected Ave (4 peaks):				56.9		Corrected Ave (3 peaks):				57.4
										RPD = 2
										RPD = 1
Aroclor-1268	1	12.283	-0.008	90452	15.5	1	12.845	-0.009	95813	18.7
Aroclor-1268	2	12.353	-0.009	102053	18.3	2	12.908	-0.012	246059	48.3
Aroclor-1268	3	12.749	0.009	58687	11.8	3	13.310	-0.006	9612	2.3
Aroclor-1268	4	13.500	-0.011	32659	2.4	4	14.112	-0.011	24698	2.0

Total Col1Ave (4 peaks):	12.0	Total Col2Ave (4 peaks):	17.8	RPD = 39
Corrected Ave (3 peaks):	9.9	Corrected Ave (3 peaks):	7.6	RPD = 26

Total PCB Area Col1 (6.197 - 13.808) = 16454805 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.197 - 13.808) = 15245831 Col2 Total PCB = 0.56 ppm*

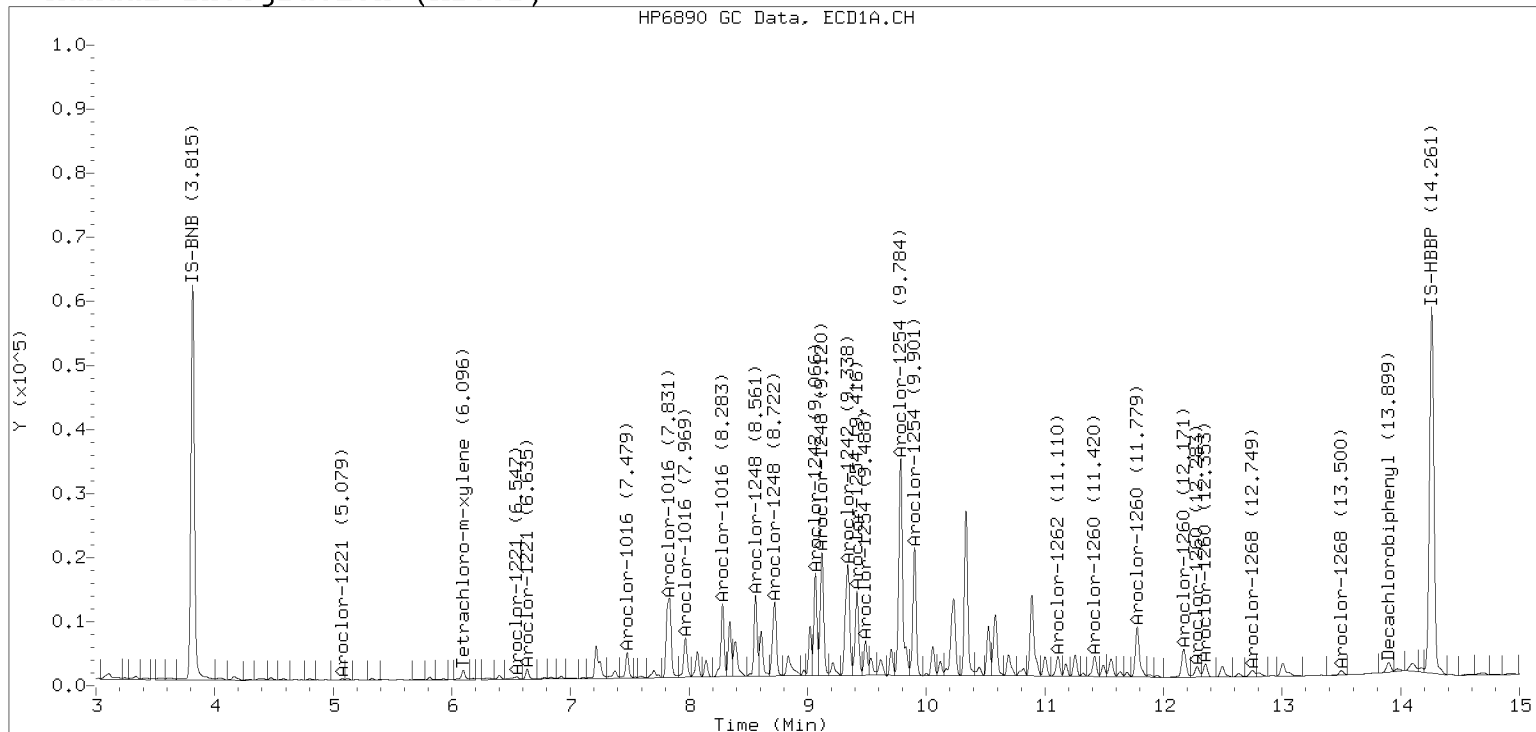
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

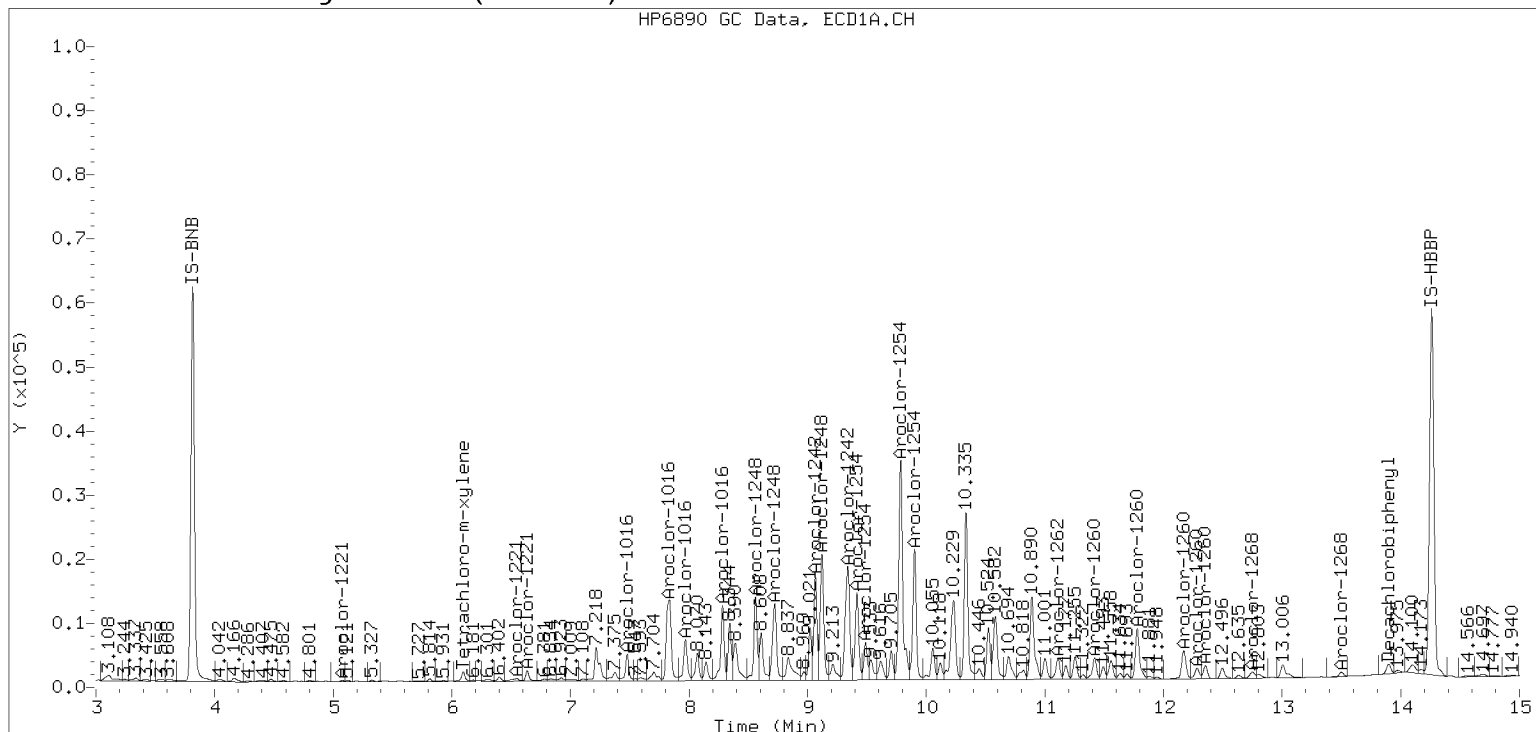
Datafile: ecd5.i/20201117.b/20111708ECD5.D

Injection Date: 17-NOV-2020 21:2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP17-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-03 A File ID: 20111616ECD5.D
 Sampled: 10/29/20 09:00 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 21:24
 % Solids: 65.90 Preparation: EPA 3546 (Microwave) Initial/Final: 7.61 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	2	1	28.3	8.0	19.9	
11097-69-1	Aroclor 1254	2	1	27.0	8.0	19.9	
11096-82-5	Aroclor 1260	1	1	19.9	9.3	19.9	U
37324-23-5	Aroclor 1262	1	1	19.9	9.3	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.3	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.880	39.0	97.7	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.880	25.5	63.9	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.880	20.3	50.9	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.880	31.4	78.7	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111616ECD5.D
Data file 2: /20201116.b/20201116.b/20111616ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-03
Client ID:
Injection Date: 16-NOV-2020 21:24
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	-0.002	1156578	6.310	-0.003	1039084	25.5	31.5	20.7	Tetrachloro-m-xylene
13.903	-0.005	1004898	14.528	-0.003	814660	39.1	20.4	62.9*	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	63.9	78.7
Decachlorobiphenyl	97.7	50.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3097262	14.6
Hexabromobiphenyl	3964848	2172533	-45.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2566843	-11.9
Hexabromobiphenyl	2801720	3209044	14.5

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.002	21655	17.1	1	7.776	-0.005	24966	17.5	
Aroclor-1016	2	7.835	-0.002	56481	14.1	2	8.348	-0.005	53399	18.5	
Aroclor-1016	3	7.968	-0.004	32167	19.5	3	8.542	-0.004	15024	12.4	
Aroclor-1016	4	8.284	-0.001	32449	29.6	4	9.188	0.002	22910	25.6	
Total CollAve (4 peaks):				20.1	Total Col2Ave (4 peaks):				18.5	RPD = 8	
Corrected Ave (3 peaks):				16.9	Corrected Ave (3 peaks):				16.1	RPD = 5	
Aroclor-1221	1	5.082	0.001	4629	15.6	1	5.649	-0.004	2397	10.4	
Aroclor-1221	2	6.549	-0.004	28071	66.6	2	6.901	0.021	13706	29.4	
Aroclor-1221	3	6.632	-0.008	9608	8.0	3	7.114	0.026	1973	7.9	
Total CollAve (3 peaks):				20.1	Total Col2Ave (3 peaks):				15.0	RPD = 62*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	5.082	0.001	4629	26.1	1	5.649	-0.004	2397	17.9	
Aroclor-1232	2	7.478	-0.005	21655	38.9	2	7.776	-0.010	24966	37.7	
Aroclor-1232	3	7.835	-0.001	56481	32.9	3	8.348	-0.008	53399	43.0	
Aroclor-1232	4	7.968	-0.006	32167	44.8	4	8.542	-0.007	15024	28.8	
Total CollAve (4 peaks):				35.7	Total Col2Ave (4 peaks):				31.9	RPD = 11	
Corrected Ave (3 peaks):				32.6	Corrected Ave (3 peaks):				28.1	RPD = 15	
Aroclor-1242	1	7.478	-0.003	21655	21.7	1	7.776	-0.008	24966	21.9	
Aroclor-1242	2	7.835	-0.001	56481	17.9	2	8.348	-0.006	53399	23.0	
Aroclor-1242	3	9.068	-0.004	82198	71.7	3	9.683	-0.006	24756	32.6	
Aroclor-1242	4	9.335	-0.016	63522	50.7	4	10.019	-0.011	40580	43.5	
Total CollAve (4 peaks):				40.5	Total Col2Ave (4 peaks):				30.2	RPD = 29	
Corrected Ave (3 peaks):				30.1	Corrected Ave (3 peaks):				25.8	RPD = 15	
Aroclor-1248	1	8.561	-0.004	25567	15.7	1	8.786	-0.004	39686	40.6	
Aroclor-1248	2	8.723	-0.006	49326	24.9	2	9.188	0.001	22910	19.7	
Aroclor-1248	3	9.123	-0.006	52437	21.4	3	9.605	-0.007	40978	26.7	
Aroclor-1248	4	9.335	-0.018	63522	34.7	4	10.019	-0.012	40580	26.7	
Total CollAve (4 peaks):				24.2	Total Col2Ave (4 peaks):				28.4	RPD = 16	
Corrected Ave (3 peaks):				20.7	Corrected Ave (3 peaks):				24.3	RPD = 16	
Aroclor-1254	1	9.123	-0.010	52437	24.0	1	9.895	-0.006	45328	29.1	
Aroclor-1254	2	9.417	-0.005	40670	13.8	2	10.019	0.025	40580	49.6	
Aroclor-1254	3	9.491	-0.004	12605	11.3	3	10.408	-0.006	14421	12.1	
Aroclor-1254	4	9.788	0.010	165076	64.9	4	10.554	-0.008	45765	17.6	
Aroclor-1254	5	9.902	-0.008	76854	20.1	5	11.317	-0.015	134525	84.3	
Total CollAve (5 peaks):				30.8	Total Col2Ave (5 peaks):				38.5	RPD = 22	
Corrected Ave (4 peaks):				17.3	Corrected Ave (4 peaks):				27.1	RPD = 44*	
Aroclor-1260	1	11.424	-0.004	7025	5.5	1	11.625	-0.003	13356	7.0	
Aroclor-1260	2	11.781	-0.008	12353	3.9	2	12.078	-0.001	14739	6.3	
Aroclor-1260	3	12.174	-0.010	10960	6.4	3	12.323	-0.012	21974	4.7	
Aroclor-1260	4	12.286	-0.005	7166	10.1	4	13.624	-0.011	344168	275.7	
Aroclor-1260	5	12.374	0.011	14644	17.6	NS	---	---	---	---	
Total CollAve (5 peaks):				8.7	Total Col2Ave (4 peaks):				73.4	RPD = 158*	
Corrected Ave (4 peaks):				6.5	Corrected Ave (3 peaks):				6.0	RPD = 7	
Aroclor-1262	1	11.113	-0.006	22714	12.2	1	11.625	-0.006	13356	4.5	
Aroclor-1262	2	11.781	-0.007	12353	3.1	2	12.078	-0.004	14739	6.4	
Aroclor-1262	3	12.174	-0.008	10960	7.9	3	12.323	-0.014	21974	3.7	
Aroclor-1262	4	12.286	-0.006	7166	5.9	4	---	---	---	0.0	
Aroclor-1262	5	12.374	0.011	14644	10.4	NS	---	---	---	---	
Total CollAve (5 peaks):				7.9	Total Col2Ave (3 peaks):				4.9	RPD = 47*	
Corrected Ave (4 peaks):				6.8	Corrected Ave: < 3 Peaks						
Aroclor-1268	1	12.286	-0.006	7166	1.7	1	---	---	---	0.0	
Aroclor-1268	2	12.374	0.012	14644	3.6	2	---	---	---	0.0	
Aroclor-1268	3	12.743	0.003	9442	2.6	3	13.292	-0.024	385658	78.4	
Aroclor-1268	4	---	---	---	0.0	4	14.051	-0.073	23192	1.6	

Total CollAve (3 peaks): 2.7

Col2Ave: <3 Quant Peaks

Total PCB Area Col1 (6.196 - 13.808) = 2209678 Col1 Total PCB = 0.07 ppm*

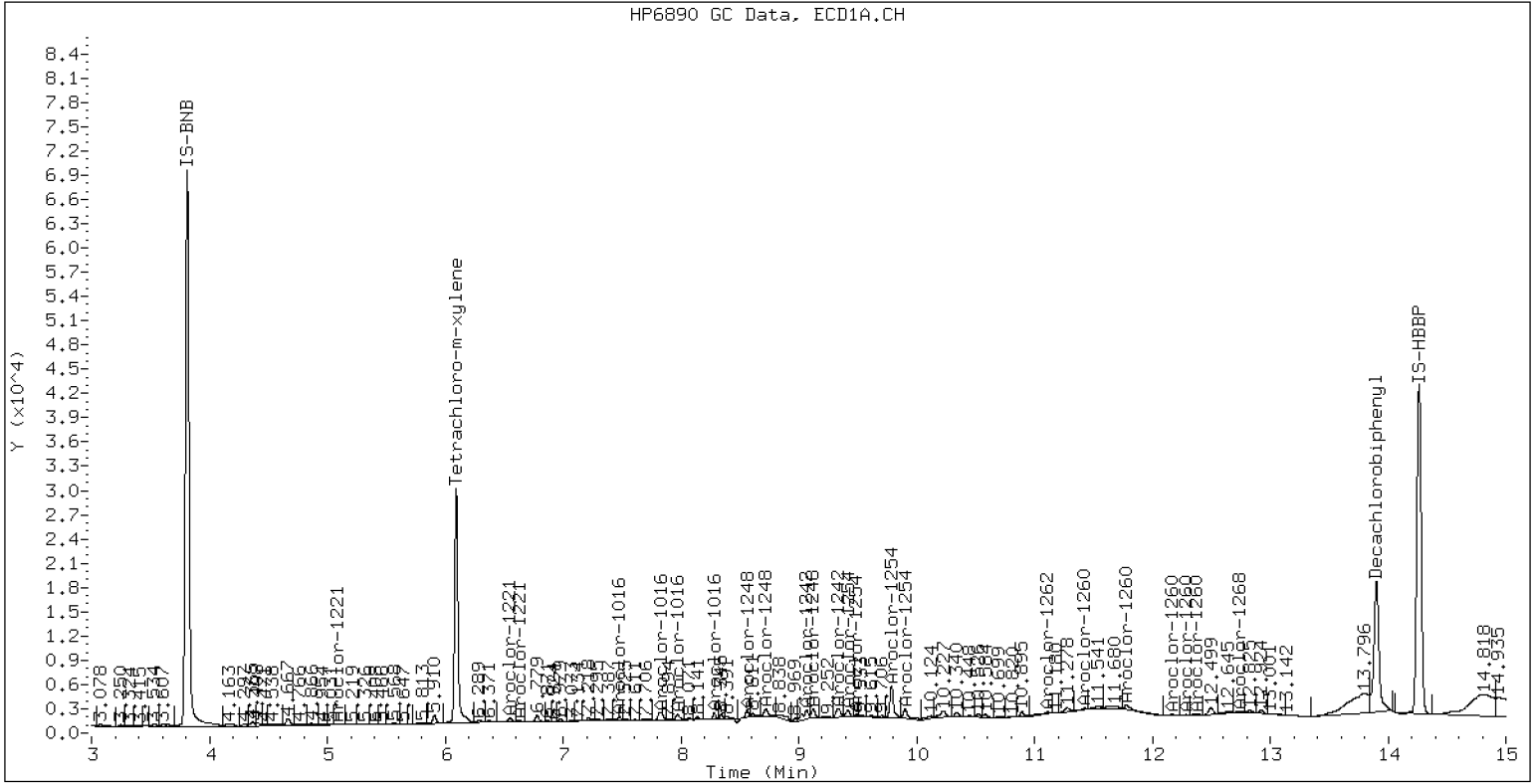
Total PCB Area Col2 (6.196 - 13.808) = 4087696 Col2 Total PCB = 0.15 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

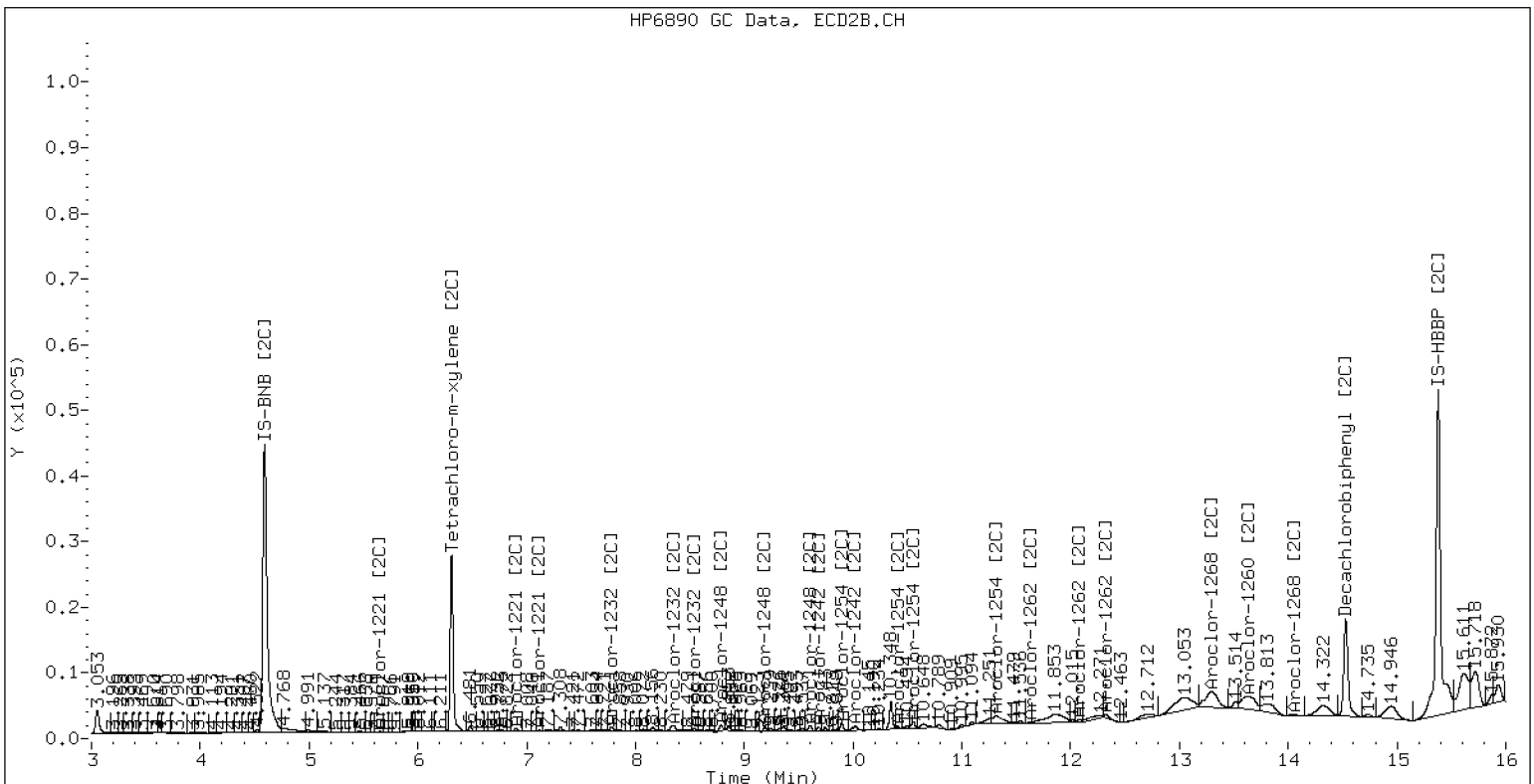
ECD5-ZB5 /20201116.b/20111616ECD5.D 20K0008-03

16-NOV-2020 21:24 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111616ECD5.D 20K0008-03



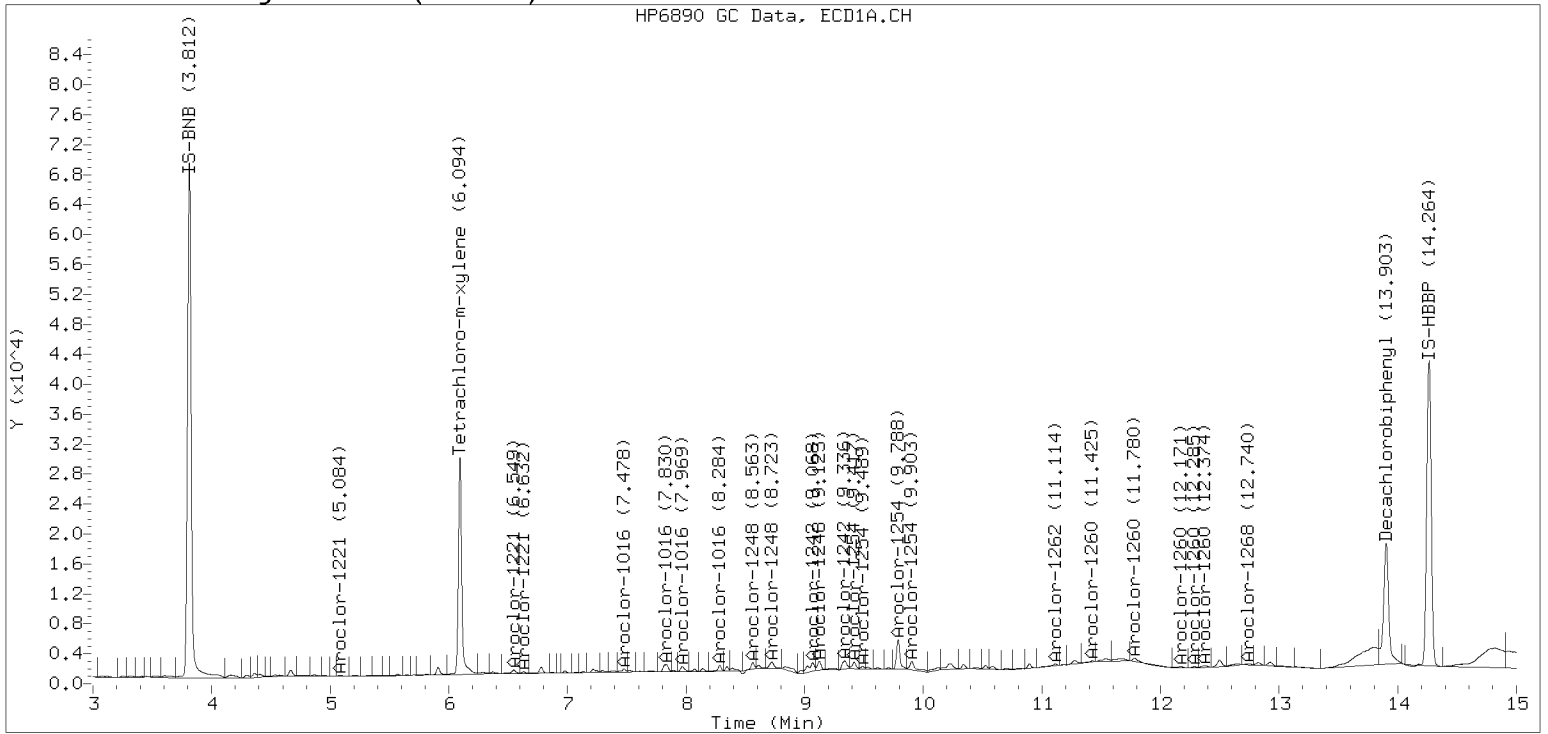
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

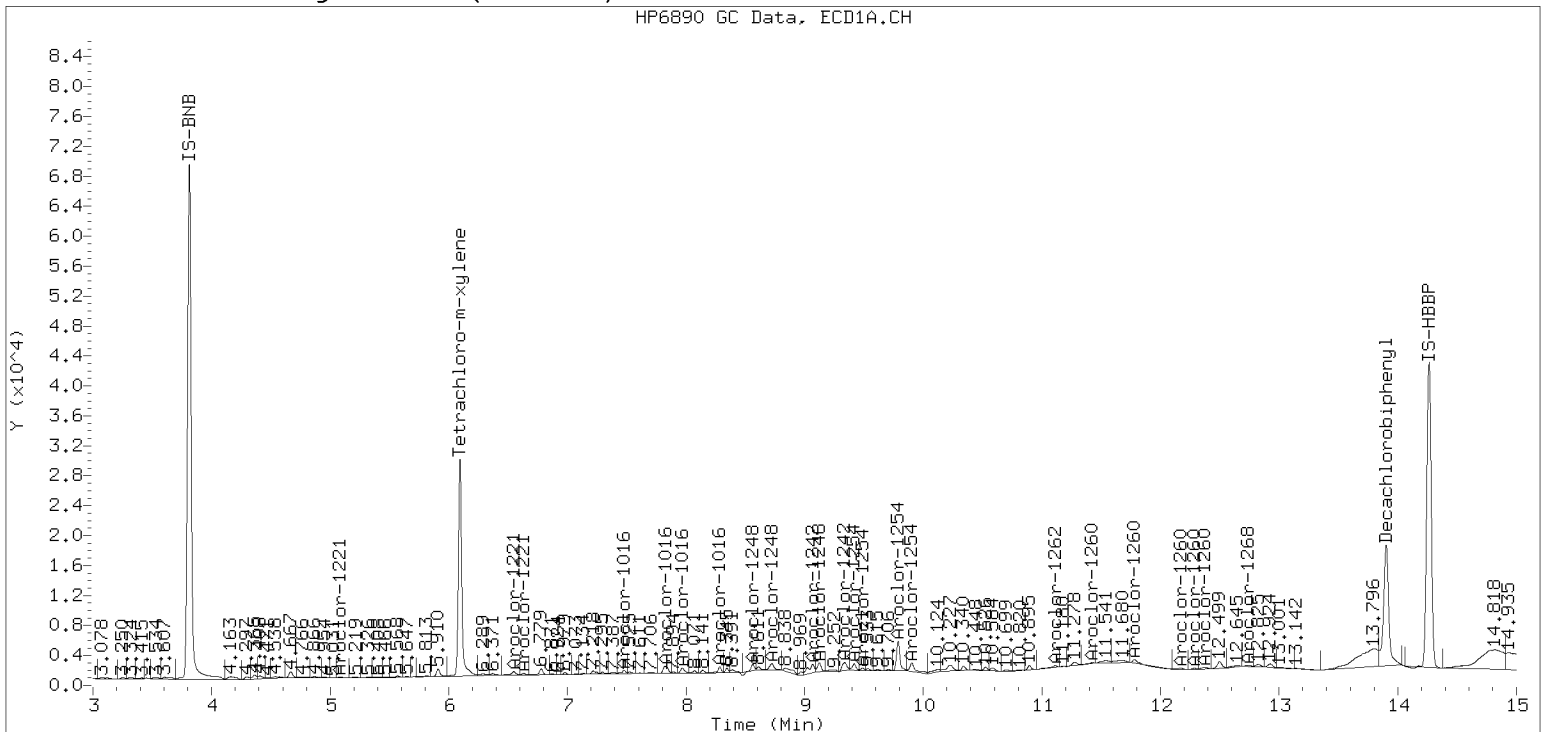
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Injection Date: 16-NOV-2020 21:2

Manual Integration (After)



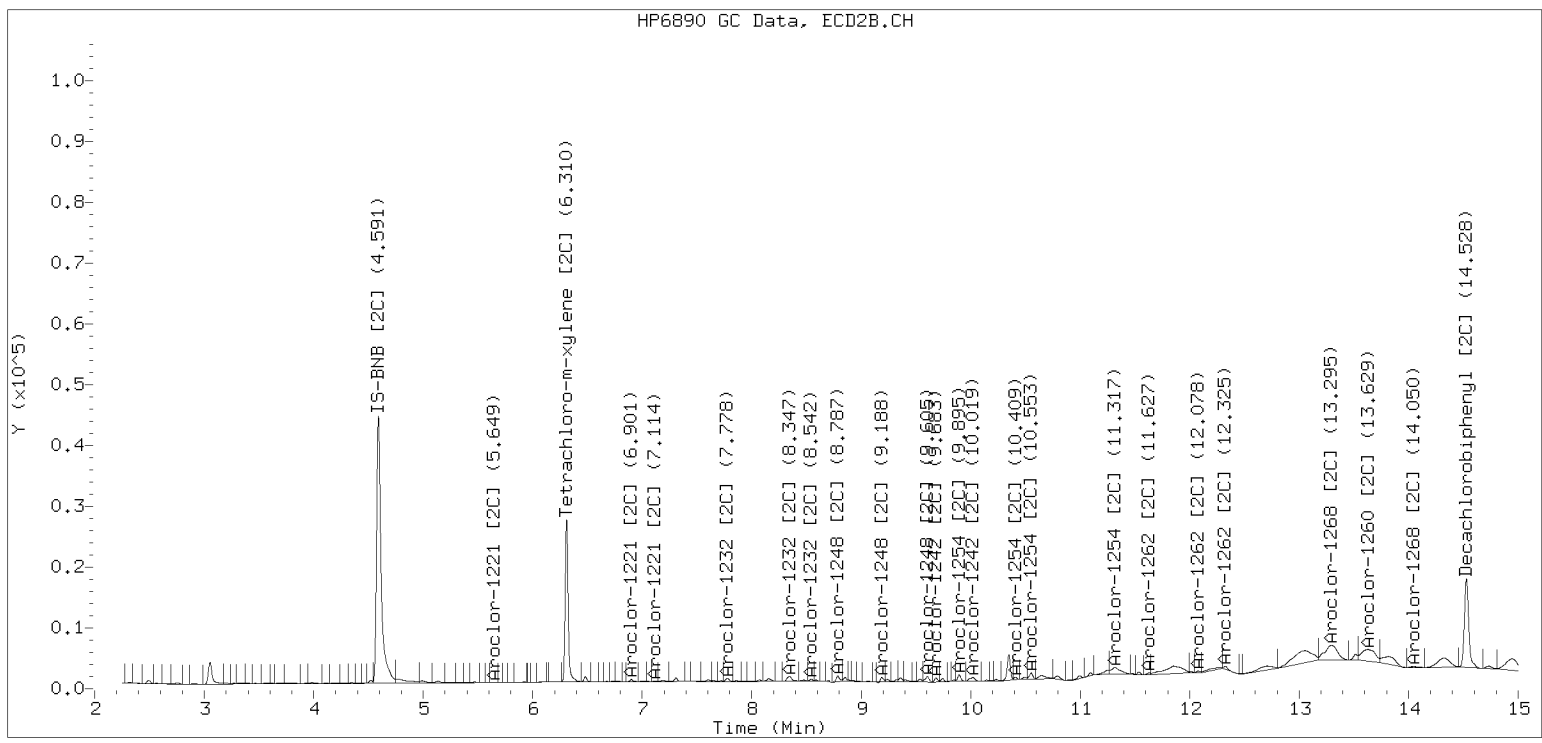
Processed Integration (Before)



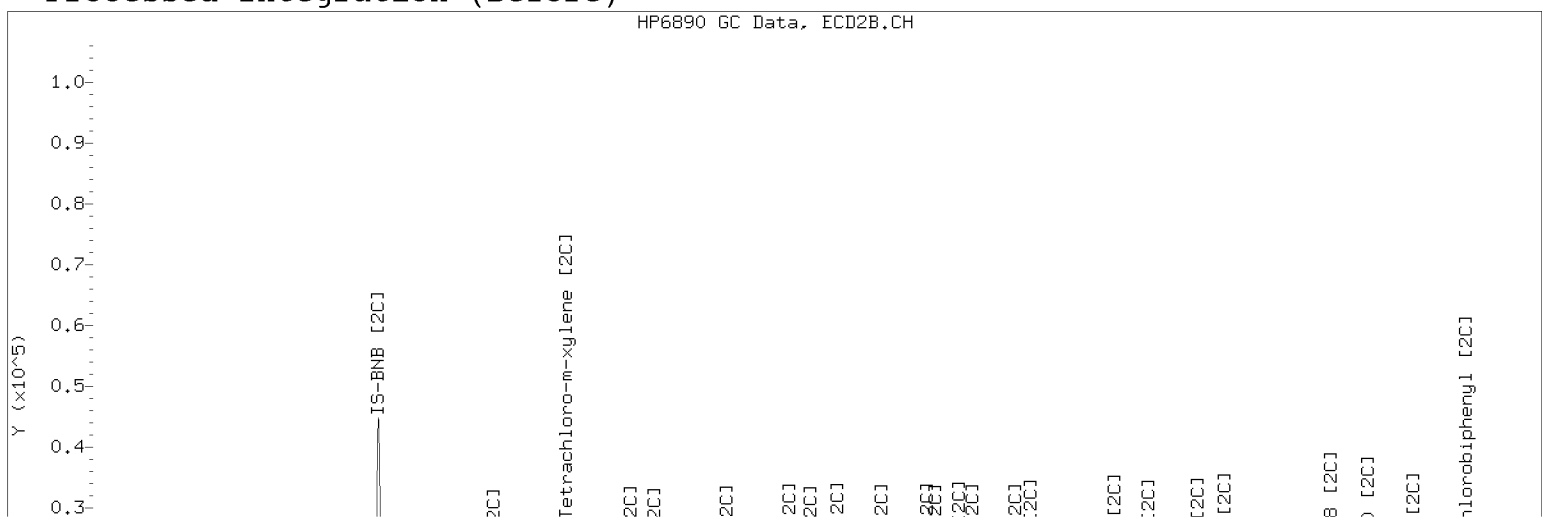
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111616ECD5.D Injection Date: 16-NOV-2020 21:24

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP22-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-07 A File ID: 20111617ECD5.D
 Sampled: 10/29/20 10:15 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 21:44
 % Solids: 93.03 Preparation: EPA 3546 (Microwave) Initial/Final: 5.38 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	20.0	8.0	20.0	U
11104-28-2	Aroclor 1221	1	1	20.0	8.0	20.0	U
11141-16-5	Aroclor 1232	1	1	20.0	8.0	20.0	U
53469-21-9	Aroclor 1242	1	1	20.0	8.0	20.0	U
12672-29-6	Aroclor 1248	2	1	243	8.0	20.0	
11097-69-1	Aroclor 1254	2	1	185	8.0	20.0	
11096-82-5	Aroclor 1260	2	1	243	9.3	20.0	
37324-23-5	Aroclor 1262	1	1	20.0	9.3	20.0	U
11100-14-4	Aroclor 1268	1	1	20.0	9.3	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.960	31.2	78.2	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.960	22.3	55.9	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.960	32.6	81.6	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.960	25.4	63.5	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111617ECD5.D
Data file 2: /20201116.b/20201116.b/20111617ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-07
Client ID:
Injection Date: 16-NOV-2020 21:44
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000	922481	6.311	-0.002	795761	22.3	25.4	12.8	Tetrachloro-m-xylene
13.903	-0.004	1003506	14.528	-0.003	1024155	31.3	32.6	4.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	55.9	63.5
Decachlorobiphenyl	78.2	81.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2824411	4.5
Hexabromobiphenyl	3964848	2711157	-31.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2435049	-16.4
Hexabromobiphenyl	2801720	2517497	-10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.478	-0.003	239309	207.2	1	7.779	-0.002	311209	230.5
Aroclor-1016	2	7.836	-0.000	692678	189.0	2	8.346	-0.007	645910	235.7
Aroclor-1016	3	7.969	-0.004	282021	187.4	3	8.540	-0.006	266370	231.5
Aroclor-1016	4	8.282	-0.003	223787	223.9	4	9.183	-0.004	279380	329.6
Total CollAve (4 peaks):				201.9		Total Col2Ave (4 peaks):				256.8 RPD = 24
Corrected Ave (3 peaks):				194.5		Corrected Ave (3 peaks):				232.6 RPD = 18
Aroclor-1221	1	5.121	0.040	18487	68.2	1	5.634	-0.019	315095	1444.3
Aroclor-1221	2	6.548	-0.006	39302	102.2	2	6.902	0.023	44846	101.4
Aroclor-1221	3	6.635	-0.005	106192	97.4	3	7.082	-0.006	12643	53.1
Total CollAve (3 peaks):				89.3		Total Col2Ave (3 peaks):				532.9 RPD = 143*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	5.121	0.040	18487	114.3	1	5.634	-0.019	315095	2475.4
Aroclor-1232	2	7.478	-0.006	239309	471.1	2	7.779	-0.007	311209	495.8
Aroclor-1232	3	7.836	0.000	692678	441.8	3	8.346	-0.010	645910	548.3
Aroclor-1232	4	7.969	-0.006	282021	430.7	4	8.540	-0.009	266370	538.8
Total CollAve (4 peaks):				364.5		Total Col2Ave (4 peaks):				1014.6 RPD = 94*
Corrected Ave (3 peaks):				329.0		Corrected Ave (3 peaks):				527.6 RPD = 46*
Aroclor-1242	1	7.478	-0.004	239309	262.9	1	7.779	-0.005	311209	287.9
Aroclor-1242	2	7.836	-0.000	692678	240.8	2	8.346	-0.008	645910	292.7
Aroclor-1242	3	9.065	-0.008	296001	283.3	3	9.679	-0.011	256793	357.0
Aroclor-1242	4	9.340	-0.011	354887	310.8	4	10.017	-0.013	381568	430.9
Total CollAve (4 peaks):				271.5		Total Col2Ave (4 peaks):				942.1 RPD = 22
Corrected Ave (3 peaks):				262.3		Corrected Ave (3 peaks):				312.5 RPD = 17
Aroclor-1248	1	8.560	-0.005	333521	224.1	1	8.786	-0.004	206197	222.6
Aroclor-1248	2	8.722	-0.007	311372	172.7	2	9.183	-0.005	279380	253.0
Aroclor-1248	3	9.121	-0.007	490825	219.3	3	9.602	-0.009	339128	233.0
Aroclor-1248	4	9.340	-0.014	354887	212.5	4	10.017	-0.014	381568	264.2
Total CollAve (4 peaks):				207.1		Total Col2Ave (4 peaks):				243.2 RPD = 16
Corrected Ave (3 peaks):				201.5		Corrected Ave (3 peaks):				236.2 RPD = 16
Aroclor-1254	1	9.121	-0.011	490825	246.0	1	9.894	-0.007	263861	178.4
Aroclor-1254	2	9.415	-0.007	324123	120.8	2	10.017	0.023	381568	492.0
Aroclor-1254	3	9.487	-0.008	137346	134.5	3	10.407	-0.008	131861	116.4
Aroclor-1254	4	9.781	0.003	488348	275.4	4	10.554	-0.008	592791	240.5
Aroclor-1254	5	9.900	-0.009	482955	138.9	5	11.325	-0.007	309166	204.2
Total CollAve (5 peaks):				183.1		Total Col2Ave (5 peaks):				246.3 RPD = 29
Corrected Ave (4 peaks):				160.0		Corrected Ave (4 peaks):				184.9 RPD = 14
Aroclor-1260	1	11.419	-0.009	405393	255.1	1	11.622	-0.006	363750	241.3
Aroclor-1260	2	11.778	-0.011	949772	239.1	2	12.072	-0.007	499630	273.4
Aroclor-1260	3	12.170	-0.014	470732	218.9	3	12.327	-0.009	883210	243.2
Aroclor-1260	4	12.282	-0.009	180590	204.1	4	13.628	-0.007	211218	215.6
Aroclor-1260	5	12.354	-0.010	207343	199.4	NS	---	---	---	---
Total CollAve (5 peaks):				223.3		Total Col2Ave (4 peaks):				243.4 RPD = 9
Corrected Ave (4 peaks):				215.4		Corrected Ave (3 peaks):				233.4 RPD = 8
Aroclor-1262	1	11.110	-0.008	380932	164.5	1	11.622	-0.010	363750	156.7
Aroclor-1262	2	11.778	-0.010	949772	191.7	2	12.072	-0.009	499630	275.3
Aroclor-1262	3	12.170	-0.012	470732	272.2	3	12.327	-0.011	883210	190.5
Aroclor-1262	4	12.282	-0.010	180590	118.9	4	12.845	-0.010	264125	160.6
Aroclor-1262	5	12.354	-0.009	207343	117.4	NS	---	---	---	---
Total CollAve (5 peaks):				173.0		Total Col2Ave (4 peaks):				195.8 RPD = 12
Corrected Ave (4 peaks):				148.1		Corrected Ave (3 peaks):				169.3 RPD = 13
Aroclor-1268	1	12.282	-0.010	180590	34.5	1	12.845	-0.009	264125	55.9
Aroclor-1268	2	12.354	-0.008	207343	41.4	2	12.909	-0.012	591917	126.4
Aroclor-1268	3	12.749	0.010	118495	26.6	3	13.306	-0.010	26760	6.9
Aroclor-1268	4	13.501	-0.009	53868	1.9	4	14.118	-0.011	54945	4.8

Total Col1Ave (4 peaks):	26.7	Total Col2Ave (4 peaks):	48.5	RPD = 58*
Corrected Ave (3 peaks):	21.8	Corrected Ave (3 peaks):	22.5	RPD = 3

Total PCB Area Col1 (6.196 - 13.808) = 15095463 Col1 Total PCB = 0.48 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 15212952 Col2 Total PCB = 0.56 ppm*

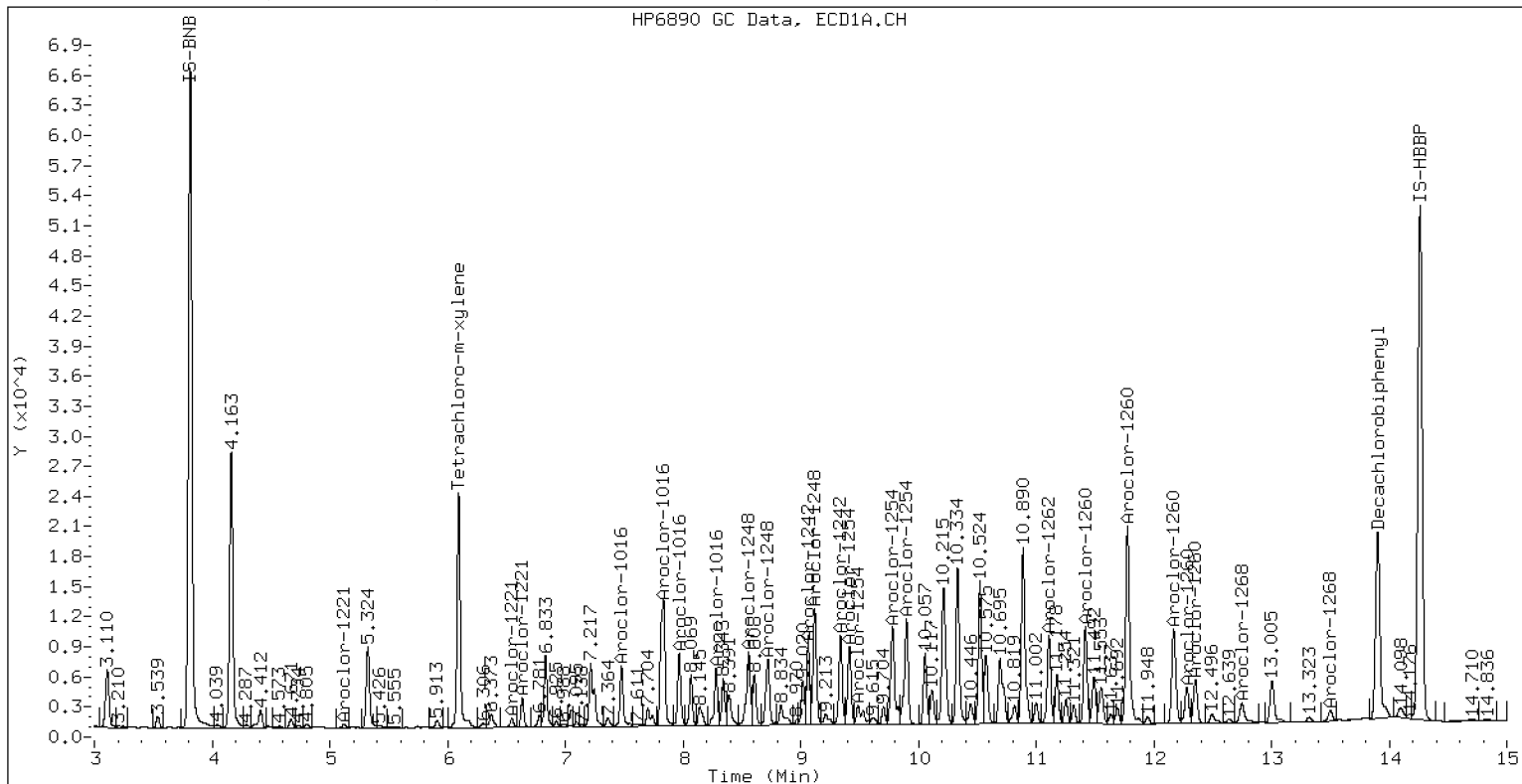
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

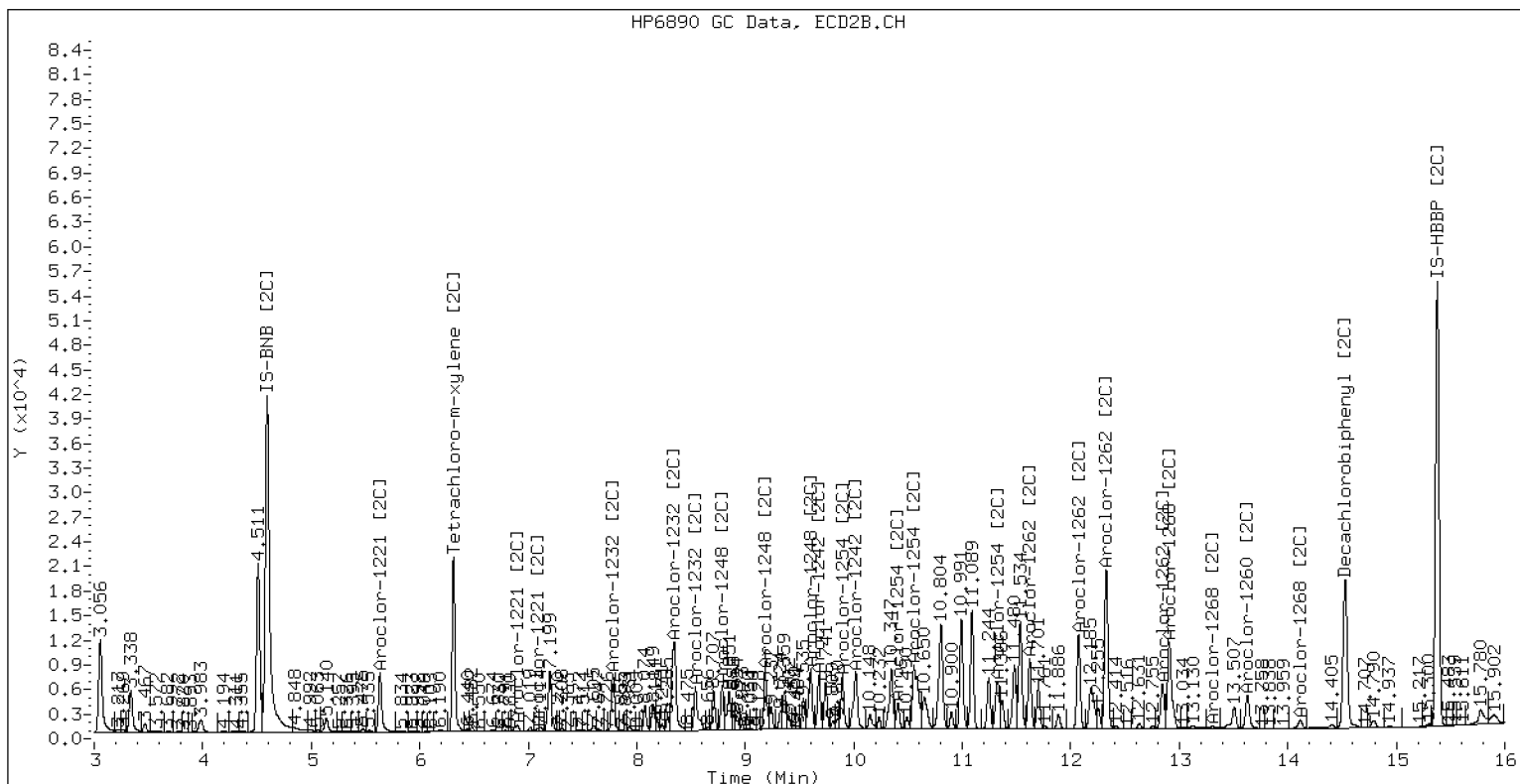
ECD5-ZB5 /20201116.b/20111617ECD5.D 20K0008-07

16-NOV-2020 21:44 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111617ECD5.D 20K0008-07



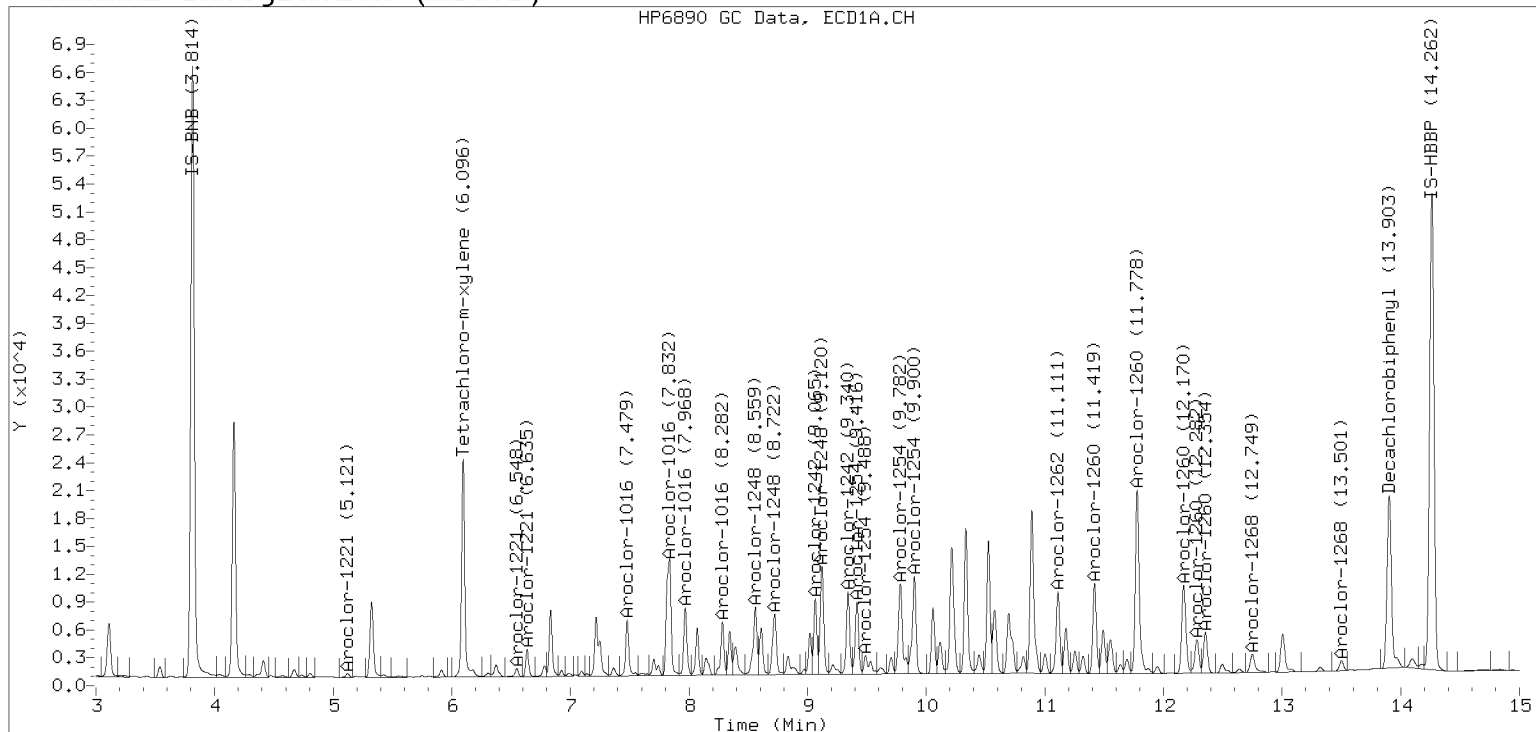
ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

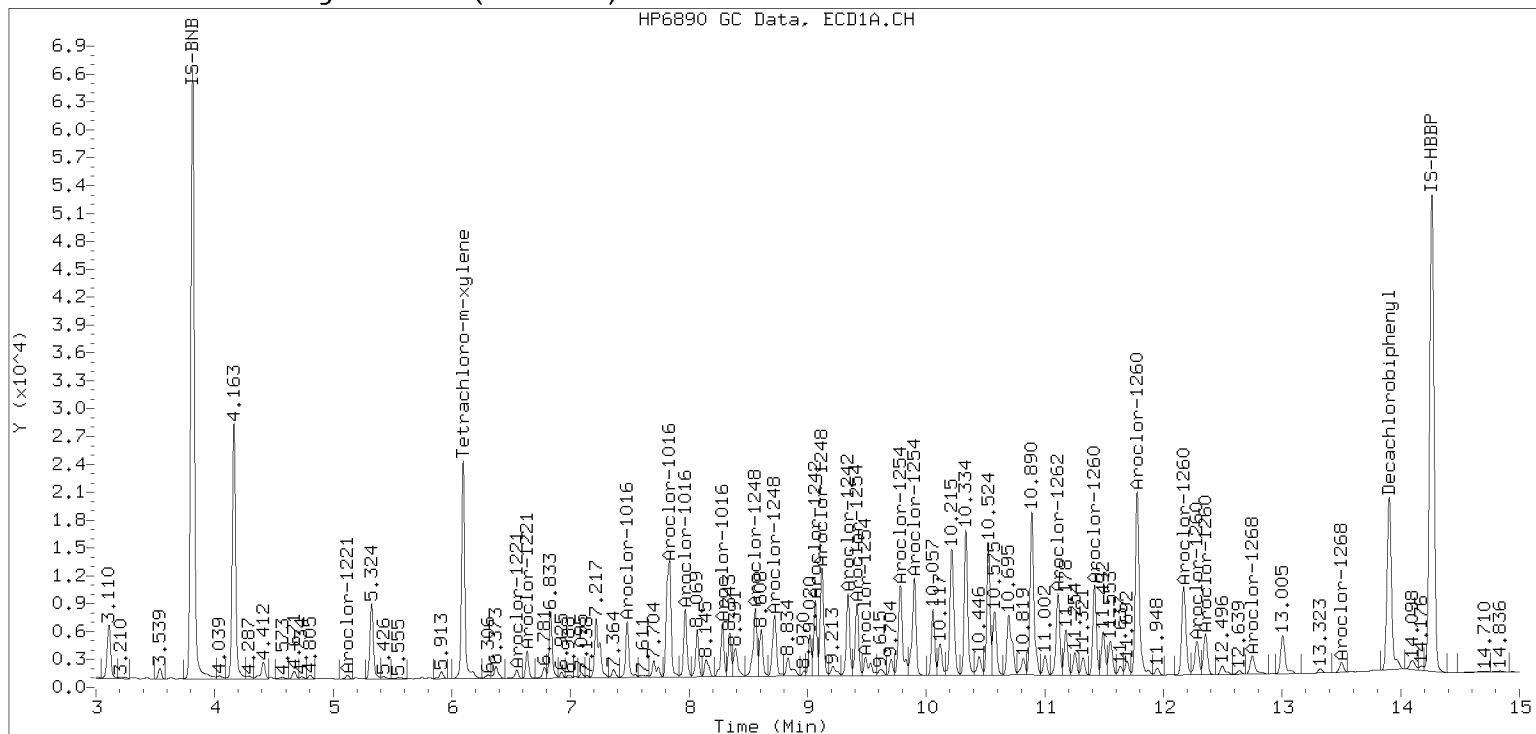
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Injection Date: 16-NOV-2020 21:4

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP22-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-09 A File ID: 20111620ECD5.D
 Sampled: 10/29/20 10:25 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 22:46
 % Solids: 72.37 Preparation: EPA 3546 (Microwave) Initial/Final: 6.91 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	20.0	8.0	20.0	U
11104-28-2	Aroclor 1221	1	1	20.0	8.0	20.0	U
11141-16-5	Aroclor 1232	1	1	20.0	8.0	20.0	U
53469-21-9	Aroclor 1242	1	1	20.0	8.0	20.0	U
12672-29-6	Aroclor 1248	1	1	20.0	8.0	20.0	U
11097-69-1	Aroclor 1254	1	1	20.0	8.0	20.0	U
11096-82-5	Aroclor 1260	1	1	20.0	9.3	20.0	U
37324-23-5	Aroclor 1262	1	1	20.0	9.3	20.0	U
11100-14-4	Aroclor 1268	1	1	20.0	9.3	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.994	32.4	81.0	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.994	28.2	70.4	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111620ECD5.D
Data file 2: /20201116.b/20201116.b/20111620ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-09
Client ID:
Injection Date: 16-NOV-2020 22:46
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000	1305849	6.311	-0.002	1183336	28.2	30.5	8.1	Tetrachloro-m-xylene
13.905	-0.003	1429085	14.531	-0.001	1142815	32.4	32.0	1.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	70.4	76.4
Decachlorobiphenyl	81.0	79.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3171112	17.3
Hexabromobiphenyl	3964848	3726550	-6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3010834	3.3
Hexabromobiphenyl	2801720	2868394	2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.445	-0.036	7347	5.7	1	7.780	-0.002	4876	2.9	
Aroclor-1016	2	7.831	-0.006	3617	0.9	2	8.331	-0.022	7512	2.2	
Aroclor-1016	3	7.996	0.023	15157	9.0	3	8.547	0.001	1835	1.3	
Aroclor-1016	4	8.287	0.002	7936	7.1	4	9.182	-0.005	687	0.7	
Total CollAve (4 peaks):				5.6	Total Col2Ave (4 peaks):				1.8	RPD = 105*	
Corrected Ave (3 peaks):				4.5	Corrected Ave (3 peaks):				1.4	RPD = 106*	
Aroclor-1221	1	---	---	---	0.0	1	5.635	-0.018	1511	5.6	
Aroclor-1221	2	---	---	---	0.0	2	6.904	0.024	24030	43.9	
Aroclor-1221	3	---	---	---	0.0	3	7.115	0.027	3915	13.3	
CollAve: <3 Quant Peaks				Col2Ave: 20.9							
Aroclor-1232	1	---	---	---	0.0	1	5.635	-0.018	1511	9.6	
Aroclor-1232	2	7.445	-0.039	7347	12.9	2	7.780	-0.006	4876	6.3	
Aroclor-1232	3	7.831	-0.005	3617	2.1	3	8.331	-0.025	7512	5.2	
Aroclor-1232	4	7.996	0.021	15157	20.6	4	8.547	-0.002	1835	3.0	
Total CollAve (3 peaks):				11.9	Total Col2Ave (4 peaks):				6.0	RPD = 65*	
Corrected Ave: < 3 Peaks				Corrected Ave (3 peaks): 4.8							
Aroclor-1242	1	7.445	-0.037	7347	7.2	1	7.780	-0.004	4876	3.6	
Aroclor-1242	2	7.831	-0.006	3617	1.1	2	8.331	-0.023	7512	2.8	
Aroclor-1242	3	9.072	-0.000	2317	2.0	3	9.701	0.011	643	0.7	
Aroclor-1242	4	9.351	-0.000	801	0.6	4	10.026	-0.005	1272	1.2	
Total CollAve (4 peaks):				2.7	Total Col2Ave (4 peaks):				2.1	RPD = 27	
Corrected Ave (3 peaks):				1.2	Corrected Ave (3 peaks):				1.5	RPD = 22	
Aroclor-1248	1	8.559	-0.006	7997	4.8	1	8.787	-0.003	10461	9.1	
Aroclor-1248	2	8.724	-0.005	4622	2.3	2	9.182	-0.005	687	0.5	
Aroclor-1248	3	9.123	-0.006	5566	2.2	3	9.592	-0.020	167	0.1	
Aroclor-1248	4	9.351	-0.003	801	0.4	4	10.026	-0.006	1272	0.7	
Total CollAve (4 peaks):				2.4	Total Col2Ave (4 peaks):				2.6	RPD = 7	
Corrected Ave (3 peaks):				1.6	Corrected Ave (3 peaks):				0.4	RPD = 116*	
Aroclor-1254	1	9.123	-0.009	5566	2.5	1	9.903	0.002	3519	1.9	
Aroclor-1254	2	9.421	-0.001	2935	1.0	2	9.973	-0.021	2469	2.6	
Aroclor-1254	3	---	---	---	0.0	3	10.349	-0.066	3251	2.3	
Aroclor-1254	4	9.790	0.011	2458	1.2	4	10.569	0.006	2234	0.7	
Aroclor-1254	5	9.901	-0.009	3225	0.8	5	11.341	0.008	4692	2.5	
Total CollAve (4 peaks):				1.4	Total Col2Ave (5 peaks):				2.0	RPD = 37	
Corrected Ave (3 peaks):				1.0	Corrected Ave (4 peaks):				1.9	RPD = 60*	
Aroclor-1260	1	11.421	-0.007	3116	1.4	1	11.631	0.002	1066	0.6	
Aroclor-1260	2	11.783	-0.006	4717	0.9	2	12.076	-0.003	5682	2.7	
Aroclor-1260	3	12.186	0.001	4657	1.6	3	12.328	-0.007	4327	1.0	
Aroclor-1260	4	---	---	---	0.0	4	13.634	-0.001	3427	3.1	
Aroclor-1260	5	---	---	---	0.0	NS	---	---	---	---	
Total CollAve (3 peaks):				1.3	Total Col2Ave (4 peaks):				1.9	RPD = 37	
Corrected Ave: < 3 Peaks				Corrected Ave (3 peaks): 1.5							
Aroclor-1262	1	11.112	-0.006	3277	1.0	1	11.631	-0.001	1066	0.4	
Aroclor-1262	2	11.783	-0.005	4717	0.7	2	12.076	-0.006	5682	2.7	
Aroclor-1262	3	12.186	0.003	4657	2.0	3	12.328	-0.009	4327	0.8	
Aroclor-1262	4	---	---	---	0.0	4	12.827	-0.027	2807	1.5	
Aroclor-1262	5	---	---	---	0.0	NS	---	---	---	---	
Total CollAve (3 peaks):				1.2	Total Col2Ave (4 peaks):				1.4	RPD = 11	
Corrected Ave: < 3 Peaks				Corrected Ave (3 peaks): 0.9							
Aroclor-1268	1	---	---	---	0.0	1	12.827	-0.026	2807	0.5	
Aroclor-1268	2	---	---	---	0.0	2	12.916	-0.004	2520	0.5	
Aroclor-1268	3	12.645	-0.095	16717	2.7	3	13.302	-0.014	5639	1.3	
Aroclor-1268	4	13.309	-0.002	13458	0.9	4	14.113	-0.011	12444	1.0	
CollAve: <3 Quant Peaks				Col2Ave: 0.8							

Total PCB Area Col1 (6.196 - 13.808) = 524162 Col1 Total PCB = 0.02 ppm*

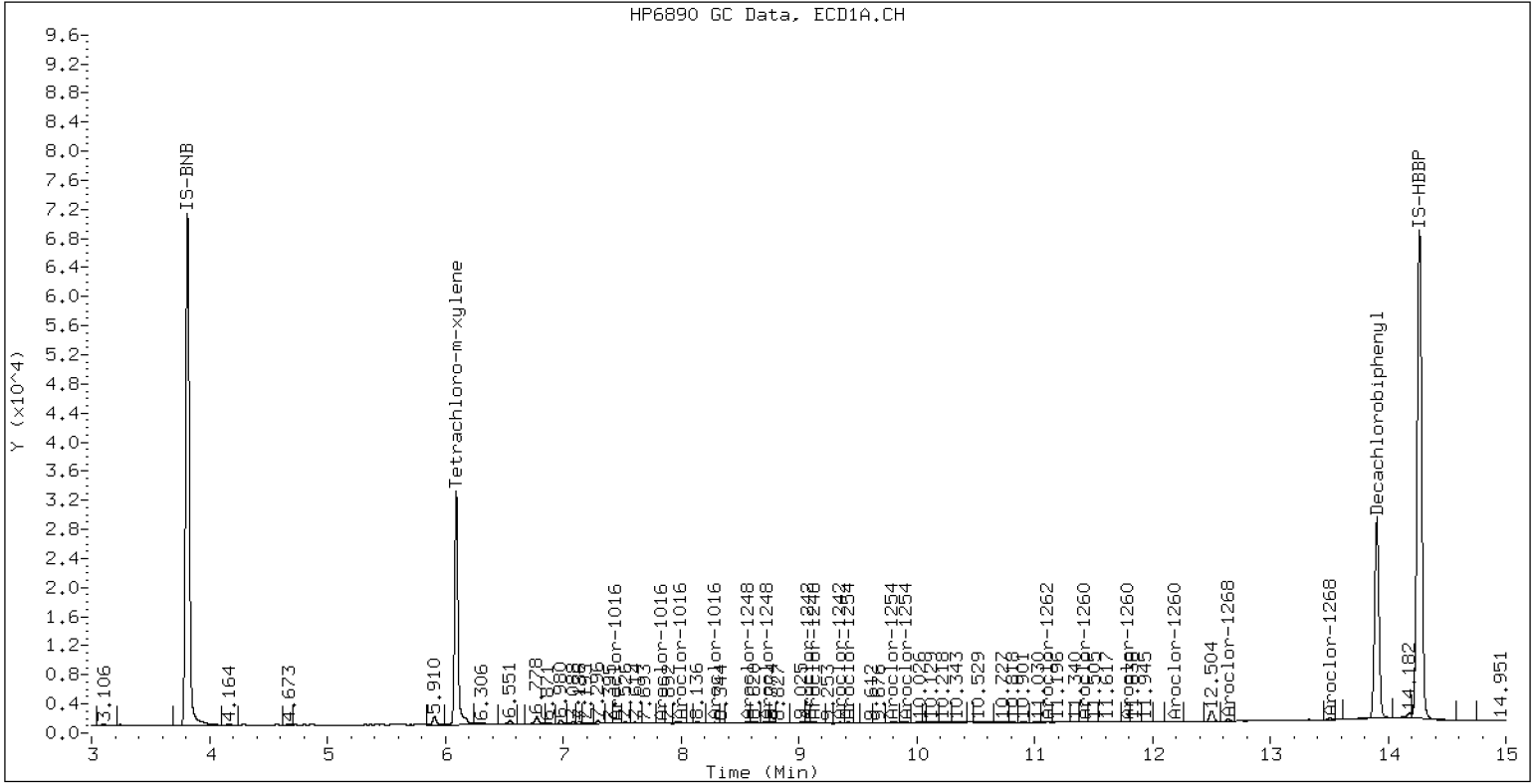
Total PCB Area Col2 (6.196 - 13.808) = 1639742 Col2 Total PCB = 0.06 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

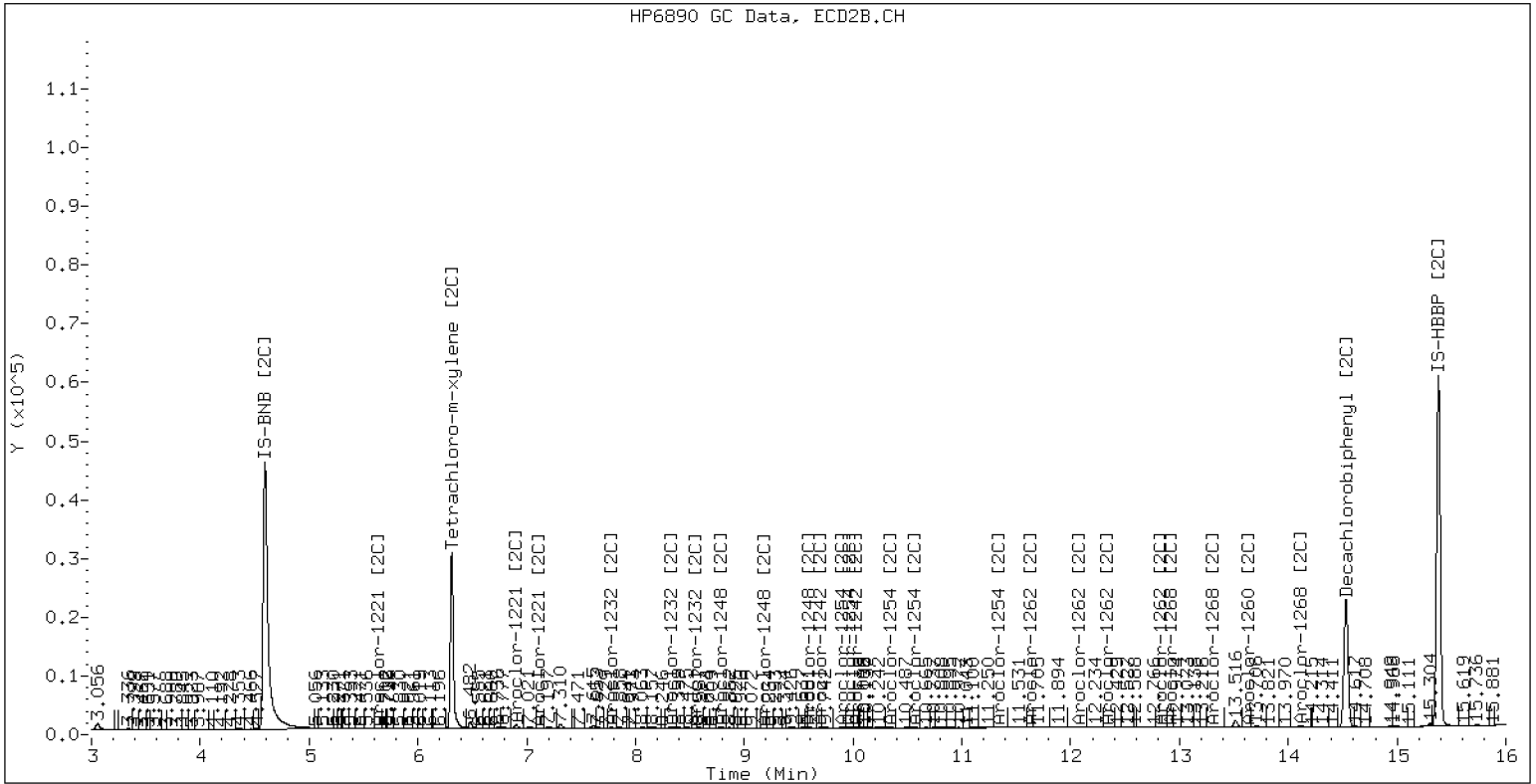
ECD5-ZB5 /20201116.b/20111620ECD5.D 20K0008-09

16-NOV-2020 22:46 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111620ECD5.D 20K0008-09



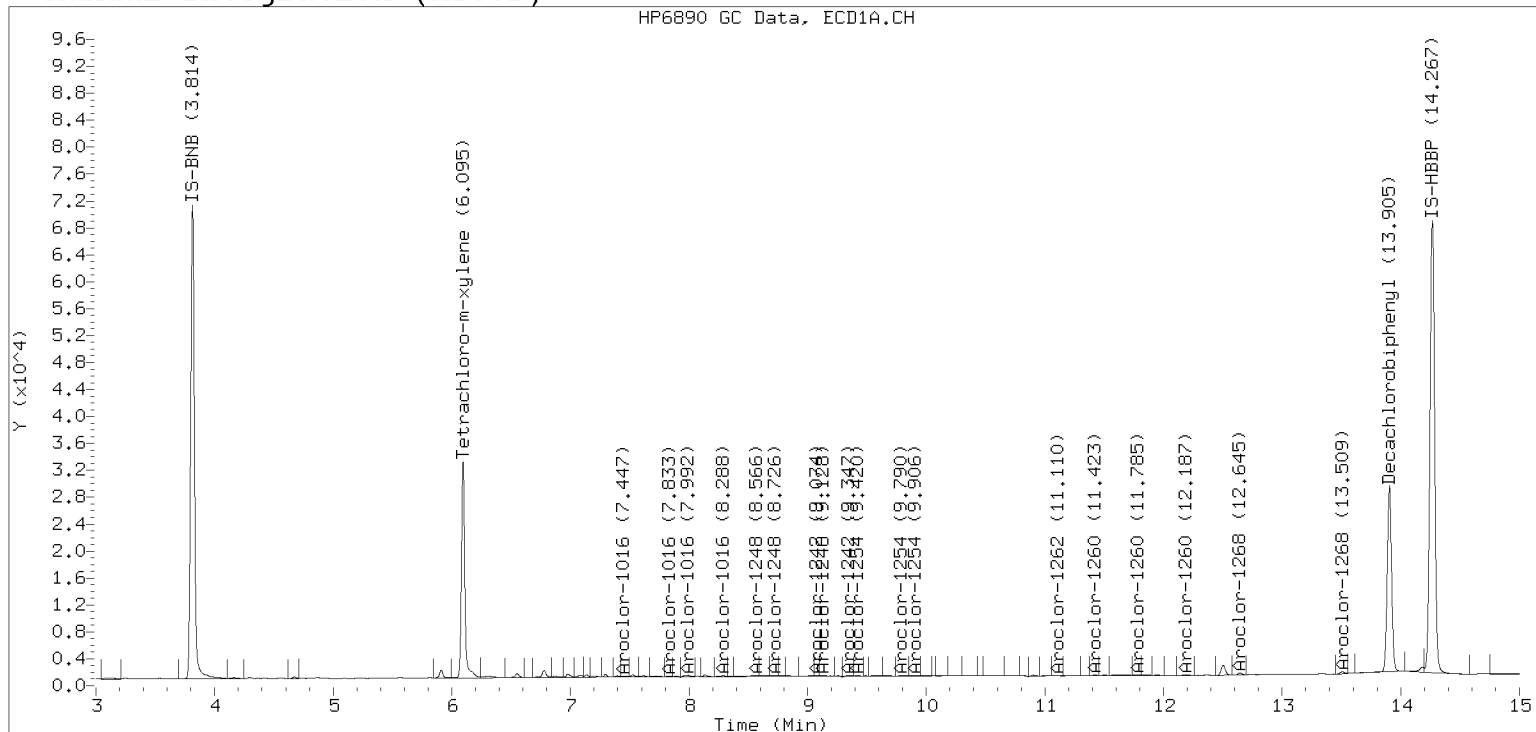
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

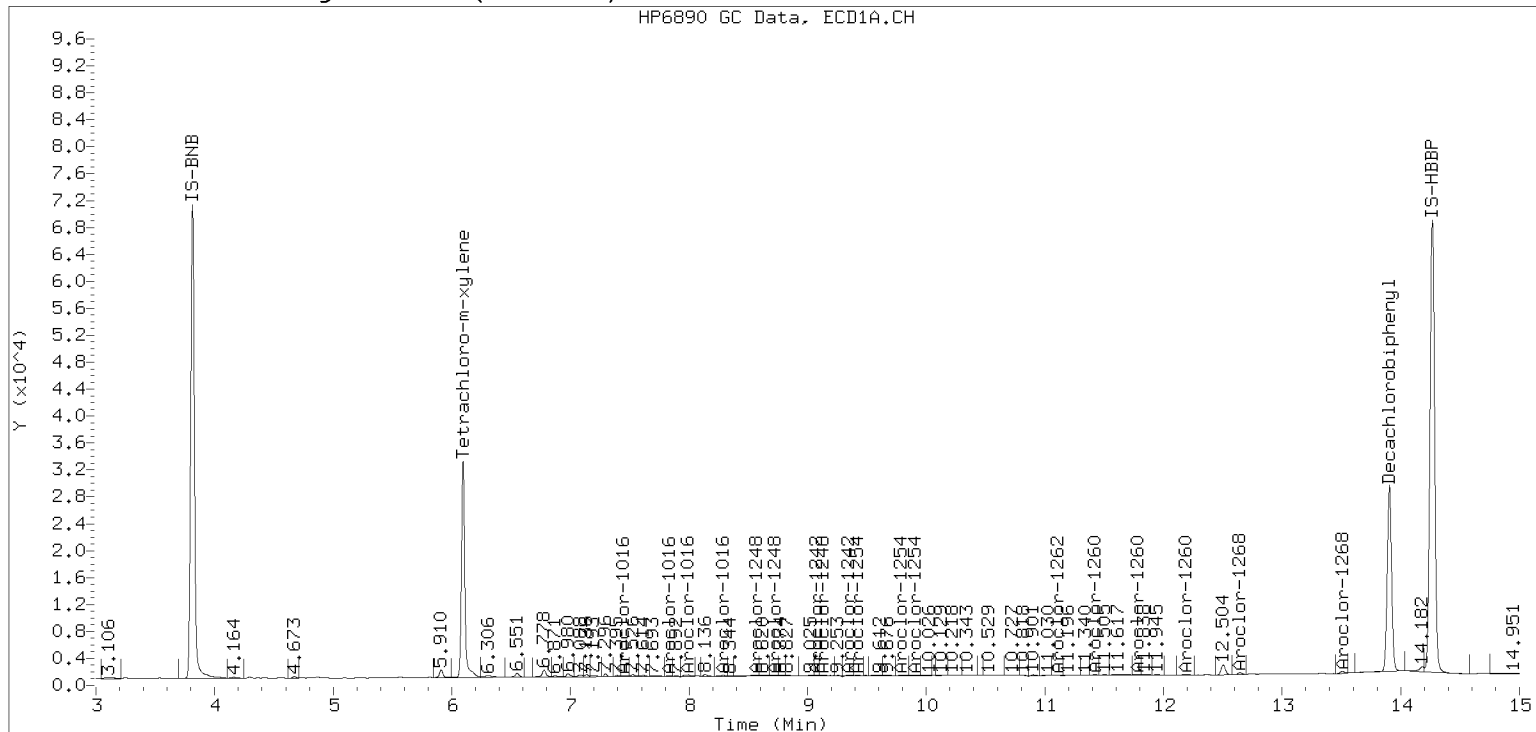
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Injection Date: 16-NOV-2020 22:4

Manual Integration (After)



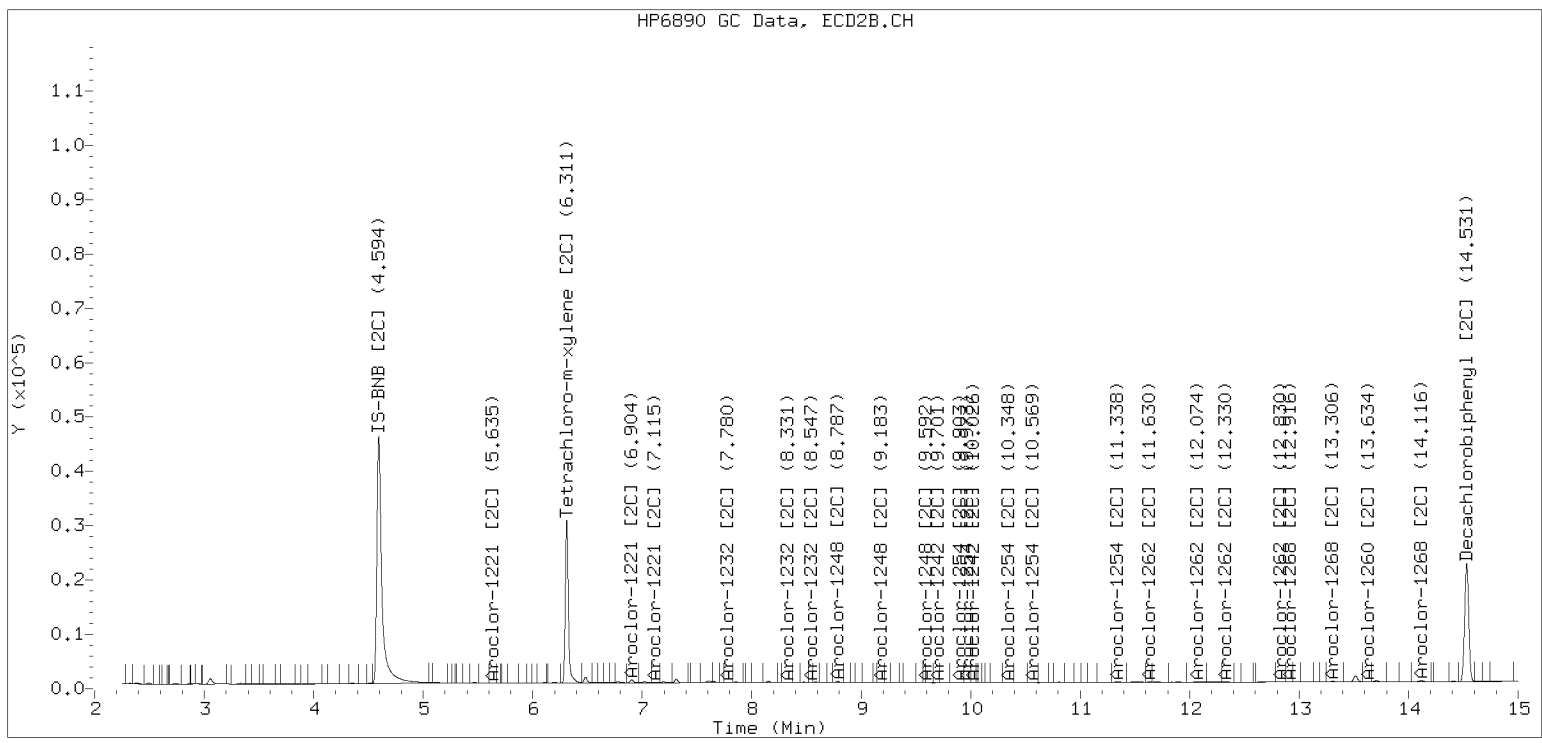
Processed Integration (Before)



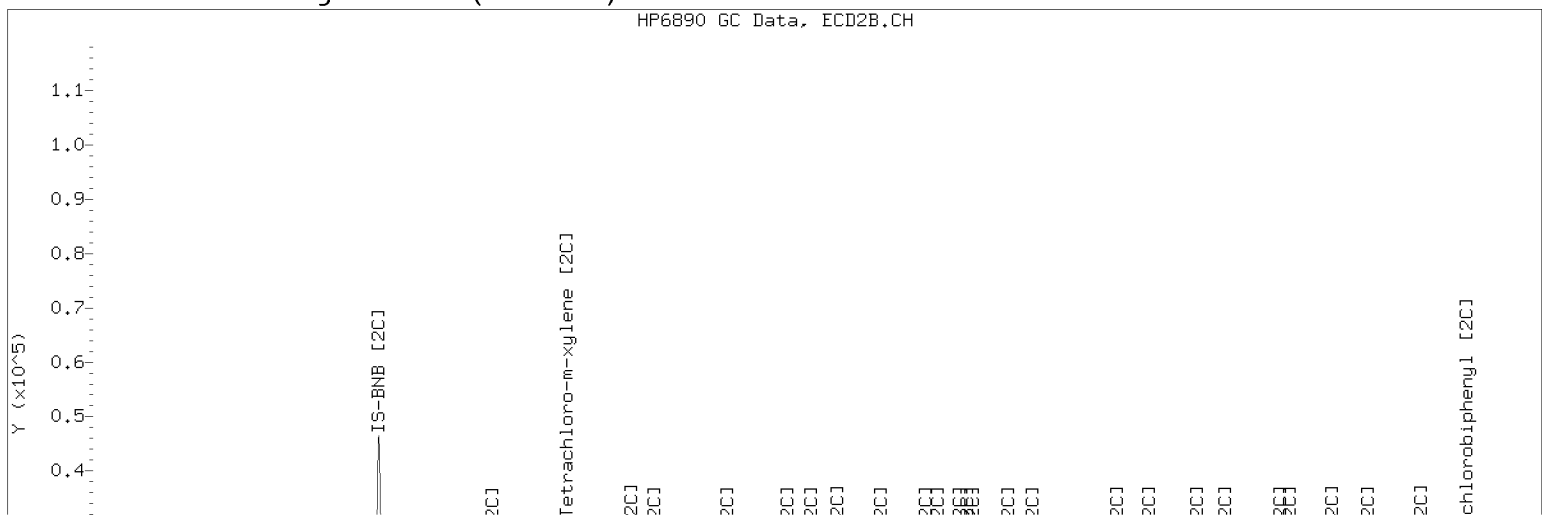
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111620ECD5.D Injection Date: 16-NOV-2020 22:46

Manual Integration (After)



Processed Integration (Before)





ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-14 A File ID: 20111621ECD5.D
 Sampled: 10/29/20 11:20 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 23:07
 % Solids: 80.03 Preparation: EPA 3546 (Microwave) Initial/Final: 6.29 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	7.9	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	7.9	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	7.9	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	7.9	19.9	U
12672-29-6	Aroclor 1248	2	1	669	7.9	19.9	
11097-69-1	Aroclor 1254	2	1	858	7.9	19.9	
11096-82-5	Aroclor 1260	2	1	258	9.2	19.9	
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.731	29.6	74.4	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.731	22.8	57.4	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.731	29.3	73.8	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.731	30.7	77.2	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111621ECD5.D
Data file 2: /20201116.b/20201116.b/20111621ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-14
Client ID:
Injection Date: 16-NOV-2020 23:07
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	0.001	887742	6.311	0.001	857345	23.0	30.9	29.3	Tetrachloro-m-xylene
13.901	-0.005	942385	14.528	-0.003	945095	29.8	29.5	0.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	57.4	77.2
Decachlorobiphenyl	74.4	73.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2643067	-2.2
Hexabromobiphenyl	3964848	2674921	-32.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2158955	-25.9
Hexabromobiphenyl	2801720	2568721	-8.3

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	7.778	-0.001	483693	404.2
Aroclor-1016	2	---			0.0	2	8.345	-0.004	1005566	413.8
Aroclor-1016	3	---			0.0	3	8.539	-0.004	298836	292.9
Aroclor-1016	4	---			0.0	4	9.183	-0.001	686342	913.3
CollAve: <3 Quant Peaks					Col2Ave: 506.0					
Aroclor-1221	1	---			0.0	1	5.637	-0.016	12096	62.5
Aroclor-1221	2	---			0.0	2	6.903	0.024	132198	337.1
Aroclor-1221	3	---			0.0	3	7.081	-0.007	20211	95.7
CollAve: <3 Quant Peaks					Col2Ave: 165.1					
Aroclor-1232	1	---			0.0	1	5.637	-0.016	12096	107.2
Aroclor-1232	2	---			0.0	2	7.778	-0.007	483693	869.1
Aroclor-1232	3	---			0.0	3	8.345	-0.011	1005566	962.7
Aroclor-1232	4	---			0.0	4	8.539	-0.010	298836	681.7
CollAve: <3 Quant Peaks					Col2Ave: 655.2					
Aroclor-1242	1	---			0.0	1	7.778	-0.002	483693	504.7
Aroclor-1242	2	---			0.0	2	8.345	-0.006	1005566	514.0
Aroclor-1242	3	---			0.0	3	9.677	-0.011	619788	971.8
Aroclor-1242	4	---			0.0	4	10.013	-0.015	481865	613.8
CollAve: <3 Quant Peaks					Col2Ave: 651.1					
Aroclor-1248	1	8.559	-0.006	722271	518.5	1	8.785	-0.005	720484	877.2
Aroclor-1248	2	8.721	-0.008	654164	387.7	2	9.183	-0.005	686342	701.1
Aroclor-1248	3	9.122	-0.007	1417879	677.1	3	9.601	-0.011	956835	741.4
Aroclor-1248	4	9.338	-0.015	921223	589.4	4	10.013	-0.018	481865	376.3
Total CollAve (4 peaks):				543.2	Total Col2Ave (4 peaks):				674.0	RPD = 21
Corrected Ave (3 peaks):				498.5	Corrected Ave (3 peaks):				606.3	RPD = 20
Aroclor-1254	1	9.122	-0.007	1417879	759.4	1	9.893	-0.004	1175872	896.7
Aroclor-1254	2	9.414	-0.004	1547699	616.5	2	9.988	-0.002	678779	987.2
Aroclor-1254	3	9.487	-0.005	546894	572.3	3	10.406	-0.004	733510	730.1
Aroclor-1254	4	9.784	0.010	4865790	2932.5	4	10.552	-0.005	1873102	856.9
Aroclor-1254	5	9.898	-0.007	1770994	543.1	5	11.314	-0.012	1136630	846.8
Total CollAve (5 peaks):				1084.7	Total Col2Ave (5 peaks):				863.5	RPD = 23
Corrected Ave (4 peaks):				622.8	Corrected Ave (4 peaks):				832.6	RPD = 29
Aroclor-1260	1	11.418	-0.007	303095	193.3	1	11.621	-0.004	295104	191.9
Aroclor-1260	2	11.778	-0.007	904411	230.8	2	12.072	-0.003	651395	349.3
Aroclor-1260	3	12.169	-0.011	539456	254.3	3	12.327	-0.003	889834	240.2
Aroclor-1260	4	12.281	-0.006	185039	212.0	4	13.629	-0.003	259077	259.2
Aroclor-1260	5	12.353	-0.007	212254	206.8	NS	---	---	---	---
Total CollAve (5 peaks):				219.4	Total Col2Ave (4 peaks):				260.2	RPD = 17
Corrected Ave (4 peaks):				210.7	Corrected Ave (3 peaks):				230.4	RPD = 9
Aroclor-1262	1	---			0.0	1	11.621	-0.011	295104	124.6
Aroclor-1262	2	---			0.0	2	12.072	-0.009	651395	351.8
Aroclor-1262	3	---			0.0	3	12.327	-0.010	889834	188.1
Aroclor-1262	4	---			0.0	4	12.844	-0.010	223489	133.2
Aroclor-1262	5	---			0.0	NS	---	---	---	---
CollAve: <3 Quant Peaks					Col2Ave: 199.4					
Aroclor-1268	1	---			0.0	1	12.844	-0.009	223489	46.4
Aroclor-1268	2	---			0.0	2	12.908	-0.012	577761	120.9
Aroclor-1268	3	---			0.0	3	13.299	-0.017	37560	9.5
Aroclor-1268	4	---			0.0	4	14.112	-0.011	70847	6.1
CollAve: <3 Quant Peaks					Col2Ave: 45.7					

Total PCB Area Col1 (6.194 - 13.806) = 33180969 Col1 Total PCB = 1.06 ppm*

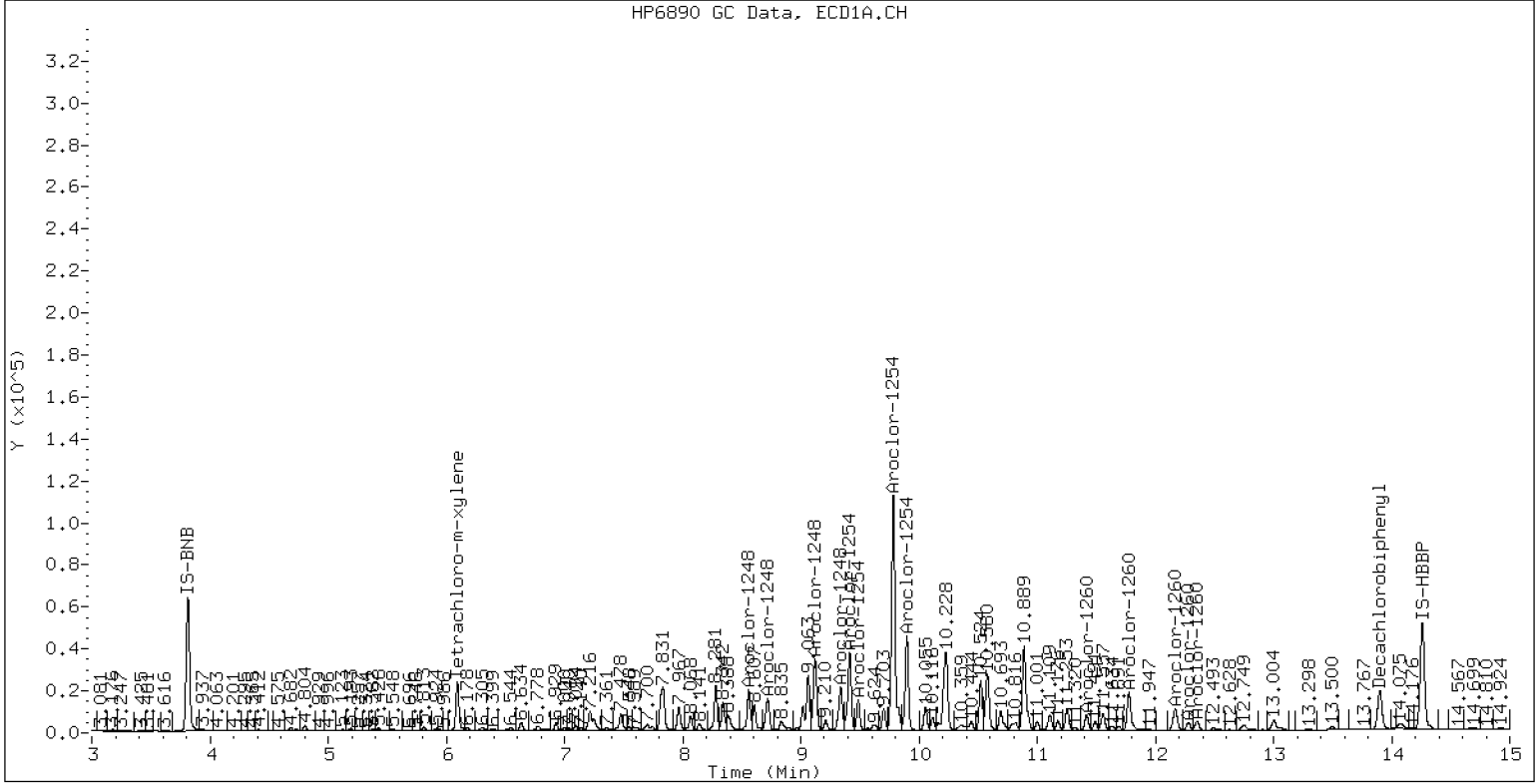
Total PCB Area Col2 (6.194 - 13.806) = 31799187 Col2 Total PCB = 1.17 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

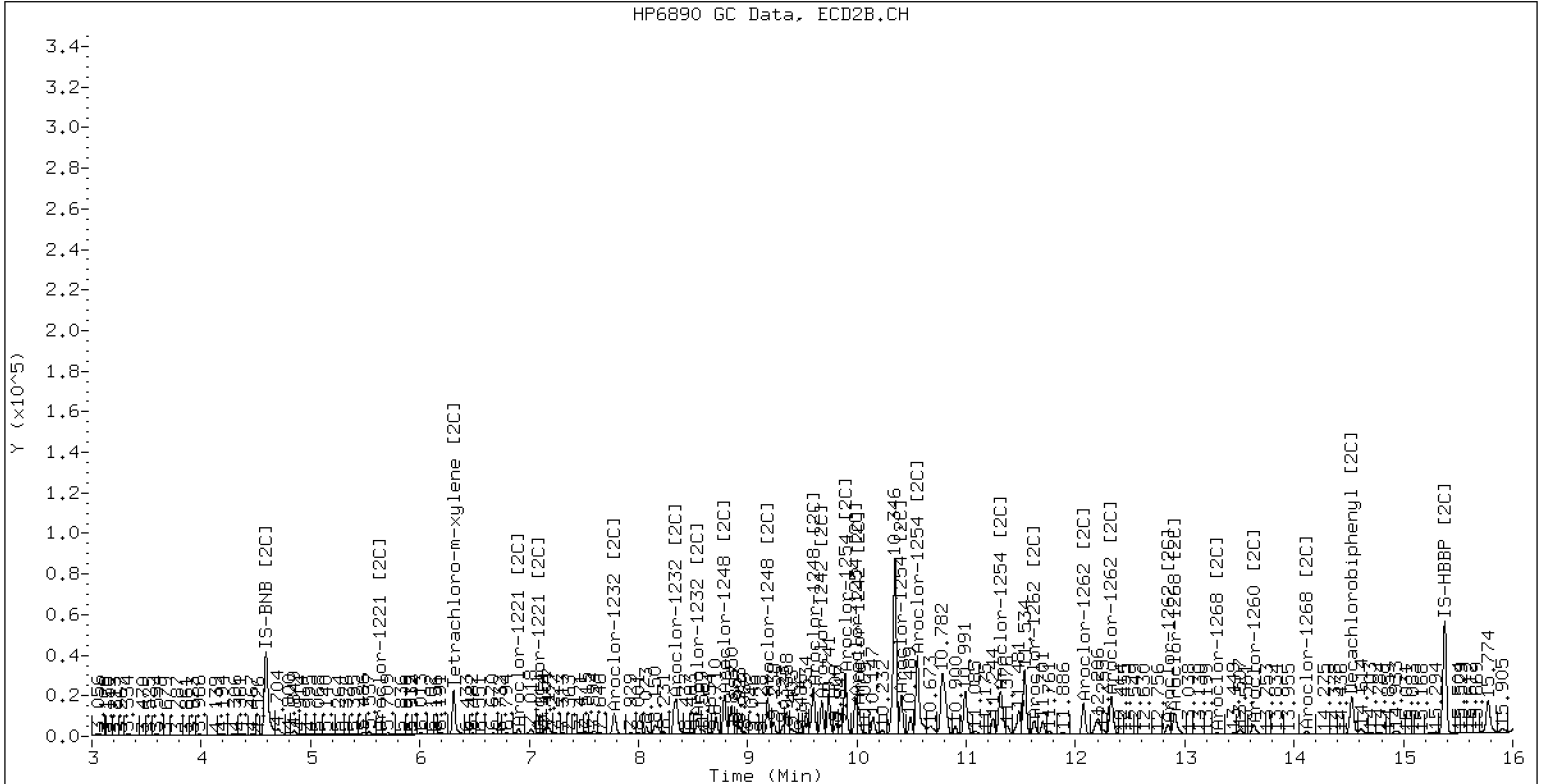
ECD5-ZB5 /20201116.b/20111621ECD5.D 20K0008-14

16-NOV-2020 23:07 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111621ECD5.D 20K0008-14



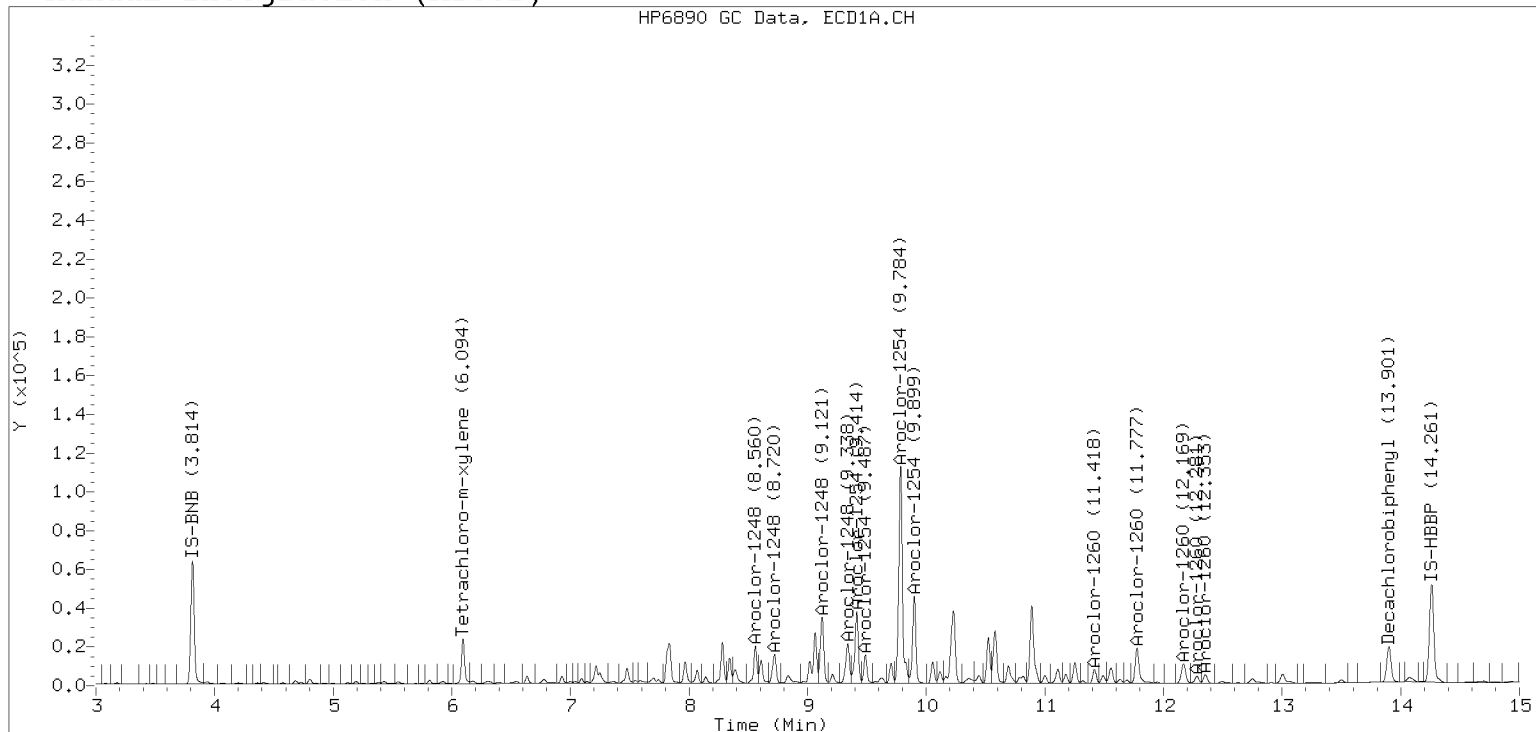
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

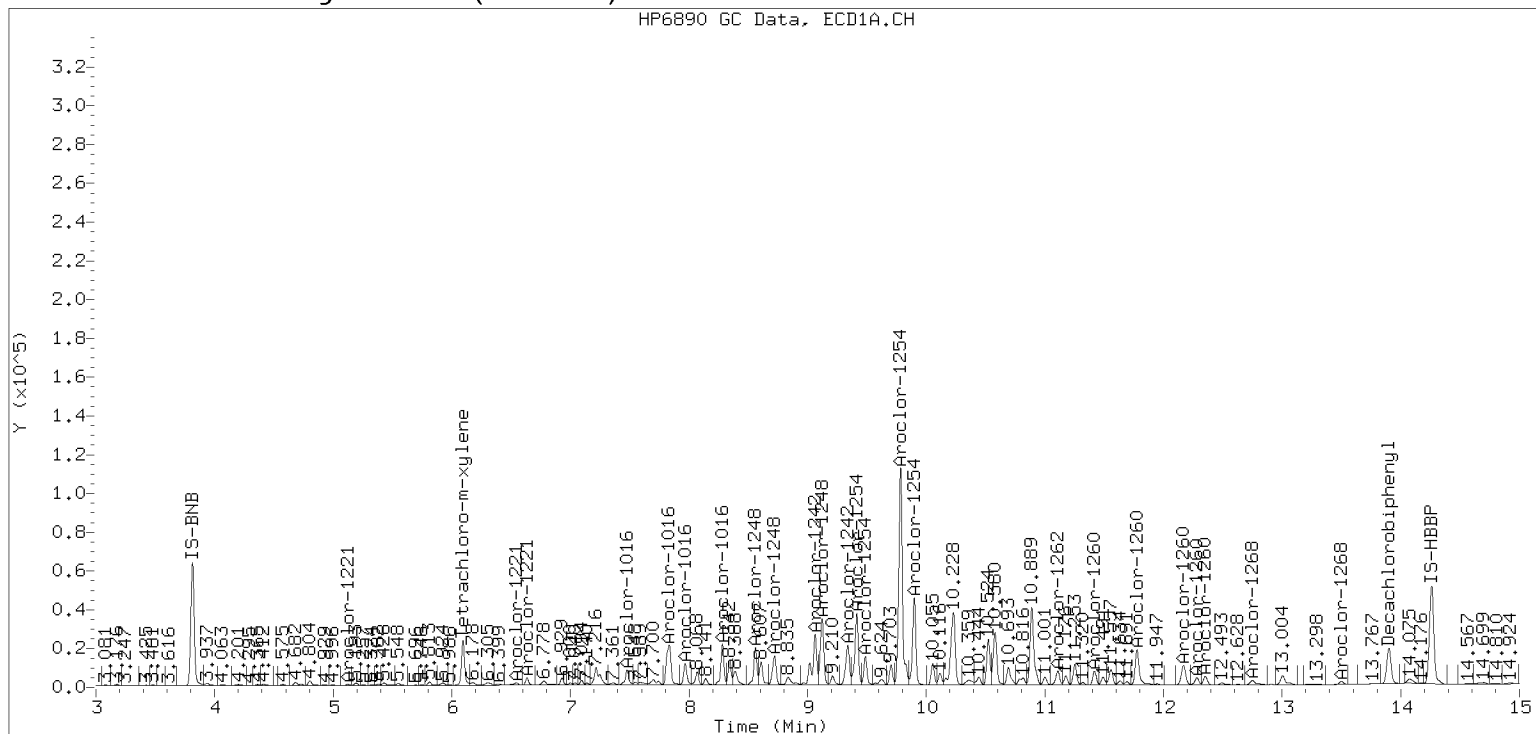
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Injection Date: 16-NOV-2020 23:0

Manual Integration (After)



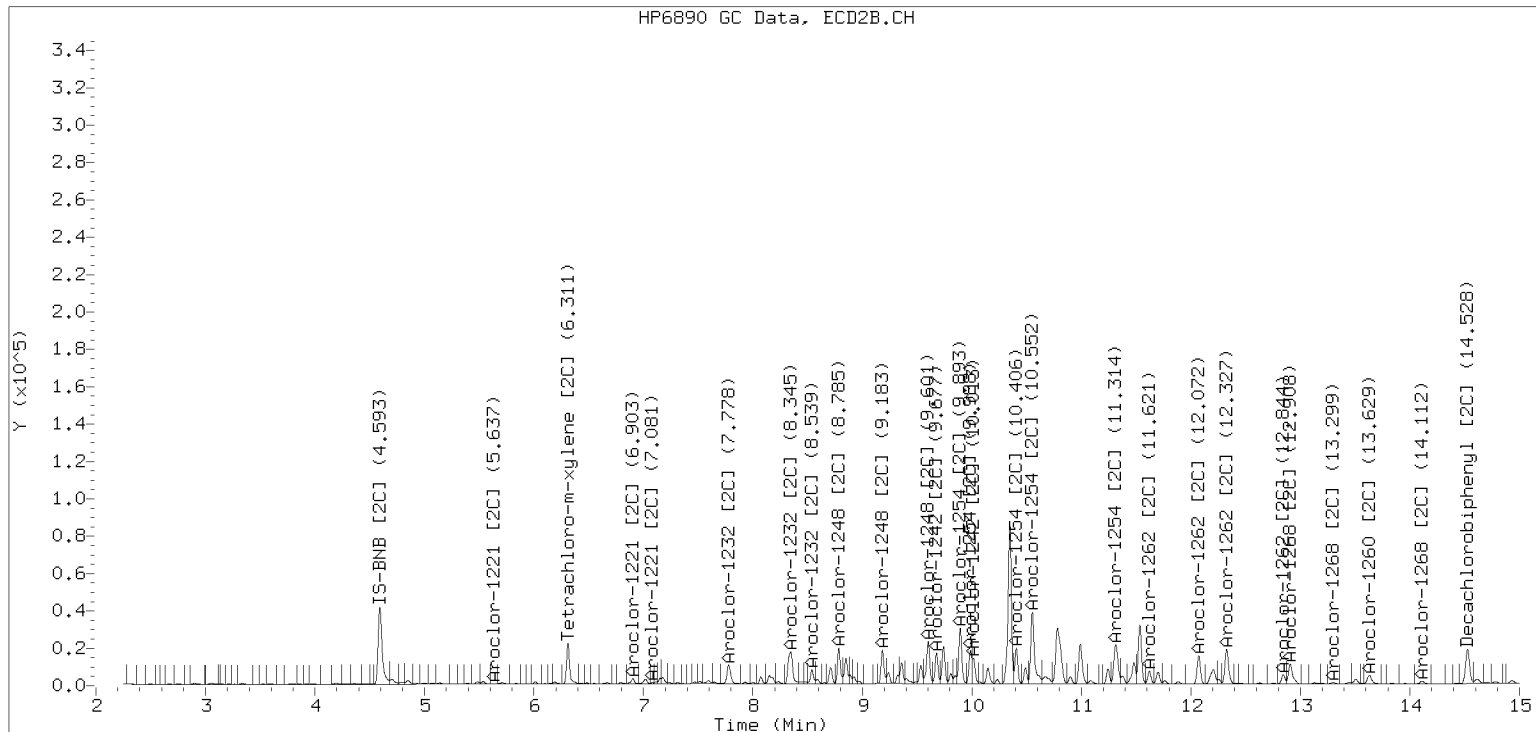
Processed Integration (Before)



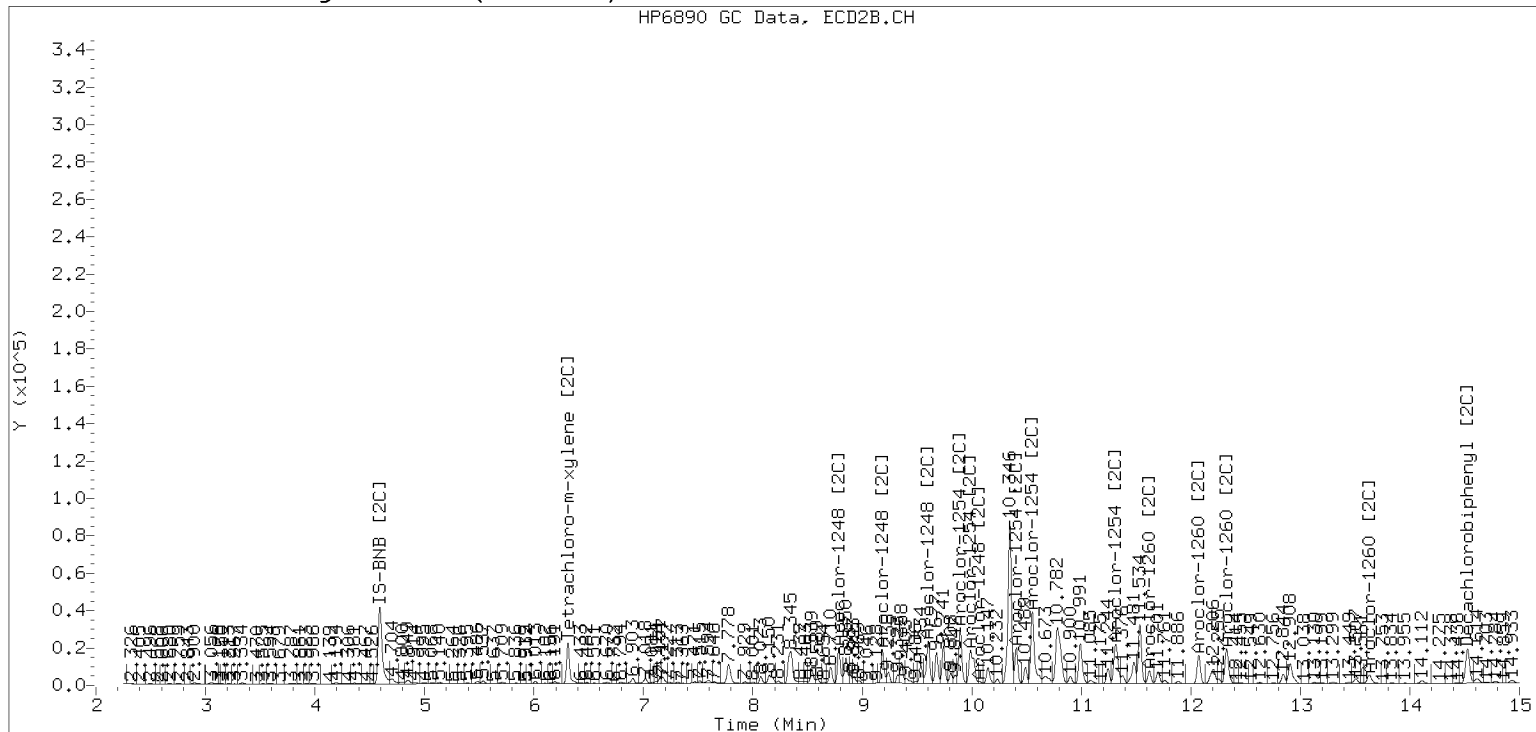
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111621ECD5.D Injection Date: 16-NOV-2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP18-10

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Solid Laboratory ID: 20K0008-16 A File ID: 20111622ECD5.D
Sampled: 10/29/20 11:30 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 23:28
% Solids: 70.06 Preparation: EPA 3546 (Microwave) Initial/Final: 7.19 g Wet / 5 mL
Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	7.9	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	7.9	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	7.9	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	7.9	19.9	U
12672-29-6	Aroclor 1248	2	1	770	7.9	19.9	
11097-69-1	Aroclor 1254	2	1	578	7.9	19.9	
11096-82-5	Aroclor 1260	2	1	304	9.2	19.9	
37324-23-5	Aroclor 1262	1	1	19.9	9.2	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.2	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.704	27.8	70.1	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.704	24.1	60.8	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.704	30.9	77.7	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.704	29.2	73.5	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111622ECD5.D
Data file 2: /20201116.b/20201116.b/20111622ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-16
Client ID:
Injection Date: 16-NOV-2020 23:28
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000	1074176	6.311	24.3	29.4	19.0	Tetrachloro-m-xylene
13.901	-0.006	1115505	14.527	28.0	31.1	10.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	60.8	73.5
Decachlorobiphenyl	70.1	77.7

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3022328	11.8
Hexabromobiphenyl	3964848	3361190	-15.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2581362	-11.4
Hexabromobiphenyl	2801720	2829282	1.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.002	404670	327.5	1	7.779	-0.002	561831	392.6	
Aroclor-1016	2	7.836	-0.000	1649170	420.6	2	8.349	-0.005	1421783	489.4	
Aroclor-1016	3	7.969	-0.004	476864	296.1	3	8.540	-0.006	285246	233.8	
Aroclor-1016	4	8.282	-0.003	922578	862.6	4	9.183	-0.004	1077033	1198.6	
Total CollAve (4 peaks):				476.7		Total Col2Ave (4 peaks):				578.6	RPD = 19
Corrected Ave (3 peaks):				348.1		Corrected Ave (3 peaks):				371.9	RPD = 7
Aroclor-1221	1	5.120	0.039	21097	72.7	1	5.635	-0.018	30525	132.0	
Aroclor-1221	2	6.549	-0.005	43757	106.3	2	6.877	-0.003	10138	21.6	
Aroclor-1221	3	6.635	-0.005	79518	68.2	3	7.081	-0.007	14823	58.7	
Total CollAve (3 peaks):				82.4		Total Col2Ave (3 peaks):				70.8	RPD = 15
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.120	0.039	21097	121.9	1	5.635	-0.018	30525	226.2	
Aroclor-1232	2	7.478	-0.006	404670	744.5	2	7.779	-0.006	561831	844.3	
Aroclor-1232	3	7.836	0.000	1649170	983.1	3	8.349	-0.008	1421783	1138.5	
Aroclor-1232	4	7.969	-0.005	476864	680.6	4	8.540	-0.009	285246	544.3	
Total CollAve (4 peaks):				632.5		Total Col2Ave (4 peaks):				688.3	RPD = 8
Corrected Ave (3 peaks):				515.7		Corrected Ave (3 peaks):				538.3	RPD = 4
Aroclor-1242	1	7.478	-0.004	404670	415.5	1	7.779	-0.004	561831	490.3	
Aroclor-1242	2	7.836	-0.000	1649170	535.8	2	8.349	-0.006	1421783	607.8	
Aroclor-1242	3	9.065	-0.008	1128616	1009.4	3	9.679	-0.011	953010	1249.8	
Aroclor-1242	4	9.341	-0.010	1252569	1025.2	4	10.015	-0.015	842312	897.3	
Total CollAve (4 peaks):				746.5		Total Col2Ave (4 peaks):				811.3	RPD = 8
Corrected Ave (3 peaks):				653.6		Corrected Ave (3 peaks):				665.1	RPD = 2
Aroclor-1248	1	8.561	-0.005	1150832	722.5	1	8.785	-0.004	827807	842.9	
Aroclor-1248	2	8.721	-0.008	1121312	581.1	2	9.183	-0.004	1077033	920.2	
Aroclor-1248	3	9.120	-0.009	1630214	680.8	3	9.602	-0.010	1217477	789.0	
Aroclor-1248	4	9.341	-0.013	1252569	700.9	4	10.015	-0.016	842312	550.1	
Total CollAve (4 peaks):				671.3		Total Col2Ave (4 peaks):				775.6	RPD = 14
Corrected Ave (3 peaks):				654.3		Corrected Ave (3 peaks):				727.4	RPD = 11
Aroclor-1254	1	9.120	-0.012	1630214	763.5	1	9.894	-0.008	889971	567.6	
Aroclor-1254	2	9.415	-0.007	1456050	507.2	2	9.989	-0.005	630600	767.1	
Aroclor-1254	3	9.488	-0.007	439489	402.2	3	10.406	-0.009	578462	481.5	
Aroclor-1254	4	9.789	0.010	11317497	5964.8	4	10.553	-0.010	1451462	555.4	
Aroclor-1254	5	9.900	-0.010	1319849	353.9	5	11.315	-0.017	862659	537.5	
Total CollAve (5 peaks):				1598.3		Total Col2Ave (5 peaks):				581.8	RPD = 93*
Corrected Ave (4 peaks):				506.7		Corrected Ave (4 peaks):				535.5	RPD = 6
Aroclor-1260	1	11.418	-0.010	451888	229.4	1	11.621	-0.007	414063	244.4	
Aroclor-1260	2	11.778	-0.011	1215532	246.9	2	12.072	-0.007	635949	309.7	
Aroclor-1260	3	12.171	-0.014	688338	258.2	3	12.326	-0.009	1125534	275.8	
Aroclor-1260	4	12.282	-0.009	273081	249.0	4	13.627	-0.008	436880	396.9	
Aroclor-1260	5	12.352	-0.011	316259	245.3	NS	---	---	---	---	
Total CollAve (5 peaks):				245.7		Total Col2Ave (4 peaks):				306.7	RPD = 22
Corrected Ave (4 peaks):				242.6		Corrected Ave (3 peaks):				276.6	RPD = 13
Aroclor-1262	1	11.111	-0.008	440269	153.4	1	11.621	-0.010	414063	158.7	
Aroclor-1262	2	11.778	-0.010	1215532	197.9	2	12.072	-0.009	635949	311.8	
Aroclor-1262	3	12.171	-0.012	688338	321.1	3	12.326	-0.011	1125534	216.0	
Aroclor-1262	4	12.282	-0.009	273081	145.0	4	12.845	-0.010	323410	175.0	
Aroclor-1262	5	12.352	-0.011	316259	144.5	NS	---	---	---	---	
Total CollAve (5 peaks):				192.4		Total Col2Ave (4 peaks):				215.4	RPD = 11
Corrected Ave (4 peaks):				160.2		Corrected Ave (3 peaks):				183.2	RPD = 13
Aroclor-1268	1	12.282	-0.009	273081	42.1	1	12.845	-0.009	323410	60.9	
Aroclor-1268	2	12.352	-0.010	316259	50.9	2	12.908	-0.012	831739	158.0	
Aroclor-1268	3	12.751	0.011	238538	43.2	3	13.299	-0.017	234164	54.0	
Aroclor-1268	4	13.501	-0.010	116063	7.5	4	14.110	-0.013	100006	7.8	

Total Col1Ave (4 peaks):	35.9	Total Col2Ave (4 peaks):	70.2	RPD = 65*
Corrected Ave (3 peaks):	30.9	Corrected Ave (3 peaks):	40.9	RPD = 28

Total PCB Area Col1 (6.196 - 13.808) = 42331143 Col1 Total PCB = 1.35 ppm*

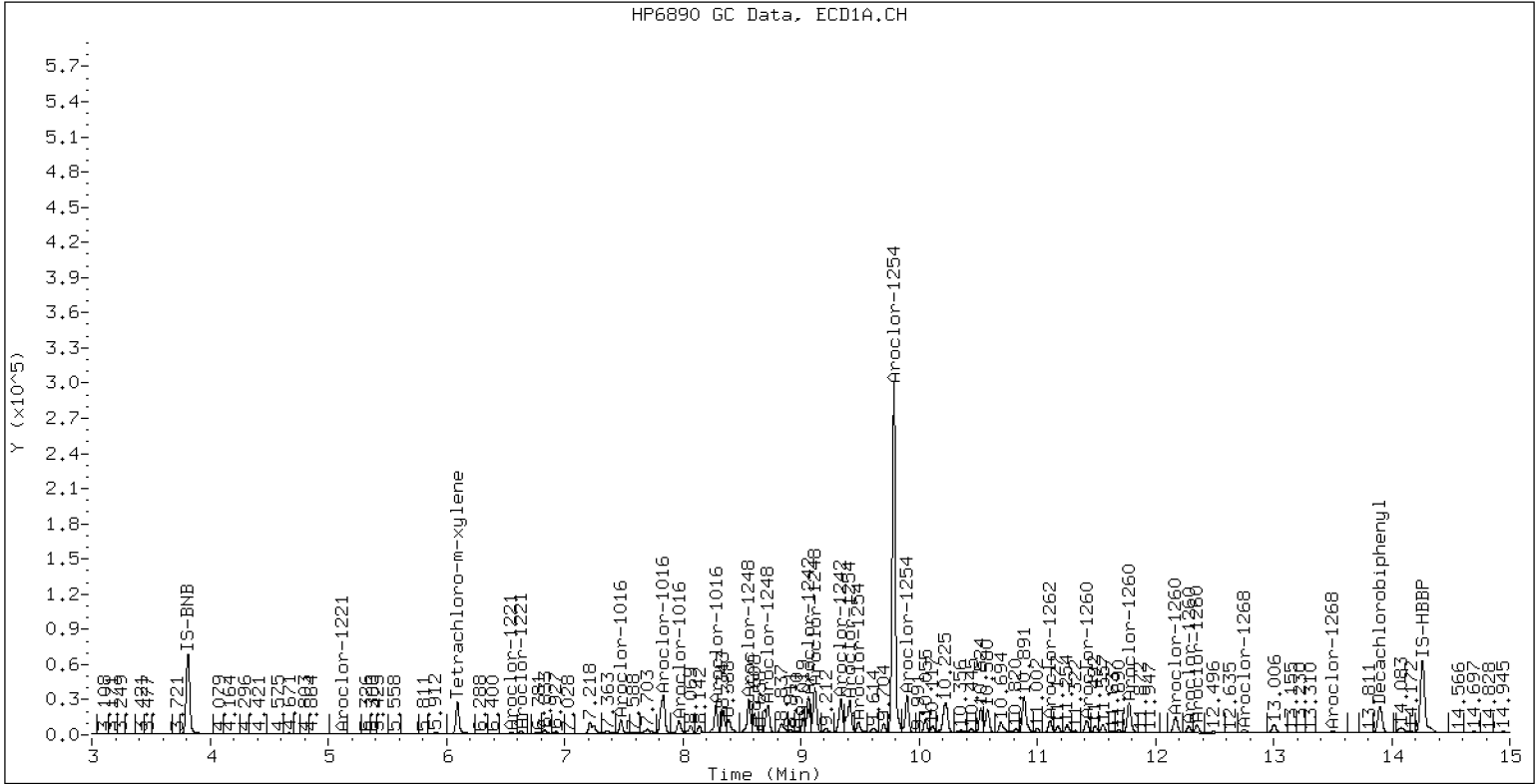
Total PCB Area Col2 (6.196 - 13.808) = 38900373 Col2 Total PCB = 1.43 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

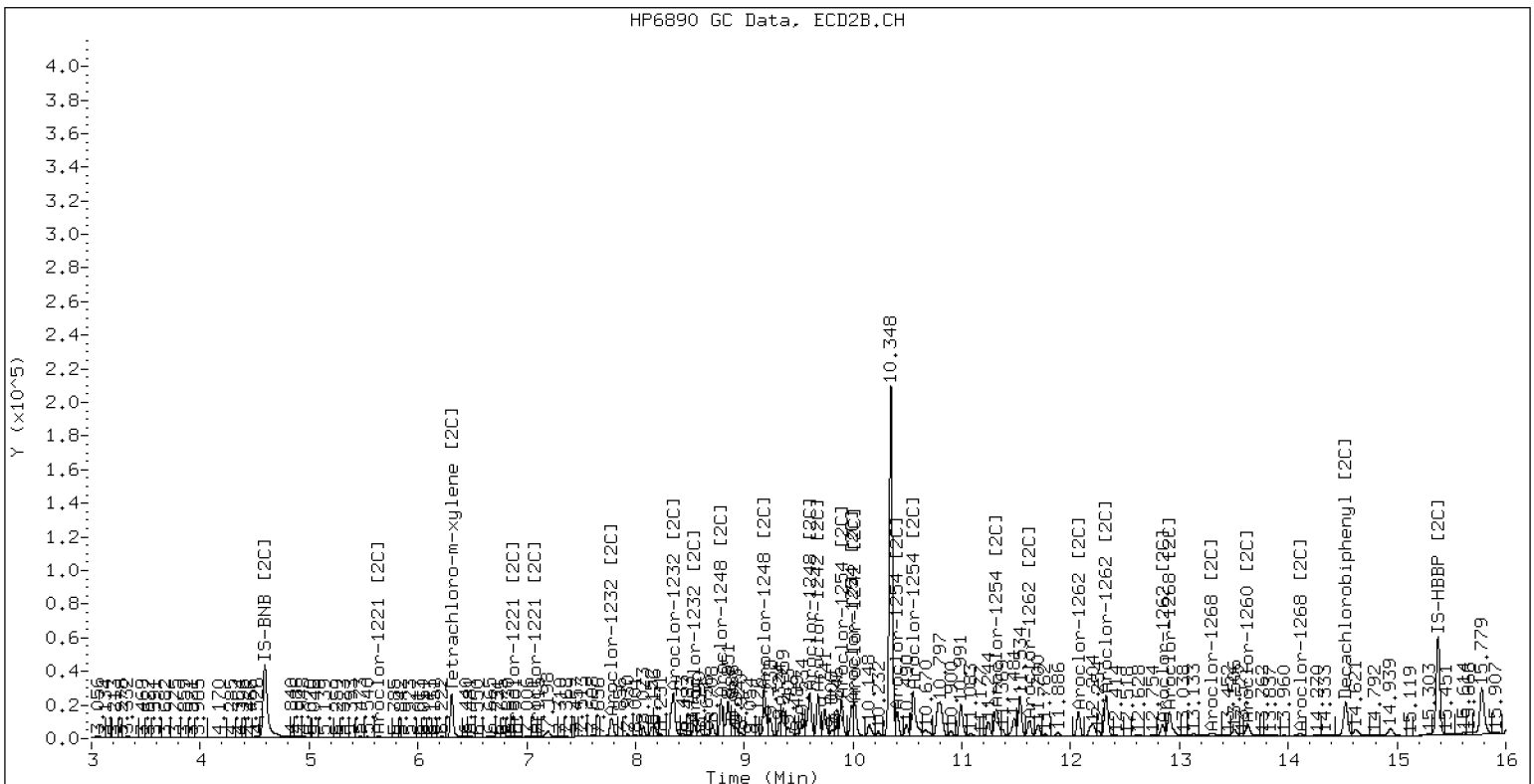
ECD5-ZB5 /20201116.b/20111622ECD5.D 20K0008-16

16-NOV-2020 23:28 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111622ECD5.D 20K0008-16



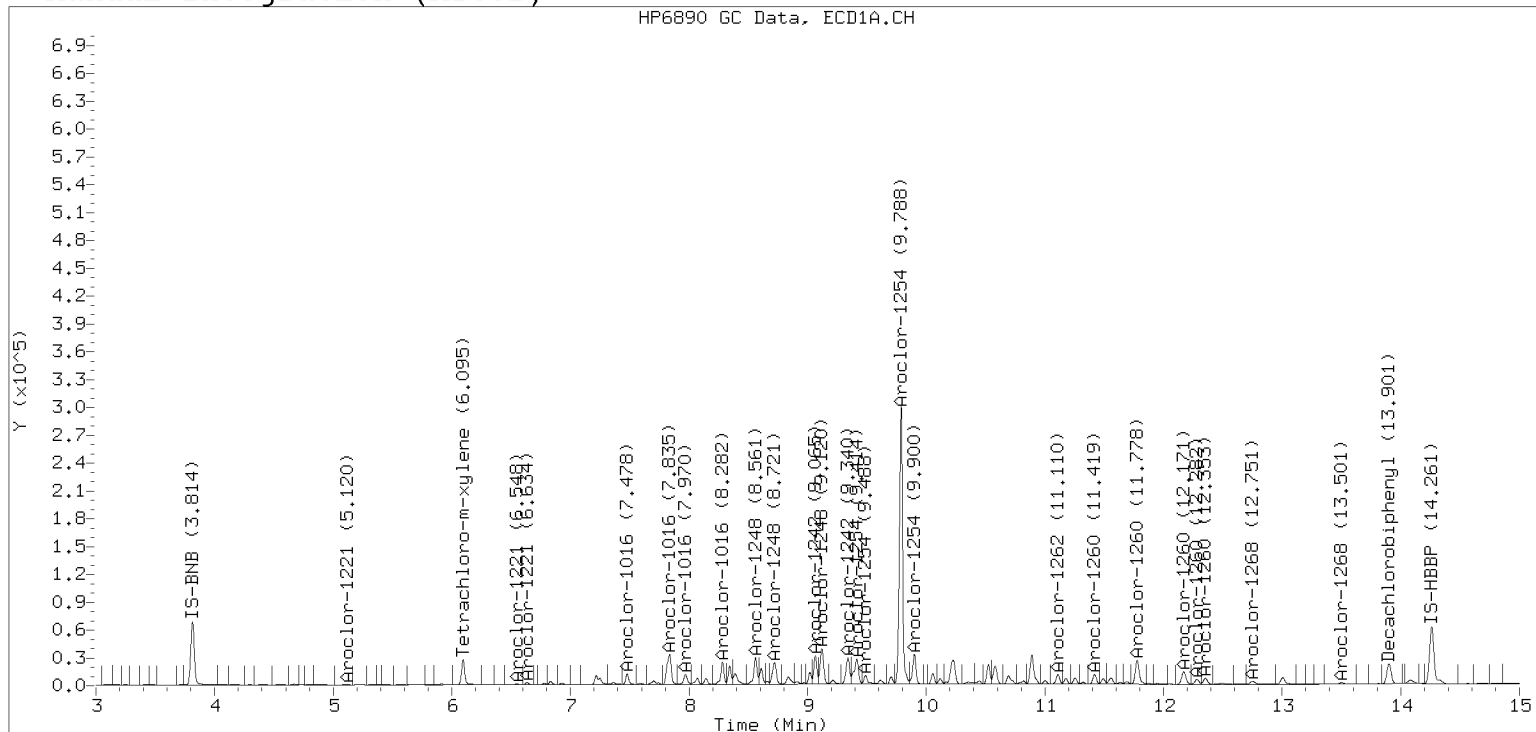
ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

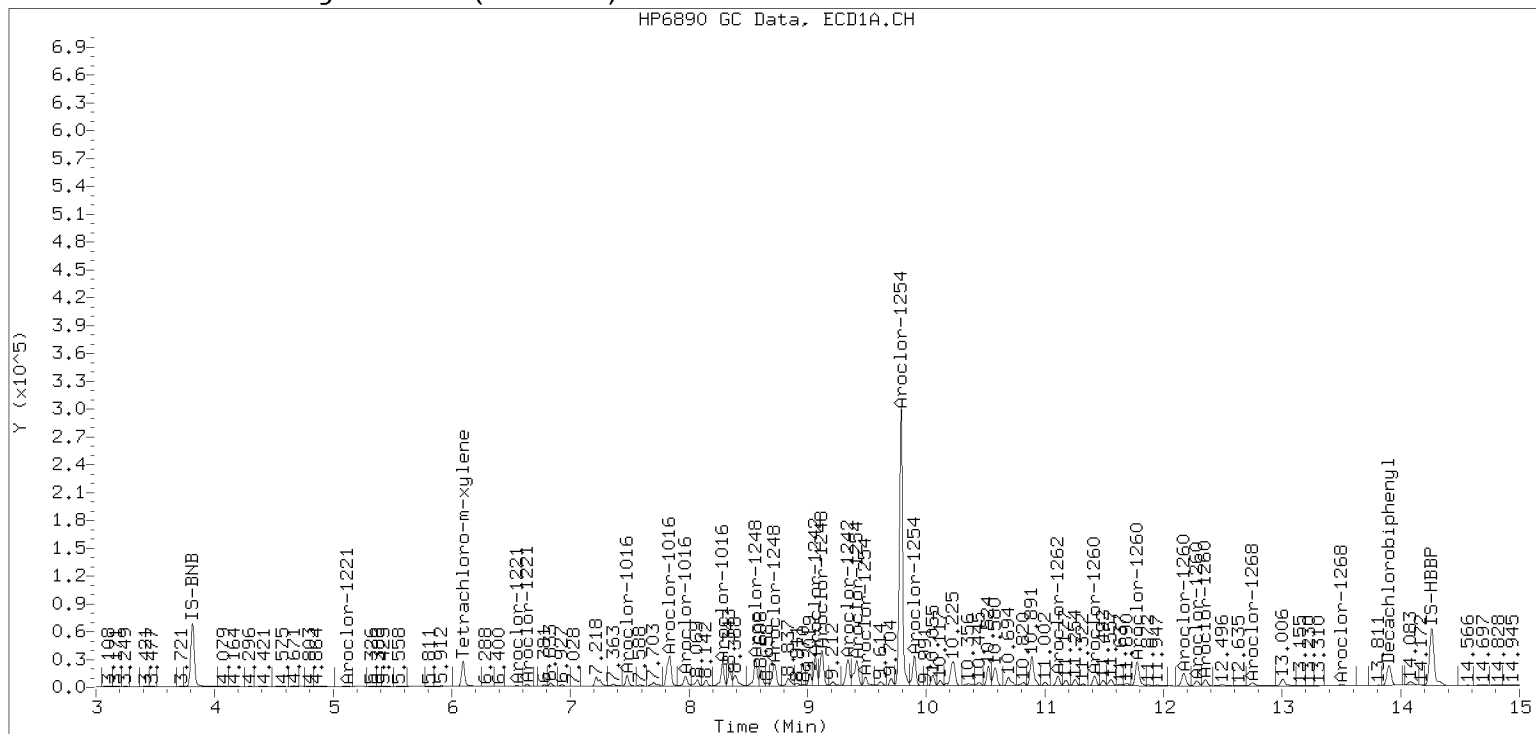
Datafile: ecd5.i/20201116.b/20111622ECD5.D

Injection Date: 16-NOV-2020 23:2

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP19-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-20 A File ID: 20111625ECD5.D
 Sampled: 10/29/20 13:30 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 00:30
 % Solids: 77.62 Preparation: EPA 3546 (Microwave) Initial/Final: 6.53 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.7	7.9	19.7	U
11104-28-2	Aroclor 1221	1	1	19.7	7.9	19.7	U
11141-16-5	Aroclor 1232	1	1	19.7	7.9	19.7	U
53469-21-9	Aroclor 1242	1	1	19.7	7.9	19.7	U
12672-29-6	Aroclor 1248	2	1	497	7.9	19.7	
11097-69-1	Aroclor 1254	2	1	711	7.9	19.7	
11096-82-5	Aroclor 1260	2	1	364	9.2	19.7	
37324-23-5	Aroclor 1262	1	1	19.7	9.2	19.7	U
11100-14-4	Aroclor 1268	1	1	19.7	9.2	19.7	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.459	32.0	81.1	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.459	22.2	56.2	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.459	32.4	82.1	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.459	25.9	65.7	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111625ECD5.D
Data file 2: /20201116.b/20201116.b/20111625ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-20
Client ID:
Injection Date: 17-NOV-2020 00:30
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	-0.002	860827	6.310	-0.002	758625	22.5	26.3	15.5	Tetrachloro-m-xylene
13.901	-0.007	966259	14.526	-0.006	995064	32.5	32.8	1.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	56.2	65.7
Decachlorobiphenyl	81.1	82.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2618326	-3.1
Hexabromobiphenyl	3964848	2515119	-36.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2244681	-23.0
Hexabromobiphenyl	2801720	2430898	-13.2

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.003	102853	96.1	1	7.777	-0.004	104189	83.7	
Aroclor-1016	2	7.833	-0.003	355597	104.7	2	8.344	-0.010	309021	122.3	
Aroclor-1016	3	7.965	-0.007	169451	121.4	3	8.539	-0.007	116846	110.1	
Aroclor-1016	4	8.281	-0.004	424382	458.0	4	9.182	-0.005	400542	512.6	
Total CollAve (4 peaks):				195.1		Total Col2Ave (4 peaks):				207.2	RPD = 6
Corrected Ave (3 peaks):				107.4		Corrected Ave (3 peaks):				105.4	RPD = 2
Aroclor-1221	1	5.121	0.040	11958	47.6	1	5.634	-0.019	59065	293.7	
Aroclor-1221	2	6.545	-0.008	30489	85.5	2	6.902	0.023	34948	85.7	
Aroclor-1221	3	6.634	-0.006	38761	38.3	3	7.114	0.026	23205	105.7	
Total CollAve (3 peaks):				57.2		Total Col2Ave (3 peaks):				161.7	RPD = 96*
Corrected Ave (3 peaks):						Corrected Ave (3 peaks):					
Aroclor-1232	1	5.121	0.040	11958	79.8	1	5.634	-0.020	59065	503.4	
Aroclor-1232	2	7.478	-0.006	102853	218.4	2	7.777	-0.009	104189	180.1	
Aroclor-1232	3	7.833	-0.003	355597	244.7	3	8.344	-0.013	309021	284.6	
Aroclor-1232	4	7.965	-0.009	169451	279.1	4	8.539	-0.010	116846	256.4	
Total CollAve (4 peaks):				205.5		Total Col2Ave (4 peaks):				306.1	RPD = 39
Corrected Ave (3 peaks):				181.0		Corrected Ave (3 peaks):				240.3	RPD = 28
Aroclor-1242	1	7.478	-0.004	102853	121.9	1	7.777	-0.007	104189	104.6	
Aroclor-1242	2	7.833	-0.003	355597	133.4	2	8.344	-0.011	309021	151.9	
Aroclor-1242	3	9.063	-0.010	779378	804.6	3	9.676	-0.014	359643	542.4	
Aroclor-1242	4	9.319	-0.031	1250252	1181.2	4	9.987	-0.044	897600	1099.6	
Total CollAve (4 peaks):				560.3		Total Col2Ave (4 peaks):				474.6	RPD = 17
Corrected Ave (3 peaks):				353.3		Corrected Ave (3 peaks):				266.3	RPD = 28
Aroclor-1248	1	8.558	-0.007	665531	482.3	1	8.785	-0.005	412111	482.6	
Aroclor-1248	2	8.721	-0.008	342054	204.6	2	9.182	-0.006	400542	393.6	
Aroclor-1248	3	9.123	-0.006	1009780	486.8	3	9.600	-0.011	621783	463.4	
Aroclor-1248	4	9.319	-0.034	1250252	807.5	4	9.987	-0.045	897600	674.2	
Total CollAve (4 peaks):				495.3		Total Col2Ave (4 peaks):				503.4	RPD = 2
Corrected Ave (3 peaks):				391.2		Corrected Ave (3 peaks):				446.5	RPD = 13
Aroclor-1254	1	9.123	-0.010	1009780	545.9	1	9.891	-0.010	1554092	1199.9	
Aroclor-1254	2	9.414	-0.008	1303039	523.9	2	9.987	-0.008	897600	1255.6	
Aroclor-1254	3	9.487	-0.008	445447	470.5	3	10.406	-0.009	661659	633.4	
Aroclor-1254	4	9.783	0.005	5746955	3496.2	4	10.552	-0.011	1710340	752.6	
Aroclor-1254	5	9.898	-0.011	1760700	545.0	5	11.313	-0.019	1081738	775.1	
Total CollAve (5 peaks):				1116.3		Total Col2Ave (5 peaks):				911.3	RPD = 20
Corrected Ave (4 peaks):				521.3		Corrected Ave (4 peaks):				825.2	RPD = 45*
						720.3					
Aroclor-1260	1	11.418	-0.009	440372	298.7	1	11.620	-0.008	418414	287.5	
Aroclor-1260	2	11.778	-0.010	1256757	341.1	2	12.071	-0.008	809537	458.8	
Aroclor-1260	3	12.169	-0.015	688098	345.0	3	12.325	-0.010	1214372	346.4	
Aroclor-1260	4	12.281	-0.010	276811	337.3	4	13.626	-0.009	364116	385.0	
Aroclor-1260	5	12.353	-0.011	318634	330.2	NS	---	---	---	---	
Total CollAve (5 peaks):				330.4		Total Col2Ave (4 peaks):				369.4	RPD = 11
Corrected Ave (4 peaks):				326.8		Corrected Ave (3 peaks):				339.6	RPD = 4
Aroclor-1262	1	11.110	-0.008	434993	202.5	1	11.620	-0.011	418414	186.6	
Aroclor-1262	2	11.778	-0.009	1256757	273.5	2	12.071	-0.011	809537	462.0	
Aroclor-1262	3	12.169	-0.013	688098	428.9	3	12.325	-0.012	1214372	271.3	
Aroclor-1262	4	12.281	-0.011	276811	196.4	4	12.843	-0.011	344918	217.2	
Aroclor-1262	5	12.353	-0.010	318634	194.5	NS	---	---	---	---	
Total CollAve (5 peaks):				259.2		Total Col2Ave (4 peaks):				284.3	RPD = 9
Corrected Ave (4 peaks):				216.7		Corrected Ave (3 peaks):				225.1	RPD = 4
Aroclor-1268	1	12.281	-0.011	276811	57.0	1	12.843	-0.010	344918	75.6	
Aroclor-1268	2	12.353	-0.009	318634	68.5	2	12.906	-0.014	843641	186.6	
Aroclor-1268	3	12.747	0.007	225250	54.5	3	13.301	-0.015	49986	13.4	
Aroclor-1268	4	13.300	-0.011	125489	10.0	4	14.111	-0.013	122834	11.1	

Total Col1Ave (4 peaks):	47.7	Total Col2Ave (4 peaks):	71.7	RPD = 40*
Corrected Ave (3 peaks):	40.8	Corrected Ave (3 peaks):	33.4	RPD = 20

Total PCB Area Col1 (6.196 - 13.808) = 31883241 Col1 Total PCB = 1.02 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 30814851 Col2 Total PCB = 1.13 ppm*

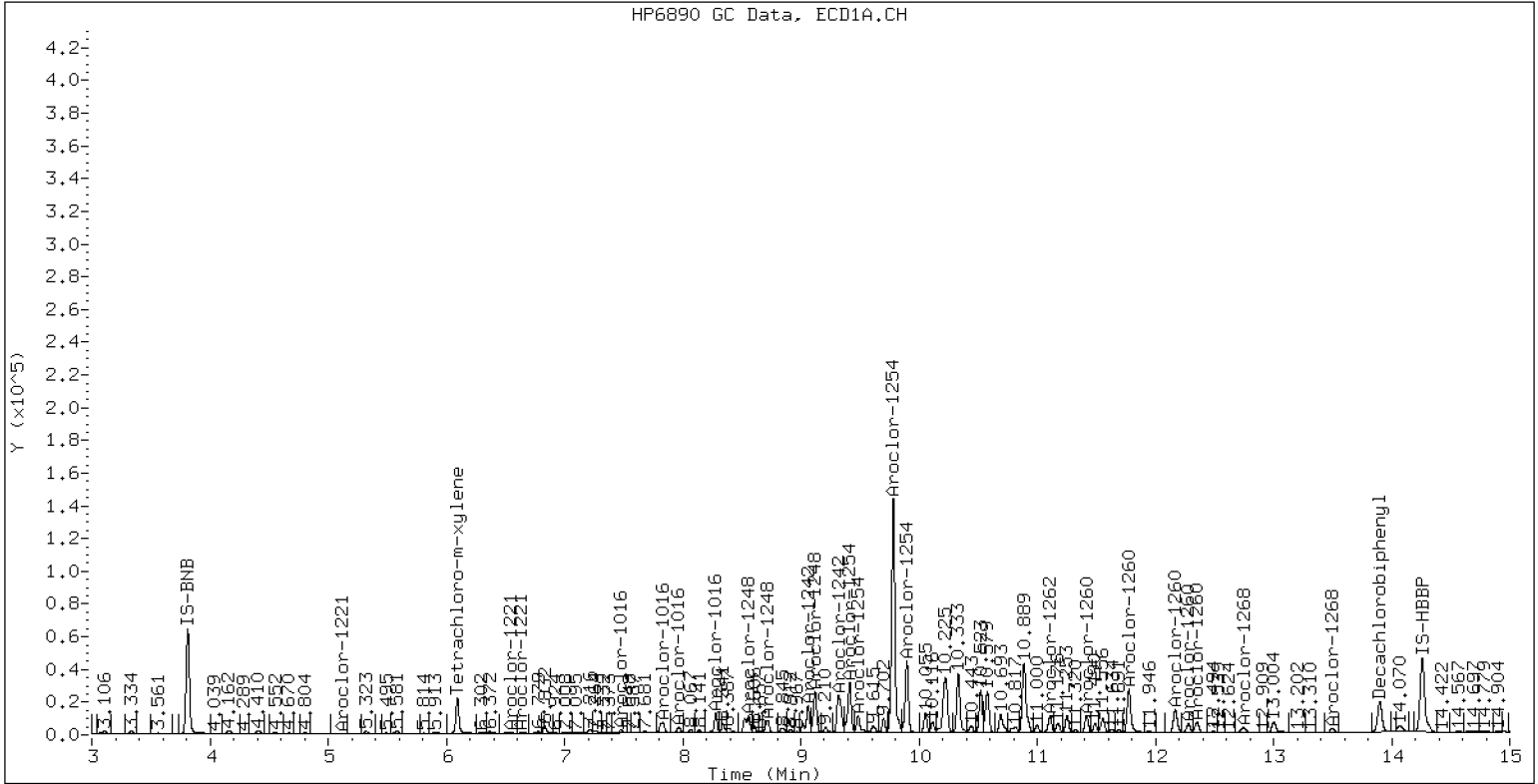
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

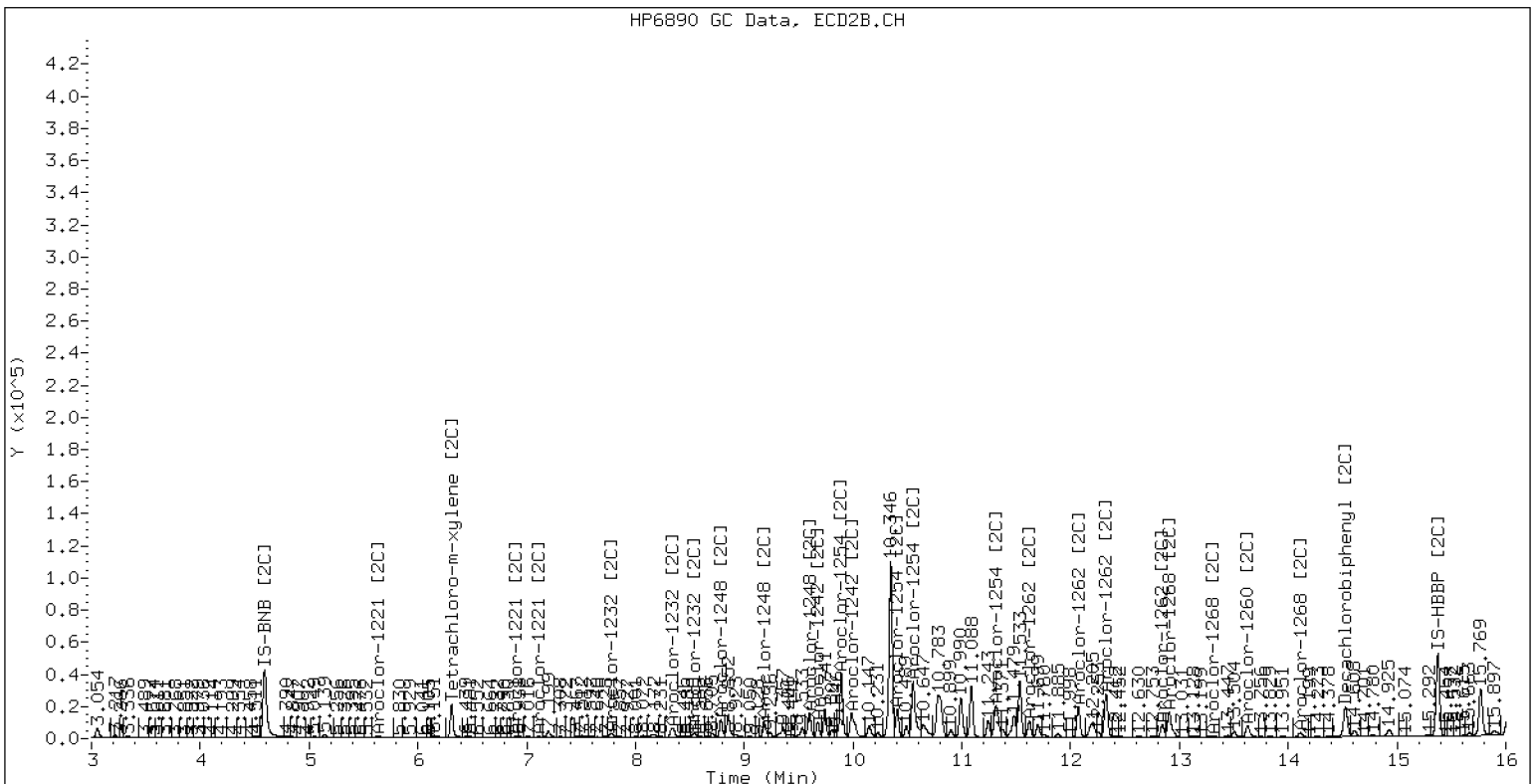
ECD5-ZB5 /20201116.b/20111625ECD5.D 20K0008-20

17-NOV-2020 00:30 2ul JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111625ECD5.D 20K0008-20



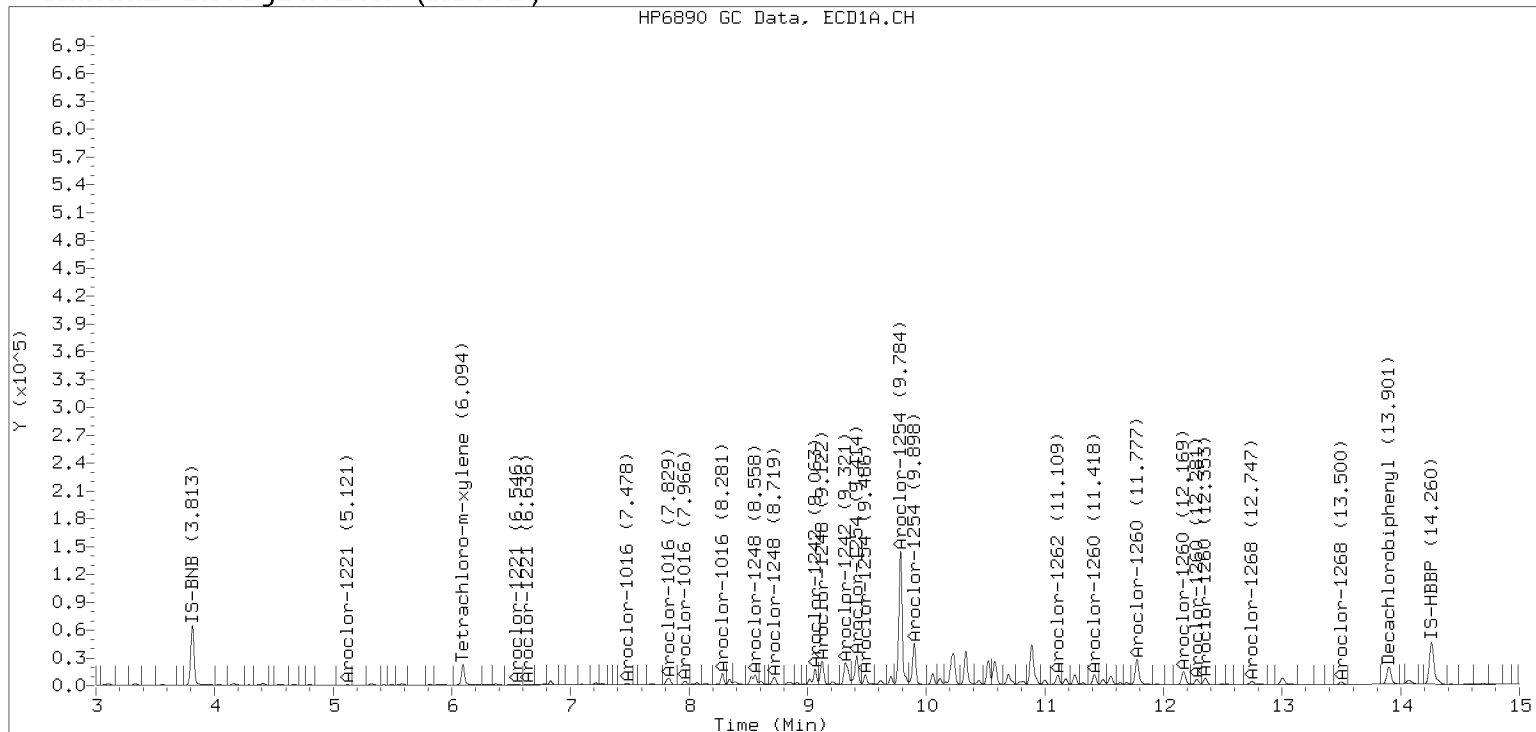
ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

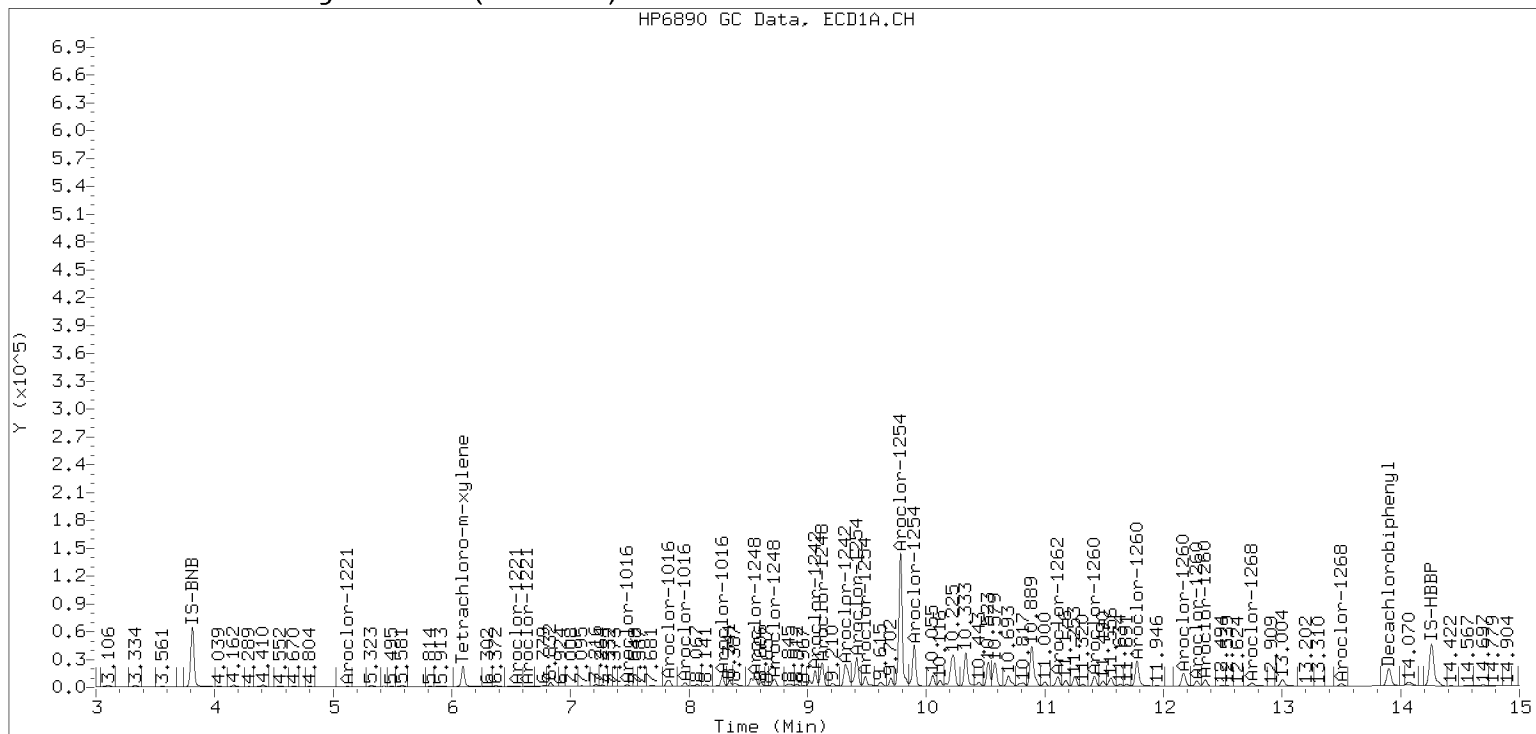
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Injection Date: 17-NOV-2020 00:3

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP19-7.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-22 A File ID: 20111626ECD5.D
 Sampled: 10/29/20 13:40 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 00:50
 % Solids: 73.98 Preparation: EPA 3546 (Microwave) Initial/Final: 6.77 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	20.0	8.0	20.0	U
11104-28-2	Aroclor 1221	1	1	20.0	8.0	20.0	U
11141-16-5	Aroclor 1232	1	1	20.0	8.0	20.0	U
53469-21-9	Aroclor 1242	1	1	20.0	8.0	20.0	U
12672-29-6	Aroclor 1248	2	1	160	8.0	20.0	
11097-69-1	Aroclor 1254	1	1	108	8.0	20.0	
11096-82-5	Aroclor 1260	1	1	46.6	9.3	20.0	
37324-23-5	Aroclor 1262	1	1	20.0	9.3	20.0	U
11100-14-4	Aroclor 1268	1	1	20.0	9.3	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.933	30.4	76.2	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.933	24.6	61.6	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.933	27.5	69.0	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.933	29.9	74.9	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111626ECD5.D
Data file 2: /20201116.b/20201116.b/20111626ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K000822
Client ID:
Injection Date: 17-NOV-2020 00:50
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.095	-0.001	1133108	6.311	-0.002	1037308	24.6	30.0	19.5	Tetrachloro-m-xylene
13.903	-0.005	1154359	14.527	-0.005	1013194	30.5	27.6	9.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	61.6	74.9
Decachlorobiphenyl	76.2	69.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3145439	16.4
Hexabromobiphenyl	3964848	3199867	-19.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2689801	-7.7
Hexabromobiphenyl	2801720	2946508	5.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.479	-0.002	166954	129.8	1	7.777	-0.005	204057	136.9	
Aroclor-1016	2	7.835	-0.001	387096	94.9	2	8.347	-0.006	327887	108.3	
Aroclor-1016	3	7.967	-0.005	260867	155.6	3	8.540	-0.006	129579	101.9	
Aroclor-1016	4	8.282	-0.003	188454	169.3	4	9.184	-0.003	233570	249.5	
Total CollAve (4 peaks):				137.4		Total Col2Ave (4 peaks):				149.1	RPD = 8
Corrected Ave (3 peaks):				126.8		Corrected Ave (3 peaks):				115.7	RPD = 9
Aroclor-1221	1	5.120	0.039	17130	56.8	1	5.634	-0.019	13412	55.7	
Aroclor-1221	2	6.548	-0.006	48248	112.7	2	6.904	0.024	48888	100.1	
Aroclor-1221	3	6.635	-0.005	42394	34.9	3	7.079	-0.009	6808	25.9	
Total CollAve (3 peaks):				68.1		Total Col2Ave (3 peaks):				60.5	RPD = 12
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.120	0.039	17130	95.1	1	5.634	-0.019	13412	95.4	
Aroclor-1232	2	7.479	-0.005	166954	295.1	2	7.777	-0.009	204057	294.3	
Aroclor-1232	3	7.835	-0.001	387096	221.7	3	8.347	-0.009	327887	252.0	
Aroclor-1232	4	7.967	-0.007	260867	357.7	4	8.540	-0.009	129579	237.3	
Total CollAve (4 peaks):				242.4		Total Col2Ave (4 peaks):				219.7	RPD = 10
Corrected Ave (3 peaks):				204.0		Corrected Ave (3 peaks):				194.9	RPD = 5
Aroclor-1242	1	7.479	-0.003	166954	164.7	1	7.777	-0.007	204057	170.9	
Aroclor-1242	2	7.835	-0.001	387096	120.8	2	8.347	-0.007	327887	134.5	
Aroclor-1242	3	9.066	-0.006	261069	224.4	3	9.680	-0.009	156538	197.0	
Aroclor-1242	4	9.340	-0.011	298483	234.7	4	10.016	-0.015	169114	172.9	
Total CollAve (4 peaks):				186.2		Total Col2Ave (4 peaks):				168.8	RPD = 10
Corrected Ave (3 peaks):				170.0		Corrected Ave (3 peaks):				159.4	RPD = 6
Aroclor-1248	1	8.561	-0.004	258237	155.8	1	8.786	-0.003	195162	190.7	
Aroclor-1248	2	8.720	-0.009	287259	143.0	2	9.184	-0.003	233570	191.5	
Aroclor-1248	3	9.120	-0.009	310242	124.5	3	9.603	-0.009	243518	151.5	
Aroclor-1248	4	9.340	-0.014	298483	160.5	4	10.016	-0.016	169114	106.0	
Total CollAve (4 peaks):				145.9		Total Col2Ave (4 peaks):				159.9	RPD = 9
Corrected Ave (3 peaks):				141.1		Corrected Ave (3 peaks):				149.4	RPD = 6
Aroclor-1254	1	9.120	-0.013	310242	139.6	1	9.894	-0.008	200624	122.8	
Aroclor-1254	2	9.384	-0.038	452006	151.3	2	9.987	-0.007	303161	355.9	
Aroclor-1254	3	9.488	-0.007	92300	81.2	3	10.407	-0.008	92415	73.8	
Aroclor-1254	4	9.788	0.009	1976462	1000.9	4	10.554	-0.008	244497	89.8	
Aroclor-1254	5	9.902	-0.008	234835	60.5	5	11.318	-0.014	213406	127.6	
Total CollAve (5 peaks):				286.7		Total Col2Ave (5 peaks):				153.6	RPD = 60*
Corrected Ave (4 peaks):				108.1		Corrected Ave (4 peaks):				103.5	RPD = 4
Aroclor-1260	1	11.422	-0.006	116479	62.1	1	11.622	-0.006	77872	44.1	
Aroclor-1260	2	11.780	-0.008	227313	48.5	2	12.074	-0.005	105303	49.2	
Aroclor-1260	3	12.173	-0.011	109593	43.2	3	12.328	-0.007	185230	43.6	
Aroclor-1260	4	12.284	-0.007	40848	39.1	4	13.626	-0.009	112132	97.8	
Aroclor-1260	5	12.357	-0.007	49737	40.5	NS	---	---	---	---	
Total CollAve (5 peaks):				46.7		Total Col2Ave (4 peaks):				58.7	RPD = 23
Corrected Ave (4 peaks):				42.8		Corrected Ave (3 peaks):				45.7	RPD = 6
Aroclor-1262	1	11.113	-0.006	89111	32.6	1	11.622	-0.009	77872	28.7	
Aroclor-1262	2	11.780	-0.007	227313	38.9	2	12.074	-0.007	105303	49.6	
Aroclor-1262	3	12.173	-0.010	109593	53.7	3	12.328	-0.009	185230	34.1	
Aroclor-1262	4	12.284	-0.007	40848	22.8	4	12.847	-0.007	30256	15.7	
Aroclor-1262	5	12.357	-0.006	49737	23.9	NS	---	---	---	---	
Total CollAve (5 peaks):				34.4		Total Col2Ave (4 peaks):				32.0	RPD = 7
Corrected Ave (4 peaks):				29.5		Corrected Ave (3 peaks):				26.2	RPD = 12
Aroclor-1268	1	12.284	-0.007	40848	6.6	1	12.847	-0.006	30256	5.5	
Aroclor-1268	2	12.357	-0.005	49737	8.4	2	12.910	-0.011	100895	18.4	
Aroclor-1268	3	12.751	0.012	50040	9.5	3	13.301	-0.015	97585	21.6	
Aroclor-1268	4	13.502	-0.008	25469	1.7	4	14.115	-0.009	19754	1.5	

Total Col1Ave (4 peaks):	6.6	Total Col2Ave (4 peaks):	11.7	RPD = 56*
Corrected Ave (3 peaks):	5.6	Corrected Ave (3 peaks):	8.5	RPD = 41*

Total PCB Area Col1 (6.196 - 13.808) = 9639740 Col1 Total PCB = 0.31 ppm*

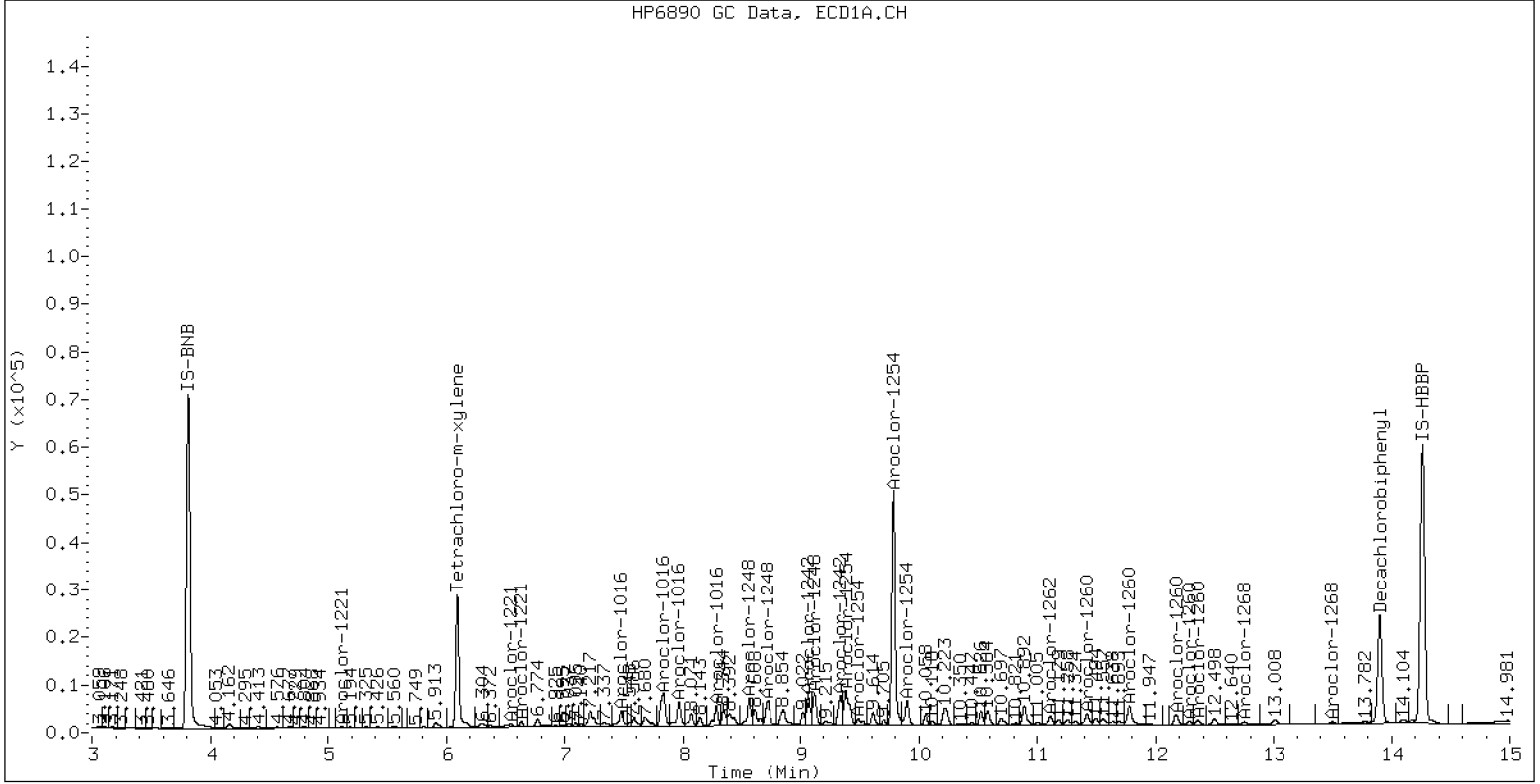
Total PCB Area Col2 (6.196 - 13.808) = 9739116 Col2 Total PCB = 0.36 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

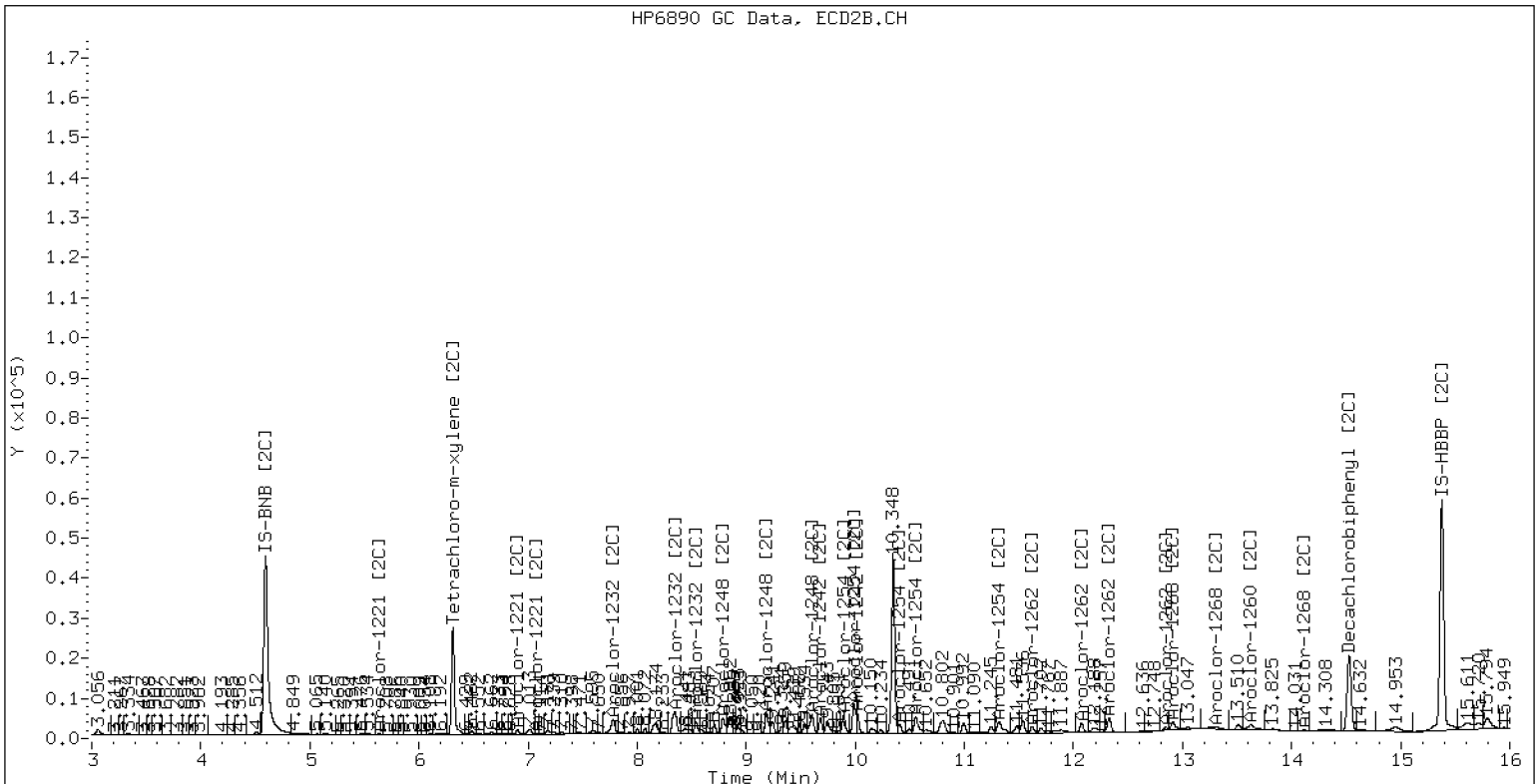
ECD5-ZB5 /20201116.b/20111626ECD5.D 20K000822

17-NOV-2020 00:50 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111626ECD5.D 20K000822



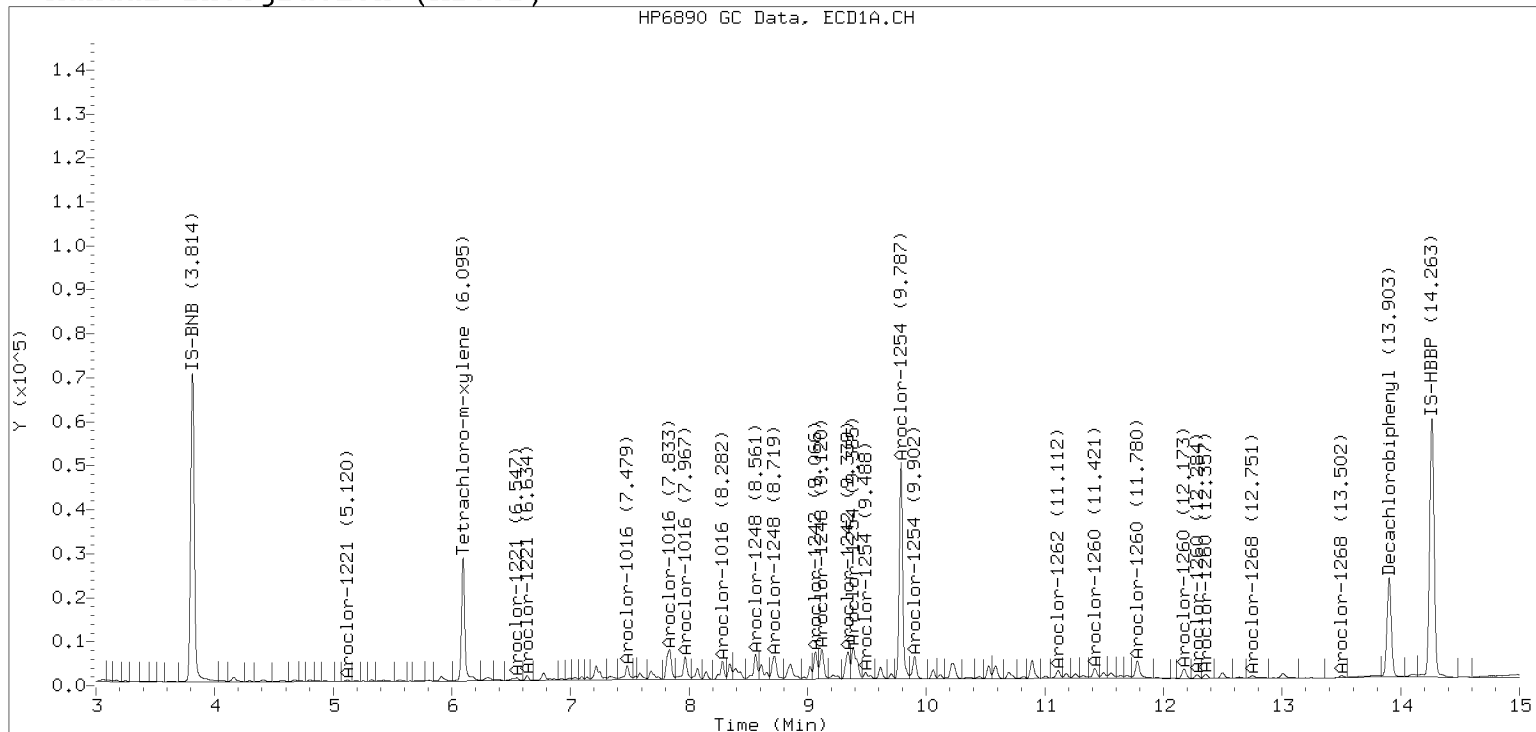
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

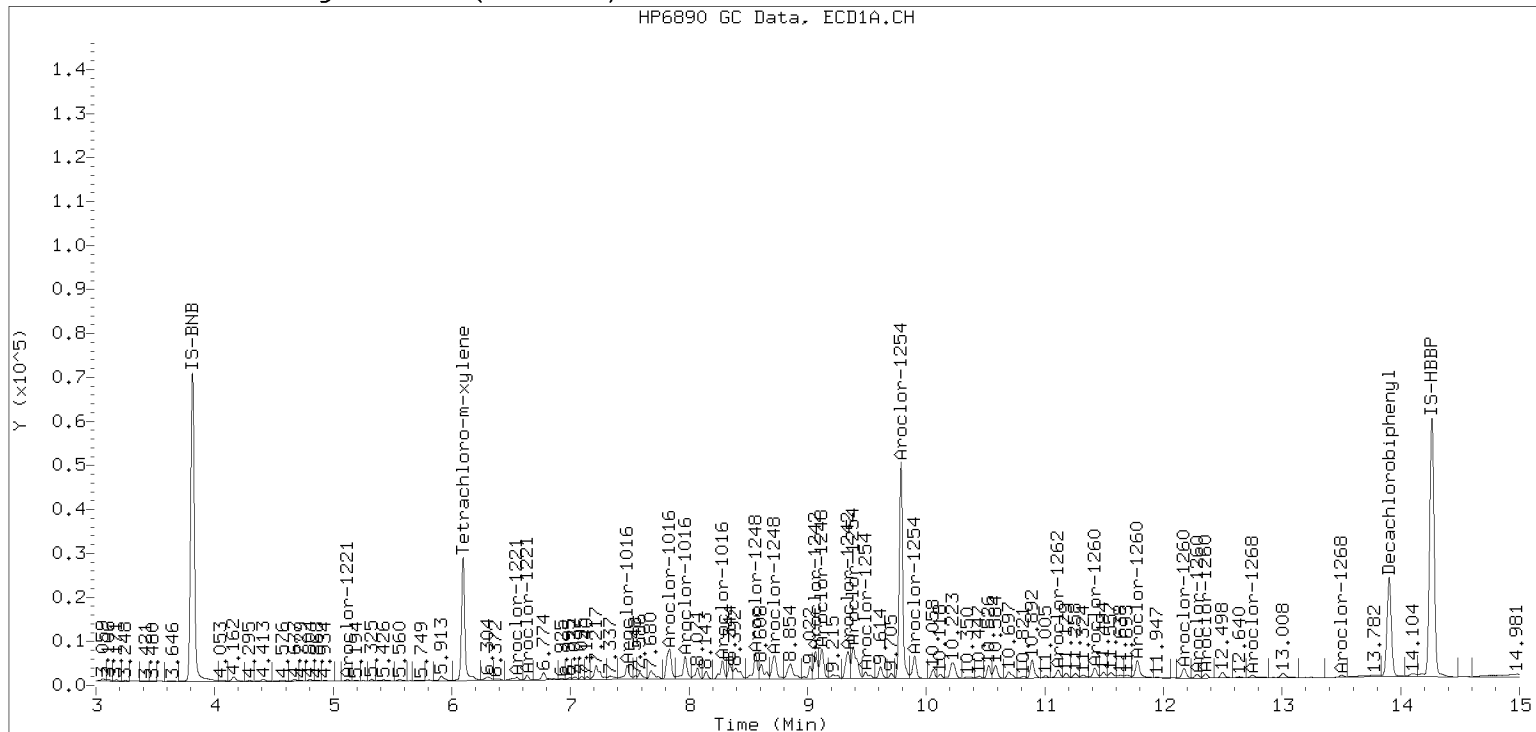
Datafile: ecd5.i/20201116.b/20111626ECD5.D

Injection Date: 17-NOV-2020 00:5

Manual Integration (After)



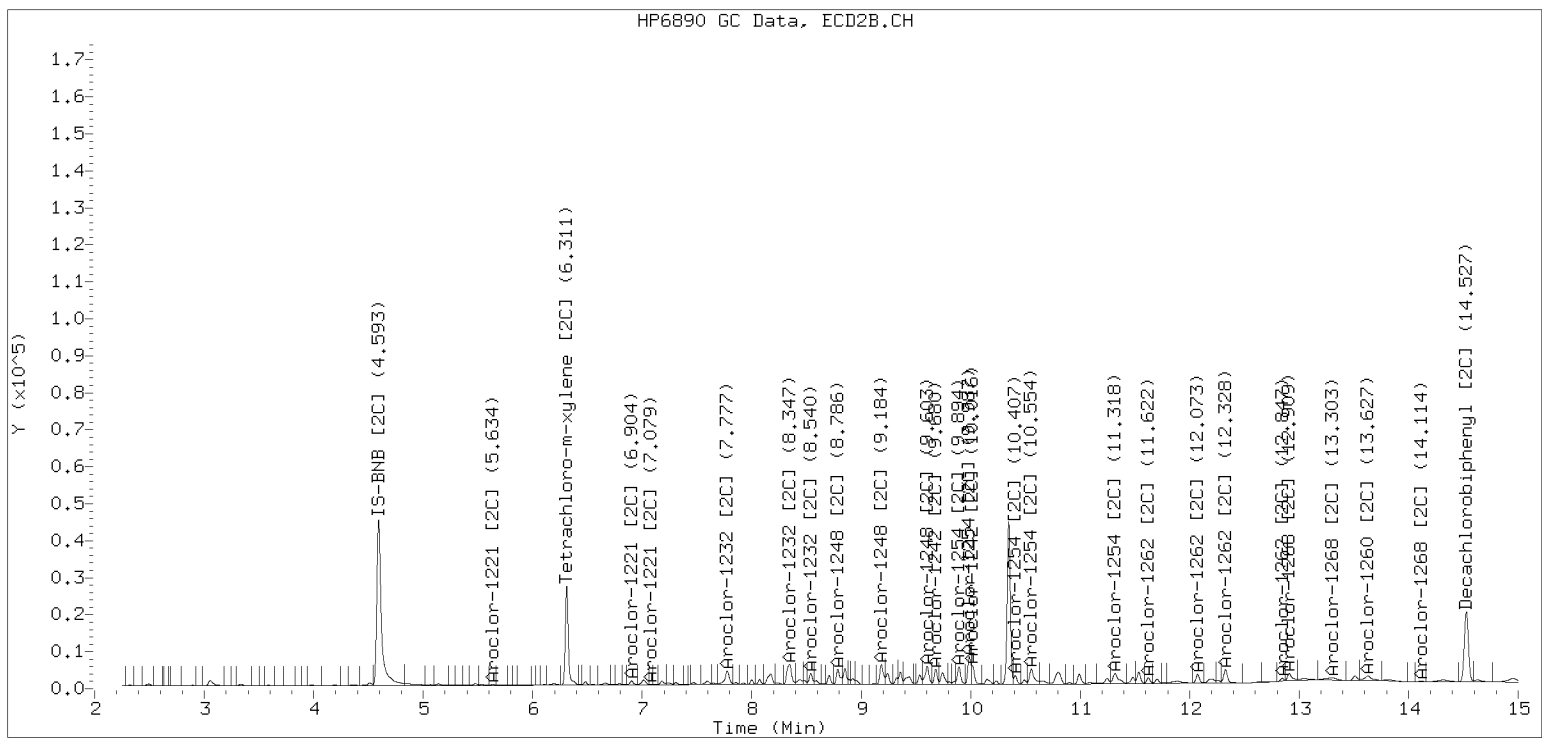
Processed Integration (Before)



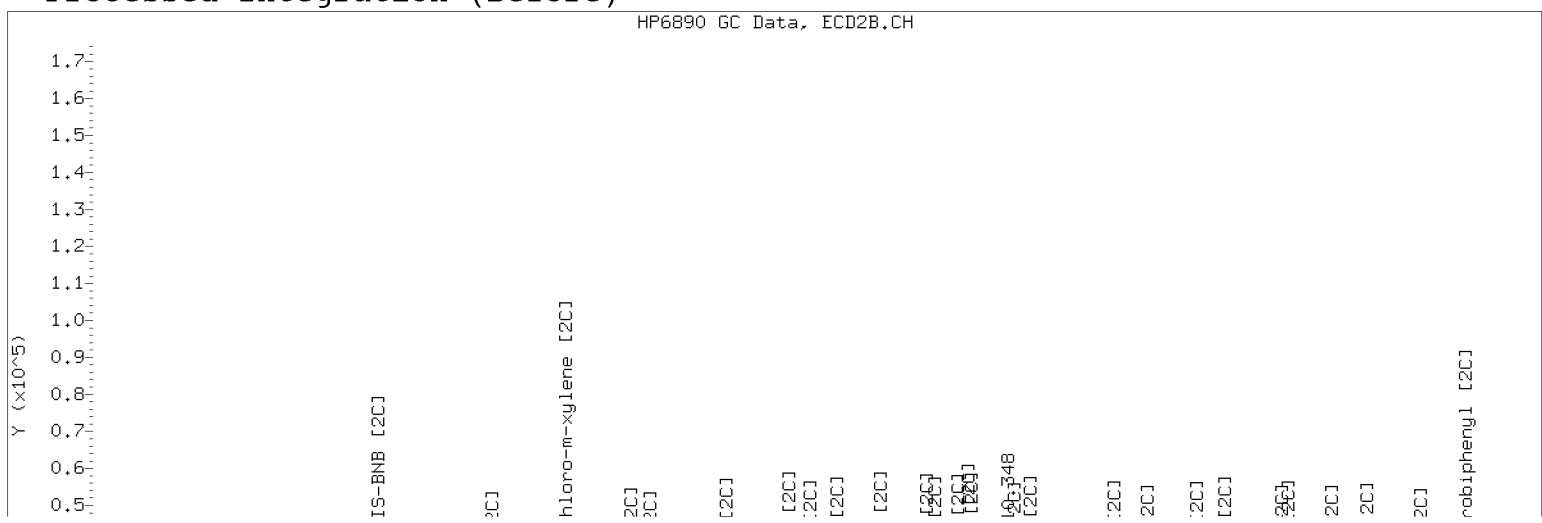
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111626ECD5.D Injection Date: 17-NOV-2020 00:50

Manual Integration (After)



Processed Integration (Before)





ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-26 A File ID: 20111627ECD5.D
 Sampled: 10/29/20 14:30 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 01:11
 % Solids: 80.12 Preparation: EPA 3546 (Microwave) Initial/Final: 6.26 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.9	8.0	19.9	U
11104-28-2	Aroclor 1221	1	1	19.9	8.0	19.9	U
11141-16-5	Aroclor 1232	1	1	19.9	8.0	19.9	U
53469-21-9	Aroclor 1242	1	1	19.9	8.0	19.9	U
12672-29-6	Aroclor 1248	1	1	17.9	8.0	19.9	J
11097-69-1	Aroclor 1254	1	1	12.9	8.0	19.9	J
11096-82-5	Aroclor 1260	2	1	10.3	9.3	19.9	J
37324-23-5	Aroclor 1262	1	1	19.9	9.3	19.9	U
11100-14-4	Aroclor 1268	1	1	19.9	9.3	19.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.876	32.2	80.8	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.876	27.2	68.1	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.876	33.1	83.0	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.876	31.0	77.8	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111627ECD5.D
Data file 2: /20201116.b/20201116.b/20111627ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-26
Client ID:
Injection Date: 17-NOV-2020 01:11
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	-0.002 1290868	-0.002 1177508	6.310	27.2	31.1	13.2	Tetrachloro-m-xylene
13.904	-0.003 1631658	-0.004 1270522	14.528	32.3	33.2	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	68.1	77.8
Decachlorobiphenyl	80.8	83.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3241697	19.9
Hexabromobiphenyl	3964848	4263643	7.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2941963	1.0
Hexabromobiphenyl	2801720	3069222	9.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.476	-0.004	21613	16.3	1	7.779	-0.003	20050	12.3	
Aroclor-1016	2	7.838	0.001	30748	7.3	2	8.347	-0.006	30556	9.2	
Aroclor-1016	3	7.970	-0.002	24603	14.2	3	8.542	-0.004	8347	6.0	
Aroclor-1016	4	8.284	-0.001	20909	18.2	4	9.195	0.008	7768	7.6	
Total CollAve (4 peaks):				14.0	Total Col2Ave (4 peaks):				8.8	RPD = 46*	
Corrected Ave (3 peaks):				12.6	Corrected Ave (3 peaks):				7.6	RPD = 50*	
Aroclor-1221	1	5.119	0.038	15003	48.2	1	5.636	-0.017	3570	13.5	
Aroclor-1221	2	6.549	-0.004	35144	79.6	2	6.903	0.023	30619	57.3	
Aroclor-1221	3	6.634	-0.005	6783	5.4	3	7.115	0.027	3480	12.1	
Total CollAve (3 peaks):				11.1	Total Col2Ave (3 peaks):				27.6	RPD = 47*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	5.119	0.038	15003	80.8	1	5.636	-0.017	3570	23.2	
Aroclor-1232	2	7.476	-0.008	21613	37.1	2	7.779	-0.007	20050	26.4	
Aroclor-1232	3	7.838	0.002	30748	17.1	3	8.347	-0.010	30556	21.5	
Aroclor-1232	4	7.970	-0.004	24603	32.7	4	8.542	-0.007	8347	14.0	
Total CollAve (4 peaks):				41.9	Total Col2Ave (4 peaks):				21.3	RPD = 65*	
Corrected Ave (3 peaks):				29.0	Corrected Ave (3 peaks):				19.6	RPD = 39	
Aroclor-1242	1	7.476	-0.006	21613	20.7	1	7.779	-0.005	20050	15.4	
Aroclor-1242	2	7.838	0.001	30748	9.3	2	8.347	-0.007	30556	11.5	
Aroclor-1242	3	9.066	-0.006	41991	35.0	3	9.694	0.005	8478	9.8	
Aroclor-1242	4	9.328	-0.023	29822	22.8	4	10.018	-0.012	20800	19.4	
Total CollAve (4 peaks):				21.9	Total Col2Ave (4 peaks):				14.0	RPD = 44*	
Corrected Ave (3 peaks):				17.6	Corrected Ave (3 peaks):				12.2	RPD = 36	
Aroclor-1248	1	8.562	-0.003	30020	17.6	1	8.786	-0.004	17050	15.2	
Aroclor-1248	2	8.724	-0.005	45836	22.1	2	9.195	0.008	7768	5.8	
Aroclor-1248	3	9.123	-0.006	42151	16.4	3	9.605	-0.007	13782	7.8	
Aroclor-1248	4	9.328	-0.025	20822	15.6	4	10.018	-0.014	20800	11.9	
Total CollAve (4 peaks):				17.9	Total Col2Ave (4 peaks):				10.2	RPD = 55*	
Corrected Ave (3 peaks):				16.5	Corrected Ave (3 peaks):				8.5	RPD = 64*	
Aroclor-1254	1	9.123	-0.009	42151	18.4	1	9.894	-0.007	69430	38.9	
Aroclor-1254	2	9.416	-0.006	40536	13.2	2	9.989	-0.005	14774	15.8	
Aroclor-1254	3	9.488	-0.007	9448	8.1	3	10.409	-0.006	10799	7.9	
Aroclor-1254	4	9.789	0.010	217624	106.9	4	10.551	-0.011	11634	3.9	
Aroclor-1254	5	9.902	-0.008	47438	11.9	5	11.324	-0.008	22520	12.3	
Total CollAve (5 peaks):				21.7	Total Col2Ave (5 peaks):				15.7	RPD = 67*	
Corrected Ave (4 peaks):				12.9	Corrected Ave (4 peaks):				10.0	RPD = 25	
Aroclor-1260	1	11.424	-0.004	20680	8.3	1	11.625	-0.003	16703	9.1	
Aroclor-1260	2	11.784	-0.005	60454	9.7	2	12.074	-0.004	29684	13.3	
Aroclor-1260	3	12.174	-0.010	34426	10.2	3	12.329	-0.006	41198	9.3	
Aroclor-1260	4	12.285	-0.006	13451	9.7	4	13.629	-0.006	11247	9.4	
Aroclor-1260	5	12.358	-0.006	17194	10.5	NS	---	---	---	---	
Total CollAve (5 peaks):				9.7	Total Col2Ave (4 peaks):				10.3	RPD = 6	
Corrected Ave (4 peaks):				9.5	Corrected Ave (3 peaks):				9.5	RPD = 2	
Aroclor-1262	1	11.113	-0.006	25269	6.9	1	11.625	-0.006	16703	5.9	
Aroclor-1262	2	11.784	-0.003	60454	7.8	2	12.074	-0.007	29684	13.4	
Aroclor-1262	3	12.174	-0.008	34426	12.7	3	12.329	-0.008	41198	7.3	
Aroclor-1262	4	12.285	-0.006	13451	5.6	4	12.846	-0.008	16313	8.1	
Aroclor-1262	5	12.358	-0.005	17194	6.2	NS	---	---	---	---	
Total CollAve (5 peaks):				7.8	Total Col2Ave (4 peaks):				8.7	RPD = 10	
Corrected Ave (4 peaks):				6.6	Corrected Ave (3 peaks):				7.1	RPD = 7	
Aroclor-1268	1	12.285	-0.006	13451	1.6	1	12.846	-0.007	16313	2.8	
Aroclor-1268	2	12.358	-0.004	17194	2.2	2	12.909	-0.011	33793	5.9	
Aroclor-1268	3	12.746	0.006	14407	2.1	3	13.308	-0.008	9081	1.9	
Aroclor-1268	4	13.507	-0.004	16766	0.9	4	14.114	-0.010	13468	1.0	

Total Col1Ave (4 peaks):	1.7	Total Col2Ave (4 peaks):	2.9	RPD = 54*
Corrected Ave (3 peaks):	1.5	Corrected Ave (3 peaks):	1.9	RPD = 23

Total PCB Area Col1 (6.196 - 13.808) = 1758288 Col1 Total PCB = 0.06 ppm*

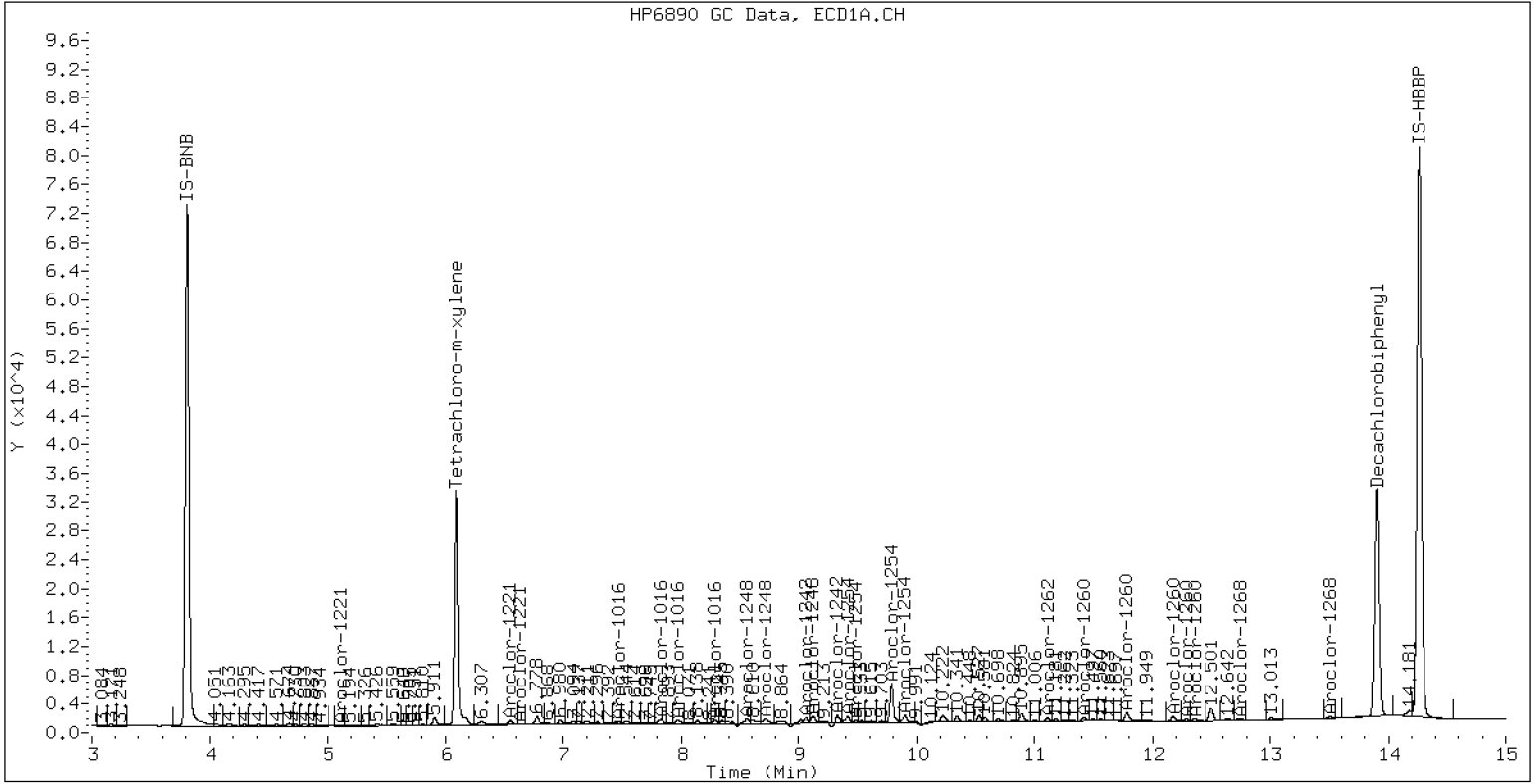
Total PCB Area Col2 (6.196 - 13.808) = 2541891 Col2 Total PCB = 0.09 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

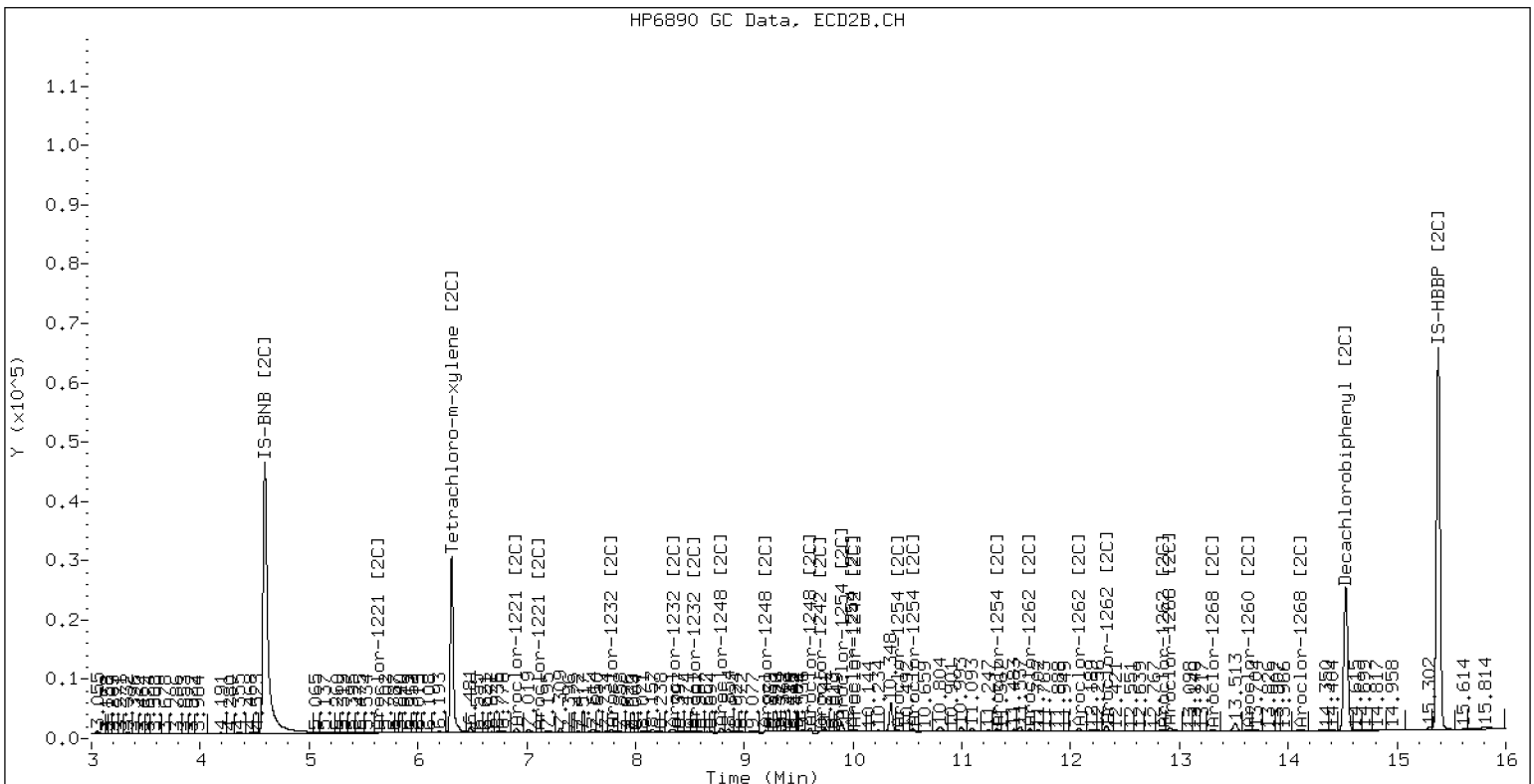
ECD5-ZB5 /20201116.b/20111627ECD5.D 20K0008-26

17-NOV-2020 01:11 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111627ECD5.D 20K0008-26



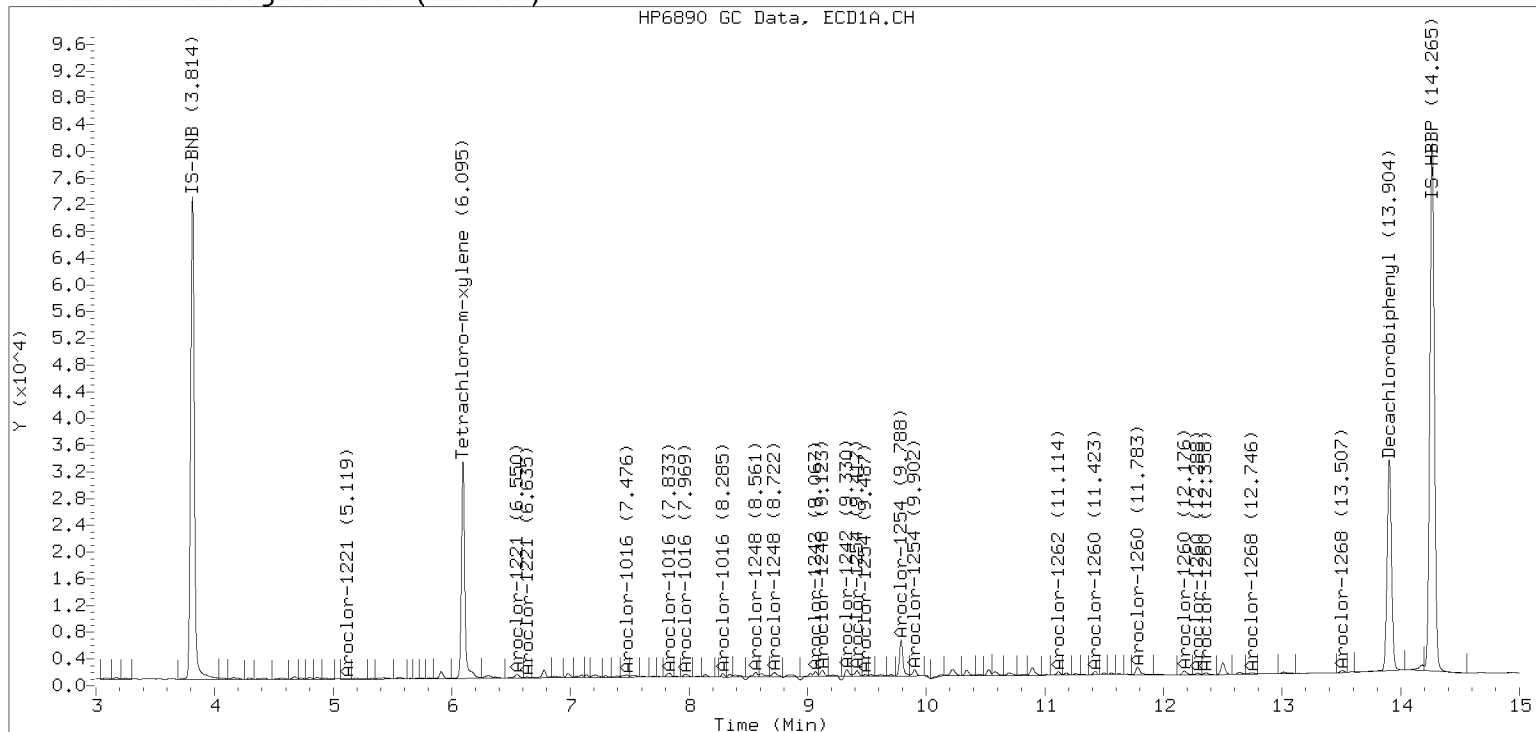
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

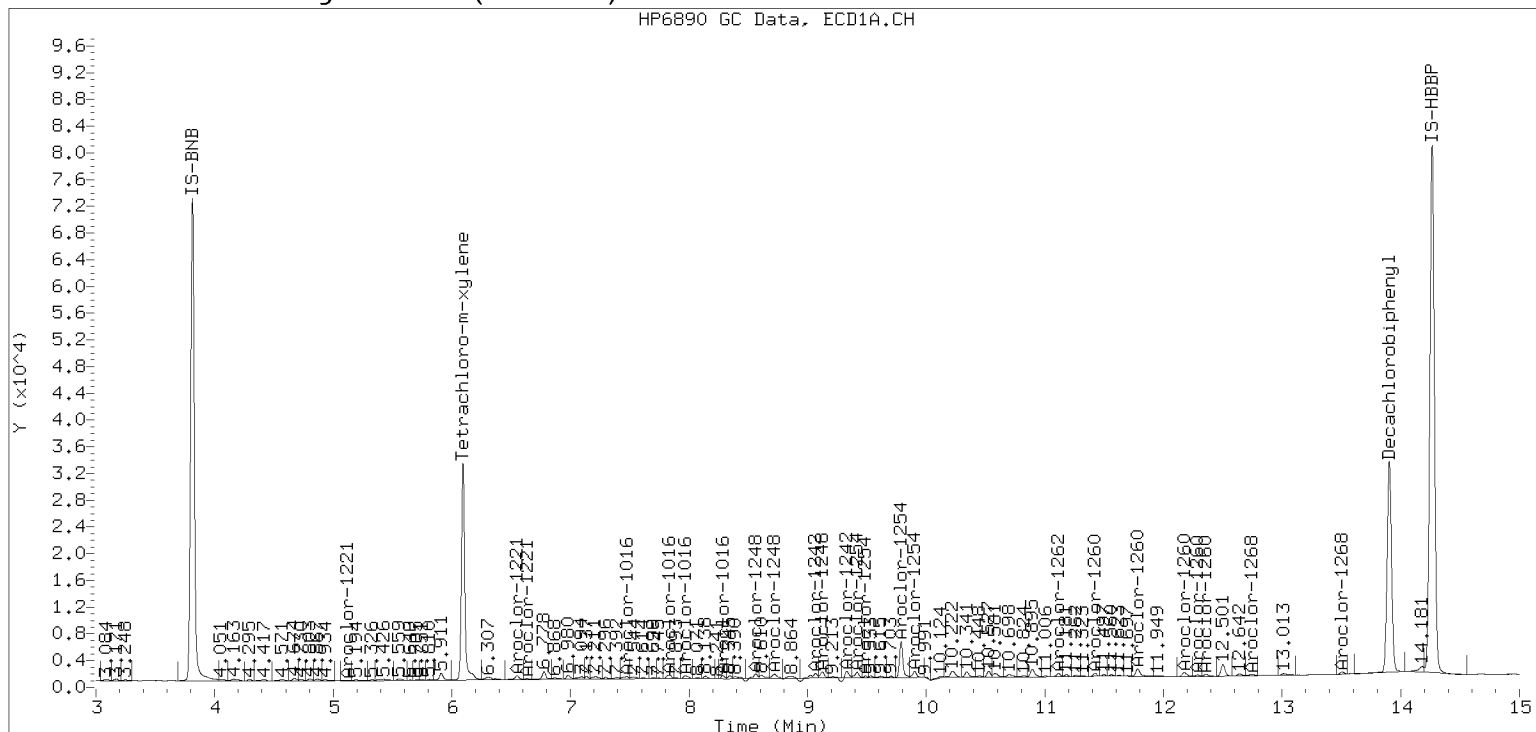
Datafile: ecd5.i/20201116.b/20111627ECD5.D

Injection Date: 17-NOV-2020 01:1

Manual Integration (After)



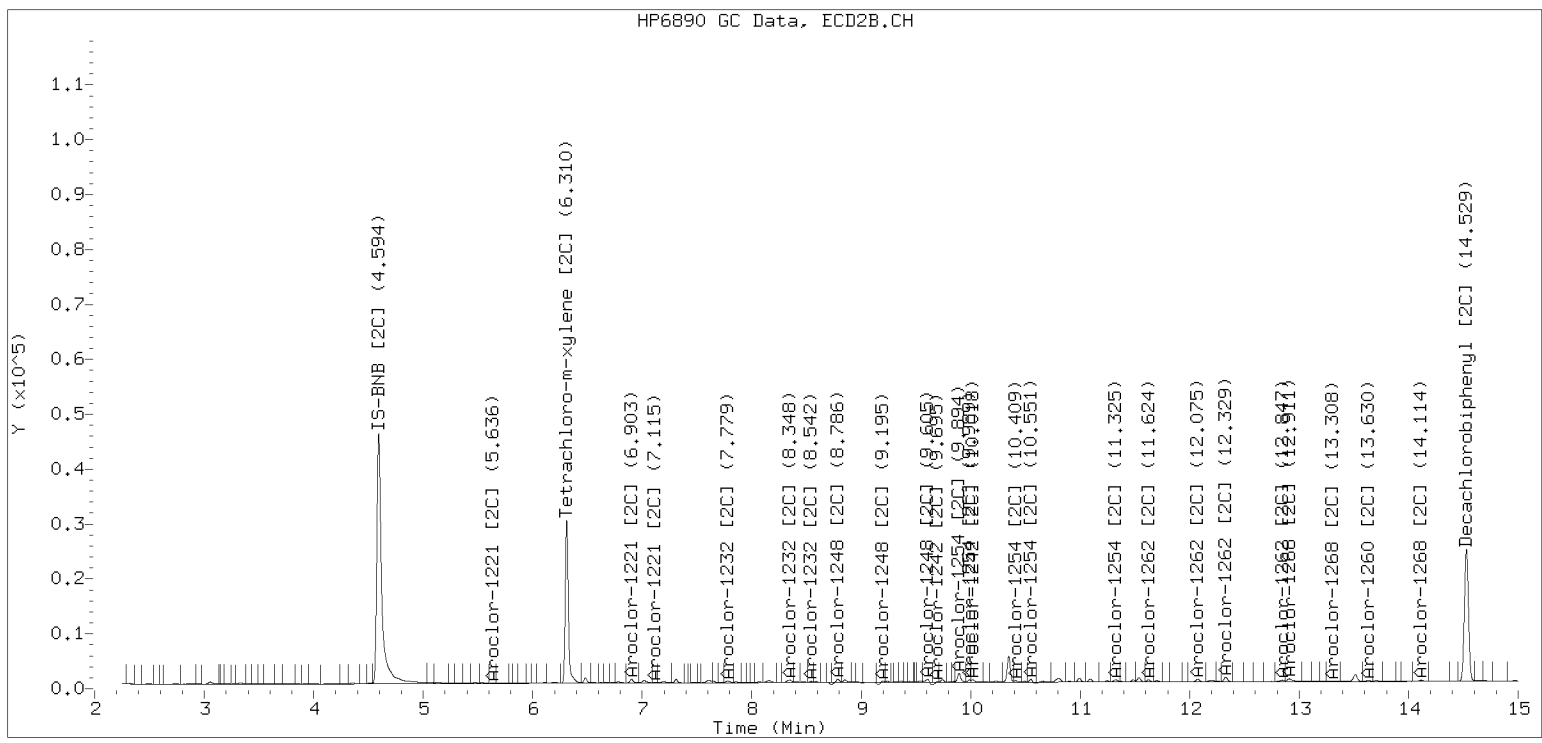
Processed Integration (Before)



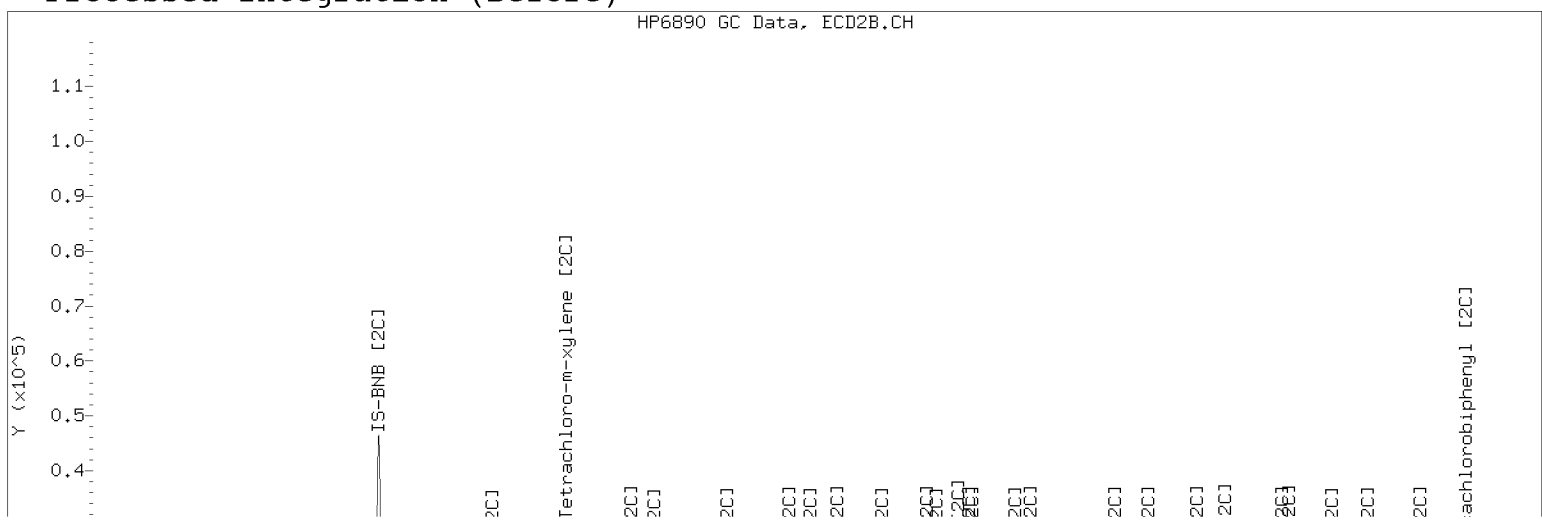
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111627ECD5.D Injection Date: 17-NOV-2020 01:11

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP20-10

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-28 A File ID: 20111628ECD5.D
 Sampled: 10/29/20 14:40 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 01:32
 % Solids: 72.00 Preparation: EPA 3546 (Microwave) Initial/Final: 6.96 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	20.0	8.0	20.0	U
11104-28-2	Aroclor 1221	1	1	20.0	8.0	20.0	U
11141-16-5	Aroclor 1232	1	1	20.0	8.0	20.0	U
53469-21-9	Aroclor 1242	1	1	20.0	8.0	20.0	U
12672-29-6	Aroclor 1248	1	1	20.0	8.0	20.0	U
11097-69-1	Aroclor 1254	1	1	20.0	8.0	20.0	U
11096-82-5	Aroclor 1260	1	1	20.0	9.3	20.0	U
37324-23-5	Aroclor 1262	1	1	20.0	9.3	20.0	U
11100-14-4	Aroclor 1268	1	1	20.0	9.3	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.911	32.4	81.2	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.911	28.3	70.8	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111628ECD5.D
Data file 2: /20201116.b/20201116.b/20111628ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-28
Client ID:
Injection Date: 17-NOV-2020 01:32
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.095	-0.001 1296846	6.311 -0.002 1184295	28.3	31.0	9.0	Tetrachloro-m-xylene	
13.904	-0.004 1733909	14.528 -0.004 1264224	32.5	33.0	1.8	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	70.8	77.5
Decachlorobiphenyl	81.2	82.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3131631	15.9
Hexabromobiphenyl	3964848	4511327	13.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2968836	1.9
Hexabromobiphenyl	2801720	3069595	9.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.447	-0.033	9364	7.3	1	7.778	-0.003	4908	3.0	
Aroclor-1016	2	7.833	-0.004	4202	1.0	2	8.330	-0.023	6423	1.9	
Aroclor-1016	3	7.996	0.024	14968	9.0	3	8.548	0.001	1265	0.9	
Aroclor-1016	4	8.284	-0.001	6262	5.7	4	9.186	-0.000	688	0.7	
Total CollAve (4 peaks):				5.7	Total Col2Ave (4 peaks):				1.6	RPD = 112*	
Corrected Ave (3 peaks):				4.7	Corrected Ave (3 peaks):				1.2	RPD = 120*	
Aroclor-1221	1	---	---	---	0.0	1	5.637	-0.016	1283	4.8	
Aroclor-1221	2	---	---	---	0.0	2	6.902	0.023	22923	42.5	
Aroclor-1221	3	---	---	---	0.0	3	7.119	0.030	2847	9.8	
CollAve: <3 Quant Peaks				---	Col2Ave: 19.0				---		
Aroclor-1232	1	---	---	---	0.0	1	5.637	-0.016	1283	8.3	
Aroclor-1232	2	7.447	-0.037	9364	16.6	2	7.778	-0.007	4908	6.4	
Aroclor-1232	3	7.833	-0.003	4202	2.4	3	8.330	-0.026	6423	4.5	
Aroclor-1232	4	7.996	0.022	14968	20.6	4	8.548	-0.002	1265	2.1	
Total CollAve (3 peaks):				13.2	Total Col2Ave (4 peaks):				5.3	RPD = 85*	
Corrected Ave: < 3 Peaks				---	Corrected Ave (3 peaks):				4.3	---	
Aroclor-1242	1	7.447	-0.035	9364	9.3	1	7.778	-0.005	4908	3.7	
Aroclor-1242	2	7.833	-0.004	4202	1.3	2	8.330	-0.024	6423	2.4	
Aroclor-1242	3	9.025	-0.047	8604	7.4	3	9.698	0.008	3928	4.5	
Aroclor-1242	4	9.332	-0.019	4226	3.3	4	10.023	-0.007	527	0.5	
Total CollAve (4 peaks):				5.3	Total Col2Ave (4 peaks):				2.8	RPD = 63*	
Corrected Ave (3 peaks):				4.0	Corrected Ave (3 peaks):				2.2	RPD = 59*	
Aroclor-1248	1	8.560	-0.006	15277	9.3	1	8.785	-0.004	10438	9.2	
Aroclor-1248	2	8.723	-0.006	10442	5.2	2	9.186	-0.001	688	0.5	
Aroclor-1248	3	9.130	0.002	7630	3.1	3	9.597	-0.015	8247	4.6	
Aroclor-1248	4	9.332	-0.021	4226	2.3	4	10.023	-0.008	527	0.3	
Total CollAve (4 peaks):				5.0	Total Col2Ave (4 peaks):				3.7	RPD = 30	
Corrected Ave (3 peaks):				3.5	Corrected Ave (3 peaks):				1.8	RPD = 64*	
Aroclor-1254	1	9.130	-0.002	7630	3.4	1	9.898	-0.003	7646	4.2	
Aroclor-1254	2	9.417	-0.005	3243	1.1	2	9.990	-0.005	2398	2.5	
Aroclor-1254	3	9.495	-0.001	2998	2.6	3	10.409	-0.006	1279	0.9	
Aroclor-1254	4	9.790	0.012	11434	5.8	4	10.556	-0.007	4729	1.6	
Aroclor-1254	5	9.905	-0.005	2521	0.7	5	11.330	-0.003	2813	1.5	
Total CollAve (5 peaks):				2.7	Total Col2Ave (5 peaks):				2.2	RPD = 23	
Corrected Ave (4 peaks):				2.0	Corrected Ave (4 peaks):				1.0	RPD = 18	
Aroclor-1260	1	---	---	---	0.0	1	11.634	0.005	1455	0.8	
Aroclor-1260	2	---	---	---	0.0	2	12.078	-0.001	6573	2.9	
Aroclor-1260	3	---	---	---	0.0	3	12.332	-0.003	5174	1.2	
Aroclor-1260	4	---	---	---	0.0	4	13.628	-0.007	1554	1.3	
Aroclor-1260	5	---	---	---	0.0	NS	---	---	---	----	
CollAve: <3 Quant Peaks				---	Col2Ave: 1.6				---		
Aroclor-1262	1	---	---	---	0.0	1	11.634	0.002	1455	0.5	
Aroclor-1262	2	---	---	---	0.0	2	12.078	-0.003	6573	3.0	
Aroclor-1262	3	---	---	---	0.0	3	12.332	-0.005	5174	0.9	
Aroclor-1262	4	---	---	---	0.0	4	12.831	-0.023	3051	1.5	
Aroclor-1262	5	---	---	---	0.0	NS	---	---	---	----	
CollAve: <3 Quant Peaks				---	Col2Ave: 1.5				---		
Aroclor-1268	1	---	---	---	0.0	1	12.831	-0.022	3051	0.5	
Aroclor-1268	2	---	---	---	0.0	2	12.919	-0.002	3896	0.7	
Aroclor-1268	3	12.736	-0.003	10938	1.5	3	13.308	-0.008	3967	0.8	
Aroclor-1268	4	13.510	-0.001	16879	0.8	4	14.114	-0.010	12483	0.9	
CollAve: <3 Quant Peaks				---	Col2Ave: 0.7				---		

Total PCB Area Col1 (6.196 - 13.808) = 572985 Col1 Total PCB = 0.02 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 1673618 Col2 Total PCB = 0.06 ppm*

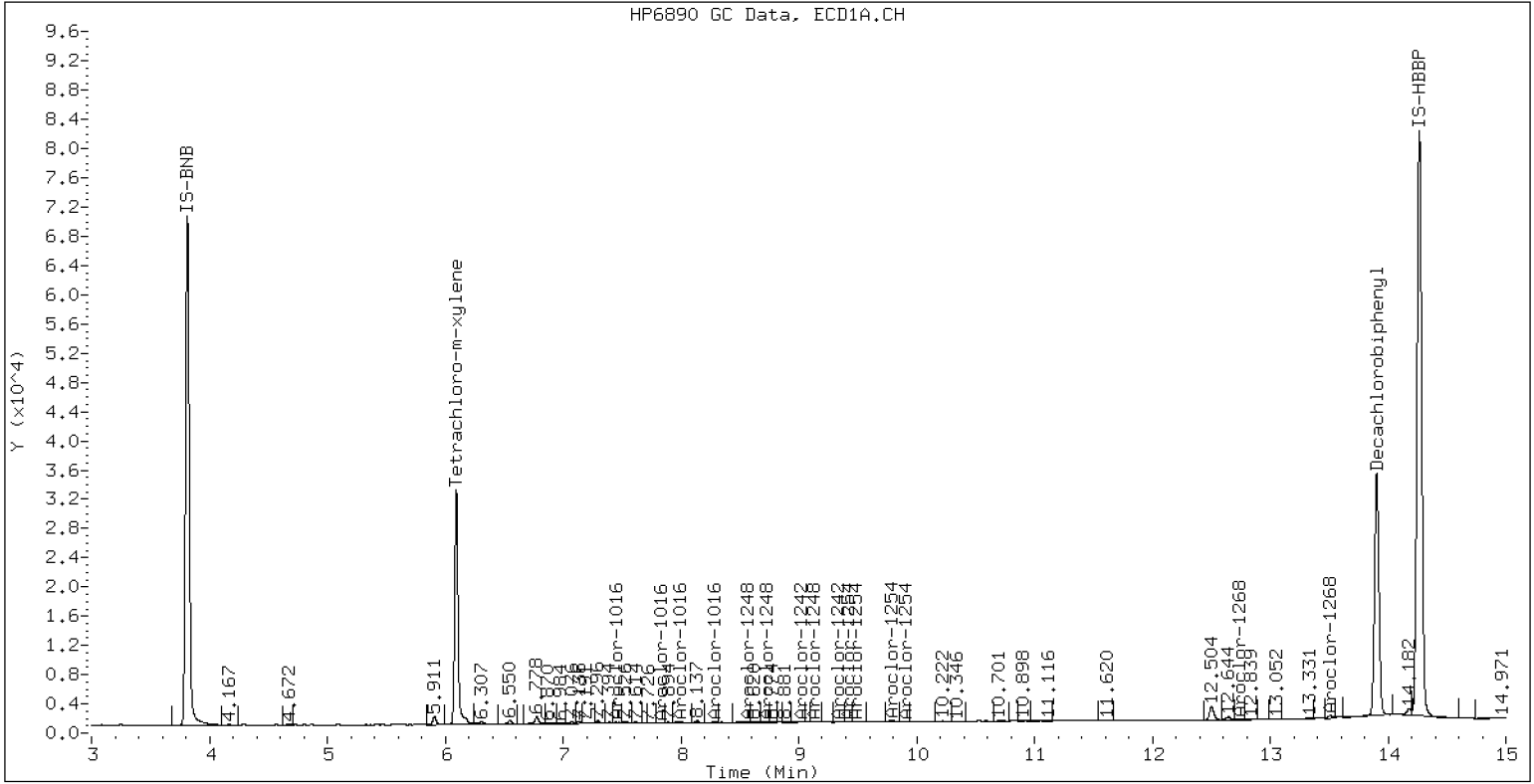
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

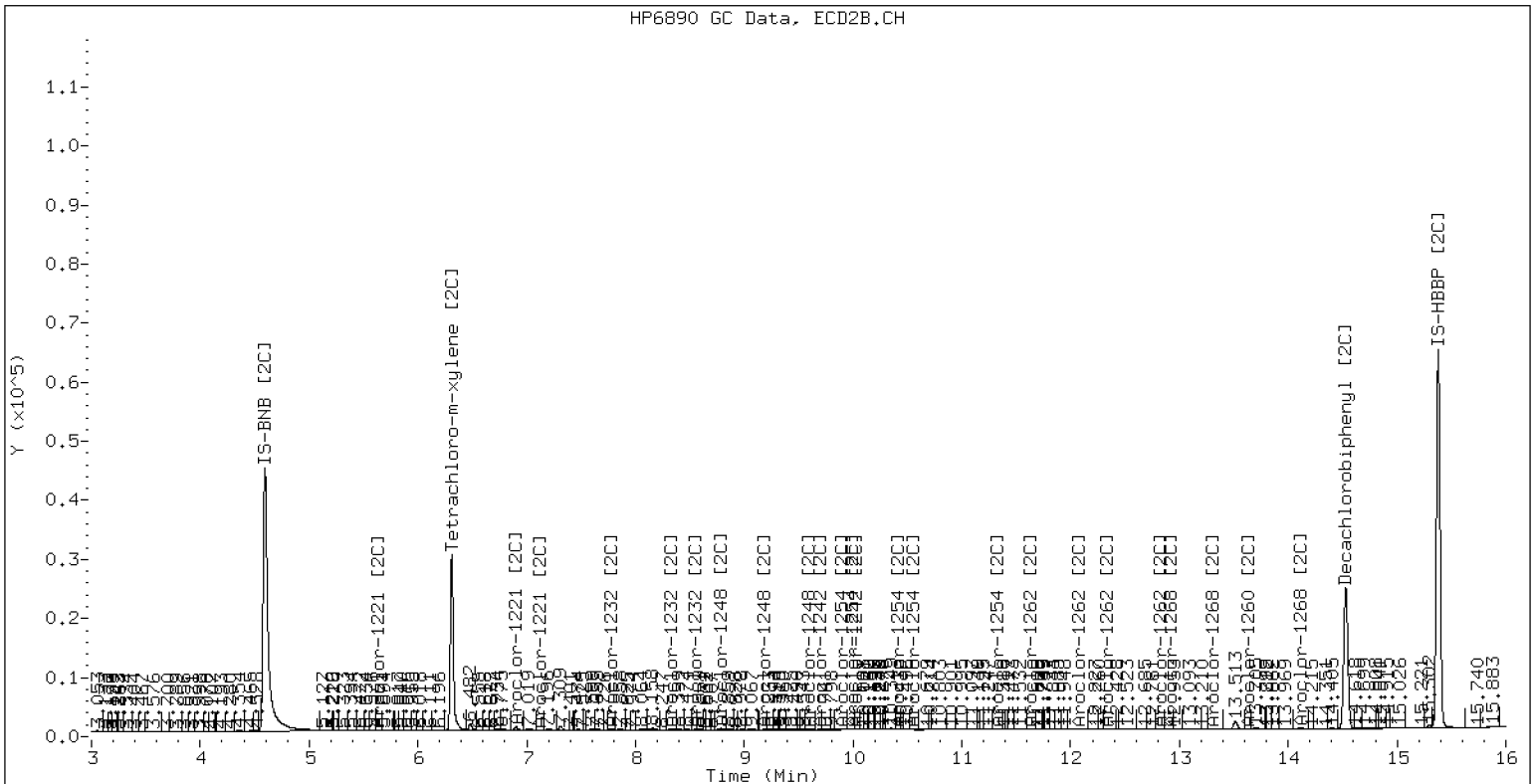
ECD5-ZB5 /20201116.b/20111628ECD5.D 20K0008-28

17-NOV-2020 01:32 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111628ECD5.D 20K0008-28



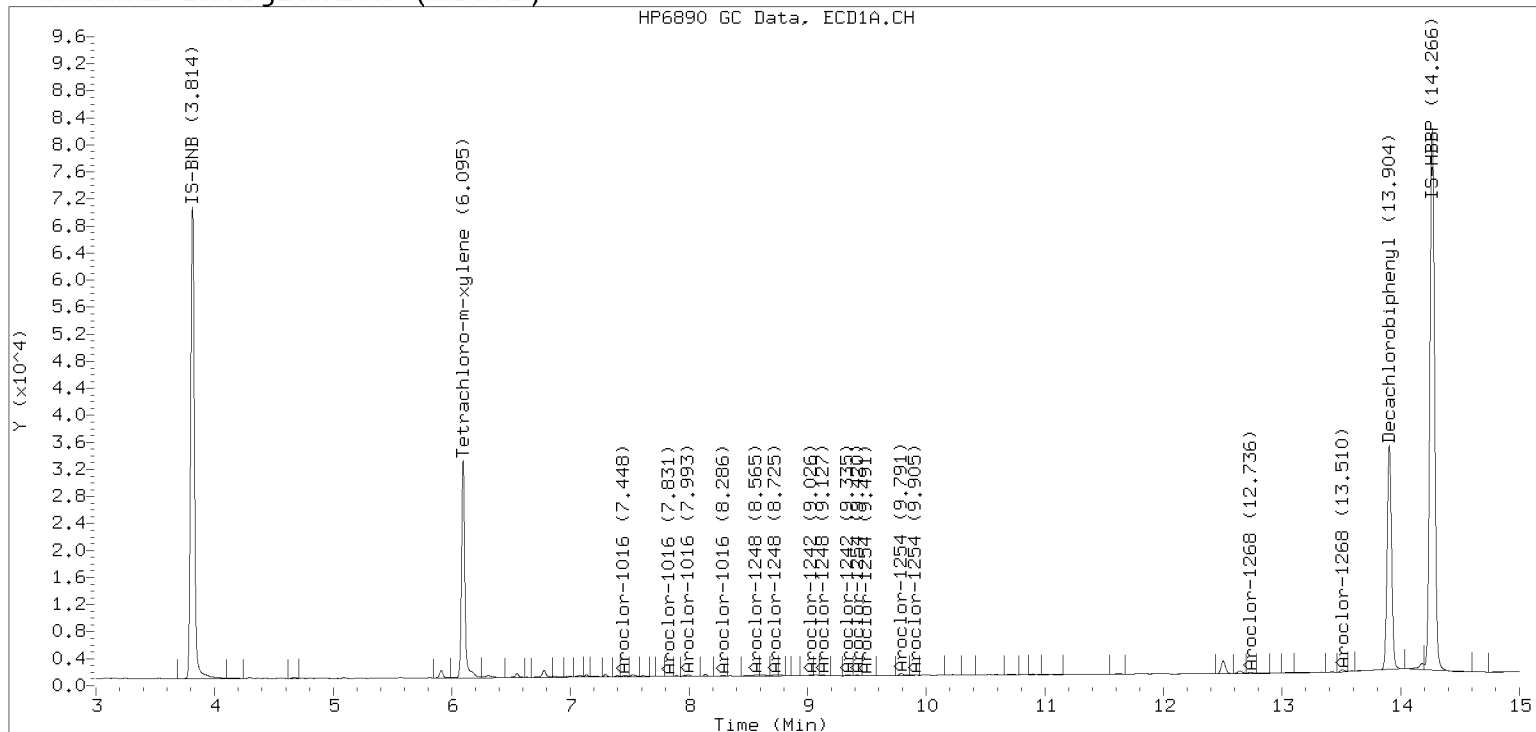
ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-5

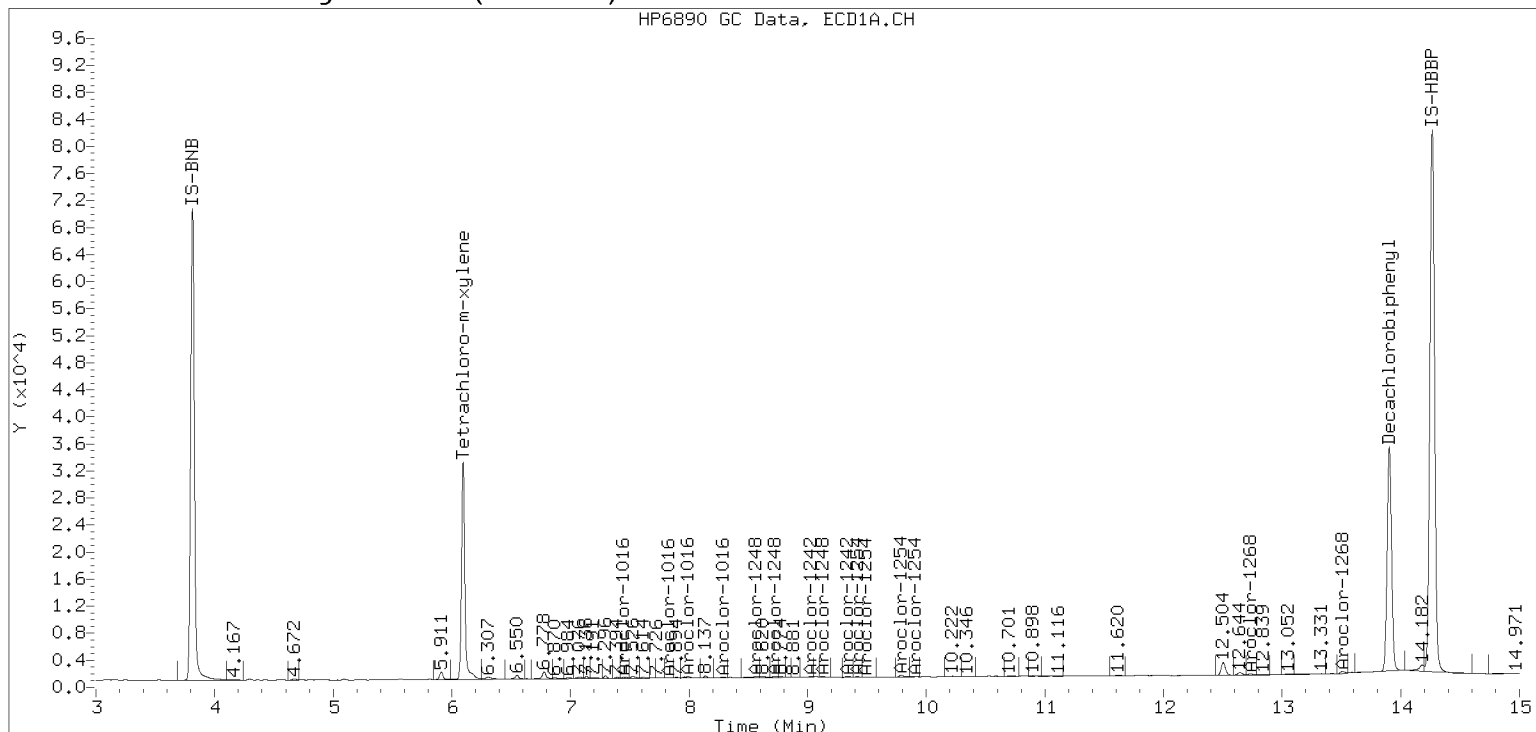
Datafile: ecd5.i/20201116.b/20111628ECD5.D

Injection Date: 17-NOV-2020 01:3

Manual Integration (After)



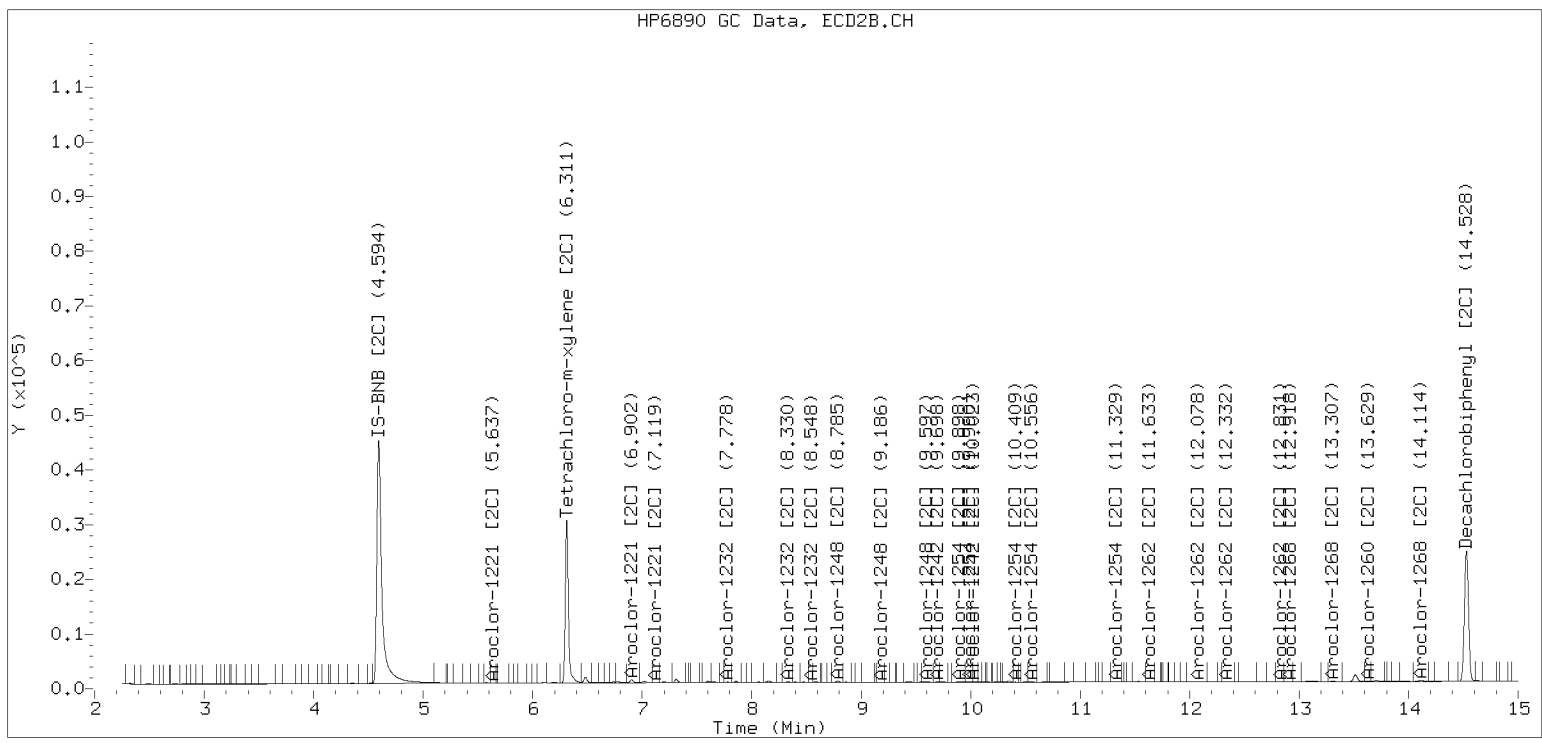
Processed Integration (Before)



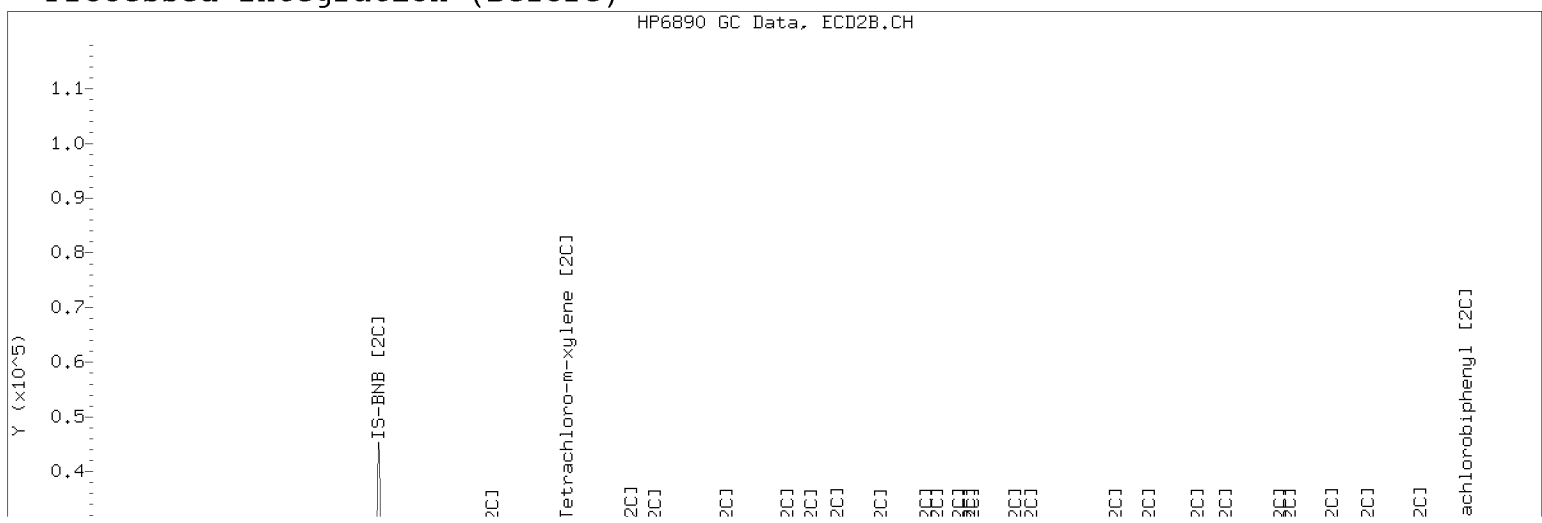
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201116.b/20201116.b/20111628ECD5.D Injection Date: 17-NOV-2020 01:32

Manual Integration (After)



Processed Integration (Before)





Dual Column

PP31-2.5

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-31 A File ID: 20111709ECD5.D
 Sampled: 10/29/20 15:25 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 21:49
 % Solids: 84.56 Preparation: EPA 3546 (Microwave) Initial/Final: 5.93 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIL0028 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	10	199	79.8	199	U
11104-28-2	Aroclor 1221	1	10	199	79.8	199	U
11141-16-5	Aroclor 1232	1	10	199	79.8	199	U
53469-21-9	Aroclor 1242	1	10	199	79.8	199	U
12672-29-6	Aroclor 1248	2	10	7170	79.8	199	D
11097-69-1	Aroclor 1254	2	10	4870	79.8	199	D
11096-82-5	Aroclor 1260	2	10	1490	92.5	199	D
37324-23-5	Aroclor 1262	1	10	199	92.5	199	U
11100-14-4	Aroclor 1268	1	10	199	92.5	199	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.885	37.5	93.9	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.885	40.2	101	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.885	44.4	111	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.885	35.6	89.2	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111709ECD5.D
Data file 2: /20201117.b/20201117.b/20111709ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-31RE1
Client ID:
Injection Date: 17-NOV-2020 21:49
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 10.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.003	170798	6.312	4.0	3.6	12.2	Tetrachloro-m-xylene
13.902	-0.008	151052	14.527	3.8	4.5	17.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	100.8	89.2
Decachlorobiphenyl	93.9	111.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2899071	7.3
Hexabromobiphenyl	3964848	3396715	-14.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2570255	-11.8
Hexabromobiphenyl	2801720	2871326	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.480	-0.002	471912	398.1	1	7.780	-0.001	591266	415.0	
Aroclor-1016	2	7.833	-0.004	1693582	450.3	2	8.350	-0.004	1411504	487.9	
Aroclor-1016	3	7.970	-0.003	586078	379.3	3	8.543	-0.004	452699	372.7	
Aroclor-1016	4	8.284	-0.003	789662	769.7	4	9.186	-0.001	765102	855.2	
Total CollAve (4 peaks):				499.4		Total Col2Ave (4 peaks):				532.7	RPD = 6
Corrected Ave (3 peaks):				409.3		Corrected Ave (3 peaks):				425.2	RPD = 4
Aroclor-1221	1	---			0.0	1	5.637	-0.016	40274	174.9	
Aroclor-1221	2	6.549	-0.004	54023	136.9	2	6.875	-0.004	23180	49.7	
Aroclor-1221	3	6.636	-0.004	156112	139.5	3	7.084	-0.004	23526	93.6	
CollAve: <3 Quant Peaks						Col2Ave: 106.0					
Aroclor-1232	1	---			0.0	1	5.637	-0.016	40274	299.8	
Aroclor-1232	2	7.480	-0.003	471912	905.1	2	7.780	-0.005	591266	892.4	
Aroclor-1232	3	7.833	-0.003	1693582	1052.5	3	8.350	-0.007	1411504	1135.1	
Aroclor-1232	4	7.970	-0.004	586078	872.0	4	8.543	-0.006	452699	867.5	
Total CollAve (3 peaks):				943.2		Total Col2Ave (4 peaks):				798.7	RPD = 17
Corrected Ave: <3 Peaks						Corrected Ave (3 peaks):				686.5	
Aroclor-1242	1	7.480	-0.002	471912	505.1	1	7.780	-0.002	591266	518.2	
Aroclor-1242	2	7.833	-0.003	1693582	573.6	2	8.350	-0.004	1411504	606.1	
Aroclor-1242	3	9.067	-0.005	1085849	1012.5	3	9.682	-0.009	713080	939.2	
Aroclor-1242	4	9.343	-0.008	1267653	1081.7	4	10.021	-0.011	1298362	1389.1	
Total CollAve (4 peaks):				793.2		Total Col2Ave (4 peaks):				863.1	RPD = 8
Corrected Ave (3 peaks):				697.1		Corrected Ave (3 peaks):				687.8	RPD = 1
Aroclor-1248	1	8.562	-0.003	923616	604.5	1	8.787	-0.002	667458	682.6	
Aroclor-1248	2	8.724	-0.003	1023224	552.8	2	9.186	-0.001	765102	656.5	
Aroclor-1248	3	9.123	-0.003	1474903	642.1	3	9.605	-0.007	1055048	686.7	
Aroclor-1248	4	9.343	-0.006	1267653	739.5	4	10.021	-0.008	1298362	851.7	
Total CollAve (4 peaks):				634.7		Total Col2Ave (4 peaks):				719.4	RPD = 13
Corrected Ave (3 peaks):				599.8		Corrected Ave (3 peaks):				675.3	RPD = 12
Aroclor-1254	1	9.123	-0.010	1474903	720.2	1	9.896	-0.002	801279	513.3	
Aroclor-1254	2	9.417	-0.005	1128220	409.7	2	10.021	0.030	1298362	1506.2	
Aroclor-1254	3	9.489	-0.006	388144	370.3	3	10.409	-0.003	553461	462.7	
Aroclor-1254	4	9.779	0.001	1581534	869.0	4	10.554	-0.004	1165293	447.8	
Aroclor-1254	5	9.901	-0.007	1357663	379.5	5	11.316	-0.010	849616	531.7	
Total CollAve (5 peaks):				549.7		Total Col2Ave (5 peaks):				708.3	RPD = 25
Corrected Ave (4 peaks):				469.9		Corrected Ave (4 peaks):				488.9	RPD = 4
Aroclor-1260	1	11.421	-0.007	245540	123.3	1	11.622	-0.005	192681	112.1	
Aroclor-1260	2	11.779	-0.008	616067	123.8	2	12.074	-0.003	415389	199.3	
Aroclor-1260	3	12.171	-0.010	375008	139.2	3	12.328	-0.005	522317	126.1	
Aroclor-1260	4	12.283	-0.008	145978	131.7	4	13.628	-0.006	177086	158.5	
Aroclor-1260	5	12.354	-0.009	163797	125.7	NS	---			---	
Total CollAve (5 peaks):				128.7		Total Col2Ave (4 peaks):				149.0	RPD = 15
Corrected Ave (4 peaks):				126.1		Corrected Ave (3 peaks):				132.2	RPD = 5
Aroclor-1262	1	11.111	-0.007	244795	84.4	1	11.622	-0.009	192681	72.8	
Aroclor-1262	2	11.779	-0.009	616067	99.3	2	12.074	-0.007	415389	200.7	
Aroclor-1262	3	12.171	-0.012	375008	173.1	3	12.328	-0.009	522317	98.8	
Aroclor-1262	4	12.283	-0.008	145978	76.7	4	12.845	-0.009	148199	79.0	
Aroclor-1262	5	12.354	-0.009	163797	74.1	NS	---			---	
Total CollAve (5 peaks):				101.5		Total Col2Ave (4 peaks):				112.8	RPD = 11
Corrected Ave (4 peaks):				83.6		Corrected Ave (3 peaks):				83.5	RPD = 0
Aroclor-1268	1	12.283	-0.008	145978	22.3	1	12.845	-0.008	148199	27.5	
Aroclor-1268	2	12.354	-0.008	163797	26.1	2	12.909	-0.011	421278	78.9	
Aroclor-1268	3	12.751	0.012	93300	16.7	3	13.302	-0.014	39577	9.0	
Aroclor-1268	4	13.500	-0.010	59198	3.8	4	14.111	-0.013	48780	3.7	
Total CollAve (4 peaks):				17.2		Total Col2Ave (4 peaks):				29.8	RPD = 53*

Corrected Ave (3 peaks): 14.3 Corrected Ave (3 peaks): 13.4 RPD = 6

Total PCB Area Col1 (6.199 - 13.810) = 29341582 Col1 Total PCB = 0.93 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 24622619 Col2 Total PCB = 0.90 ppm*

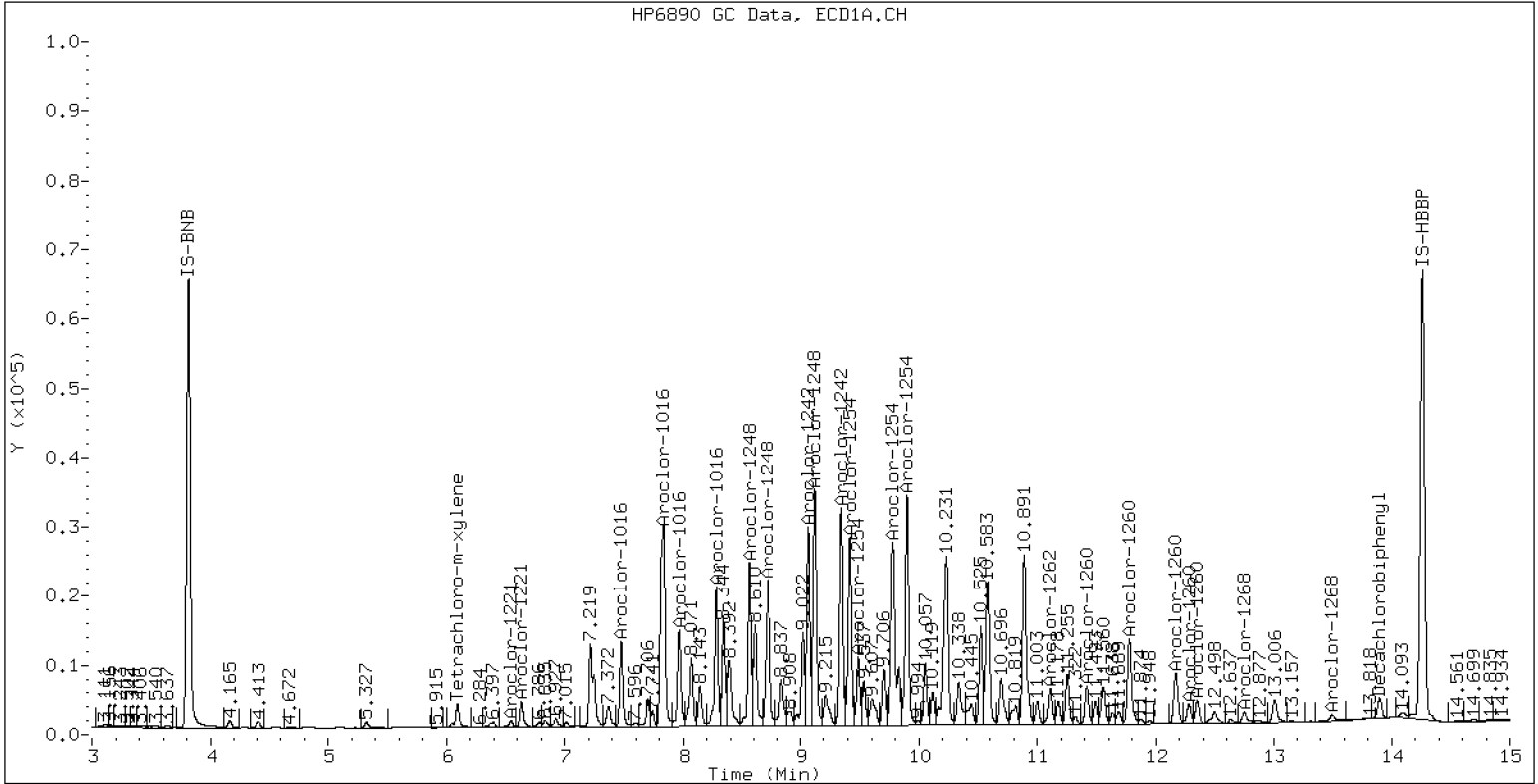
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

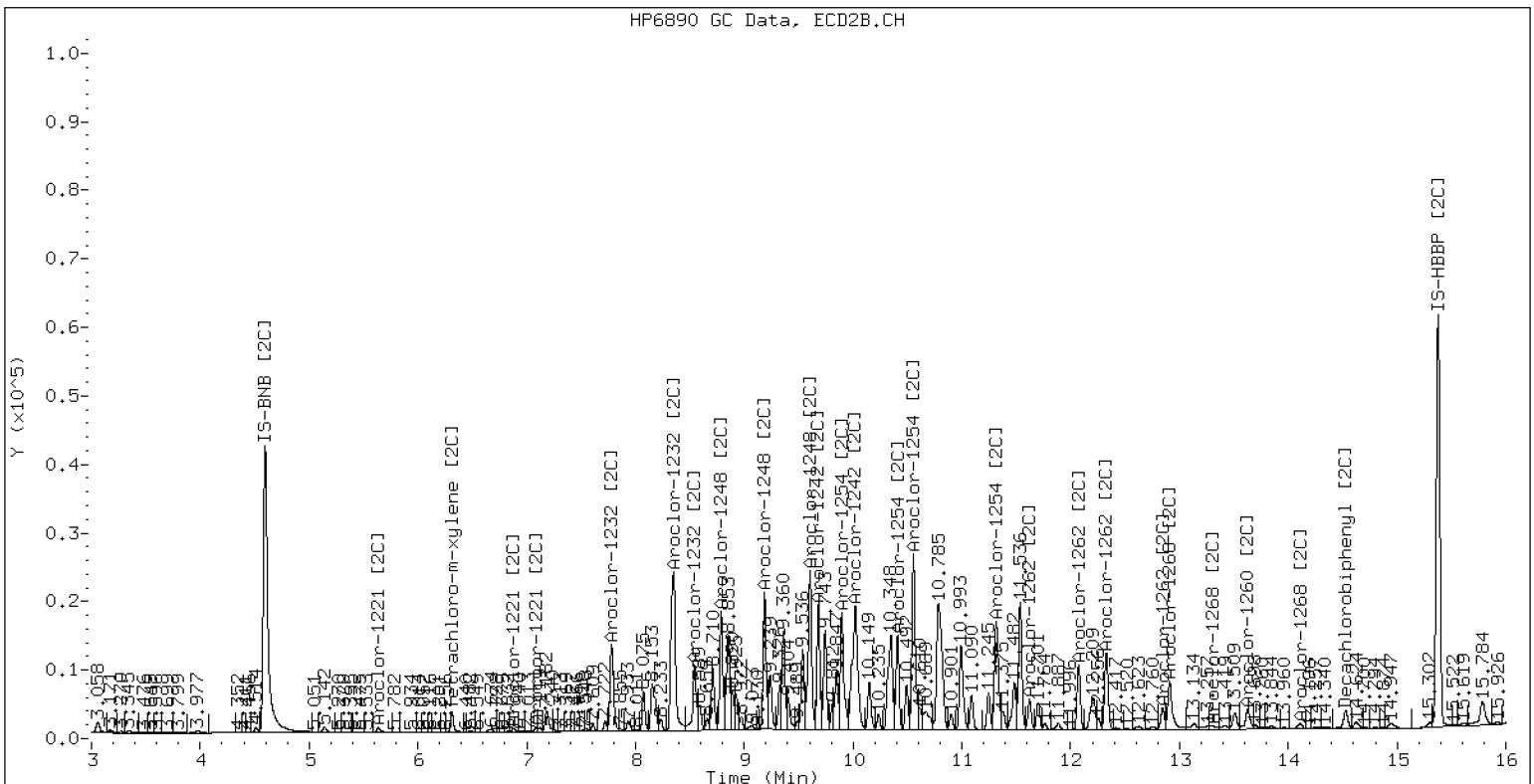
ECD5-ZB5 /20201117.b/20111709ECD5.D 20K0008-31RE1

17-NOV-2020 21:49 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111709ECD5.D 20K0008-31RE1



ZB-35 Manual Integration: NO



ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Solid Laboratory ID: 20K0008-33 A File ID: 20111630ECD5.D
 Sampled: 10/29/20 15:35 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 02:13
 % Solids: 84.43 Preparation: EPA 3546 (Microwave) Initial/Final: 5.97 g Wet / 5 mL
 Batch: BIK0338 Sequence: SIK0250 Calibration: DK00033
 Instrument: ECD5 Column 1: ZB5 Column 2: ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	19.8	7.9	19.8	U
11104-28-2	Aroclor 1221	1	1	19.8	7.9	19.8	U
11141-16-5	Aroclor 1232	1	1	19.8	7.9	19.8	U
53469-21-9	Aroclor 1242	1	1	19.8	7.9	19.8	U
12672-29-6	Aroclor 1248	2	1	233	7.9	19.8	
11097-69-1	Aroclor 1254	2	1	352	7.9	19.8	
11096-82-5	Aroclor 1260	2	1	448	9.2	19.8	
37324-23-5	Aroclor 1262	1	1	19.8	9.2	19.8	U
11100-14-4	Aroclor 1268	1	1	19.8	9.2	19.8	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
<i>Decachlorobiphenyl</i>	1	39.679	31.5	79.4	40 - 133	
<i>Tetrachlorometaxylene</i>	1	39.679	23.2	58.4	53 - 120	
<i>Decachlorobiphenyl</i>	2	39.679	30.7	77.5	40 - 133	
<i>Tetrachlorometaxylene</i>	2	39.679	28.3	71.2	53 - 120	

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111630ECD5.D
Data file 2: /20201116.b/20201116.b/20111630ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: 20K0008-33
Client ID:
Injection Date: 17-NOV-2020 02:13
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.095	-0.001	961309	6.311	-0.002	865099	23.3	28.5	19.9	Tetrachloro-m-xylene
13.901	-0.007	900519	14.526	-0.005	975413	31.7	31.0	2.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	58.4	71.2
Decachlorobiphenyl	79.4	77.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2817395	4.2
Hexabromobiphenyl	3964848	2396695	-39.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2359060	-19.1
Hexabromobiphenyl	2801720	2526183	-9.8

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.477	-0.003	111175	96.5	1	7.777	-0.004	139345	106.6	
Aroclor-1016	2	7.833	-0.004	401553	109.9	2	8.345	-0.008	360701	135.8	
Aroclor-1016	3	7.968	-0.004	145337	96.8	3	8.539	-0.007	101982	91.5	
Aroclor-1016	4	8.281	-0.004	280463	281.3	4	9.182	-0.005	251294	306.0	
Total CollAve (4 peaks):					146.1	Total Col2Ave (4 peaks):					160.0 RPD = 9
Corrected Ave (3 peaks):					101.1	Corrected Ave (3 peaks):					111.3 RPD = 10
Aroclor-1221	1	---	---	---	0.0	1	5.643	-0.010	9326	44.1	
Aroclor-1221	2	6.548	-0.005	35433	92.4	2	6.874	-0.005	6858	16.0	
Aroclor-1221	3	6.634	-0.006	60306	55.4	3	7.081	-0.007	7583	32.9	
CollAve: < 3 Quant Peaks					---	Col2Ave: 31.0					---
Aroclor-1232	1	---	---	---	0.0	1	5.643	-0.010	9326	75.6	
Aroclor-1232	2	7.477	-0.006	111175	219.4	2	7.777	-0.008	139345	229.1	
Aroclor-1232	3	7.833	-0.003	401553	256.8	3	8.345	-0.011	360701	316.0	
Aroclor-1232	4	7.968	-0.006	145337	222.5	4	8.539	-0.010	101982	212.9	
Total CollAve (3 peaks):					232.9	Total Col2Ave (4 peaks):					200.4 RPD = 11
Corrected Ave: < 3 Peaks					---	Corrected Ave (3 peaks):					172.6
Aroclor-1242	1	7.477	-0.004	111175	122.4	1	7.777	-0.006	139345	133.1	
Aroclor-1242	2	7.833	-0.003	401553	140.0	2	8.345	-0.009	360701	168.7	
Aroclor-1242	3	9.062	-0.010	324211	311.1	3	9.676	-0.014	231674	332.4	
Aroclor-1242	4	9.340	-0.011	402751	353.6	4	10.011	-0.019	219489	255.8	
Total CollAve (4 peaks):					231.8	Total Col2Ave (4 peaks):					222.5 RPD = 4
Corrected Ave (3 peaks):					191.2	Corrected Ave (3 peaks):					185.9 RPD = 3
Aroclor-1248	1	8.558	-0.007	266934	179.8	1	8.784	-0.005	270693	301.6	
Aroclor-1248	2	8.721	-0.008	242866	135.0	2	9.182	-0.006	251294	234.9	
Aroclor-1248	3	9.121	-0.007	644336	288.7	3	9.601	-0.011	345009	244.7	
Aroclor-1248	4	9.340	-0.013	402751	241.8	4	10.011	-0.021	219489	156.9	
Total CollAve (4 peaks):					211.3	Total Col2Ave (4 peaks):					234.5 RPD = 10
Corrected Ave (3 peaks):					185.5	Corrected Ave (3 peaks):					212.2 RPD = 13
Aroclor-1254	1	9.121	-0.011	644336	323.7	1	9.892	-0.009	579670	404.5	
Aroclor-1254	2	9.414	-0.008	665224	248.6	2	9.987	-0.008	227790	303.2	
Aroclor-1254	3	9.486	-0.009	176894	173.6	3	10.405	-0.010	269309	245.3	
Aroclor-1254	4	9.781	0.003	1177869	665.9	4	10.550	-0.012	1069667	447.9	
Aroclor-1254	5	9.899	-0.011	993253	285.7	5	11.321	-0.011	549059	374.3	
Total CollAve (5 peaks):					239.5	Total Col2Ave (5 peaks):					355.1 RPD = 4
Corrected Ave (4 peaks):					257.9	Corrected Ave (4 peaks):					331.8 RPD = 25
Aroclor-1260	1	11.418	-0.010	603729	429.7	1	11.619	-0.009	566085	374.2	
Aroclor-1260	2	11.776	-0.012	1634375	465.5	2	12.070	-0.009	750446	409.2	
Aroclor-1260	3	12.167	-0.017	793930	417.7	3	12.324	-0.011	1515955	416.1	
Aroclor-1260	4	12.281	-0.010	358924	458.9	4	13.626	-0.009	597295	607.7	
Aroclor-1260	5	12.353	-0.010	437346	475.7	NS	---	---	---	---	
Total CollAve (5 peaks):					449.5	Total Col2Ave (4 peaks):					451.8 RPD = 1
Corrected Ave (4 peaks):					443.0	Corrected Ave (3 peaks):					399.9 RPD = 10
Aroclor-1262	1	11.110	-0.009	615655	300.8	1	11.619	-0.012	566085	243.0	
Aroclor-1262	2	11.776	-0.011	1634375	373.2	2	12.070	-0.011	750446	412.1	
Aroclor-1262	3	12.167	-0.015	793930	519.3	3	12.324	-0.013	1515955	325.9	
Aroclor-1262	4	12.281	-0.011	358924	267.3	4	12.843	-0.011	485869	294.5	
Aroclor-1262	5	12.353	-0.010	437346	280.2	NS	---	---	---	---	
Total CollAve (5 peaks):					348.2	Total Col2Ave (4 peaks):					318.9 RPD = 9
Corrected Ave (4 peaks):					305.4	Corrected Ave (3 peaks):					287.8 RPD = 6
Aroclor-1268	1	12.281	-0.011	358924	77.6	1	12.843	-0.010	485869	102.5	
Aroclor-1268	2	12.353	-0.009	437346	98.7	2	12.906	-0.014	1227650	261.2	
Aroclor-1268	3	12.747	0.008	253937	64.5	3	13.303	-0.013	225533	58.2	
Aroclor-1268	4	13.500	-0.010	116717	10.6	4	14.110	-0.014	144914	12.6	
Total CollAve (4 peaks):					62.9	Total Col2Ave (4 peaks):					108.7 RPD = 53*

Corrected Ave (3 peaks): 50.9 Corrected Ave (3 peaks): 57.8 RPD = 13

Total PCB Area Col1 (6.196 - 13.808) = 22350630 Col1 Total PCB = 0.71 ppm*

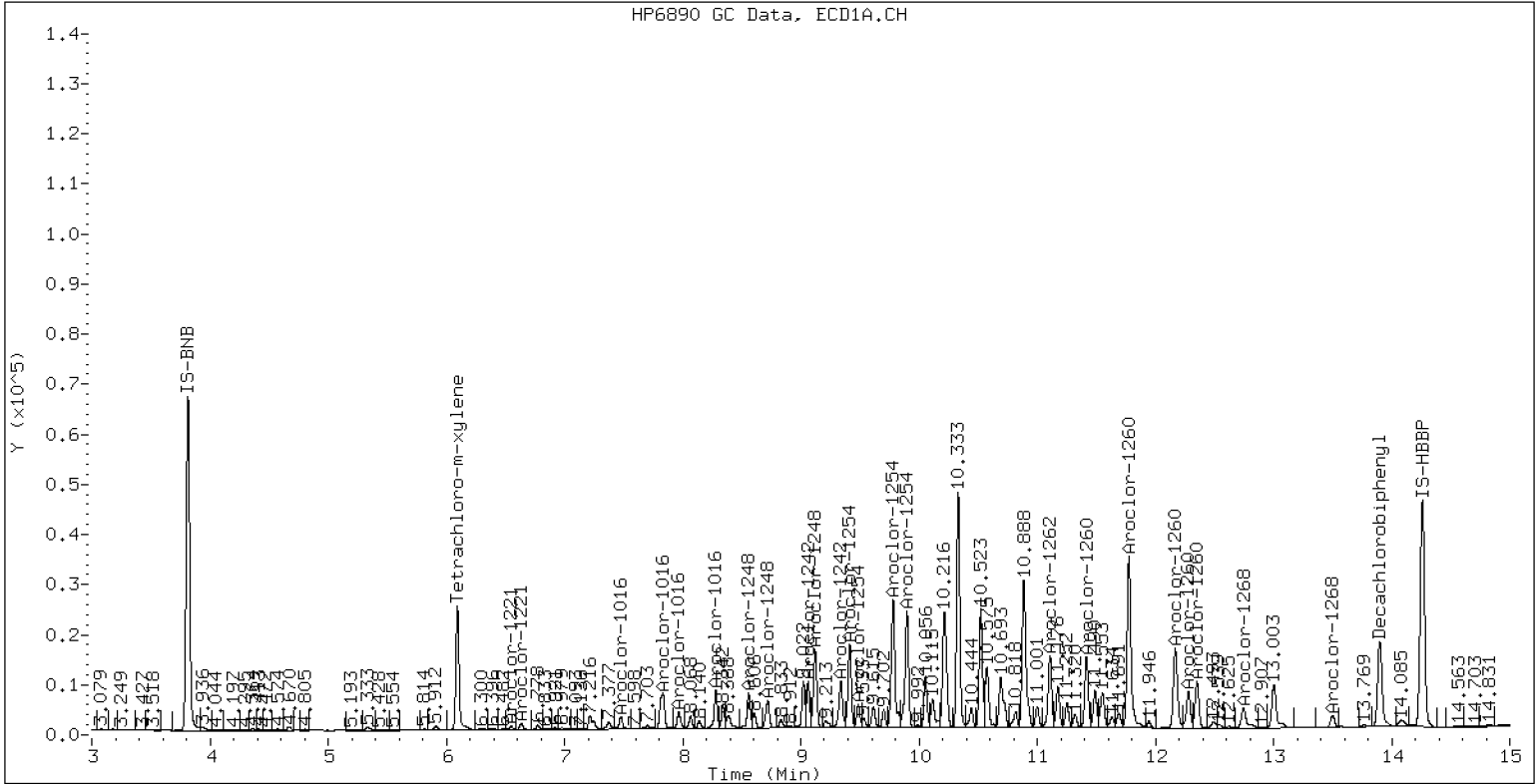
Total PCB Area Col2 (6.196 - 13.808) = 22929322 Col2 Total PCB = 0.84 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

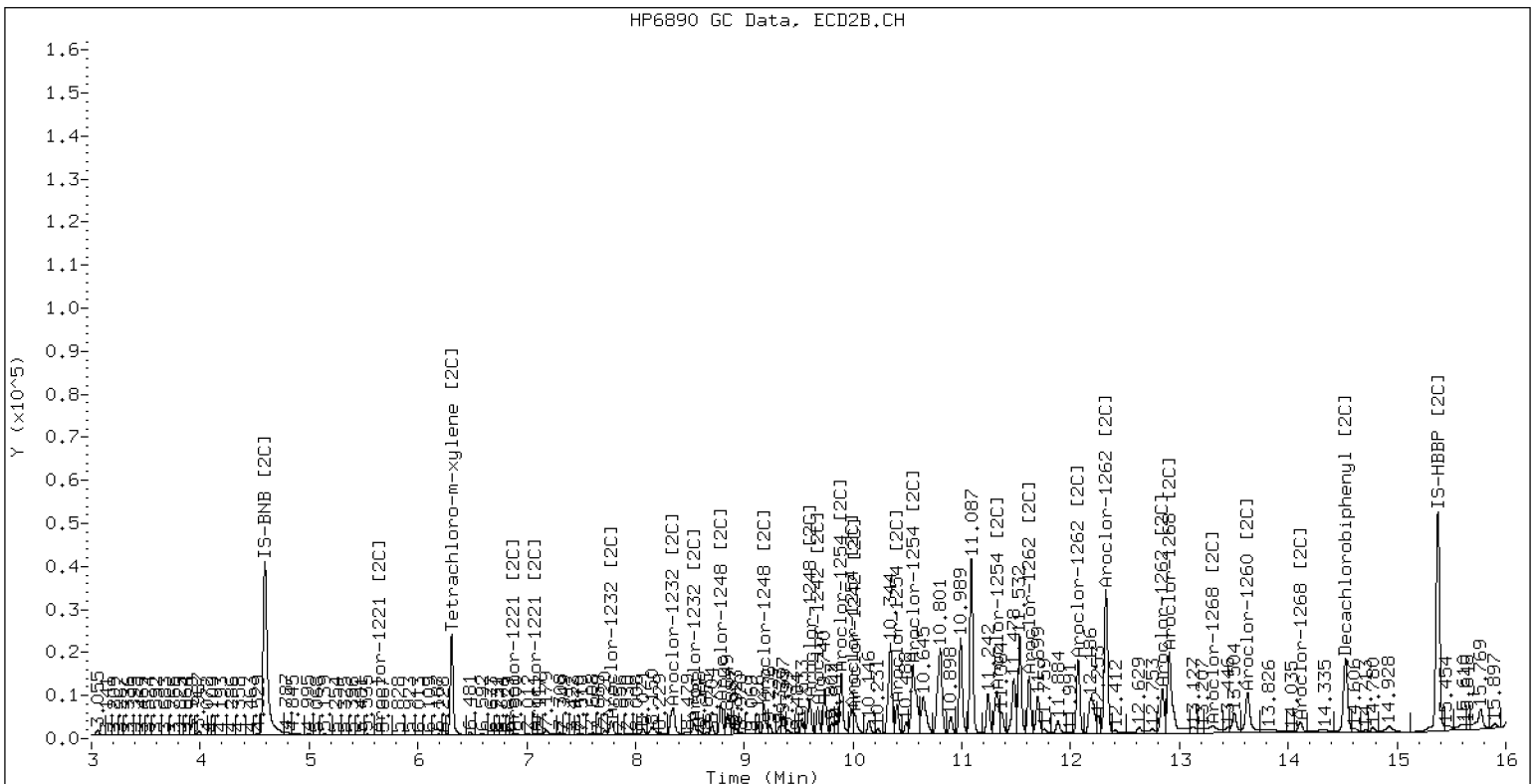
ECD5-ZB5 /20201116.b/20111630ECD5.D 20K0008-33

17-NOV-2020 02:13 2u1 JGR



ZB-5 Manual Integration: YES

ECD5-ZB35 /20201116.b/20201116.b/20111630ECD5.D 20K0008-33



ZB-35 Manual Integration: NO



PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Batch: BIK0338 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP17-2	20K0008-01	20111708ECD5.D	11/12/20 16:23	2020 Samples
PP17-7.5	20K0008-03	20111616ECD5.D	11/12/20 16:23	2020 Samples
PP22-2.5	20K0008-07	20111617ECD5.D	11/12/20 16:23	2020 Samples
PP22-7.5	20K0008-09	20111620ECD5.D	11/12/20 16:23	2020 Samples
PP18-5	20K0008-14	20111621ECD5.D	11/12/20 16:23	2020 Samples
PP18-10	20K0008-16	20111622ECD5.D	11/12/20 16:23	2020 Samples
PP19-2.5	20K0008-20	20111625ECD5.D	11/12/20 16:23	2020 Samples
PP19-7.5	20K0008-22	20111626ECD5.D	11/12/20 16:23	2020 Samples
PP20-5	20K0008-26	20111627ECD5.D	11/12/20 16:23	2020 Samples
PP20-10	20K0008-28	20111628ECD5.D	11/12/20 16:23	2020 Samples
PP31-2.5	20K0008-31	20111709ECD5.D	11/12/20 16:23	2020 Samples
PP31-7.5	20K0008-33	20111630ECD5.D	11/12/20 16:23	2020 Samples
Blank	BIK0338-BLK1	20111613ECD5.D	11/12/20 16:23	
LCS	BIK0338-BS1	20111614ECD5.D	11/12/20 16:23	
PP22-2.5	BIK0338-MS1	20111618ECD5.D	11/12/20 16:23	
PP22-2.5	BIK0338-MSD1	20111619ECD5.D	11/12/20 16:23	



Batch: BIK0338

Prepared using: EPA 3546 (Microwave)

8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Matrix: Solid

Date Prepared: 11/12/20

Balance ID: B334705934

Set Up By: CTO 11/11/20

Analysis: 8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)

Lab Number & Container	% Solids	Initial (g)		(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL)	(Opt) Silica Gel C/U (1:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 5 (Wet)	Actual						
20K0008-01 A	76.6	(6.52)	<u>6.52</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-03 A	65.9	(7.59)	<u>7.61</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-07 A	93.0	(5.38)	<u>5.38</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-09 A	72.4	(6.91)	<u>6.91</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-14 A	80.0	(6.25)	<u>6.29</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-16 A	70.1	(7.14)	<u>7.19</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-20 A	77.6	(6.44)	<u>6.53</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-22 A	74.0	(6.76)	<u>6.77</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-26 A	80.1	(6.24)	<u>6.26</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-28 A	72.0	(6.94)	<u>6.96</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-31 A	84.6	(5.91)	<u>5.93</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
20K0008-33 A	84.4	(5.92)	<u>5.97</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	

Batch QC

Lab Number	% Solids	Initial (g)		(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL)	(Opt) Silica Gel C/U (1:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
		Target Dry: 5 (Wet)	Actual						
BIK0338-BLK1	100.0	(5.00)	<u>5.00</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
BIK0338-BS1	100.0	(5.00)	<u>5.00</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	
BIK0338-MS1	93.0	(5.38)	<u>5.38</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	Use 20K0008-07
BIK0338-MSD1	93.0	(5.38)	<u>5.38</u>	5.0mL	5.0mL	1mL Y/N	5	1.0	Use 20K0008-07

BT

11/12/20

BH

11/16/20

11/12/20

16:23

Client ID verified By

Date

Preparation Reviewed By

Date

Extraction Date and Time



Batch: BIK0338

Prepared using: EPA 3546 (Microwave)
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Prep Steps	Reagents Used	Surrogates & Spike Standards Used
Microwave 1 2 3 Analyst/Date: <i>ME 11/12/20</i>	Station/Reagent Microwave Analyst: <i>ME</i> Date: <i>11/12/20</i>	Type Surrogate N <i>1007220</i> Exp: 02/14/2021 100µL Analyst: <i>DSP</i> Witness: <i>ME</i>
	Anhydrous Sodium Sulfate <i>I010438</i>	Spike 1 <i>1008526</i> Exp: 03/22/2021 125µL Analyst: <i>DSP</i> Witness: <i>ME</i>
KD 100°C Hexane Exchange (2 X 20 mL) 1 2 3 4 5 6 Analyst/Date: <i>VLB 11/14/20</i>	Neutral Glass Wool <i>I010414</i>	(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards. If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).
	1:1 Hexane/Acetone <i>I009625</i>	
	Hexane <i>I009769</i>	
TurboVap Pre Cleanups 1 2 3 4 5 Analyst/Date: <i>BH 11/16/20</i>	KD Analyst: <i>VLB</i> Date: <i>11/14/20</i>	Hexane <i>I009769</i>
	Hexane <i>I009769</i>	
TurboVap Post Cleanups 1 2 3 4 5 6 Analyst/Date: <i>BH 11/16/20</i>	Neutral Glass Wool <i>Sodium sulfite T010324</i>	Concentrated Sulfuric Acid <i>I007088</i>
	Vialing Analyst: <i>BH</i> Date: <i>11/16/20</i>	
	Hexane <i>I009769</i>	
	Tetrabutylammonium hydrogensulfate (TBAS) <i>I010008</i>	
	Sodium Sulfite <i>I006339</i>	
Vialing Analyst/Date: <i>BH 11/16/20</i>	Silica Gel (SPE) Darts <i>I009985</i>	



Batch: BIK0338

Prepared using: EPA 3546 (Microwave)
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L) in Solid

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. Weigh soil/sed into beakers-lightly dry with sodium sulfate.2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels).3. Add 1:1 Hexane/Acetone until the solvent layer is 3 inches above the soil layer after homogenization.4. Add surr/spike.5. Microwave on appropriate power setting determined by # of samples.6. After microwave-Re-homogenize while hot then cool vessels in Refridgerator 05. Re-homogenize while cool.7. Decant 1:1 Hex/Ace into E. flask using a funnel with neutral glasswool plug.8. Re-homogenize and rinse with 1:1 Hexane/Acetone.9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane.10. KD on 100° bath.11. Exchange (2 X with 20mL) Hexane.12. TurboVap.13. Vial 5 mL into labelled scintillation vials using Hexane. <p>Acid/Sulfur cleanups REQUIRED</p> <ol style="list-style-type: none">14. TurboVap (if Silica Clean).15. Vial with Hexane. <p>A. Need Total Solids <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Need screens.</p> <p>B. Archive/Freeze <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p>	



Extraction Parameter: PCB Extraction Batch BEK0338

Total Solids Batch: N/A Work Order(s): 20K0008

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= <small>008-01,03,04,09,14,16,20,22,26,28,31,33</small>	BT 11/12/20
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input checked="" type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<u>Used wrist shaker for sulfur clean.</u>	BH 11/10/20
<input checked="" type="checkbox"/> Share Samples <input checked="" type="checkbox"/> N <u>008-26</u>	BT 11/12/20
<input checked="" type="checkbox"/> Multiple Jars <input checked="" type="checkbox"/> N <u>008-01,03,07,09,14,16,20,23,28,31,33</u>	BT 11/12/20
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Batch: BIK0338

Batch Comment: **NONE**

Project: ICS-Former NW Cooperage

Project Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Work Order:20K0008

Work Order Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Sample: 20K0008-01

Sample Comments: **NONE**

Sample: 20K0008-03

Sample Comments: **NONE**

Sample: 20K0008-07

Sample Comments: **NONE**

Sample: 20K0008-09

Sample Comments: **NONE**

Sample: 20K0008-14

Sample Comments: **NONE**

Sample: 20K0008-16

Sample Comments: **NONE**

Sample: 20K0008-20

Sample Comments: **NONE**

Sample: 20K0008-22

Sample Comments: **NONE**

Sample: 20K0008-26

Sample Comments: **NONE**

Sample: 20K0008-28

Sample Comments: **NONE**

Sample: 20K0008-31

Sample Comments: **NONE**

Sample: 20K0008-33

Sample Comments: **NONE**



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Cleanup Batch: CIK0122

Cleanup Type: Sulfuric Acid

Cleanup Method: EPA 3665A Sulfuric Acid Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP20-10	20K0008-28	20111628ECD5.D	11/16/2020	
PP31-7.5	20K0008-33	20111630ECD5.D	11/16/2020	
PP17-2	20K0008-01	20111708ECD5.D	11/16/2020	
PP22-7.5	20K0008-09	20111620ECD5.D	11/16/2020	
Blank	BIK0338-BLK1	20111613ECD5.D	11/16/2020	
LCS	BIK0338-BS1	20111614ECD5.D	11/16/2020	
PP22-2.5	20K0008-07	20111617ECD5.D	11/16/2020	
Matrix Spike Dup	BIK0338-MSD1	20111619ECD5.D	11/16/2020	
PP31-2.5	20K0008-31	20111709ECD5.D	11/16/2020	
PP19-7.5	20K0008-22	20111626ECD5.D	11/16/2020	
PP19-2.5	20K0008-20	20111625ECD5.D	11/16/2020	
PP18-5	20K0008-14	20111621ECD5.D	11/16/2020	
PP18-10	20K0008-16	20111622ECD5.D	11/16/2020	
PP17-7.5	20K0008-03	20111616ECD5.D	11/16/2020	
PP20-5	20K0008-26	20111627ECD5.D	11/16/2020	
Matrix Spike	BIK0338-MS1	20111618ECD5.D	11/16/2020	



CLEANUP BENCH SHEET

CIK0122

Matrix: Solid

Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup

Printed: 11/16/2020 1:08:17PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0008-33	A	PP31-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-31	A	PP31-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-20	A	PP19-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-22	A	PP19-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-26	A	PP20-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-28	A	PP20-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-01	A	PP17-2	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-03	A	PP17-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-07	A	PP22-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-09	A	PP22-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-14	A	PP18-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-16	A	PP18-10	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
BIK0338-MSD1	-	Matrix Spike Dup	-	5	5	-	11/16/2020	BH	
BIK0338-MS1	-	Matrix Spike	-	5	5	-	11/16/2020	BH	
BIK0338-BLK1	-	Blank	-	5	5	-	11/16/2020	BH	
BIK0338-BS1	-	LCS	-	5	5	-	11/16/2020	BH	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Cleanup Batch: CIK0123

Cleanup Type: Sulfur

Cleanup Method: EPA 3660B Sulfur Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP31-7.5	20K0008-33	20111630ECD5.D	11/16/2020	
PP22-2.5	20K0008-07	20111617ECD5.D	11/16/2020	
PP20-5	20K0008-26	20111627ECD5.D	11/16/2020	
PP20-10	20K0008-28	20111628ECD5.D	11/16/2020	
PP19-7.5	20K0008-22	20111626ECD5.D	11/16/2020	
PP19-2.5	20K0008-20	20111625ECD5.D	11/16/2020	
PP17-2	20K0008-01	20111708ECD5.D	11/16/2020	
PP17-7.5	20K0008-03	20111616ECD5.D	11/16/2020	
PP22-7.5	20K0008-09	20111620ECD5.D	11/16/2020	
PP18-10	20K0008-16	20111622ECD5.D	11/16/2020	
PP31-2.5	20K0008-31	20111709ECD5.D	11/16/2020	
Matrix Spike Dup	BIK0338-MSD1	20111619ECD5.D	11/16/2020	
Matrix Spike	BIK0338-MS1	20111618ECD5.D	11/16/2020	
LCS	BIK0338-BS1	20111614ECD5.D	11/16/2020	
Blank	BIK0338-BLK1	20111613ECD5.D	11/16/2020	
PP18-5	20K0008-14	20111621ECD5.D	11/16/2020	



CLEANUP BENCH SHEET

CIK0123

Matrix: Solid

Cleanup using: Organics - EPA 3660B Sulfur Cleanup

Printed: 11/16/2020 1:09:02PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0008-33	A	PP31-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-31	A	PP31-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-20	A	PP19-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-22	A	PP19-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-26	A	PP20-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-28	A	PP20-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-01	A	PP17-2	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-03	A	PP17-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-07	A	PP22-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-09	A	PP22-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-14	A	PP18-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-16	A	PP18-10	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
BIK0338-MSD1	-	Matrix Spike Dup	-	5	5	-	11/16/2020	BH	
BIK0338-MS1	-	Matrix Spike	-	5	5	-	11/16/2020	BH	
BIK0338-BLK1	-	Blank	-	5	5	-	11/16/2020	BH	
BIK0338-BS1	-	LCS	-	5	5	-	11/16/2020	BH	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Cleanup Batch: CIK0124

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP20-10	20K0008-28	20111628ECD5.D	11/16/2020	
Matrix Spike	BIK0338-MS1	20111618ECD5.D	11/16/2020	
LCS	BIK0338-BS1	20111614ECD5.D	11/16/2020	
Blank	BIK0338-BLK1	20111613ECD5.D	11/16/2020	
PP31-7.5	20K0008-33	20111630ECD5.D	11/16/2020	
PP17-2	20K0008-01	20111708ECD5.D	11/16/2020	
PP22-2.5	20K0008-07	20111617ECD5.D	11/16/2020	
PP20-5	20K0008-26	20111627ECD5.D	11/16/2020	
PP31-2.5	20K0008-31	20111709ECD5.D	11/16/2020	
PP19-7.5	20K0008-22	20111626ECD5.D	11/16/2020	
PP19-2.5	20K0008-20	20111625ECD5.D	11/16/2020	
PP18-5	20K0008-14	20111621ECD5.D	11/16/2020	
PP18-10	20K0008-16	20111622ECD5.D	11/16/2020	
PP17-7.5	20K0008-03	20111616ECD5.D	11/16/2020	
Matrix Spike Dup	BIK0338-MSD1	20111619ECD5.D	11/16/2020	
PP22-7.5	20K0008-09	20111620ECD5.D	11/16/2020	



CLEANUP BENCH SHEET

CIK0124

Matrix: Solid

Cleanup using: Organics - EPA 3630C Silica Gel Cleanup

Printed: 11/16/2020 1:09:41PM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
20K0008-33	A	PP31-7.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-31	A	PP31-2.5	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-20	A	PP19-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-22	A	PP19-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-26	A	PP20-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-28	A	PP20-10	A 02	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-01	A	PP17-2	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-03	A	PP17-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-07	A	PP22-2.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-09	A	PP22-7.5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-14	A	PP18-5	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
20K0008-16	A	PP18-10	A 03	5	5	2A PCB (20 ug/kg) or (MTCA 0.1 u	11/16/2020	BH	
BIK0338-MSD1	-	Matrix Spike Dup	-	5	5	-	11/16/2020	BH	
BIK0338-MS1	-	Matrix Spike	-	5	5	-	11/16/2020	BH	
BIK0338-BLK1	-	Blank	-	5	5	-	11/16/2020	BH	
BIK0338-BS1	-	LCS	-	5	5	-	11/16/2020	BH	



Form I
METHOD BLANK DATA SHEET
EPA 8082A

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BIK0338-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>11/12/20 16:23</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0338</u>	Sequence:	<u>SIK0250</u>
Instrument:	<u>ECD5</u>	Column:	<u>ZB5</u>
		File ID:	<u>20111613ECD5.D</u>
		Analyzed:	<u>11/16/20 20:22</u>
		Initial/Final:	<u>5 g / 5 mL</u>
		Calibration:	<u>DK00033</u>
		Cleanups:	<u>Silica Gel, Sulfur, Sulfuric Acid</u>

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	20.0	U	8.0	20.0
11104-28-2	Aroclor 1221	1	20.0	U	8.0	20.0
11141-16-5	Aroclor 1232	1	20.0	U	8.0	20.0
53469-21-9	Aroclor 1242	1	20.0	U	8.0	20.0
12672-29-6	Aroclor 1248	1	20.0	U	8.0	20.0
11097-69-1	Aroclor 1254	1	20.0	U	8.0	20.0
11096-82-5	Aroclor 1260	1	20.0	U	9.3	20.0
37324-23-5	Aroclor 1262	1	20.0	U	9.3	20.0
11100-14-4	Aroclor 1268	1	20.0	U	9.3	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	40.000	29.5	73.7	40 - 133	
Tetrachlorometaxylene	40.000	26.7	66.8	53 - 120	
Decachlorobiphenyl [2C]	40.000	31.1	77.8	40 - 133	
Tetrachlorometaxylene [2C]	40.000	28.4	71.1	53 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111613ECD5.D
Data file 2: /20201116.b/20201116.b/20111613ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0338-BLK1
Client ID:
Injection Date: 16-NOV-2020 20:22
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	0.002	1329515	6.303	-0.010	1202640	26.7	28.4	6.2	Tetrachloro-m-xylene
13.910	0.003	1992539	14.529	-0.003	1315134	29.5	31.1	5.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	66.8	71.1
Decachlorobiphenyl	73.7	77.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3404776	26.0
Hexabromobiphenyl	3964848	5707562	44.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3287683	12.8
Hexabromobiphenyl	2801720	3392983	21.1

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.530	0.049	7263	5.2	1	7.774	-0.008	3032	1.7	
Aroclor-1016	2	---			0.0	2	8.318	-0.035	9488	2.6	
Aroclor-1016	3	8.000	0.027	11443	6.3	3	8.516	-0.030	406	0.3	
Aroclor-1016	4	8.296	0.011	6487	5.4	4	9.183	-0.004	10	0.0	
Total CollAve (3 peaks):				5.6	Total Col2Ave (4 peaks):				1.1	RPD = 133*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				0.6		
Aroclor-1221	1	---			0.0	1	5.664	0.011	110	0.4	
Aroclor-1221	2	---			0.0	2	6.896	0.016	16185	27.1	
Aroclor-1221	3	---			0.0	3	7.102	0.013	1229	3.8	
CollAve: <3 Quant Peaks					Col2Ave:				10.4		
Aroclor-1232	1	---			0.0	1	5.664	0.011	110	0.6	
Aroclor-1232	2	7.530	0.046	7263	11.9	2	7.774	-0.012	3032	3.6	
Aroclor-1232	3	---			0.0	3	8.395	0.038	5466	3.4	
Aroclor-1232	4	8.000	0.025	11443	14.5	4	8.516	-0.033	406	0.6	
CollAve: <3 Quant Peaks					Col2Ave:				2.1		
Aroclor-1242	1	7.530	0.048	7263	6.6	1	7.774	-0.010	3032	2.1	
Aroclor-1242	2	---			0.0	2	8.318	-0.036	9488	3.2	
Aroclor-1242	3	9.026	-0.046	5641	4.5	3	9.700	0.010	6385	6.6	
Aroclor-1242	4	9.281	-0.070	4497	3.3	4	10.099	0.069	3565	3.0	
Total CollAve (3 peaks):				4.8	Total Col2Ave (4 peaks):				3.7	RPD = 26	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				2.7		
Aroclor-1248	1	8.595	0.030	15635	8.7	1	8.783	-0.007	11551	9.2	
Aroclor-1248	2	8.729	-0.000	5265	2.4	2	9.183	-0.004	10	0.0	
Aroclor-1248	3	9.145	0.016	3144	1.2	3	9.700	0.088	6385	3.2	
Aroclor-1248	4	9.281	-0.072	4497	2.2	4	10.099	0.068	3565	1.8	
Total CollAve (4 peaks):				3.6	Total Col2Ave (4 peaks):				3.6	RPD = 1	
Corrected Ave (3 peaks):				1.9	Corrected Ave (3 peaks):				1.7	RPD = 14	
Aroclor-1254	1	9.145	0.012	3144	1.3	1	9.912	0.011	4406	2.2	
Aroclor-1254	2	---			0.0	2	9.926	-0.068	3457	3.3	
Aroclor-1254	3	9.568	0.073	1857	1.5	3	10.475	0.060	1495	1.0	
Aroclor-1254	4	9.688	-0.091	6647	3.1	4	10.537	-0.025	1062	0.3	
Aroclor-1254	5	---			0.0	5	11.319	-0.013	3637	1.8	
Total CollAve (3 peaks):				2.0	Total Col2Ave (5 peaks):				1.7	RPD = 14	
Corrected Ave: < 3 Peaks					Corrected Ave (4 peaks):				1.3		
Aroclor-1260	1	---			0.0	1	11.644	0.015	3676	1.8	
Aroclor-1260	2	---			0.0	2	12.084	0.006	5281	2.1	
Aroclor-1260	3	---			0.0	3	12.343	0.008	1878	0.4	
Aroclor-1260	4	---			0.0	4	13.621	-0.014	844	0.6	
Aroclor-1260	5	---			0.0	NS	---			----	
CollAve: <3 Quant Peaks					Col2Ave:				1.2		
Aroclor-1262	1	---			0.0	1	11.644	0.012	3676	1.2	
Aroclor-1262	2	---			0.0	2	12.084	0.003	5281	2.2	
Aroclor-1262	3	---			0.0	3	12.343	0.006	1878	0.3	
Aroclor-1262	4	---			0.0	4	12.829	-0.025	3611	1.6	
Aroclor-1262	5	---			0.0	NS	---			----	
CollAve: <3 Quant Peaks					Col2Ave:				1.3		
Aroclor-1268	1	---			0.0	1	12.829	-0.024	3611	0.6	
Aroclor-1268	2	---			0.0	2	12.948	0.028	2083	0.3	
Aroclor-1268	3	12.653	-0.087	27805	3.0	3	13.307	-0.009	7156	1.4	
Aroclor-1268	4	13.514	0.003	19770	0.8	4	14.116	-0.007	10234	0.7	
CollAve: <3 Quant Peaks					Col2Ave:				0.7		

Total PCB Area Col1 (6.196 - 13.808) = 472095 Col1 Total PCB = 0.02 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 1649088 Col2 Total PCB = 0.06 ppm*

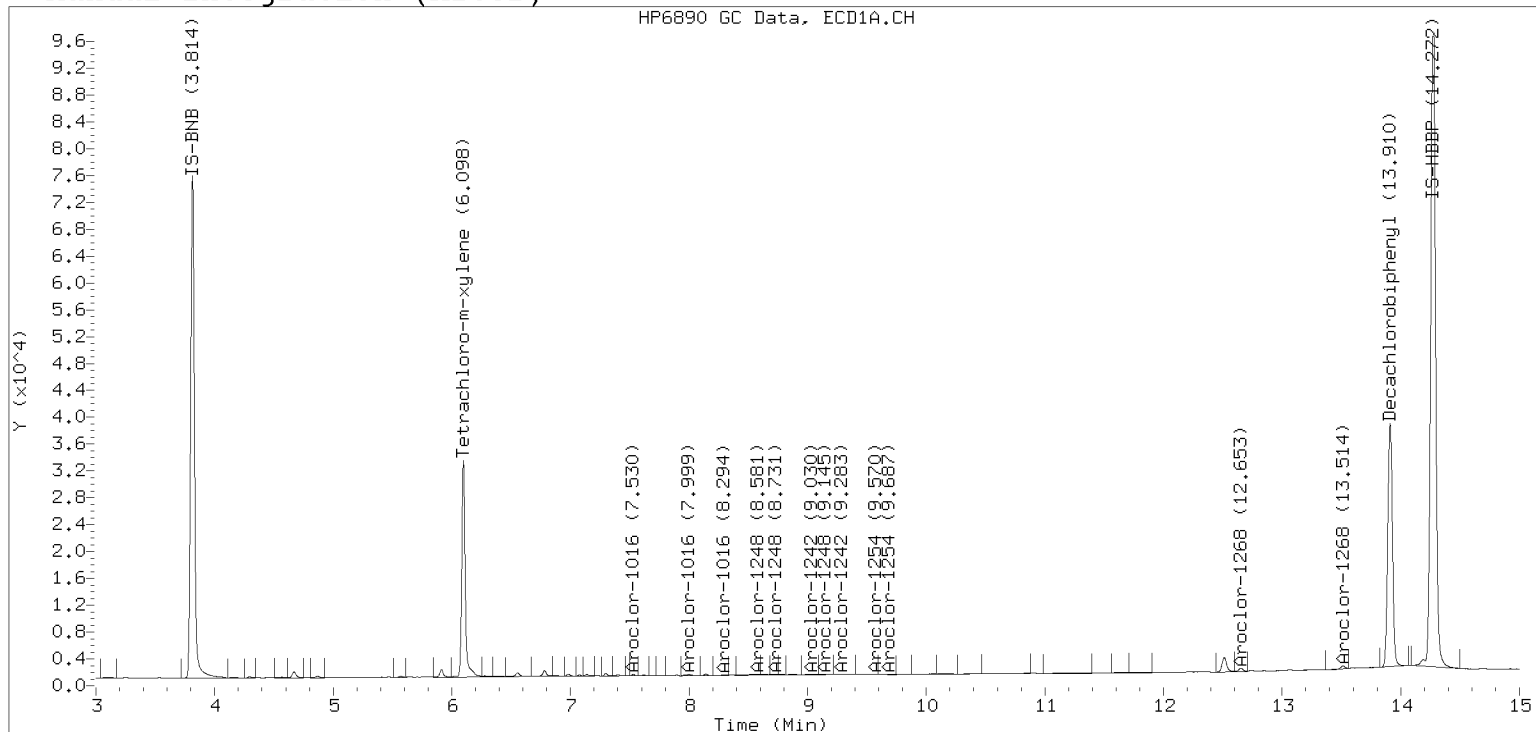
* Quantitated against AR1660 0.25ppm in Ical

Manual Peak Adjustment, ZB-5

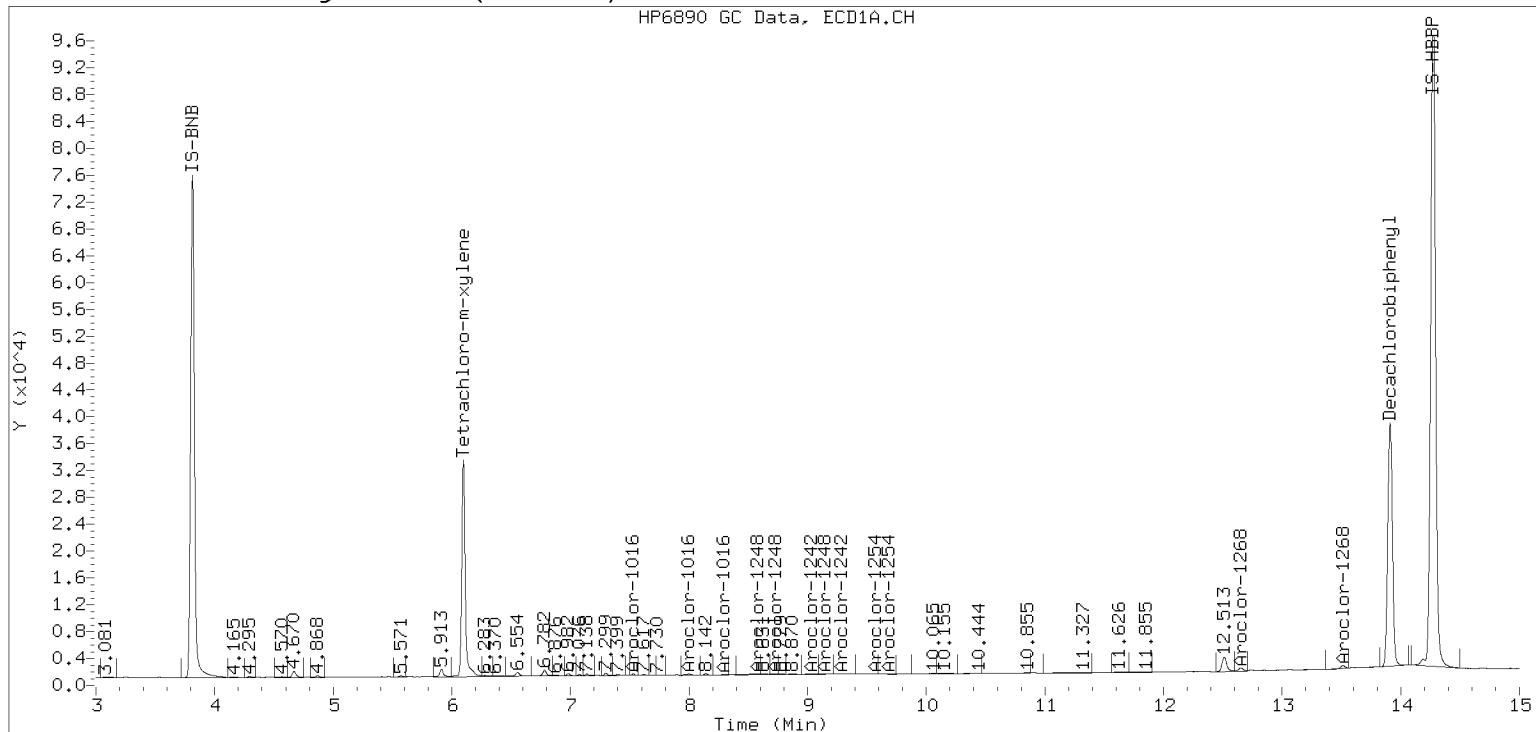
Datafile: ecd5.i/20201116.b/20111613ECD5.D

Injection Date: 16-NOV-2020 20:2

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111614ECD5.D
Data file 2: /20201116.b/20201116.b/20111614ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0338-BS1
Client ID:
Injection Date: 16-NOV-2020 20:42
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	-0.002	1295296	6.309	27.9	30.2	8.0	Tetrachloro-m-xylene
13.908	0.000	1991155	14.530	31.6	33.4	5.5	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	69.8	75.6
Decachlorobiphenyl	79.0	83.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3175831	17.5
Hexabromobiphenyl	3964848	5323609	34.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2970427	1.9
Hexabromobiphenyl	2801720	3196915	14.1

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.479	-0.001	424400	326.8	1	7.778	-0.003	581599	353.2
Aroclor-1016	2	7.834	-0.002	1374877	333.7	2	8.350	-0.003	1232805	368.7
Aroclor-1016	3	7.970	-0.003	562430	332.3	3	8.543	-0.003	508199	362.0
Aroclor-1016	4	8.284	-0.001	361581	321.7	4	9.184	-0.003	380131	367.6
Total CollAve (4 peaks):				328.6		Total Col2Ave (4 peaks):				362.9 RPD = 10
Corrected Ave (3 peaks):				327.0		Corrected Ave (3 peaks):				361.0 RPD = 10
Aroclor-1221	1	---			0.0	1	5.642	-0.011	2073	7.8
Aroclor-1221	2	6.549	-0.005	77158	178.5	2	6.873	-0.006	58970	109.3
Aroclor-1221	3	6.634	-0.006	268543	219.0	3	7.081	-0.007	50173	172.7
CollAve: <3 Quant Peaks						Col2Ave:				96.6
Aroclor-1232	1	---			0.0	1	5.642	-0.011	2073	13.4
Aroclor-1232	2	7.479	-0.004	424400	743.0	2	7.778	-0.007	581599	759.5
Aroclor-1232	3	7.834	-0.002	1374877	780.0	3	8.350	-0.006	1232805	857.8
Aroclor-1232	4	7.970	-0.004	562430	763.9	4	8.543	-0.006	508199	842.6
Total CollAve (3 peaks):				762.3		Total Col2Ave (4 peaks):				618.3 RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				538.5
Aroclor-1242	1	7.479	-0.002	424400	414.7	1	7.778	-0.005	581599	441.1
Aroclor-1242	2	7.834	-0.002	1374877	425.1	2	8.350	-0.004	1232805	458.0
Aroclor-1242	3	9.071	-0.001	84052	71.5	3	9.684	-0.005	46095	52.5
Aroclor-1242	4	9.347	-0.003	66988	52.2	4	10.027	-0.004	29043	26.9
Total CollAve (4 peaks):				240.9		Total Col2Ave (4 peaks):				244.6 RPD = 2
Corrected Ave (3 peaks):				179.5		Corrected Ave (3 peaks):				173.5 RPD = 3
Aroclor-1248	1	8.563	-0.002	702455	419.7	1	8.786	-0.003	305260	270.1
Aroclor-1248	2	8.726	-0.003	521103	257.0	2	9.184	-0.003	380131	282.2
Aroclor-1248	3	9.129	0.001	357307	142.0	3	9.580	-0.032	143062	80.6
Aroclor-1248	4	9.347	-0.006	66988	35.7	4	10.027	-0.005	29043	16.5
Total CollAve (4 peaks):				213.6		Total Col2Ave (4 peaks):				162.4 RPD = 27
Corrected Ave (3 peaks):				144.9		Corrected Ave (3 peaks):				122.4 RPD = 17
Aroclor-1254	1	9.129	-0.003	357307	159.3	1	9.898	-0.004	259135	143.6
Aroclor-1254	2	9.421	-0.001	353727	117.3	2	10.027	0.032	29043	30.7
Aroclor-1254	3	---			0.0	3	10.411	-0.004	45979	33.3
Aroclor-1254	4	9.775	-0.003	63542	31.9	4	10.585	0.023	636300	211.6
Aroclor-1254	5	9.876	-0.034	364637	93.1	5	11.332	-0.000	291432	157.8
Total CollAve (4 peaks):				100.4		Total Col2Ave (5 peaks):				115.4 RPD = 14
Corrected Ave (3 peaks):				80.7		Corrected Ave (4 peaks):				91.3 RPD = 12
Aroclor-1260	1	11.426	-0.002	1037102	332.3	1	11.625	-0.004	716474	374.3
Aroclor-1260	2	11.786	-0.003	2594961	332.7	2	12.075	-0.004	829076	357.3
Aroclor-1260	3	12.181	-0.004	1321162	312.9	3	12.331	-0.005	1684762	365.4
Aroclor-1260	4	12.289	-0.002	661237	380.6	4	13.632	-0.003	543432	436.9
Aroclor-1260	5	12.361	-0.002	792653	388.1	NS	---			----
Total CollAve (5 peaks):				349.3		Total Col2Ave (4 peaks):				383.5 RPD = 9
Corrected Ave (4 peaks):				339.7		Corrected Ave (3 peaks):				365.6 RPD = 7
Aroclor-1262	1	11.116	-0.002	1026408	225.7	1	11.625	-0.007	716474	243.0
Aroclor-1262	2	11.786	-0.002	2594961	266.8	2	12.075	-0.006	829076	359.8
Aroclor-1262	3	12.181	-0.002	1321162	389.1	3	12.331	-0.007	1684762	286.2
Aroclor-1262	4	12.289	-0.003	661237	221.7	4	12.849	-0.005	545494	261.3
Aroclor-1262	5	12.361	-0.002	792653	228.6	NS	---			----
Total CollAve (5 peaks):				266.4		Total Col2Ave (4 peaks):				287.6 RPD = 8
Corrected Ave (4 peaks):				235.7		Corrected Ave (3 peaks):				263.5 RPD = 11
Aroclor-1268	1	12.289	-0.003	661237	64.4	1	12.849	-0.004	545494	91.0
Aroclor-1268	2	12.361	-0.001	792653	80.6	2	12.913	-0.007	1212149	203.8
Aroclor-1268	3	12.758	0.018	365334	41.8	3	13.309	-0.007	25868	5.3
Aroclor-1268	4	13.508	-0.003	218360	8.9	4	14.116	-0.007	136900	9.4
Total CollAve (4 peaks):				48.9		Total Col2Ave (4 peaks):				77.4 RPD = 45*

Corrected Ave (3 peaks): 38.4 Corrected Ave (3 peaks): 35.2 RPD = 9

Total PCB Area Col1 (6.196 - 13.808) = 26278440 Col1 Total PCB = 0.84 ppm*

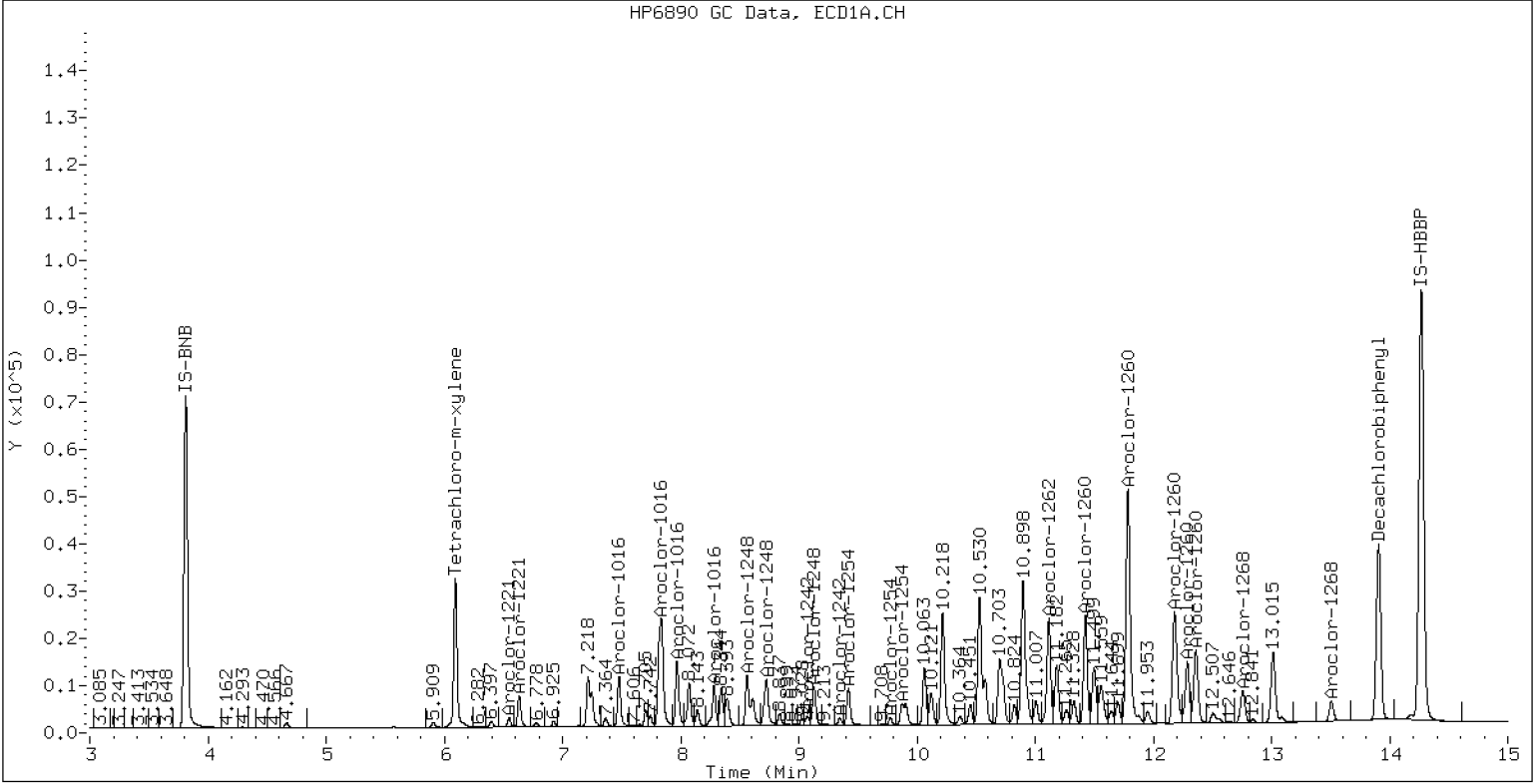
Total PCB Area Col2 (6.196 - 13.808) = 20373415 Col2 Total PCB = 0.75 ppm*

* Quantitated against AR1660 0.25ppm in Ical

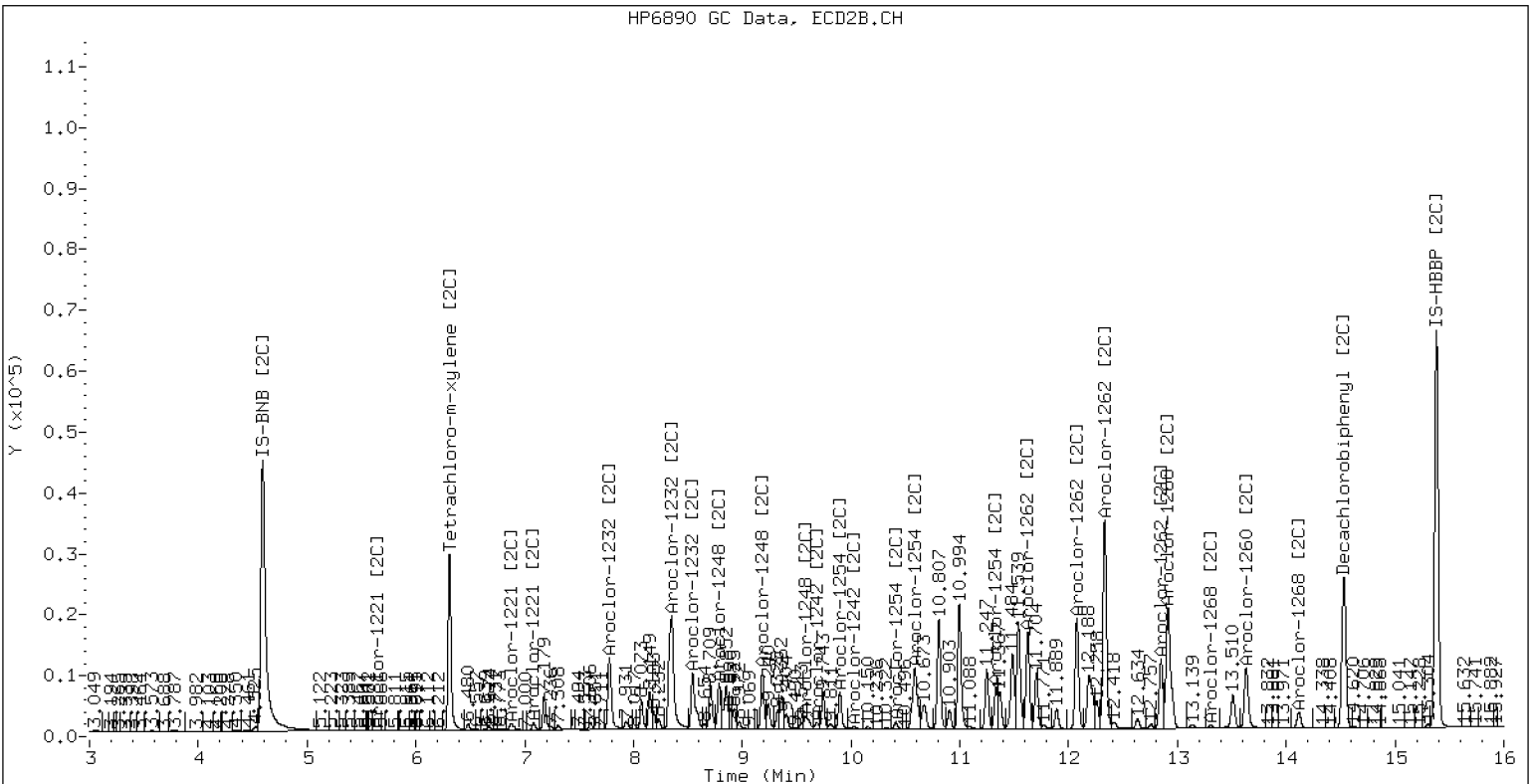
PCB Dual Column Chromatograms

ECD5-ZB5 /20201116.b/20111614ECD5.D BIK0338-BS1

16-NOV-2020 20:42 2u1 JGR



ECD5-ZB35 /20201116.b/20201116.b/20111614ECD5.D BIK0338-BS1





**MS / MS DUPLICATE RECOVERY
EPA 8082A**

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/16/20 22:05</u>
Batch:	<u>BIK0338</u>	Laboratory ID:	<u>BIK0338-MS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>5.38 g / 5 mL</u>	Source Sample:	<u>PP22-2.5</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Aroclor 1016	499	ND	U	359		72.0	52 - 120
Aroclor 1260 [2C]	499	243		460	*	43.5 *	57 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.



MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/16/20 22:26</u>
Batch:	<u>BIK0338</u>	Laboratory ID:	<u>BIK0338-MSD1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>5.38 g / 5 mL</u>	Source Sample:	<u>PP22-2.5</u>

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	499	374		74.8	3.90	30	52 - 120
Aroclor 1260 [2C]	499	471	*	45.7 *	2.20	30	57 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111618ECD5.D
Data file 2: /20201116.b/20201116.b/20111618ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0338-MS1
Client ID:
Injection Date: 16-NOV-2020 22:05
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag		
6.094	-0.002	933815	6.310	-0.002	792749	22.6	25.3	11.2	Tetrachloro-m-xylene
13.900	-0.007	1023134	14.527	-0.005	1028447	31.2	32.0	2.6	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	56.6	63.3
Decachlorobiphenyl	78.0	80.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2821176	4.4
Hexabromobiphenyl	3964848	2771993	-30.1

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2433262	-16.5
Hexabromobiphenyl	2801720	2578521	-8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.003	431516	374.1	1	7.778	-0.003	603408	447.3	
Aroclor-1016	2	7.832	-0.005	1329201	363.2	2	8.346	-0.007	1214032	443.3	
Aroclor-1016	3	7.967	-0.005	514711	342.3	3	8.539	-0.007	488089	424.4	
Aroclor-1016	4	8.281	-0.004	359089	359.7	4	9.182	-0.005	434515	513.0	
Total CollAve (4 peaks):				359.8	Total Col2Ave (4 peaks):				457.0	RPD = 24	
Corrected Ave (3 peaks):				355.1	Corrected Ave (3 peaks):				438.4	RPD = 21	
Aroclor-1221	1	5.120	0.039	20082	74.2	1	5.633	-0.020	308078	1413.1	
Aroclor-1221	2	6.548	-0.006	65739	171.2	2	6.873	-0.006	42437	96.0	
Aroclor-1221	3	6.634	-0.006	251964	231.3	3	7.081	-0.007	40732	171.1	
Total CollAve (3 peaks):				158.9	Total Col2Ave (3 peaks):				560.1	RPD = 112*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	5.120	0.039	20082	124.3	1	5.633	-0.020	308078	2422.0	
Aroclor-1232	2	7.478	-0.006	431516	850.5	2	7.778	-0.007	603408	962.0	
Aroclor-1232	3	7.832	-0.004	1329201	848.8	3	8.346	-0.011	1214032	1031.3	
Aroclor-1232	4	7.967	-0.007	514711	786.9	4	8.539	-0.010	488089	988.0	
Total CollAve (4 peaks):				652.6	Total Col2Ave (4 peaks):				1350.8	RPD = 70*	
Corrected Ave (3 peaks):				586.7	Corrected Ave (3 peaks):				993.7	RPD = 52*	
Aroclor-1242	1	7.478	-0.004	431516	474.6	1	7.778	-0.005	603408	558.6	
Aroclor-1242	2	7.832	-0.005	1329201	462.7	2	8.346	-0.008	1214032	550.6	
Aroclor-1242	3	9.064	-0.009	273238	261.8	3	9.677	-0.012	226099	314.5	
Aroclor-1242	4	9.339	-0.011	320205	280.8	4	10.017	-0.014	316253	357.4	
Total CollAve (4 peaks):				370.0	Total Col2Ave (4 peaks):				445.3	RPD = 18	
Corrected Ave (3 peaks):				335.1	Corrected Ave (3 peaks):				407.5	RPD = 20	
Aroclor-1248	1	8.558	-0.007	501151	337.1	1	8.785	-0.005	314437	339.7	
Aroclor-1248	2	8.720	-0.009	487586	270.7	2	9.182	-0.006	434515	393.8	
Aroclor-1248	3	9.121	-0.007	547647	245.0	3	9.602	-0.010	336390	231.3	
Aroclor-1248	4	9.339	-0.014	320205	191.9	4	10.017	-0.015	316253	219.1	
Total CollAve (4 peaks):				261.2	Total Col2Ave (4 peaks):				296.0	RPD = 12	
Corrected Ave (3 peaks):				235.9	Corrected Ave (3 peaks):				263.4	RPD = 11	
Aroclor-1254	1	9.121	-0.011	547647	274.8	1	9.893	-0.008	330607	223.7	
Aroclor-1254	2	9.415	-0.007	401182	149.7	2	10.017	0.022	316253	408.1	
Aroclor-1254	3	9.486	-0.009	70970	69.6	3	10.406	-0.009	130504	115.2	
Aroclor-1254	4	9.780	0.001	426603	240.9	4	10.555	-0.008	268710	109.1	
Aroclor-1254	5	9.898	-0.012	550316	158.1	5	11.326	-0.006	395789	261.6	
Total CollAve (5 peaks):				178.6	Total Col2Ave (5 peaks):				223.5	RPD = 22	
Corrected Ave (4 peaks):				154.6	Corrected Ave (4 peaks):				177.4	RPD = 14	
Aroclor-1260	1	11.419	-0.009	739083	454.9	1	11.621	-0.007	659871	427.4	
Aroclor-1260	2	11.778	-0.011	1851665	456.0	2	12.071	-0.008	838698	448.1	
Aroclor-1260	3	12.170	-0.014	916544	416.9	3	12.326	-0.009	1681229	452.1	
Aroclor-1260	4	12.282	-0.009	403187	445.7	4	13.627	-0.008	517323	515.7	
Aroclor-1260	5	12.354	-0.010	476145	447.8	NS	---			----	
Total CollAve (5 peaks):				444.2	Total Col2Ave (4 peaks):				460.8	RPD = 4	
Corrected Ave (4 peaks):				441.3	Corrected Ave (3 peaks):				442.5	RPD = 0	
Aroclor-1262	1	11.110	-0.009	718796	303.6	1	11.621	-0.011	659871	277.5	
Aroclor-1262	2	11.778	-0.010	1851665	365.6	2	12.071	-0.010	838698	451.2	
Aroclor-1262	3	12.170	-0.013	916544	518.4	3	12.326	-0.011	1681229	354.1	
Aroclor-1262	4	12.282	-0.010	403187	259.6	4	12.844	-0.010	528345	313.7	
Aroclor-1262	5	12.354	-0.009	476145	263.8	NS	---			----	
Total CollAve (5 peaks):				342.2	Total Col2Ave (4 peaks):				349.1	RPD = 2	
Corrected Ave (4 peaks):				298.2	Corrected Ave (3 peaks):				315.1	RPD = 6	
Aroclor-1268	1	12.282	-0.010	403187	75.4	1	12.844	-0.009	528345	109.2	
Aroclor-1268	2	12.354	-0.008	476145	92.9	2	12.907	-0.013	1177044	245.4	
Aroclor-1268	3	12.748	0.008	229007	50.3	3	13.306	-0.010	26575	6.7	
Aroclor-1268	4	13.500	-0.011	126941	10.0	4	14.113	-0.011	120771	10.3	

Total Col1Ave (4 peaks):	57.1	Total Col2Ave (4 peaks):	92.9	RPD = 48*
Corrected Ave (3 peaks):	45.2	Corrected Ave (3 peaks):	42.1	RPD = 7

Total PCB Area Col1 (6.196 - 13.808) = 23594986 Col1 Total PCB = 0.75 ppm*

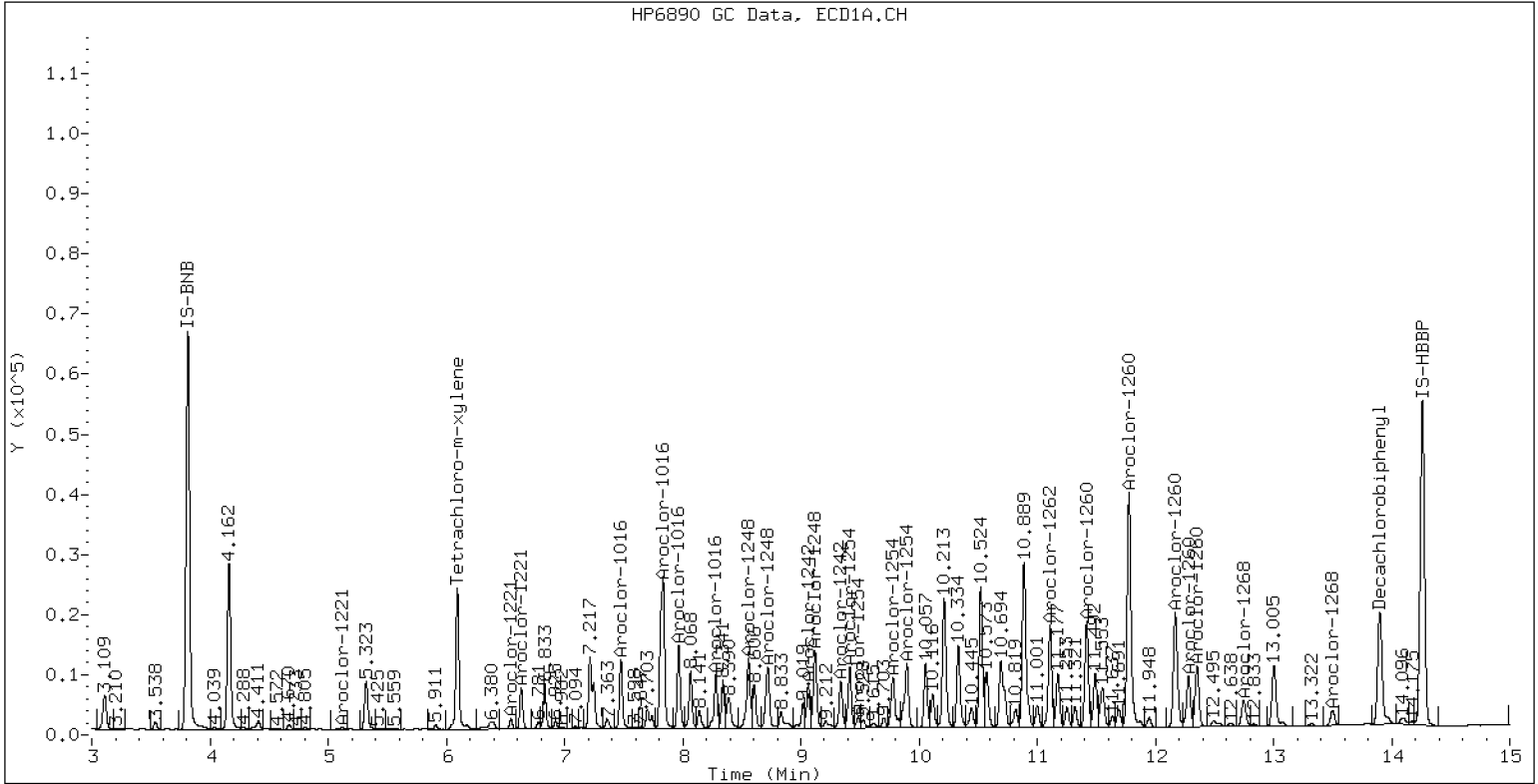
Total PCB Area Col2 (6.196 - 13.808) = 22683932 Col2 Total PCB = 0.83 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

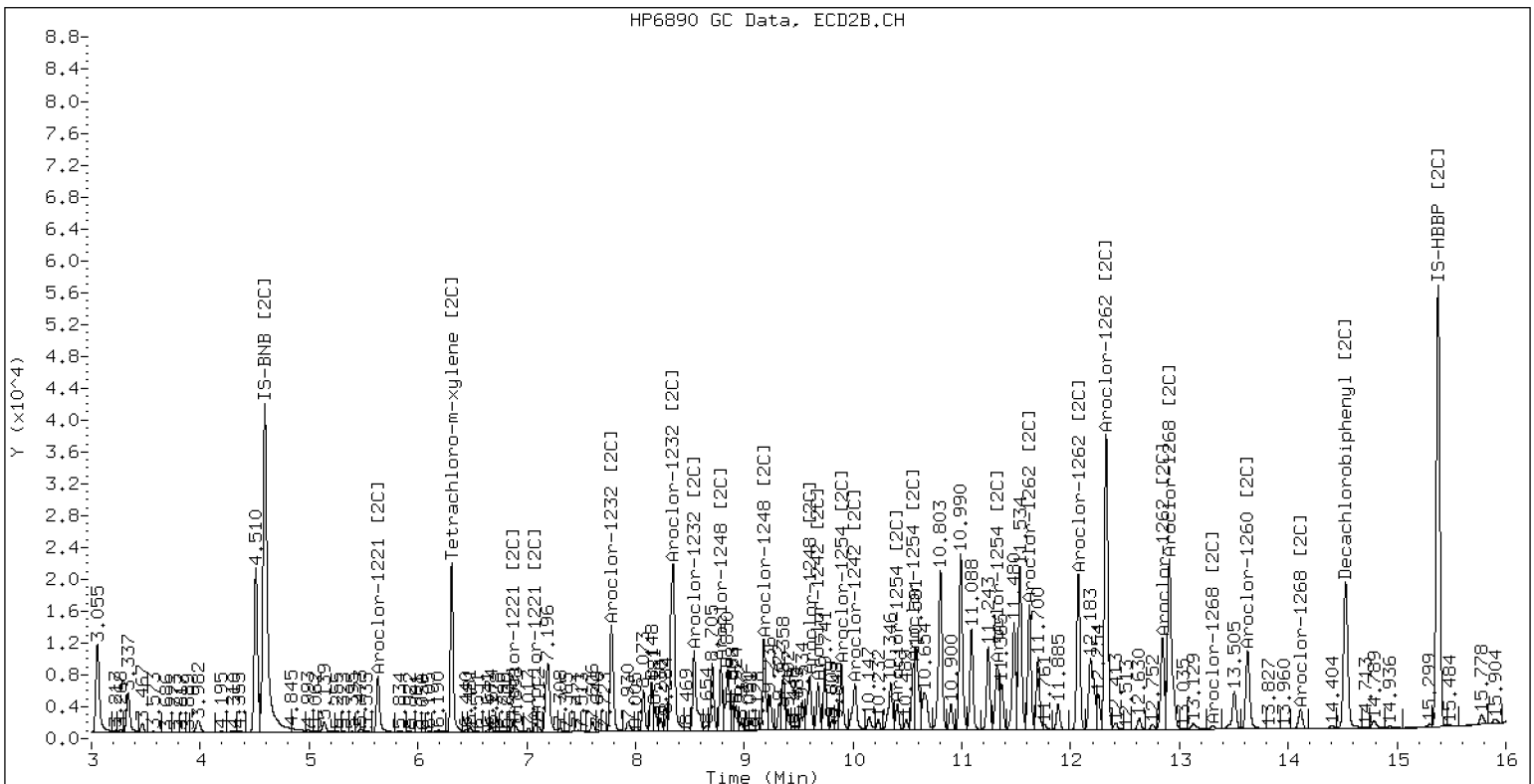
ECD5-ZB5 /20201116.b/20111618ECD5.D BIK0338-MS1

16-NOV-2020 22:05 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111618ECD5.D BIK0338-MS1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111619ECD5.D
Data file 2: /20201116.b/20201116.b/20111619ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: BIK0338-MSD1
Client ID:
Injection Date: 16-NOV-2020 22:26
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.095	-0.001 961820	-0.002 808303	6.310	23.1	25.8	10.8	Tetrachloro-m-xylene
13.901	-0.006 1070428	-0.003 1074198	14.529	32.1	32.7	1.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	57.8	64.4
Decachlorobiphenyl	80.3	81.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2844914	5.3
Hexabromobiphenyl	3964848	2814917	-29.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2438113	-16.3
Hexabromobiphenyl	2801720	2635198	-5.9

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.002	457450	393.3	1	7.778	-0.003	627169	464.0	
Aroclor-1016	2	7.831	-0.005	1388318	376.2	2	8.346	-0.008	1256730	458.0	
Aroclor-1016	3	7.967	-0.005	538916	355.5	3	8.539	-0.007	504340	437.7	
Aroclor-1016	4	8.281	-0.004	374225	371.7	4	9.182	-0.005	451526	532.0	
Total CollAve (4 peaks):				374.2	Total Col2Ave (4 peaks):				472.9	RPD = 23	
Corrected Ave (3 peaks):				367.8	Corrected Ave (3 peaks):				453.2	RPD = 21	
Aroclor-1221	1	5.120	0.039	20595	75.4	1	5.633	-0.020	317884	1455.2	
Aroclor-1221	2	6.548	-0.006	68044	175.7	2	6.873	-0.007	70363	158.9	
Aroclor-1221	3	6.634	-0.006	263039	239.5	3	7.081	-0.007	42023	176.2	
Total CollAve (3 peaks):				163.5	Total Col2Ave (3 peaks):				596.8	RPD = 114*	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1232	1	5.120	0.039	20595	126.4	1	5.633	-0.020	317884	2494.2	
Aroclor-1232	2	7.478	-0.005	457450	894.1	2	7.778	-0.007	627169	997.9	
Aroclor-1232	3	7.831	-0.005	1388318	879.2	3	8.346	-0.011	1256730	1065.4	
Aroclor-1232	4	7.967	-0.007	538916	817.1	4	8.539	-0.010	504340	1018.8	
Total CollAve (4 peaks):				679.2	Total Col2Ave (4 peaks):				1394.1	RPD = 69*	
Corrected Ave (3 peaks):				607.6	Corrected Ave (3 peaks):				1027.4	RPD = 51*	
Aroclor-1242	1	7.478	-0.003	457450	498.9	1	7.778	-0.005	627169	579.5	
Aroclor-1242	2	7.831	-0.005	1388318	479.2	2	8.346	-0.009	1256730	568.8	
Aroclor-1242	3	9.064	-0.008	281733	267.7	3	9.677	-0.012	231051	320.8	
Aroclor-1242	4	9.340	-0.011	330678	287.5	4	10.018	-0.013	320938	362.0	
Total CollAve (4 peaks):				383.3	Total Col2Ave (4 peaks):				457.8	RPD = 18	
Corrected Ave (3 peaks):				344.8	Corrected Ave (3 peaks):				417.2	RPD = 19	
Aroclor-1248	1	8.559	-0.006	527777	352.0	1	8.785	-0.005	323621	348.9	
Aroclor-1248	2	8.721	-0.008	508262	279.8	2	9.182	-0.006	451526	408.4	
Aroclor-1248	3	9.121	-0.008	568725	252.3	3	9.601	-0.011	344261	236.2	
Aroclor-1248	4	9.340	-0.014	330678	196.6	4	10.018	-0.014	320938	221.9	
Total CollAve (4 peaks):				270.2	Total Col2Ave (4 peaks):				303.9	RPD = 12	
Corrected Ave (3 peaks):				242.9	Corrected Ave (3 peaks):				269.0	RPD = 10	
Aroclor-1254	1	9.121	-0.011	568725	283.0	1	9.894	-0.008	340061	229.6	
Aroclor-1254	2	9.415	-0.007	418596	154.9	2	10.018	0.023	320938	413.3	
Aroclor-1254	3	9.487	-0.008	139655	135.8	3	10.406	-0.009	133026	117.2	
Aroclor-1254	4	9.780	0.001	440944	246.9	4	10.581	0.019	823470	333.6	
Aroclor-1254	5	9.898	-0.011	577246	164.4	5	11.327	-0.005	409565	270.2	
Total CollAve (5 peaks):				197.0	Total Col2Ave (5 peaks):				272.8	RPD = 32	
Corrected Ave (4 peaks):				175.5	Corrected Ave (4 peaks):				237.7	RPD = 30	
Aroclor-1260	1	11.419	-0.009	778456	471.8	1	11.621	-0.007	692707	439.0	
Aroclor-1260	2	11.778	-0.011	1958136	474.8	2	12.072	-0.006	883731	462.0	
Aroclor-1260	3	12.170	-0.014	966646	433.0	3	12.327	-0.009	1774478	466.9	
Aroclor-1260	4	12.282	-0.009	424715	462.3	4	13.628	-0.007	529403	516.4	
Aroclor-1260	5	12.353	-0.010	502822	465.6	NS	---			----	
Total CollAve (5 peaks):				461.5	Total Col2Ave (4 peaks):				471.1	RPD = 2	
Corrected Ave (4 peaks):				458.2	Corrected Ave (3 peaks):				456.0	RPD = 0	
Aroclor-1262	1	11.110	-0.008	757078	314.9	1	11.621	-0.010	692707	285.0	
Aroclor-1262	2	11.778	-0.010	1958136	380.7	2	12.072	-0.009	883731	465.3	
Aroclor-1262	3	12.170	-0.012	966646	538.4	3	12.327	-0.011	1774478	365.7	
Aroclor-1262	4	12.282	-0.010	424715	269.3	4	12.845	-0.010	551561	320.5	
Aroclor-1262	5	12.353	-0.010	502822	274.3	NS	---			----	
Total CollAve (5 peaks):				355.5	Total Col2Ave (4 peaks):				359.1	RPD = 1	
Corrected Ave (4 peaks):				309.8	Corrected Ave (3 peaks):				323.7	RPD = 4	
Aroclor-1268	1	12.282	-0.010	424715	78.2	1	12.845	-0.009	551561	111.6	
Aroclor-1268	2	12.353	-0.009	502822	96.7	2	12.908	-0.012	1217379	248.3	
Aroclor-1268	3	12.748	0.009	238696	51.6	3	13.307	-0.009	28694	7.1	
Aroclor-1268	4	13.501	-0.010	134299	10.4	4	14.113	-0.011	128559	10.7	

Total Col1Ave (4 peaks):	59.2	Total Col2Ave (4 peaks):	94.4	RPD = 46*
Corrected Ave (3 peaks):	46.7	Corrected Ave (3 peaks):	43.1	RPD = 8

Total PCB Area Col1 (6.196 - 13.808) = 24739969 Col1 Total PCB = 0.79 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 23527150 Col2 Total PCB = 0.86 ppm*

* Quantitated against AR1660 0.25ppm in Ical



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	20K0008
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DK00033	Instrument:	ECD5
Calibration Date:	11/07/2020	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232									250	2.047986E-02		
Aroclor 1242	250	4.229659E-02										
Aroclor 1248			250	5.098211E-02								
Aroclor 1254					250	6.207301E-02						
Aroclor 1262							250	7.248708E-02				
Aroclor 1268									250	0.2004054		



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	20K0008
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DK00033	Instrument:	ECD5
Calibration Date:	11/07/2020	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	5.185923E-02	13.1			RSD (20)	
Aroclor 1232		0.0			RSD (20)	
Aroclor 1242		0.0			RSD (20)	
Aroclor 1248		0.0			RSD (20)	
Aroclor 1254		0.0			RSD (20)	
Aroclor 1260	5.686719E-02	14.0			RSD (20)	
Aroclor 1262		0.0			RSD (20)	
Aroclor 1268		0.0			RSD (20)	
Decachlorobiphenyl	0.9468939	10.2			RSD (20)	
Tetrachlorometaxylene	1.169352	7.2			RSD (20)	



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Calibration: DK00033 Instrument: ECD5
Calibration Date: 11/07/2020 Column (2): ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232 [2C]									250	1.993794E-02		
Aroclor 1242 [2C]	250	4.018236E-02										
Aroclor 1248 [2C]			250	4.049491E-02								
Aroclor 1254 [2C]					250	0.0484068						
Aroclor 1262 [2C]							250	8.275202E-02				
Aroclor 1268 [2C]									250	0.1962711		



INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	20K0008
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DK00033	Instrument:	ECD5
Calibration Date:	11/07/2020	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.001097E-02	11.3			RSD (20)	
Aroclor 1232 [2C]		0.0			RSD (20)	
Aroclor 1242 [2C]		0.0			RSD (20)	
Aroclor 1248 [2C]		0.0			RSD (20)	
Aroclor 1254 [2C]		0.0			RSD (20)	
Aroclor 1260 [2C]	6.312054E-02	8.7			RSD (20)	
Aroclor 1262 [2C]		0.0			RSD (20)	
Aroclor 1268 [2C]		0.0			RSD (20)	
Decachlorobiphenyl [2C]	0.9970133	11.5			RSD (20)	
Tetrachlorometaxylene [2C]	1.029393	7.0			RSD (20)	



ANALYSIS SEQUENCE

SIK0223

Instrument: ECD5 Element Column ID: h4096h4097
Calibration ID: DK00033

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0223-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0223-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0223-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0223-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0223-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0223-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0223-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0223-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0223-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0223-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0223-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0223-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0223-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0223-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0223-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0223-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0223-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020 18:13	20110701.D	1	RINSE	
2	07-NOV-2020 18:34	20110702.D	1	RINSE	
3	07-NOV-2020 18:55	20110703.D	1	RINSE	
4	07-NOV-2020 19:15	20110704.D	1	RINSE	
5	07-NOV-2020 19:36	20110705.D	1	RINSE	
6	07-NOV-2020 19:56	20110706.D	1	RINSE	
7	07-NOV-2020 20:17	20110707.D	1	IB	
8	07-NOV-2020 20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020 20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020 21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020 21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020 22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020 22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020 22:42	20110714.D	1	AR1242	
15	07-NOV-2020 23:02	20110715.D	1	AR1248	
16	07-NOV-2020 23:23	20110716.D	1	AR1254	
17	07-NOV-2020 23:44	20110717.D	1	AR2162	
18	08-NOV-2020 00:04	20110718.D	1	AR3268	
19	08-NOV-2020 00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020 00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020 01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020 01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020 01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020 02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020 02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020 02:49	20110726.D	1	BD	

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	jrains,	16-Nov-2020	07:18
20110702.D	Data Locked	jrains,	16-Nov-2020	07:18
20110703.D	Data Locked	jrains,	16-Nov-2020	07:18
20110704.D	Data Locked	jrains,	16-Nov-2020	07:18
20110705.D	Data Locked	jrains,	16-Nov-2020	07:18
20110706.D	Data Locked	jrains,	16-Nov-2020	07:18
20110707.D	Data Locked	jrains,	16-Nov-2020	07:18
20110708.D	Data Locked	jrains,	16-Nov-2020	07:18
20110709.D	Data Locked	jrains,	16-Nov-2020	07:18
20110710.D	Data Locked	jrains,	16-Nov-2020	07:18
20110711.D	Data Locked	jrains,	16-Nov-2020	07:18
20110712.D	Data Locked	jrains,	16-Nov-2020	07:18
20110713.D	Data Locked	jrains,	16-Nov-2020	07:18
20110714.D	Data Locked	jrains,	16-Nov-2020	07:18
20110715.D	Data Locked	jrains,	16-Nov-2020	07:18
20110716.D	Data Locked	jrains,	16-Nov-2020	07:18
20110717.D	Data Locked	jrains,	16-Nov-2020	07:18
20110718.D	Data Locked	jrains,	16-Nov-2020	07:18
20110719.D	Data Locked	jrains,	16-Nov-2020	07:18
20110720.D	Data Locked	jrains,	16-Nov-2020	07:18
20110721.D	Data Locked	jrains,	16-Nov-2020	07:18
20110722.D	Data Locked	jrains,	16-Nov-2020	07:18
20110723.D	Data Locked	jrains,	16-Nov-2020	07:18
20110724.D	Data Locked	jrains,	16-Nov-2020	07:18
20110725.D	Data Locked	jrains,	16-Nov-2020	07:18
20110726.D	Data Locked	jrains,	16-Nov-2020	07:18

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110709.D
 Level 2: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110710.D
 Level 3: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110712.D
 Level 4: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110708.D
 Level 5: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110713.D
 Level 6: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110711.D
 Level 7: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110718.D
 Level 8: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110725.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
1 Aroclor-1221 [2C] (1)	0.00717	0.000e+00					0.00717	0.000
(2)	0.01453						0.01453	0.000
(3)	0.00783						0.00783	0.000
4 Aroclor-1232 [2C] (1)	0.00418						0.00418	0.000

(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02062	+++++						0.02062	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03870	+++++						0.03870	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01624	+++++						0.01624	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03551	+++++						0.03551	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07249	0.000
	0.07249	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02363	0.000
	0.02363	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02909	0.000
	0.02909	+++++						
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03044	0.000
	0.03044	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03627	0.000
	0.03627	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04782	0.000
	0.04782	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04745	0.000
	0.04745	+++++						
7 Aroclor-1016 [2C] (1)	0.05341	0.04734	0.04550	0.04374	0.04020	0.03589		

	+++++	+++++					0.04435	13.584
(2)	0.10428	0.09543	0.09147	0.08918	0.08335	0.07655		
	+++++	+++++					0.09004	10.670
(3)	0.04448	0.04007	0.03825	0.03689	0.03473	0.03243		
	+++++	+++++					0.03781	11.157
(4)	0.03217	0.02944	0.02830	0.02720	0.02583	0.02413		
	+++++	+++++					0.02785	10.121

	0.14732	+++++					0.14732	0.000

(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05225	+++++					0.05225	0.000

9 Aroclor-1260 [2C] (1)	0.05521	0.04961	0.04778	0.04472	0.04219	+++++		
	+++++	+++++					0.04790	10.392

(2)	0.06635	0.06006	0.05746	0.05449	0.05200	+++++		
	+++++	+++++					0.05807	9.531

	+++++	1177					1177	0.000

44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	739					739	0.000

45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	833					833	0.000

46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	857					857	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.11554	1.05922	1.05737	1.05134	0.98340	0.90949	1.02939	7.014
\$ 13 Decachlorobiphenyl [2C]	1.16392	1.06091	1.02919	0.97605	0.91397	0.83803	0.99701	11.487

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110709.D
 Level 2: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110710.D
 Level 3: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110712.D
 Level 4: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110708.D
 Level 5: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110713.D
 Level 6: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110711.D
 Level 7: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110718.D
 Level 8: \\target\share\chem4\ecd5.i\20201107.b\20201107.b\20110725.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
1 Aroclor-1221 [2C] (1)	0.00717	0.000e+00					0.00717	0.000
(2)	0.01453						0.01453	0.000
(3)	0.00783						0.00783	0.000
4 Aroclor-1232 [2C] (1)	0.00418						0.00418	0.000

(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02062	+++++						0.02062	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03870	+++++						0.03870	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01624	+++++						0.01624	0.000
3 Aroclor-1242 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03551	+++++						0.03551	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000	0.000e+00						
	Level 7	Level 8						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07249	0.000
	0.07249	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02363	0.000
	0.02363	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02909	0.000
	0.02909	+++++						
6 Aroclor-1248 [2C] (1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03044	0.000
	0.03044	+++++						
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03627	0.000
	0.03627	+++++						
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04782	0.000
	0.04782	+++++						
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.04745	0.000
	0.04745	+++++						
7 Aroclor-1016 [2C] (1)	0.05341	0.04734	0.04550	0.04374	0.04020	0.03589		

	+++++	+++++					0.04435	13.584
(2)	0.10428	0.09543	0.09147	0.08918	0.08335	0.07655		
	+++++	+++++					0.09004	10.670
(3)	0.04448	0.04007	0.03825	0.03689	0.03473	0.03243		
	+++++	+++++					0.03781	11.157
(4)	0.03217	0.02944	0.02830	0.02720	0.02583	0.02413		
	+++++	+++++					0.02785	10.121

	0.14732	+++++					0.14732	0.000

(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05225	+++++					0.05225	0.000

9 Aroclor-1260 [2C] (1)	0.05521	0.04961	0.04778	0.04472	0.04219	+++++		
	+++++	+++++					0.04790	10.392

(2)	0.06635	0.06006	0.05746	0.05449	0.05200	+++++		
	+++++	+++++					0.05807	9.531

	+++++	1177					1177	0.000

44 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	739					739	0.000

45 4,4-DDD/2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	833					833	0.000

46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	857					857	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2020 20:38
 End Cal Date : 08-NOV-2020 02:29
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP Genie
 Method file : \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Last Edit : 16-Nov-2020 06:55 jrains
 Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	250.000 Level 7	0.000e+00 Level 8						
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
\$ 2 Tetrachloro-m-xylene [2C]	1.11554	1.05922	1.05737	1.05134	0.98340	0.90949	1.02939	7.014
\$ 13 Decachlorobiphenyl [2C]	1.16392	1.06091	1.02919	0.97605	0.91397	0.83803	0.99701	11.487

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd5.i\20201107.b\20201107.b
Inst ID: ecd5.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 20110708 20110709 20110710 20110711 20110712 20110713
INJ. DATE: 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020 07-NOV-2020
INJ. TIME: 20:38 20:58 21:19 21:40 22:00 22:21

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include various chemical compounds like IS-BNB, Tetrachloro-m-xylene, Aroclor-1221, etc.

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m\PCB2.m
 Batch File: \\target\share\chem4\ecd5.i\20201107.b\20201107.b
 Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	11.526	11.426-11.626	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m
Batch File: \\target\share\chem4\ecd5.i\20201107.b
Inst ID: ecd5.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	20110708	20110709	20110710	20110711	20110712	20110713
INJ. DATE:	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020	07-NOV-2020
INJ. TIME:	20:38	20:58	21:19	21:40	22:00	22:21

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.816	3.817	3.817	3.816	3.817	3.817	3.818	3.718-3.918	3.817	0.000
§ 1 Tetrachloro-m-xylene	6.098	6.098	6.098	6.099	6.098	6.099	6.099	5.999-6.199	6.098	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	5.081	4.981-5.181	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.482	7.382-7.582	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	5.081	4.981-5.181	+++++	+++++
7 Aroclor-1016	7.482	7.482	7.482	7.482	7.482	7.482	7.482	7.382-7.582	7.482	0.000
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.565	8.465-8.665	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.133	9.033-9.233	+++++	+++++
9 Aroclor-1260	11.427	11.429	11.428	11.427	11.428	11.428	11.428	11.328-11.528	11.428	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	11.119	11.019-11.219	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.292	12.192-12.392	+++++	+++++
§ 13 Decachlorobiphenyl	13.910	13.909	13.909	13.911	13.909	13.910	13.910	13.810-14.010	13.910	0.001
* 12 IS-HBBP	14.272	14.271	14.271	14.272	14.271	14.270	14.272	14.172-14.372	14.271	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.390	9.340-9.440	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.912	9.862-9.962	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.394	10.344-10.444	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.794	9.694-9.894	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd5.i\20201107.b\PCB.m
 Batch File: \\target\share\chem4\ecd5.i\20201107.b
 Inst ID: ecd5.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.344	10.244-10.444	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.837	10.737-10.937	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110707.D
Data file 2: /20201107.b/20201107.b/20110707.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 07-NOV-2020 20:17
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1611130	6.315 -0.001 1581434		42.2	44.1	4.3	Tetrachloro-m-xylene
13.910	-0.000 2003244	14.537 -0.001 1488891		40.8	42.6	4.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.5	110.2
Decachlorobiphenyl	101.9	106.5

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2610934	-3.4
Hexabromobiphenyl	3964848	4150531	4.7

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2788180	-4.3
Hexabromobiphenyl	2801720	2805630	0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	7.764	-0.021	3550	2.3
Aroclor-1016	2	---			0.0	2	8.399	0.045	1834	0.6
Aroclor-1016	3	---			0.0	3	8.596	0.049	1693	1.3
Aroclor-1016	4	---			0.0	4	9.208	0.018	2495	2.6
CollAve: <3 Quant Peaks						Col2Ave: 1.7				
Aroclor-1221	1	---			0.0	1	5.613	-0.040	57	0.2
Aroclor-1221	2	---			0.0	2	6.906	0.027	24111	47.6
Aroclor-1221	3	---			0.0	3	7.119	0.031	1672	6.1
CollAve: <3 Quant Peaks						Col2Ave: 18.0				
Aroclor-1232	1	---			0.0	1	5.613	-0.040	57	0.4
Aroclor-1232	2	---			0.0	2	7.764	-0.021	3550	4.9
Aroclor-1232	3	---			0.0	3	8.399	0.043	1834	1.4
Aroclor-1232	4	---			0.0	4	8.596	0.047	1693	3.0
CollAve: <3 Quant Peaks						Col2Ave: 2.4				
Aroclor-1242	1	---			0.0	1	7.764	-0.019	3550	2.9
Aroclor-1242	2	---			0.0	2	8.399	0.045	1834	0.7
Aroclor-1242	3	---			0.0	3	9.739	0.049	6072	7.4
Aroclor-1242	4	---			0.0	4	10.103	0.072	4147	4.1
CollAve: <3 Quant Peaks						Col2Ave: 3.8				
Aroclor-1248	1	---			0.0	1	8.807	0.015	146	0.1
Aroclor-1248	2	---			0.0	2	9.208	0.018	2495	2.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	10.103	0.073	4147	2.5
CollAve: <3 Quant Peaks						Col2Ave: 1.5				
Aroclor-1254	1	---			0.0	1	9.930	0.027	6153	3.6
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	10.436	0.021	2119	1.6
Aroclor-1254	4	---			0.0	4	10.615	0.051	2033	0.7
Aroclor-1254	5	---			0.0	5	11.341	0.010	2536	1.5
CollAve: <3 Quant Peaks						Col2Ave: 1.9				
Aroclor-1260	1	---			0.0	1	11.660	0.031	1558	0.9
Aroclor-1260	2	---			0.0	2	12.129	0.047	2191	1.1
Aroclor-1260	3	---			0.0	3	12.362	0.026	878	0.2
Aroclor-1260	4	---			0.0	4	13.713	0.076	17703	16.2
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 4.6				
Aroclor-1262	1	---			0.0	1	11.660	0.029	1558	0.6
Aroclor-1262	2	---			0.0	2	12.129	0.047	2191	1.1
Aroclor-1262	3	---			0.0	3	12.362	0.025	878	0.2
Aroclor-1262	4	---			0.0	4	12.840	-0.014	1100	0.6
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave: 0.6				
Aroclor-1268	1	---			0.0	1	12.840	-0.013	1100	0.2
Aroclor-1268	2	---			0.0	2	12.907	-0.013	949	0.2
Aroclor-1268	3	---			0.0	3	13.315	-0.001	6655	1.5
Aroclor-1268	4	---			0.0	4	14.122	-0.002	14362	1.1
CollAve: <3 Quant Peaks						Col2Ave: 0.8				

Total PCB Area Col1 (6.199 - 13.810) = 167377 Col1 Total PCB = 0.01 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 1811558 Col2 Total PCB = 0.07 ppm*

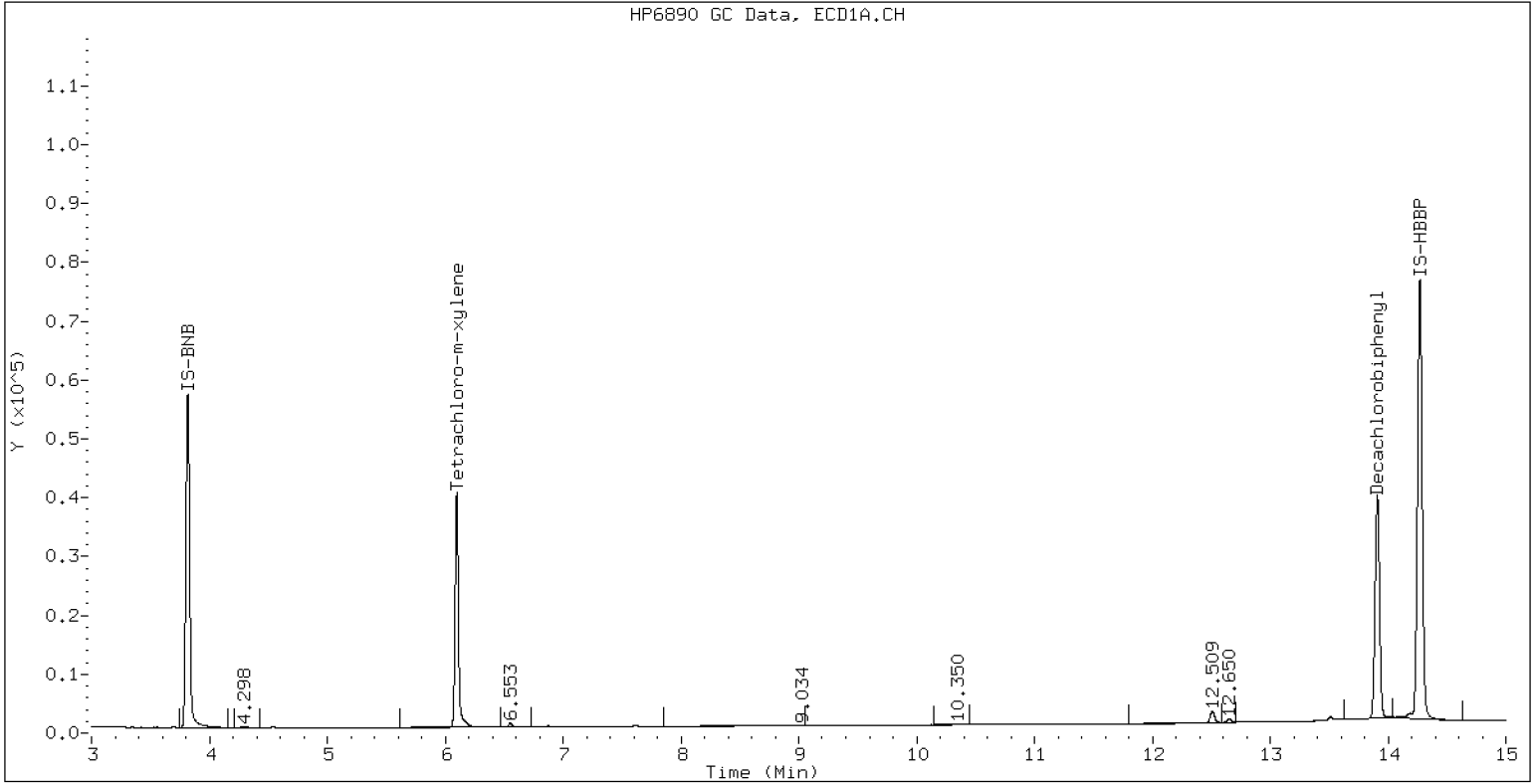
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

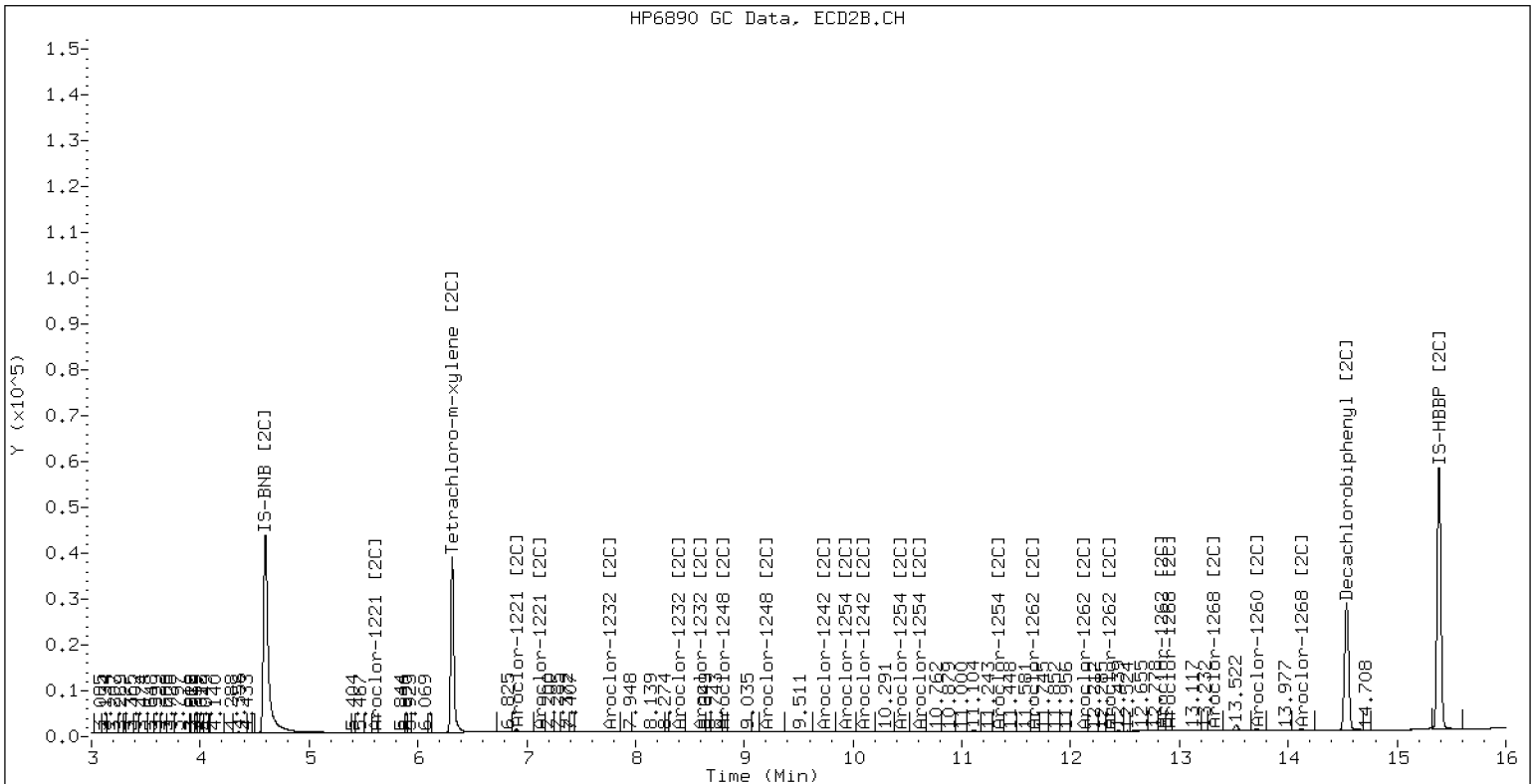
ECD5-ZB5 /20201107.b/20110707.D IB

07-NOV-2020 20:17 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110707.D IB



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110708.D
Data file 2: /20201107.b/20201107.b/20110708.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 20:38
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1595124	6.315 -0.001 1531920		40.4	40.9	1.2	Tetrachloro-m-xylene
13.910	-0.000 1830638	14.537 -0.001 1367316		39.0	39.2	0.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	100.9	102.1
Decachlorobiphenyl	97.5	97.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2703006	0.0
Hexabromobiphenyl	3964848	3964848	0.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2914229	0.0
Hexabromobiphenyl	2801720	2801720	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col						
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.482	-0.001	268307	242.8	1	7.784	-0.001	398377	246.6	
Aroclor-1016	2	7.837	-0.001	861045	245.6	2	8.354	-0.001	812165	247.6	
Aroclor-1016	3	7.972	-0.001	350814	243.5	3	8.547	0.000	335947	243.9	
Aroclor-1016	4	8.286	-0.001	234849	245.5	4	9.189	-0.000	247715	244.2	
Total CollAve (4 peaks):				244.3		Total Col2Ave (4 peaks):				245.6	RPD = 1
Corrected Ave (3 peaks):				243.9		Corrected Ave (3 peaks):				244.9	RPD = 0

CalAmt %D: -2.3

CalAmt %D: -1.8

Aroclor-1260	1	11.427	-0.001	559361	240.7	1	11.630	0.000	391577	233.4	
Aroclor-1260	2	11.787	-0.000	1388519	239.1	2	12.080	-0.001	477100	234.6	
Aroclor-1260	3	12.181	-0.001	756429	240.6	3	12.336	0.000	958194	237.1	
Aroclor-1260	4	12.290	-0.000	312398	241.4	4	13.638	0.001	263069	241.3	
Aroclor-1260	5	12.363	0.000	369140	242.7	NS	---			----	
Total CollAve (5 peaks):				240.9		Total Col2Ave (4 peaks):				236.6	RPD = 2
Corrected Ave (4 peaks):				240.4		Corrected Ave (3 peaks):				235.0	RPD = 2

CalAmt %D: -3.6

CalAmt %D: -5.4

Total PCB Area Col1 (6.199 - 13.810) = 15704210 Col1 Total PCB = 0.50 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13613509 Col2 Total PCB = 0.50 ppm*

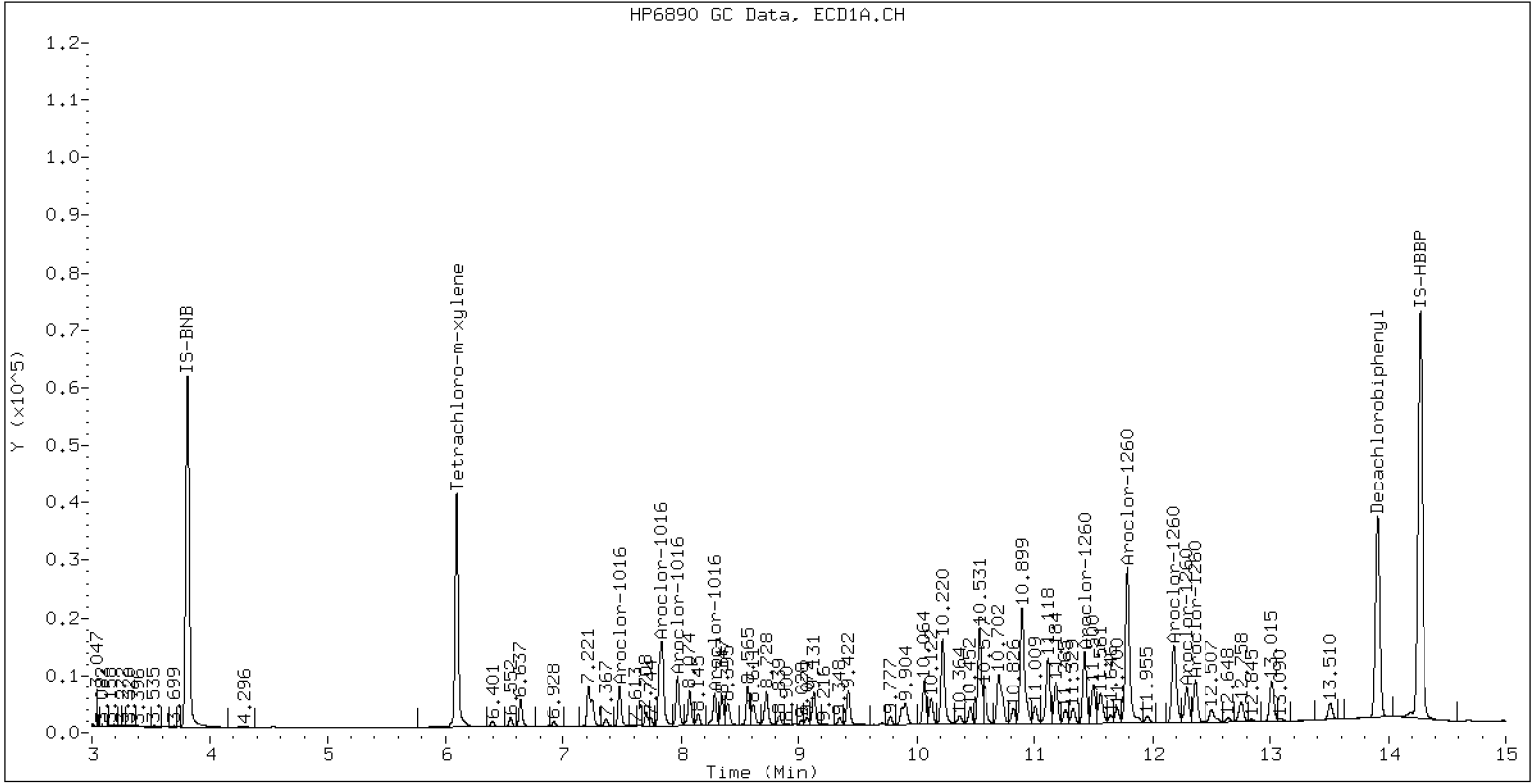
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

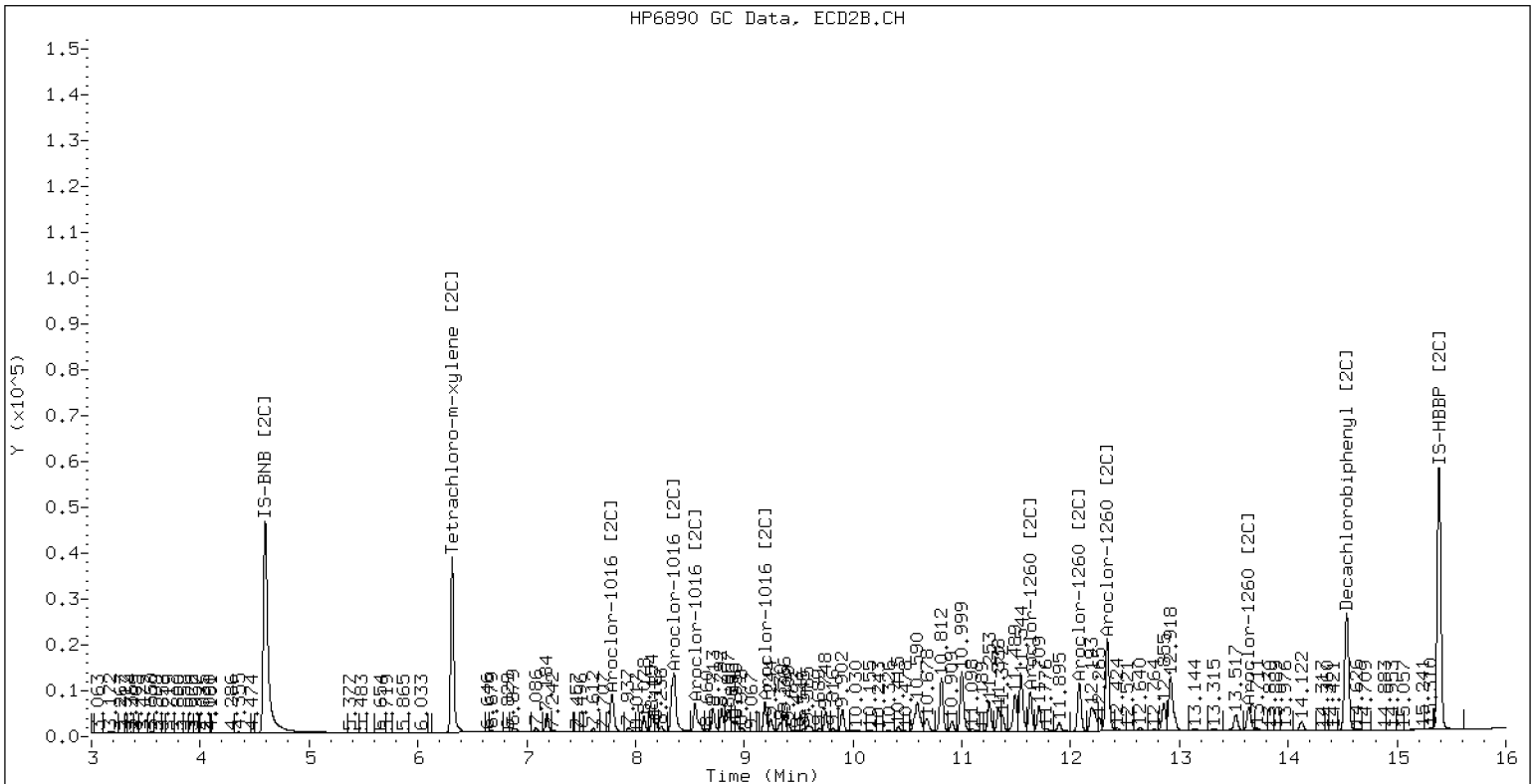
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110708.D 0.25PPMAR1660

07-NOV-2020 20:38 2ul JGR



ECD5-ZB35 /20201107.b/20201107.b/20110708.D 0.25PPMAR1660



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110709.D
Data file 2: /20201107.b/20201107.b/20110709.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 20:58
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002	136545	6.315	3.6	3.5	2.8	Tetrachloro-m-xylene
13.909	-0.001	169116	14.537	3.7	3.7	2.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	8.9	8.7
Decachlorobiphenyl	9.1	9.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2620042	-3.1
Hexabromobiphenyl	3964848	3913396	-1.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2806311	-3.7
Hexabromobiphenyl	2801720	2737823	-2.3

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.482	-0.000	26316	24.6	1	7.784	-0.000	37469	24.1	
Aroclor-1016	2	7.837	-0.000	81079	23.9	2	8.355	0.001	73161	23.2	
Aroclor-1016	3	7.974	0.001	33596	24.1	3	8.548	0.001	31204	23.5	
Aroclor-1016	4	8.287	0.000	21525	23.2	4	9.190	0.001	22573	23.1	
Total CollAve (4 peaks):				23.9		Total Col2Ave (4 peaks):				23.5	RPD = 2
Corrected Ave (3 peaks):				23.7		Corrected Ave (3 peaks):				23.3	RPD = 2
CalAmt %D:				19.6		CalAmt %D:				17.4	
Aroclor-1260	1	11.429	0.001	54906	23.9	1	11.631	0.002	37791	23.1	
Aroclor-1260	2	11.789	0.002	141562	24.7	2	12.082	0.001	45415	22.9	
Aroclor-1260	3	12.184	0.003	74128	23.9	3	12.338	0.002	88533	22.4	
Aroclor-1260	4	12.292	0.001	30294	23.7	4	13.639	0.001	23276	21.9	
Aroclor-1260	5	12.364	0.002	35251	23.5	NS	---			----	
Total CollAve (5 peaks):				23.9		Total Col2Ave (4 peaks):				22.5	RPD = 6
Corrected Ave (4 peaks):				23.8		Corrected Ave (3 peaks):				22.4	RPD = 6
CalAmt %D:				19.7		CalAmt %D:				12.7	

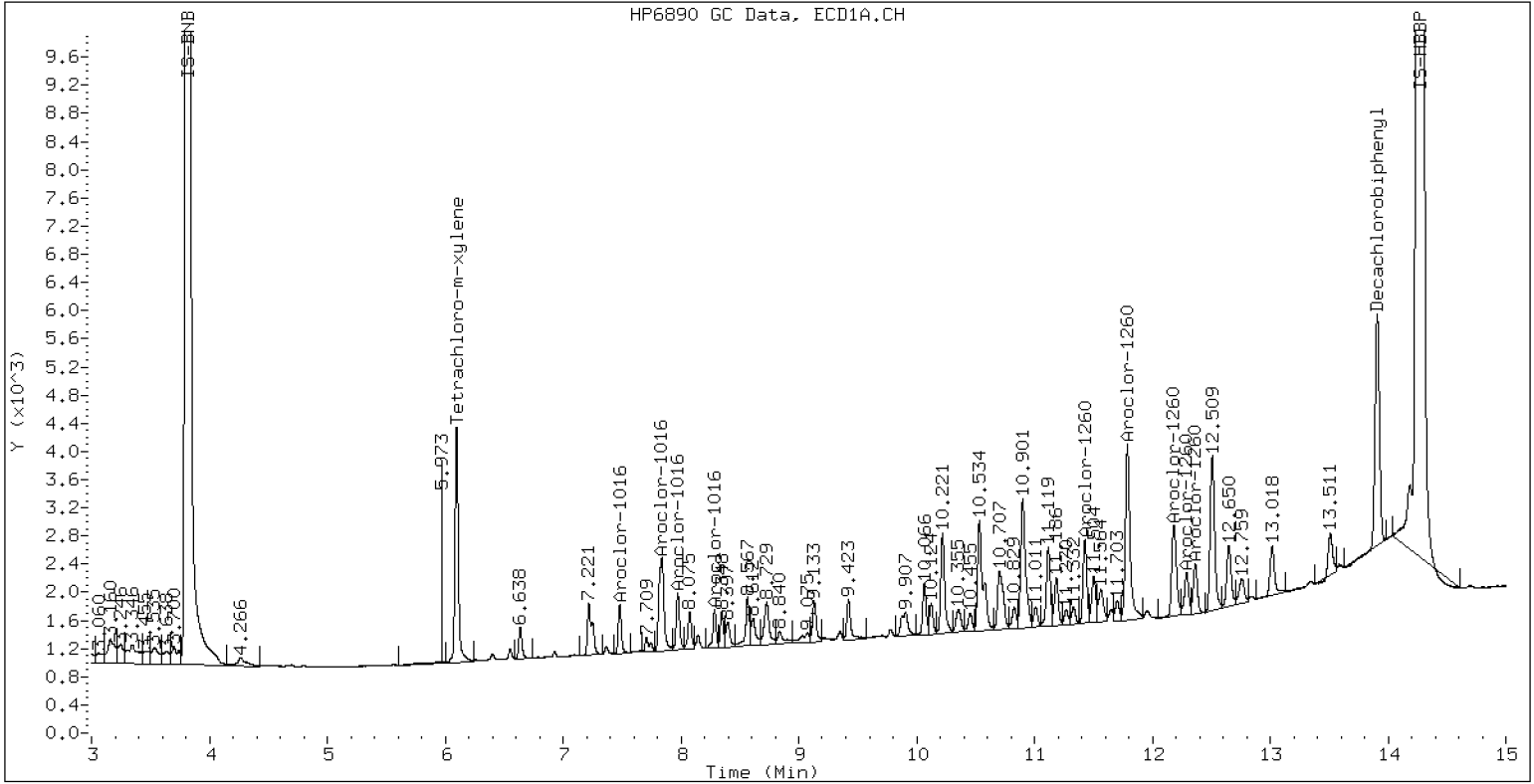
Total PCB Area Col1 (6.199 - 13.810) = 1701903 Col1 Total PCB = 0.05 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 1391862 Col2 Total PCB = 0.05 ppm*

* Quantitated against AR1660 0.25ppm in Ical

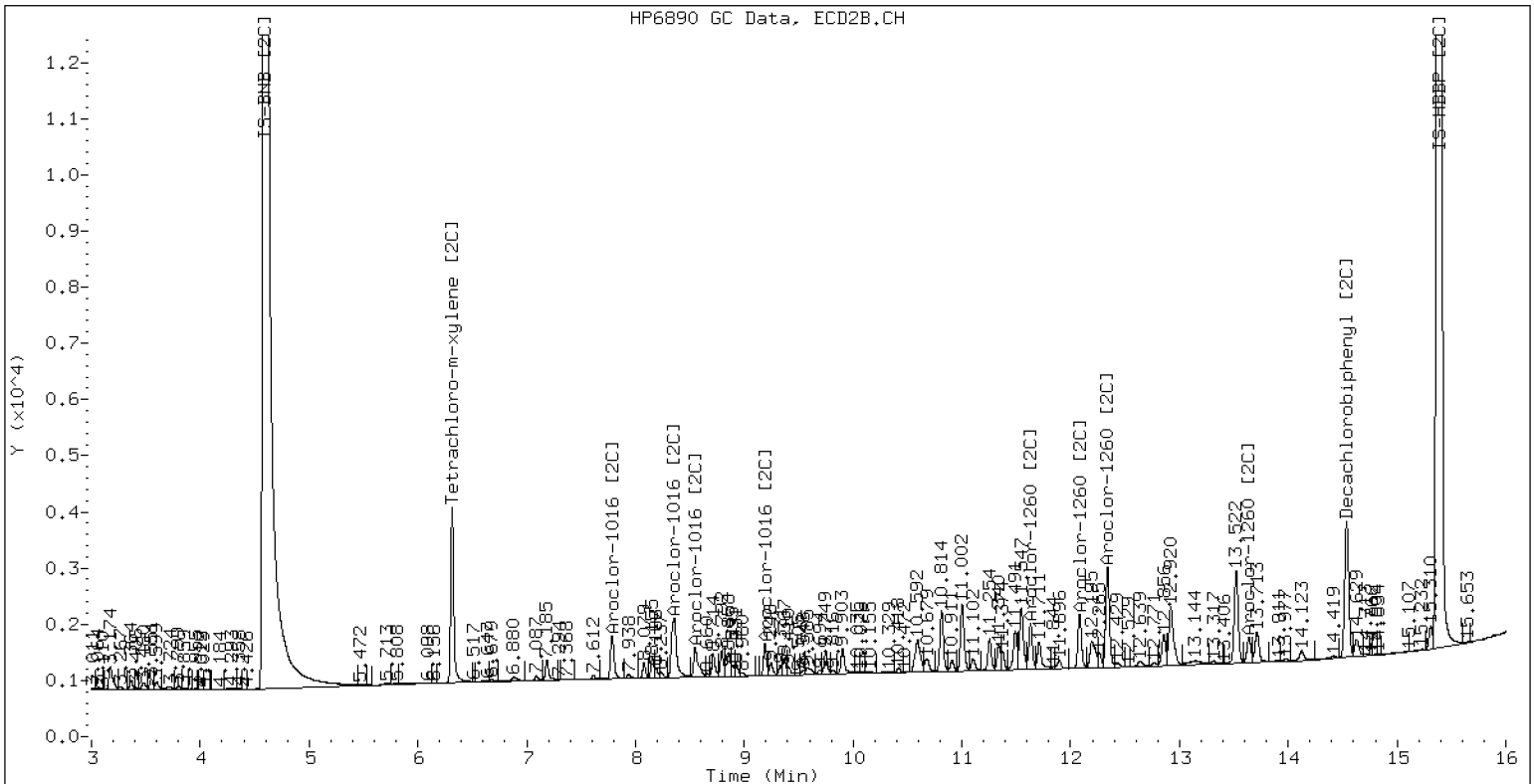
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110709.D 0.02PPMAR1660 07-NOV-2020 20:58 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110709.D 0.02PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110710.D
Data file 2: /20201107.b/20201107.b/20110710.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 21:19
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002	322011	6.314	8.2	8.2	0.9	Tetrachloro-m-xylene
13.909	-0.001	408216	14.536	8.7	8.5	2.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	20.4	20.6
Decachlorobiphenyl	21.8	21.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2700026	-0.1
Hexabromobiphenyl	3964848	3963447	-0.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2859432	-1.9
Hexabromobiphenyl	2801720	2833655	1.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	60115	54.5	1	7.784	-0.000	84610	53.4
Aroclor-1016	2	7.837	-0.000	186752	53.3	2	8.354	0.000	170541	53.0
Aroclor-1016	3	7.973	0.001	77922	54.2	3	8.548	0.001	71613	53.0
Aroclor-1016	4	8.287	0.000	51612	54.0	4	9.190	-0.000	52607	52.9
Total CollAve (4 peaks):				54.0		Total Col2Ave (4 peaks):				53.1 RPD = 2
Corrected Ave (3 peaks):				53.8		Corrected Ave (3 peaks):				52.9 RPD = 2
CalAmt %D:				8.0		CalAmt %D:				6.1
Aroclor-1260	1	11.428	0.000	128686	55.4	1	11.630	0.001	87861	51.8
Aroclor-1260	2	11.788	0.001	318015	54.8	2	12.081	0.000	106360	51.7
Aroclor-1260	3	12.182	0.001	172500	54.9	3	12.338	0.001	210539	51.5
Aroclor-1260	4	12.291	0.001	71318	55.1	4	13.638	0.001	55734	50.6
Aroclor-1260	5	12.364	0.001	82710	54.4	NS	---			----
Total CollAve (5 peaks):				54.9		Total Col2Ave (4 peaks):				51.4 RPD = 7
Corrected Ave (4 peaks):				54.8		Corrected Ave (3 peaks):				51.3 RPD = 7
CalAmt %D:				9.8		CalAmt %D:				2.8

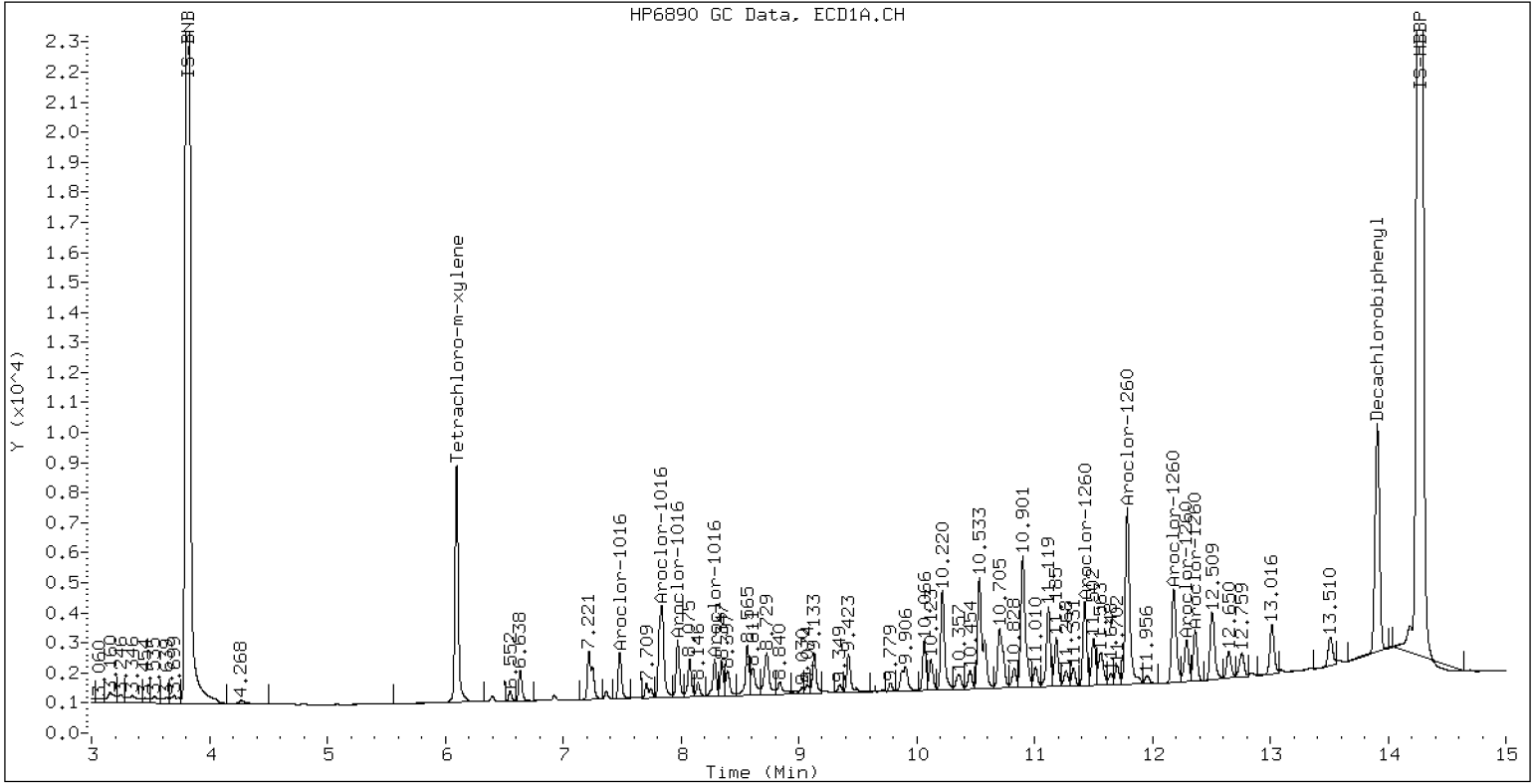
Total PCB Area Col1 (6.199 - 13.810) = 3765913 Col1 Total PCB = 0.12 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 3082640 Col2 Total PCB = 0.11 ppm*

* Quantitated against AR1660 0.25ppm in Ical

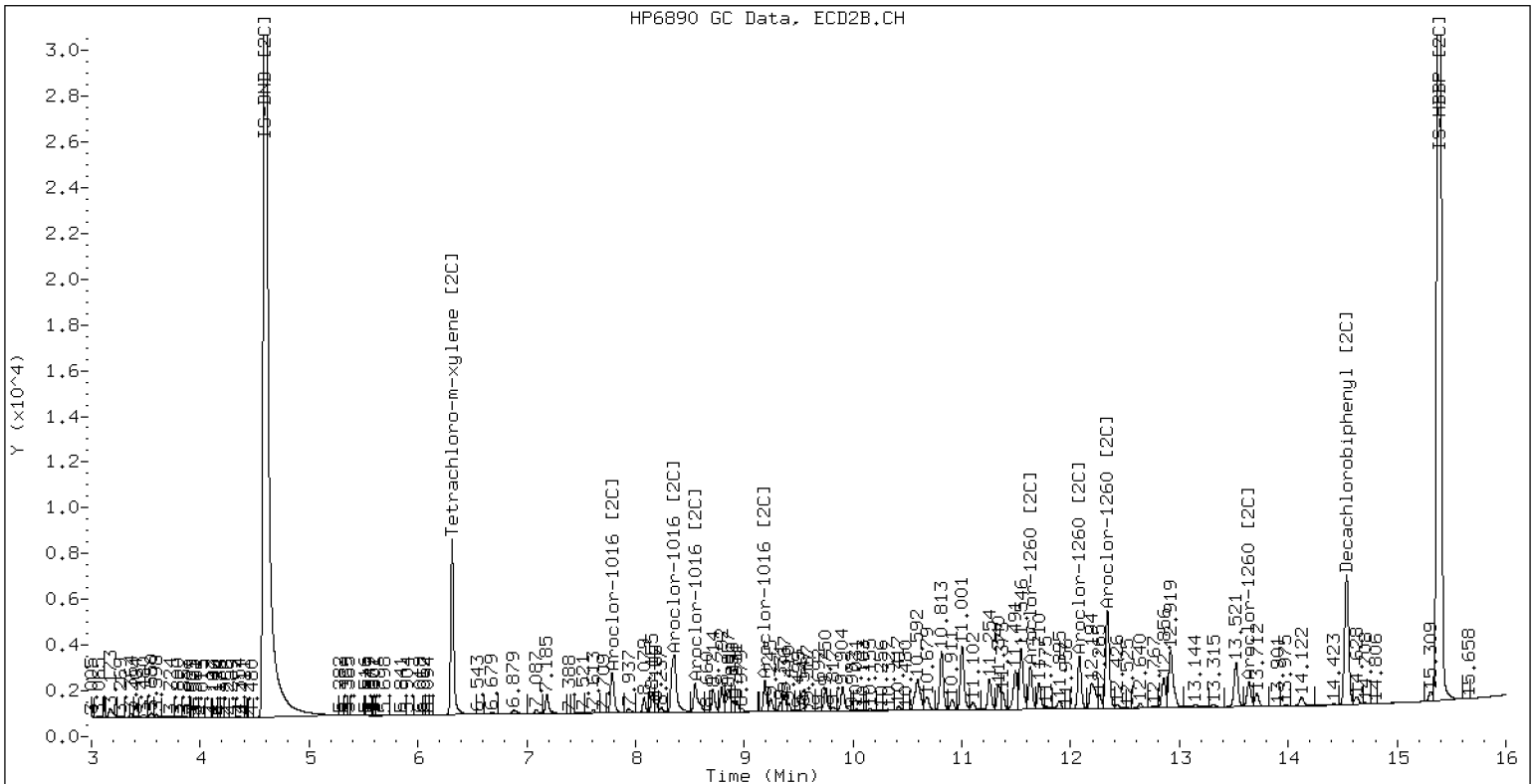
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110710.D 0.05PPMAR1660 07-NOV-2020 21:19 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110710.D 0.05PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110711.D
Data file 2: /20201107.b/20201107.b/20110711.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 1PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 21:40
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	5726612	6.316	144.8	141.4	2.4	Tetrachloro-m-xylene
13.911	0.000	6815153	14.538	138.2	134.5	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	362.1	353.4
Decachlorobiphenyl	345.6	336.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2704917	0.1
Hexabromobiphenyl	3964848	4165505	5.1

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2852018	-2.1
Hexabromobiphenyl	2801720	2820685	0.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	880180	795.9	1	7.785	-0.000	1279616	809.4
Aroclor-1016	2	7.837	-0.000	2932230	835.6	2	8.353	-0.001	2728848	850.1
Aroclor-1016	3	7.972	-0.001	1181268	819.5	3	8.546	-0.001	1156308	857.9
Aroclor-1016	4	8.286	-0.000	801578	837.4	4	9.189	-0.001	860370	866.7
Total CollAve (4 peaks):				822.1		Total Col2Ave (4 peaks):				846.0 RPD = 3
Corrected Ave (3 peaks):				817.0		Corrected Ave (3 peaks):				839.1 RPD = 3

CalAmt %D: -17.8

CalAmt %D: -15.4

Aroclor-1260	1	11.427	-0.001	1991831	815.7	1	11.630	-0.000	1353611	801.4
Aroclor-1260	2	11.787	-0.001	4945579	810.4	2	12.081	-0.000	1674093	817.6
Aroclor-1260	3	12.180	-0.001	2713409	821.3	3	12.336	0.000	3318345	815.7
Aroclor-1260	4	12.290	-0.001	1107941	815.0	4	13.638	0.001	974034	887.6
Aroclor-1260	5	12.363	-0.000	1332600	833.9	NS	---			----
Total CollAve (5 peaks):				819.3		Total Col2Ave (4 peaks):				830.6 RPD = 1
Corrected Ave (4 peaks):				815.6		Corrected Ave (3 peaks):				811.6 RPD = 0

CalAmt %D: -18.1

CalAmt %D: -16.9

Total PCB Area Col1 (6.199 - 13.810) = 54385621 Col1 Total PCB = 1.73 ppm*

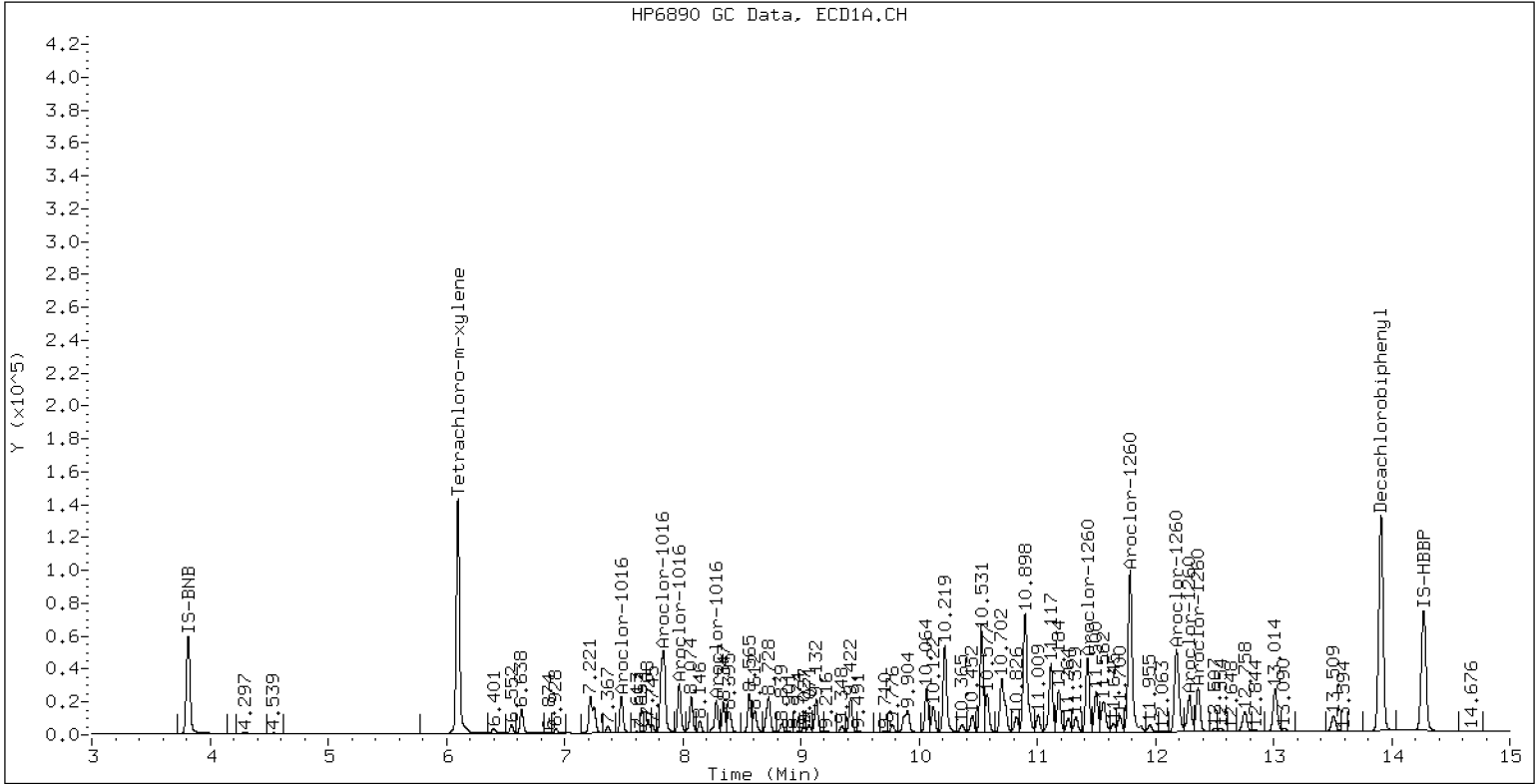
Total PCB Area Col2 (6.199 - 13.810) = 46840165 Col2 Total PCB = 1.72 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

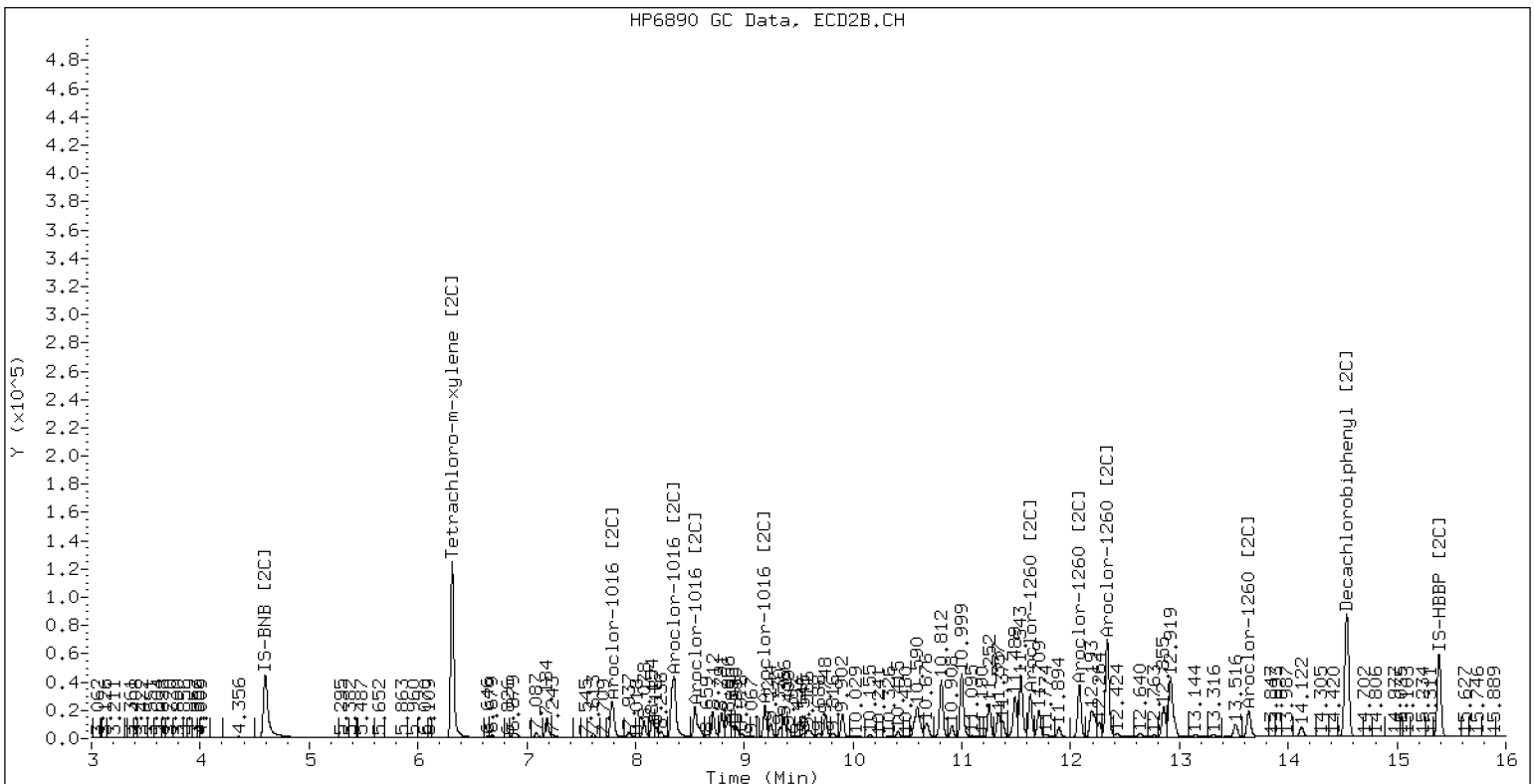
ECD5-ZB5 /20201107.b/20110711.D 1PPMAR1660

07-NOV-2020 21:40 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110711.D 1PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110712.D
Data file 2: /20201107.b/20201107.b/20110712.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 22:00
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 649884	6.315 -0.001 623799	6.315	16.1	16.4	1.9	Tetrachloro-m-xylene
13.909	-0.001 787165	14.536 -0.002 596381	14.536	16.0	16.5	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	40.3	41.1
Decachlorobiphenyl	40.1	41.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2758566	2.1
Hexabromobiphenyl	3964848	4146800	4.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2949773	1.2
Hexabromobiphenyl	2801720	2897326	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	0.000	116800	103.6	1	7.784	-0.001	167774	102.6
Aroclor-1016	2	7.837	-0.000	364769	101.9	2	8.354	0.000	337253	101.6
Aroclor-1016	3	7.973	0.001	151300	102.9	3	8.548	0.001	141021	101.2
Aroclor-1016	4	8.286	0.000	101330	103.8	4	9.190	0.000	104356	101.6
Total CollAve (4 peaks):				103.1		Total Col2Ave (4 peaks):				101.7 RPD = 1
Corrected Ave (3 peaks):				102.8		Corrected Ave (3 peaks):				101.5 RPD = 1

CalAmt %D: 3.1

CalAmt %D: 1.7

Aroclor-1260	1	11.428	0.000	246222	101.3	1	11.631	0.001	173049	99.7
Aroclor-1260	2	11.788	0.001	610490	100.5	2	12.081	0.000	208089	98.9
Aroclor-1260	3	12.183	0.001	333936	101.5	3	12.337	0.000	417936	100.0
Aroclor-1260	4	12.291	0.000	139147	102.8	4	13.638	0.001	112429	99.7
Aroclor-1260	5	12.363	0.000	162109	101.9	NS	---			----
Total CollAve (5 peaks):				101.6		Total Col2Ave (4 peaks):				99.6 RPD = 2
Corrected Ave (4 peaks):				101.3		Corrected Ave (3 peaks):				99.5 RPD = 2

CalAmt %D: 1.6

CalAmt %D: -0.4

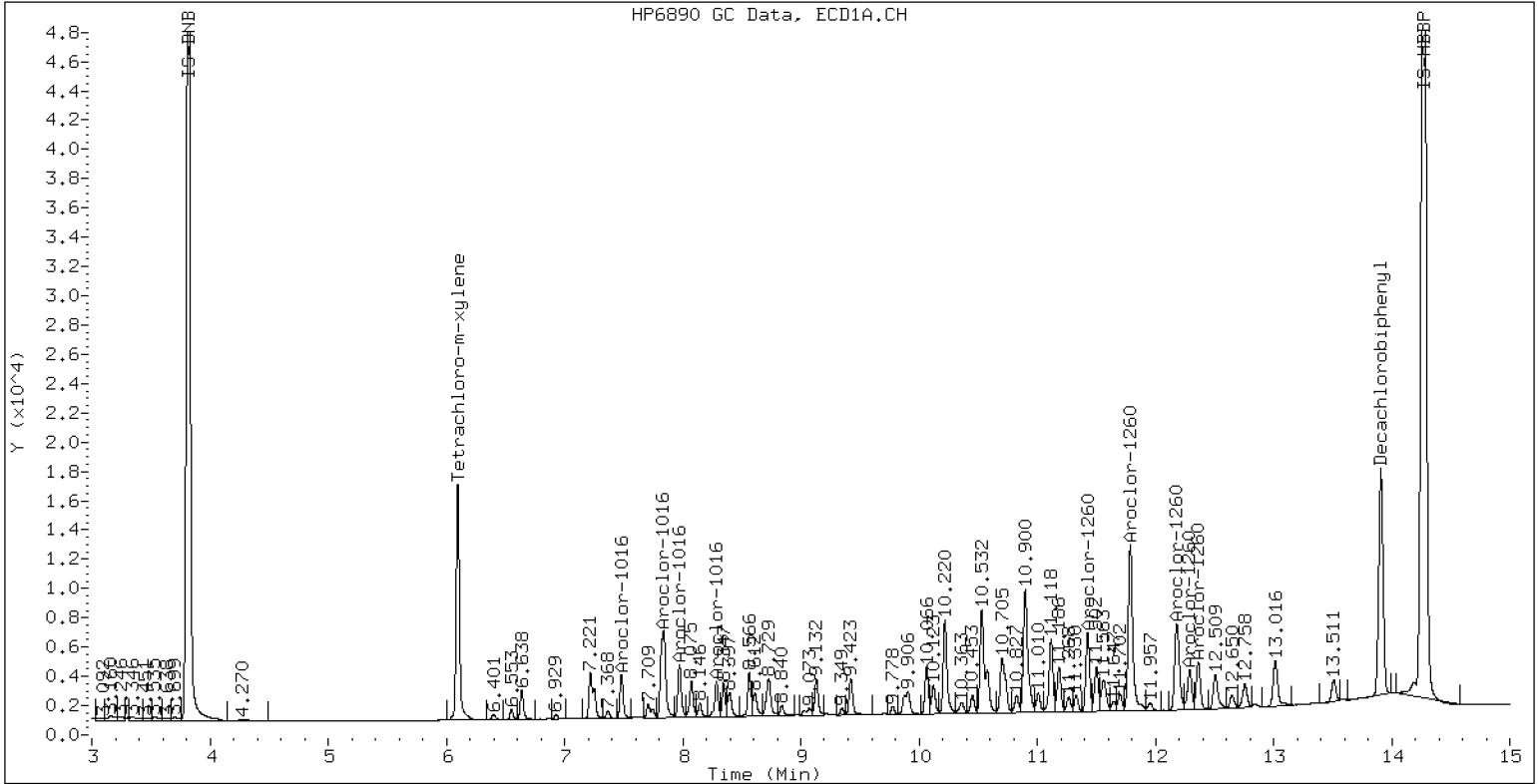
Total PCB Area Col1 (6.199 - 13.810) = 6978508 Col1 Total PCB = 0.22 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 5899039 Col2 Total PCB = 0.22 ppm*

* Quantitated against AR1660 0.25ppm in Ical

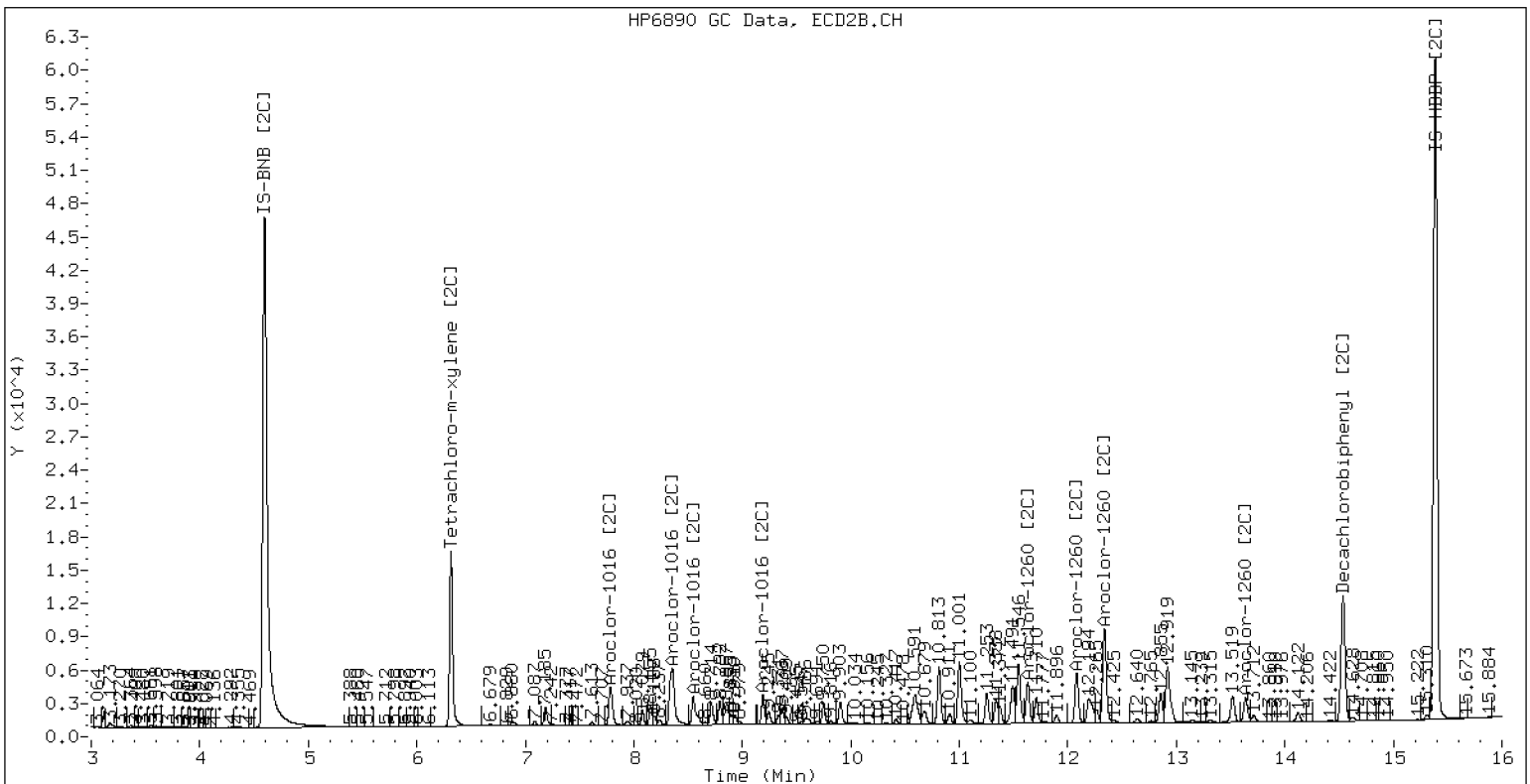
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110712.D 0.1PPMAR1660 07-NOV-2020 22:00 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110712.D 0.1PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110713.D
Data file 2: /20201107.b/20201107.b/20110713.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 07-NOV-2020 22:21
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001	2928194	6.315	75.5	76.4	1.2	Tetrachloro-m-xylene
13.910	0.000	3532506	14.537	74.4	73.3	1.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	188.8	191.1
Decachlorobiphenyl	186.0	183.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2652715	-1.9
Hexabromobiphenyl	3964848	4012200	1.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2822301	-3.2
Hexabromobiphenyl	2801720	2797086	-0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	0.000	477278	440.0	1	7.785	0.000	709023	453.2
Aroclor-1016	2	7.838	0.000	1555248	451.9	2	8.354	0.000	1470220	462.8
Aroclor-1016	3	7.973	0.000	629901	445.6	3	8.547	0.000	612640	459.3
Aroclor-1016	4	8.286	0.000	423061	450.7	4	9.190	0.000	455704	463.9
Total CollAve (4 peaks):				447.1		Total Col2Ave (4 peaks):				459.8 RPD = 3
Corrected Ave (3 peaks):				445.4		Corrected Ave (3 peaks):				458.4 RPD = 3

CalAmt %D: -10.6

CalAmt %D: -8.0

Aroclor-1260	1	11.428	0.000	1063076	452.0	1	11.630	0.000	737522	440.3
Aroclor-1260	2	11.787	0.000	2640126	449.2	2	12.081	0.000	909063	447.7
Aroclor-1260	3	12.181	0.000	1446903	454.7	3	12.336	0.000	1815364	450.0
Aroclor-1260	4	12.291	0.000	590574	451.1	4	13.637	0.000	508023	466.8
Aroclor-1260	5	12.363	0.000	703562	457.1	NS	---			----
Total CollAve (5 peaks):				452.8		Total Col2Ave (4 peaks):				451.2 RPD = 0
Corrected Ave (4 peaks):				451.7		Corrected Ave (3 peaks):				446.0 RPD = 1

CalAmt %D: -9.4

CalAmt %D: -9.8

Total PCB Area Col1 (6.199 - 13.810) = 29092306 Col1 Total PCB = 0.93 ppm*

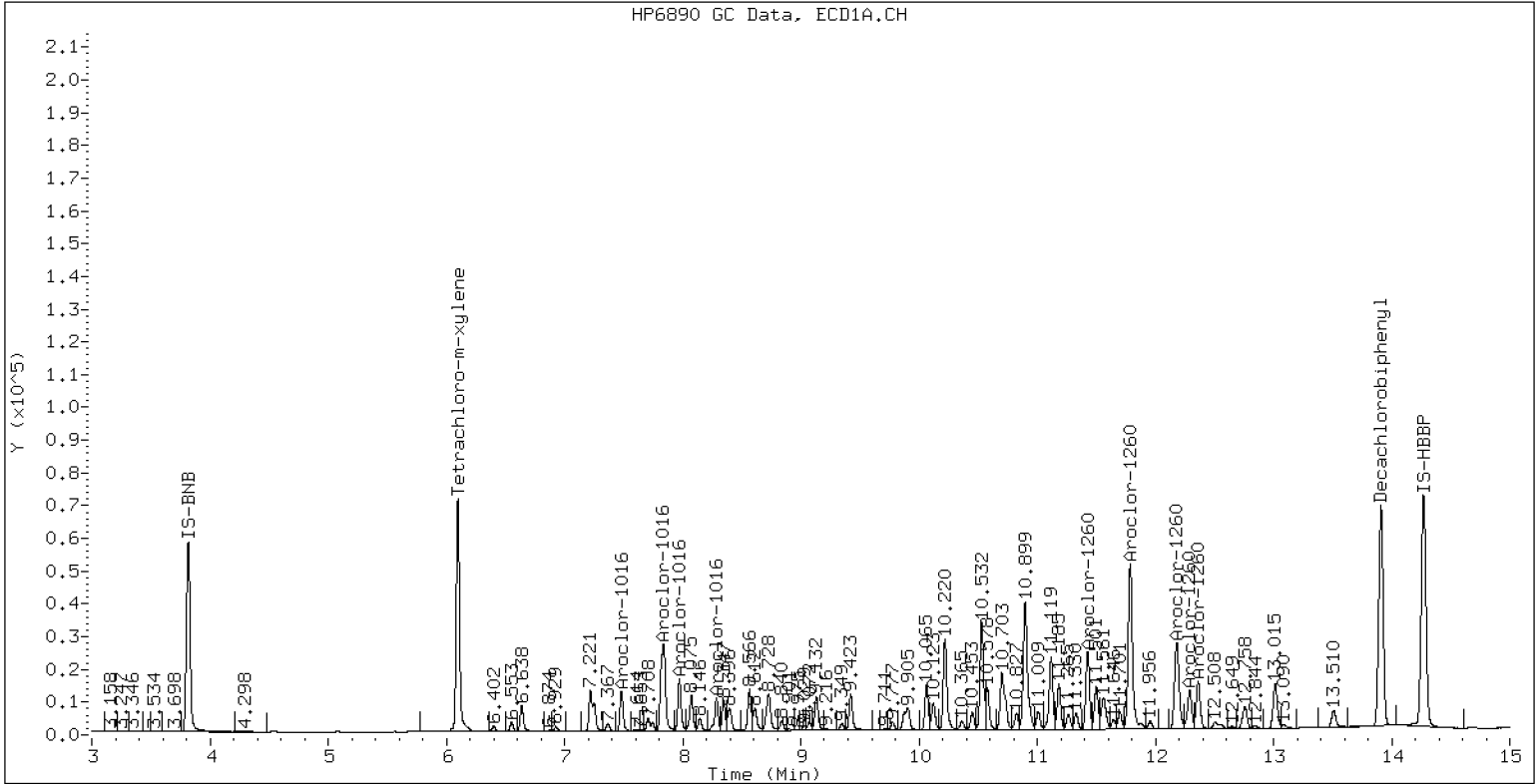
Total PCB Area Col2 (6.199 - 13.810) = 25251101 Col2 Total PCB = 0.93 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

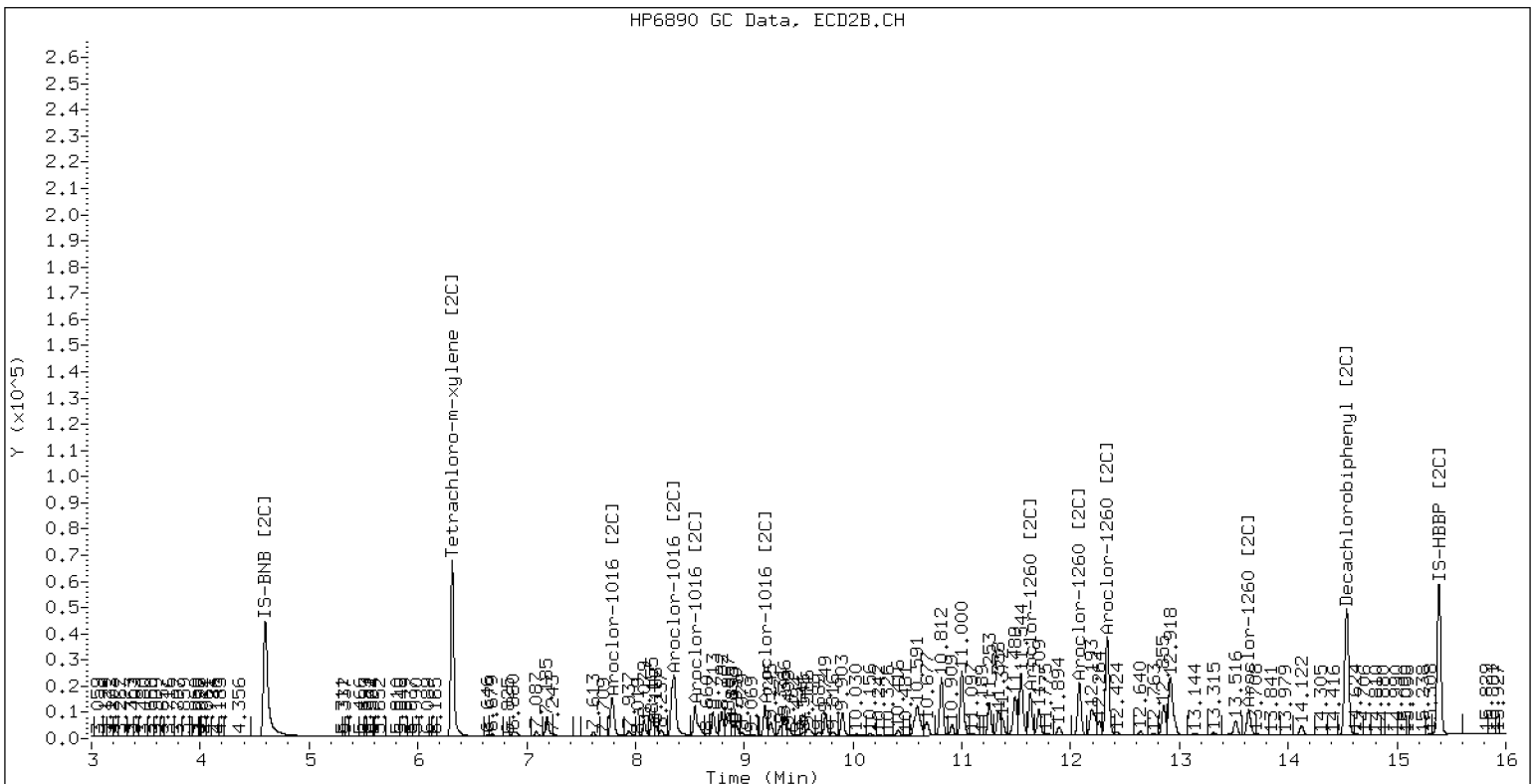
ECD5-ZB5 /20201107.b/20110713.D 0.5PPMAR1660

07-NOV-2020 22:21 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110713.D 0.5PPMAR1660



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110714.D
Data file 2: /20201107.b/20201107.b/20110714.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1242.sub
Quant Method: Internal Std

ARI ID: AR1242
Client ID:
Injection Date: 07-NOV-2020 22:42
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.003 1622387	6.314 -0.002 1544277	6.314	41.6	43.1	3.6	Tetrachloro-m-xylene
13.910	-0.000 1971494	14.536 -0.001 1428198	14.536	39.4	40.5	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.0	107.8
Decachlorobiphenyl	98.5	101.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2669261	-1.2
Hexabromobiphenyl	3964848	4229435	6.7

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2782800	-4.5
Hexabromobiphenyl	2801720	2827084	0.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.482	0.000	215056	250.0	1	7.784	0.000	308835	250.0	
Aroclor-1242	2	7.837	0.000	679577	250.0	2	8.354	0.000	630397	250.0	
Aroclor-1242	3	9.072	0.000	246865	250.0	3	9.690	0.000	205516	250.0	
Aroclor-1242	4	9.351	0.000	269760	250.0	4	10.030	0.000	252995	250.0	
Total Col1Ave (4 peaks):				250.0		Total Col2Ave (4 peaks):				250.0	RPD = 0
Corrected Ave (3 peaks):				250.0		Corrected Ave (3 peaks):				250.0	RPD = 0

Total PCB Area Col1 (6.199 - 13.810) = 5488846 Col1 Total PCB = 0.17 ppm*

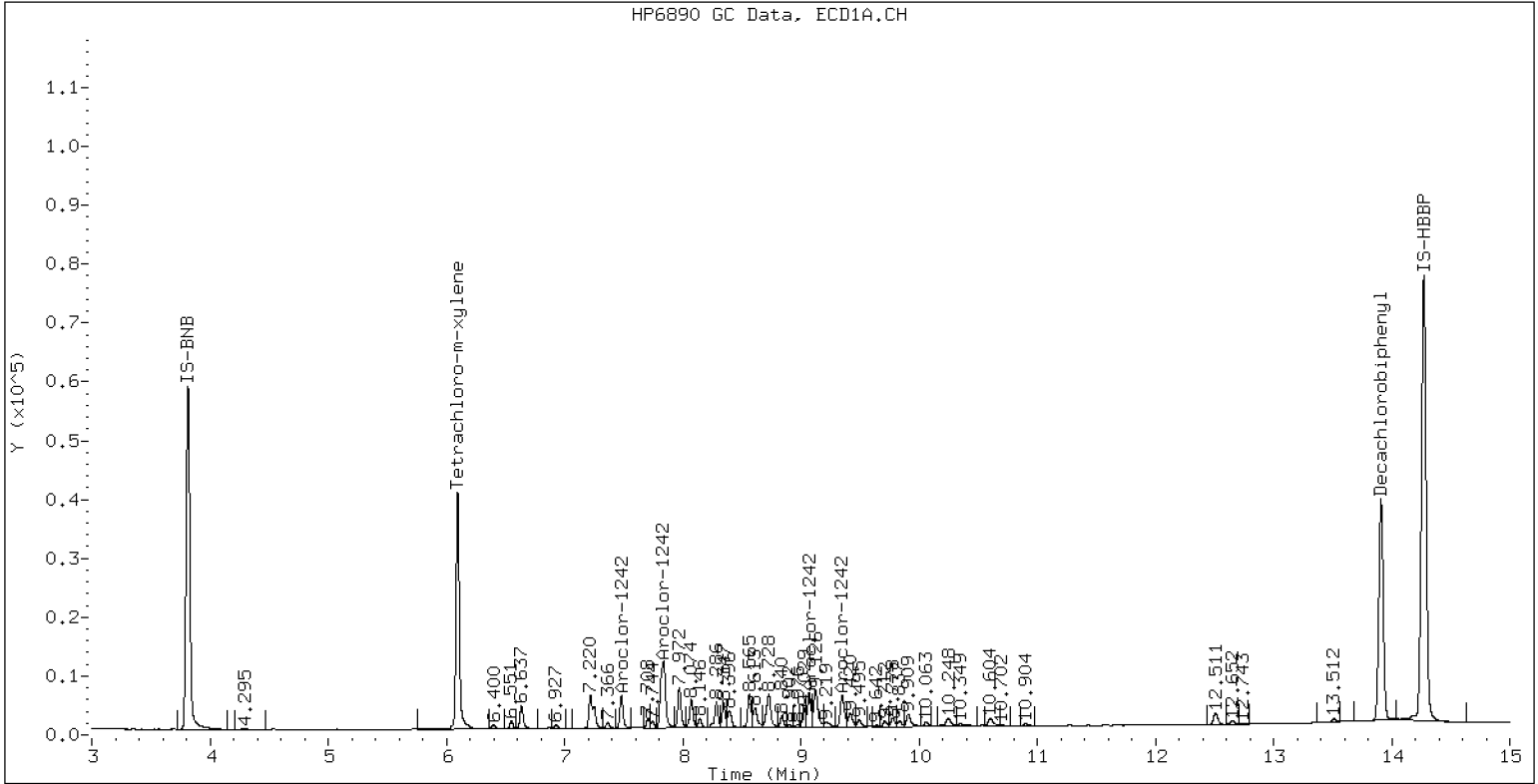
Total PCB Area Col2 (6.199 - 13.810) = 6178485 Col2 Total PCB = 0.23 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

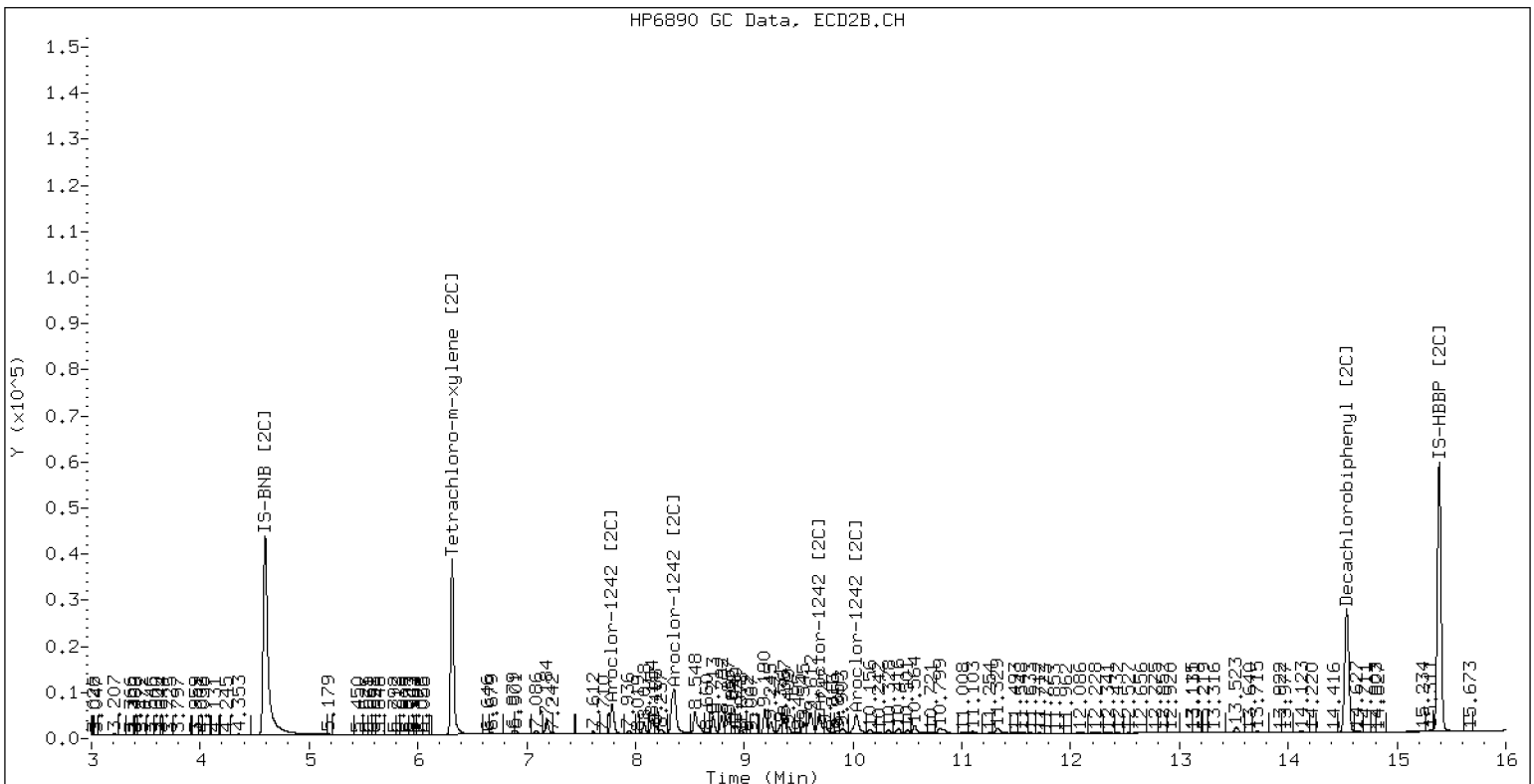
ECD5-ZB5 /20201107.b/20110714.D AR1242

07-NOV-2020 22:42 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110714.D AR1242



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110715.D
Data file 2: /20201107.b/20201107.b/20110715.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248
Client ID:
Injection Date: 07-NOV-2020 23:02
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001 1640558	6.316 -0.001 1585620	39.5	42.1	6.4	Tetrachloro-m-xylene	
13.911	0.000 1981248	14.536 -0.002 1445145	39.1	40.0	2.4	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.7	105.2
Decachlorobiphenyl	97.7	100.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2843479	5.2
Hexabromobiphenyl	3964848	4281970	8.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2929676	0.5
Hexabromobiphenyl	2801720	2895609	3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.565	0.000	374655	250.0	1	8.792	0.000	278650	250.0	
Aroclor-1248	2	8.728	0.000	453860	250.0	2	9.190	0.000	332087	250.0	
Aroclor-1248	3	9.126	0.000	563222	250.0	3	9.612	0.000	437802	250.0	
Aroclor-1248	4	9.350	0.000	420345	250.0	4	10.029	0.000	434423	250.0	
Total Col1Ave (4 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (3 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 7184217 Col1 Total PCB = 0.23 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7499799 Col2 Total PCB = 0.28 ppm*

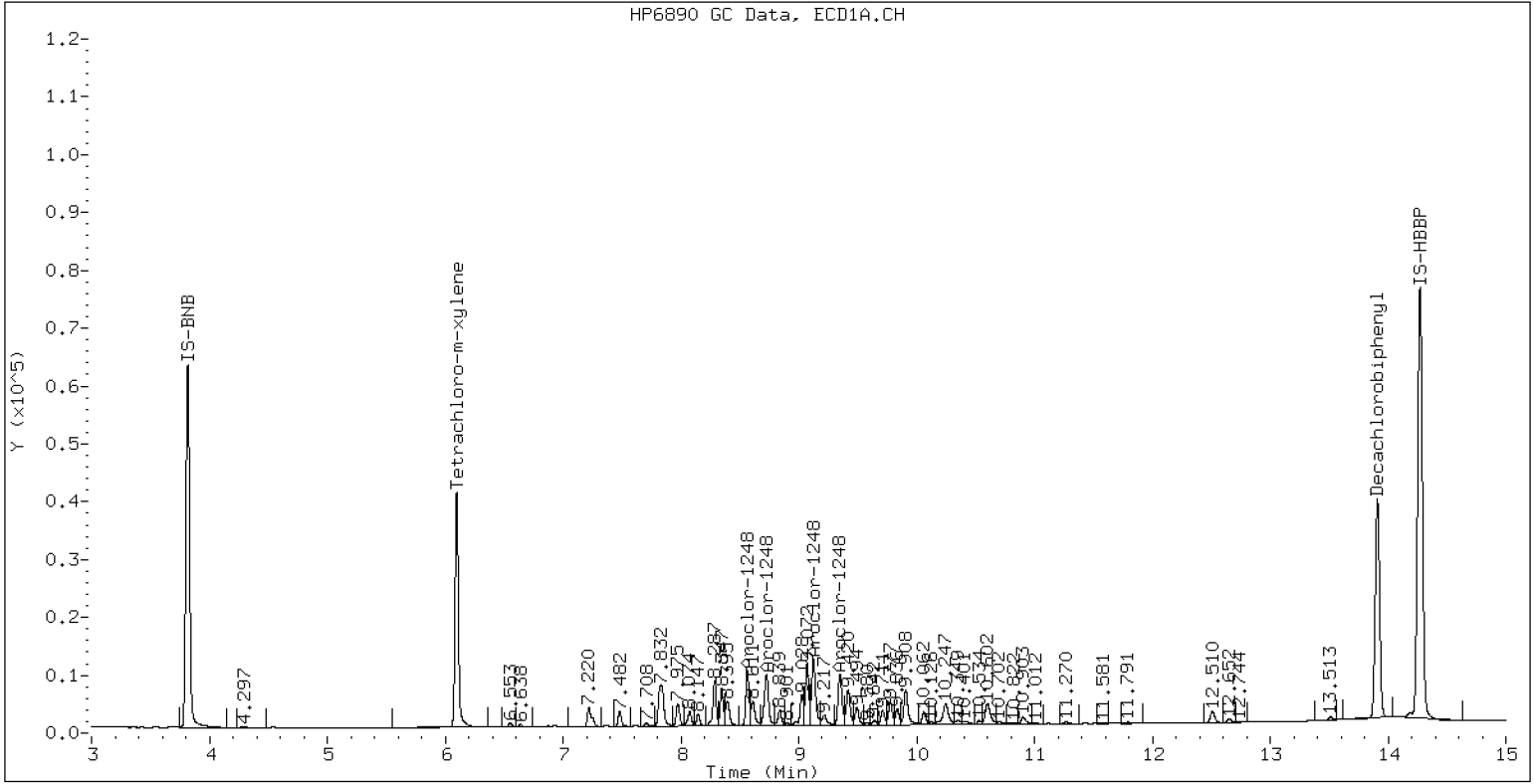
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

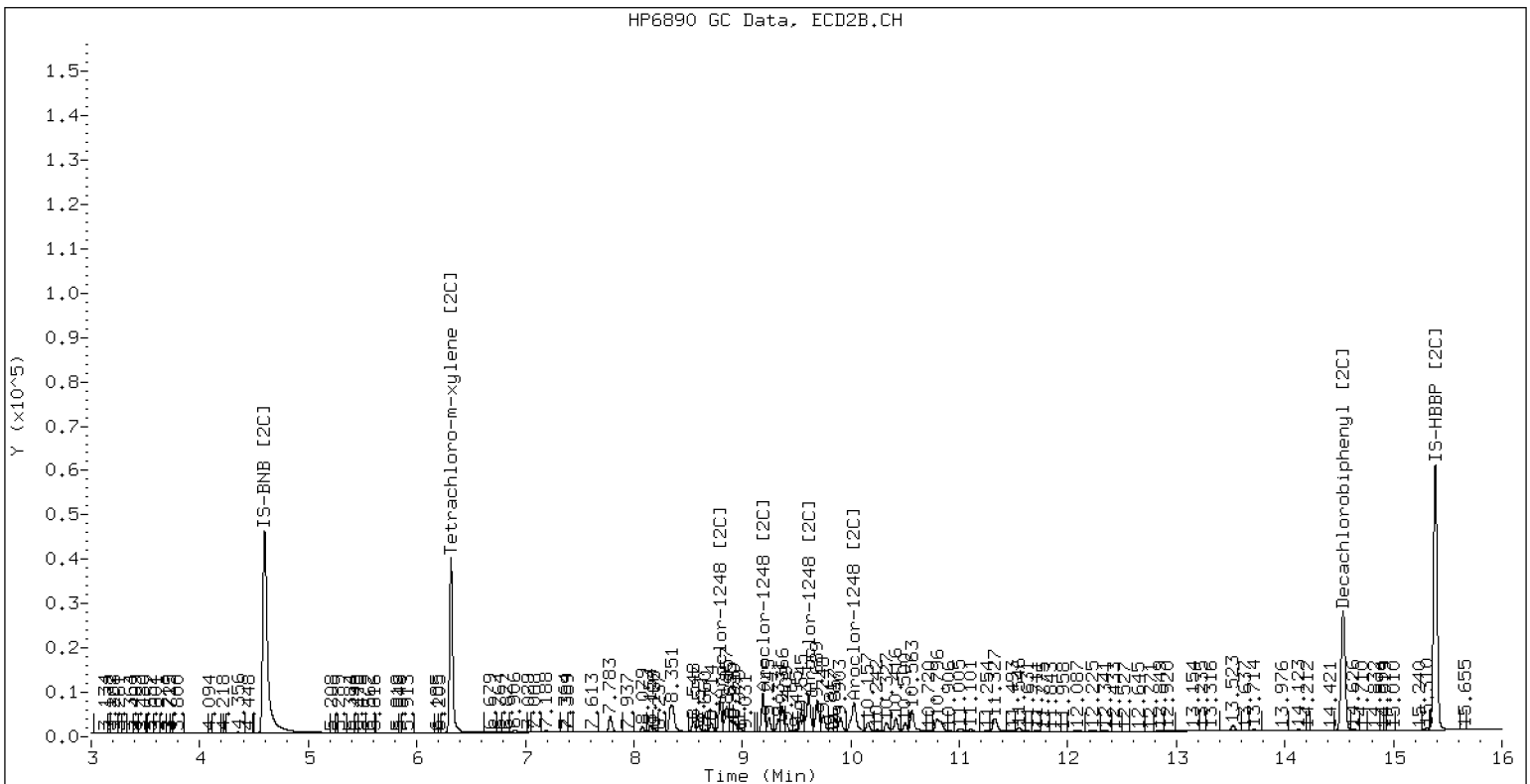
ECD5-ZB5 /20201107.b/20110715.D AR1248

07-NOV-2020 23:02 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110715.D AR1248



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110716.D
Data file 2: /20201107.b/20201107.b/20110716.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254
Client ID:
Injection Date: 07-NOV-2020 23:23
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	0.000	1601146	6.316	39.1	41.9	6.9	Tetrachloro-m-xylene
13.910	-0.000	1978359	14.537	39.8	39.9	0.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.8	104.7
Decachlorobiphenyl	99.6	99.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2800938	3.6
Hexabromobiphenyl	3964848	4194805	5.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2897965	-0.6
Hexabromobiphenyl	2801720	2863573	2.2

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.133	0.000	494672	250.0	1	9.903	0.000	440053	250.0	
Aroclor-1254	2	9.422	0.000	665153	250.0	2	9.995	0.000	230730	250.0	
Aroclor-1254	3	9.495	0.000	253186	250.0	3	10.416	0.000	337165	250.0	
Aroclor-1254	4	9.778	0.000	439600	250.0	4	10.563	0.000	733499	250.0	
Aroclor-1254	5	9.908	0.000	863993	250.0	5	11.331	0.000	450447	250.0	
Total Col1Ave (5 peaks):				250.0		Total Col2Ave (5 peaks):				250.0	RPD = 0
Corrected Ave (4 peaks):				250.0		Corrected Ave (4 peaks):				250.0	RPD = 0

Total PCB Area Col1 (6.199 - 13.810) = 9392975 Col1 Total PCB = 0.30 ppm*

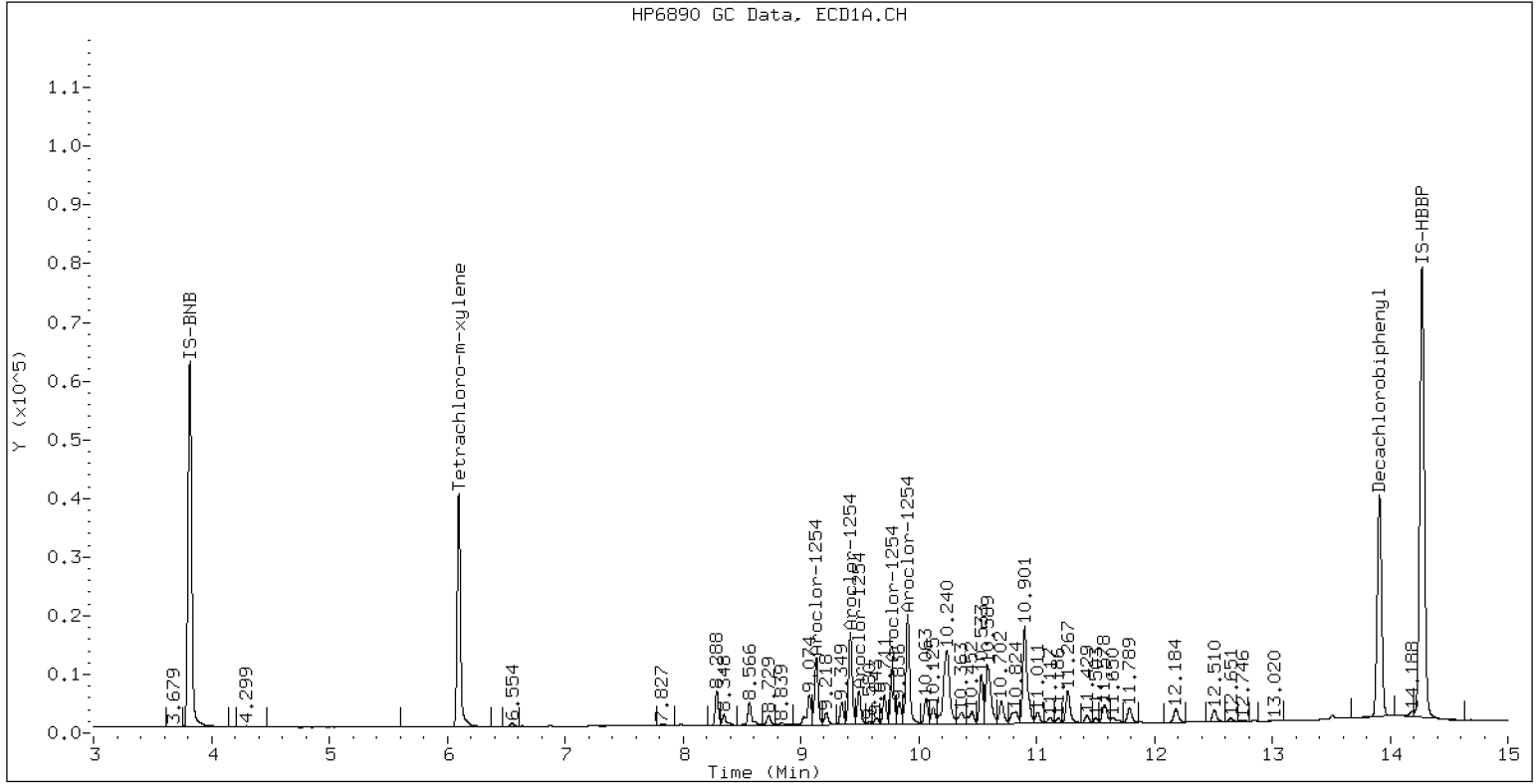
Total PCB Area Col2 (6.199 - 13.810) = 8746804 Col2 Total PCB = 0.32 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

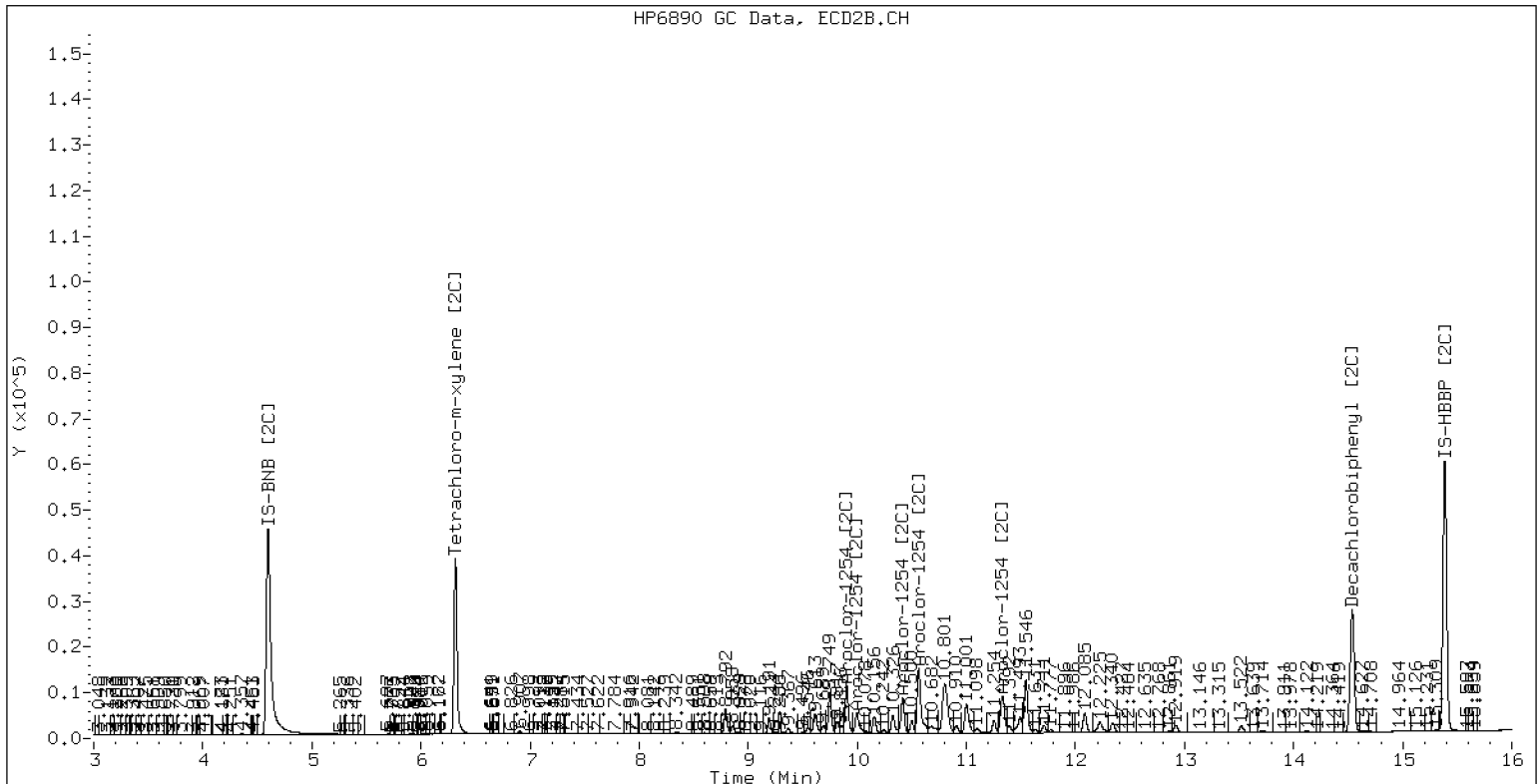
ECD5-ZB5 /20201107.b/20110716.D AR1254

07-NOV-2020 23:23 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110716.D AR1254



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110717.D
Data file 2: /20201107.b/20201107.b/20110717.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR2162.sub
Quant Method: Internal Std

ARI ID: AR2162
Client ID:
Injection Date: 07-NOV-2020 23:44
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.100	0.000 1594873	6.317 0.001 1489611	6.317	39.9	41.3	3.5	Tetrachloro-m-xylene
13.911	0.000 1917433	14.538 -0.000 1391639	14.538	38.6	39.3	1.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.7	103.3
Decachlorobiphenyl	96.4	98.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2734867	1.2
Hexabromobiphenyl	3964848	4201919	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2800645	-3.9
Hexabromobiphenyl	2801720	2844434	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1221	1	5.081	0.000	65611	250.0	1	5.653	0.000	62732	250.0	
Aroclor-1221	2	6.554	0.000	93083	250.0	2	6.879	0.000	127164	250.0	
Aroclor-1221	3	6.640	0.000	263952	250.0	3	7.088	0.000	68487	250.0	
Total CollAve (3 peaks):				250.0	Total Col2Ave (3 peaks):				250.0	RPD = 0	
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks						
Aroclor-1262	1	11.119	0.000	897186	250.0	1	11.632	0.000	655804	250.0	
Aroclor-1262	2	11.788	0.000	1919289	250.0	2	12.081	0.000	512572	250.0	
Aroclor-1262	3	12.182	0.000	670039	250.0	3	12.337	0.000	1309469	250.0	
Aroclor-1262	4	12.291	0.000	588553	250.0	4	12.855	0.000	464438	250.0	
Aroclor-1262	5	12.363	0.000	684071	250.0	NS	---		----		
Total CollAve (5 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (4 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 12962375 Col1 Total PCB = 0.41 ppm*

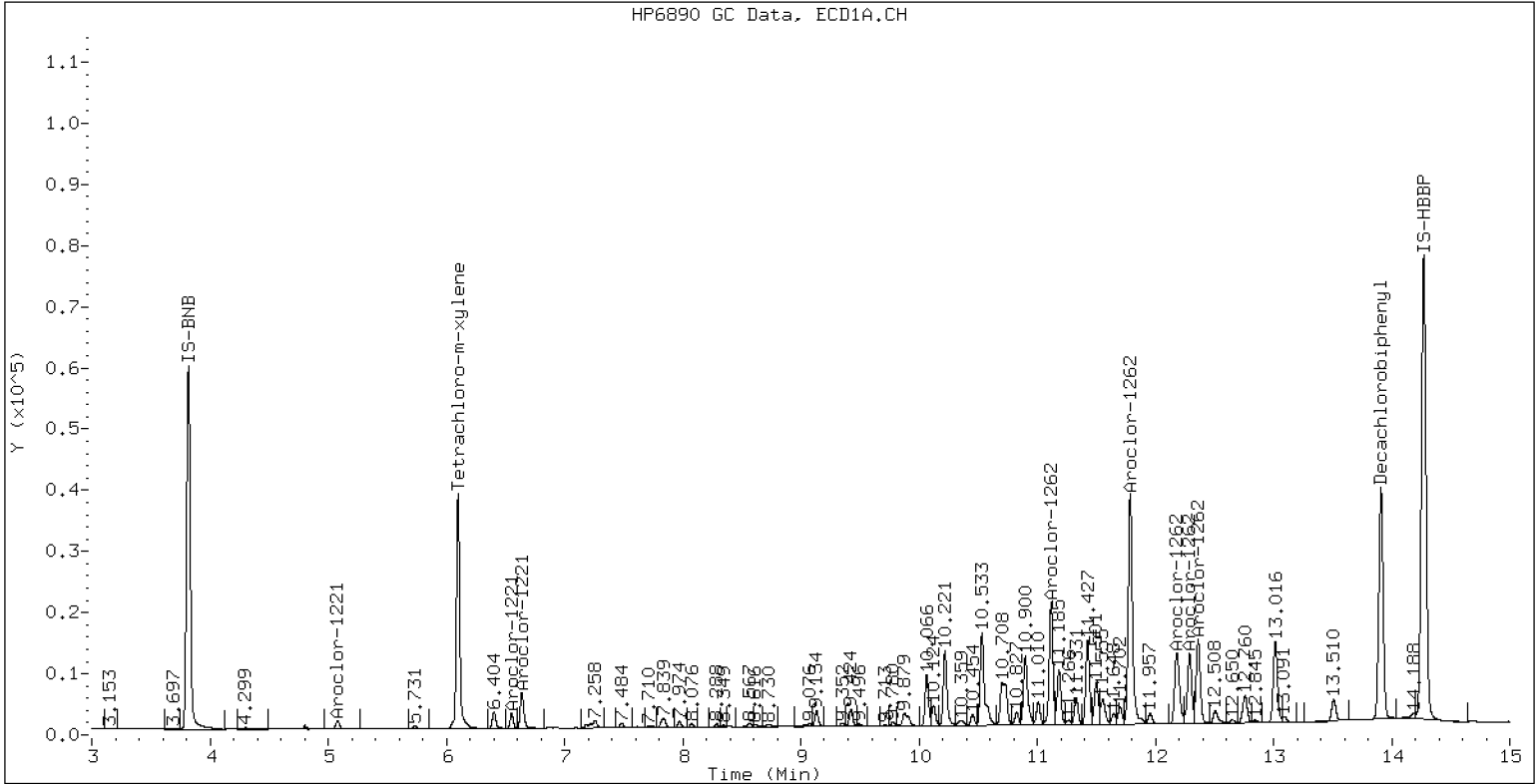
Total PCB Area Col2 (6.199 - 13.810) = 10871166 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

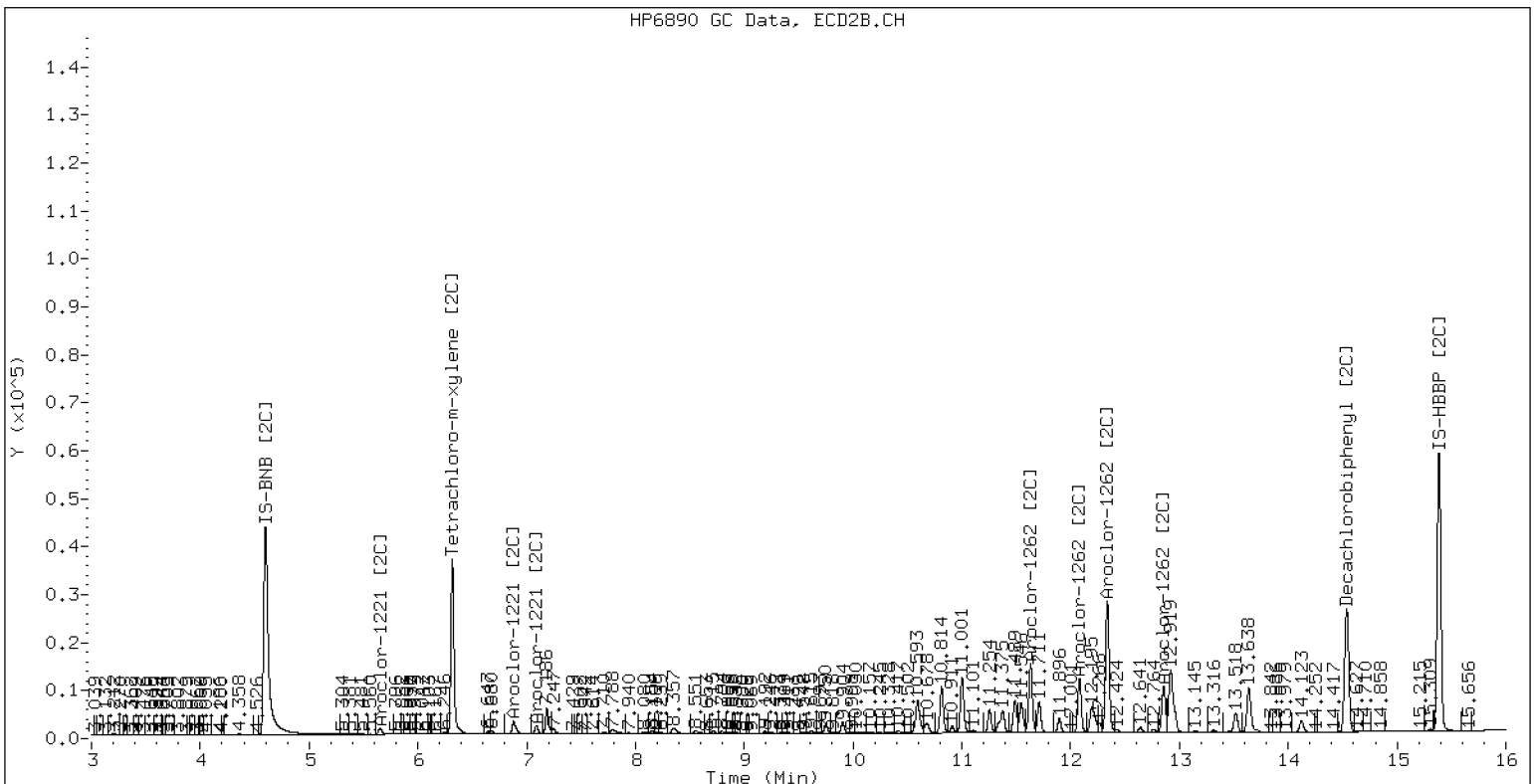
ECD5-ZB5 /20201107.b/20110717.D AR2162

07-NOV-2020 23:44 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110717.D AR2162

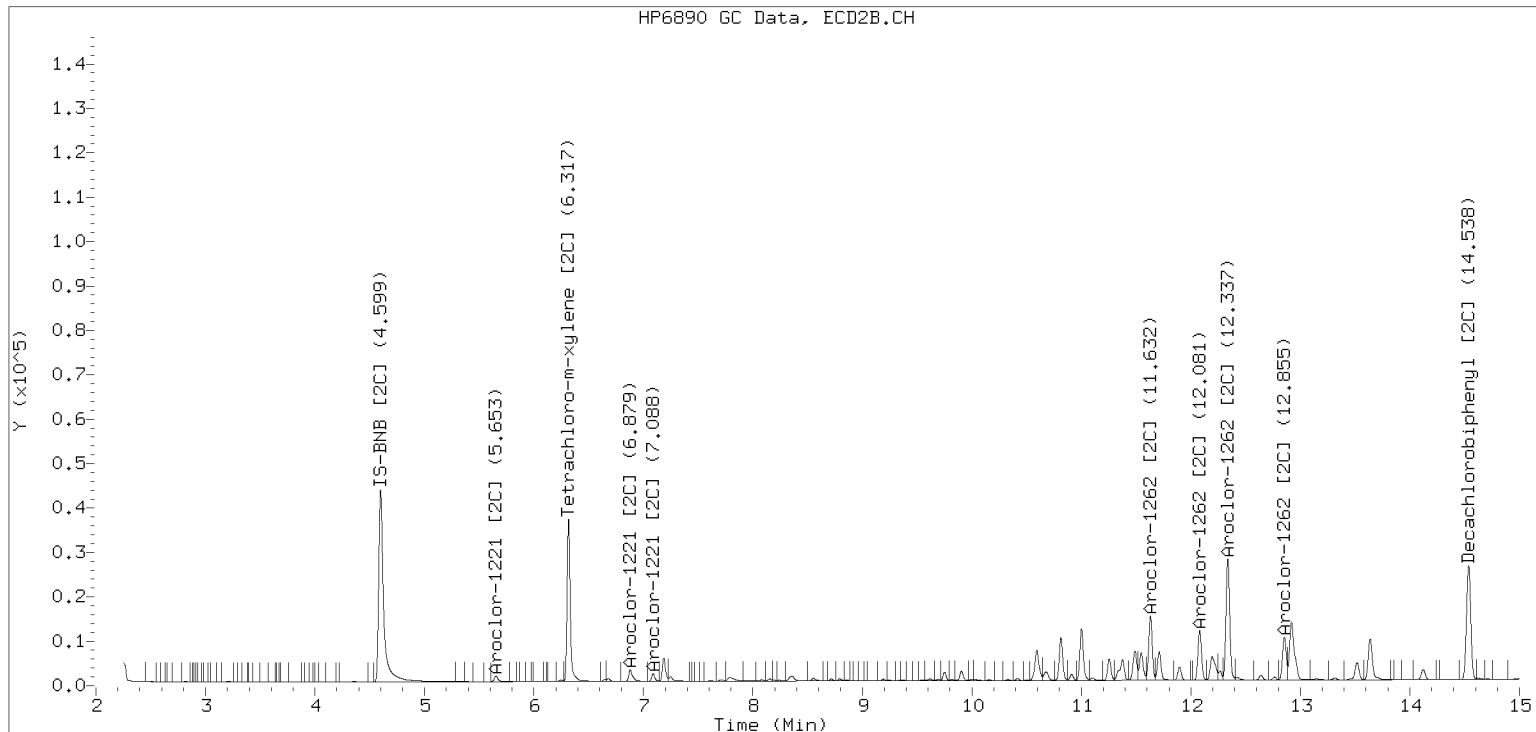


ZB-35 Manual Integration: YES

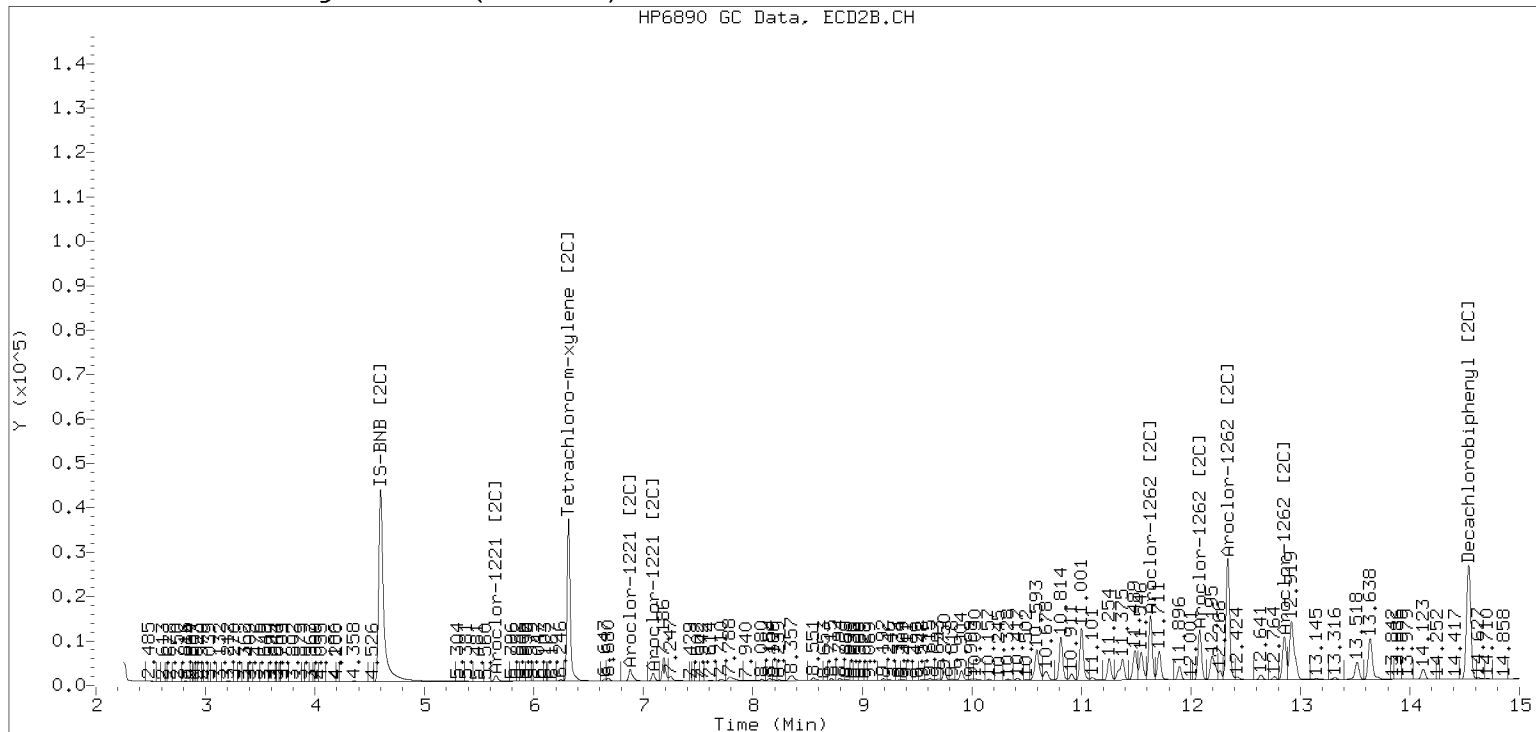
Manual Peak Adjustment, ZB-35

Datafile: ecd5.i/20201107.b/20201107.b/20110717.D Injection Date: 07-NOV-2020

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110718.D
Data file 2: /20201107.b/20201107.b/20110718.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR3268.sub
Quant Method: Internal Std

ARI ID: AR3268
Client ID:
Injection Date: 08-NOV-2020 00:04
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	0.000 1582561	6.316 0.000 1498193	6.316	39.8	40.7	2.4	Tetrachloro-m-xylene
13.910	0.000 2719198	14.538 0.000 1953879	14.538	57.6	55.8	3.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.5	101.8
Decachlorobiphenyl	144.1	139.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2721406	0.7
Hexabromobiphenyl	3964848	3986948	0.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2858606	-1.9
Hexabromobiphenyl	2801720	2808308	0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1232	1	5.081	0.000	38955	250.0	1	5.653	0.000	37358	250.0	
Aroclor-1232	2	7.484	0.000	122359	250.0	2	7.786	0.000	184225	250.0	
Aroclor-1232	3	7.836	0.000	377629	250.0	3	8.357	0.000	345752	250.0	
Aroclor-1232	4	7.974	0.000	157732	250.0	4	8.549	0.000	145099	250.0	
Total CollAve (4 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (3 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	
Aroclor-1268	1	12.292	0.000	1923022	250.0	1	12.853	0.000	1316957	250.0	
Aroclor-1268	2	12.362	0.000	1842140	250.0	2	12.920	0.000	1306057	250.0	
Aroclor-1268	3	12.740	0.000	1636898	250.0	3	13.316	0.000	1076800	250.0	
Aroclor-1268	4	13.511	0.000	4585516	250.0	4	14.124	0.000	3190058	250.0	
Total CollAve (4 peaks):				250.0	Total Col2Ave (4 peaks):				250.0	RPD = 0	
Corrected Ave (3 peaks):				250.0	Corrected Ave (3 peaks):				250.0	RPD = 0	

Total PCB Area Col1 (6.199 - 13.810) = 16150140 Col1 Total PCB = 0.51 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 9860362 Col2 Total PCB = 0.36 ppm*

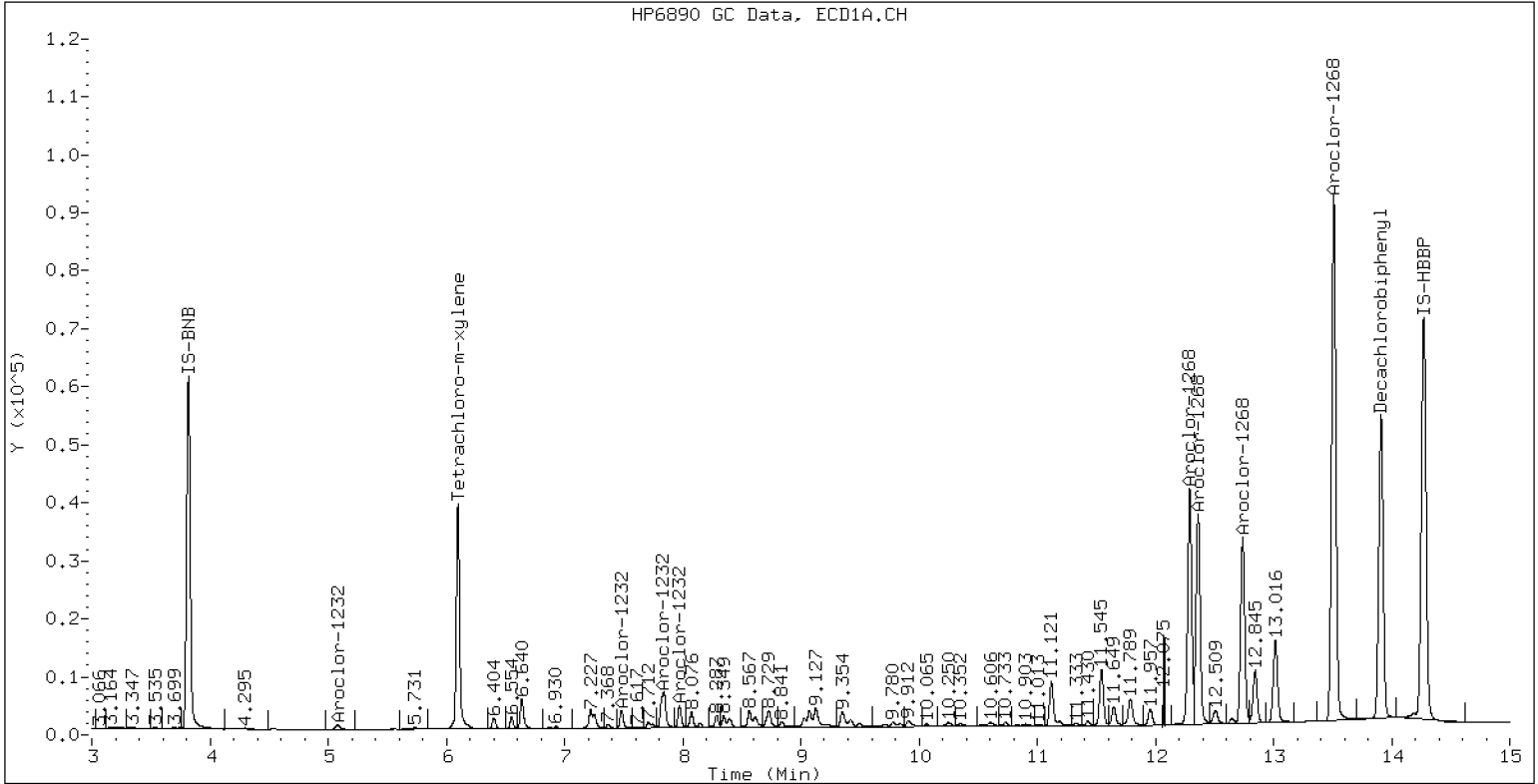
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

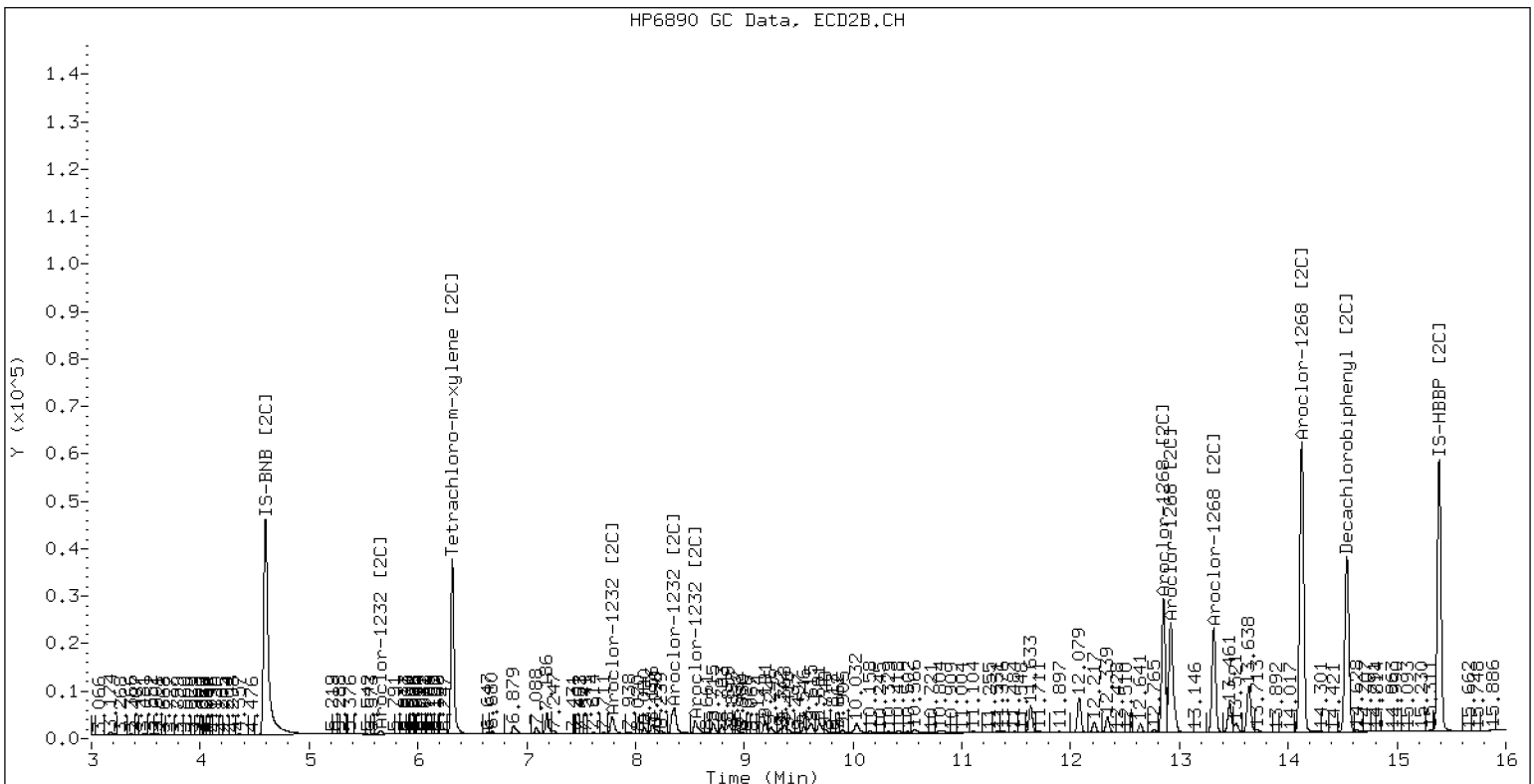
ECD5-ZB5 /20201107.b/20110718.D AR3268

08-NOV-2020 00:04 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110718.D AR3268



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110719.D
Data file 2: /20201107.b/20201107.b/20110719.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 08-NOV-2020 00:25
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1768678	6.316 -0.000 1671040	6.316	43.5	45.4	4.2	Tetrachloro-m-xylene
13.911	0.000 2148388	14.537 -0.001 1552696	14.537	43.5	44.5	2.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.8	113.5
Decachlorobiphenyl	108.7	111.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2781002	2.9
Hexabromobiphenyl	3964848	4175789	5.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2861203	-1.8
Hexabromobiphenyl	2801720	2797797	-0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	271410	238.7	1	7.786	0.001	393153	247.9
Aroclor-1016	2	7.838	0.000	862752	239.1	2	8.355	0.001	796500	247.3
Aroclor-1016	3	7.974	0.001	352765	238.0	3	8.549	0.002	332565	245.9
Aroclor-1016	4	8.287	0.001	232918	236.7	4	9.190	0.001	248432	249.4
Total CollAve (4 peaks):				238.1		Total Col2Ave (4 peaks):				247.6 RPD = 4
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				247.1 RPD = 4
Aroclor-1221	1	---			0.0	1	5.653	0.000	1405	5.5
Aroclor-1221	2	6.553	-0.000	65944	174.2	2	6.880	0.001	59366	114.2
Aroclor-1221	3	6.639	-0.001	198879	185.2	3	7.088	-0.000	38208	136.5
CollAve: <3 Quant Peaks						Col2Ave:				85.4
Aroclor-1232	1	---			0.0	1	5.653	0.000	1405	9.4
Aroclor-1232	2	7.483	-0.000	271410	542.7	2	7.786	-0.000	393153	533.0
Aroclor-1232	3	7.838	0.002	862752	558.9	3	8.355	-0.002	796500	575.4
Aroclor-1232	4	7.974	-0.001	352765	547.1	4	8.549	-0.001	332565	572.5
Total CollAve (3 peaks):				549.6		Total Col2Ave (4 peaks):				422.6 RPD = 26
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				371.6
Aroclor-1242	1	7.483	0.001	271410	302.8	1	7.786	0.002	393153	309.5
Aroclor-1242	2	7.838	0.001	862752	304.6	2	8.355	0.001	796500	307.2
Aroclor-1242	3	9.074	0.002	109530	106.5	3	9.690	0.001	31243	37.0
Aroclor-1242	4	9.350	-0.000	34888	31.0	4	10.031	0.001	13070	12.6
Total CollAve (4 peaks):				186.2		Total Col2Ave (4 peaks):				166.6 RPD = 11
Corrected Ave (3 peaks):				146.8		Corrected Ave (3 peaks):				118.9 RPD = 21
Aroclor-1248	1	8.567	0.002	281188	191.8	1	8.793	0.001	191628	176.0
Aroclor-1248	2	8.729	0.002	363820	204.9	2	9.190	0.000	248432	191.5
Aroclor-1248	3	9.133	0.007	221882	100.7	3	9.586	-0.026	108334	63.3
Aroclor-1248	4	9.350	0.001	34888	21.2	4	10.031	0.002	13070	7.7
Total CollAve (4 peaks):				129.7		Total Col2Ave (4 peaks):				109.6 RPD = 17
Corrected Ave (3 peaks):				104.6		Corrected Ave (3 peaks):				82.4 RPD = 24
Aroclor-1254	1	9.133	0.000	221882	112.9	1	9.904	0.001	150765	86.8
Aroclor-1254	2	9.424	0.002	204233	77.3	2	10.031	0.036	13070	14.3
Aroclor-1254	3	---			0.0	3	10.417	0.002	20814	15.6
Aroclor-1254	4	9.778	0.000	28261	16.2	4	10.592	0.029	383189	132.3
Aroclor-1254	5	9.879	-0.029	205020	59.7	5	11.340	0.008	170588	95.9
Total CollAve (4 peaks):				66.5		Total Col2Ave (5 peaks):				69.0 RPD = 4
Corrected Ave (3 peaks):				51.1		Corrected Ave (4 peaks):				53.2 RPD = 4
Aroclor-1260	1	11.428	0.000	634865	259.4	1	11.631	0.002	451019	269.2
Aroclor-1260	2	11.788	0.000	1575178	257.5	2	12.082	0.001	508923	250.6
Aroclor-1260	3	12.183	0.001	800252	241.6	3	12.337	0.001	1063607	263.6
Aroclor-1260	4	12.291	0.001	371402	272.5	4	13.639	0.001	308000	283.0
Aroclor-1260	5	12.364	0.002	452641	282.6	NS	---			----
Total CollAve (5 peaks):				262.7		Total Col2Ave (4 peaks):				266.6 RPD = 1
Corrected Ave (4 peaks):				257.8		Corrected Ave (3 peaks):				261.1 RPD = 1
Aroclor-1262	1	11.119	0.000	624803	175.2	1	11.631	-0.000	451019	174.8
Aroclor-1262	2	11.788	-0.000	1575178	206.5	2	12.082	0.001	508923	252.4
Aroclor-1262	3	12.183	0.000	800252	300.5	3	12.337	0.000	1063607	206.4
Aroclor-1262	4	12.291	-0.000	371402	158.7	4	12.856	0.002	323033	176.8
Aroclor-1262	5	12.364	0.001	452641	166.5	NS	---			----
Total CollAve (5 peaks):				201.5		Total Col2Ave (4 peaks):				202.6 RPD = 1
Corrected Ave (4 peaks):				176.7		Corrected Ave (3 peaks):				186.0 RPD = 5
Aroclor-1268	1	12.291	-0.000	371402	46.1	1	12.856	0.003	323033	61.6
Aroclor-1268	2	12.364	0.002	452641	58.7	2	12.919	-0.001	744424	143.0
Aroclor-1268	3	12.760	0.020	216757	31.6	3	13.316	-0.000	17319	4.0
Aroclor-1268	4	13.510	-0.001	118822	6.2	4	14.124	0.000	76750	6.0
Total CollAve (4 peaks):				35.6		Total Col2Ave (4 peaks):				53.7 RPD = 40*

Corrected Ave (3 peaks): 28.0 Corrected Ave (3 peaks): 23.9 RPD = 16

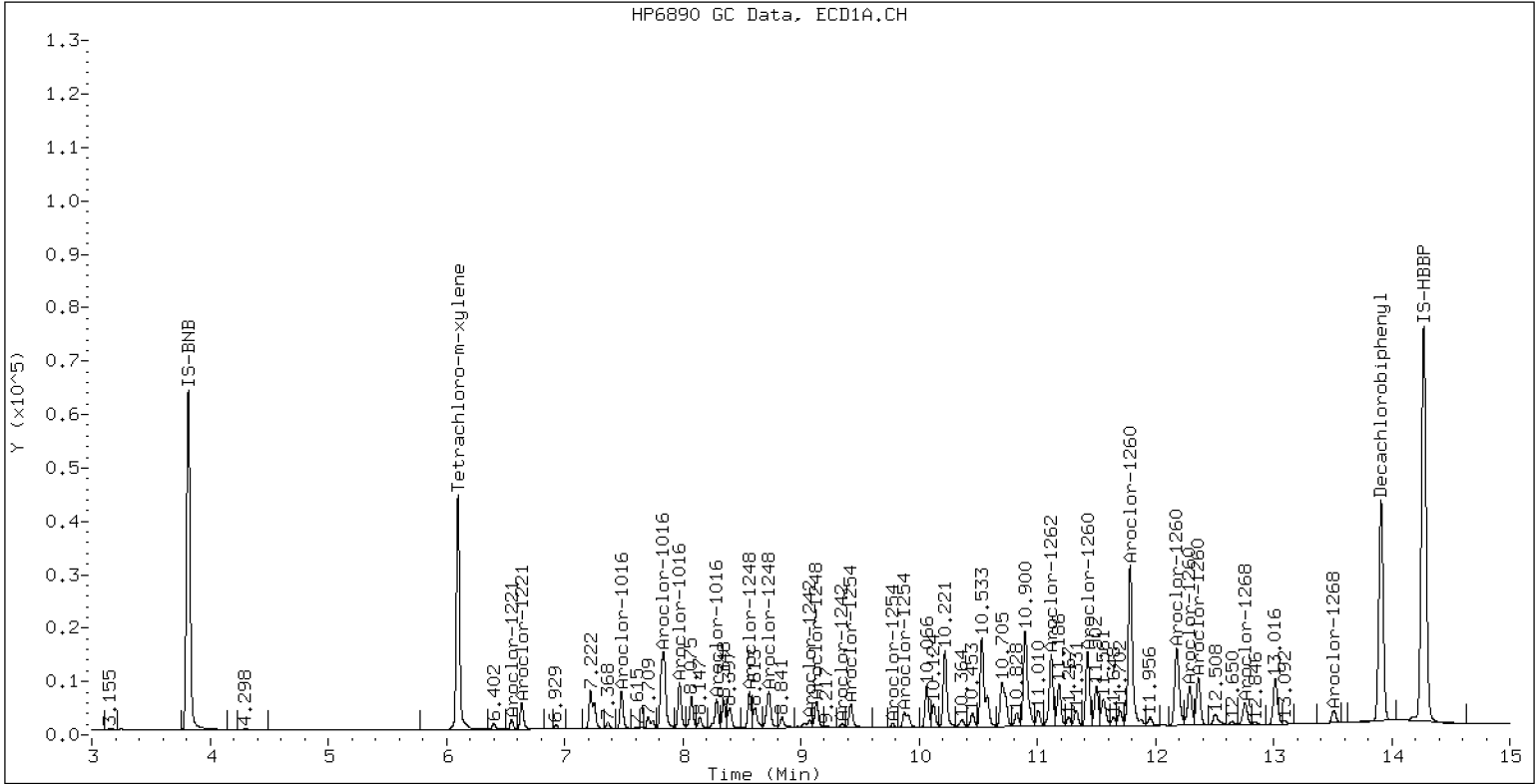
Total PCB Area Col1 (6.199 - 13.810) = 16176119 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13815410 Col2 Total PCB = 0.51 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110719.D AR1660SCV1 08-NOV-2020 00:25 2ul JGR



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110720.D
Data file 2: /20201107.b/20201107.b/20110720.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 08-NOV-2020 00:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1717953	6.316	-0.000	1629017	42.1	43.8	4.0	Tetrachloro-m-xylene
13.911	0.000	2113749	14.537	-0.001	1521236	42.7	43.3	1.5	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.2	109.5
Decachlorobiphenyl	106.7	108.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2793790	3.4
Hexabromobiphenyl	3964848	4185237	5.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2890341	-0.8
Hexabromobiphenyl	2801720	2818155	0.6

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	211136	184.8	1	7.785	-0.000	305654	190.8
Aroclor-1016	2	7.838	0.000	665613	183.6	2	8.355	0.000	616121	189.4
Aroclor-1016	3	7.973	0.001	274102	184.1	3	8.548	0.001	256320	187.6
Aroclor-1016	4	8.287	0.001	189075	191.2	4	9.190	0.001	201588	200.4
Total CollAve (4 peaks):				186.0		Total Col2Ave (4 peaks):				192.0 RPD = 3
Corrected Ave (3 peaks):				184.2		Corrected Ave (3 peaks):				189.3 RPD = 3
Aroclor-1221	1	---			0.0	1	5.654	0.001	1313	5.1
Aroclor-1221	2	6.553	-0.000	55656	146.3	2	6.881	0.001	23212	44.2
Aroclor-1221	3	6.639	-0.001	153135	142.0	3	7.087	-0.001	29111	103.0
CollAve: <3 Quant Peaks						Col2Ave:				50.8
Aroclor-1232	1	---			0.0	1	5.654	0.001	1313	8.7
Aroclor-1232	2	7.482	-0.001	211136	420.2	2	7.785	-0.001	305654	410.2
Aroclor-1232	3	7.838	0.002	665613	429.2	3	8.355	-0.002	616121	440.6
Aroclor-1232	4	7.973	-0.001	274102	423.2	4	8.548	-0.001	256320	436.8
Total CollAve (3 peaks):				424.2		Total Col2Ave (4 peaks):				324.1 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				285.2
Aroclor-1242	1	7.482	0.001	211136	234.5	1	7.785	0.001	305654	238.2
Aroclor-1242	2	7.838	0.001	665613	233.9	2	8.355	0.000	616121	235.2
Aroclor-1242	3	9.073	0.001	234060	226.5	3	9.690	0.000	187475	219.6
Aroclor-1242	4	9.351	0.001	245095	217.0	4	10.031	0.001	238760	227.2
Total CollAve (4 peaks):				228.0		Total Col2Ave (4 peaks):				230.0 RPD = 1
Corrected Ave (3 peaks):				225.8		Corrected Ave (3 peaks):				227.3 RPD = 1
Aroclor-1248	1	8.567	0.002	235033	159.6	1	8.792	0.000	157624	143.3
Aroclor-1248	2	8.730	0.002	304694	170.8	2	9.190	0.001	201588	153.8
Aroclor-1248	3	9.127	0.001	323003	145.9	3	9.613	0.001	241767	139.9
Aroclor-1248	4	9.351	0.002	245095	148.4	4	10.031	0.002	238760	139.3
Total CollAve (4 peaks):				156.2		Total Col2Ave (4 peaks):				144.1 RPD = 8
Corrected Ave (3 peaks):				151.3		Corrected Ave (3 peaks):				140.8 RPD = 7
Aroclor-1254	1	9.127	-0.006	323003	163.7	1	9.904	0.001	78354	44.6
Aroclor-1254	2	9.422	-0.000	149967	56.5	2	10.031	0.035	238760	259.4
Aroclor-1254	3	9.495	0.000	69968	69.3	3	10.417	0.001	61615	45.8
Aroclor-1254	4	9.779	0.001	86289	49.2	4	10.565	0.001	125332	42.8
Aroclor-1254	5	9.911	0.003	155572	45.1	5	11.332	0.001	80027	44.5
Total CollAve (5 peaks):				76.8		Total Col2Ave (5 peaks):				87.4 RPD = 13
Corrected Ave (4 peaks):				55.0		Corrected Ave (4 peaks):				44.5 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	3176	1.9
Aroclor-1260	2	---			0.0	2	12.088	0.007	16451	8.0
Aroclor-1260	3	---			0.0	3	12.343	0.007	8463	2.1
Aroclor-1260	4	---			0.0	4	13.644	0.007	789	0.7
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.2
Aroclor-1262	1	---			0.0	1	11.633	0.002	3176	1.2
Aroclor-1262	2	---			0.0	2	12.088	0.006	16451	8.1
Aroclor-1262	3	---			0.0	3	12.343	0.006	8463	1.6
Aroclor-1262	4	---			0.0	4	12.856	0.002	2240	1.2
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.0
Aroclor-1268	1	---			0.0	1	12.856	0.003	2240	0.4
Aroclor-1268	2	---			0.0	2	12.921	0.000	6254	1.2
Aroclor-1268	3	12.742	0.002	13242	1.9	3	13.317	0.001	7230	1.7
Aroclor-1268	4	13.512	0.001	12975	0.7	4	14.123	-0.000	15318	1.2
CollAve: <3 Quant Peaks						Col2Ave:				1.1

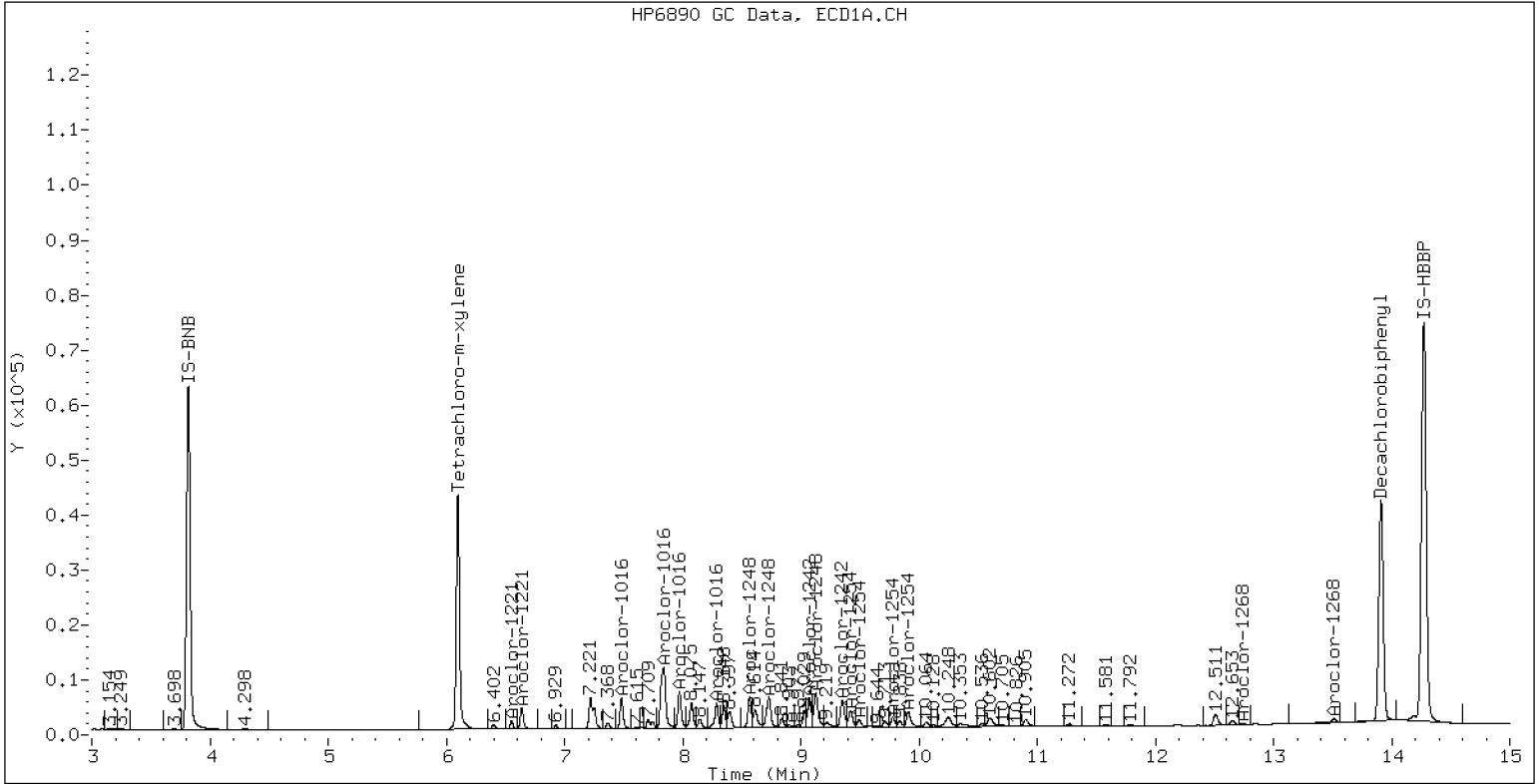
Total PCB Area Col1 (6.199 - 13.810) = 5771112 Col1 Total PCB = 0.18 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 6429126 Col2 Total PCB = 0.24 ppm*

* Quantitated against AR1660 0.25ppm in Ical

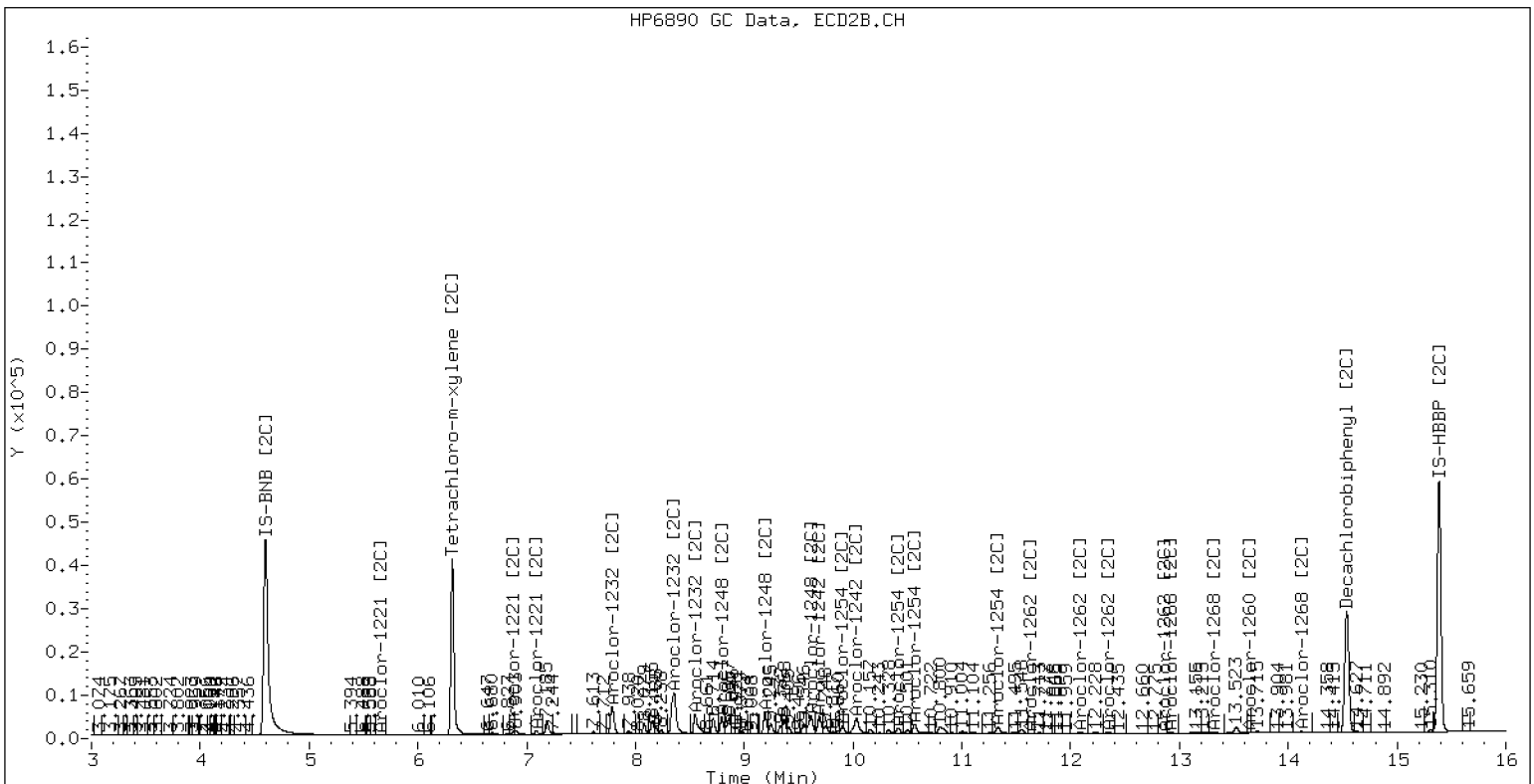
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110720.D AR1242SCV2 08-NOV-2020 00:45 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110720.D AR1242SCV2



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110721.D
Data file 2: /20201107.b/20201107.b/20110721.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 08-NOV-2020 01:06
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1786187	6.316 -0.000 1715006	6.316	43.3	45.4	4.7	Tetrachloro-m-xylene
13.911	0.001 2163167	14.537 -0.001 1579646	14.537	44.1	44.9	1.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.2	113.4
Decachlorobiphenyl	110.3	112.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2823266	4.4
Hexabromobiphenyl	3964848	4141310	4.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2937664	0.8
Hexabromobiphenyl	2801720	2824274	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	112728	97.7	1	7.784	-0.001	171068	105.0
Aroclor-1016	2	7.833	-0.004	467725	127.7	2	8.353	-0.001	437428	132.3
Aroclor-1016	3	7.975	0.002	176217	117.1	3	8.549	0.002	107682	77.6
Aroclor-1016	4	8.287	0.000	311646	311.9	4	9.191	0.001	326638	319.4
Total CollAve (4 peaks):				163.6		Total Col2Ave (4 peaks):				158.6 RPD = 3
Corrected Ave (3 peaks):				114.2		Corrected Ave (3 peaks):				105.0 RPD = 8
Aroclor-1221	1	---			0.0	1	5.647	-0.006	423	1.6
Aroclor-1221	2	6.553	-0.001	33908	88.2	2	6.906	0.027	30771	57.7
Aroclor-1221	3	6.639	-0.001	38833	35.6	3	7.088	-0.000	6801	23.7
CollAve: <3 Quant Peaks						Col2Ave:				27.6
Aroclor-1232	1	---			0.0	1	5.647	-0.006	423	2.8
Aroclor-1232	2	7.482	-0.001	112728	222.0	2	7.784	-0.002	171068	225.9
Aroclor-1232	3	7.833	-0.003	467725	298.5	3	8.353	-0.003	437428	307.8
Aroclor-1232	4	7.975	0.001	176217	269.2	4	8.549	-0.001	107682	180.5
Total CollAve (3 peaks):				263.2		Total Col2Ave (4 peaks):				179.2 RPD = 38
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				136.4
Aroclor-1242	1	7.482	0.001	112728	123.9	1	7.784	0.000	171068	131.2
Aroclor-1242	2	7.833	-0.003	467725	162.7	2	8.353	-0.001	437428	164.3
Aroclor-1242	3	9.073	0.001	419207	401.4	3	9.690	0.000	315629	363.7
Aroclor-1242	4	9.351	0.000	399904	350.4	4	10.030	-0.000	414188	387.7
Total CollAve (4 peaks):				259.6		Total Col2Ave (4 peaks):				261.7 RPD = 1
Corrected Ave (3 peaks):				212.3		Corrected Ave (3 peaks):				219.7 RPD = 3
Aroclor-1248	1	8.566	0.001	367978	247.3	1	8.792	0.000	272694	244.0
Aroclor-1248	2	8.728	0.001	439292	243.7	2	9.191	0.001	326638	245.2
Aroclor-1248	3	9.127	0.001	544503	243.4	3	9.613	0.001	425322	242.2
Aroclor-1248	4	9.351	0.001	399904	239.5	4	10.030	0.000	414188	237.7
Total CollAve (4 peaks):				243.5		Total Col2Ave (4 peaks):				242.3 RPD = 0
Corrected Ave (3 peaks):				242.2		Corrected Ave (3 peaks):				241.3 RPD = 0
Aroclor-1254	1	9.127	-0.006	544503	273.0	1	9.904	0.001	144626	81.1
Aroclor-1254	2	9.421	-0.001	284837	106.2	2	10.030	0.034	414188	442.7
Aroclor-1254	3	9.495	0.000	141607	138.7	3	10.417	0.001	134890	98.7
Aroclor-1254	4	9.778	-0.000	178065	100.5	4	10.565	0.001	248044	83.4
Aroclor-1254	5	9.909	0.001	307474	88.3	5	11.329	-0.002	164143	89.9
Total CollAve (5 peaks):				141.3		Total Col2Ave (5 peaks):				159.1 RPD = 12
Corrected Ave (4 peaks):				108.4		Corrected Ave (4 peaks):				88.2 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	9633	5.7
Aroclor-1260	2	---			0.0	2	12.086	0.005	21593	10.5
Aroclor-1260	3	---			0.0	3	12.342	0.006	17338	4.3
Aroclor-1260	4	---			0.0	4	13.641	0.004	5300	4.8
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				6.3
Aroclor-1262	1	11.121	0.003	12856	3.6	1	11.633	0.002	9633	3.7
Aroclor-1262	2	11.792	0.004	25800	3.4	2	12.086	0.005	21593	10.6
Aroclor-1262	3	---			0.0	3	12.342	0.005	17338	3.3
Aroclor-1262	4	---			0.0	4	12.856	0.002	7295	4.0
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				5.4
Aroclor-1268	1	---			0.0	1	12.856	0.003	7295	1.4
Aroclor-1268	2	---			0.0	2	12.922	0.002	12264	2.3
Aroclor-1268	3	---			0.0	3	13.317	0.001	7874	1.8
Aroclor-1268	4	---			0.0	4	14.123	-0.001	18089	1.4
CollAve: <3 Quant Peaks						Col2Ave:				1.7

Total PCB Area Col1 (6.199 - 13.810) = 7128733 Col1 Total PCB = 0.23 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 7597936 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110722.D
Data file 2: /20201107.b/20201107.b/20110722.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 08-NOV-2020 01:27
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1712019	6.316	41.8	43.7	4.5	Tetrachloro-m-xylene
13.910	0.000	2083333	14.538	41.9	43.1	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	109.4
Decachlorobiphenyl	104.7	107.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2799459	3.6
Hexabromobiphenyl	3964848	4200846	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2919916	0.2
Hexabromobiphenyl	2801720	2840178	1.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	7.785	0.000	6697	4.1	
Aroclor-1016	2	7.828	-0.009	17542	4.8	2	8.346	-0.008	16385	5.0	
Aroclor-1016	3	---			0.0	3	8.552	0.005	3112	2.3	
Aroclor-1016	4	8.288	0.001	219577	221.6	4	9.191	0.002	128927	126.8	
CollAve: <3 Quant Peaks						Col2Ave: 34.6					
Aroclor-1221	1	---			0.0	1	5.624	-0.029	291	1.1	
Aroclor-1221	2	---			0.0	2	6.907	0.027	25274	47.7	
Aroclor-1221	3	---			0.0	3	7.088	-0.000	1944	6.8	
CollAve: <3 Quant Peaks						Col2Ave: 18.5					
Aroclor-1232	1	---			0.0	1	5.624	-0.029	291	1.9	
Aroclor-1232	2	---			0.0	2	7.785	-0.001	6697	8.9	
Aroclor-1232	3	---			0.0	3	8.346	-0.011	16385	11.6	
Aroclor-1232	4	---			0.0	4	8.552	0.003	3112	5.2	
CollAve: <3 Quant Peaks						Col2Ave: 6.9					
Aroclor-1242	1	---			0.0	1	7.785	0.001	6697	5.2	
Aroclor-1242	2	7.828	-0.008	17542	6.2	2	8.346	-0.008	16385	6.2	
Aroclor-1242	3	9.074	0.002	256329	247.5	3	9.690	0.000	60213	69.8	
Aroclor-1242	4	9.349	-0.001	156541	138.3	4	9.996	-0.034	242815	228.7	
Total CollAve (3 peaks):				130.7	Total Col2Ave (4 peaks):				77.5	RPD = 51*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				27.1		
Aroclor-1248	1	8.566	0.001	164978	111.8	1	8.793	0.001	197910	178.2	
Aroclor-1248	2	8.730	0.002	71828	40.2	2	9.191	0.002	128927	97.4	
Aroclor-1248	3	9.133	0.007	486586	219.4	3	9.614	0.002	177038	101.4	
Aroclor-1248	4	9.349	-0.000	156541	94.6	4	9.996	-0.034	242815	140.2	
Total CollAve (4 peaks):				116.5	Total Col2Ave (4 peaks):				129.3	RPD = 10	
Corrected Ave (3 peaks):				82.2	Corrected Ave (3 peaks):				113.0	RPD = 32	
Aroclor-1254	1	9.133	-0.000	486586	246.0	1	9.903	0.000	444834	250.8	
Aroclor-1254	2	9.422	0.000	662853	249.3	2	9.996	0.000	242815	261.1	
Aroclor-1254	3	9.495	0.000	257899	254.8	3	10.416	0.001	341296	251.2	
Aroclor-1254	4	9.778	-0.001	441415	251.2	4	10.564	0.001	727860	246.2	
Aroclor-1254	5	9.908	-0.000	848738	245.7	5	11.333	0.001	519064	285.9	
Total CollAve (5 peaks):				249.4	Total Col2Ave (5 peaks):				259.0	RPD = 4	
Corrected Ave (4 peaks):				248.0	Corrected Ave (4 peaks):				252.3	RPD = 2	
Aroclor-1260	1	11.430	0.002	64854	26.3	1	11.631	0.001	37091	21.8	
Aroclor-1260	2	11.790	0.002	138049	22.4	2	12.086	0.005	205656	99.8	
Aroclor-1260	3	12.185	0.004	133982	40.2	3	12.341	0.005	116574	28.5	
Aroclor-1260	4	---			0.0	4	13.640	0.003	4165	3.8	
Aroclor-1260	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				29.7	Total Col2Ave (4 peaks):				38.4	RPD = 26	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				18.0		
Aroclor-1262	1	11.118	-0.001	59307	16.5	1	11.631	-0.000	37091	14.2	
Aroclor-1262	2	11.790	0.002	138049	18.0	2	12.086	0.005	205656	100.5	
Aroclor-1262	3	12.185	0.003	133982	50.0	3	12.341	0.004	116574	22.3	
Aroclor-1262	4	---			0.0	4	12.864	0.009	14192	7.7	
Aroclor-1262	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				28.2	Total Col2Ave (4 peaks):				36.1	RPD = 25	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				14.7		
Aroclor-1268	1	---			0.0	1	12.864	0.010	14192	2.7	
Aroclor-1268	2	---			0.0	2	12.920	-0.000	81668	15.5	
Aroclor-1268	3	---			0.0	3	13.317	0.000	7030	1.6	
Aroclor-1268	4	---			0.0	4	14.124	-0.000	15811	1.2	
CollAve: <3 Quant Peaks						Col2Ave: 5.2					

Total PCB Area Col1 (6.199 - 13.810) = 9405930 Col1 Total PCB = 0.30 ppm*

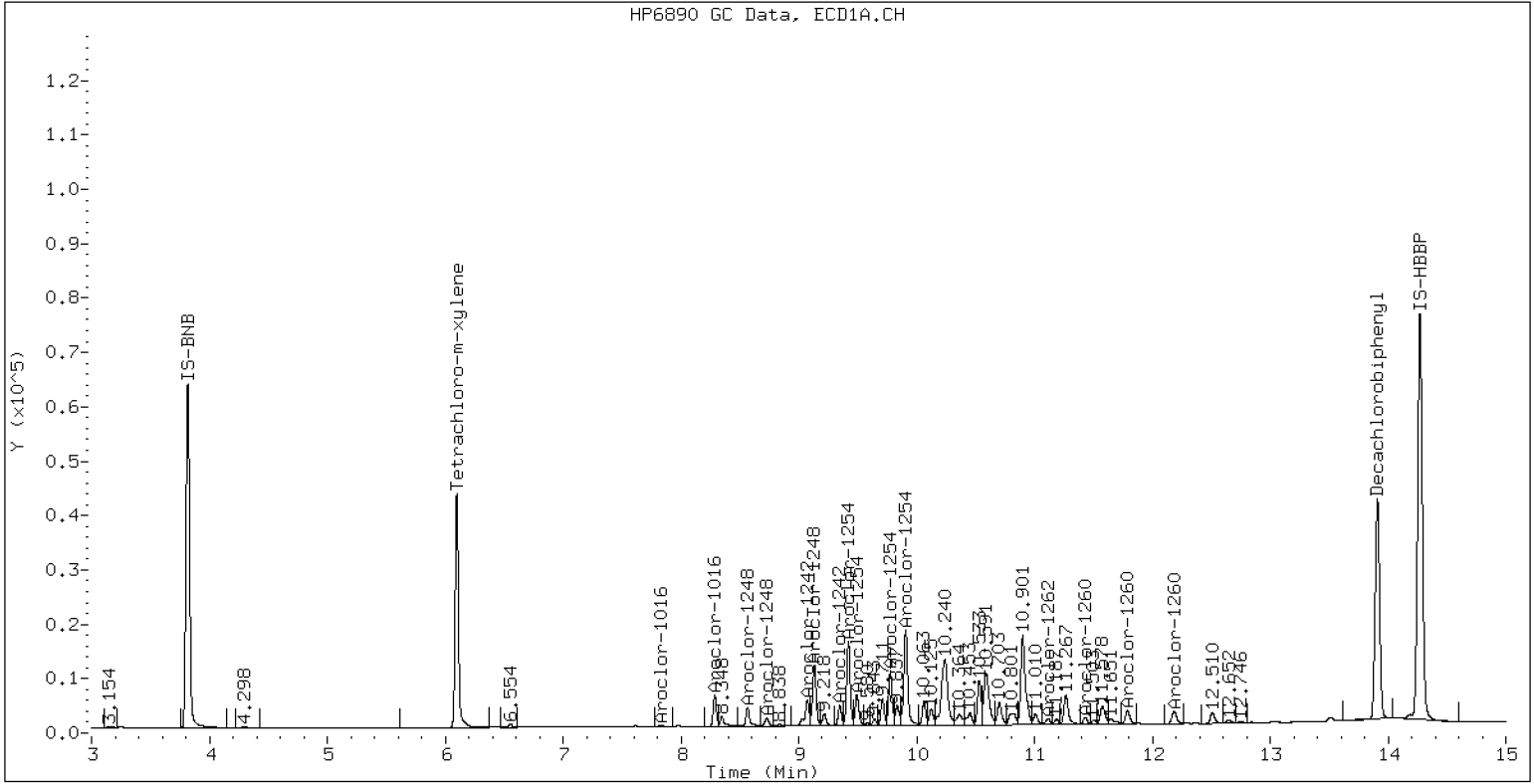
Total PCB Area Col2 (6.199 - 13.810) = 8871291 Col2 Total PCB = 0.33 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

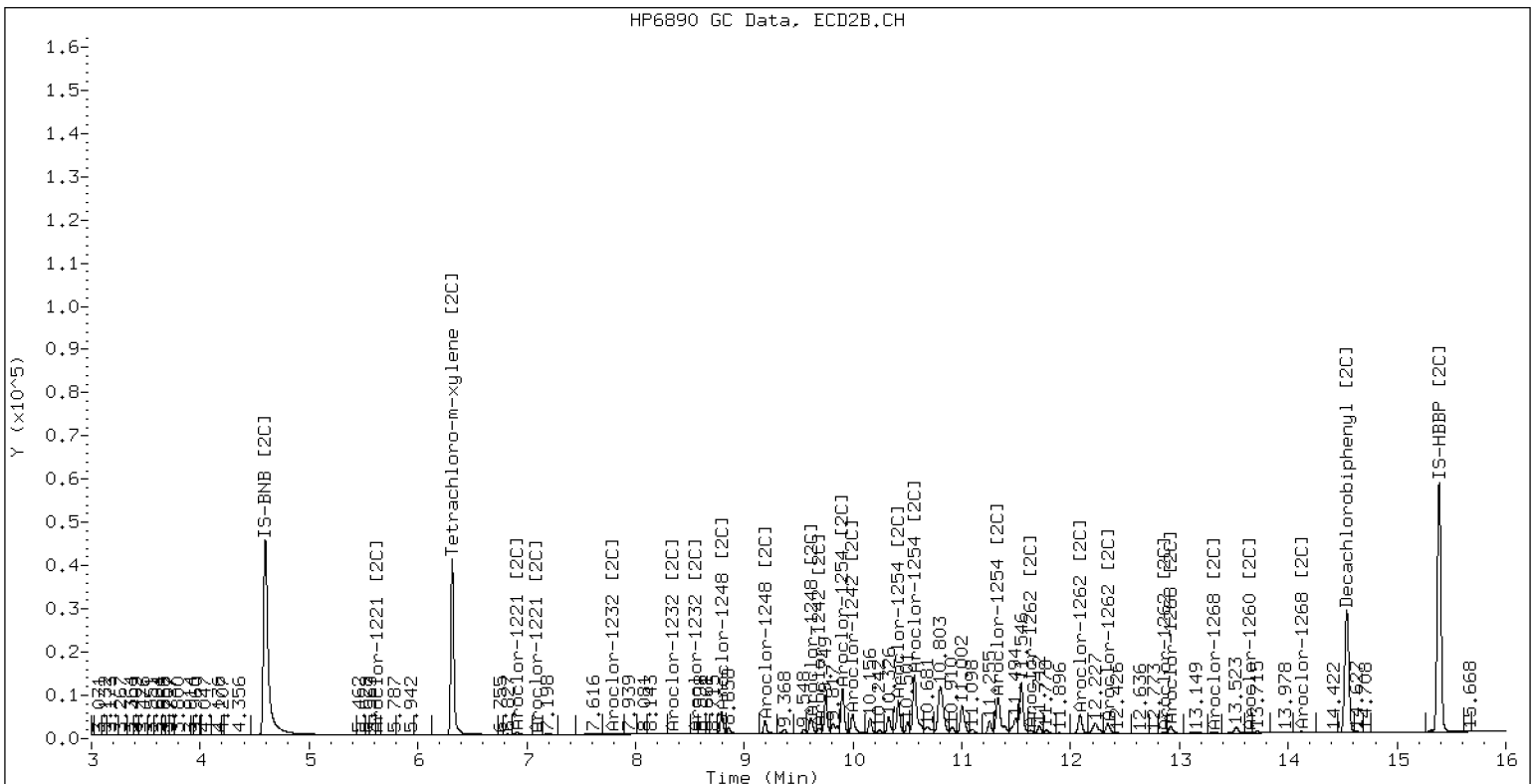
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110722.D AR1254SCV4 08-NOV-2020 01:27 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110722.D AR1254SCV4



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110723.D
Data file 2: /20201107.b/20201107.b/20110723.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 08-NOV-2020 01:47
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1737995	6.316 -0.000 1613562	42.8	44.1	3.0	Tetrachloro-m-xylene
13.910	-0.000 2134891	14.538 -0.000 1538406	42.8	44.0	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.1	110.3
Decachlorobiphenyl	107.1	110.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2776223	2.7
Hexabromobiphenyl	3964848	4210359	6.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2842470	-2.5
Hexabromobiphenyl	2801720	2805318	0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	30410	26.8	1	7.788	0.003	65236	41.4
Aroclor-1016	2	7.839	0.002	81443	22.6	2	8.357	0.003	70881	22.2
Aroclor-1016	3	7.974	0.001	38317	25.9	3	8.550	0.003	33386	24.9
Aroclor-1016	4	8.287	0.001	19732	20.1	4	9.192	0.002	15613	15.8
Total CollAve (4 peaks):				23.8	Total Col2Ave (4 peaks):				26.0	RPD = 9
Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				20.9	RPD = 9
Aroclor-1221	1	5.080	-0.001	66212	248.5	1	5.653	-0.000	60198	236.4
Aroclor-1221	2	6.553	-0.001	95038	251.4	2	6.879	-0.001	126187	244.4
Aroclor-1221	3	6.639	-0.001	259584	242.2	3	7.088	-0.001	66732	240.0
Total CollAve (3 peaks):				247.4	Total Col2Ave (3 peaks):				240.3	RPD = 3
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.080	-0.001	66212	416.5	1	5.653	-0.001	60198	405.1
Aroclor-1232	2	7.483	-0.000	30410	60.9	2	7.788	0.002	65236	89.0
Aroclor-1232	3	7.839	0.003	81443	52.9	3	8.357	0.001	70881	51.5
Aroclor-1232	4	7.974	-0.000	38317	59.5	4	8.550	0.001	33386	57.8
Total CollAve (4 peaks):				147.5	Total Col2Ave (4 peaks):				150.9	RPD = 2
Corrected Ave (3 peaks):				57.8	Corrected Ave (3 peaks):				66.1	RPD = 14
Aroclor-1242	1	7.483	0.002	30410	34.0	1	7.788	0.004	65236	51.7
Aroclor-1242	2	7.839	0.003	81443	28.8	2	8.357	0.003	70881	27.5
Aroclor-1242	3	9.076	0.003	30780	30.0	3	9.693	0.004	11440	13.6
Aroclor-1242	4	9.351	0.001	23491	20.9	4	10.032	0.002	13795	13.3
Total CollAve (4 peaks):				28.4	Total Col2Ave (4 peaks):				26.5	RPD = 7
Corrected Ave (3 peaks):				26.6	Corrected Ave (3 peaks):				18.2	RPD = 38
Aroclor-1248	1	8.567	0.002	23731	16.2	1	8.793	0.001	18603	17.2
Aroclor-1248	2	8.730	0.003	25406	14.3	2	9.192	0.002	15613	12.1
Aroclor-1248	3	9.133	0.008	101088	46.0	3	9.616	0.004	20274	11.9
Aroclor-1248	4	9.351	0.002	23491	14.3	4	10.032	0.003	13795	8.2
Total CollAve (4 peaks):				22.7	Total Col2Ave (4 peaks):				12.4	RPD = 59*
Corrected Ave (3 peaks):				15.0	Corrected Ave (3 peaks):				10.7	RPD = 33
Aroclor-1254	1	9.133	0.000	101088	51.5	1	9.904	0.001	85281	49.4
Aroclor-1254	2	9.424	0.002	108135	41.0	2	9.999	0.003	11045	12.2
Aroclor-1254	3	9.496	0.001	17294	17.2	3	10.418	0.002	18195	13.8
Aroclor-1254	4	9.779	0.001	23497	13.5	4	10.593	0.030	346886	120.5
Aroclor-1254	5	9.879	-0.029	149776	43.7	5	11.376	0.044	326997	185.0
Total CollAve (5 peaks):				33.4	Total Col2Ave (5 peaks):				76.2	RPD = 78*
Corrected Ave (4 peaks):				28.9	Corrected Ave (4 peaks):				49.0	RPD = 52*
Aroclor-1260	1	11.429	0.001	741770	300.6	1	11.631	0.002	638841	380.3
Aroclor-1260	2	11.788	0.001	1731968	280.8	2	12.081	-0.000	610611	299.9
Aroclor-1260	3	12.183	0.001	610779	182.9	3	12.338	0.002	1183981	292.6
Aroclor-1260	4	12.291	0.000	743514	541.1	4	13.639	0.001	494159	452.8
Aroclor-1260	5	12.364	0.001	780256	483.1	NS	---			----
Total CollAve (5 peaks):				357.7	Total Col2Ave (4 peaks):				356.4	RPD = 0
Corrected Ave (4 peaks):				311.8	Corrected Ave (3 peaks):				324.3	RPD = 4
Aroclor-1262	1	11.119	0.001	875129	243.4	1	11.631	-0.000	638841	246.9
Aroclor-1262	2	11.788	0.000	1731968	225.1	2	12.081	-0.000	610611	302.0
Aroclor-1262	3	12.183	0.000	610779	227.4	3	12.338	0.001	1183981	229.2
Aroclor-1262	4	12.291	-0.000	743514	315.2	4	12.855	0.000	557952	304.5
Aroclor-1262	5	12.364	0.000	780256	284.6	NS	---			----
Total CollAve (5 peaks):				259.1	Total Col2Ave (4 peaks):				270.7	RPD = 4
Corrected Ave (4 peaks):				245.1	Corrected Ave (3 peaks):				259.4	RPD = 6
Aroclor-1268	1	12.291	-0.000	743514	91.5	1	12.855	0.001	557952	106.0
Aroclor-1268	2	12.364	0.002	780256	100.3	2	12.920	0.000	853918	163.6
Aroclor-1268	3	12.758	0.019	326534	47.2	3	13.316	-0.000	41584	9.7
Aroclor-1268	4	13.510	-0.000	278331	14.4	4	14.123	-0.001	178527	14.0

Total Col1Ave (4 peaks):	63.3	Total Col2Ave (4 peaks):	73.3	RPD = 15
Corrected Ave (3 peaks):	51.0	Corrected Ave (3 peaks):	43.2	RPD = 17

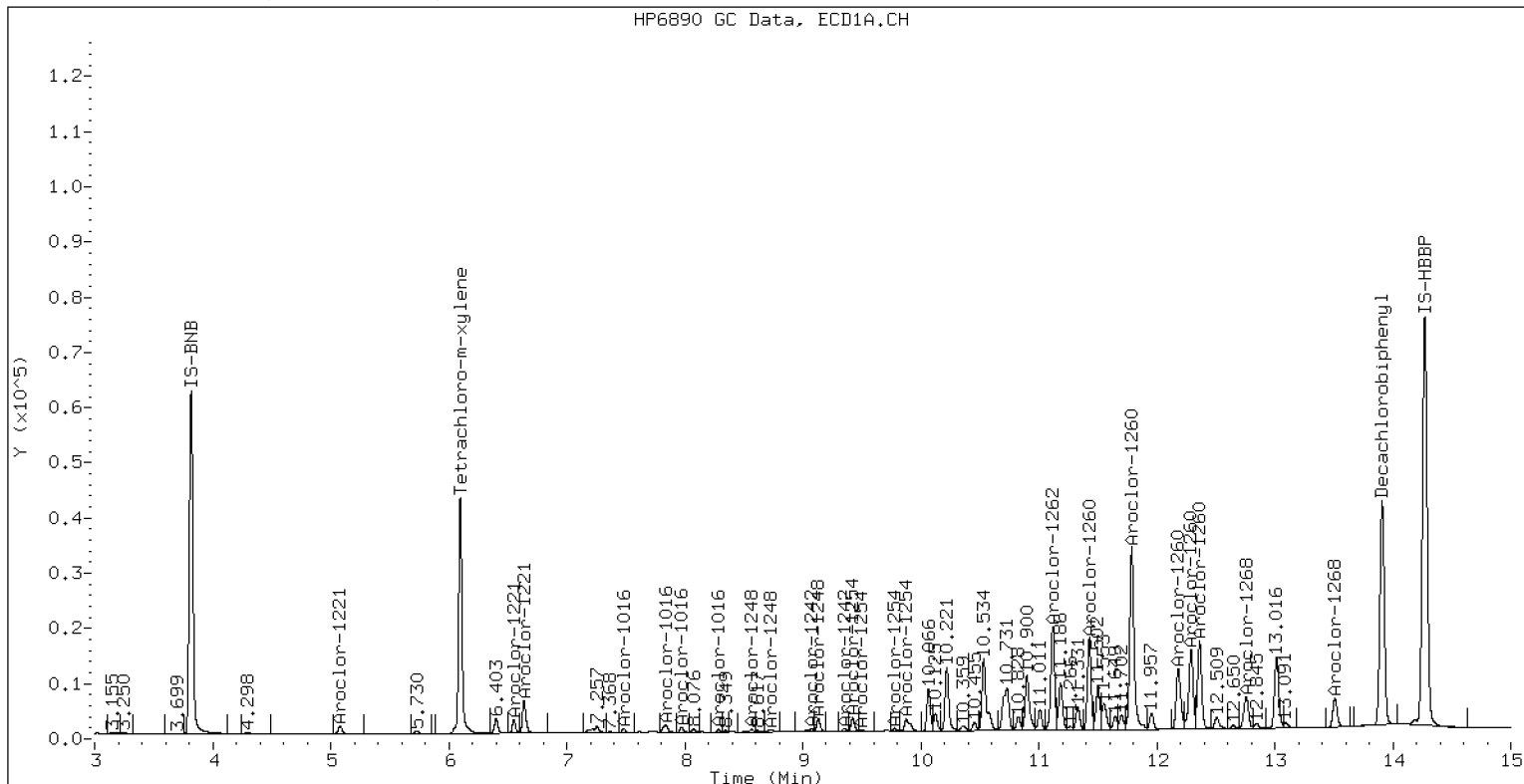
Total PCB Area Col1 (6.199 - 13.810) = 13102993 Col1 Total PCB = 0.42 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10950200 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical

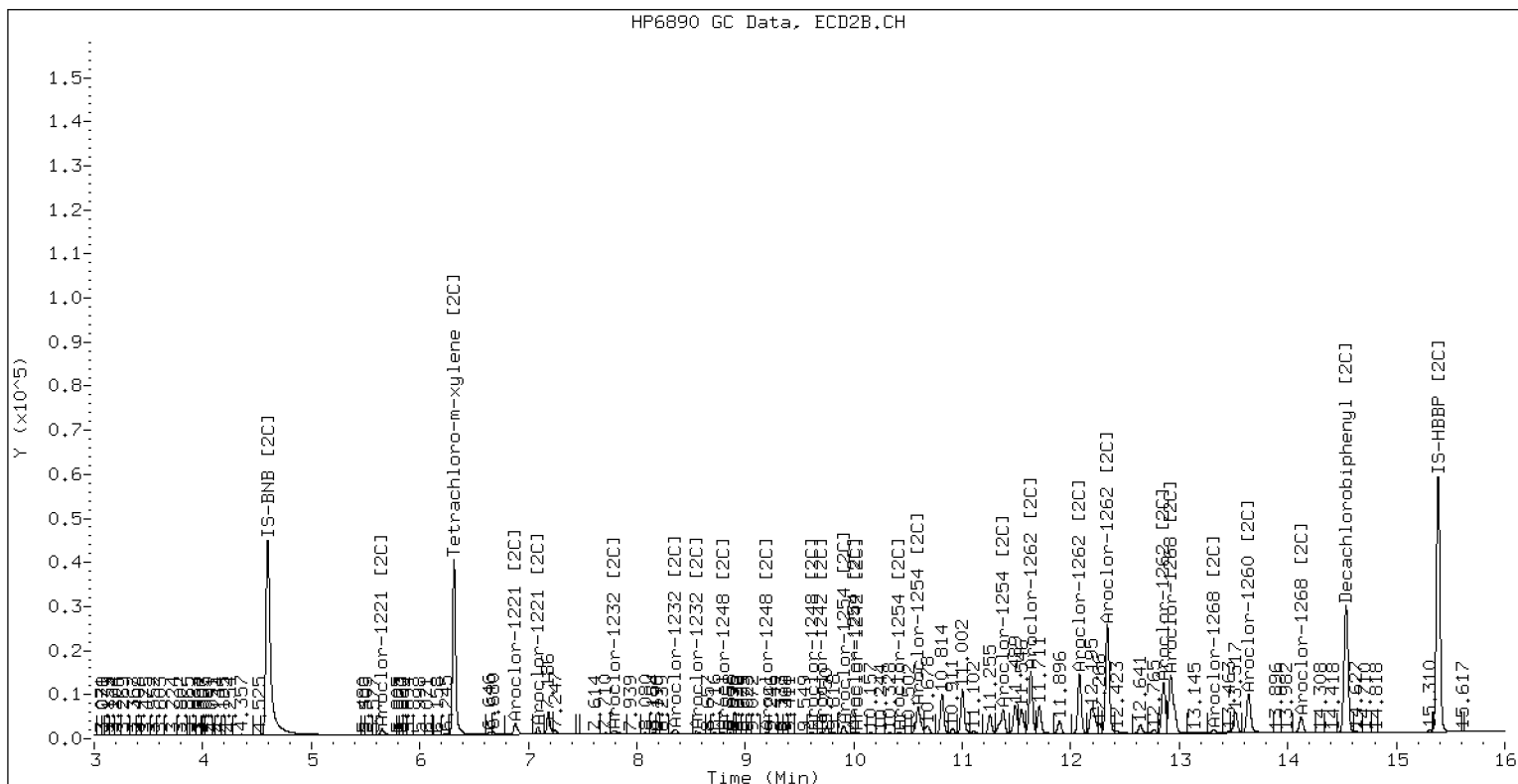
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110723.D AR2162SCV5 08-NOV-2020 01:47 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110723.D AR2162SCV5



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110724.D
Data file 2: /20201107.b/20201107.b/20110724.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 08-NOV-2020 02:08
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1743413	6.316 -0.000 1641765	43.1	44.7	3.6	Tetrachloro-m-xylene
13.911	0.000 2975643	14.538 -0.000 2140703	60.1	61.3	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.7	111.7
Decachlorobiphenyl	150.2	153.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2767662	2.4
Hexabromobiphenyl	3964848	4183877	5.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2856088	-2.0
Hexabromobiphenyl	2801720	2802153	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	131051	115.8	1	7.785	-0.000	195849	123.7
Aroclor-1016	2	7.838	0.001	401155	111.7	2	8.356	0.002	368649	114.7
Aroclor-1016	3	7.974	0.001	168393	114.2	3	8.549	0.002	155352	115.1
Aroclor-1016	4	8.287	0.001	102013	104.2	4	9.190	0.001	112207	112.9
Total CollAve (4 peaks):				111.5		Total Col2Ave (4 peaks):				116.6 RPD = 4
Corrected Ave (3 peaks):				110.0		Corrected Ave (3 peaks):				114.2 RPD = 4
Aroclor-1221	1	5.080	-0.001	40014	150.7	1	5.653	-0.000	34530	134.9
Aroclor-1221	2	6.553	-0.000	73712	195.6	2	6.880	0.000	87616	168.9
Aroclor-1221	3	6.639	-0.001	210368	196.9	3	7.088	-0.000	47040	168.4
Total CollAve (3 peaks):				181.1		Total Col2Ave (3 peaks):				157.4 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	5.080	-0.001	40014	252.5	1	5.653	-0.001	34530	231.3
Aroclor-1232	2	7.483	-0.000	131051	263.3	2	7.785	-0.001	195849	266.0
Aroclor-1232	3	7.838	0.002	401155	261.1	3	8.356	-0.001	368649	266.8
Aroclor-1232	4	7.974	-0.000	168393	262.4	4	8.549	-0.000	155352	267.9
Total CollAve (4 peaks):				259.8		Total Col2Ave (4 peaks):				258.0 RPD = 1
Corrected Ave (3 peaks):				258.7		Corrected Ave (3 peaks):				254.7 RPD = 2
Aroclor-1242	1	7.483	0.002	131051	146.9	1	7.785	0.001	195849	154.5
Aroclor-1242	2	7.838	0.002	401155	142.3	2	8.356	0.002	368649	142.4
Aroclor-1242	3	9.074	0.002	132607	129.5	3	9.691	0.002	109009	129.2
Aroclor-1242	4	9.353	0.002	142025	126.9	4	10.032	0.002	130833	126.0
Total CollAve (4 peaks):				136.4		Total Col2Ave (4 peaks):				138.0 RPD = 1
Corrected Ave (3 peaks):				132.9		Corrected Ave (3 peaks):				132.5 RPD = 0
Aroclor-1248	1	8.567	0.002	132576	90.9	1	8.793	0.001	83373	76.7
Aroclor-1248	2	8.729	0.002	170920	96.7	2	9.190	0.001	112207	86.6
Aroclor-1248	3	9.127	0.002	181590	82.8	3	9.614	0.002	138940	81.4
Aroclor-1248	4	9.353	0.003	142025	86.8	4	10.032	0.003	130833	77.2
Total CollAve (4 peaks):				89.3		Total Col2Ave (4 peaks):				80.5 RPD = 10
Corrected Ave (3 peaks):				86.8		Corrected Ave (3 peaks):				78.4 RPD = 10
Aroclor-1254	1	9.127	-0.006	181590	92.9	1	9.904	0.001	29380	16.9
Aroclor-1254	2	9.421	-0.001	64235	24.4	2	10.032	0.037	130833	143.8
Aroclor-1254	3	9.496	0.002	30966	30.9	3	10.417	0.002	20905	15.7
Aroclor-1254	4	9.781	0.002	29729	17.1	4	10.566	0.003	46531	16.1
Aroclor-1254	5	9.912	0.004	60353	17.7	5	11.332	0.001	21068	11.9
Total CollAve (5 peaks):				36.6		Total Col2Ave (5 peaks):				40.9 RPD = 11
Corrected Ave (4 peaks):				22.5		Corrected Ave (4 peaks):				15.2 RPD = 39
Aroclor-1260	1	11.430	0.002	34671	14.1	1	11.633	0.003	258365	154.0
Aroclor-1260	2	11.790	0.002	246913	40.3	2	12.078	-0.003	343198	168.7
Aroclor-1260	3	---	---	0.0	0.0	3	12.338	0.002	164339	40.7
Aroclor-1260	4	12.292	0.001	1912387	1400.7	4	13.638	0.000	497644	456.5
Aroclor-1260	5	12.362	-0.000	1837427	1144.8	NS	---	---	---	---
Total CollAve (4 peaks):				650.0		Total Col2Ave (4 peaks):				205.0 RPD = 104*
Corrected Ave (3 peaks):				399.7		Corrected Ave (3 peaks):				121.1 RPD = 107*
Aroclor-1262	1	11.121	0.002	347620	97.3	1	11.633	0.001	258365	100.0
Aroclor-1262	2	11.790	0.002	246913	32.3	2	12.078	-0.003	343198	169.9
Aroclor-1262	3	---	---	0.0	0.0	3	12.338	0.001	164339	31.8
Aroclor-1262	4	12.292	0.001	1912387	815.8	4	12.854	-0.001	1334495	729.2
Aroclor-1262	5	12.362	-0.001	1837427	674.4	NS	---	---	---	---
Total CollAve (4 peaks):				405.0		Total Col2Ave (4 peaks):				257.7 RPD = 44*
Corrected Ave (3 peaks):				268.0		Corrected Ave (3 peaks):				100.6 RPD = 91*
Aroclor-1268	1	12.292	0.000	1912387	236.9	1	12.854	0.000	1334495	253.9
Aroclor-1268	2	12.362	0.000	1837427	237.6	2	12.921	0.000	1312481	251.8
Aroclor-1268	3	12.740	-0.000	1605338	233.6	3	13.316	-0.000	1091359	253.9
Aroclor-1268	4	13.511	0.001	4630331	240.6	4	14.123	-0.001	3223735	253.2

Total Col1Ave (4 peaks):	237.2	Total Col2Ave (4 peaks):	253.2	RPD = 7
Corrected Ave (3 peaks):	236.1	Corrected Ave (3 peaks):	253.0	RPD = 7

Total PCB Area Col1 (6.199 - 13.810) = 16074939 Col1 Total PCB = 0.51 ppm*

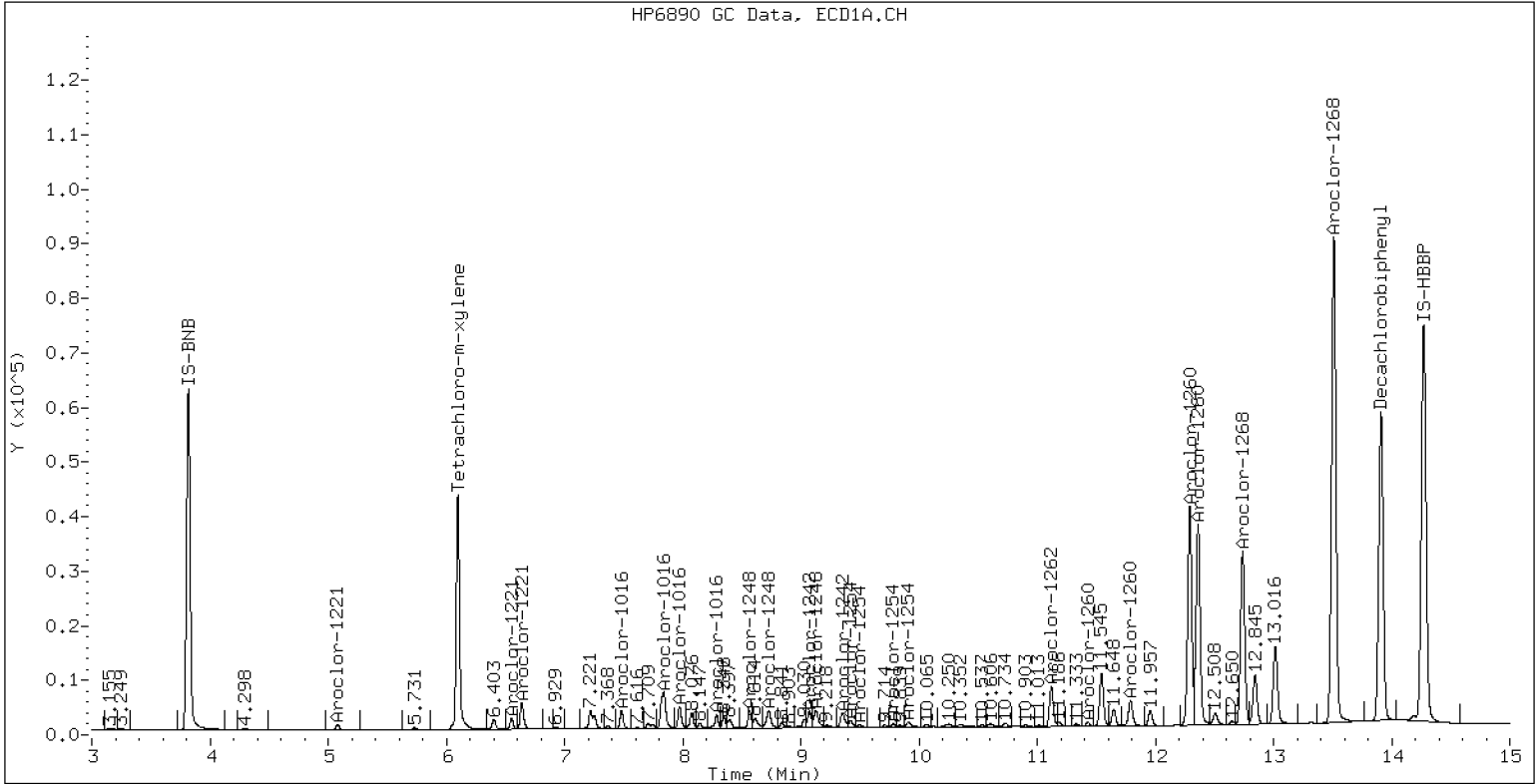
Total PCB Area Col2 (6.199 - 13.810) = 10113183 Col2 Total PCB = 0.37 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

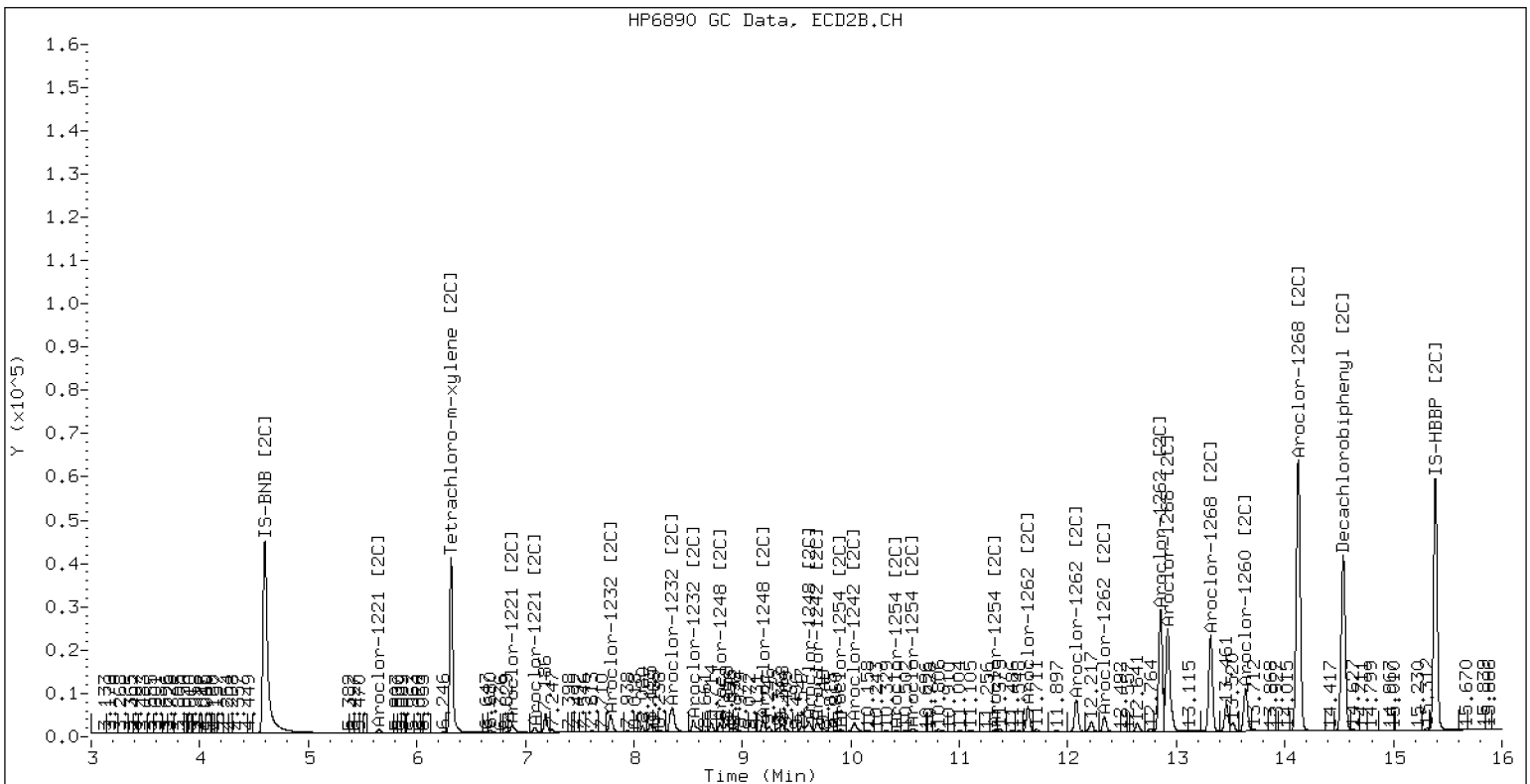
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110724.D AR3268SCV6 08-NOV-2020 02:08 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110724.D AR3268SCV6



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20201107.b/20110725.D

ARI ID: 0.1PPMDDTS

RT	ZB5 Col Shift Response		ZB35 Col Shift Response		ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.390	0.000 3222041		9.995 0.000 2741952		0.100	0.100	0.0	2,4-DDE
9.912	0.000 3383950		10.356 0.000 4336078		0.100	0.100	0.0	2,4-DDD
10.394	0.000 3514818		11.095 0.000 6138902		0.100	0.200#	66.7*	2,4-DDT
9.794	0.000 5276106		10.655 0.000 2723920		0.100	0.100	0.0	4,4-DDE
10.344	0.000 4792815		11.095 0.000 6138902		0.100	0.200#	66.7*	4,4-DDD
10.837	0.000 4197113		11.526 0.000 3158655		0.100	0.100	0.0	4,4-DDT

Indicates value is from co-eluting peaks

* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /20201107.b/20110726.D

ARI ID: BD

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
9.357	-0.033 37929	9.994 -0.002 2754	0.001	0.000	168.9*	2,4-DDE
0.000	-9.912 0	10.360 0.003 124864	0.000	0.003	----	2,4-DDD
0.000	-10.394 0	11.105 0.010 409402	0.000	0.014#	----	2,4-DDT
9.798	0.004 183463	10.654 -0.001 1364	0.004	0.000	194.4*	4,4-DDE
10.349	0.005 516643	11.105 0.010 409402	0.011	0.014#	19.9	4,4-DDD
10.838	0.001 4198636	11.527 0.001 3084958	0.104	0.100	3.7	4,4-DDT

Indicates value is from co-eluting peaks

* Indicates RPD > 40%



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV1

Sequence: SIK0223

Sequence Name: AR1660SCV1

Standard ID: I005063

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	238	-4.7	20.00
Aroclor 1016 [2C]	250.00	248	-0.9	20.00
Aroclor 1260	250.00	263	5.1	20.00
Aroclor 1260 [2C]	250.00	267	6.6	20.00
Decachlorobiphenyl	40.000	43.5	8.7	20.00
Tetrachlorometaxylene	40.000	43.5	8.8	20.00
Decachlorobiphenyl [2C]	40.000	44.5	11.3	20.00
Tetrachlorometaxylene [2C]	40.000	45.4	13.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110719.D
Data file 2: /20201107.b/20201107.b/20110719.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1660SCV1
Client ID:
Injection Date: 08-NOV-2020 00:25
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1768678	6.316	-0.000	1671040	43.5	45.4	4.2	Tetrachloro-m-xylene
13.911	0.000	2148388	14.537	-0.001	1552696	43.5	44.5	2.4	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.8	113.5
Decachlorobiphenyl	108.7	111.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2781002	2.9
Hexabromobiphenyl	3964848	4175789	5.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2861203	-1.8
Hexabromobiphenyl	2801720	2797797	-0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	271410	238.7	1	7.786	0.001	393153	247.9
Aroclor-1016	2	7.838	0.000	862752	239.1	2	8.355	0.001	796500	247.3
Aroclor-1016	3	7.974	0.001	352765	238.0	3	8.549	0.002	332565	245.9
Aroclor-1016	4	8.287	0.001	232918	236.7	4	9.190	0.001	248432	249.4
Total CollAve (4 peaks):				238.1		Total Col2Ave (4 peaks):				247.6 RPD = 4
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				247.1 RPD = 4
Aroclor-1221	1	---			0.0	1	5.653	0.000	1405	5.5
Aroclor-1221	2	6.553	-0.000	65944	174.2	2	6.880	0.001	59366	114.2
Aroclor-1221	3	6.639	-0.001	198879	185.2	3	7.088	-0.000	38208	136.5
CollAve: <3 Quant Peaks						Col2Ave:				85.4
Aroclor-1232	1	---			0.0	1	5.653	0.000	1405	9.4
Aroclor-1232	2	7.483	-0.000	271410	542.7	2	7.786	-0.000	393153	533.0
Aroclor-1232	3	7.838	0.002	862752	558.9	3	8.355	-0.002	796500	575.4
Aroclor-1232	4	7.974	-0.001	352765	547.1	4	8.549	-0.001	332565	572.5
Total CollAve (3 peaks):				549.6		Total Col2Ave (4 peaks):				422.6 RPD = 26
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				371.6
Aroclor-1242	1	7.483	0.001	271410	302.8	1	7.786	0.002	393153	309.5
Aroclor-1242	2	7.838	0.001	862752	304.6	2	8.355	0.001	796500	307.2
Aroclor-1242	3	9.074	0.002	109530	106.5	3	9.690	0.001	31243	37.0
Aroclor-1242	4	9.350	-0.000	34888	31.0	4	10.031	0.001	13070	12.6
Total CollAve (4 peaks):				186.2		Total Col2Ave (4 peaks):				166.6 RPD = 11
Corrected Ave (3 peaks):				146.8		Corrected Ave (3 peaks):				118.9 RPD = 21
Aroclor-1248	1	8.567	0.002	281188	191.8	1	8.793	0.001	191628	176.0
Aroclor-1248	2	8.729	0.002	363820	204.9	2	9.190	0.000	248432	191.5
Aroclor-1248	3	9.133	0.007	221882	100.7	3	9.586	-0.026	108334	63.3
Aroclor-1248	4	9.350	0.001	34888	21.2	4	10.031	0.002	13070	7.7
Total CollAve (4 peaks):				129.7		Total Col2Ave (4 peaks):				109.6 RPD = 17
Corrected Ave (3 peaks):				104.6		Corrected Ave (3 peaks):				82.4 RPD = 24
Aroclor-1254	1	9.133	0.000	221882	112.9	1	9.904	0.001	150765	86.8
Aroclor-1254	2	9.424	0.002	204233	77.3	2	10.031	0.036	13070	14.3
Aroclor-1254	3	---			0.0	3	10.417	0.002	20814	15.6
Aroclor-1254	4	9.778	0.000	28261	16.2	4	10.592	0.029	383189	132.3
Aroclor-1254	5	9.879	-0.029	205020	59.7	5	11.340	0.008	170588	95.9
Total CollAve (4 peaks):				66.5		Total Col2Ave (5 peaks):				69.0 RPD = 4
Corrected Ave (3 peaks):				51.1		Corrected Ave (4 peaks):				53.2 RPD = 4
Aroclor-1260	1	11.428	0.000	634865	259.4	1	11.631	0.002	451019	269.2
Aroclor-1260	2	11.788	0.000	1575178	257.5	2	12.082	0.001	508923	250.6
Aroclor-1260	3	12.183	0.001	800252	241.6	3	12.337	0.001	1063607	263.6
Aroclor-1260	4	12.291	0.001	371402	272.5	4	13.639	0.001	308000	283.0
Aroclor-1260	5	12.364	0.002	452641	282.6	NS	---			----
Total CollAve (5 peaks):				262.7		Total Col2Ave (4 peaks):				266.6 RPD = 1
Corrected Ave (4 peaks):				257.8		Corrected Ave (3 peaks):				261.1 RPD = 1
Aroclor-1262	1	11.119	0.000	624803	175.2	1	11.631	-0.000	451019	174.8
Aroclor-1262	2	11.788	-0.000	1575178	206.5	2	12.082	0.001	508923	252.4
Aroclor-1262	3	12.183	0.000	800252	300.5	3	12.337	0.000	1063607	206.4
Aroclor-1262	4	12.291	-0.000	371402	158.7	4	12.856	0.002	323033	176.8
Aroclor-1262	5	12.364	0.001	452641	166.5	NS	---			----
Total CollAve (5 peaks):				201.5		Total Col2Ave (4 peaks):				202.6 RPD = 1
Corrected Ave (4 peaks):				176.7		Corrected Ave (3 peaks):				186.0 RPD = 5
Aroclor-1268	1	12.291	-0.000	371402	46.1	1	12.856	0.003	323033	61.6
Aroclor-1268	2	12.364	0.002	452641	58.7	2	12.919	-0.001	744424	143.0
Aroclor-1268	3	12.760	0.020	216757	31.6	3	13.316	-0.000	17319	4.0
Aroclor-1268	4	13.510	-0.001	118822	6.2	4	14.124	0.000	76750	6.0
Total CollAve (4 peaks):				35.6		Total Col2Ave (4 peaks):				53.7 RPD = 40*

Corrected Ave (3 peaks): 28.0 Corrected Ave (3 peaks): 23.9 RPD = 16

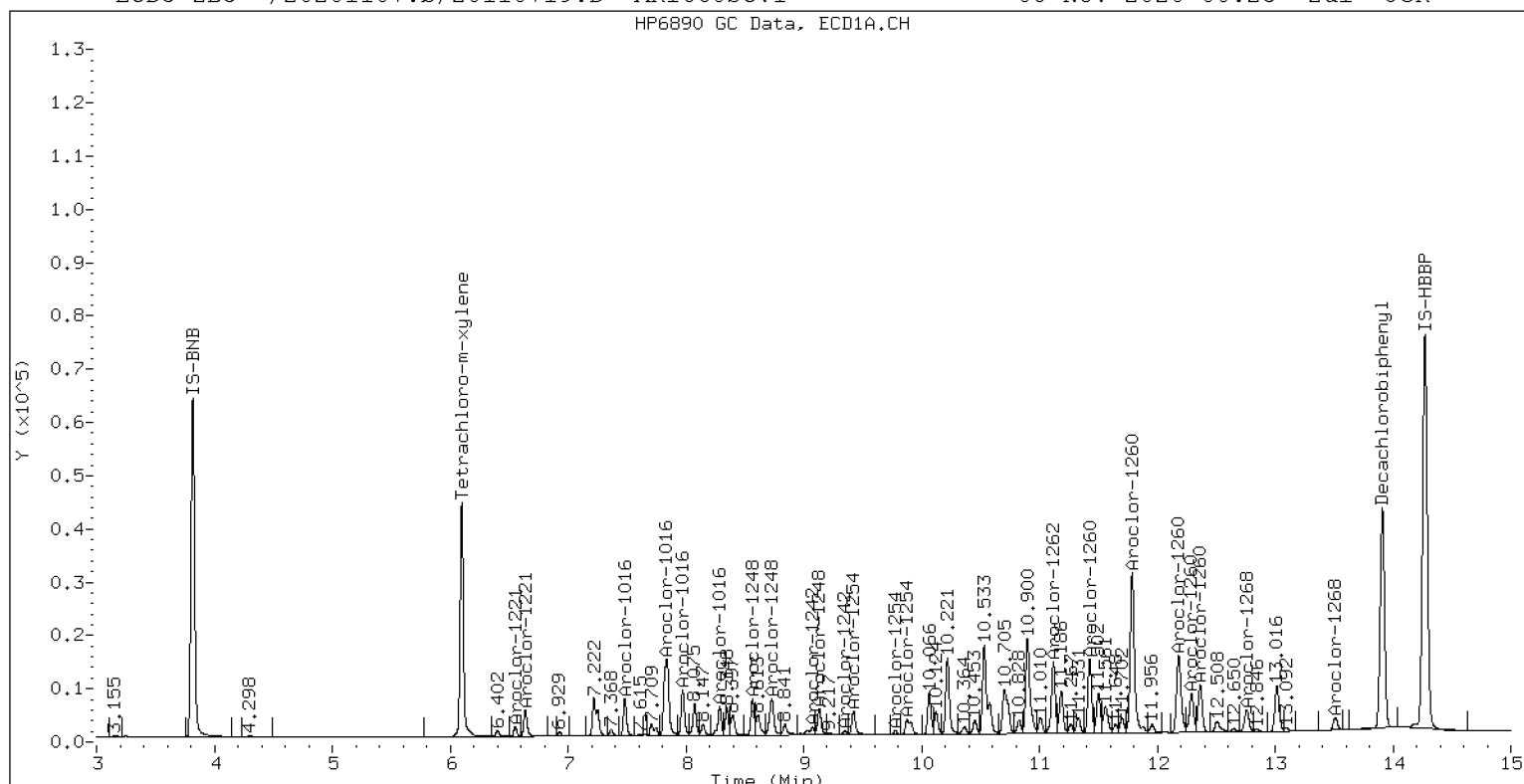
Total PCB Area Col1 (6.199 - 13.810) = 16176119 Col1 Total PCB = 0.52 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13815410 Col2 Total PCB = 0.51 ppm*

* Quantitated against AR1660 0.25ppm in Ical

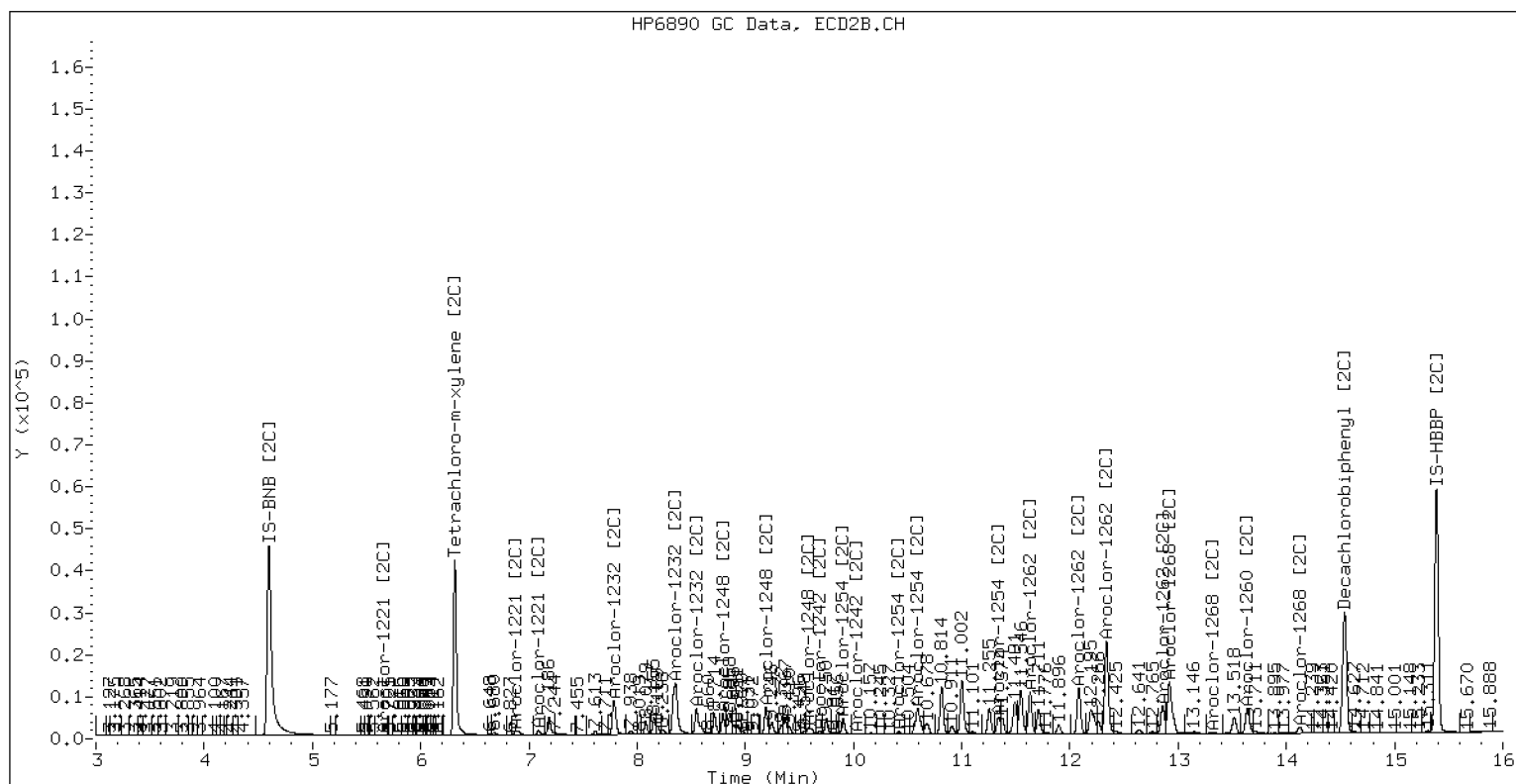
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110719.D AR1660SCV1 08-NOV-2020 00:25 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110719.D AR1660SCV1



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DK00033

Laboratory ID: SIK0223-SCV2

Sequence: SIK0223

Sequence Name: AR1242SCV2

Standard ID: I005064

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	228	-8.8	20.00
Aroclor 1242 [2C]	250.00	230	-8.0	20.00
Decachlorobiphenyl	40.000	42.7	6.7	20.00
Tetrachlorometaxylene	40.000	42.1	5.2	20.00
Decachlorobiphenyl [2C]	40.000	43.3	8.3	20.00
Tetrachlorometaxylene [2C]	40.000	43.8	9.5	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110720.D
Data file 2: /20201107.b/20201107.b/20110720.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1242SCV2
Client ID:
Injection Date: 08-NOV-2020 00:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000 1717953	6.316 -0.000 1629017	6.316	42.1	43.8	4.0	Tetrachloro-m-xylene
13.911	0.000 2113749	14.537 -0.001 1521236	14.537	42.7	43.3	1.5	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	105.2	109.5
Decachlorobiphenyl	106.7	108.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2793790	3.4
Hexabromobiphenyl	3964848	4185237	5.6

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2890341	-0.8
Hexabromobiphenyl	2801720	2818155	0.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	211136	184.8	1	7.785	-0.000	305654	190.8
Aroclor-1016	2	7.838	0.000	665613	183.6	2	8.355	0.000	616121	189.4
Aroclor-1016	3	7.973	0.001	274102	184.1	3	8.548	0.001	256320	187.6
Aroclor-1016	4	8.287	0.001	189075	191.2	4	9.190	0.001	201588	200.4
Total CollAve (4 peaks):				186.0		Total Col2Ave (4 peaks):				192.0 RPD = 3
Corrected Ave (3 peaks):				184.2		Corrected Ave (3 peaks):				189.3 RPD = 3
Aroclor-1221	1	---			0.0	1	5.654	0.001	1313	5.1
Aroclor-1221	2	6.553	-0.000	55656	146.3	2	6.881	0.001	23212	44.2
Aroclor-1221	3	6.639	-0.001	153135	142.0	3	7.087	-0.001	29111	103.0
CollAve: <3 Quant Peaks						Col2Ave:				50.8
Aroclor-1232	1	---			0.0	1	5.654	0.001	1313	8.7
Aroclor-1232	2	7.482	-0.001	211136	420.2	2	7.785	-0.001	305654	410.2
Aroclor-1232	3	7.838	0.002	665613	429.2	3	8.355	-0.002	616121	440.6
Aroclor-1232	4	7.973	-0.001	274102	423.2	4	8.548	-0.001	256320	436.8
Total CollAve (3 peaks):				424.2		Total Col2Ave (4 peaks):				324.1 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				285.2
Aroclor-1242	1	7.482	0.001	211136	234.5	1	7.785	0.001	305654	238.2
Aroclor-1242	2	7.838	0.001	665613	233.9	2	8.355	0.000	616121	235.2
Aroclor-1242	3	9.073	0.001	234060	226.5	3	9.690	0.000	187475	219.6
Aroclor-1242	4	9.351	0.001	245095	217.0	4	10.031	0.001	238760	227.2
Total CollAve (4 peaks):				228.0		Total Col2Ave (4 peaks):				230.0 RPD = 1
Corrected Ave (3 peaks):				225.8		Corrected Ave (3 peaks):				227.3 RPD = 1
Aroclor-1248	1	8.567	0.002	235033	159.6	1	8.792	0.000	157624	143.3
Aroclor-1248	2	8.730	0.002	304694	170.8	2	9.190	0.001	201588	153.8
Aroclor-1248	3	9.127	0.001	323003	145.9	3	9.613	0.001	241767	139.9
Aroclor-1248	4	9.351	0.002	245095	148.4	4	10.031	0.002	238760	139.3
Total CollAve (4 peaks):				156.2		Total Col2Ave (4 peaks):				144.1 RPD = 8
Corrected Ave (3 peaks):				151.3		Corrected Ave (3 peaks):				140.8 RPD = 7
Aroclor-1254	1	9.127	-0.006	323003	163.7	1	9.904	0.001	78354	44.6
Aroclor-1254	2	9.422	-0.000	149967	56.5	2	10.031	0.035	238760	259.4
Aroclor-1254	3	9.495	0.000	69968	69.3	3	10.417	0.001	61615	45.8
Aroclor-1254	4	9.779	0.001	86289	49.2	4	10.565	0.001	125332	42.8
Aroclor-1254	5	9.911	0.003	155572	45.1	5	11.332	0.001	80027	44.5
Total CollAve (5 peaks):				76.8		Total Col2Ave (5 peaks):				87.4 RPD = 13
Corrected Ave (4 peaks):				55.0		Corrected Ave (4 peaks):				44.5 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	3176	1.9
Aroclor-1260	2	---			0.0	2	12.088	0.007	16451	8.0
Aroclor-1260	3	---			0.0	3	12.343	0.007	8463	2.1
Aroclor-1260	4	---			0.0	4	13.644	0.007	789	0.7
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.2
Aroclor-1262	1	---			0.0	1	11.633	0.002	3176	1.2
Aroclor-1262	2	---			0.0	2	12.088	0.006	16451	8.1
Aroclor-1262	3	---			0.0	3	12.343	0.006	8463	1.6
Aroclor-1262	4	---			0.0	4	12.856	0.002	2240	1.2
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				3.0
Aroclor-1268	1	---			0.0	1	12.856	0.003	2240	0.4
Aroclor-1268	2	---			0.0	2	12.921	0.000	6254	1.2
Aroclor-1268	3	12.742	0.002	13242	1.9	3	13.317	0.001	7230	1.7
Aroclor-1268	4	13.512	0.001	12975	0.7	4	14.123	-0.000	15318	1.2
CollAve: <3 Quant Peaks						Col2Ave:				1.1

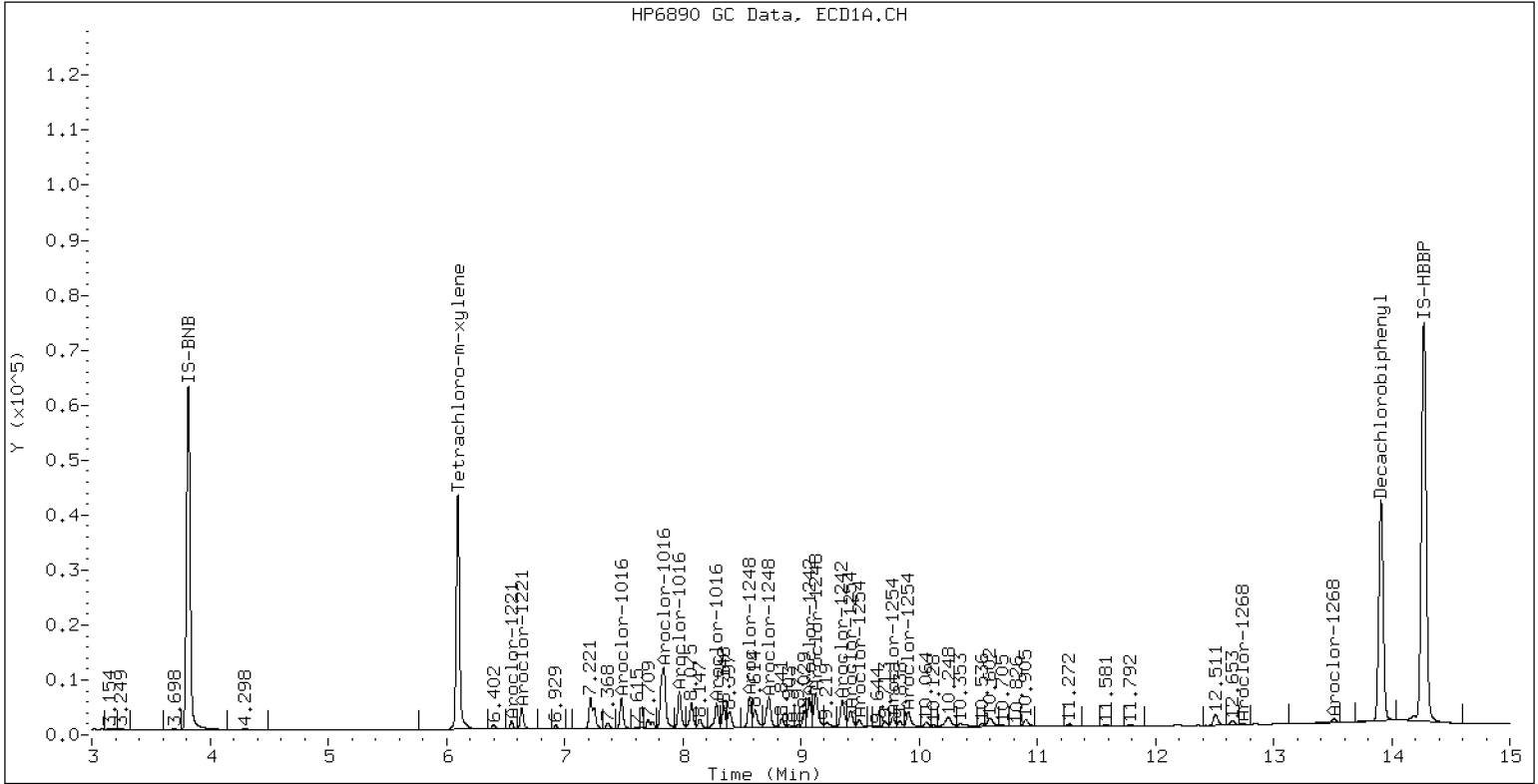
Total PCB Area Col1 (6.199 - 13.810) = 5771112 Col1 Total PCB = 0.18 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 6429126 Col2 Total PCB = 0.24 ppm*

* Quantitated against AR1660 0.25ppm in Ical

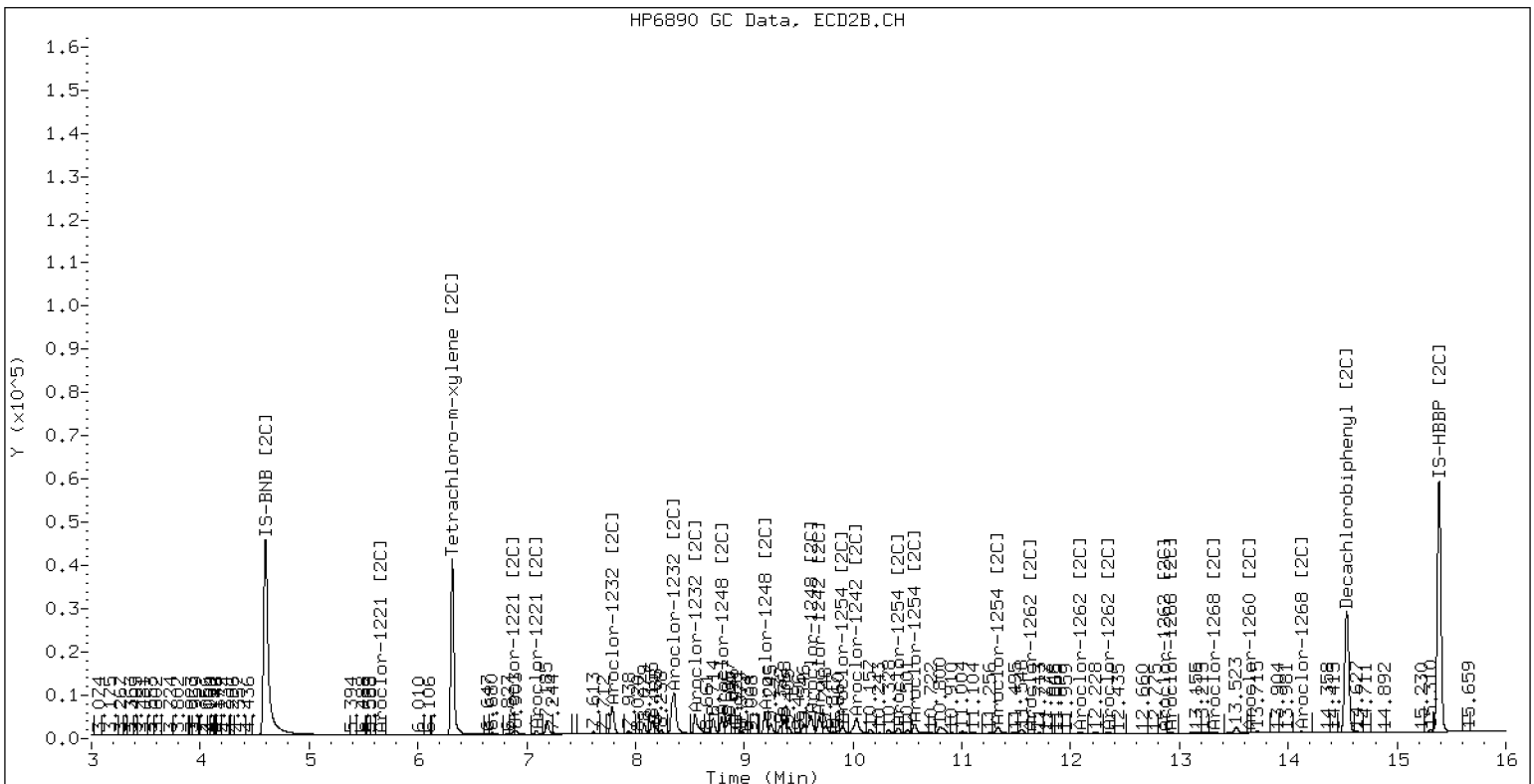
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110720.D AR1242SCV2 08-NOV-2020 00:45 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110720.D AR1242SCV2



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV3

Sequence: SIK0223

Sequence Name: AR1248SCV3

Standard ID: I005065

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	243	-2.6	20.00
Aroclor 1248 [2C]	250.00	242	-3.1	20.00
Decachlorobiphenyl	40.000	44.1	10.3	20.00
Tetrachlorometaxylene	40.000	43.3	8.2	20.00
Decachlorobiphenyl [2C]	40.000	44.9	12.2	20.00
Tetrachlorometaxylene [2C]	40.000	45.4	13.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110721.D
Data file 2: /20201107.b/20201107.b/20110721.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1248SCV3
Client ID:
Injection Date: 08-NOV-2020 01:06
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1786187	6.316 -0.000 1715006	43.3	45.4	4.7	Tetrachloro-m-xylene	
13.911	0.001 2163167	14.537 -0.001 1579646	44.1	44.9	1.7	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	108.2	113.4
Decachlorobiphenyl	110.3	112.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2823266	4.4
Hexabromobiphenyl	3964848	4141310	4.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2937664	0.8
Hexabromobiphenyl	2801720	2824274	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	-0.000	112728	97.7	1	7.784	-0.001	171068	105.0
Aroclor-1016	2	7.833	-0.004	467725	127.7	2	8.353	-0.001	437428	132.3
Aroclor-1016	3	7.975	0.002	176217	117.1	3	8.549	0.002	107682	77.6
Aroclor-1016	4	8.287	0.000	311646	311.9	4	9.191	0.001	326638	319.4
Total CollAve (4 peaks):				163.6		Total Col2Ave (4 peaks):				158.6 RPD = 3
Corrected Ave (3 peaks):				114.2		Corrected Ave (3 peaks):				105.0 RPD = 8
Aroclor-1221	1	---			0.0	1	5.647	-0.006	423	1.6
Aroclor-1221	2	6.553	-0.001	33908	88.2	2	6.906	0.027	30771	57.7
Aroclor-1221	3	6.639	-0.001	38833	35.6	3	7.088	-0.000	6801	23.7
CollAve: <3 Quant Peaks						Col2Ave:				27.6
Aroclor-1232	1	---			0.0	1	5.647	-0.006	423	2.8
Aroclor-1232	2	7.482	-0.001	112728	222.0	2	7.784	-0.002	171068	225.9
Aroclor-1232	3	7.833	-0.003	467725	298.5	3	8.353	-0.003	437428	307.8
Aroclor-1232	4	7.975	0.001	176217	269.2	4	8.549	-0.001	107682	180.5
Total CollAve (3 peaks):				263.2		Total Col2Ave (4 peaks):				179.2 RPD = 38
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				136.4
Aroclor-1242	1	7.482	0.001	112728	123.9	1	7.784	0.000	171068	131.2
Aroclor-1242	2	7.833	-0.003	467725	162.7	2	8.353	-0.001	437428	164.3
Aroclor-1242	3	9.073	0.001	419207	401.4	3	9.690	0.000	315629	363.7
Aroclor-1242	4	9.351	0.000	399904	350.4	4	10.030	-0.000	414188	387.7
Total CollAve (4 peaks):				259.6		Total Col2Ave (4 peaks):				261.7 RPD = 1
Corrected Ave (3 peaks):				212.3		Corrected Ave (3 peaks):				219.7 RPD = 3
Aroclor-1248	1	8.566	0.001	367978	247.3	1	8.792	0.000	272694	244.0
Aroclor-1248	2	8.728	0.001	439292	243.7	2	9.191	0.001	326638	245.2
Aroclor-1248	3	9.127	0.001	544503	243.4	3	9.613	0.001	425322	242.2
Aroclor-1248	4	9.351	0.001	399904	239.5	4	10.030	0.000	414188	237.7
Total CollAve (4 peaks):				243.5		Total Col2Ave (4 peaks):				242.3 RPD = 0
Corrected Ave (3 peaks):				242.2		Corrected Ave (3 peaks):				241.3 RPD = 0
Aroclor-1254	1	9.127	-0.006	544503	273.0	1	9.904	0.001	144626	81.1
Aroclor-1254	2	9.421	-0.001	284837	106.2	2	10.030	0.034	414188	442.7
Aroclor-1254	3	9.495	0.000	141607	138.7	3	10.417	0.001	134890	98.7
Aroclor-1254	4	9.778	-0.000	178065	100.5	4	10.565	0.001	248044	83.4
Aroclor-1254	5	9.909	0.001	307474	88.3	5	11.329	-0.002	164143	89.9
Total CollAve (5 peaks):				141.3		Total Col2Ave (5 peaks):				159.1 RPD = 12
Corrected Ave (4 peaks):				108.4		Corrected Ave (4 peaks):				88.2 RPD = 21
Aroclor-1260	1	---			0.0	1	11.633	0.004	9633	5.7
Aroclor-1260	2	---			0.0	2	12.086	0.005	21593	10.5
Aroclor-1260	3	---			0.0	3	12.342	0.006	17338	4.3
Aroclor-1260	4	---			0.0	4	13.641	0.004	5300	4.8
Aroclor-1260	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				6.3
Aroclor-1262	1	11.121	0.003	12856	3.6	1	11.633	0.002	9633	3.7
Aroclor-1262	2	11.792	0.004	25800	3.4	2	12.086	0.005	21593	10.6
Aroclor-1262	3	---			0.0	3	12.342	0.005	17338	3.3
Aroclor-1262	4	---			0.0	4	12.856	0.002	7295	4.0
Aroclor-1262	5	---			0.0	NS	---			----
CollAve: <3 Quant Peaks						Col2Ave:				5.4
Aroclor-1268	1	---			0.0	1	12.856	0.003	7295	1.4
Aroclor-1268	2	---			0.0	2	12.922	0.002	12264	2.3
Aroclor-1268	3	---			0.0	3	13.317	0.001	7874	1.8
Aroclor-1268	4	---			0.0	4	14.123	-0.001	18089	1.4
CollAve: <3 Quant Peaks						Col2Ave:				1.7

Total PCB Area Col1 (6.199 - 13.810) = 7128733 Col1 Total PCB = 0.23 ppm*

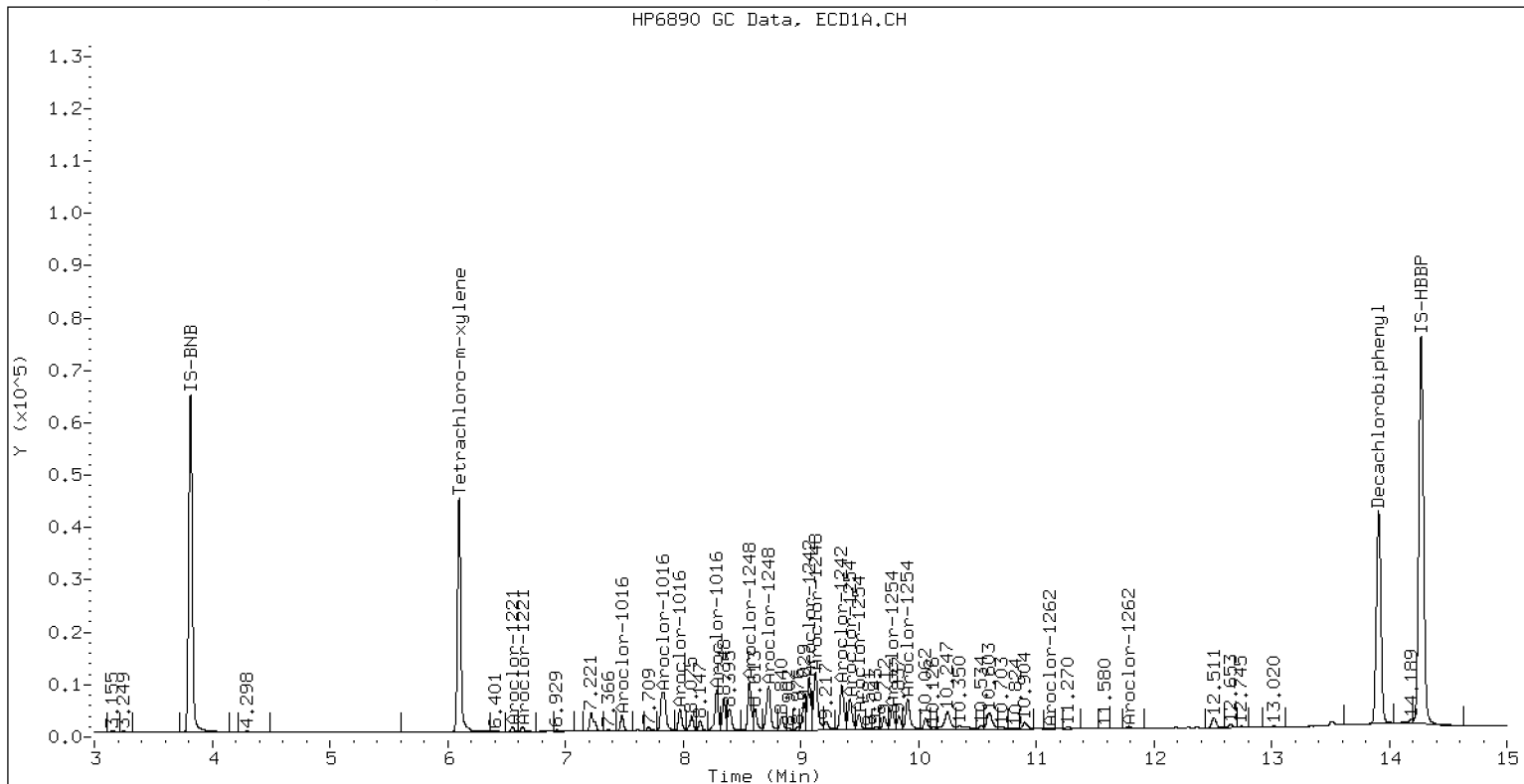
Total PCB Area Col2 (6.199 - 13.810) = 7597936 Col2 Total PCB = 0.28 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

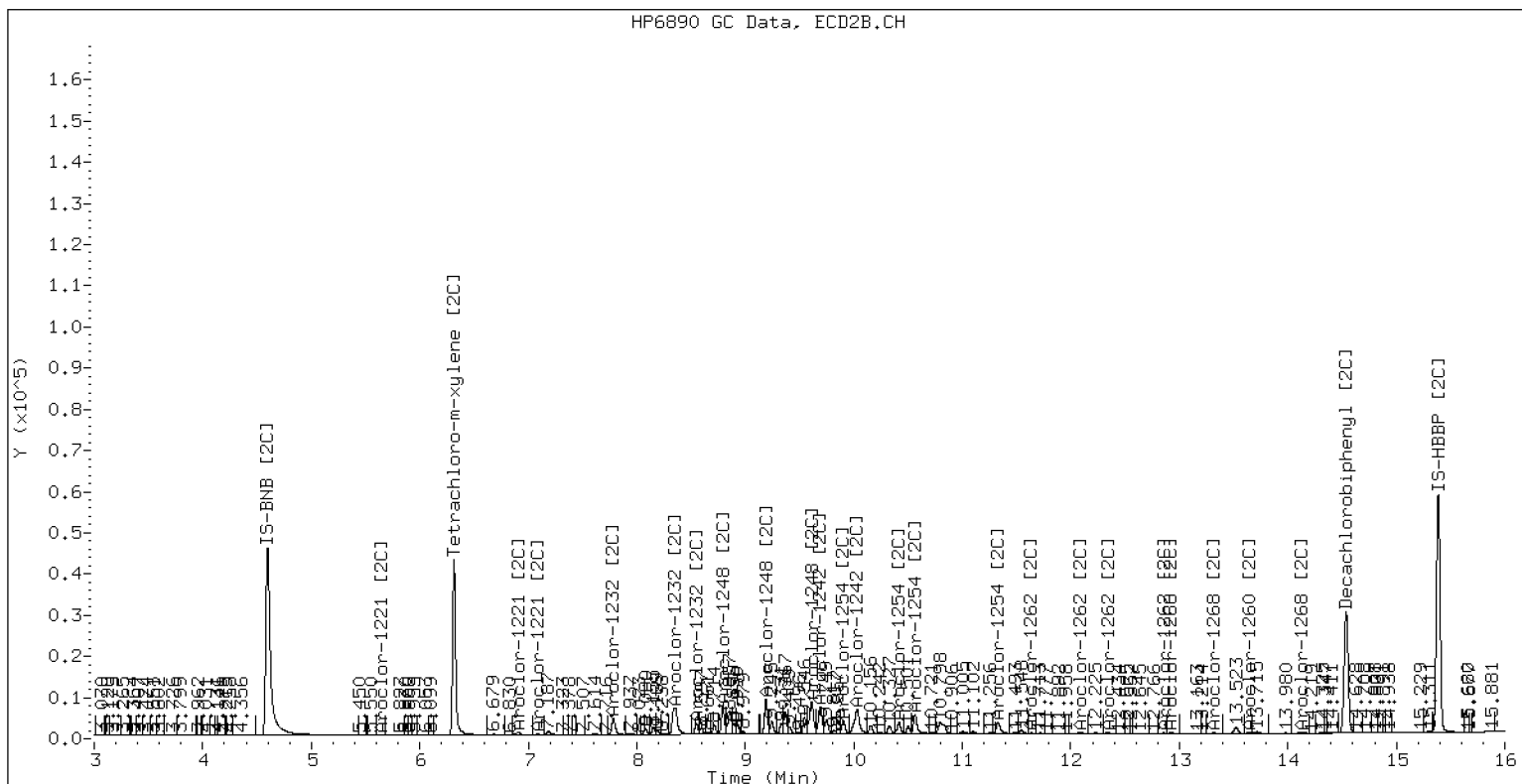
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110721.D AR1248SCV3
08-NOV-2020 01:06 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110721.D AR1248SCV3



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV4

Sequence: SIK0223

Sequence Name: AR1254SCV4

Standard ID: I005066

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	249	-0.2	20.00
Aroclor 1254 [2C]	250.00	259	3.6	20.00
Decachlorobiphenyl	40.000	41.9	4.7	20.00
Tetrachlorometaxylene	40.000	41.8	4.6	20.00
Decachlorobiphenyl [2C]	40.000	43.1	7.8	20.00
Tetrachlorometaxylene [2C]	40.000	43.7	9.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110722.D
Data file 2: /20201107.b/20201107.b/20110722.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR1254SCV4
Client ID:
Injection Date: 08-NOV-2020 01:27
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.000	1712019	6.316	41.8	43.7	4.5	Tetrachloro-m-xylene
13.910	0.000	2083333	14.538	41.9	43.1	2.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	104.6	109.4
Decachlorobiphenyl	104.7	107.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2799459	3.6
Hexabromobiphenyl	3964848	4200846	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2919916	0.2
Hexabromobiphenyl	2801720	2840178	1.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	---			0.0	1	7.785	0.000	6697	4.1	
Aroclor-1016	2	7.828	-0.009	17542	4.8	2	8.346	-0.008	16385	5.0	
Aroclor-1016	3	---			0.0	3	8.552	0.005	3112	2.3	
Aroclor-1016	4	8.288	0.001	219577	221.6	4	9.191	0.002	128927	126.8	
CollAve: <3 Quant Peaks						Col2Ave: 34.6					
Aroclor-1221	1	---			0.0	1	5.624	-0.029	291	1.1	
Aroclor-1221	2	---			0.0	2	6.907	0.027	25274	47.7	
Aroclor-1221	3	---			0.0	3	7.088	-0.000	1944	6.8	
CollAve: <3 Quant Peaks						Col2Ave: 18.5					
Aroclor-1232	1	---			0.0	1	5.624	-0.029	291	1.9	
Aroclor-1232	2	---			0.0	2	7.785	-0.001	6697	8.9	
Aroclor-1232	3	---			0.0	3	8.346	-0.011	16385	11.6	
Aroclor-1232	4	---			0.0	4	8.552	0.003	3112	5.2	
CollAve: <3 Quant Peaks						Col2Ave: 6.9					
Aroclor-1242	1	---			0.0	1	7.785	0.001	6697	5.2	
Aroclor-1242	2	7.828	-0.008	17542	6.2	2	8.346	-0.008	16385	6.2	
Aroclor-1242	3	9.074	0.002	256329	247.5	3	9.690	0.000	60213	69.8	
Aroclor-1242	4	9.349	-0.001	156541	138.3	4	9.996	-0.034	242815	228.7	
Total CollAve (3 peaks):				130.7	Total Col2Ave (4 peaks):				77.5	RPD = 51*	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				27.1		
Aroclor-1248	1	8.566	0.001	164978	111.8	1	8.793	0.001	197910	178.2	
Aroclor-1248	2	8.730	0.002	71828	40.2	2	9.191	0.002	128927	97.4	
Aroclor-1248	3	9.133	0.007	486586	219.4	3	9.614	0.002	177038	101.4	
Aroclor-1248	4	9.349	-0.000	156541	94.6	4	9.996	-0.034	242815	140.2	
Total CollAve (4 peaks):				116.5	Total Col2Ave (4 peaks):				129.3	RPD = 10	
Corrected Ave (3 peaks):				82.2	Corrected Ave (3 peaks):				113.0	RPD = 32	
Aroclor-1254	1	9.133	-0.000	486586	246.0	1	9.903	0.000	444834	250.8	
Aroclor-1254	2	9.422	0.000	662853	249.3	2	9.996	0.000	242815	261.1	
Aroclor-1254	3	9.495	0.000	257899	254.8	3	10.416	0.001	341296	251.2	
Aroclor-1254	4	9.778	-0.001	441415	251.2	4	10.564	0.001	727860	246.2	
Aroclor-1254	5	9.908	-0.000	848738	245.7	5	11.333	0.001	519064	285.9	
Total CollAve (5 peaks):				249.4	Total Col2Ave (5 peaks):				259.0	RPD = 4	
Corrected Ave (4 peaks):				248.0	Corrected Ave (4 peaks):				252.3	RPD = 2	
Aroclor-1260	1	11.430	0.002	64854	26.3	1	11.631	0.001	37091	21.8	
Aroclor-1260	2	11.790	0.002	138049	22.4	2	12.086	0.005	205656	99.8	
Aroclor-1260	3	12.185	0.004	133982	40.2	3	12.341	0.005	116574	28.5	
Aroclor-1260	4	---			0.0	4	13.640	0.003	4165	3.8	
Aroclor-1260	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				29.7	Total Col2Ave (4 peaks):				38.4	RPD = 26	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				18.0		
Aroclor-1262	1	11.118	-0.001	59307	16.5	1	11.631	-0.000	37091	14.2	
Aroclor-1262	2	11.790	0.002	138049	18.0	2	12.086	0.005	205656	100.5	
Aroclor-1262	3	12.185	0.003	133982	50.0	3	12.341	0.004	116574	22.3	
Aroclor-1262	4	---			0.0	4	12.864	0.009	14192	7.7	
Aroclor-1262	5	---			0.0	NS	---			---	
Total CollAve (3 peaks):				28.2	Total Col2Ave (4 peaks):				36.1	RPD = 25	
Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				14.7		
Aroclor-1268	1	---			0.0	1	12.864	0.010	14192	2.7	
Aroclor-1268	2	---			0.0	2	12.920	-0.000	81668	15.5	
Aroclor-1268	3	---			0.0	3	13.317	0.000	7030	1.6	
Aroclor-1268	4	---			0.0	4	14.124	-0.000	15811	1.2	
CollAve: <3 Quant Peaks						Col2Ave: 5.2					

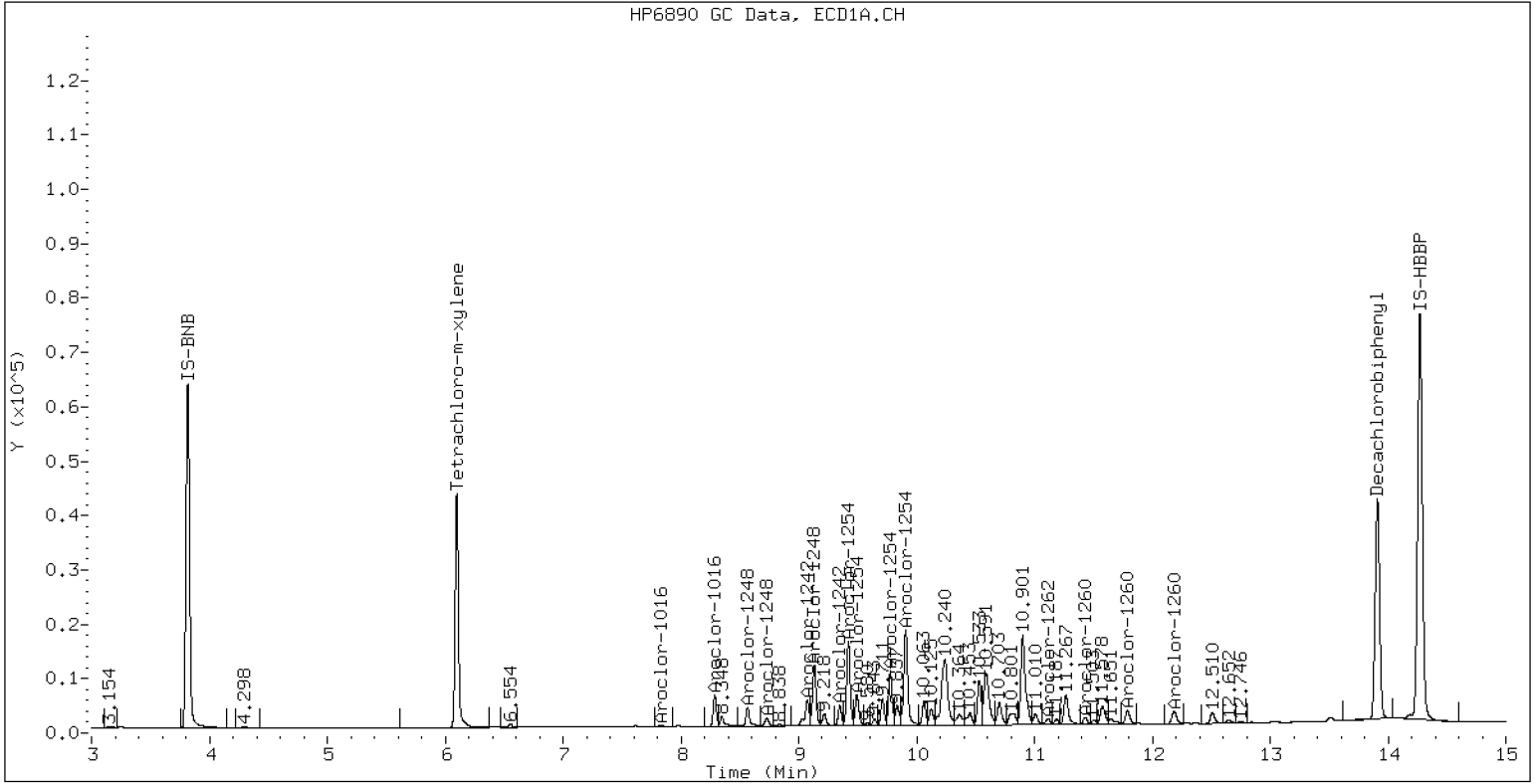
Total PCB Area Col1 (6.199 - 13.810) = 9405930 Col1 Total PCB = 0.30 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 8871291 Col2 Total PCB = 0.33 ppm*

* Quantitated against AR1660 0.25ppm in Ical

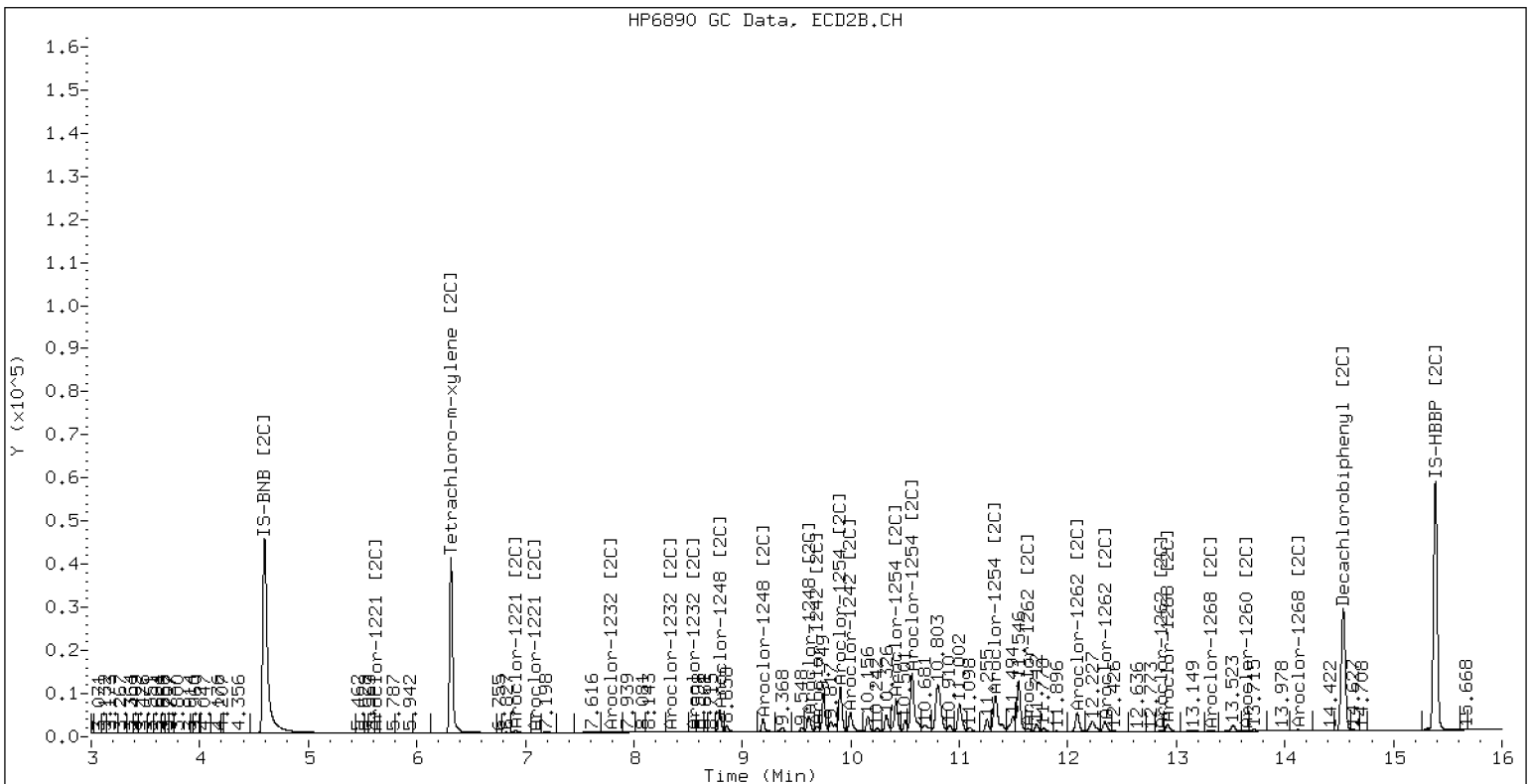
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110722.D AR1254SCV4 08-NOV-2020 01:27 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110722.D AR1254SCV4



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DK00033

Laboratory ID: SIK0223-SCV5

Sequence: SIK0223

Sequence Name: AR2162SCV5

Standard ID: I005067

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	247	-1.0	20.00
Aroclor 1221 [2C]	250.00	240	-3.9	20.00
Aroclor 1262	250.00	259	3.7	20.00
Aroclor 1262 [2C]	250.00	271	8.3	20.00
Decachlorobiphenyl	40.000	42.8	7.1	20.00
Tetrachlorometaxylene	40.000	42.8	7.1	20.00
Decachlorobiphenyl [2C]	40.000	44.0	10.0	20.00
Tetrachlorometaxylene [2C]	40.000	44.1	10.3	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110723.D
Data file 2: /20201107.b/20201107.b/20110723.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR2162SCV5
Client ID:
Injection Date: 08-NOV-2020 01:47
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1737995	6.316 -0.000 1613562	42.8	44.1	3.0	Tetrachloro-m-xylene
13.910	-0.000 2134891	14.538 -0.000 1538406	42.8	44.0	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.1	110.3
Decachlorobiphenyl	107.1	110.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2776223	2.7
Hexabromobiphenyl	3964848	4210359	6.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2842470	-2.5
Hexabromobiphenyl	2801720	2805318	0.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	30410	26.8	1	7.788	0.003	65236	41.4
Aroclor-1016	2	7.839	0.002	81443	22.6	2	8.357	0.003	70881	22.2
Aroclor-1016	3	7.974	0.001	38317	25.9	3	8.550	0.003	33386	24.9
Aroclor-1016	4	8.287	0.001	19732	20.1	4	9.192	0.002	15613	15.8
Total CollAve (4 peaks):				23.8	Total Col2Ave (4 peaks):				26.0	RPD = 9
Corrected Ave (3 peaks):				22.9	Corrected Ave (3 peaks):				20.9	RPD = 9
Aroclor-1221	1	5.080	-0.001	66212	248.5	1	5.653	-0.000	60198	236.4
Aroclor-1221	2	6.553	-0.001	95038	251.4	2	6.879	-0.001	126187	244.4
Aroclor-1221	3	6.639	-0.001	259584	242.2	3	7.088	-0.001	66732	240.0
Total CollAve (3 peaks):				247.4	Total Col2Ave (3 peaks):				240.3	RPD = 3
Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks					
Aroclor-1232	1	5.080	-0.001	66212	416.5	1	5.653	-0.001	60198	405.1
Aroclor-1232	2	7.483	-0.000	30410	60.9	2	7.788	0.002	65236	89.0
Aroclor-1232	3	7.839	0.003	81443	52.9	3	8.357	0.001	70881	51.5
Aroclor-1232	4	7.974	-0.000	38317	59.5	4	8.550	0.001	33386	57.8
Total CollAve (4 peaks):				147.5	Total Col2Ave (4 peaks):				150.9	RPD = 2
Corrected Ave (3 peaks):				57.8	Corrected Ave (3 peaks):				66.1	RPD = 14
Aroclor-1242	1	7.483	0.002	30410	34.0	1	7.788	0.004	65236	51.7
Aroclor-1242	2	7.839	0.003	81443	28.8	2	8.357	0.003	70881	27.5
Aroclor-1242	3	9.076	0.003	30780	30.0	3	9.693	0.004	11440	13.6
Aroclor-1242	4	9.351	0.001	23491	20.9	4	10.032	0.002	13795	13.3
Total CollAve (4 peaks):				28.4	Total Col2Ave (4 peaks):				26.5	RPD = 7
Corrected Ave (3 peaks):				26.6	Corrected Ave (3 peaks):				18.2	RPD = 38
Aroclor-1248	1	8.567	0.002	23731	16.2	1	8.793	0.001	18603	17.2
Aroclor-1248	2	8.730	0.003	25406	14.3	2	9.192	0.002	15613	12.1
Aroclor-1248	3	9.133	0.008	101088	46.0	3	9.616	0.004	20274	11.9
Aroclor-1248	4	9.351	0.002	23491	14.3	4	10.032	0.003	13795	8.2
Total CollAve (4 peaks):				22.7	Total Col2Ave (4 peaks):				12.4	RPD = 59*
Corrected Ave (3 peaks):				15.0	Corrected Ave (3 peaks):				10.7	RPD = 33
Aroclor-1254	1	9.133	0.000	101088	51.5	1	9.904	0.001	85281	49.4
Aroclor-1254	2	9.424	0.002	108135	41.0	2	9.999	0.003	11045	12.2
Aroclor-1254	3	9.496	0.001	17294	17.2	3	10.418	0.002	18195	13.8
Aroclor-1254	4	9.779	0.001	23497	13.5	4	10.593	0.030	346886	120.5
Aroclor-1254	5	9.879	-0.029	149776	43.7	5	11.376	0.044	326997	185.0
Total CollAve (5 peaks):				33.4	Total Col2Ave (5 peaks):				76.2	RPD = 78*
Corrected Ave (4 peaks):				28.9	Corrected Ave (4 peaks):				49.0	RPD = 52*
Aroclor-1260	1	11.429	0.001	741770	300.6	1	11.631	0.002	638841	380.3
Aroclor-1260	2	11.788	0.001	1731968	280.8	2	12.081	-0.000	610611	299.9
Aroclor-1260	3	12.183	0.001	610779	182.9	3	12.338	0.002	1183981	292.6
Aroclor-1260	4	12.291	0.000	743514	541.1	4	13.639	0.001	494159	452.8
Aroclor-1260	5	12.364	0.001	780256	483.1	NS	---			----
Total CollAve (5 peaks):				357.7	Total Col2Ave (4 peaks):				356.4	RPD = 0
Corrected Ave (4 peaks):				311.8	Corrected Ave (3 peaks):				324.3	RPD = 4
Aroclor-1262	1	11.119	0.001	875129	243.4	1	11.631	-0.000	638841	246.9
Aroclor-1262	2	11.788	0.000	1731968	225.1	2	12.081	-0.000	610611	302.0
Aroclor-1262	3	12.183	0.000	610779	227.4	3	12.338	0.001	1183981	229.2
Aroclor-1262	4	12.291	-0.000	743514	315.2	4	12.855	0.000	557952	304.5
Aroclor-1262	5	12.364	0.000	780256	284.6	NS	---			----
Total CollAve (5 peaks):				259.1	Total Col2Ave (4 peaks):				270.7	RPD = 4
Corrected Ave (4 peaks):				245.1	Corrected Ave (3 peaks):				259.4	RPD = 6
Aroclor-1268	1	12.291	-0.000	743514	91.5	1	12.855	0.001	557952	106.0
Aroclor-1268	2	12.364	0.002	780256	100.3	2	12.920	0.000	853918	163.6
Aroclor-1268	3	12.758	0.019	326534	47.2	3	13.316	-0.000	41584	9.7
Aroclor-1268	4	13.510	-0.000	278331	14.4	4	14.123	-0.001	178527	14.0

Total Col1Ave (4 peaks):	63.3	Total Col2Ave (4 peaks):	73.3	RPD = 15
Corrected Ave (3 peaks):	51.0	Corrected Ave (3 peaks):	43.2	RPD = 17

Total PCB Area Col1 (6.199 - 13.810) = 13102993 Col1 Total PCB = 0.42 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 10950200 Col2 Total PCB = 0.40 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

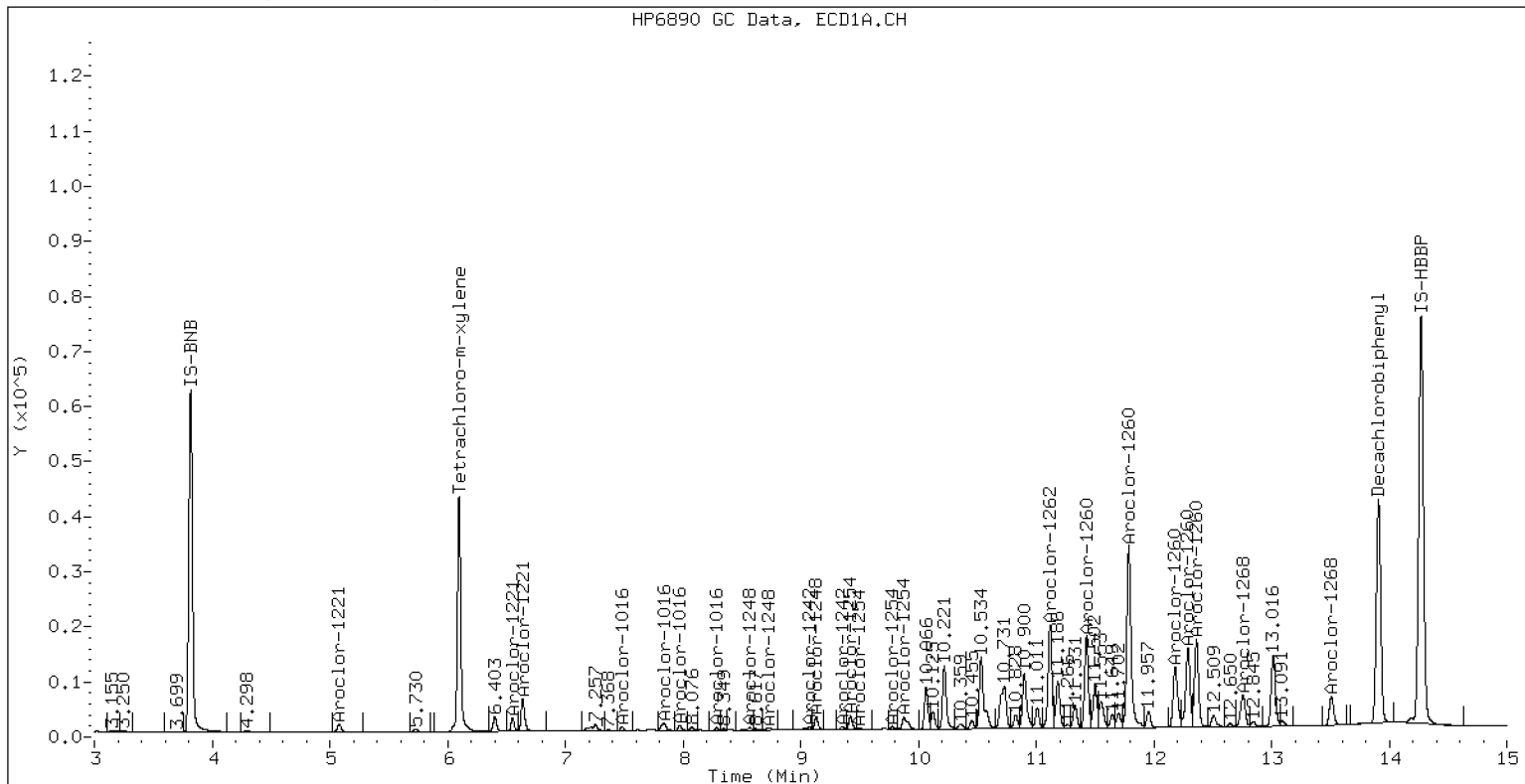
ECD5-ZB5 /20201107.b/20110723.D

AR2162SCV5

08-NOV-2020 01:47

2ul

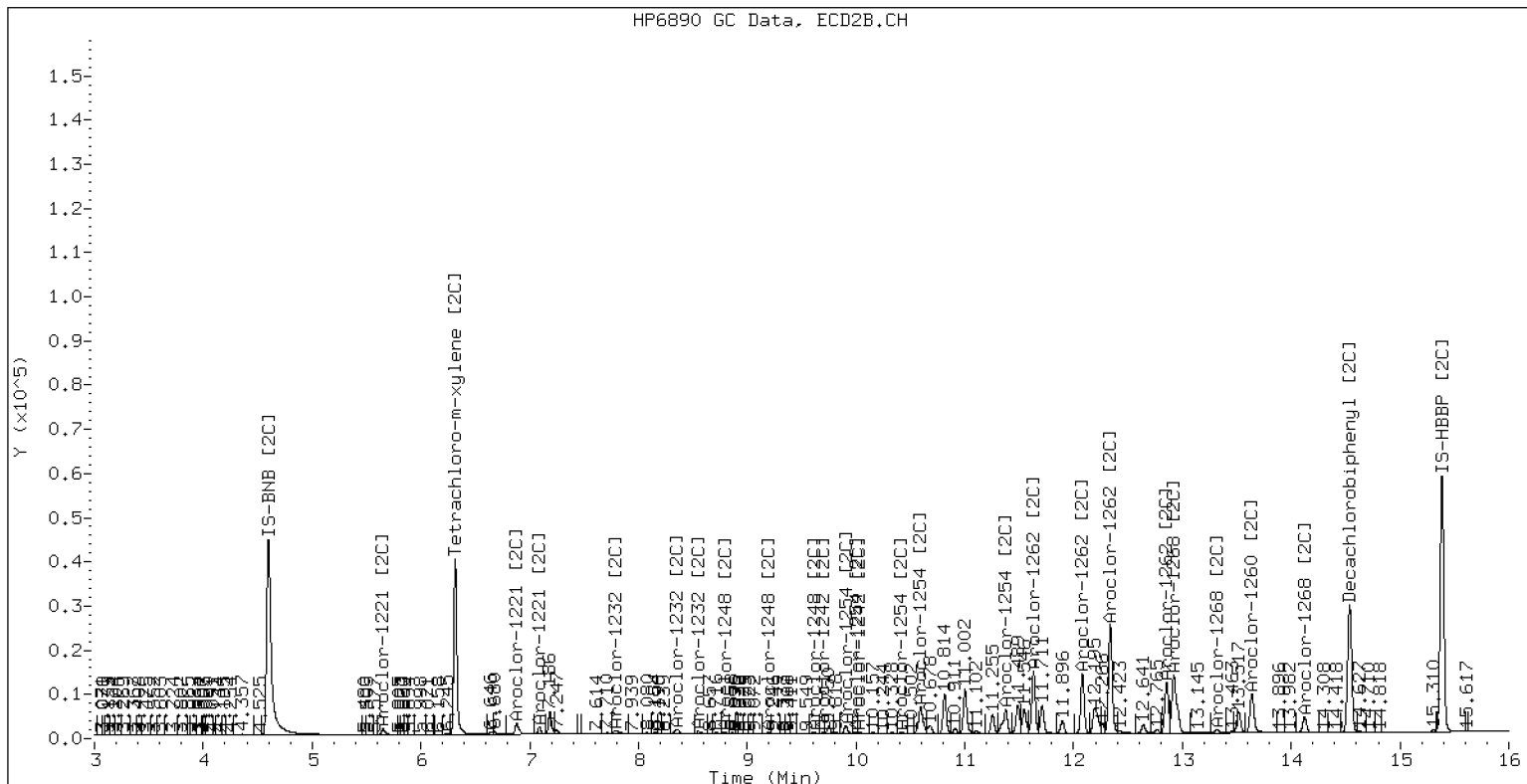
JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110723.D

AR2162SCV5



ZB-35 Manual Integration: NO



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00033

Laboratory ID: SIK0223-SCV6

Sequence: SIK0223

Sequence Name: AR3268SCV6

Standard ID: I005068

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	260	3.9	20.00
Aroclor 1232 [2C]	250.00	258	3.2	20.00
Aroclor 1268	250.00	237	-5.1	20.00
Aroclor 1268 [2C]	250.00	253	1.3	20.00
Decachlorobiphenyl	40.000	60.1	50.2	20.00
Tetrachlorometaxylene	40.000	43.1	7.7	20.00
Decachlorobiphenyl [2C]	40.000	61.3	53.2	20.00
Tetrachlorometaxylene [2C]	40.000	44.7	11.7	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201107.b/20110724.D
Data file 2: /20201107.b/20201107.b/20110724.D
Method: ecd5.i\20201107.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: PCB.sub
Quant Method: Internal Std

ARI ID: AR3268SCV6
Client ID:
Injection Date: 08-NOV-2020 02:08
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.099	-0.001 1743413	6.316 -0.000 1641765	43.1	44.7	3.6	Tetrachloro-m-xylene
13.911	0.000 2975643	14.538 -0.000 2140703	60.1	61.3	2.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	107.7	111.7
Decachlorobiphenyl	150.2	153.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2767662	2.4
Hexabromobiphenyl	3964848	4183877	5.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2856088	-2.0
Hexabromobiphenyl	2801720	2802153	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.483	0.001	131051	115.8	1	7.785	-0.000	195849	123.7
Aroclor-1016	2	7.838	0.001	401155	111.7	2	8.356	0.002	368649	114.7
Aroclor-1016	3	7.974	0.001	168393	114.2	3	8.549	0.002	155352	115.1
Aroclor-1016	4	8.287	0.001	102013	104.2	4	9.190	0.001	112207	112.9
Total CollAve (4 peaks):				111.5		Total Col2Ave (4 peaks):				116.6 RPD = 4
Corrected Ave (3 peaks):				110.0		Corrected Ave (3 peaks):				114.2 RPD = 4
Aroclor-1221	1	5.080	-0.001	40014	150.7	1	5.653	-0.000	34530	134.9
Aroclor-1221	2	6.553	-0.000	73712	195.6	2	6.880	0.000	87616	168.9
Aroclor-1221	3	6.639	-0.001	210368	196.9	3	7.088	-0.000	47040	168.4
Total CollAve (3 peaks):				181.1		Total Col2Ave (3 peaks):				157.4 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	5.080	-0.001	40014	252.5	1	5.653	-0.001	34530	231.3
Aroclor-1232	2	7.483	-0.000	131051	263.3	2	7.785	-0.001	195849	266.0
Aroclor-1232	3	7.838	0.002	401155	261.1	3	8.356	-0.001	368649	266.8
Aroclor-1232	4	7.974	-0.000	168393	262.4	4	8.549	-0.000	155352	267.9
Total CollAve (4 peaks):				259.8		Total Col2Ave (4 peaks):				258.0 RPD = 1
Corrected Ave (3 peaks):				258.7		Corrected Ave (3 peaks):				254.7 RPD = 2
Aroclor-1242	1	7.483	0.002	131051	146.9	1	7.785	0.001	195849	154.5
Aroclor-1242	2	7.838	0.002	401155	142.3	2	8.356	0.002	368649	142.4
Aroclor-1242	3	9.074	0.002	132607	129.5	3	9.691	0.002	109009	129.2
Aroclor-1242	4	9.353	0.002	142025	126.9	4	10.032	0.002	130833	126.0
Total CollAve (4 peaks):				136.4		Total Col2Ave (4 peaks):				138.0 RPD = 1
Corrected Ave (3 peaks):				132.9		Corrected Ave (3 peaks):				132.5 RPD = 0
Aroclor-1248	1	8.567	0.002	132576	90.9	1	8.793	0.001	83373	76.7
Aroclor-1248	2	8.729	0.002	170920	96.7	2	9.190	0.001	112207	86.6
Aroclor-1248	3	9.127	0.002	181590	82.8	3	9.614	0.002	138940	81.4
Aroclor-1248	4	9.353	0.003	142025	86.8	4	10.032	0.003	130833	77.2
Total CollAve (4 peaks):				89.3		Total Col2Ave (4 peaks):				80.5 RPD = 10
Corrected Ave (3 peaks):				86.8		Corrected Ave (3 peaks):				78.4 RPD = 10
Aroclor-1254	1	9.127	-0.006	181590	92.9	1	9.904	0.001	29380	16.9
Aroclor-1254	2	9.421	-0.001	64235	24.4	2	10.032	0.037	130833	143.8
Aroclor-1254	3	9.496	0.002	30966	30.9	3	10.417	0.002	20905	15.7
Aroclor-1254	4	9.781	0.002	29729	17.1	4	10.566	0.003	46531	16.1
Aroclor-1254	5	9.912	0.004	60353	17.7	5	11.332	0.001	21068	11.9
Total CollAve (5 peaks):				36.6		Total Col2Ave (5 peaks):				40.9 RPD = 11
Corrected Ave (4 peaks):				22.5		Corrected Ave (4 peaks):				15.2 RPD = 39
Aroclor-1260	1	11.430	0.002	34671	14.1	1	11.633	0.003	258365	154.0
Aroclor-1260	2	11.790	0.002	246913	40.3	2	12.078	-0.003	343198	168.7
Aroclor-1260	3	---	---	0.0	0.0	3	12.338	0.002	164339	40.7
Aroclor-1260	4	12.292	0.001	1912387	1400.7	4	13.638	0.000	497644	456.5
Aroclor-1260	5	12.362	-0.000	1837427	1144.8	NS	---	---	---	---
Total CollAve (4 peaks):				650.0		Total Col2Ave (4 peaks):				205.0 RPD = 104*
Corrected Ave (3 peaks):				399.7		Corrected Ave (3 peaks):				121.1 RPD = 107*
Aroclor-1262	1	11.121	0.002	347620	97.3	1	11.633	0.001	258365	100.0
Aroclor-1262	2	11.790	0.002	246913	32.3	2	12.078	-0.003	343198	169.9
Aroclor-1262	3	---	---	0.0	0.0	3	12.338	0.001	164339	31.8
Aroclor-1262	4	12.292	0.001	1912387	815.8	4	12.854	-0.001	1334495	729.2
Aroclor-1262	5	12.362	-0.001	1837427	674.4	NS	---	---	---	---
Total CollAve (4 peaks):				405.0		Total Col2Ave (4 peaks):				257.7 RPD = 44*
Corrected Ave (3 peaks):				268.0		Corrected Ave (3 peaks):				100.6 RPD = 91*
Aroclor-1268	1	12.292	0.000	1912387	236.9	1	12.854	0.000	1334495	253.9
Aroclor-1268	2	12.362	0.000	1837427	237.6	2	12.921	0.000	1312481	251.8
Aroclor-1268	3	12.740	-0.000	1605338	233.6	3	13.316	-0.000	1091359	253.9
Aroclor-1268	4	13.511	0.001	4630331	240.6	4	14.123	-0.001	3223735	253.2

Total Col1Ave (4 peaks):	237.2	Total Col2Ave (4 peaks):	253.2	RPD = 7
Corrected Ave (3 peaks):	236.1	Corrected Ave (3 peaks):	253.0	RPD = 7

Total PCB Area Col1 (6.199 - 13.810) = 16074939 Col1 Total PCB = 0.51 ppm*

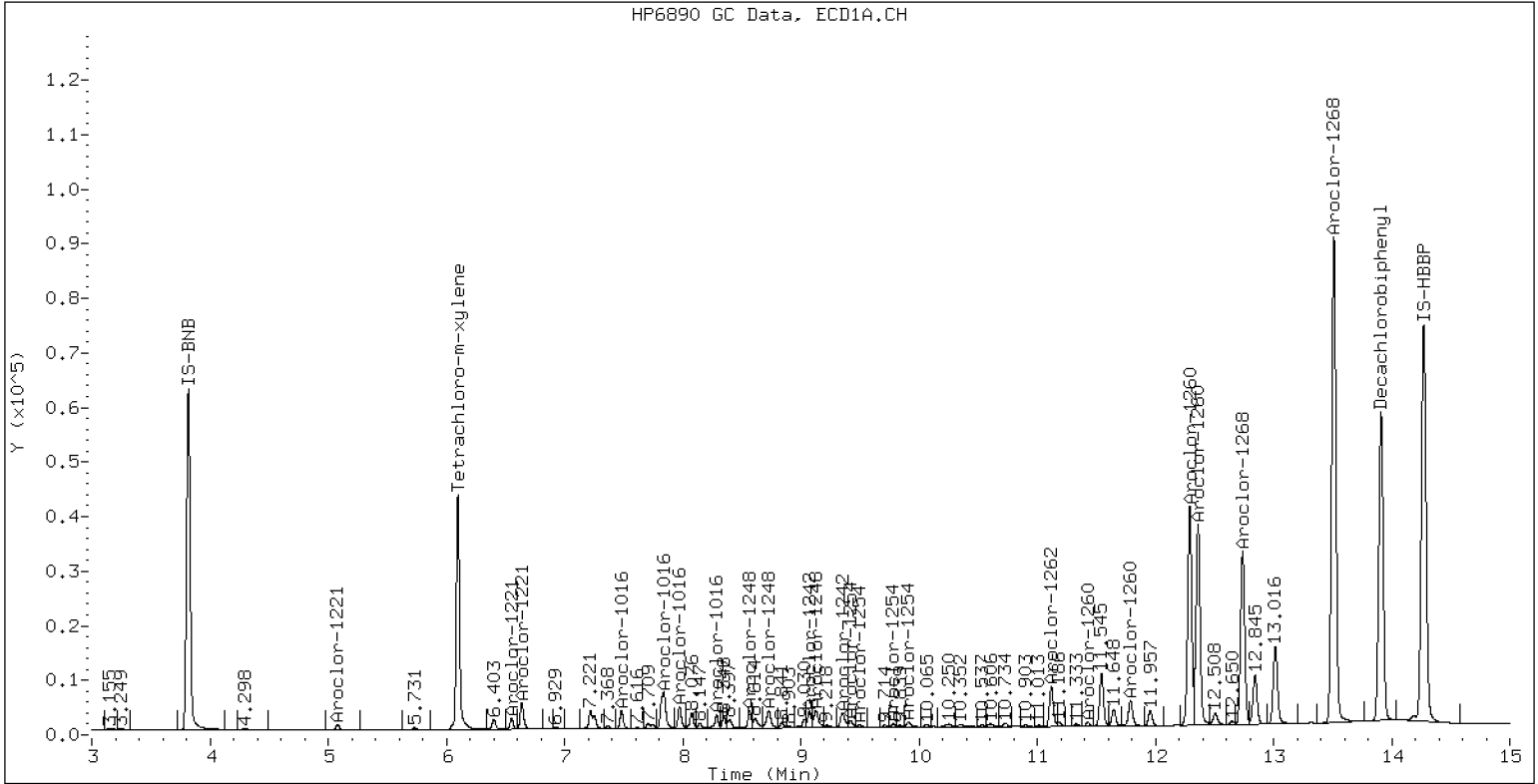
Total PCB Area Col2 (6.199 - 13.810) = 10113183 Col2 Total PCB = 0.37 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

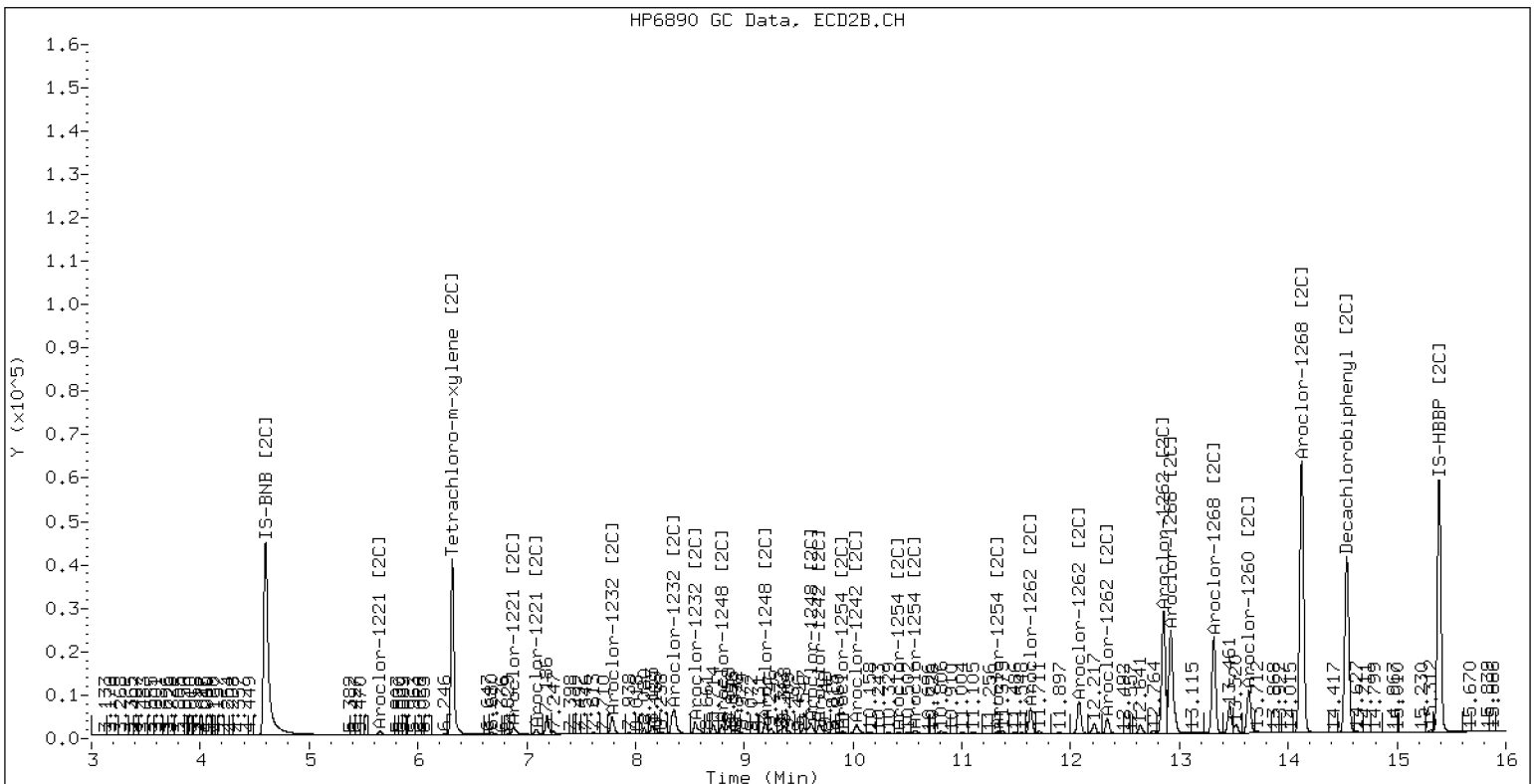
PCB Dual Column Chromatograms

ECD5-ZB5 /20201107.b/20110724.D AR3268SCV6 08-NOV-2020 02:08 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201107.b/20201107.b/20110724.D AR3268SCV6



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111603ECD7.D
Data file 2: /20201116.b/20201116.b/20111603ECD7.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 16-NOV-2020 10:06
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.093	-0.004	1739174	6.309	-0.004	1588509	39.3	42.4	7.6	Tetrachloro-m-xylene
13.910	0.001	2224866	14.534	-0.001	1535405	40.1	40.5	0.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.2	105.9
Decachlorobiphenyl	100.3	101.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3029688	12.1
Hexabromobiphenyl	3964848	4684717	18.2

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2913642	-0.0
Hexabromobiphenyl	2801720	3045605	8.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.132	0.000	549283	256.6	1	9.901	0.000	455730	257.5	
Aroclor-1254	2	9.422	0.000	710030	246.7	2	9.994	0.000	257556	277.6	
Aroclor-1254	3	9.495	0.000	279465	255.1	3	10.415	0.000	307770	227.0	
Aroclor-1254	4	9.779	0.000	422224	222.0	4	10.563	0.000	744164	252.3	
Aroclor-1254	5	9.910	0.000	926871	247.9	5	11.332	0.000	459926	253.9	
Total Col1Ave (5 peaks):				245.7	Total Col2Ave (5 peaks):				253.6	RPD = 3	
Corrected Ave (4 peaks):				242.9	Corrected Ave (4 peaks):				247.7	RPD = 2	

CalAmt %D: -1.7

CalAmt %D: 1.5

Total PCB Area Col1 (6.197 - 13.809) = 9974219 Col1 Total PCB = 0.32 ppm*

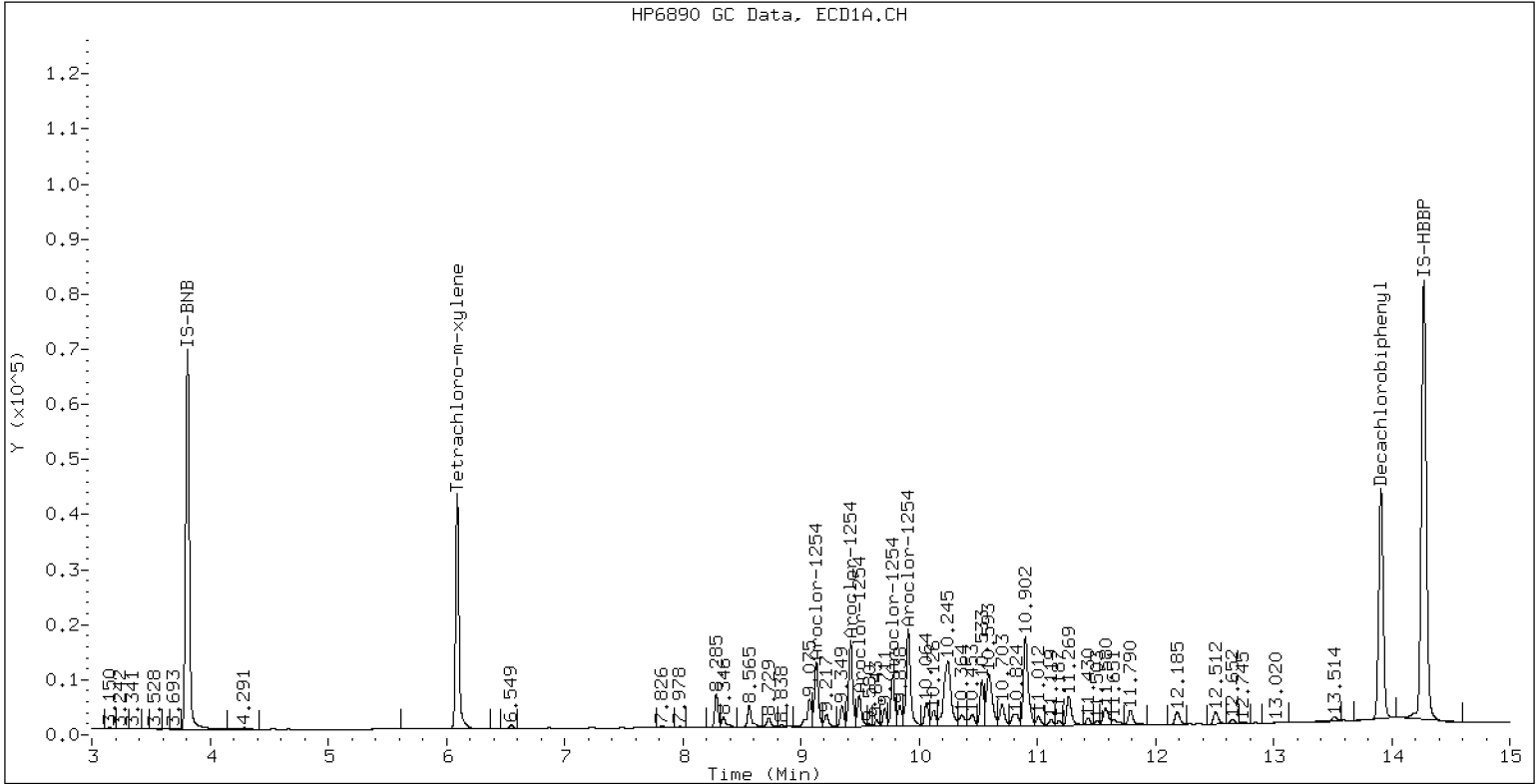
Total PCB Area Col2 (6.197 - 13.809) = 8948337 Col2 Total PCB = 0.33 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

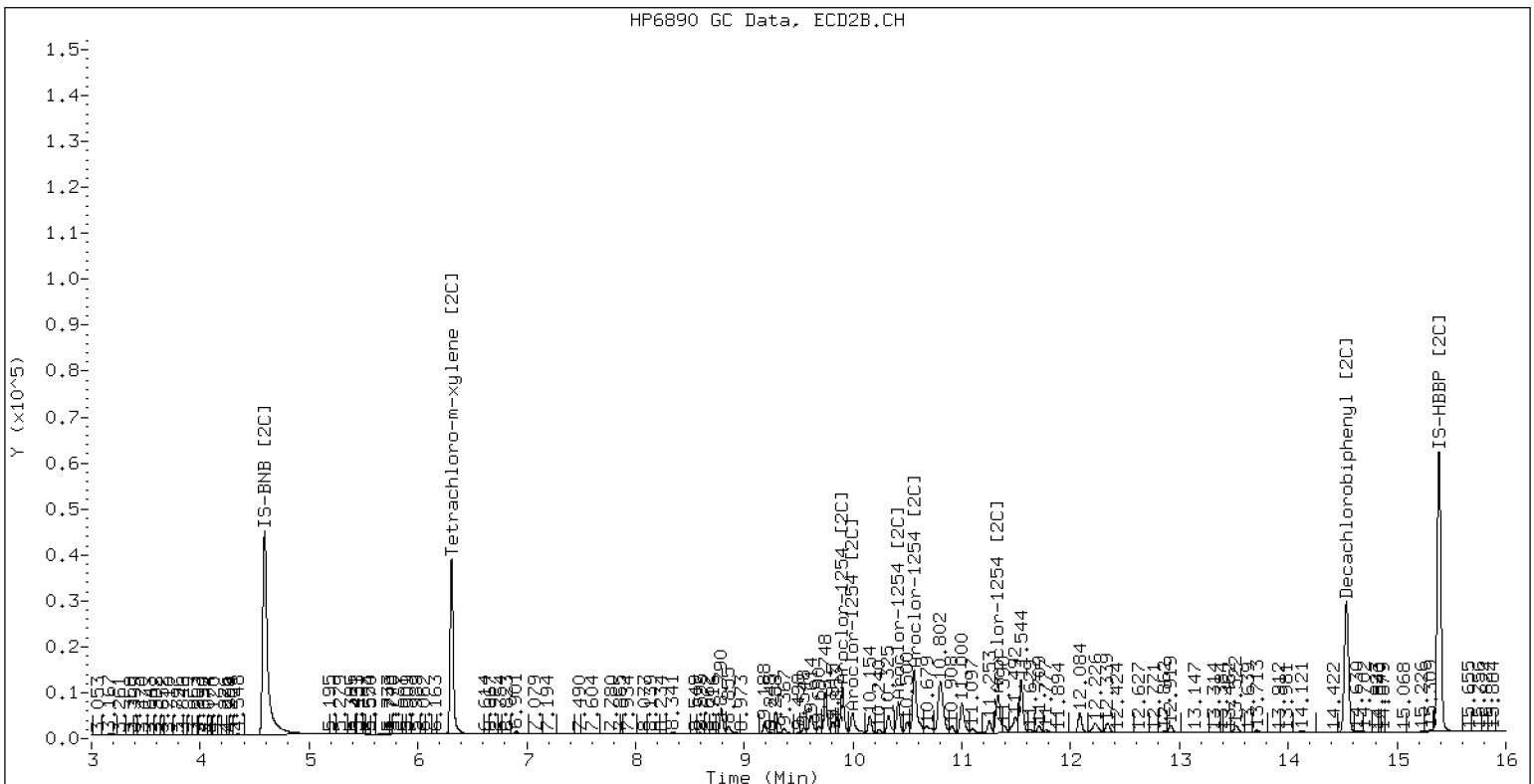
ECD5-ZB5 /20201116.b/20111603ECD7.D AR1254ICV1

16-NOV-2020 10:06 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111603ECD7.D AR1254ICV1



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>ECD5</u>	Calibration: <u>DK00033</u>
Lab File ID: <u>20111604ECD7.D</u>	Calibration Date: <u>11/07/2020</u>
Sequence: <u>SIK0250</u>	Injection Date: <u>11/16/20</u>
Lab Sample ID: <u>SIK0250-ICV2</u>	Injection Time: <u>10:27</u>
Sequence Name: <u>AR1660ICV2</u>	

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	240	0.0518592	0.0496352		-4.1	+/-20
Aroclor 1016 [2C]	A	250.00	239	0.0500110	0.0484037		-4.4	+/-20
Aroclor 1260	A	250.00	232	0.0568672	0.0524087		-7.3	+/-20
Aroclor 1260 [2C]	A	250.00	229	0.0631205	0.0575070		-8.4	+/-20
Decachlorobiphenyl	A	40.000	40.3	0.9468939	0.9541355		0.8	+/-20
Tetrachlorometaxylene	A	40.000	38.7	1.1693520	1.1321190		-3.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.0	0.9970133	0.9968587		0.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.1	1.0293930	1.0587510		2.8	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111604ECD7.D
Data file 2: /20201116.b/20201116.b/20111604ECD7.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 16-NOV-2020 10:27
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	0.000 1690469	6.313 0.000 1524434	38.7	41.1	6.0	Tetrachloro-m-xylene
13.909	0.000 2166285	14.535 0.000 1503723	40.3	40.0	0.8	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.8	102.9
Decachlorobiphenyl	100.8	100.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	2703006	2986381	10.5
Hexabromobiphenyl	3964848	4540833	14.5

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	2914229	2879685	-1.2
Hexabromobiphenyl	2801720	3016923	7.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.482	0.000	292608	239.6	1	7.783	0.000	389133	243.8
Aroclor-1016	2	7.838	0.000	922612	238.1	2	8.354	0.000	798744	246.4
Aroclor-1016	3	7.974	0.000	382823	240.5	3	8.548	0.000	329956	242.4
Aroclor-1016	4	8.286	0.000	254828	241.1	4	9.189	0.000	224510	224.0
Total CollAve (4 peaks):				239.9		Total Col2Ave (4 peaks):				239.2 RPD = 0
Corrected Ave (3 peaks):				239.4		Corrected Ave (3 peaks):				236.7 RPD = 1

CalAmt %D: -4.1

CalAmt %D: -4.3

Aroclor-1260	1	11.430	0.000	605904	227.6	1	11.630	0.000	404302	223.8
Aroclor-1260	2	11.790	0.000	1526801	229.5	2	12.081	0.000	489491	223.5
Aroclor-1260	3	12.185	0.000	824190	228.9	3	12.337	0.000	994816	228.6
Aroclor-1260	4	12.292	0.000	344833	232.7	4	13.638	0.000	280067	238.6
Aroclor-1260	5	12.364	0.000	416697	239.2	NS	---			----
Total CollAve (5 peaks):				231.6		Total Col2Ave (4 peaks):				228.6 RPD = 1
Corrected Ave (4 peaks):				229.7		Corrected Ave (3 peaks):				225.3 RPD = 2

CalAmt %D: -7.4

CalAmt %D: -8.5

Total PCB Area Col1 (6.197 - 13.809) = 17415536 Col1 Total PCB = 0.55 ppm*

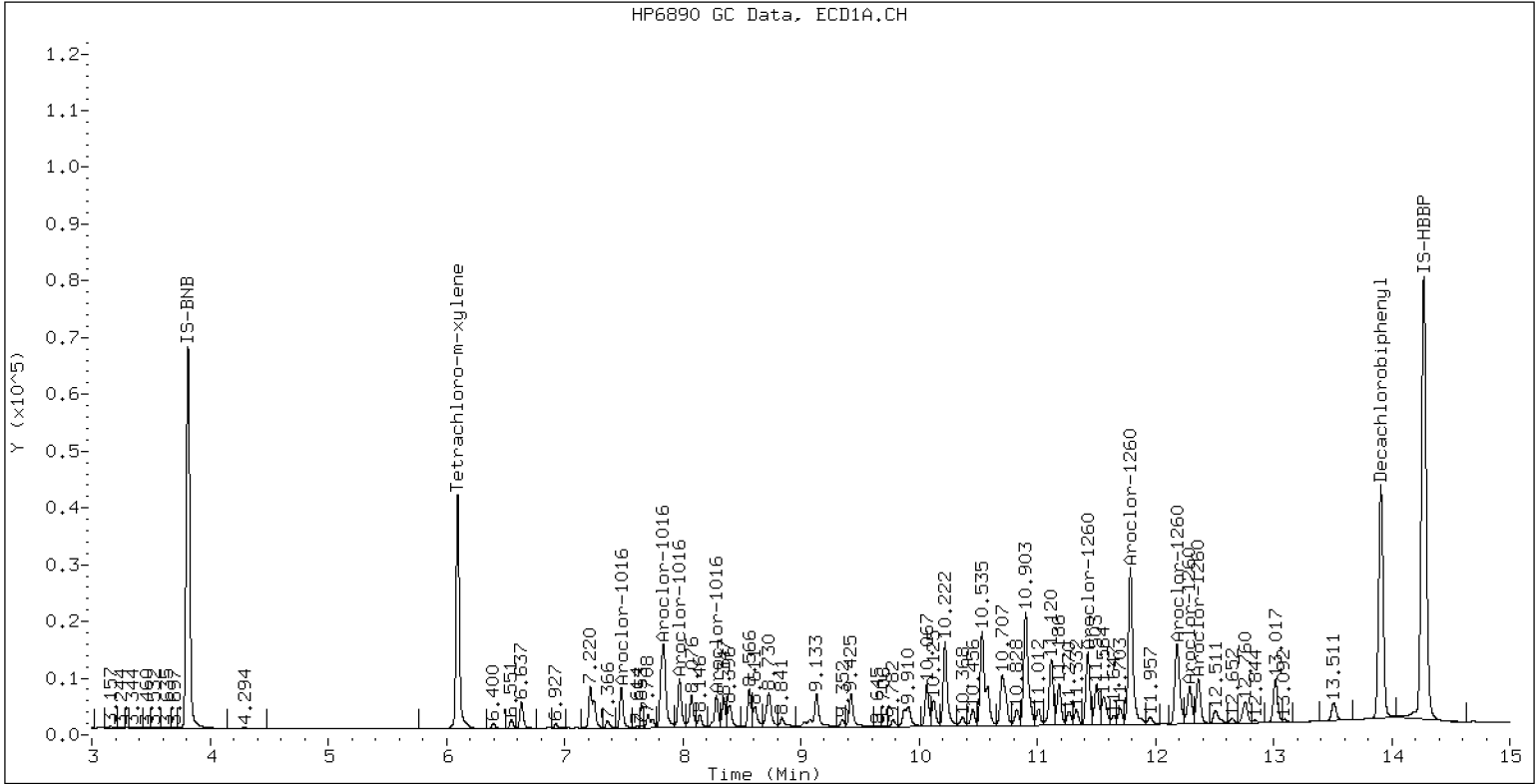
Total PCB Area Col2 (6.197 - 13.809) = 13696092 Col2 Total PCB = 0.50 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

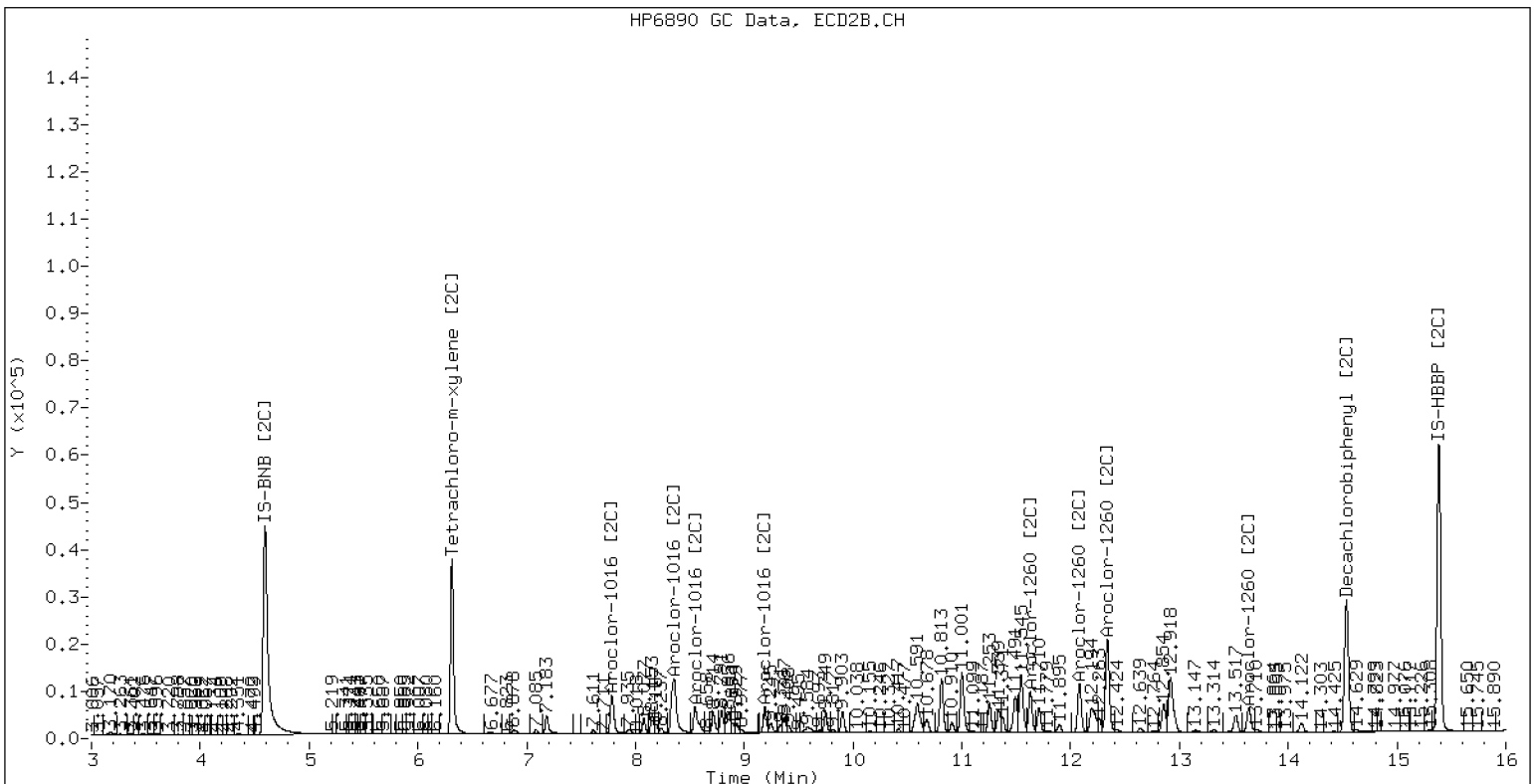
ECD5-ZB5 /20201116.b/20111604ECD7.D AR1660ICV2

16-NOV-2020 10:27 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111604ECD7.D AR1660ICV2



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111703ECD5.D
Data file 2: /20201117.b/20201117.b/20111703ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 17-NOV-2020 19:45
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1628173	0.000 1487050	6.313	39.6	42.8	7.8	Tetrachloro-m-xylene
13.906	-0.005 2084326	-0.002 1429032	14.530	40.6	39.7	2.1	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.0	107.1
Decachlorobiphenyl	101.4	99.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2812481	4.1
Hexabromobiphenyl	3964848	4341783	9.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2697977	-7.4
Hexabromobiphenyl	2801720	2885745	3.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.129	-0.004	510685	257.0	1	9.898	0.000	435742	265.9	
Aroclor-1254	2	9.419	-0.003	664200	248.6	2	9.991	0.000	234221	272.6	
Aroclor-1254	3	9.492	-0.003	260580	256.2	3	10.411	0.000	289563	230.6	
Aroclor-1254	4	9.774	-0.004	435884	246.9	4	10.558	0.000	722053	264.3	
Aroclor-1254	5	9.905	-0.003	877848	253.0	5	11.326	0.000	451679	269.3	
Total Col1Ave (5 peaks):				252.3	Total Col2Ave (5 peaks):				260.5	RPD = 3	
Corrected Ave (4 peaks):				251.2	Corrected Ave (4 peaks):				257.5	RPD = 2	

CalAmt %D: 0.9

CalAmt %D: 4.2

Total PCB Area Col1 (6.199 - 13.810) = 9691738 Col1 Total PCB = 0.31 ppm*

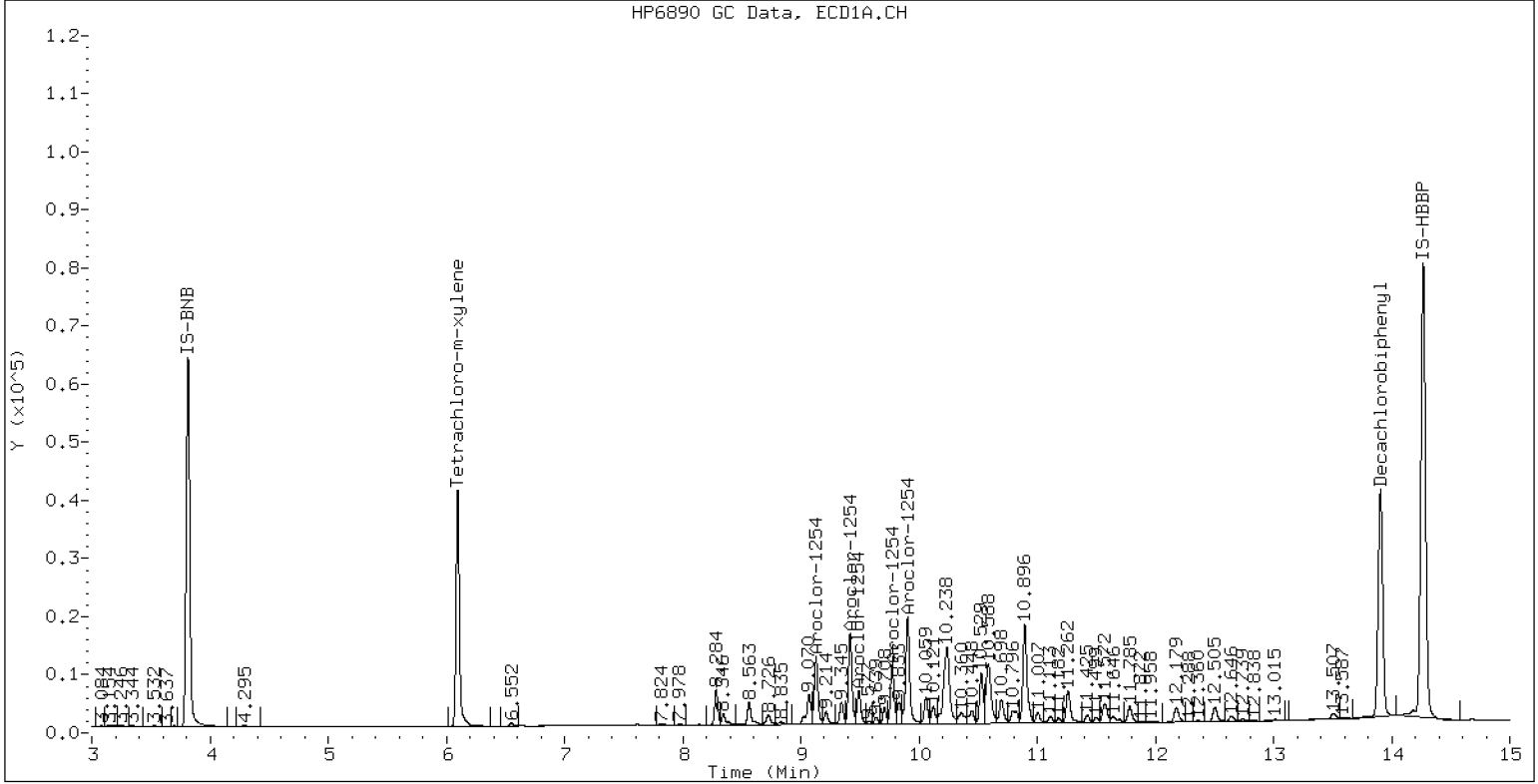
Total PCB Area Col2 (6.199 - 13.810) = 8647883 Col2 Total PCB = 0.32 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

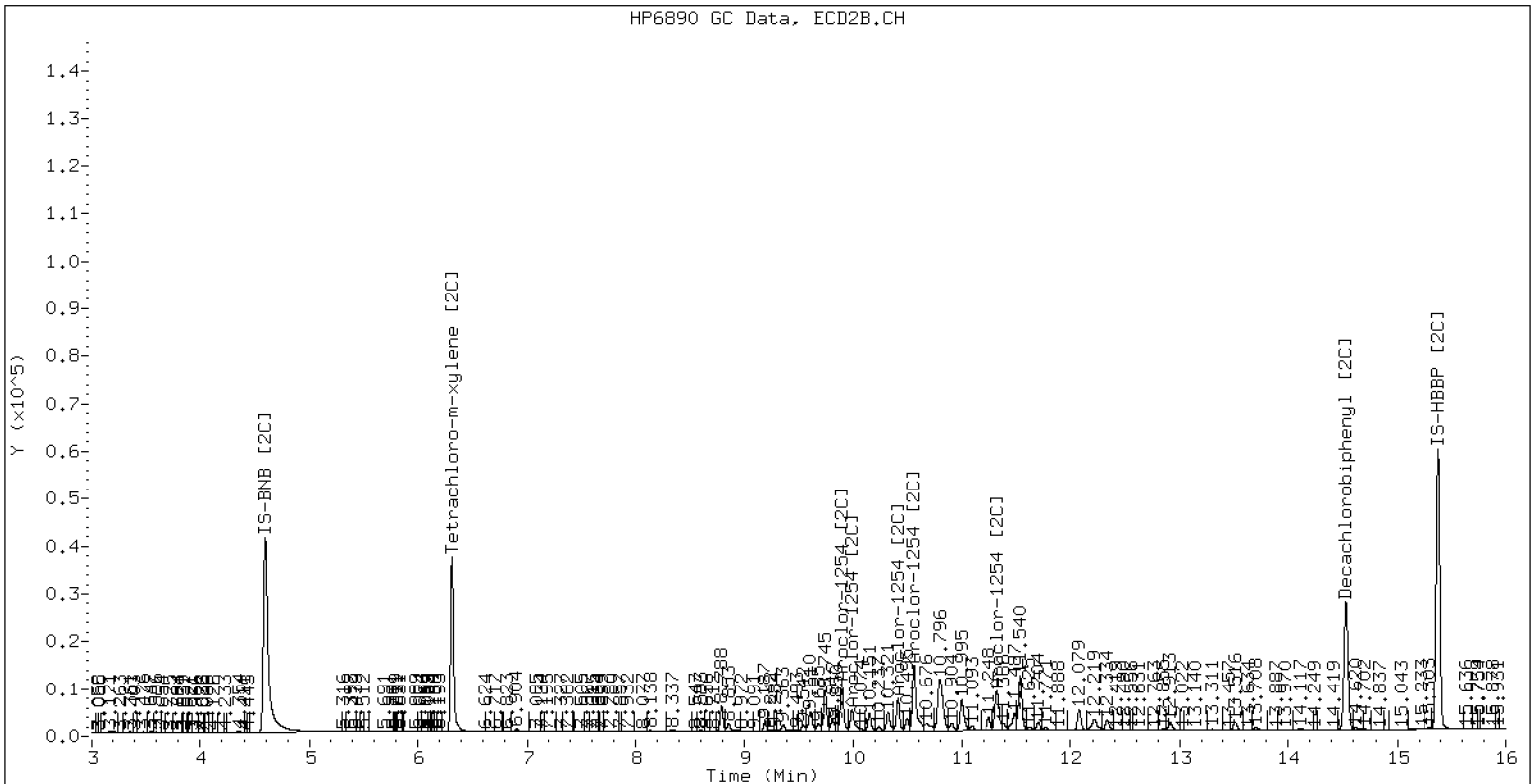
ECD5-ZB5 /20201117.b/20111703ECD5.D AR1254ICV1

17-NOV-2020 19:45 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111703ECD5.D AR1254ICV1



ZB-35 Manual Integration: NO



INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>ECD5</u>	Calibration: <u>DK00033</u>
Lab File ID: <u>20111704ECD5.D</u>	Calibration Date: <u>11/07/2020</u>
Sequence: <u>SIL0028</u>	Injection Date: <u>11/17/20</u>
Lab Sample ID: <u>SIL0028-ICV2</u>	Injection Time: <u>20:05</u>
Sequence Name: <u>AR1660ICV2</u>	

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	246	0.0518592	0.0511181		-1.5	+/-20
Aroclor 1016 [2C]	A	250.00	237	0.0500110	0.0485434		-5.3	+/-20
Aroclor 1260	A	250.00	243	0.0568672	0.0550125		-2.8	+/-20
Aroclor 1260 [2C]	A	250.00	235	0.0631205	0.0590922		-6.1	+/-20
Decachlorobiphenyl	A	40.000	40.4	0.9468939	0.9562188		1.0	+/-20
Tetrachlorometaxylene	A	40.000	39.1	1.1693520	1.1437750		-2.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.6	0.9970133	0.9612151		-3.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0293930	1.0699670		4.0	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111704ECD5.D
Data file 2: /20201117.b/20201117.b/20111704ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 17-NOV-2020 20:05
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.003 1604899	6.312 -0.001 1454870	39.1	41.6	6.1	Tetrachloro-m-xylene	
13.907	-0.003 1979217	14.531 -0.001 1357094	40.4	38.6	4.6	Decachlorobiphenyl	

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.8	103.9
Decachlorobiphenyl	101.0	96.4

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2806320	3.8
Hexabromobiphenyl	3964848	4139674	4.4

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2719467	-6.7
Hexabromobiphenyl	2801720	2823705	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.481	-0.002	283921	247.4	1	7.781	-0.000	373424	247.7
Aroclor-1016	2	7.837	-0.001	896648	246.3	2	8.352	-0.002	766517	250.4
Aroclor-1016	3	7.972	-0.001	365749	244.6	3	8.544	-0.002	321536	250.2
Aroclor-1016	4	8.285	-0.002	246854	248.6	4	9.186	-0.001	188676	199.3
Total CollAve (4 peaks):				246.7		Total Col2Ave (4 peaks):				236.9 RPD = 4
Corrected Ave (3 peaks):				246.1		Corrected Ave (3 peaks):				232.4 RPD = 6

CalAmt %D: -1.3

CalAmt %D: -5.2

Aroclor-1260	1	11.425	-0.003	582362	240.0	1	11.625	-0.003	391572	231.6
Aroclor-1260	2	11.784	-0.003	1459883	240.7	2	12.076	-0.001	479818	234.1
Aroclor-1260	3	12.180	-0.002	793291	241.6	3	12.331	-0.002	950062	233.3
Aroclor-1260	4	12.288	-0.003	329735	244.1	4	13.633	-0.001	264284	240.6
Aroclor-1260	5	12.360	-0.003	393069	247.5	NS	---			----
Total CollAve (5 peaks):				242.8		Total Col2Ave (4 peaks):				234.9 RPD = 3
Corrected Ave (4 peaks):				241.6		Corrected Ave (3 peaks):				233.0 RPD = 4

CalAmt %D: -2.9

CalAmt %D: -6.0

Total PCB Area Col1 (6.199 - 13.810) = 16848003 Col1 Total PCB = 0.54 ppm*

Total PCB Area Col2 (6.199 - 13.810) = 13315366 Col2 Total PCB = 0.49 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111611ECD7.D
Data file 2: /20201116.b/20201116.b/20111611ECD7.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 16-NOV-2020 18:02
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.001 1785241	6.312 0.000 1645883	6.312	39.9	42.7	6.7	Tetrachloro-m-xylene
13.908	-0.001 2306727	14.533 0.000 1577063	14.533	38.8	39.6	2.1	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	99.7	106.7
Decachlorobiphenyl	97.0	99.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	2703006	3061117	13.2
Hexabromobiphenyl	3964848	5025259	26.7

Standard Cpnd	Column 2		
	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	2914229	2997692	2.9
Hexabromobiphenyl	2801720	3196623	14.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.565	0.000	402805	249.7	1	8.790	0.000	295480	259.1	
Aroclor-1248	2	8.729	0.001	512479	262.2	2	9.187	0.000	314149	231.1	
Aroclor-1248	3	9.129	0.003	667488	275.2	3	9.612	0.000	469523	262.0	
Aroclor-1248	4	9.353	0.003	444754	245.7	4	10.032	0.000	464172	261.1	
Total Col1Ave (4 peaks):				258.2	Total Col2Ave (4 peaks):				253.3	RPD = 2	
Corrected Ave (3 peaks):				252.5	Corrected Ave (3 peaks):				250.4	RPD = 1	

CalAmt %D: 3.3

CalAmt %D: 1.3

Total PCB Area Col1 (6.197 - 13.809) = 8182018 Col1 Total PCB = 0.26 ppm*

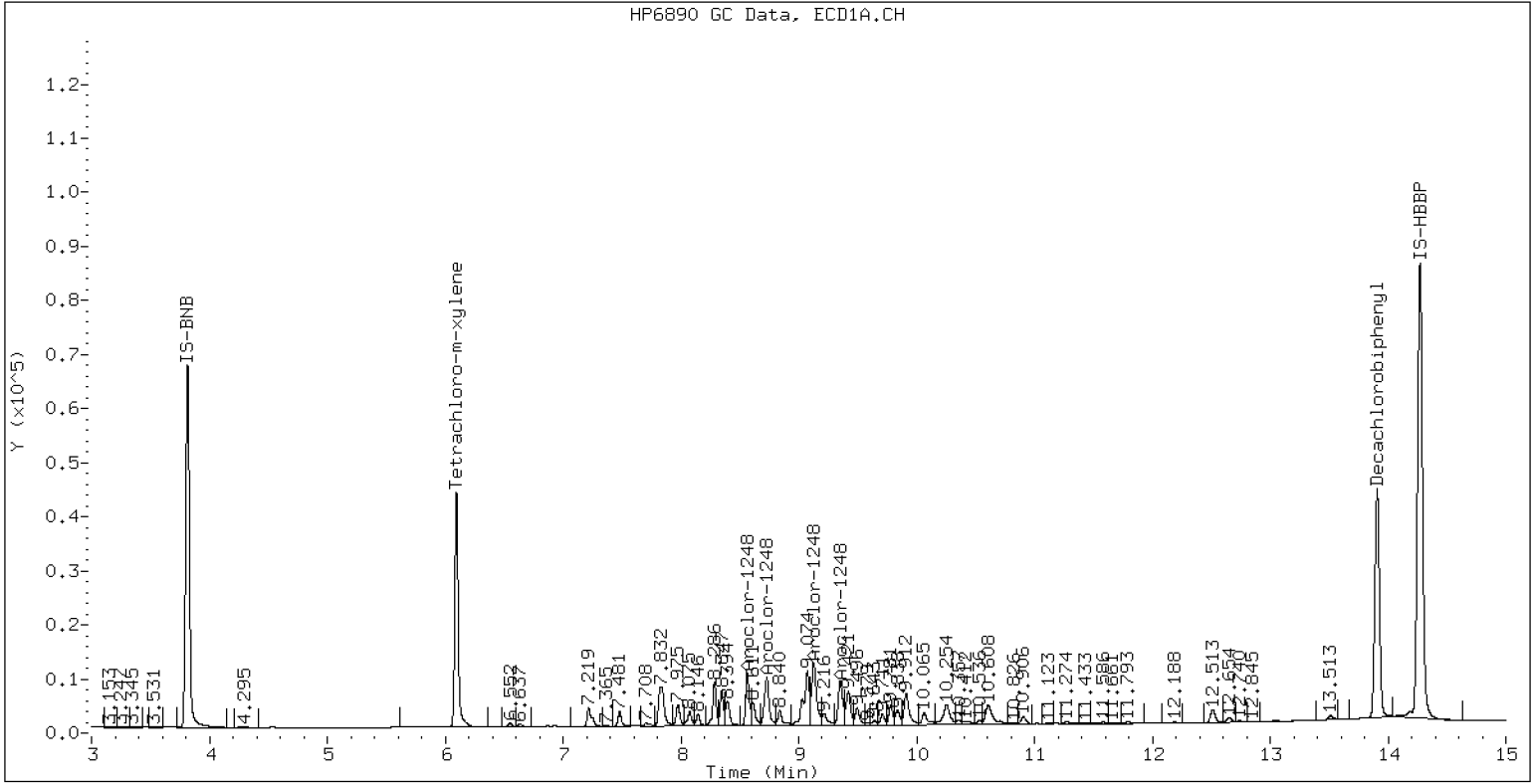
Total PCB Area Col2 (6.197 - 13.809) = 7806348 Col2 Total PCB = 0.29 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

ECD5-ZB5 /20201116.b/20111611ECD7.D AR1248CCV1

16-NOV-2020 18:02 2ul JGR



Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111612ECD7.D
Data file 2: /20201116.b/20201116.b/20111612ECD7.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 16-NOV-2020 18:23
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000 1808721	6.313 0.000 1640147	39.2	41.5	5.5	Tetrachloro-m-xylene
13.908	-0.000 2223732	14.532 0.000 1514494	39.2	38.3	2.3	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.1	103.7
Decachlorobiphenyl	98.0	95.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3153754	16.7
Hexabromobiphenyl	3964848	4791194	20.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3073722	5.5
Hexabromobiphenyl	2801720	3172184	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.481	-0.001	314472	243.9	1	7.781	0.000	420585	246.8	
Aroclor-1016	2	7.837	-0.001	1005024	245.6	2	8.353	0.000	871373	251.9	
Aroclor-1016	3	7.973	-0.001	412298	245.3	3	8.546	0.000	362109	249.3	
Aroclor-1016	4	8.285	-0.002	275406	246.8	4	9.187	0.000	246315	230.2	
Total CollAve (4 peaks):				245.4	Total Col2Ave (4 peaks):				244.6	RPD = 0	
Corrected Ave (3 peaks):				244.9	Corrected Ave (3 peaks):				242.1	RPD = 1	

CalAmt %D: -1.8

CalAmt %D: -2.2

Aroclor-1260	1	11.428	-0.002	651967	232.1	1	11.628	0.000	434326	228.7	
Aroclor-1260	2	11.789	-0.001	1639832	233.6	2	12.079	0.000	526547	228.7	
Aroclor-1260	3	12.184	-0.001	879702	231.5	3	12.335	0.000	1060429	231.8	
Aroclor-1260	4	12.291	-0.001	366602	234.5	4	13.635	0.000	293338	237.7	
Aroclor-1260	5	12.363	-0.000	441419	240.2	NS	---			----	
Total CollAve (5 peaks):				234.4	Total Col2Ave (4 peaks):				231.7	RPD = 1	
Corrected Ave (4 peaks):				232.9	Corrected Ave (3 peaks):				229.7	RPD = 1	

CalAmt %D: -6.2

CalAmt %D: -7.3

Total PCB Area Col1 (6.196 - 13.808) = 18775796 Col1 Total PCB = 0.60 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 14788452 Col2 Total PCB = 0.54 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111623ECD5.D
Data file 2: /20201116.b/20201116.b/20111623ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1242.sub
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 16-NOV-2020 23:48
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000 1884011	0.002 1729046	6.312	41.5	44.5	6.9	Tetrachloro-m-xylene
13.907	-0.000 1854401	0.001 1449225	14.531	40.9	39.8	2.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	103.8	111.2
Decachlorobiphenyl	102.3	99.6

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3103120	14.8
Hexabromobiphenyl	3964848	3827353	-3.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3020642	3.7
Hexabromobiphenyl	2801720	2918743	4.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.480	-0.002	255505	255.5	1	7.780	0.000	337712	251.9	
Aroclor-1242	2	7.836	-0.001	790247	250.1	2	8.351	0.000	687557	251.2	
Aroclor-1242	3	9.072	-0.000	277101	241.4	3	9.688	0.000	220532	247.1	
Aroclor-1242	4	9.351	0.001	307290	245.0	4	10.029	0.000	268086	244.1	
Total Col1Ave (4 peaks):				248.0	Total Col2Ave (4 peaks):				248.6	RPD = 0	
Corrected Ave (3 peaks):				245.5	Corrected Ave (3 peaks):				247.5	RPD = 1	

CalAmt %D: -0.8

CalAmt %D: -0.6

Total PCB Area Col1 (6.196 - 13.808) = 7044678 Col1 Total PCB = 0.22 ppm*

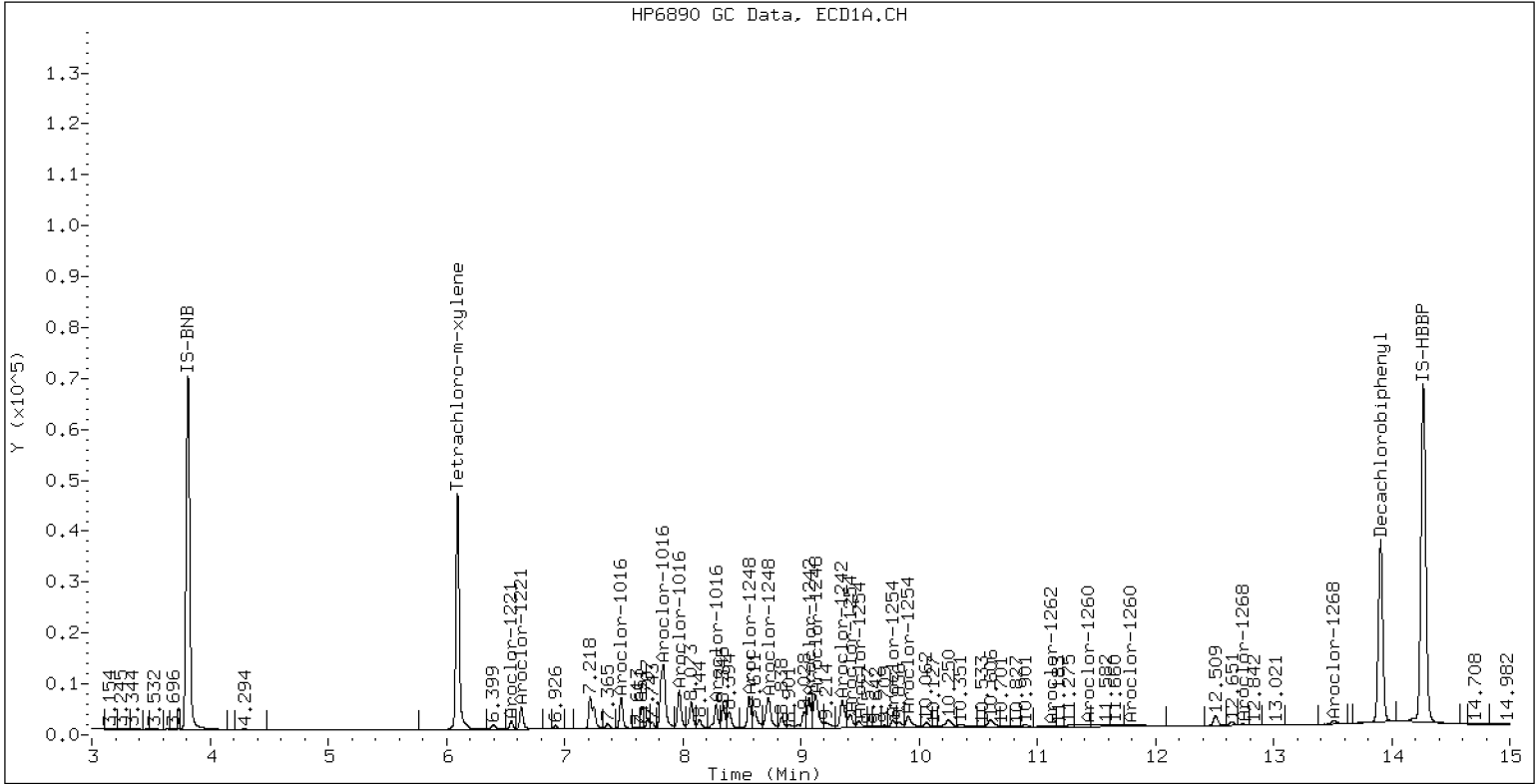
Total PCB Area Col2 (6.196 - 13.808) = 7387991 Col2 Total PCB = 0.27 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

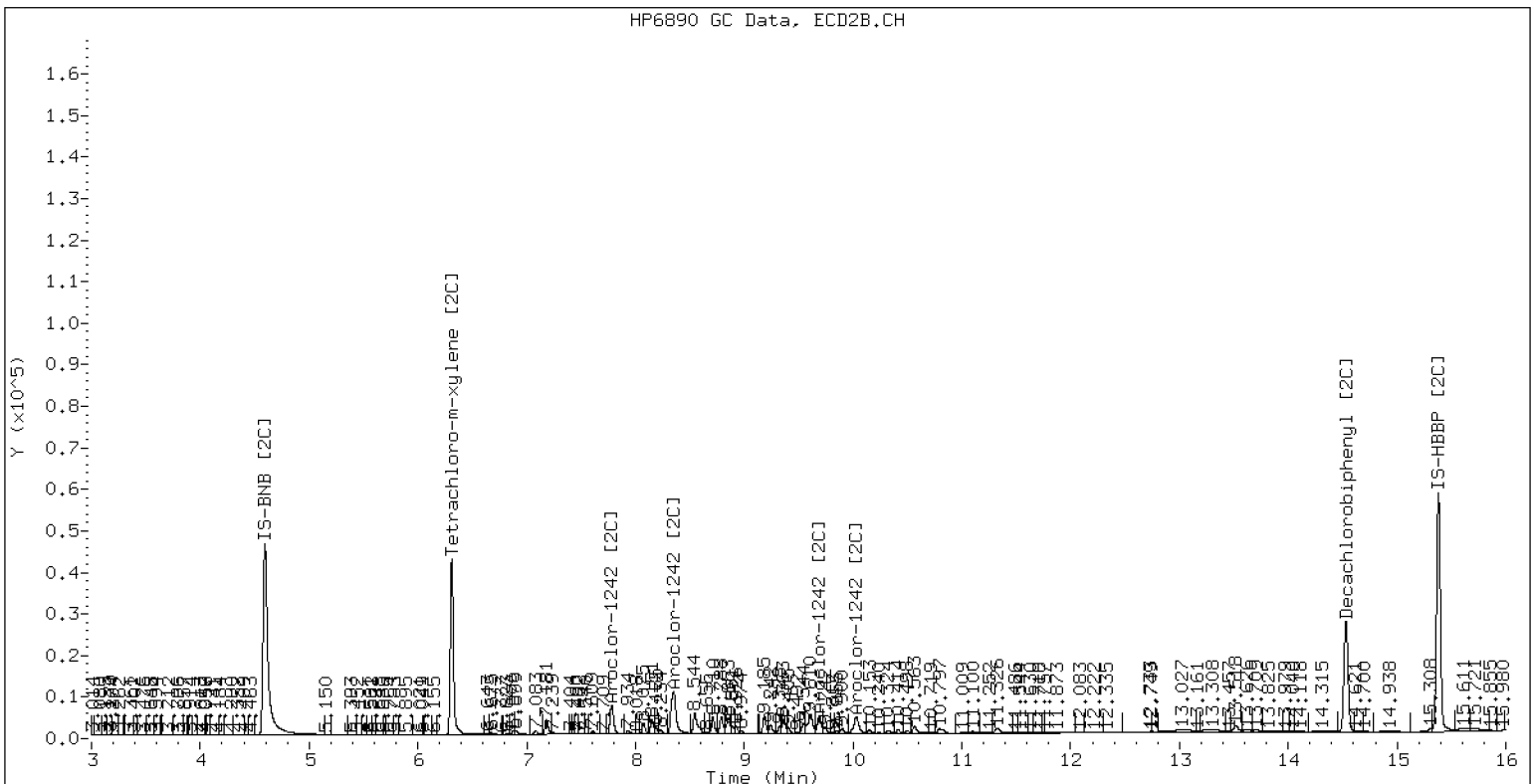
ECD5-ZB5 /20201116.b/20111623ECD5.D AR1242CCV3

16-NOV-2020 23:48 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111623ECD5.D AR1242CCV3



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111624ECD5.D
Data file 2: /20201116.b/20201116.b/20111624ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 17-NOV-2020 00:09
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.096	-0.000 1802432	0.003 1644800	6.312	39.3	41.3	4.9	Tetrachloro-m-xylene
13.907	-0.000 2003319	0.000 1444013	14.531	39.5	38.3	3.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.2	103.2
Decachlorobiphenyl	98.8	95.9

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3138857	16.1
Hexabromobiphenyl	3964848	4283455	8.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3096969	6.3
Hexabromobiphenyl	2801720	3021914	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.480	-0.000	314483	245.0	1	7.781	0.002	423563	246.7	
Aroclor-1016	2	7.836	-0.001	996952	244.8	2	8.351	0.002	868627	249.2	
Aroclor-1016	3	7.971	-0.001	410791	245.6	3	8.544	0.002	359521	245.6	
Aroclor-1016	4	8.284	-0.001	273540	246.3	4	9.185	0.001	234088	217.1	
Total CollAve (4 peaks):				245.4	Total Col2Ave (4 peaks):				239.7	RPD = 2	
Corrected Ave (3 peaks):				245.1	Corrected Ave (3 peaks):				236.5	RPD = 4	

CalAmt %D: -1.8

CalAmt %D: -4.1

Aroclor-1260	1	11.426	-0.002	620317	247.1	1	11.626	0.002	421987	233.2	
Aroclor-1260	2	11.786	-0.003	1548330	246.7	2	12.076	0.001	512068	233.4	
Aroclor-1260	3	12.180	-0.004	824506	242.7	3	12.332	0.002	1032507	236.9	
Aroclor-1260	4	12.288	-0.002	340098	243.3	4	13.633	0.001	282590	240.4	
Aroclor-1260	5	12.361	-0.003	406186	247.2	NS	---			----	
Total CollAve (5 peaks):				245.4	Total Col2Ave (4 peaks):				236.0	RPD = 4	
Corrected Ave (4 peaks):				244.9	Corrected Ave (3 peaks):				234.5	RPD = 4	

CalAmt %D: -1.8

CalAmt %D: -5.6

Total PCB Area Col1 (6.196 - 13.808) = 18091694 Col1 Total PCB = 0.58 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 14552090 Col2 Total PCB = 0.53 ppm*

* Quantitated against AR1660 0.25ppm in Ical

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111637ECD5.D
Data file 2: /20201116.b/20201116.b/20111637ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1254.sub
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 17-NOV-2020 04:38
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.093	-0.003	1852732	6.309	-0.001	1703581	39.1	42.1	7.2	Tetrachloro-m-xylene
13.906	-0.002	2232033	14.530	-0.001	1569208	39.6	39.3	0.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	97.8	105.2
Decachlorobiphenyl	99.1	98.2

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3238887	19.8
Hexabromobiphenyl	3964848	4759323	20.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	3147115	8.0
Hexabromobiphenyl	2801720	3205201	14.4

- * Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
- <- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1254	1	9.129	-0.003	574146	250.9	1	9.897	0.000	491315	257.0	
Aroclor-1254	2	9.418	-0.004	743538	241.7	2	9.990	0.000	280378	279.7	
Aroclor-1254	3	9.491	-0.004	291554	249.0	3	10.411	0.000	327845	223.8	
Aroclor-1254	4	9.775	-0.004	462542	227.5	4	10.558	0.000	805838	252.9	
Aroclor-1254	5	9.905	-0.004	974841	243.9	5	11.326	0.000	498309	254.7	
Total Col1Ave (5 peaks):				242.6	Total Col2Ave (5 peaks):				253.6	RPD = 4	
Corrected Ave (4 peaks):				240.5	Corrected Ave (4 peaks):				247.1	RPD = 3	

CalAmt %D: -3.0

CalAmt %D: 1.5

Total PCB Area Col1 (6.196 - 13.808) = 10502672 Col1 Total PCB = 0.33 ppm*

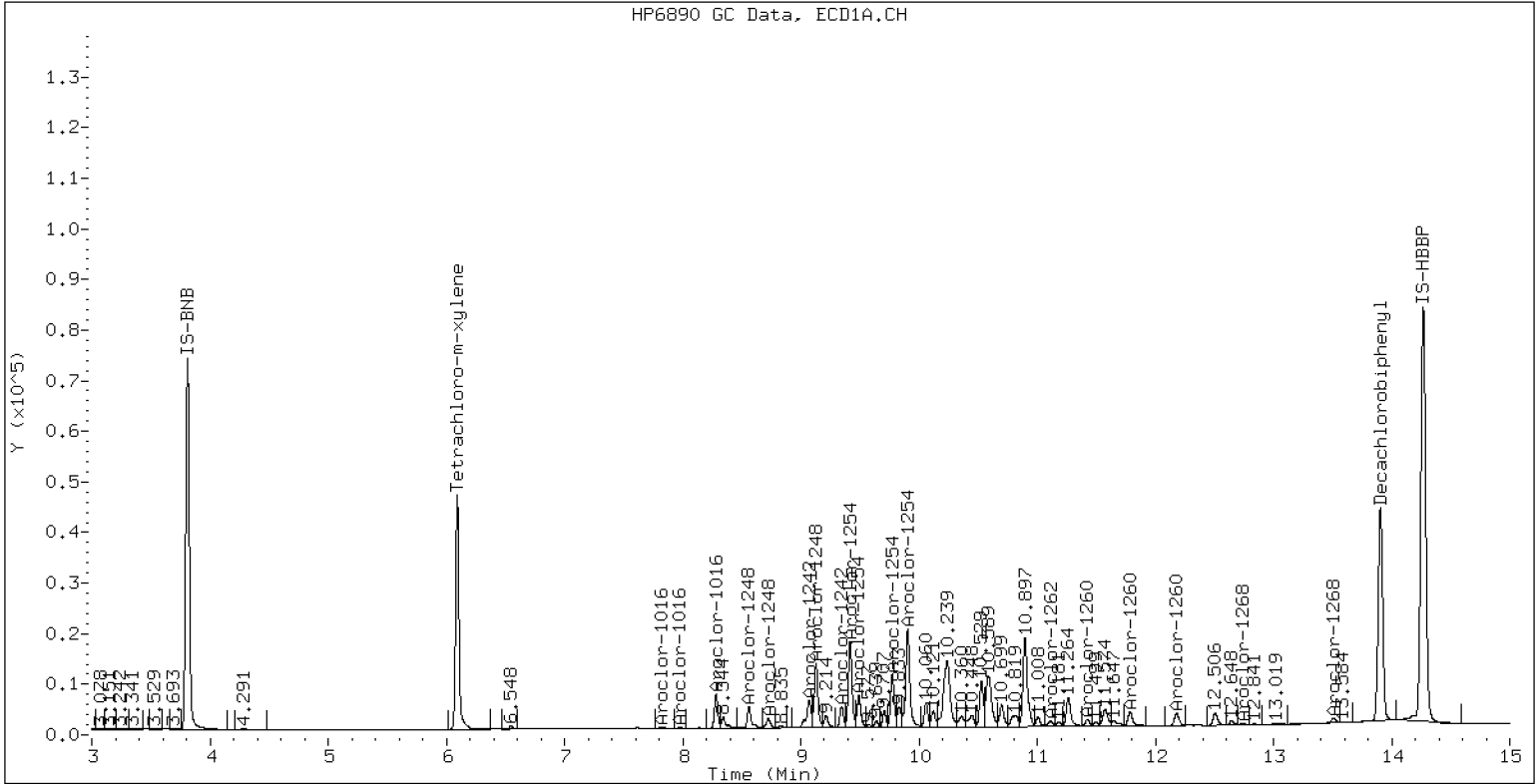
Total PCB Area Col2 (6.196 - 13.808) = 9657176 Col2 Total PCB = 0.35 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

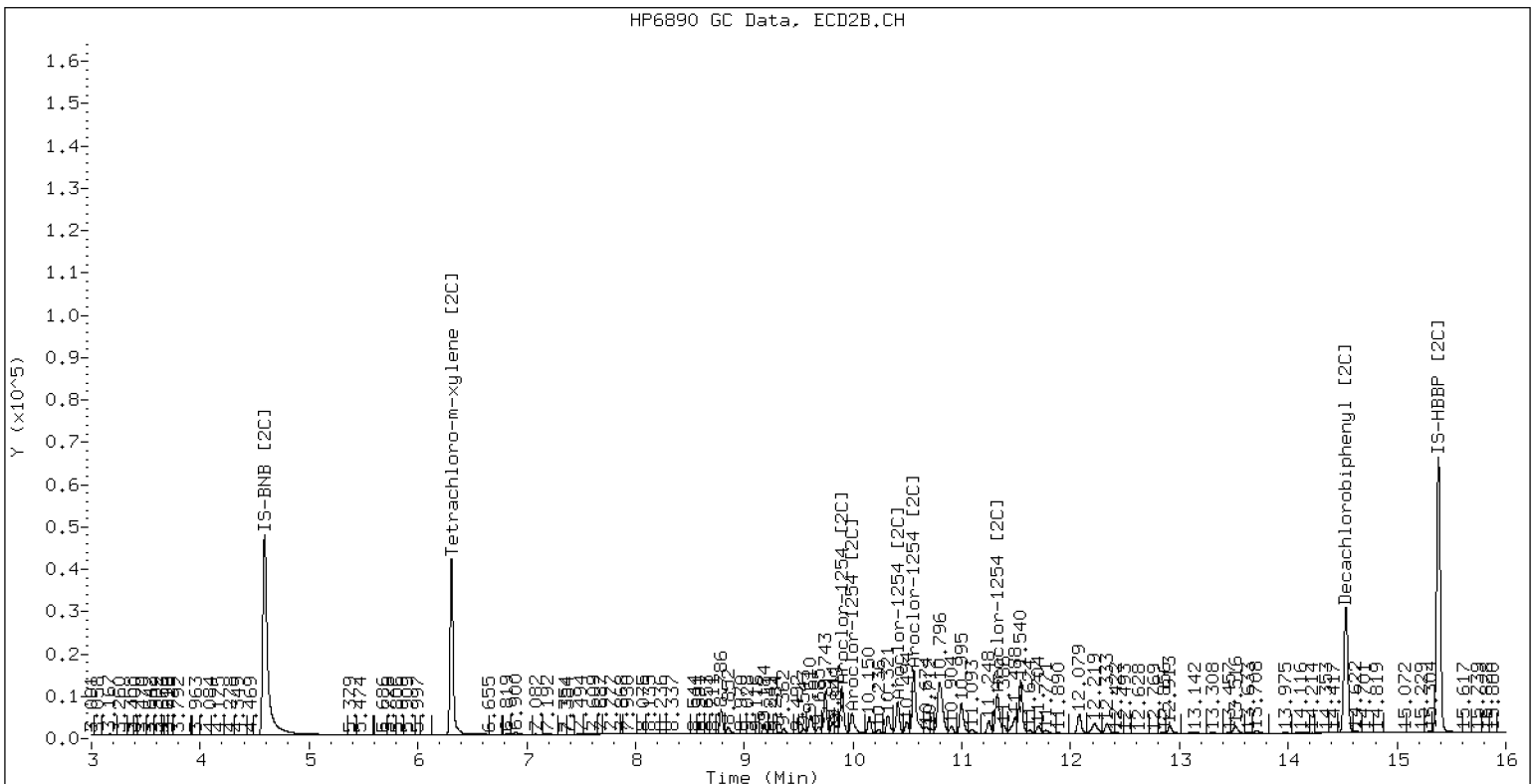
ECD5-ZB5 /20201116.b/20111637ECD5.D AR1254CCV5

17-NOV-2020 04:38 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111637ECD5.D AR1254CCV5



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201116.b/20111638ECD5.D
Data file 2: /20201116.b/20201116.b/20111638ECD5.D
Method: ecd5.i\20201116.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 17-NOV-2020 04:58
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.094	-0.002	1711640	6.309	0.000	1548287	38.6	40.7	5.3	Tetrachloro-m-xylene
13.906	-0.002	2086051	14.530	0.000	1445078	39.9	38.3	3.9	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.4	101.6
Decachlorobiphenyl	99.6	95.8

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	3035960	12.3
Hexabromobiphenyl	3964848	4422369	11.5

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2959628	1.6
Hexabromobiphenyl	2801720	3024926	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.478	-0.002	300005	241.7	1	7.779	0.000	398845	243.1	
Aroclor-1016	2	7.833	-0.003	942532	239.3	2	8.349	0.000	819860	246.1	
Aroclor-1016	3	7.969	-0.003	391496	242.0	3	8.543	0.000	341347	244.0	
Aroclor-1016	4	8.282	-0.003	260677	242.6	4	9.184	0.000	220369	213.9	
Total CollAve (4 peaks):				241.4	Total Col2Ave (4 peaks):				236.8	RPD = 2	
Corrected Ave (3 peaks):				241.0	Corrected Ave (3 peaks):				233.7	RPD = 3	

CalAmt %D: -3.4

CalAmt %D: -5.3

Aroclor-1260	1	11.424	-0.004	624556	240.9	1	11.624	0.000	422969	233.5	
Aroclor-1260	2	11.785	-0.004	1564298	241.5	2	12.075	0.000	513847	234.0	
Aroclor-1260	3	12.180	-0.004	843190	240.4	3	12.330	0.000	1029113	235.9	
Aroclor-1260	4	12.287	-0.004	350603	242.9	4	13.632	0.000	282226	239.8	
Aroclor-1260	5	12.360	-0.004	418412	246.6	NS	---			----	
Total CollAve (5 peaks):				242.5	Total Col2Ave (4 peaks):				235.8	RPD = 3	
Corrected Ave (4 peaks):				241.4	Corrected Ave (3 peaks):				234.5	RPD = 3	

CalAmt %D: -3.0

CalAmt %D: -5.7

Total PCB Area Col1 (6.196 - 13.808) = 17903595 Col1 Total PCB = 0.57 ppm*

Total PCB Area Col2 (6.196 - 13.808) = 14205708 Col2 Total PCB = 0.52 ppm*

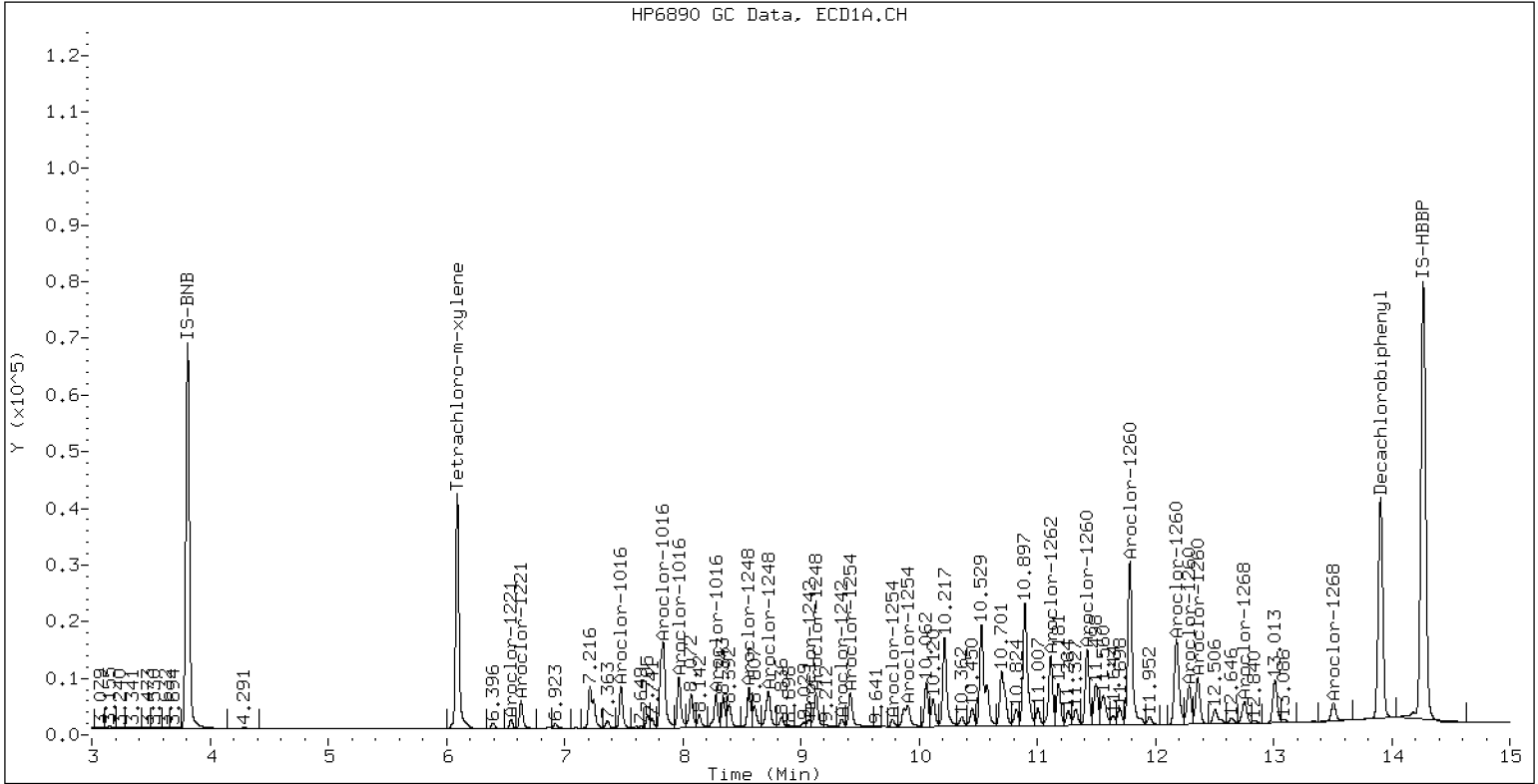
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

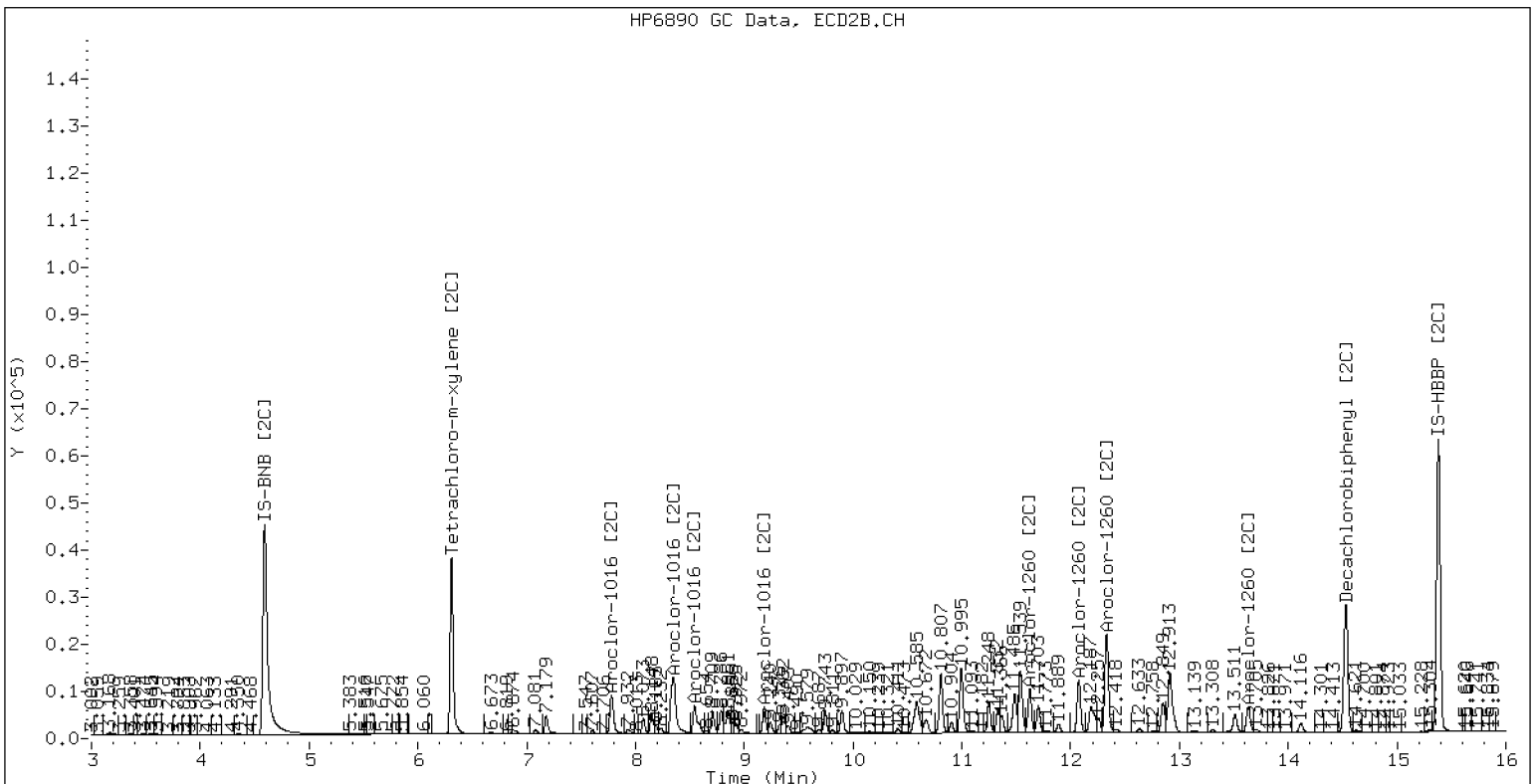
ECD5-ZB5 /20201116.b/20111638ECD5.D AR1660CCV6

17-NOV-2020 04:58 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201116.b/20201116.b/20111638ECD5.D AR1660CCV6



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>ECD5</u>	Calibration:	<u>DK00033</u>
Lab File ID:	<u>20111715ECD5.D</u>	Calibration Date:	<u>11/07/2020</u>
Sequence:	<u>SIL0028</u>	Injection Date:	<u>11/17/20</u>
Lab Sample ID:	<u>SIL0028-CCV1</u>	Injection Time:	<u>23:53</u>
Sequence Name:	<u>AR1248CCV1</u>		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	258	0.0509821	0.0526919		3.0	+/-20
Aroclor 1248 [2C]	A	250.00	248	0.0404949	0.0404254		-1.0	+/-20
Decachlorobiphenyl	A	40.000	39.9	0.9468939	0.9452588		-0.3	+/-20
Tetrachlorometaxylene	A	40.000	39.2	1.1693520	1.1461020		-2.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.2	0.9970133	0.9783690		-2.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.3	1.0293930	1.0893490		5.8	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111715ECD5.D
Data file 2: /20201117.b/20201117.b/20111715ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1248.sub
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 17-NOV-2020 23:53
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift	ZB5 Col Response	RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.001	1620549	6.314	0.001	1461146	39.2	42.3	7.7	Tetrachloro-m-xylene
13.907	-0.003	1985666	14.531	0.000	1377071	39.9	39.3	1.7	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	98.0	105.8
Decachlorobiphenyl	99.8	98.1

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2827932	4.6
Hexabromobiphenyl	3964848	4201317	6.0

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2682604	-7.9
Hexabromobiphenyl	2801720	2815034	0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col						ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1248	1	8.565	0.000	377806	253.5	1	8.790	0.000	263153	257.8	
Aroclor-1248	2	8.728	0.001	471510	261.2	2	9.187	0.000	251238	206.6	
Aroclor-1248	3	9.128	0.002	592544	264.5	3	9.612	0.000	420983	262.5	
Aroclor-1248	4	9.352	0.002	420753	251.6	4	10.029	0.000	420194	264.1	
Total Col1Ave (4 peaks):				257.7	Total Col2Ave (4 peaks):				247.8	RPD = 4	
Corrected Ave (3 peaks):				255.4	Corrected Ave (3 peaks):				242.3	RPD = 5	
CalAmt %D:				3.1	CalAmt %D:				-0.9		

Total PCB Area Col1 (6.199 - 13.810) = 7672553 Col1 Total PCB = 0.24 ppm*

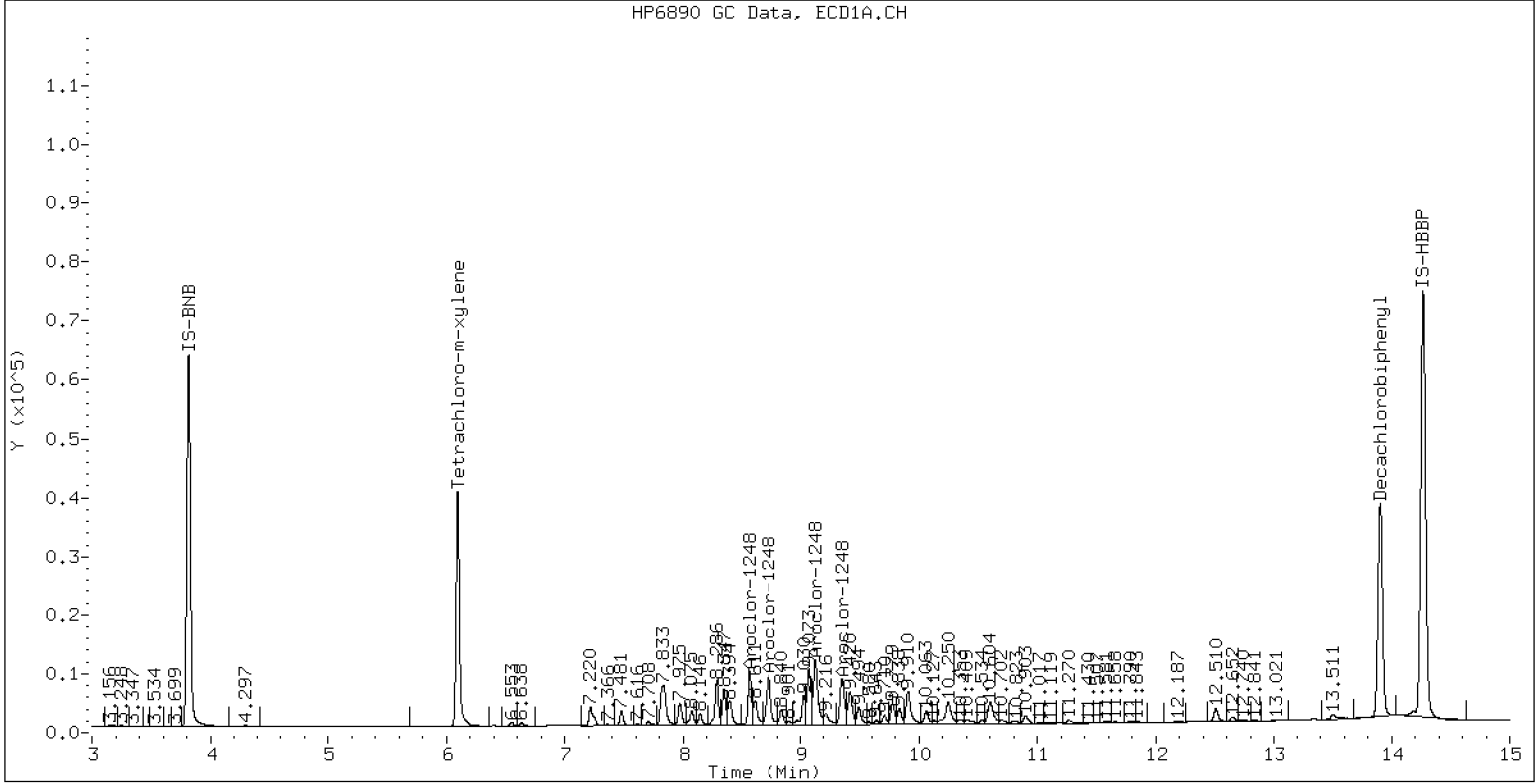
Total PCB Area Col2 (6.199 - 13.810) = 6975394 Col2 Total PCB = 0.26 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

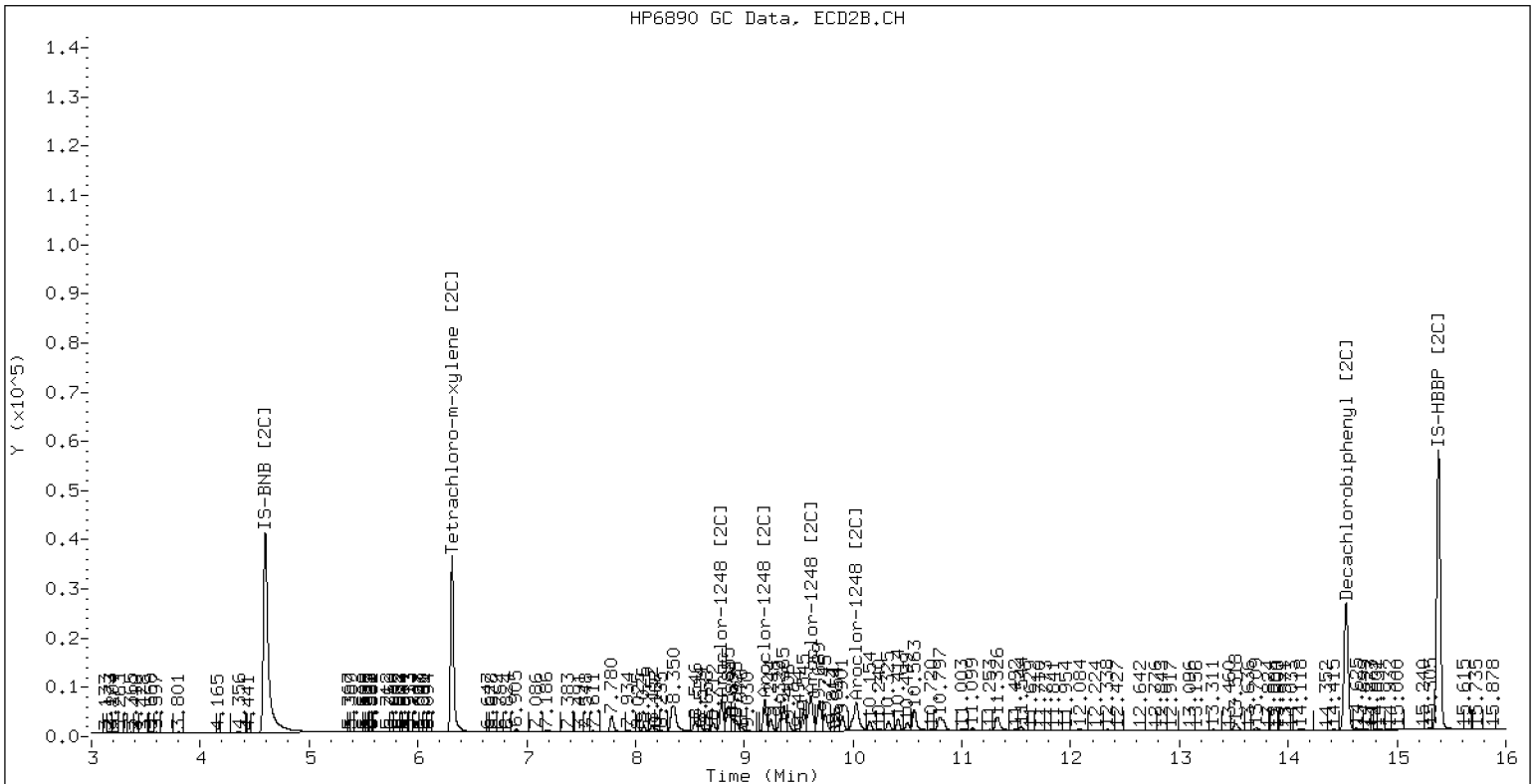
ECD5-ZB5 /20201117.b/20111715ECD5.D AR1248CCV1

17-NOV-2020 23:53 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111715ECD5.D AR1248CCV1



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111716ECD5.D
Data file 2: /20201117.b/20201117.b/20111716ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 18-NOV-2020 00:14
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1496682	6.313 0.000 1313788		38.5	40.4	4.7	Tetrachloro-m-xylene
13.908	-0.003 1937141	14.532 0.001 1313342		39.8	38.4	3.6	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	96.3	101.0
Decachlorobiphenyl	99.5	96.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2656917	-1.7
Hexabromobiphenyl	3964848	4113567	3.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2526423	-13.3
Hexabromobiphenyl	2801720	2745631	-2.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col					ZB35 Col					
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.481	-0.001	265529	244.4	1	7.782	0.000	337028	240.6
Aroclor-1016	2	7.837	-0.000	830593	241.0	2	8.353	-0.000	692335	243.5
Aroclor-1016	3	7.973	0.000	344853	243.5	3	8.546	-0.000	290667	243.4
Aroclor-1016	4	8.286	-0.000	234144	249.0	4	9.187	0.000	184742	210.1
Total CollAve (4 peaks):				244.5		Total Col2Ave (4 peaks):				234.4 RPD = 4
Corrected Ave (3 peaks):				243.0		Corrected Ave (3 peaks):				231.4 RPD = 5

CalAmt %D: -2.2

CalAmt %D: -6.2

Aroclor-1260	1	11.427	-0.001	573751	237.9	1	11.628	0.000	375867	228.6
Aroclor-1260	2	11.788	0.001	1443715	239.6	2	12.079	0.002	458761	230.2
Aroclor-1260	3	12.182	0.001	778776	238.7	3	12.334	0.001	926542	234.0
Aroclor-1260	4	12.290	-0.001	324350	241.6	4	13.635	0.001	255840	239.5
Aroclor-1260	5	12.363	0.000	389969	247.1	NS	---			----
Total CollAve (5 peaks):				241.0		Total Col2Ave (4 peaks):				233.1 RPD = 3
Corrected Ave (4 peaks):				239.5		Corrected Ave (3 peaks):				230.9 RPD = 4

CalAmt %D: -3.6

CalAmt %D: -6.8

Total PCB Area Col1 (6.199 - 13.810) = 16379102 Col1 Total PCB = 0.52 ppm*

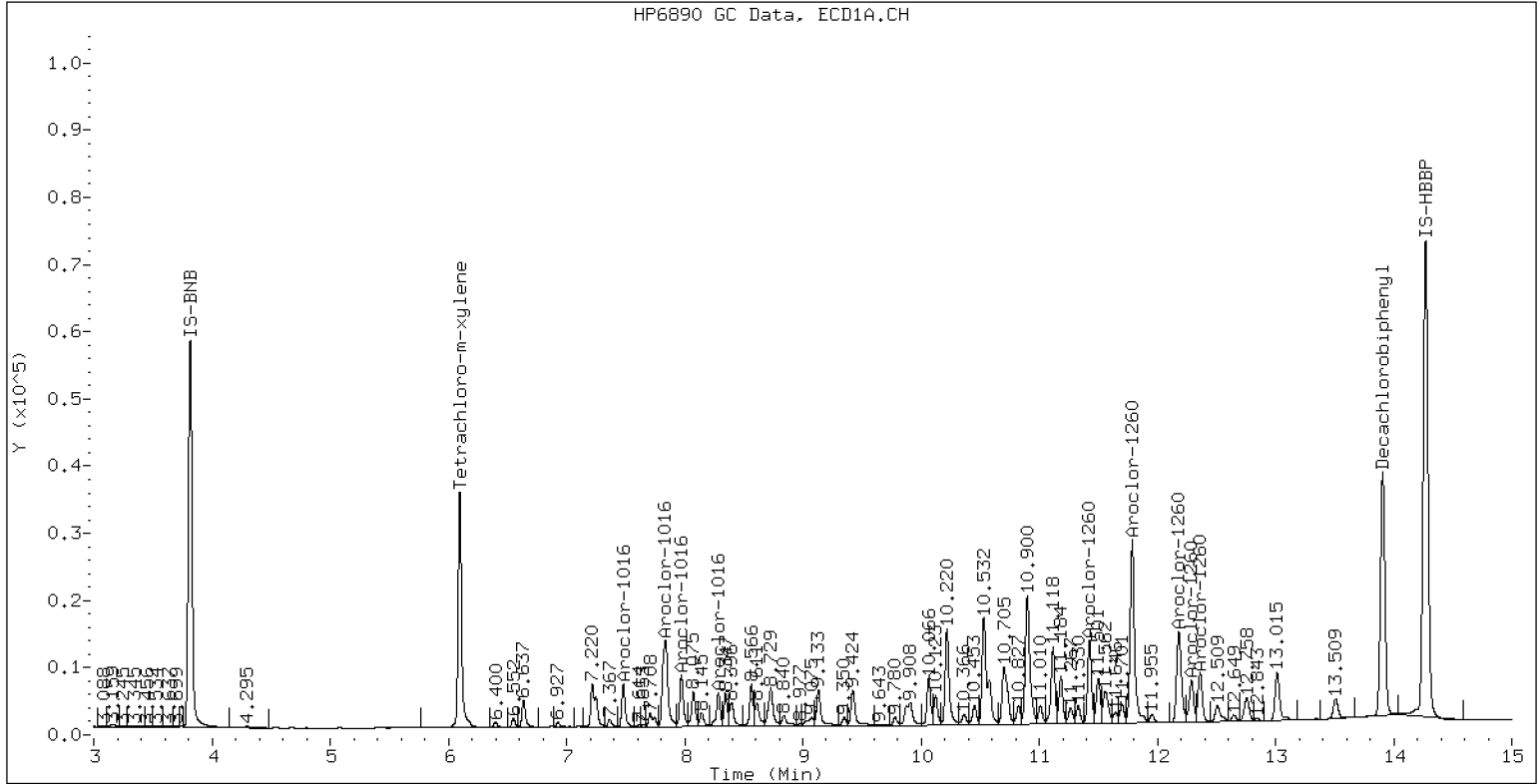
Total PCB Area Col2 (6.199 - 13.810) = 12441954 Col2 Total PCB = 0.46 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

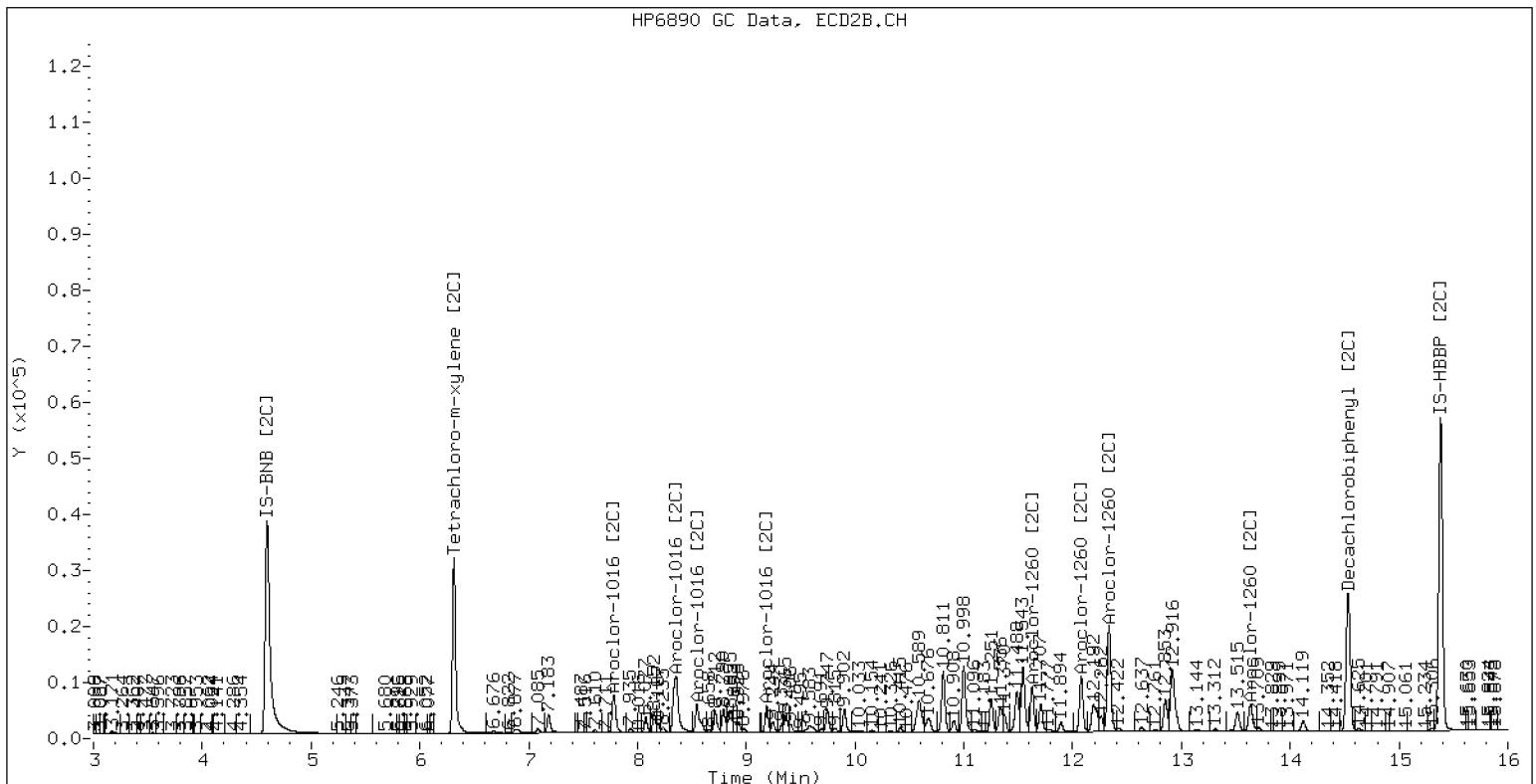
ECD5-ZB5 /20201117.b/20111716ECD5.D AR1660CCV2

18-NOV-2020 00:14 2ul JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111716ECD5.D AR1660CCV2



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111726ECD5.D
Data file 2: /20201117.b/20201117.b/20111726ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1242.sub
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 18-NOV-2020 03:40
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.098	-0.002 1759377	6.314 0.001 1541626		40.5	43.2	6.4	Tetrachloro-m-xylene
13.907	-0.003 2181497	14.532 0.001 1475480		40.1	39.7	1.0	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	101.3	108.0
Decachlorobiphenyl	100.3	99.3

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2969689	9.9
Hexabromobiphenyl	3964848	4592722	15.8

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2772877	-4.9
Hexabromobiphenyl	2801720	2980063	6.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col

ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1242	1	7.481	-0.001	242395	253.3	1	7.782	0.000	305655	248.3	
Aroclor-1242	2	7.837	0.001	748646	247.5	2	8.353	0.000	622346	247.7	
Aroclor-1242	3	9.074	0.002	418744	381.2	3	9.691	0.000	205788	251.2	
Aroclor-1242	4	9.353	0.003	295692	246.3	4	10.032	0.000	256979	254.8	
Total Col1Ave (4 peaks):				282.1	Total Col2Ave (4 peaks):				250.5	RPD = 12	
Corrected Ave (3 peaks):				249.0	Corrected Ave (3 peaks):				249.1	RPD = 0	
CalAmt %D:				12.8	CalAmt %D:				0.2		

Total PCB Area Col1 (6.199 - 13.810) = 6782280 Col1 Total PCB = 0.22 ppm*

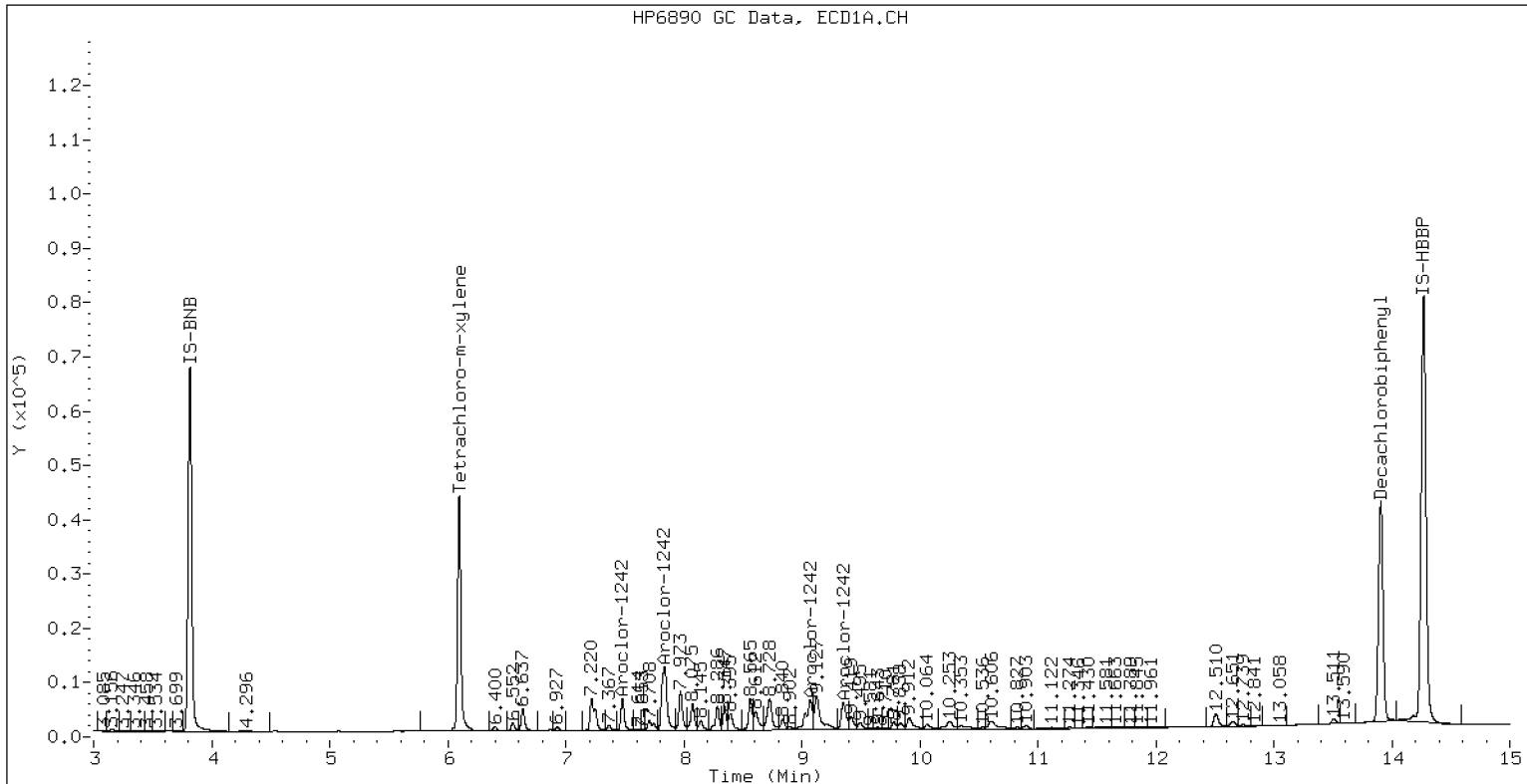
Total PCB Area Col2 (6.199 - 13.810) = 6148831 Col2 Total PCB = 0.23 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

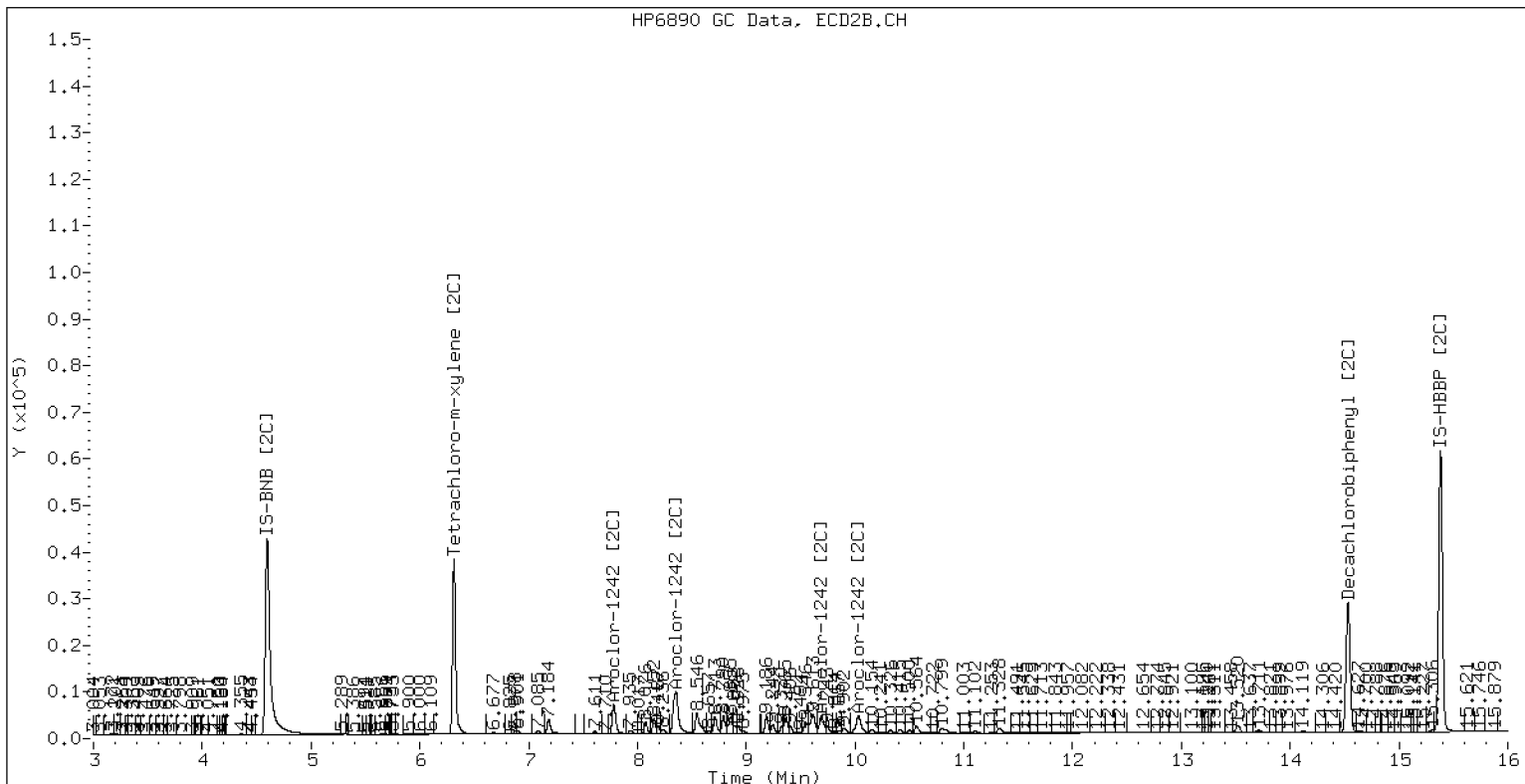
ECD5-ZB5 /20201117.b/20111726ECD5.D AR1242CCV3

18-NOV-2020 03:40 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111726ECD5.D AR1242CCV3



ZB-35 Manual Integration: NO



CONTINUING CALIBRATION CHECK EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Coopperage
Instrument ID: ECD5 Calibration: DK00033
Lab File ID: 20111727ECD5.D Calibration Date: 11/07/2020
Sequence: SIL0028 Injection Date: 11/18/20
Lab Sample ID: SIL0028-CCV4 Injection Time: 04:01
Sequence Name: AR1660CCV4

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	239	0.0518592	0.0493240		-4.4	+/-20
Aroclor 1016 [2C]	A	250.00	234	0.0500110	0.0475991		-6.4	+/-20
Aroclor 1260	A	250.00	233	0.0568672	0.0527747		-6.8	+/-20
Aroclor 1260 [2C]	A	250.00	228	0.0631205	0.0573557		-9.0	+/-20
Decachlorobiphenyl	A	40.000	39.6	0.9468939	0.9385154		-1.0	+/-20
Tetrachlorometaxylene	A	40.000	38.0	1.1693520	1.1124190		-5.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.0	0.9970133	0.9472203		-5.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.2	1.0293930	1.0332980		0.5	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB

Data file 1: /20201117.b/20111727ECD5.D
Data file 2: /20201117.b/20201117.b/20111727ECD5.D
Method: ecd5.i\20201117.b\PCB.m
Instrument, Inj.Vol, Analyst: ecd5.i, 2ul, JGR
Compound Sublist: AR1660.sub
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 18-NOV-2020 04:01
Matrix: NONE
Ical Date: 07-NOV-2020
Dilution Factor: 1.000

RT	ZB5 Col Shift Response	ZB35 Col Shift Response	RT	ZB5 on col	ZB35 on col	RPD	Compound/Flag
6.097	-0.002 1552537	6.313 0.000 1361765		38.1	40.2	5.4	Tetrachloro-m-xylene
13.908	-0.002 1995584	14.531 0.000 1354418		39.6	38.0	4.2	Decachlorobiphenyl

- * Indicates RPD > 40%
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE PERCENT RECOVERY

SURROGATE	Col1	Col2
Tetrachloro-m-xylene	95.1	100.4
Decachlorobiphenyl	99.1	95.0

INTERNAL STANDARD SUMMARY

Standard Cpnd	Column 1		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2703006	2791280	3.3
Hexabromobiphenyl	3964848	4252640	7.3

Standard Cpnd	Column 2		%D
	Standard Area*	Sample Area	
Bromo-Nitrobenzene	2914229	2635764	-9.6
Hexabromobiphenyl	2801720	2859774	2.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 07-NOV-2020
<- Indicates standard response outside Limits (-50 to +100%)

ZB5 Col ZB35 Col

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount	
Aroclor-1016	1	7.481	-0.001	273465	239.6	1	7.782	0.000	351156	240.3	
Aroclor-1016	2	7.838	0.000	855234	236.2	2	8.353	0.000	723223	243.8	
Aroclor-1016	3	7.973	0.000	353662	237.7	3	8.547	0.000	300569	241.3	
Aroclor-1016	4	8.286	-0.001	238601	241.6	4	9.187	0.000	193303	210.7	
Total CollAve (4 peaks):				238.8		Total Col2Ave (4 peaks):				234.0	RPD = 2
Corrected Ave (3 peaks):				237.8		Corrected Ave (3 peaks):				230.8	RPD = 3

CalAmt %D: -4.5

CalAmt %D: -6.4

Aroclor-1260	1	11.427	-0.001	571307	229.2	1	11.627	0.000	380604	222.3	
Aroclor-1260	2	11.787	-0.000	1440731	231.3	2	12.077	0.000	465121	224.1	
Aroclor-1260	3	12.182	0.000	778538	230.8	3	12.333	0.000	942391	228.5	
Aroclor-1260	4	12.290	-0.001	325261	234.4	4	13.634	0.000	262187	235.6	
Aroclor-1260	5	12.362	-0.000	390911	239.6	NS	---			----	
Total CollAve (5 peaks):				233.1		Total Col2Ave (4 peaks):				227.6	RPD = 2
Corrected Ave (4 peaks):				231.4		Corrected Ave (3 peaks):				224.9	RPD = 3

CalAmt %D: -6.8

CalAmt %D: -9.0

Total PCB Area Col1 (6.199 - 13.810) = 16473410 Col1 Total PCB = 0.52 ppm*

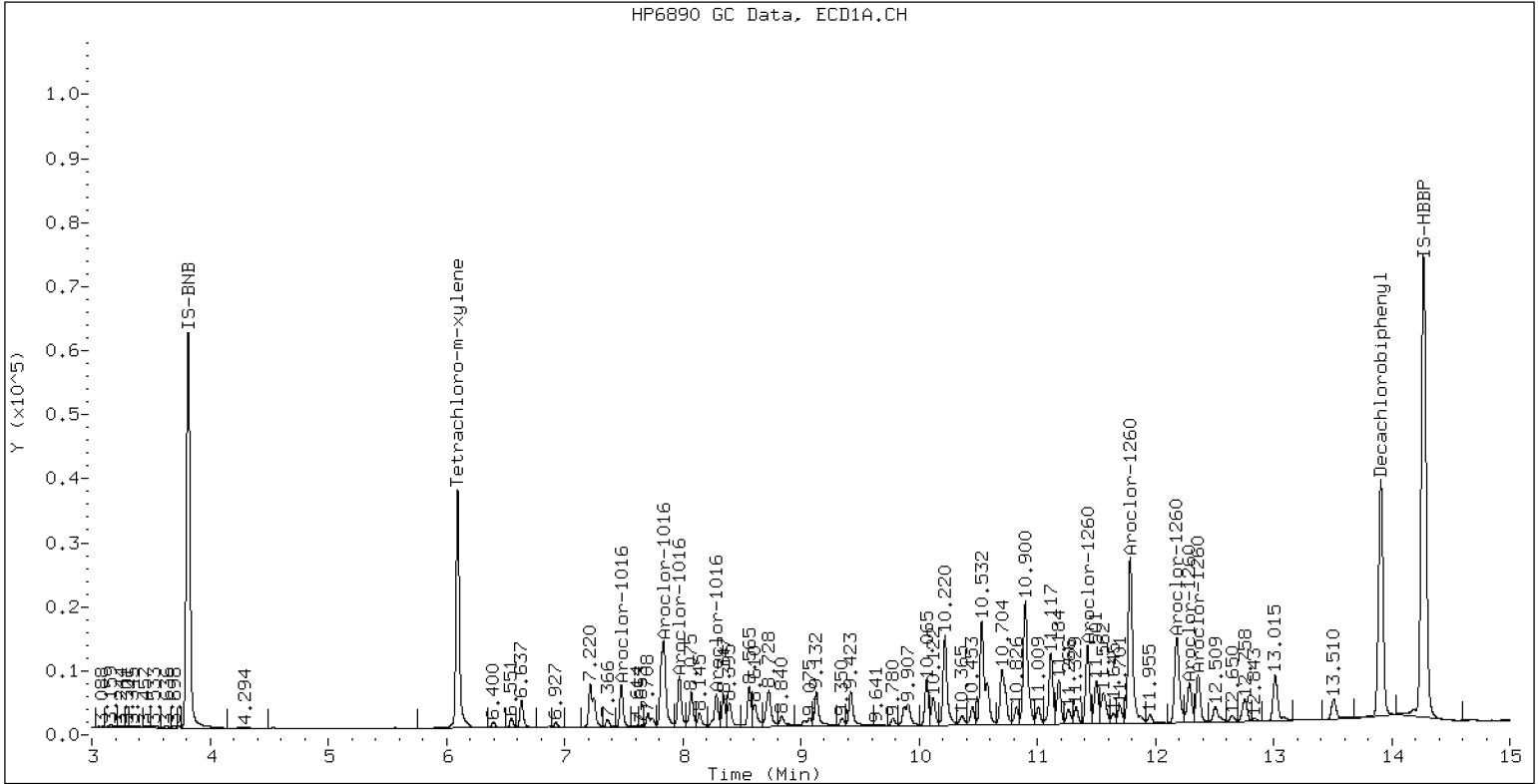
Total PCB Area Col2 (6.199 - 13.810) = 12766800 Col2 Total PCB = 0.47 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB Dual Column Chromatograms

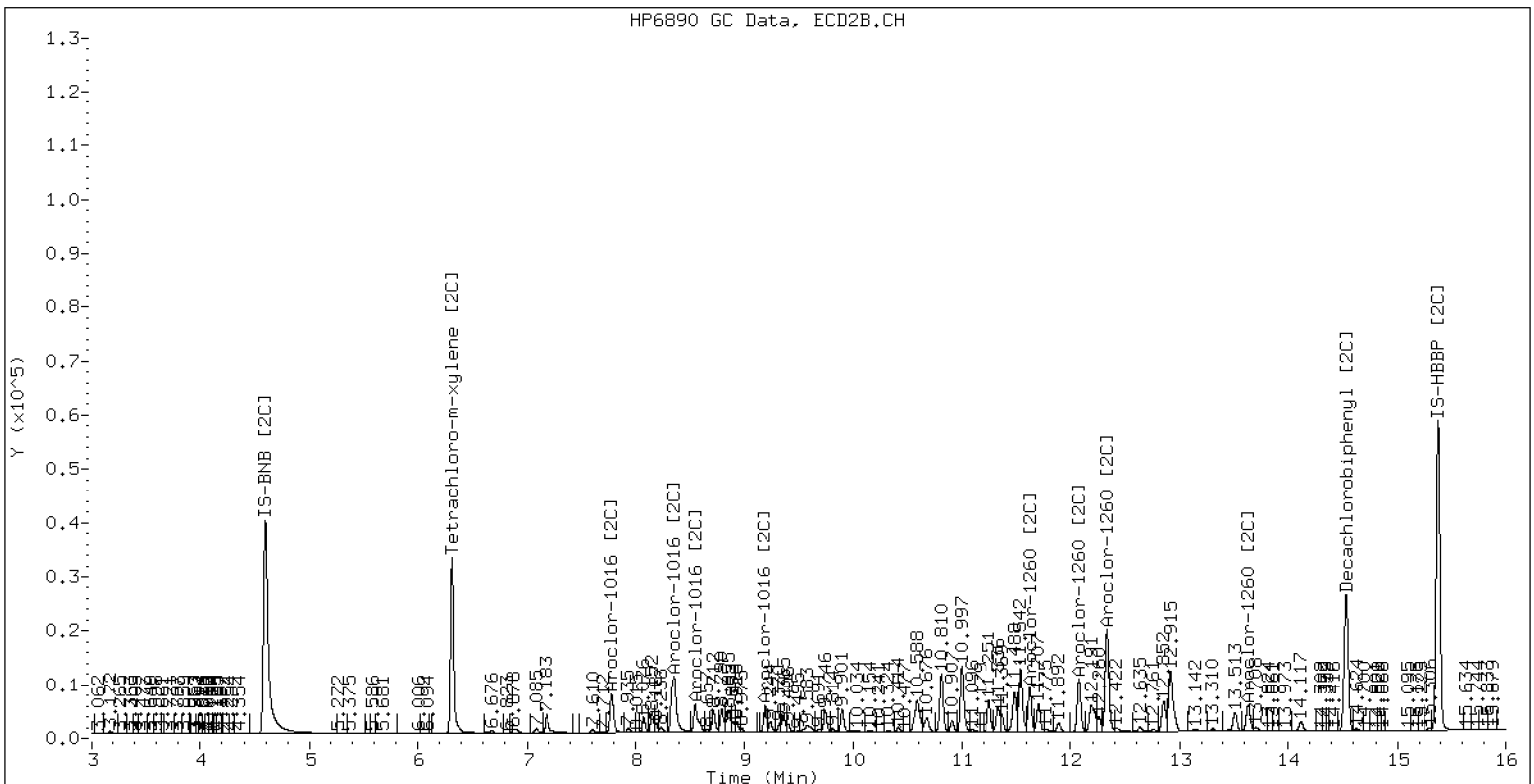
ECD5-ZB5 /20201117.b/20111727ECD5.D AR1660CCV4

18-NOV-2020 04:01 2u1 JGR



ZB-5 Manual Integration: NO

ECD5-ZB35 /20201117.b/20201117.b/20111727ECD5.D AR1660CCV4



ZB-35 Manual Integration: NO



ANALYSIS SEQUENCE

SIK0115

Instrument: ECD7
Calibration ID: DK00015

Element Column ID: h913h914

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0115-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0115-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0115-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0115-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0115-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0115-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0115-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0115-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0115-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0115-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0115-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0115-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0115-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0115-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0115-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0115-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0115-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020 18:13	20110701.D	1	RINSE	
2	07-NOV-2020 18:34	20110702.D	1	RINSE	
3	07-NOV-2020 18:55	20110703.D	1	RINSE	
4	07-NOV-2020 19:15	20110704.D	1	RINSE	
5	07-NOV-2020 19:36	20110705.D	1	RINSE	
6	07-NOV-2020 19:56	20110706.D	1	RINSE	
7	07-NOV-2020 20:17	20110707.D	1	IB	
8	07-NOV-2020 20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020 20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020 21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020 21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020 22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020 22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020 22:42	20110714.D	1	AR1242	
15	07-NOV-2020 23:02	20110715.D	1	AR1248	
16	07-NOV-2020 23:23	20110716.D	1	AR1254	
17	07-NOV-2020 23:44	20110717.D	1	AR2162	
18	08-NOV-2020 00:04	20110718.D	1	AR3268	
19	08-NOV-2020 00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020 00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020 01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020 01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020 01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020 02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020 02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020 02:49	20110726.D	1	BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268	1		NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1	1		NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2	1		NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3	1		NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4	1		NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5	1		NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6	1		NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS	1		NO MANUAL INTEGRATION
0249	20110726.D	BD	1		NO MANUAL INTEGRATION
1813	20110701.D	RINSE	1		NO MANUAL INTEGRATION
1834	20110702.D	RINSE	1		NO MANUAL INTEGRATION
1855	20110703.D	RINSE	1		NO MANUAL INTEGRATION
1915	20110704.D	RINSE	1		NO MANUAL INTEGRATION
1936	20110705.D	RINSE	1		NO MANUAL INTEGRATION
1956	20110706.D	RINSE	1		NO MANUAL INTEGRATION
2017	20110707.D	IB	1		NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660	1		NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	j rains, 16-Nov-2020 07:18
20110702.D	Data Locked	j rains, 16-Nov-2020 07:18
20110703.D	Data Locked	j rains, 16-Nov-2020 07:18
20110704.D	Data Locked	j rains, 16-Nov-2020 07:18
20110705.D	Data Locked	j rains, 16-Nov-2020 07:18
20110706.D	Data Locked	j rains, 16-Nov-2020 07:18
20110707.D	Data Locked	j rains, 16-Nov-2020 07:18
20110708.D	Data Locked	j rains, 16-Nov-2020 07:18
20110709.D	Data Locked	j rains, 16-Nov-2020 07:18
20110710.D	Data Locked	j rains, 16-Nov-2020 07:18
20110711.D	Data Locked	j rains, 16-Nov-2020 07:18
20110712.D	Data Locked	j rains, 16-Nov-2020 07:18
20110713.D	Data Locked	j rains, 16-Nov-2020 07:18
20110714.D	Data Locked	j rains, 16-Nov-2020 07:18
20110715.D	Data Locked	j rains, 16-Nov-2020 07:18
20110716.D	Data Locked	j rains, 16-Nov-2020 07:18
20110717.D	Data Locked	j rains, 16-Nov-2020 07:18
20110718.D	Data Locked	j rains, 16-Nov-2020 07:18
20110719.D	Data Locked	j rains, 16-Nov-2020 07:18
20110720.D	Data Locked	j rains, 16-Nov-2020 07:18
20110721.D	Data Locked	j rains, 16-Nov-2020 07:18
20110722.D	Data Locked	j rains, 16-Nov-2020 07:18
20110723.D	Data Locked	j rains, 16-Nov-2020 07:18
20110724.D	Data Locked	j rains, 16-Nov-2020 07:18
20110725.D	Data Locked	j rains, 16-Nov-2020 07:18
20110726.D	Data Locked	j rains, 16-Nov-2020 07:18



ANALYSIS SEQUENCE

SIK0223

Instrument: ECD5 Element Column ID: h4096h4097
Calibration ID: DK00033

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0223-CAL1	0.25PPM AR1660	QC		1	I007341	I007345	
SIK0223-CAL2	0.02PPM AR1660	QC		2	I007344	I007345	
SIK0223-CAL3	0.05PPM AR1660	QC		3	I007343	I007345	
SIK0223-CAL4	1.0PPM AR1660	QC		4	I007317	I007345	
SIK0223-CAL5	0.1PPM AR1660	QC		5	I007342	I007345	
SIK0223-CAL6	0.5PPM AR1660	QC		6	I007340	I007345	
SIK0223-CAL7	0.25PPM AR1242	QC		7	I007322	I007345	
SIK0223-CAL8	0.25PPM AR1248	QC		8	I007321	I007345	
SIK0223-CAL9	0.25PPM AR1254	QC		9	I007320	I007345	
SIK0223-CALA	0.25PPM AR2162	QC		10	I007319	I007345	
SIK0223-CALB	0.25PPM AR3268	QC		11	I010378	I007345	
SIK0223-SCV1	AR1660SCV1	QC		12	I005063	I007345	
SIK0223-SCV2	AR1242SCV2	QC		13	I005064	I007345	
SIK0223-SCV3	AR1248SCV3	QC		14	I005065	I007345	
SIK0223-SCV4	AR1254SCV4	QC		15	I005066	I007345	
SIK0223-SCV5	AR2162SCV5	QC		16	I005067	I007345	
SIK0223-SCV6	AR3268SCV6	QC		17	I005068	I007345	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b
2.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	07-NOV-2020	18:13	20110701.D	1	RINSE	
2	07-NOV-2020	18:34	20110702.D	1	RINSE	
3	07-NOV-2020	18:55	20110703.D	1	RINSE	
4	07-NOV-2020	19:15	20110704.D	1	RINSE	
5	07-NOV-2020	19:36	20110705.D	1	RINSE	
6	07-NOV-2020	19:56	20110706.D	1	RINSE	
7	07-NOV-2020	20:17	20110707.D	1	IB	
8	07-NOV-2020	20:38	20110708.D	1	0.25PPMAR1660	
9	07-NOV-2020	20:58	20110709.D	1	0.02PPMAR1660	
10	07-NOV-2020	21:19	20110710.D	1	0.05PPMAR1660	
11	07-NOV-2020	21:40	20110711.D	1	1PPMAR1660	
12	07-NOV-2020	22:00	20110712.D	1	0.1PPMAR1660	
13	07-NOV-2020	22:21	20110713.D	1	0.5PPMAR1660	
14	07-NOV-2020	22:42	20110714.D	1	AR1242	
15	07-NOV-2020	23:02	20110715.D	1	AR1248	
16	07-NOV-2020	23:23	20110716.D	1	AR1254	
17	07-NOV-2020	23:44	20110717.D	1	AR2162	
18	08-NOV-2020	00:04	20110718.D	1	AR3268	
19	08-NOV-2020	00:25	20110719.D	1	AR1660SCV1	
20	08-NOV-2020	00:45	20110720.D	1	AR1242SCV2	
21	08-NOV-2020	01:06	20110721.D	1	AR1248SCV3	
22	08-NOV-2020	01:27	20110722.D	1	AR1254SCV4	
23	08-NOV-2020	01:47	20110723.D	1	AR2162SCV5	
24	08-NOV-2020	02:08	20110724.D	1	AR3268SCV6	
25	08-NOV-2020	02:29	20110725.D	1	0.1PPMDDTS	
26	08-NOV-2020	02:49	20110726.D	1	BD	

Security Status Report

Date: 16-Nov-2020 07:18

20110701.D	Data Locked	j rains, 16-Nov-2020 07:18
20110702.D	Data Locked	j rains, 16-Nov-2020 07:18
20110703.D	Data Locked	j rains, 16-Nov-2020 07:18
20110704.D	Data Locked	j rains, 16-Nov-2020 07:18
20110705.D	Data Locked	j rains, 16-Nov-2020 07:18
20110706.D	Data Locked	j rains, 16-Nov-2020 07:18
20110707.D	Data Locked	j rains, 16-Nov-2020 07:18
20110708.D	Data Locked	j rains, 16-Nov-2020 07:18
20110709.D	Data Locked	j rains, 16-Nov-2020 07:18
20110710.D	Data Locked	j rains, 16-Nov-2020 07:18
20110711.D	Data Locked	j rains, 16-Nov-2020 07:18
20110712.D	Data Locked	j rains, 16-Nov-2020 07:18
20110713.D	Data Locked	j rains, 16-Nov-2020 07:18
20110714.D	Data Locked	j rains, 16-Nov-2020 07:18
20110715.D	Data Locked	j rains, 16-Nov-2020 07:18
20110716.D	Data Locked	j rains, 16-Nov-2020 07:18
20110717.D	Data Locked	j rains, 16-Nov-2020 07:18
20110718.D	Data Locked	j rains, 16-Nov-2020 07:18
20110719.D	Data Locked	j rains, 16-Nov-2020 07:18
20110720.D	Data Locked	j rains, 16-Nov-2020 07:18
20110721.D	Data Locked	j rains, 16-Nov-2020 07:18
20110722.D	Data Locked	j rains, 16-Nov-2020 07:18
20110723.D	Data Locked	j rains, 16-Nov-2020 07:18
20110724.D	Data Locked	j rains, 16-Nov-2020 07:18
20110725.D	Data Locked	j rains, 16-Nov-2020 07:18
20110726.D	Data Locked	j rains, 16-Nov-2020 07:18

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd5.i Date: 07-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1813	20110701.D	RINSE		1	NO MANUAL INTEGRATION
1834	20110702.D	RINSE		1	NO MANUAL INTEGRATION
1855	20110703.D	RINSE		1	NO MANUAL INTEGRATION
1915	20110704.D	RINSE		1	NO MANUAL INTEGRATION
1936	20110705.D	RINSE		1	NO MANUAL INTEGRATION
1956	20110706.D	RINSE		1	NO MANUAL INTEGRATION
2017	20110707.D	IB		1	NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0004	20110718.D	AR3268	1		NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1	1		NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2	1		NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3	1		NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4	1		NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5	1		NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6	1		NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS	1		NO MANUAL INTEGRATION
0249	20110726.D	BD	1		NO MANUAL INTEGRATION
1813	20110701.D	RINSE	1		NO MANUAL INTEGRATION
1834	20110702.D	RINSE	1		NO MANUAL INTEGRATION
1855	20110703.D	RINSE	1		NO MANUAL INTEGRATION
1915	20110704.D	RINSE	1		NO MANUAL INTEGRATION
1936	20110705.D	RINSE	1		NO MANUAL INTEGRATION
1956	20110706.D	RINSE	1		NO MANUAL INTEGRATION
2017	20110707.D	IB	1		NO MANUAL INTEGRATION
2038	20110708.D	0.25PPMAR1660	1		NO MANUAL INTEGRATION
2058	20110709.D	0.02PPMAR1660	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201107.b\20201107.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2119	20110710.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
2140	20110711.D	1PPMAR1660		1	NO MANUAL INTEGRATION
2200	20110712.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
2221	20110713.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
2242	20110714.D	AR1242		1	NO MANUAL INTEGRATION
2302	20110715.D	AR1248		1	NO MANUAL INTEGRATION
2323	20110716.D	AR1254		1	NO MANUAL INTEGRATION
2344	20110717.D	AR2162		1	Aroclor-1262 [2C],
0004	20110718.D	AR3268		1	NO MANUAL INTEGRATION
0025	20110719.D	AR1660SCV1		1	NO MANUAL INTEGRATION
0045	20110720.D	AR1242SCV2		1	NO MANUAL INTEGRATION
0106	20110721.D	AR1248SCV3		1	NO MANUAL INTEGRATION
0127	20110722.D	AR1254SCV4		1	NO MANUAL INTEGRATION
0147	20110723.D	AR2162SCV5		1	NO MANUAL INTEGRATION
0208	20110724.D	AR3268SCV6		1	NO MANUAL INTEGRATION
0229	20110725.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
0249	20110726.D	BD		1	NO MANUAL INTEGRATION



Dual Column
ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0250

Instrument: ECD5

Calibration: DK00033

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SIK0250-ICV1	20111603ECD7.D	20111603ECD7.D	NA	11/16/20 10:06
Initial Cal Check	SIK0250-ICV2	20111604ECD7.D	20111604ECD7.D	NA	11/16/20 10:27
Calibration Check	SIK0250-CCV1	20111611ECD7.D	20111611ECD7.D	NA	11/16/20 18:02
Calibration Check	SIK0250-CCV2	20111612ECD7.D	20111612ECD7.D	NA	11/16/20 18:23
Blank	BIK0338-BLK1	20111613ECD5.D	20111613ECD5.D	Solid	11/16/20 20:22
LCS	BIK0338-BS1	20111614ECD5.D	20111614ECD5.D	Solid	11/16/20 20:42
PP17-7.5	20K0008-03	20111616ECD5.D	20111616ECD5.D	Solid	11/16/20 21:24
PP22-2.5	20K0008-07	20111617ECD5.D	20111617ECD5.D	Solid	11/16/20 21:44
PP22-2.5	BIK0338-MS1	20111618ECD5.D	20111618ECD5.D	Solid	11/16/20 22:05
PP22-2.5	BIK0338-MSD1	20111619ECD5.D	20111619ECD5.D	Solid	11/16/20 22:26
PP22-7.5	20K0008-09	20111620ECD5.D	20111620ECD5.D	Solid	11/16/20 22:46
PP18-5	20K0008-14	20111621ECD5.D	20111621ECD5.D	Solid	11/16/20 23:07
PP18-10	20K0008-16	20111622ECD5.D	20111622ECD5.D	Solid	11/16/20 23:28
Calibration Check	SIK0250-CCV3	20111623ECD5.D	20111623ECD5.D	NA	11/16/20 23:48
Calibration Check	SIK0250-CCV4	20111624ECD5.D	20111624ECD5.D	NA	11/17/20 00:09
PP19-2.5	20K0008-20	20111625ECD5.D	20111625ECD5.D	Solid	11/17/20 00:30
PP19-7.5	20K0008-22	20111626ECD5.D	20111626ECD5.D	Solid	11/17/20 00:50
PP20-5	20K0008-26	20111627ECD5.D	20111627ECD5.D	Solid	11/17/20 01:11
PP20-10	20K0008-28	20111628ECD5.D	20111628ECD5.D	Solid	11/17/20 01:32
PP31-7.5	20K0008-33	20111630ECD5.D	20111630ECD5.D	Solid	11/17/20 02:13
Calibration Check	SIK0250-CCV5	20111637ECD5.D	20111637ECD5.D	NA	11/17/20 04:38
Calibration Check	SIK0250-CCV6	20111638ECD5.D	20111638ECD5.D	NA	11/17/20 04:58



ANALYSIS SEQUENCE

SIK0250

Instrument: ECD5 Element Column ID: h4096h4097
Calibration ID: DK00033

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIK0250-ICV1	AR1254ICV1	QC		1	I007320	I007345	
SIK0250-ICV2	AR1660ICV2	QC		2	I007341	I007345	
20K0225-01	STAR_RAW_11132020	8082A PCB Water 0.01	B 01	3		I007345	
20K0225-02	STAR_SFEFF_11132020	8082A PCB Water 0.01	B 01	4		I007345	
20K0227-01	STAR.003EFF.11132020	8082A PCB Water 0.01	H 01	5		I007345	
BIK0456-BLK1	Blank	QC		6		I007345	
BIK0456-BS1	LCS	QC		7		I007345	
BIK0456-BSD1	LCS Dup	QC		8		I007345	
SIK0250-CCV1	AR1248CCV1	QC		9	I007321	I007345	
SIK0250-CCV2	AR1660CCV2	QC		10	I007341	I007345	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201116.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd5.i Date: 16-NOV-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0925	20111601ECD7.D	DDT		1	NO MANUAL INTEGRATION
0946	20111602ECD7.D	BD		1	NO MANUAL INTEGRATION
1006	20111603ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1027	20111604ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1558	20111605ECD7.D	20K0225-01		1	NO MANUAL INTEGRATION
1619	20111606ECD7.D	20K0225-02		1	NO MANUAL INTEGRATION
1639	20111607ECD7.D	20K0227-01		1	NO MANUAL INTEGRATION
1700	20111608ECD7.D	BIK0456-BLK1		1	NO MANUAL INTEGRATION
1721	20111609ECD7.D	BIK0456-BS1		1	NO MANUAL INTEGRATION
1741	20111610ECD7.D	BIK0456-BSD1		1	NO MANUAL INTEGRATION
1802	20111611ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1823	20111612ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0925	20111601ECD7.D	DDT		1	NO MANUAL INTEGRATION
0946	20111602ECD7.D	BD		1	NO MANUAL INTEGRATION
1006	20111603ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1027	20111604ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1558	20111605ECD7.D	20K0225-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd5.i\20201116.b\20201116.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1619	20111606ECD7.D	20K0225-02		1	NO MANUAL INTEGRATION
1639	20111607ECD7.D	20K0227-01		1	NO MANUAL INTEGRATION
1700	20111608ECD7.D	BIK0456-BLK1		1	NO MANUAL INTEGRATION
1721	20111609ECD7.D	BIK0456-BS1		1	NO MANUAL INTEGRATION
1741	20111610ECD7.D	BIK0456-BSD1		1	NO MANUAL INTEGRATION
1802	20111611ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1823	20111612ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Nov-2020 18:53

20111601ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111602ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111603ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111604ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111605ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111606ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111607ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111608ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111609ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111610ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111611ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53
20111612ECD7.D	Data Locked	j rains, 16-Nov-2020 18:53



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0223</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0223-SCV1 (Solid)			Lab File ID: 20110719.D			Analyzed: 11/08/20 00:25		
Decachlorobiphenyl	40.000	109	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	6.099	6.097667	0.0013	N/A	
Decachlorobiphenyl [2C]	40.000	111	80 - 120	14.536	14.536	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	113	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV2 (Solid)			Lab File ID: 20110720.D			Analyzed: 11/08/20 00:45		
Decachlorobiphenyl	40.000	107	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	108	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	110	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV3 (Solid)			Lab File ID: 20110721.D			Analyzed: 11/08/20 01:06		
Decachlorobiphenyl	40.000	110	80 - 120	13.911	13.90933	0.0017	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	112	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	113	80 - 120	6.315	6.314333	0.0007	N/A	
SIK0223-SCV4 (Solid)			Lab File ID: 20110722.D			Analyzed: 11/08/20 01:27		
Decachlorobiphenyl	40.000	105	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	6.099	6.097667	0.0013	N/A	
Decachlorobiphenyl [2C]	40.000	108	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	109	80 - 120	6.315	6.314333	0.0007	N/A	
SIK0223-SCV5 (Solid)			Lab File ID: 20110723.D			Analyzed: 11/08/20 01:47		
Decachlorobiphenyl	40.000	107	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	110	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	110	80 - 120	6.316	6.314333	0.0017	N/A	
SIK0223-SCV6 (Solid)			Lab File ID: 20110724.D			Analyzed: 11/08/20 02:08		
Decachlorobiphenyl	40.000	150	80 - 120	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	153	80 - 120	14.537	14.536	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	112	80 - 120	6.316	6.314333	0.0017	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Sequence: <u>SIK0250</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/07/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIK0250-ICV1 (Water)								
Lab File ID: 20111603ECD7.D				Analyzed: 11/16/20 10:06				
Decachlorobiphenyl	40.000	100	80 - 120	13.909	13.90933	-0.0003	N/A	
Tetrachlorometaxylene	40.000	98.3	80 - 120	6.093	6.097667	-0.0047	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	14.533	14.536	-0.0030	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	6.309	6.314333	-0.0053	N/A	
SIK0250-ICV2 (Water)								
Lab File ID: 20111604ECD7.D				Analyzed: 11/16/20 10:27				
Decachlorobiphenyl	40.000	101	80 - 120	13.909	13.90933	-0.0003	N/A	
Tetrachlorometaxylene	40.000	96.8	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	100	80 - 120	14.534	14.536	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	6.312	6.314333	-0.0023	N/A	
SIK0250-CCV1 (Water)								
Lab File ID: 20111611ECD7.D				Analyzed: 11/16/20 18:02				
Decachlorobiphenyl	40.000	97.0	80 - 120	13.908	13.90933	-0.0013	N/A	
Tetrachlorometaxylene	40.000	99.8	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	99.0	80 - 120	14.532	14.536	-0.0040	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	6.312	6.314333	-0.0023	N/A	
SIK0250-CCV2 (Water)								
Lab File ID: 20111612ECD7.D				Analyzed: 11/16/20 18:23				
Decachlorobiphenyl	40.000	98.0	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	98.0	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	95.8	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	6.312	6.314333	-0.0023	N/A	
BIK0338-BLK1 (Solid)								
Lab File ID: 20111613ECD5.D				Analyzed: 11/16/20 20:22				
Decachlorobiphenyl	40.000	73.7	40 - 133	13.91	13.90933	0.0007	N/A	
Tetrachlorometaxylene	40.000	66.8	53 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	77.8	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	40.000	71.1	53 - 120	6.302	6.314333	-0.0123	N/A	
BIK0338-BS1 (Solid)								
Lab File ID: 20111614ECD5.D				Analyzed: 11/16/20 20:42				
Decachlorobiphenyl	40.000	79.0	40 - 133	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	69.8	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	40.000	83.5	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	40.000	75.6	53 - 120	6.308	6.314333	-0.0063	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0250</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0008-03 (Solid)		Lab File ID: 20111616ECD5.D				Analyzed: 11/16/20 21:24		
Decachlorobiphenyl	39.880	97.7	40 - 133	13.902	13.90933	-0.0073	N/A	
Tetrachlorometaxylene	39.880	63.9	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.880	50.9	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.880	78.7	53 - 120	6.309	6.314333	-0.0053	N/A	
20K0008-07 (Solid)		Lab File ID: 20111617ECD5.D				Analyzed: 11/16/20 21:44		
Decachlorobiphenyl	39.960	78.2	40 - 133	13.903	13.90933	-0.0063	N/A	
Tetrachlorometaxylene	39.960	55.9	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.960	81.6	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.960	63.5	53 - 120	6.31	6.314333	-0.0043	N/A	
BIK0338-MS1 (Solid)		Lab File ID: 20111618ECD5.D				Analyzed: 11/16/20 22:05		
Decachlorobiphenyl	39.960	78.0	40 - 133	13.9	13.90933	-0.0093	N/A	
Tetrachlorometaxylene	39.960	56.6	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.960	80.0	40 - 133	14.527	14.536	-0.0090	N/A	
Tetrachlorometaxylene [2C]	39.960	63.3	53 - 120	6.31	6.314333	-0.0043	N/A	
BIK0338-MSD1 (Solid)		Lab File ID: 20111619ECD5.D				Analyzed: 11/16/20 22:26		
Decachlorobiphenyl	39.960	80.3	40 - 133	13.901	13.90933	-0.0083	N/A	
Tetrachlorometaxylene	39.960	57.8	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.960	81.8	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.960	64.4	53 - 120	6.31	6.314333	-0.0043	N/A	
20K0008-09 (Solid)		Lab File ID: 20111620ECD5.D				Analyzed: 11/16/20 22:46		
Decachlorobiphenyl	39.994	81.0	40 - 133	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	39.994	70.4	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.994	79.9	40 - 133	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	39.994	76.4	53 - 120	6.311	6.314333	-0.0033	N/A	
20K0008-14 (Solid)		Lab File ID: 20111621ECD5.D				Analyzed: 11/16/20 23:07		
Decachlorobiphenyl	39.731	74.4	40 - 133	13.9	13.90933	-0.0093	N/A	
Tetrachlorometaxylene	39.731	57.4	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.731	73.8	40 - 133	14.527	14.536	-0.0090	N/A	
Tetrachlorometaxylene [2C]	39.731	77.2	53 - 120	6.31	6.314333	-0.0043	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0250</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0008-16 (Solid)		Lab File ID: 20111622ECD5.D			Analyzed: 11/16/20 23:28			
Decachlorobiphenyl	39.704	70.1	40 - 133	13.901	13.90933	-0.0083	N/A	
Tetrachlorometaxylene	39.704	60.8	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.704	77.7	40 - 133	14.527	14.536	-0.0090	N/A	
Tetrachlorometaxylene [2C]	39.704	73.5	53 - 120	6.31	6.314333	-0.0043	N/A	
SIK0250-CCV3 (Water)		Lab File ID: 20111623ECD5.D			Analyzed: 11/16/20 23:48			
Decachlorobiphenyl	40.000	102	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	104	80 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	40.000	99.5	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	111	80 - 120	6.311	6.314333	-0.0033	N/A	
SIK0250-CCV4 (Water)		Lab File ID: 20111624ECD5.D			Analyzed: 11/17/20 00:09			
Decachlorobiphenyl	40.000	98.8	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	98.3	80 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	40.000	95.8	80 - 120	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	6.312	6.314333	-0.0023	N/A	
20K0008-20 (Solid)		Lab File ID: 20111625ECD5.D			Analyzed: 11/17/20 00:30			
Decachlorobiphenyl	39.459	81.1	40 - 133	13.9	13.90933	-0.0093	N/A	
Tetrachlorometaxylene	39.459	56.2	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.459	82.1	40 - 133	14.525	14.536	-0.0110	N/A	
Tetrachlorometaxylene [2C]	39.459	65.7	53 - 120	6.31	6.314333	-0.0043	N/A	
20K0008-22 (Solid)		Lab File ID: 20111626ECD5.D			Analyzed: 11/17/20 00:50			
Decachlorobiphenyl	39.933	76.2	40 - 133	13.902	13.90933	-0.0073	N/A	
Tetrachlorometaxylene	39.933	61.6	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.933	69.0	40 - 133	14.527	14.536	-0.0090	N/A	
Tetrachlorometaxylene [2C]	39.933	74.9	53 - 120	6.31	6.314333	-0.0043	N/A	
20K0008-26 (Solid)		Lab File ID: 20111627ECD5.D			Analyzed: 11/17/20 01:11			
Decachlorobiphenyl	39.876	80.8	40 - 133	13.904	13.90933	-0.0053	N/A	
Tetrachlorometaxylene	39.876	68.1	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.876	83.0	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.876	77.8	53 - 120	6.31	6.314333	-0.0043	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIK0250</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/08/2020</u>

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
20K0008-28 (Solid)								
Lab File ID: 20111628ECD5.D				Analyzed: 11/17/20 01:32				
Decachlorobiphenyl	39.911	81.2	40 - 133	13.903	13.90933	-0.0063	N/A	
Tetrachlorometaxylene	39.911	70.8	53 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	39.911	82.6	40 - 133	14.528	14.536	-0.0080	N/A	
Tetrachlorometaxylene [2C]	39.911	77.5	53 - 120	6.31	6.314333	-0.0043	N/A	
20K0008-33 (Solid)								
Lab File ID: 20111630ECD5.D				Analyzed: 11/17/20 02:13				
Decachlorobiphenyl	39.679	79.4	40 - 133	13.9	13.90933	-0.0093	N/A	
Tetrachlorometaxylene	39.679	58.4	53 - 120	6.094	6.097667	-0.0037	N/A	
Decachlorobiphenyl [2C]	39.679	77.5	40 - 133	14.526	14.536	-0.0100	N/A	
Tetrachlorometaxylene [2C]	39.679	71.2	53 - 120	6.31	6.314333	-0.0043	N/A	
SIK0250-CCV5 (Water)								
Lab File ID: 20111637ECD5.D				Analyzed: 11/17/20 04:38				
Decachlorobiphenyl	40.000	99.0	80 - 120	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	40.000	97.8	80 - 120	6.093	6.097667	-0.0047	N/A	
Decachlorobiphenyl [2C]	40.000	98.3	80 - 120	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	6.308	6.314333	-0.0063	N/A	
SIK0250-CCV6 (Water)								
Lab File ID: 20111638ECD5.D				Analyzed: 11/17/20 04:58				
Decachlorobiphenyl	40.000	99.5	80 - 120	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	40.000	96.5	80 - 120	6.093	6.097667	-0.0047	N/A	
Decachlorobiphenyl [2C]	40.000	95.8	80 - 120	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	40.000	102	80 - 120	6.309	6.314333	-0.0053	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/07/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0028-ICV1 (Solid)								
Lab File ID: 20111703ECD5.D				Analyzed: 11/17/20 19:45				
Decachlorobiphenyl	40.000	102	80 - 120	13.905	13.90933	-0.0043	N/A	
Tetrachlorometaxylene	40.000	99.0	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	99.3	80 - 120	14.529	14.536	-0.0070	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-ICV2 (Solid)								
Lab File ID: 20111704ECD5.D				Analyzed: 11/17/20 20:05				
Decachlorobiphenyl	40.000	101	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	97.8	80 - 120	6.095	6.097667	-0.0027	N/A	
Decachlorobiphenyl [2C]	40.000	96.5	80 - 120	14.53	14.536	-0.0060	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	6.312	6.314333	-0.0023	N/A	
20K0008-01 (Solid)								
Lab File ID: 20111708ECD5.D				Analyzed: 11/17/20 21:28				
Decachlorobiphenyl	40.025	110	40 - 133	13.898	13.90933	-0.0113	N/A	
Tetrachlorometaxylene	40.025	95.2	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.025		40 - 133	14.53	14.536	-0.0060	N/A	NRS
Tetrachlorometaxylene [2C]	40.025	84.6	53 - 120	6.311	6.314333	-0.0033	N/A	
20K0008-31 (Solid)								
Lab File ID: 20111709ECD5.D				Analyzed: 11/17/20 21:49				
Decachlorobiphenyl	39.885	93.9	40 - 133	13.901	13.90933	-0.0083	N/A	
Tetrachlorometaxylene	39.885	101	53 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	39.885	111	40 - 133	14.527	14.536	-0.0090	N/A	
Tetrachlorometaxylene [2C]	39.885	89.2	53 - 120	6.312	6.314333	-0.0023	N/A	
SIL0028-CCV1 (Solid)								
Lab File ID: 20111715ECD5.D				Analyzed: 11/17/20 23:53				
Decachlorobiphenyl	40.000	99.8	80 - 120	13.906	13.90933	-0.0033	N/A	
Tetrachlorometaxylene	40.000	98.0	80 - 120	6.098	6.097667	0.0003	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-CCV2 (Solid)								
Lab File ID: 20111716ECD5.D				Analyzed: 11/18/20 00:14				
Decachlorobiphenyl	40.000	99.5	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	96.3	80 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	96.0	80 - 120	14.532	14.536	-0.0040	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	6.313	6.314333	-0.0013	N/A	



SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>20K0008</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperaage</u>
Sequence: <u>SIL0028</u>	Instrument: <u>ECD5</u>
Calibration: <u>DK00033</u>	Calibration Date: <u>11/07/2020</u>

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0028-CCV3 (Solid)		Lab File ID: 20111726ECD5.D			Analyzed: 11/18/20 03:40			
Decachlorobiphenyl	40.000	100	80 - 120	13.907	13.90933	-0.0023	N/A	
Tetrachlorometaxylene	40.000	101	80 - 120	6.097	6.097667	-0.0007	N/A	
Decachlorobiphenyl [2C]	40.000	99.3	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	108	80 - 120	6.313	6.314333	-0.0013	N/A	
SIL0028-CCV4 (Solid)		Lab File ID: 20111727ECD5.D			Analyzed: 11/18/20 04:01			
Decachlorobiphenyl	40.000	99.0	80 - 120	13.908	13.90933	-0.0013	N/A	
Tetrachlorometaxylene	40.000	95.0	80 - 120	6.096	6.097667	-0.0017	N/A	
Decachlorobiphenyl [2C]	40.000	95.0	80 - 120	14.531	14.536	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	6.312	6.314333	-0.0023	N/A	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0223

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SIK0223-SCV1)		(Solid)	Lab File ID: 20110719.D			Analyzed: 11/08/20 00:25			
1-Bromo-2-Nitrobenzene	2781002	3.817	2703006	3.815	103	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4175789	14.271	3964848	14.272	105	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2861203	4.598	2914229	4.596	98	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2797797	15.386	2801720	15.385	100	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV2)		(Solid)	Lab File ID: 20110720.D			Analyzed: 11/08/20 00:45			
1-Bromo-2-Nitrobenzene	2793790	3.817	2703006	3.815	103	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4185237	14.273	3964848	14.272	106	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2890341	4.598	2914229	4.596	99	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2818155	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV3)		(Solid)	Lab File ID: 20110721.D			Analyzed: 11/08/20 01:06			
1-Bromo-2-Nitrobenzene	2823266	3.817	2703006	3.815	104	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4141310	14.272	3964848	14.272	104	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2937664	4.598	2914229	4.596	101	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl [2C]	2824274	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV4)		(Solid)	Lab File ID: 20110722.D			Analyzed: 11/08/20 01:27			
1-Bromo-2-Nitrobenzene	2799459	3.817	2703006	3.815	104	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4200846	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2919916	4.597	2914229	4.596	100	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2840178	15.386	2801720	15.385	101	50 - 200	0.001	+/-0.50	
Secondary Cal Check (SIK0223-SCV5)		(Solid)	Lab File ID: 20110723.D			Analyzed: 11/08/20 01:47			
1-Bromo-2-Nitrobenzene	2776223	3.818	2703006	3.815	103	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl	4210359	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2842470	4.599	2914229	4.596	98	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	2805318	15.385	2801720	15.385	100	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SIK0223-SCV6)		(Solid)	Lab File ID: 20110724.D			Analyzed: 11/08/20 02:08			
1-Bromo-2-Nitrobenzene	2767662	3.817	2703006	3.815	102	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	4183877	14.271	3964848	14.272	106	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2856088	4.599	2914229	4.596	98	50 - 200	0.003	+/-0.50	
Hexabromobiphenyl [2C]	2802153	15.386	2801720	15.385	100	50 - 200	0.001	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0250

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SIK0250-ICV1)		(Water)	Lab File ID: 20111603ECD7.D			Analyzed: 11/16/20 10:06			
1-Bromo-2-Nitrobenzene	3029688	3.81	2986381	3.814	101	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	4684717	14.272	4540833	14.272	103	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2913642	4.59	2879685	4.595	101	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	3045605	15.385	3016923	15.384	101	50 - 200	0.001	+/-0.50	
Initial Cal Check (SIK0250-ICV2)		(Water)	Lab File ID: 20111604ECD7.D			Analyzed: 11/16/20 10:27			
1-Bromo-2-Nitrobenzene	2986381	3.814	2986381	3.814	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	4540833	14.272	4540833	14.272	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2879685	4.595	2879685	4.595	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	3016923	15.384	3016923	15.384	100	50 - 200	0.000	+/-0.50	
Blank (BIK0338-BLK1)		(Solid)	Lab File ID: 20111613ECD5.D			Analyzed: 11/16/20 20:22			
1-Bromo-2-Nitrobenzene	3404776	3.814	2986381	3.814	114	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	5707562	14.272	4540833	14.272	126	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	3287683	4.581	2879685	4.595	114	50 - 200	-0.014	+/-0.50	
Hexabromobiphenyl [2C]	3392983	15.379	3016923	15.384	112	50 - 200	-0.005	+/-0.50	
LCS (BIK0338-BS1)		(Solid)	Lab File ID: 20111614ECD5.D			Analyzed: 11/16/20 20:42			
1-Bromo-2-Nitrobenzene	3175831	3.812	2986381	3.814	106	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	5323609	14.268	4540833	14.272	117	50 - 200	-0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2970427	4.591	2879685	4.595	103	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	3196915	15.381	3016923	15.384	106	50 - 200	-0.003	+/-0.50	
PP17-7.5 (20K0008-03)		(Solid)	Lab File ID: 20111616ECD5.D			Analyzed: 11/16/20 21:24			
1-Bromo-2-Nitrobenzene	3097262	3.812	2986381	3.814	104	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	2172533	14.263	4540833	14.272	48	50 - 200	-0.009	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	2566843	4.59	2879685	4.595	89	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	3209044	15.378	3016923	15.384	106	50 - 200	-0.006	+/-0.50	
PP22-2.5 (20K0008-07)		(Solid)	Lab File ID: 20111617ECD5.D			Analyzed: 11/16/20 21:44			
1-Bromo-2-Nitrobenzene	2824411	3.814	2986381	3.814	95	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	2711157	14.262	4540833	14.272	60	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2435049	4.593	2879685	4.595	85	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	2517497	15.377	3016923	15.384	83	50 - 200	-0.007	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0250

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (BIK0338-MS1)		(Solid)	Lab File ID: 20111618ECD5.D			Analyzed: 11/16/20 22:05			
1-Bromo-2-Nitrobenzene	2821176	3.813	2986381	3.814	94	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	2771993	14.26	4540833	14.272	61	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2433262	4.592	2879685	4.595	84	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	2578521	15.377	3016923	15.384	85	50 - 200	-0.007	+/-0.50	
Matrix Spike Dup (BIK0338-MSD1)		(Solid)	Lab File ID: 20111619ECD5.D			Analyzed: 11/16/20 22:26			
1-Bromo-2-Nitrobenzene	2844914	3.813	2986381	3.814	95	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	2814917	14.262	4540833	14.272	62	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2438113	4.592	2879685	4.595	85	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	2635198	15.378	3016923	15.384	87	50 - 200	-0.006	+/-0.50	
PP22-7.5 (20K0008-09)		(Solid)	Lab File ID: 20111620ECD5.D			Analyzed: 11/16/20 22:46			
1-Bromo-2-Nitrobenzene	3171112	3.814	2986381	3.814	106	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	3726550	14.266	4540833	14.272	82	50 - 200	-0.006	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	3010834	4.594	2879685	4.595	105	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	2868394	15.38	3016923	15.384	95	50 - 200	-0.004	+/-0.50	
PP18-5 (20K0008-14)		(Solid)	Lab File ID: 20111621ECD5.D			Analyzed: 11/16/20 23:07			
1-Bromo-2-Nitrobenzene	2643067	3.814	2986381	3.814	89	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	2674921	14.26	4540833	14.272	59	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2158955	4.592	2879685	4.595	75	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	2568721	15.377	3016923	15.384	85	50 - 200	-0.007	+/-0.50	
PP18-10 (20K0008-16)		(Solid)	Lab File ID: 20111622ECD5.D			Analyzed: 11/16/20 23:28			
1-Bromo-2-Nitrobenzene	3022328	3.814	2986381	3.814	101	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	3361190	14.261	4540833	14.272	74	50 - 200	-0.011	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2581362	4.593	2879685	4.595	90	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	2829282	15.377	3016923	15.384	94	50 - 200	-0.007	+/-0.50	
PP19-2.5 (20K0008-20)		(Solid)	Lab File ID: 20111625ECD5.D			Analyzed: 11/17/20 00:30			
1-Bromo-2-Nitrobenzene	2618326	3.812	2986381	3.814	88	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	2515119	14.26	4540833	14.272	55	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2244681	4.591	2879685	4.595	78	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	2430898	15.376	3016923	15.384	81	50 - 200	-0.008	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIK0250

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PP19-7.5 (20K0008-22)		(Solid)	Lab File ID: 20111626ECD5.D			Analyzed: 11/17/20 00:50			
1-Bromo-2-Nitrobenzene	3145439	3.813	2986381	3.814	105	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	3199867	14.263	4540833	14.272	70	50 - 200	-0.009	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2689801	4.593	2879685	4.595	93	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	2946508	15.377	3016923	15.384	98	50 - 200	-0.007	+/-0.50	
PP20-5 (20K0008-26)		(Solid)	Lab File ID: 20111627ECD5.D			Analyzed: 11/17/20 01:11			
1-Bromo-2-Nitrobenzene	3241697	3.813	2986381	3.814	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	4263643	14.264	4540833	14.272	94	50 - 200	-0.008	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2941963	4.593	2879685	4.595	102	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	3069222	15.378	3016923	15.384	102	50 - 200	-0.006	+/-0.50	
PP20-10 (20K0008-28)		(Solid)	Lab File ID: 20111628ECD5.D			Analyzed: 11/17/20 01:32			
1-Bromo-2-Nitrobenzene	3131631	3.813	2986381	3.814	105	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	4511327	14.265	4540833	14.272	99	50 - 200	-0.007	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2968836	4.593	2879685	4.595	103	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	3069595	15.378	3016923	15.384	102	50 - 200	-0.006	+/-0.50	
PP31-7.5 (20K0008-33)		(Solid)	Lab File ID: 20111630ECD5.D			Analyzed: 11/17/20 02:13			
1-Bromo-2-Nitrobenzene	2817395	3.813	2986381	3.814	94	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	2396695	14.26	4540833	14.272	53	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2359060	4.593	2879685	4.595	82	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	2526183	15.375	3016923	15.384	84	50 - 200	-0.009	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sequence: SIL0028

Instrument: ECD5

Calibration: DK00033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SIL0028-ICV1)		(Solid)	Lab File ID: 20111703ECD5.D			Analyzed: 11/17/20 19:45			
1-Bromo-2-Nitrobenzene	2812481	3.815	2812481	3.815	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	4341783	14.267	4341783	14.267	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2697977	4.595	2697977	4.595	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	2885745	15.38	2885745	15.38	100	50 - 200	0.000	+/-0.50	
Initial Cal Check (SIL0028-ICV2)		(Solid)	Lab File ID: 20111704ECD5.D			Analyzed: 11/17/20 20:05			
1-Bromo-2-Nitrobenzene	2806320	3.813	2812481	3.815	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	4139674	14.267	4341783	14.267	95	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2719467	4.594	2697977	4.595	101	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	2823705	15.379	2885745	15.38	98	50 - 200	-0.001	+/-0.50	
PP17-2 (20K0008-01)		(Solid)	Lab File ID: 20111708ECD5.D			Analyzed: 11/17/20 21:28			
1-Bromo-2-Nitrobenzene	2632844	3.815	2806320	3.813	94	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3020017	14.261	4139674	14.267	73	50 - 200	-0.006	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2187593	4.594	2719467	4.594	80	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	2736641	15.377	2823705	15.379	97	50 - 200	-0.002	+/-0.50	
PP31-2.5 (20K0008-31)		(Solid)	Lab File ID: 20111709ECD5.D			Analyzed: 11/17/20 21:49			
1-Bromo-2-Nitrobenzene	2899071	3.815	2806320	3.813	103	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3396715	14.262	4139674	14.267	82	50 - 200	-0.005	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	2570255	4.595	2719467	4.594	95	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	2871326	15.377	2823705	15.379	102	50 - 200	-0.002	+/-0.50	



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-07 File ID: 20111617ECD5.D
Sampled: 10/29/20 10:15 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 21:44
Solids: 93.03 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0338 Sequence: SIK0250
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	9.339	9.349	0.01	372651.3	207	16.
	* 2	10.017	10.029	0.012	301568.3	243	
Aroclor 1254	1	9.9	9.907	0.007	384919.4	183	1.1
	* 2	11.325	11.331	0.006	335849.4	185	
Aroclor 1260	1	12.353	12.36267	0.00967	442766	223	8.6
	* 2	13.627	13.6376	0.0106	489452	243	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-14 File ID: 20111621ECD5.D
Sampled: 10/29/20 11:20 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 23:07
Solids: 80.03 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0338 Sequence: SIK0250
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	9.338	9.349	0.011	928884.3	540	21.3
	* 2	10.013	10.029	0.016	711381.5	669	
Aroclor 1254	1	9.898	9.907	0.009	2029851	619	32.4
	* 2	11.314	11.331	0.017	1119579	858	
Aroclor 1260	1	12.352	12.36267	0.0107	428851	218	16.8
	* 2	13.629	13.6376	0.0086	523852.5	258	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Coopera
Matrix: Soil Laboratory ID: 20K0008-16 File ID: 20111622ECD5.D
Sampled: 10/29/20 11:30 Prepared: 11/12/20 16:23 Analyzed: 11/16/20 23:28
Solids: 70.06 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0338 Sequence: SIK0250
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	9.34	9.349	0.009	1288732	666	14.5
	* 2	10.015	10.029	0.014	991157.3	770	
Aroclor 1254	1	9.899	9.907	0.008	3232620	503	13.9
	* 2	11.315	11.331	0.016	882630.8	578	
Aroclor 1260	1	12.352	12.36267	0.0107	589019.6	244	21.9
	* 2	13.627	13.6376	0.0106	653106.5	304	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperae
Matrix: Soil Laboratory ID: 20K0008-22 File ID: 20111626ECD5.D
Sampled: 10/29/20 13:40 Prepared: 11/12/20 16:23 Analyzed: 11/17/20 00:50
Solids: 73.98 Preparation: EPA 3546 (Microwave) Instrument: ECD5
Batch: BIK0338 Sequence: SIK0250
GC Column(1): ZB5 GC Column(2): ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	9.339	9.349	0.01	288555.3	146	9.2
	* 2	10.015	10.029	0.014	210341	160	
Aroclor 1254	* 1	9.902	9.907	0.005	613169	108	4.7
	2	11.318	11.331	0.013	210820.6	103	
Aroclor 1260	* 1	12.356	12.36267	0.00667	108794	46.6	2.2
	2	13.627	13.6376	0.0106	120134.3	45.6	

* Column used for quantitation



DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Coopera</u>
Matrix:	<u>Soil</u>	Laboratory ID:	<u>20K0008-26</u>
Sampled:	<u>10/29/20 14:30</u>	Prepared:	<u>11/12/20 16:23</u>
Solids:	<u>80.12</u>	Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0338</u>	Instrument:	<u>ECD5</u>
	Sequence:		<u>SIK0250</u>
GC Column(1):	<u>ZB5</u>	GC Column(2):	<u>ZB35</u>

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	9.327	9.349	0.022	36957.25	17.9	54.8
	2	10.018	10.029	0.011	14850	10.2	
Aroclor 1254	* 1	9.901	9.907	0.006	71439.4	12.9	25.3
	2	11.324	11.331	0.007	25831.4	10.0	
Aroclor 1260	1	12.357	12.36267	0.00567	29241	9.6	7.
	* 2	13.629	13.6376	0.0086	24708	10.3	

* Column used for quantitation



HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP17-2 20K0008-01	10/29/20 08:50	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 21:28	5	40	
PP17-7.5 20K0008-03	10/29/20 09:00	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 21:24	4	40	
PP22-2.5 20K0008-07	10/29/20 10:15	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 21:44	4	40	
PP22-7.5 20K0008-09	10/29/20 10:25	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 22:46	4	40	
PP18-5 20K0008-14	10/29/20 11:20	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 23:07	4	40	
PP18-10 20K0008-16	10/29/20 11:30	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 23:28	4	40	
PP19-2.5 20K0008-20	10/29/20 13:30	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 00:30	4	40	
PP19-7.5 20K0008-22	10/29/20 13:40	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 00:50	4	40	
PP20-5 20K0008-26	10/29/20 14:30	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 01:11	4	40	
PP20-10 20K0008-28	10/29/20 14:40	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 01:32	4	40	
PP31-2.5 20K0008-31	10/29/20 15:25	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 21:49	5	40	
PP31-7.5 20K0008-33	10/29/20 15:35	10/30/20 11:45	11/12/20 16:23	14	14	11/17/20 02:13	4	40	
Matrix Spike BIK0338-MS1	10/29/20 10:15	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 22:05	4	40	
Matrix Spike Dup BIK0338-MSD1	10/29/20 10:15	10/30/20 11:45	11/12/20 16:23	14	14	11/16/20 22:26	4	40	

* Indicates hold time exceedance.



METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: ECD5

Analyte	MDL	RL	Units
Aroclor 1016	8.0	20.0	ug/kg
Aroclor 1016 [2C]	8.0	20.0	ug/kg
Aroclor 1221	8.0	20.0	ug/kg
Aroclor 1221 [2C]	8.0	20.0	ug/kg
Aroclor 1232	8.0	20.0	ug/kg
Aroclor 1232 [2C]	8.0	20.0	ug/kg
Aroclor 1242	8.0	20.0	ug/kg
Aroclor 1242 [2C]	8.0	20.0	ug/kg
Aroclor 1248	8.0	20.0	ug/kg
Aroclor 1248 [2C]	8.0	20.0	ug/kg
Aroclor 1254	8.0	20.0	ug/kg
Aroclor 1254 [2C]	8.0	20.0	ug/kg
Aroclor 1260	9.3	20.0	ug/kg
Aroclor 1260 [2C]	9.3	20.0	ug/kg
Aroclor 1262	9.3	20.0	ug/kg
Aroclor 1262 [2C]	9.3	20.0	ug/kg
Aroclor 1268	9.3	20.0	ug/kg
Aroclor 1268 [2C]	9.3	20.0	ug/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: ECD5

Analyte	MDL	RL	Units
Aroclor 1016	0.018	0.100	ug/L
Aroclor 1016 [2C]	0.018	0.100	ug/L
Aroclor 1242	0.018	0.100	ug/L
Aroclor 1242 [2C]	0.018	0.100	ug/L
Aroclor 1248	0.018	0.100	ug/L
Aroclor 1248 [2C]	0.018	0.100	ug/L
Aroclor 1254	0.018	0.100	ug/L
Aroclor 1254 [2C]	0.018	0.100	ug/L
Aroclor 1260	0.017	0.100	ug/L
Aroclor 1260 [2C]	0.017	0.100	ug/L



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP17-2

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-01 C SDG: 20K0008
Sampled: 10/29/20 08:50 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-057
% Solids: 76.64 Preparation: SMM EPA 7471B Analyzed: 11/09/20 14:51
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.294 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.126	1	0.00466	0.0222	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP17-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-03 C SDG: 20K0008
Sampled: 10/29/20 09:00 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-043
% Solids: 65.90 Preparation: SMM EPA 7471B Analyzed: 11/09/20 14:20
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.239 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0363	1	0.00667	0.0317	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP22-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-07 C SDG: 20K0008
Sampled: 10/29/20 10:15 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-060
% Solids: 93.03 Preparation: SMM EPA 7471B Analyzed: 11/09/20 14:58
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.243 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0243	1	0.00464	0.0221	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP22-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-09 C SDG: 20K0008
Sampled: 10/29/20 10:25 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-061
% Solids: 72.37 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:00
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.284 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0354	1	0.00511	0.0243	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP18-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-14 C SDG: 20K0008
Sampled: 10/29/20 11:20 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-062
% Solids: 80.03 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:02
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.208 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.497	1	0.00631	0.0300	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP18-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-16 C SDG: 20K0008
Sampled: 10/29/20 11:30 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-063
% Solids: 70.06 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:05
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.234 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0314	1	0.00640	0.0305	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP19-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-20 C SDG: 20K0008
Sampled: 10/29/20 13:30 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-064
% Solids: 77.62 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:07
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.206 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.741	1	0.00657	0.0313	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP19-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-22 C SDG: 20K0008
Sampled: 10/29/20 13:40 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-065
% Solids: 73.98 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:09
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.218 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0691	1	0.00651	0.0310	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP20-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-26 A SDG: 20K0008
Sampled: 10/29/20 14:30 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-066
% Solids: 80.12 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:11
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.241 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0151	1	0.00544	0.0259	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP20-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-28 C SDG: 20K0008
Sampled: 10/29/20 14:40 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-067
% Solids: 72.00 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:14
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.246 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0325	1	0.00593	0.0282	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP31-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-31 C SDG: 20K0008
Sampled: 10/29/20 15:25 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-068
% Solids: 84.56 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:16
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.202 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.145	1	0.00615	0.0293	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B
Total Metals

PP31-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-33 C SDG: 20K0008
Sampled: 10/29/20 15:35 Prepared: 11/06/20 10:44 File ID: SMM 11-09-20-069
% Solids: 84.43 Preparation: SMM EPA 7471B Analyzed: 11/09/20 15:18
Batch: BIK0176 Sequence: SIK0127 Initial/Final: 0.205 g Wet / 50 mL
Instrument: HYDRA Calibration: DK00017

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.0474	1	0.00607	0.0289	



PREPARATION BATCH SUMMARY

EPA 7471B

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Batch: BIK0176 Batch Matrix: Solid Preparation: SMM EPA 7471B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP17-2	20K0008-01	SMM 11-09-20-057	11/06/20 10:44	
PP17-7.5	20K0008-03	SMM 11-09-20-043	11/06/20 10:44	
PP22-2.5	20K0008-07	SMM 11-09-20-060	11/06/20 10:44	
PP22-7.5	20K0008-09	SMM 11-09-20-061	11/06/20 10:44	
PP18-5	20K0008-14	SMM 11-09-20-062	11/06/20 10:44	
PP18-10	20K0008-16	SMM 11-09-20-063	11/06/20 10:44	
PP19-2.5	20K0008-20	SMM 11-09-20-064	11/06/20 10:44	
PP19-7.5	20K0008-22	SMM 11-09-20-065	11/06/20 10:44	
PP20-5	20K0008-26	SMM 11-09-20-066	11/06/20 10:44	
PP20-10	20K0008-28	SMM 11-09-20-067	11/06/20 10:44	
PP31-2.5	20K0008-31	SMM 11-09-20-068	11/06/20 10:44	
PP31-7.5	20K0008-33	SMM 11-09-20-069	11/06/20 10:44	
Blank	BIK0176-BLK1	SMM 11-09-20-041	11/06/20 10:44	
LCS	BIK0176-BS1	SMM 11-09-20-042	11/06/20 10:44	
PP17-7.5	BIK0176-DUP1	SMM 11-09-20-044	11/06/20 10:44	
PP17-7.5	BIK0176-MS1	SMM 11-09-20-045	11/06/20 10:44	
PP17-7.5	BIK0176-MSD1	SMM 11-09-20-048	11/06/20 10:44	



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

BIK0170

Mercury Digestion Log

Prep Code: SMM

Matrix: Soil

Analyst: SD

Date: 11/6/20

Bath Temp: 97°C

Start Time: 1625

End Time: 1740

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) Volume (mL)	Final Volume (mL)	# KMnO ₄ Aliquots	CLP	Comments
20J425-1	C		0.224	50.0			
↓ -2	D		0.239				
↓ -3	↓		0.270				
↓ -4	C		0.206				
↓ -5			0.241				
↓ -6	↓		0.207				
↓ -7	↓		0.242				
↓ -8	D		0.288				
20K8-1	C		0.294				
↓ -3			0.239				
↓ -7			0.243				
↓ -9			0.284				
↓ -14			0.208				
↓ -16			0.234				
↓ -20			0.206				
↓ -22	↓		0.218				
↓ -26	A		0.241				
↓ -28	C		0.246				
↓ -31			0.202				
↓ -33	↓		0.205				
BIK170-BIK	-		-				
↓ -BSI	-		-				
↓ -DUP1	-		0.237				20K8-3
↓ -MS1	-		0.237				↓
↓ -MSD1	-		0.240	↓	↓		↓

Chemical/Reagent ID:

HNO₃: I9356
5% K₂S₂O₈: I9312

H₂SO₄: I6551
5% KMnO₄: I9582

HCl: -
Digest Tube Lot: 2003055



Form I
METHOD BLANK DATA SHEET
EPA 7471B
Total Metals

Blank

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperae

Batch: BIK0176

Laboratory ID: BIK0176-BLK1

Prepared: 11/06/20 10:44

Matrix: Solid

Preparation: SMM EPA 7471B

Analyzed: 11/09/20 14:15

Sequence: SIK0127

Calibration: DK00017

Instrument: HYDRA

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	ND	1	0.00525	0.0250	U



DUPLICATES

EPA 7471B

Total Metals

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Laboratory ID: BIK0176-DUP1

Batch: BIK0176

Lab Source ID: 20K0008-03

Preparation: SMM EPA 7471B

Initial/Final: 0.237 g / 50 mL

Source Sample Name: PP17-7.5

% Solids: 65.90

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg dry)	C	DUPLICATE CONCENTRATION (mg/kg dry)	C	RPD %	Q
Mercury	0.00 - 0.06	0.0363		0.0276	L, J	27.3	L

*: Values outside of QC limits

L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD



MS / MS DUPLICATE RECOVERY
EPA 7471B
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/09/20 14:24</u>
Batch:	<u>BIK0176</u>	Laboratory ID:	<u>BIK0176-MS1</u>
Preparation:	<u>SMM EPA 7471B</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>0.237 g / 50 mL</u>	Source Sample:	<u>PP17-7.5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Mercury	0.320	0.0363		0.395		112	75 - 125

* Values outside of QC limits



MS / MS DUPLICATE RECOVERY
EPA 7471B
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/09/20 14:31</u>
Batch:	<u>BIK0176</u>	Laboratory ID:	<u>BIK0176-MSD1</u>
Preparation:	<u>SMM EPA 7471B</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>0.24 g / 50 mL</u>	Source Sample:	<u>PP17-7.5</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Mercury	0.316	0.367		104	7.43	20	75 - 125

* Values outside of QC limits



INITIAL CALIBRATION DATA

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00017

Instrument: HYDRA

Calibration Date: 11/09/2020 12:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Mercury	0	0	0.0001	5450000	0.0005	5340000	0.001	5256000	0.002	5135000	0.005	5072600

SMM 11-09-20

SIK0127
PK00017

Method: ARI 5 ppb (NO 0.05)

Operator: Admin

Date of Analysis: 09 Nov 2020 12:37:03

Sample ID	Mean	Units		Date	Method
SEQ-CAL1	-8	PPB		09 Nov 2020 12:37:11	ARI 5 ppb (NO 0.05)
SEQ-CAL2	545	PPB		09 Nov 2020 12:39:26	ARI 5 ppb (NO 0.05)
SEQ-CAL3	2670	PPB		09 Nov 2020 12:41:42	ARI 5 ppb (NO 0.05)
SEQ-CAL4	5256	PPB		09 Nov 2020 12:43:57	ARI 5 ppb (NO 0.05)
SEQ-CAL5	10270	PPB		09 Nov 2020 12:46:11	ARI 5 ppb (NO 0.05)
SEQ-CAL6	25363	PPB		09 Nov 2020 12:48:25	ARI 5 ppb (NO 0.05)
SEQ-ICV	99.7% 3.9867	PPB	✓	09 Nov 2020 12:59:55	ARI 5 ppb (NO 0.05)
SEQ-ICB	-0.0234	PPB	✓	09 Nov 2020 13:02:08	ARI 5 ppb (NO 0.05)
SEQ-CRL	90.7% 0.0907	PPB	✓	09 Nov 2020 13:04:24	ARI 5 ppb (NO 0.05)
SEQ-CCV	101.2% 4.0493	PPB	✓	09 Nov 2020 13:06:40	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0248	PPB	✓	09 Nov 2020 13:08:53	ARI 5 ppb (NO 0.05)
BIK0178-BLK1	-0.0154	PPB	✓	09 Nov 2020 13:11:09	ARI 5 ppb (NO 0.05)
BIK0178-BS1	1.8167	PPB	✓	09 Nov 2020 13:13:22	ARI 5 ppb (NO 0.05)
20J0396-02	0.0199	PPB		09 Nov 2020 13:15:36	ARI 5 ppb (NO 0.05)
BIK0178-DUP1	0.0184	PPB	No RPD	09 Nov 2020 13:17:50	ARI 5 ppb (NO 0.05)
BIK0178-MS1	1.0217	PPB	✓	09 Nov 2020 13:20:03	ARI 5 ppb (NO 0.05)
BIK0178-MSD1	1.0477	PPB	✓	09 Nov 2020 13:22:17	ARI 5 ppb (NO 0.05)
20K0002-02	0.0429	PPB		09 Nov 2020 13:24:30	ARI 5 ppb (NO 0.05)
20K0002-3-03 SD 11/9/20	0.0554	PPB		09 Nov 2020 13:26:44	ARI 5 ppb (NO 0.05)
20K0002-4 04	0.0535	PPB		09 Nov 2020 13:28:59	ARI 5 ppb (NO 0.05)
20K0015-02	0.0776	PPB		09 Nov 2020 13:31:13	ARI 5 ppb (NO 0.05)
SEQ-CCV	102.3% 4.0940	PPB	✓	09 Nov 2020 13:33:28	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0253	PPB	✓	09 Nov 2020 13:35:40	ARI 5 ppb (NO 0.05)
20K0015-05	0.0761	PPB		09 Nov 2020 13:37:57	ARI 5 ppb (NO 0.05)
20K0015-06	0.0660	PPB		09 Nov 2020 13:40:12	ARI 5 ppb (NO 0.05)
20K0015-07	0.0599	PPB		09 Nov 2020 13:42:27	ARI 5 ppb (NO 0.05)
20K0015-08	0.0776	PPB		09 Nov 2020 13:44:40	ARI 5 ppb (NO 0.05)
20K0078-01	0.5975	PPB		09 Nov 2020 13:46:53	ARI 5 ppb (NO 0.05)
20K0078-02	0.3831	PPB		09 Nov 2020 13:49:07	ARI 5 ppb (NO 0.05)
20K0078-04	0.2148	PPB		09 Nov 2020 13:51:20	ARI 5 ppb (NO 0.05)
20K0078-06	0.0763	PPB		09 Nov 2020 13:53:33	ARI 5 ppb (NO 0.05)
20K0078-07	0.2547	PPB		09 Nov 2020 13:55:47	ARI 5 ppb (NO 0.05)
20K0078-11	0.3220	PPB		09 Nov 2020 13:58:01	ARI 5 ppb (NO 0.05)
SEQ-CCV	101.2% 4.0481	PPB	✓	09 Nov 2020 14:00:15	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0201	PPB	✓	09 Nov 2020 14:02:28	ARI 5 ppb (NO 0.05)
20K0078-12	0.0725	PPB		09 Nov 2020 14:04:44	ARI 5 ppb (NO 0.05)
20K0078-13	0.1791	PPB		09 Nov 2020 14:06:59	ARI 5 ppb (NO 0.05)
20K0078-15	0.1533	PPB		09 Nov 2020 14:09:13	ARI 5 ppb (NO 0.05)
20K0078-16	0.0730	PPB		09 Nov 2020 14:11:28	ARI 5 ppb (NO 0.05)
20K0116-01	0.1968	PPB		09 Nov 2020 14:13:43	ARI 5 ppb (NO 0.05)
BIK0176-BLK1	-0.0056	PPB	✓	09 Nov 2020 14:15:57	ARI 5 ppb (NO 0.05)
BIK0176-BS1	1.8562	PPB	✓	09 Nov 2020 14:18:11	ARI 5 ppb (NO 0.05)
20K0008-03	0.1143	PPB		09 Nov 2020 14:20:24	ARI 5 ppb (NO 0.05)
BIK0176-DUP1	0.0861	PPB	No RPD	09 Nov 2020 14:22:38	ARI 5 ppb (NO 0.05)
BIK0176-MS1	1.2334	PPB	✓	09 Nov 2020 14:24:51	ARI 5 ppb (NO 0.05)
SEQ-CCV	98.9% 3.9560	PPB	✓	09 Nov 2020 14:27:05	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0240	PPB	✓	09 Nov 2020 14:29:18	ARI 5 ppb (NO 0.05)
BIK0176-MSD1	1.1595	PPB	✓	09 Nov 2020 14:31:34	ARI 5 ppb (NO 0.05)
20J0425-01	0.1286	PPB		09 Nov 2020 14:33:48	ARI 5 ppb (NO 0.05)
20J0425-02	0.0383	PPB		09 Nov 2020 14:36:02	ARI 5 ppb (NO 0.05)
20J0425-03	0.1113	PPB		09 Nov 2020 14:38:17	ARI 5 ppb (NO 0.05)
20J0425-04	0.2575	PPB		09 Nov 2020 14:40:31	ARI 5 ppb (NO 0.05)
20J0425-05	0.3442	PPB		09 Nov 2020 14:42:46	ARI 5 ppb (NO 0.05)
20J0425-06	0.2717	PPB		09 Nov 2020 14:45:01	ARI 5 ppb (NO 0.05)
20J0425-07	0.2518	PPB		09 Nov 2020 14:47:15	ARI 5 ppb (NO 0.05)
20J0425-08	0.2739	PPB		09 Nov 2020 14:49:29	ARI 5 ppb (NO 0.05)
20K0008-01	0.5671	PPB		09 Nov 2020 14:51:42	ARI 5 ppb (NO 0.05)
SEQ-CCV	99.8% 3.9926	PPB	✓	09 Nov 2020 14:53:56	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0324	PPB	✓	09 Nov 2020 14:56:08	ARI 5 ppb (NO 0.05)
20K0008-07	0.1099	PPB		09 Nov 2020 14:58:25	ARI 5 ppb (NO 0.05)

SMM 11-09-20

Method: ARI 5 ppb (NO 0.05)

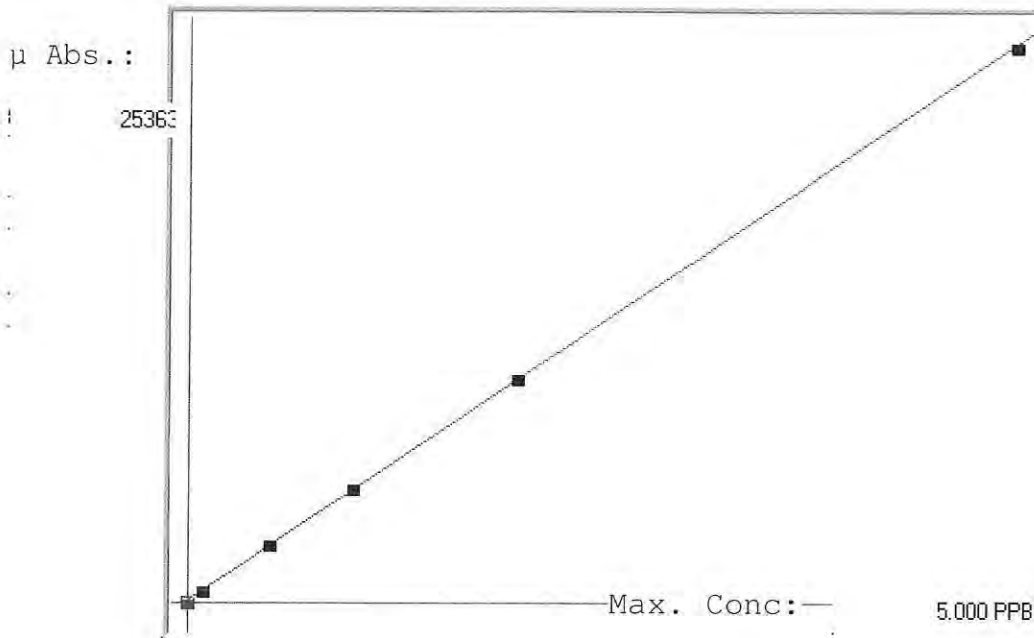
Operator: Admin

Date of Analysis: 09 Nov 2020 12:37:03

Sample ID	Mean	Units	Date	Method
20K0008-09	0.1455	PPB	09 Nov 2020 15:00:39	ARI 5 ppb (NO 0.05)
20K0008-14	1.6541	PPB	09 Nov 2020 15:02:52	ARI 5 ppb (NO 0.05)
20K0008-16	0.1030	PPB	09 Nov 2020 15:05:06	ARI 5 ppb (NO 0.05)
20K0008-20	2.3695	PPB	09 Nov 2020 15:07:20	ARI 5 ppb (NO 0.05)
20K0008-22	0.2230	PPB	09 Nov 2020 15:09:34	ARI 5 ppb (NO 0.05)
20K0008-26	0.0583	PPB	09 Nov 2020 15:11:48	ARI 5 ppb (NO 0.05)
20K0008-28	0.1153	PPB	09 Nov 2020 15:14:04	ARI 5 ppb (NO 0.05)
20K0008-31	0.4967	PPB	09 Nov 2020 15:16:19	ARI 5 ppb (NO 0.05)
20K0008-33	0.1641	PPB	09 Nov 2020 15:18:33	ARI 5 ppb (NO 0.05)
SEQ-CCV	97.2% 3.8872	PPB	09 Nov 2020 15:20:46	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0334	PPB	09 Nov 2020 15:22:59	ARI 5 ppb (NO 0.05)
SRM-TEST1	6.4355	PPB	09 Nov 2020 15:25:16	ARI 5 ppb (NO 0.05)
SRM-TEST2	7.0082	PPB	09 Nov 2020 15:27:30	ARI 5 ppb (NO 0.05)
SRM-TEST3	6.6472	PPB	09 Nov 2020 15:29:45	ARI 5 ppb (NO 0.05)
SEQ-CCV	96.6% 3.8626	PPB	09 Nov 2020 15:32:00	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0322	PPB	09 Nov 2020 15:34:14	ARI 5 ppb (NO 0.05)

ARI 5 ppb (NO 0.05)

Linear



A= 0.0000e+000

B= 1.9750e-004

C= -1.8161e-002

Rho= 0.9999675

Accept=Accepted

Accepted Date=

11/09/20 12:50

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
SEQ-CAL1 - Blank	0.000	-0.020	-0.020	-7	1.700	-10	-7	-6		
SEQ-CAL2 - 0.1 PPB	0.100	0.089	-0.011	544	0.5 %	541	548	545		
SEQ-CAL3 - 0.5 PPB	0.500	0.509	0.009	2670	1.0 %	2634	2694	2682		
SEQ-CAL4 - 1.0 PPB	1.000	1.020	0.020	5256	1.0 %	5183	5278	5307		
SEQ-CAL5 - 2.0 PPB	2.000	2.010	0.010	10270	0.5 %	10283	10203	10325		
SEQ-CAL6 - 5.0 PPB	5.000	4.991	-0.009	25363	0.4 %	25229	25446	25414		

Mercury Analysis Log

Analyst: SD
 Instrument: Hydra

SEQ: SIK0127

Date: 11/9/20
 Page: 1 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
SEQ-CAL1	SMM	1X		
-CAL2				
-CAL3				
-CAL4				
-CAL5				
-CAL6				
-ICV1			3.99	✓
-ICB1			-0.0234	✓
-CBL1			0.09	✓
-CCV1			4.05	✓
↓ -CCB1			-0.0248	✓
BIK0178-BLK1			-0.0154	✓
↓ -BS1			1.82	✓ %R=90.8%
20J0390-02			0.02	
BIK0178-DUP1			0.02	No RPD
↓ -MS1			1.02	✓ %R=100.2%
↓ -MSD1			1.04	✓ %R=102.8%, RPD=2.51
20K0002-02				
20K0002-03				
↓ -04				
20K0015-02				
SEQ-CCV2			4.89	✓
↓ -CCB2			-0.0253	✓
20K0015-05				
-06				
-07				
↓ -08				
20K0078-01				
↓ -02				
↓ -04	↓	↓		

Chemical/Reagent ID:
 10% SnCl₂: I10426

14% NH₂OH/NaCl: I8327

Standard ID:
 Standard: I10386-I10391

ICV/CCV: I10392

Mercury Analysis Log

Analyst: SD
 Instrument: Hydra

Date: 11/9/20
 Page: 2 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
20K0078-06	SMM	1x		
↓ -07				
↓ -11				
SEQ-CCV3			4.05	
↓ -CCB3			-0.0201	
20K0078-12				
↓ -13				
↓ -15				
↓ -16				
20K0116-01				
BIK0176-BLK1			-0.0056	✓
↓ -BS1			1.86	✓ %R = 92.8%
20K0008-03			0.11	
BIK0176-DUPI			0.09	NO RPD
↓ -MS1			1.23	✓ %R = 111.9%
SEQ-CCV4			3.96	✓
↓ -CCB4			-0.0240	✓
BIK0176-MSD1			1.16	✓ %R = 104.5% RPD = 10.18
20J0425-01				
↓ -02				
↓ -03				
↓ -04				
↓ -05				
↓ -06				
↓ -07				
↓ -08				
20K0008-01				
SEQ-CCV5			3.99	✓
↓ -CCB5			-0.0324	✓
20K0008-07	↓	↓		

Chemical/Reagent ID:
 10% SnCl₂:
 Standard ID:
 Standard:

14% NH₂OH/NaCl:
 ICV/CCV:

Mercury Analysis Log

Analyst: SD
 Instrument: Hydra

Date: 11/9/20
 Page: 3 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
20K-0008-09	SMM	1X		
↓ -14	↓	↓		
↓ -16	↓	↓		
↓ -20	↓	↓		
↓ -22	↓	↓		
↓ -26	↓	↓		
↓ -28	↓	↓		
↓ -31	↓	↓		
↓ -33	↓	↓		
SEA-CCV6			3.89	✓
↓ -CCB6			-0.0334	✓
SRM-TEST1				TEST ONLY
SRM-TEST2				↓
SRM-TEST3				
SEA-CCV7			3.86	✓
↓ -CCB7	↓	↓	-0.0322	✓
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> SD 11/9/20 </div>				

Chemical/Reagent ID:
 10% SnCl₂: _____
 Standard ID:
 Standard: _____

14% NH₂OH/NaCl: _____
 ICV/CCV: _____



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Instrument ID: HYDRA

Calibration: DK00017

Control Limit: +/- 20.00%

Sequence: SIK0127

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0127-ICV1	Mercury	0.0040000	0.00399	99.7	mg/L	EPA 7471B
SIK0127-CCV1	Mercury	0.0040000	0.00405	101	mg/L	EPA 7471B
SIK0127-CCV2	Mercury	0.0040000	0.00409	102	mg/L	EPA 7471B
SIK0127-CCV3	Mercury	0.0040000	0.00405	101	mg/L	EPA 7471B
SIK0127-CCV4	Mercury	0.0040000	0.00396	98.9	mg/L	EPA 7471B
SIK0127-CCV5	Mercury	0.0040000	0.00399	99.8	mg/L	EPA 7471B
SIK0127-CCV6	Mercury	0.0040000	0.00389	97.2	mg/L	EPA 7471B
SIK0127-CCV7	Mercury	0.0040000	0.00386	96.6	mg/L	EPA 7471B

* Values outside of QC limits



INSTRUMENT BLANKS EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: HYDRA

Calibration: DK00017

Sequence: SIK0127

Date Analyzed: 11/09/20 13:02

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0127-ICB1	Mercury	-0.000023	0.000021	0.000100	mg/L	
SIK0127-CCB1	Mercury	-0.000025	0.000021	0.000100	mg/L	
SIK0127-CCB2	Mercury	-0.000025	0.000021	0.000100	mg/L	
SIK0127-CCB3	Mercury	-0.000020	0.000021	0.000100	mg/L	
SIK0127-CCB4	Mercury	-0.000024	0.000021	0.000100	mg/L	
SIK0127-CCB5	Mercury	-0.000032	0.000021	0.000100	mg/L	
SIK0127-CCB6	Mercury	-0.000033	0.000021	0.000100	mg/L	
SIK0127-CCB7	Mercury	-0.000032	0.000021	0.000100	mg/L	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0127

Instrument: HYDRA

Calibration: DK00017

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SIK0127-CAL1	SMM 11-09-20-001	NA	11/09/20 12:37
Cal Standard	SIK0127-CAL2	SMM 11-09-20-002	NA	11/09/20 12:39
Cal Standard	SIK0127-CAL3	SMM 11-09-20-003	NA	11/09/20 12:41
Cal Standard	SIK0127-CAL4	SMM 11-09-20-004	NA	11/09/20 12:43
Cal Standard	SIK0127-CAL5	SMM 11-09-20-005	NA	11/09/20 12:46
Cal Standard	SIK0127-CAL6	SMM 11-09-20-006	NA	11/09/20 12:48
Initial Cal Check	SIK0127-ICV1	SMM 11-09-20-007	NA	11/09/20 12:59
Initial Cal Blank	SIK0127-ICB1	SMM 11-09-20-008	NA	11/09/20 13:02
Instrument RL Check	SIK0127-CRL1	SMM 11-09-20-009	NA	11/09/20 13:04
Calibration Check	SIK0127-CCV1	SMM 11-09-20-010	NA	11/09/20 13:06
Calibration Blank	SIK0127-CCB1	SMM 11-09-20-011	NA	11/09/20 13:08
Calibration Check	SIK0127-CCV2	SMM 11-09-20-022	NA	11/09/20 13:33
Calibration Blank	SIK0127-CCB2	SMM 11-09-20-023	NA	11/09/20 13:35
Calibration Check	SIK0127-CCV3	SMM 11-09-20-034	NA	11/09/20 14:00
Calibration Blank	SIK0127-CCB3	SMM 11-09-20-035	NA	11/09/20 14:02
Blank	BIK0176-BLK1	SMM 11-09-20-041	Solid	11/09/20 14:15
LCS	BIK0176-BS1	SMM 11-09-20-042	Solid	11/09/20 14:18
PP17-7.5	20K0008-03	SMM 11-09-20-043	Solid	11/09/20 14:20
PP17-7.5	BIK0176-DUP1	SMM 11-09-20-044	Solid	11/09/20 14:22
PP17-7.5	BIK0176-MS1	SMM 11-09-20-045	Solid	11/09/20 14:24
Calibration Check	SIK0127-CCV4	SMM 11-09-20-046	NA	11/09/20 14:27
Calibration Blank	SIK0127-CCB4	SMM 11-09-20-047	NA	11/09/20 14:29
PP17-7.5	BIK0176-MSD1	SMM 11-09-20-048	Solid	11/09/20 14:31
PP17-2	20K0008-01	SMM 11-09-20-057	Solid	11/09/20 14:51
Calibration Check	SIK0127-CCV5	SMM 11-09-20-058	NA	11/09/20 14:53
Calibration Blank	SIK0127-CCB5	SMM 11-09-20-059	NA	11/09/20 14:56
PP22-2.5	20K0008-07	SMM 11-09-20-060	Solid	11/09/20 14:58
PP22-7.5	20K0008-09	SMM 11-09-20-061	Solid	11/09/20 15:00
PP18-5	20K0008-14	SMM 11-09-20-062	Solid	11/09/20 15:02
PP18-10	20K0008-16	SMM 11-09-20-063	Solid	11/09/20 15:05



DETECTION LEVEL STANDARD
EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: HYDRA

Calibration: DK00017

Sequence: SIK0127

Lab Sample ID: SIK0127-CRL1

Analyte	True	Found	%R	Units	QC Limits
Mercury	0.000100	0.000091	90.7	mg/L	70 - 130

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP17-2 20K0008-01	10/29/20 08:50	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:51	11	28	
PP17-7.5 20K0008-03	10/29/20 09:00	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:20	11	28	
PP22-2.5 20K0008-07	10/29/20 10:15	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:58	11	28	
PP22-7.5 20K0008-09	10/29/20 10:25	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 15:00	11	28	
PP18-5 20K0008-14	10/29/20 11:20	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:02	11	28	
PP18-10 20K0008-16	10/29/20 11:30	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:05	11	28	
PP19-2.5 20K0008-20	10/29/20 13:30	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:07	11	28	
PP19-7.5 20K0008-22	10/29/20 13:40	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:09	11	28	
PP20-5 20K0008-26	10/29/20 14:30	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:11	11	28	
PP20-10 20K0008-28	10/29/20 14:40	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:14	11	28	
PP31-2.5 20K0008-31	10/29/20 15:25	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:16	11	28	
PP31-7.5 20K0008-33	10/29/20 15:35	10/30/20 11:45	11/06/20 10:44	7	28	11/09/20 15:18	11	28	
Duplicate BIK0176-DUP1	10/29/20 09:00	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:22	11	28	
Matrix Spike BIK0176-MS1	10/29/20 09:00	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:24	11	28	
Matrix Spike Dup BIK0176-MSD1	10/29/20 09:00	10/30/20 11:45	11/06/20 10:44	8	28	11/09/20 14:31	11	28	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 7471B

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: HYDRA

Analyte	MDL	RL	Units
Mercury	0.00525	0.0250	mg/kg

BIK0245



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 7 Balance ID: B116132369

Samples in Oven: Date: 11/10/20 Time: 1755 Temp: 103°C Analyst: SD

Removed from Oven: Date: 11/10/20 Time: 0805 Temp: 107°C Analyst: CA

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs ¹		
20J420-5	1.018	10.571	10.070	✓	✓		
↓ -6	1.014	10.533	9.042	↓	↓		
20K8-1	0.994	10.159	8.018				
↓ -3	1.018	10.206	7.073				
↓ -7	1.024	10.343	9.693				
↓ -9	1.026	10.229	7.686				
↓ -14	1.008	10.308	8.451				
↓ -16	1.012	10.164	7.424				
↓ -20	1.007	10.100	8.065				
↓ -22	1.033	10.252	7.853				
↓ -26	1.001	10.508	8.618				
↓ -28	1.018	10.511	7.853				
↓ -31	1.005	10.118	8.711				
↓ -33	1.012	10.241	8.804			✓	✓
SD 11/10/20							

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP17-2

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-01 C SDG: 20K0008
Sampled: 10/29/20 08:50 Prepared: 11/06/20 10:41 File ID: I2201110-086
% Solids: 76.64 Preparation: SWC EPA 3050B Analyzed: 11/10/20 21:45
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.015 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	943	10	1.22	12.9	D



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP17-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-03 C SDG: 20K0008
Sampled: 10/29/20 09:00 Prepared: 11/06/20 10:41 File ID: I2201110-047
% Solids: 65.90 Preparation: SWC EPA 3050B Analyzed: 11/10/20 18:45
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.008 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	3.02	2	0.286	3.01	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP22-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-07 C SDG: 20K0008
Sampled: 10/29/20 10:15 Prepared: 11/06/20 10:41 File ID: I2201110-048
% Solids: 93.03 Preparation: SWC EPA 3050B Analyzed: 11/10/20 18:50
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.059 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	41.9	2	0.193	2.03	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP22-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-09 C SDG: 20K0008
Sampled: 10/29/20 10:25 Prepared: 11/06/20 10:41 File ID: I2201110-049
% Solids: 72.37 Preparation: SWC EPA 3050B Analyzed: 11/10/20 18:54
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.031 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	2.04	2	0.255	2.68	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP18-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-14 C SDG: 20K0008
Sampled: 10/29/20 11:20 Prepared: 11/06/20 10:41 File ID: I2201110-084
% Solids: 80.03 Preparation: SWC EPA 3050B Analyzed: 11/10/20 21:36
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.051 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	2410	10	1.13	11.9	D



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP18-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0008-16 C SDG: 20K0008
Sampled: 10/29/20 11:30 Prepared: 11/06/20 10:41 File ID: I2201110-055
% Solids: 70.06 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:25
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.07 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	13.0	2	0.253	2.67	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP19-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-20 C SDG: 20K0008
Sampled: 10/29/20 13:30 Prepared: 11/06/20 10:41 File ID: I2201110-056
% Solids: 77.62 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:29
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.023 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	386	2	0.239	2.52	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP19-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-22 C SDG: 20K0008
Sampled: 10/29/20 13:40 Prepared: 11/06/20 10:41 File ID: I2201110-057
% Solids: 73.98 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:33
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.006 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	8.11	2	0.255	2.69	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP20-5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-26 A SDG: 20K0008
Sampled: 10/29/20 14:30 Prepared: 11/06/20 10:41 File ID: I2201110-058
% Solids: 80.12 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:38
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.06 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	8.05	2	0.224	2.35	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP20-10

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-28 C SDG: 20K0008
Sampled: 10/29/20 14:40 Prepared: 11/06/20 10:41 File ID: I2201110-059
% Solids: 72.00 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:42
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.09 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	2.49	2	0.242	2.55	J



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP31-2.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-31 C SDG: 20K0008
Sampled: 10/29/20 15:25 Prepared: 11/06/20 10:41 File ID: I2201110-060
% Solids: 84.56 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:46
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.074 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	154	2	0.209	2.20	



Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6010C
Total Metals

PP31-7.5

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0008-33 C SDG: 20K0008
Sampled: 10/29/20 15:35 Prepared: 11/06/20 10:41 File ID: I2201110-061
% Solids: 84.43 Preparation: SWC EPA 3050B Analyzed: 11/10/20 19:51
Batch: BIK0175 Sequence: SIK0154 Initial/Final: 1.052 g Wet / 50 mL
Instrument: ICP2 Calibration: DK00024

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	13.5	2	0.214	2.25	



PREPARATION BATCH SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Batch: BIK0175 Batch Matrix: Solid Preparation: SWC EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP17-2	20K0008-01	I2201110-086	11/06/20 10:41	
PP17-7.5	20K0008-03	I2201110-047	11/06/20 10:41	
PP22-2.5	20K0008-07	I2201110-048	11/06/20 10:41	
PP22-7.5	20K0008-09	I2201110-049	11/06/20 10:41	
PP18-5	20K0008-14	I2201110-084	11/06/20 10:41	
PP18-10	20K0008-16	I2201110-055	11/06/20 10:41	
PP19-2.5	20K0008-20	I2201110-056	11/06/20 10:41	
PP19-7.5	20K0008-22	I2201110-057	11/06/20 10:41	
PP20-5	20K0008-26	I2201110-058	11/06/20 10:41	
PP20-10	20K0008-28	I2201110-059	11/06/20 10:41	
PP31-2.5	20K0008-31	I2201110-060	11/06/20 10:41	
PP31-7.5	20K0008-33	I2201110-061	11/06/20 10:41	
Blank	BIK0175-BLK1	I2201110-046	11/06/20 10:41	
LCS	BIK0175-BS1	I2201110-052	11/06/20 10:41	
PP17-2	BIK0175-DUP1	I2201110-085	11/06/20 10:41	
PP17-2	BIK0175-MS1	I2201110-087	11/06/20 10:41	
PP17-2	BIK0175-MSD1	I2201110-088	11/06/20 10:41	



Analytical Resources, Incorporated
Analytical Chemists and Consultants

BIK0175

Digestion Log

Analyst: GA 180 Date: 11/9/2020 Time: 1040-1735
Matrix: Soil Block ID: #6 Block Temp: 98°C Thermometer: 20-3

ARI Sample ID	Btl #	pH<2	Prep Code: <u>SWC</u>		Prep Code:		Comments	
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)		
20J425-1	C		1.003	50.0				
↓ -2	D		1.022					
-3	↓		1.047					
-4	C		1.018					
-5	↓		1.030					
-6	↓		1.005					
-7	↓		1.050					
↓ -8	D		1.005					
20K8-1	C			1.015				
↓ -3	↓		1.008					
-7	↓		1.059					
-9	↓		1.031					
-14	↓		1.051					
-16	↓		1.070					
-20	↓		1.023					
-22	↓	1.006						
-26	A	1.060						
-28	C	1.090						
-31	↓	1.074						
↓ -33	↓	1.052						
BIK175-BLK1	-		-					
↓ -BS1	-		-					
-DUP1	-		1.018				20K8-1	
-MS1	-		1.014				↓	
↓ -MSD1	-		1.018	↓			↓	
-	-		-	-			-	

Chemical/Reagent ID:

HNO₃: I9356 1:1 HNO₃: I10417 HCl: H10738 H₂O₂: I9826
Tube Lot#: 2003055 Boiling Chip Lot#: - (DoD Only)



Form I
METHOD BLANK DATA SHEET
EPA 6010C
Total Metals

Blank

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperae

Batch: BIK0175

Laboratory ID: BIK0175-BLK1

Prepared: 11/06/20 10:41

Matrix: Solid

Preparation: SWC EPA 3050B

Analyzed: 11/10/20 18:41

Sequence: SIK0154

Calibration: DK00024

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-92-1	Lead	ND	2	0.190	2.00	U



DUPLICATES

EPA 6010C

Total Metals

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Laboratory ID: BIK0175-DUP1

Batch: BIK0175

Lab Source ID: 20K0008-01

Preparation: SWC EPA 3050B

Initial/Final: 1.018 g / 50 mL

Source Sample Name: PP17-2

% Solids: 76.64

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg dry)	C	DUPLICATE CONCENTRATION (mg/kg dry)	C	RPD %	Q
Lead	20	943	D	917	D	2.80	

*: Values outside of QC limits

L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD



MS / MS DUPLICATE RECOVERY
EPA 6010C
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/10/20 21:49</u>
Batch:	<u>BIK0175</u>	Laboratory ID:	<u>BIK0175-MS1</u>
Preparation:	<u>SWC EPA 3050B</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>1.014 g / 50 mL</u>	Source Sample:	<u>PP17-2</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Lead	257	943	D	1380	*, D	169 *	75 - 125

* Values outside of QC limits



MS / MS DUPLICATE RECOVERY

EPA 6010C

Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/10/20 21:53</u>
Batch:	<u>BIK0175</u>	Laboratory ID:	<u>BIK0175-MSD1</u>
Preparation:	<u>SWC EPA 3050B</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>1.018 g / 50 mL</u>	Source Sample:	<u>PP17-2</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Lead	256	1420	*, D	187 *	3.03	20	75 - 125

* Values outside of QC limits



INITIAL CALIBRATION DATA

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Calibration: DK00024

Instrument: ICP2

Calibration Date: 11/10/2020 15:49

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Lead	0	0	0		10	5366.741	0		0			



IEC Date: 5-11-20

Analysis Date: 11/10/2020

Analyst: TH

LR Date: 5-11-20

Sequence: SIK0154

Page: 1 of 4

All corrections made by analyst unless otherwise noted. PH 11-10/20

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CAL1	I10177		
		↓ -CAL2	I10413		
		-CAL3	I10414		
		-CAL4	I10415		
		-CAL5	I10416		
		-ICW1	IC900		
		-ICB1	I10177		
		-ICL1	I9997 IC113		
		-IFAI	I6930		TI↑
		-IFB1	I6931		
		-CWI	I9900		
		↓ -CCB1	I10177		
03		20K0053-03	WMN		
		20J0393-01	SWC	5	
		↓ -03	↓	↓	
		20J0410-04		10	
		↓ -21		5	
		20J0435-01		2	As only
		20J0422-03		4	
		↓ -05	↓	↓	
		-06			
		↓ -07	↓	↓	
		SEQ-CW2			



IEC Date: _____ Analysis Date: 11/10/2020 Analyst: JH
LR Date: _____ Sequence: _____ Page: 2 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CC32			
		20K0053-01	TWC		
		↓ -02	↓		
		20J0425-01	SWC	2	
		↓ -02	↓	↓	
		↓ -03	↓	↓	
		↓ -04	↓	↓	
✓		↓ -05	↓	↓	Fe TUR
		↓ -06	↓	↓	
		↓ -07	↓	↓	Cu noisy Cu WIZ
		↓ -08	↓	↓	
		SEQ-CC33			
		↓ -CC33			
		↓ -CA22			
		↓ -CA23			
		↓ -CW4			
		↓ -CC34			
		BIK0175-1341	SWC	2	
		20K0008-03	↓	↓	
		↓ -07	↓	↓	
		↓ -09	↓	↓	
✓		↓ -14	↓	↓	Pb noisy
✓		BIK0175-Dup1	↓	5	Fe TUR



IEC Date: -

Analysis Date: 11/10/2020

Analyst: TH

LR Date: -

Sequence: -

Page: 3 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		BIK0175-BS1	SWC	2	
		SEQ-CWS			
		↓ -CCSS			
		20K0008-16	SWC	2	
		↓ -20	↓	↓	
		↓ -22	↓	↓	
		↓ -26	↓	↓	
		↓ -28	↓	↓	
		↓ -31	↓	↓	
		↓ -33	↓	↓	
		20J0425-05		4	
		↓ -07FE1	↓	10	Cu only
		BIK0224-BS1	TWC		
		SEQ-CCW6			
		↓ -CCSS6			
		BIK0168-BLK2	TWC		V only
		BIK0224-BLK1	↓		
		20K0127-01			
		↓ -03			
		↓ -05			
		20K0124-01		5	
		BIK0168-DMP2			V only
		20K0097-01	↓		↓



IEC Date: Analysis Date: 11/10/2020 Analyst: TH
LR Date: Sequence: Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		BIK0168-MS2	TWC		V only
		↓ -BS2	↓		↓
		SEQ-CW7			
		↓ -CC37			
		BIK0220-BSK2	WMP		M, V only
		↓ -DUP2	↓		↓
		20J0383-02			
		BIK0220-MS2			0.080ml IS176 0.008ml I471
		↓ -BS2	↓		↓
		20K0008-14	SWC	10	
		BIK0175-DUP1	↓	↓	Cu ZPD ↑ (ER)
		20K0008-01			
		BIK0175-MS1	↓	↓	Zn STL Cu, Pb, Li, Zn ↑ (ER)
		↓ -MSD1		↓	↓
		SEQ-CW8			Si ↑
		↓ -CC38			
		Rinse/Al			
TH 11/10/20					

=====
Analysis Begun

Start Time: 11/10/2020 3:49:38 PM Plasma On Time: 11/10/2020 1:54:30 PM
Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1110.sif

Batch ID:

Results Data Set: I2201110

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
=====

Method Loaded

Method Name: ELMT7300bcESI2FAST

Method Last Saved: 11/10/2020 3:28:40 PM

IEC File: IEC051120G.iec

MSF File:

Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1

Autosampler Location: 1

Sample ID: SEQ-CAL1

Date Collected: 11/10/2020 3:49:46 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL1

Analyte	Back Pressure	Flow
All	233.0 kPa	0.65 L/min

Mean Data: SEQ-CAL1

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc.	Units
ScA 357.253	1363095.7	9773.12	0.72%	100.0	%
ScR 361.383	155069.4	1857.97	1.20%	100.0	%
Ag 328.068†	-12.6	29.11	231.37%	[0.00]	mg/L
Al 308.215†	444.4	23.47	5.28%	[0.00]	mg/L
As 188.979†	-9.5	2.71	28.52%	[0.00]	mg/L
B 249.677†	-58.4	0.89	1.52%	[0.00]	mg/L
Ba 233.527†	64.9	0.57	0.87%	[0.00]	mg/L

Be 313.042†	1767.6	43.56	2.46%	[0.00]	mg/L
Ca 317.933†	41.1	14.79	35.98%	[0.00]	mg/L
Cd 228.802†	173.4	1.37	0.79%	[0.00]	mg/L
Co 228.616†	-74.4	2.29	3.08%	[0.00]	mg/L
Cr 267.716†	-313.1	14.64	4.68%	[0.00]	mg/L
Cu 324.752†	1515.7	10.19	0.67%	[0.00]	mg/L
Fe 273.955†	29.7	4.51	15.17%	[0.00]	mg/L
K 766.490†	146.2	18.81	12.87%	[0.00]	mg/L
Mg 279.077†	0.6	5.25	881.77%	[0.00]	mg/L
Mn 257.610†	441.2	7.33	1.66%	[0.00]	mg/L
Mo 202.031†	60.5	0.61	1.00%	[0.00]	mg/L
Na 589.592†	-272.2	28.28	10.39%	[0.00]	mg/L
Na 330.237†	-206.0	12.82	6.22%	[0.00]	mg/L
Ni 231.604†	-10.9	2.36	21.78%	[0.00]	mg/L
Pb 220.353†	4.0	4.84	122.30%	[0.00]	mg/L
Sb 206.836†	49.8	3.22	6.46%	[0.00]	mg/L
Se 196.026†	-44.8	3.79	8.46%	[0.00]	mg/L
Si 288.158†	-27.9	5.06	18.11%	[0.00]	mg/L
Sn 189.927†	-18.5	3.01	16.24%	[0.00]	mg/L
Sr 421.552†	705.2	27.57	3.91%	[0.00]	mg/L
Ti 334.903†	130.5	16.38	12.55%	[0.00]	mg/L
Tl 190.801†	137.0	1.85	1.35%	[0.00]	mg/L
V 292.402†	104.4	10.00	9.57%	[0.00]	mg/L
Zn 206.200†	-9.0	1.64	18.19%	[0.00]	mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: SEQ-CAL2

Date Collected: 11/10/2020 3:54:09 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL2

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: SEQ-CAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	1374240.9	7424.82	0.54%	100.8	%
ScR 361.383	152997.3	518.00	0.34%	98.66	%
Ba 233.527†	38266.7	75.35	0.20%	[10]	mg/L
Cd 228.802†	166241.6	591.65	0.36%	[10]	mg/L
Co 228.616†	236548.2	713.09	0.30%	[10]	mg/L
Cr 267.716†	28198.7	25.46	0.09%	[10]	mg/L
Cu 324.752†	1532302.1	3608.19	0.24%	[10]	mg/L
Mn 257.610†	355456.4	1958.86	0.55%	[10]	mg/L
V 292.402†	560371.2	1338.30	0.24%	[10]	mg/L

Sequence No.: 3

Autosampler Location: 3

Sample ID: SEQ-CAL3

Date Collected: 11/10/2020 3:56:10 PM

Data Type: Original

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CAL3

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: SEQ-CAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	1353768.7	7438.74	0.55%	99.32	%
ScR 361.383	151337.8	434.37	0.29%	97.59	%
Ag 328.068†	127050.9	518.87	0.41%	[1.0]	mg/L
As 188.979†	8887.6	81.70	0.92%	[10]	mg/L
B 249.677†	63371.7	215.00	0.34%	[10]	mg/L
Be 313.042†	2119389.2	18541.07	0.87%	[5.0]	mg/L
Na 589.592†	403957.6	1325.57	0.33%	[50]	mg/L
Ni 231.604†	26251.6	242.75	0.92%	[10]	mg/L
Pb 220.353†	53667.4	192.69	0.36%	[10]	mg/L

Se 196.026†	7762.7	68.10	0.88%	[10]	mg/L
Sr 421.552†	2156715.1	12951.89	0.60%	[5]	mg/L
Tl 190.801†	13105.7	115.85	0.88%	[10]	mg/L
Zn 206.200†	19090.2	50.04	0.26%	[10]	mg/L

```

=====
Sequence No.: 4                               Autosampler Location: 4
Sample ID: SEQ-CAL4                          Date Collected: 11/10/2020 3:59:28 PM
                                             Data Type: Original
Wash Time: 37                               Auto Dilution Factor: 1
=====

```

```

-----
Nebulizer Parameters: SEQ-CAL4
Analyte      Back Pressure  Flow
All          236.0 kPa     0.65 L/min
-----

```

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Mean Data: SEQ-CAL4

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Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	1404666.6	3061.03	0.22%	103.0	%
ScR 361.383	155181.4	861.50	0.56%	100.1	%
Mo 202.031†	120909.4	110.11	0.09%	[10]	mg/L
Sb 206.836†	18781.1	63.80	0.34%	[10]	mg/L
Si 288.158†	8466.6	90.21	1.07%	[10]	mg/L
Sn 189.927†	26301.6	142.79	0.54%	[10]	mg/L
Ti 334.903†	136797.1	442.83	0.32%	[10]	mg/L

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Sequence No.: 5                               Autosampler Location: 5
Sample ID: SEQ-CAL5                          Date Collected: 11/10/2020 4:01:57 PM
                                             Data Type: Original
Wash Time: 37                               Auto Dilution Factor: 1
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Nebulizer Parameters: SEQ-CAL5
Analyte      Back Pressure  Flow
All          235.0 kPa     0.65 L/min
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Mean Data: SEQ-CAL5

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Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	1336931.9	1856.27	0.14%	98.08	%
ScR 361.383	158434.8	1995.99	1.26%	102.2	%
Al 308.215†	30687.1	486.35	1.58%	[30]	mg/L
Ca 317.933†	193034.1	2356.20	1.22%	[30]	mg/L
Fe 273.955†	98038.0	1769.01	1.80%	[100]	mg/L
K 766.490†	111332.0	1600.02	1.44%	[100]	mg/L
Mg 279.077†	23398.7	444.09	1.90%	[30]	mg/L
Na 330.237†	1922.7	26.05	1.36%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	127100	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1023	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	888.8	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6337	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3827	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	423900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	6434	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	16620	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	23650	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	2820	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	153200	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	980.4	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	1113	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	780.0	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	35550	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	12090	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	8079	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	19.23	0.00000	1.000000	

Ni 231.604	1	Lin Thru 0	0.0	2625	0.00000	1.000000
Pb 220.353	1	Lin Thru 0	0.0	5367	0.00000	1.000000
Sb 206.836	1	Lin Thru 0	0.0	1878	0.00000	1.000000
Se 196.026	1	Lin Thru 0	0.0	776.3	0.00000	1.000000
Si 288.158	1	Lin Thru 0	0.0	846.7	0.00000	1.000000
Sn 189.927	1	Lin Thru 0	0.0	2630	0.00000	1.000000
Sr 421.552	1	Lin Thru 0	0.0	431300	0.00000	1.000000
Ti 334.903	1	Lin Thru 0	0.0	13680	0.00000	1.000000
Tl 190.801	1	Lin Thru 0	0.0	1311	0.00000	1.000000
V 292.402	1	Lin Thru 0	0.0	56040	0.00000	1.000000
Zn 206.200	1	Lin Thru 0	0.0	1909	0.00000	1.000000

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Analysis Begun

Start Time: 11/10/2020 4:05:30 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/10/2020 1:54:30 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\1110.sif

Batch ID:

Results Data Set: I2201110

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 7

Sample ID: SEQ-ICV1

Date Collected: 11/10/2020 4:05:38 PM

Data Type: Original

Dilution: 1X

Nebulizer Parameters: SEQ-ICV1

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: SEQ-ICV1

Analyte	Mean Corrected			Sample	Std.Dev.	RSD
	Intensity	Conc. Units	Calib.			
ScA 357.253	1356311.2	99.50 %			0.780	0.78%
ScR 361.383	152702.1	98.47 %			0.452	0.46%
Ag 328.068†	132306.9	1.042 mg/L		1.042 mg/L	0.0129	1.24%
Al 308.215†	2162.2	2.078 mg/L		2.078 mg/L	0.0161	0.78%
As 188.979†	1754.2	1.997 mg/L		1.997 mg/L	0.0402	2.01%
B 249.677†	6522.3	1.028 mg/L		1.028 mg/L	0.0088	0.86%
Ba 233.527†	3967.8	1.036 mg/L		1.036 mg/L	0.0071	0.68%
Be 313.042†	432299.9	1.015 mg/L		1.015 mg/L	0.0041	0.40%
Ca 317.933†	13179.6	2.048 mg/L		2.048 mg/L	0.0073	0.35%
Cd 228.802†	17332.1	1.029 mg/L		1.029 mg/L	0.0199	1.94%
Co 228.616†	23921.4	1.009 mg/L		1.009 mg/L	0.0138	1.37%
Cr 267.716†	2944.3	1.043 mg/L		1.043 mg/L	0.0043	0.41%
Cu 324.752†	158070.0	1.031 mg/L		1.031 mg/L	0.0165	1.60%
Fe 273.955†	2012.4	2.043 mg/L		2.043 mg/L	0.0086	0.42%
K 766.490†	22179.8	19.92 mg/L		19.92 mg/L	0.105	0.53%
Mg 279.077†	1583.2	2.040 mg/L		2.040 mg/L	0.0092	0.45%
Mn 257.610†	35474.3	0.9983 mg/L		0.9983 mg/L	0.00238	0.24%
Mo 202.031†	12101.1	1.001 mg/L		1.001 mg/L	0.0186	1.85%
Na 589.592†	412179.9	51.02 mg/L		51.02 mg/L	0.155	0.30%
Na 330.237†	992.4	51.56 mg/L		51.56 mg/L	0.527	1.02%
Ni 231.604†	2695.1	1.029 mg/L		1.029 mg/L	0.0069	0.67%
Pb 220.353†	11043.2	2.059 mg/L		2.059 mg/L	0.0360	1.75%
Sb 206.836†	3873.7	2.059 mg/L		2.059 mg/L	0.0410	1.99%
Se 196.026†	1577.6	2.034 mg/L		2.034 mg/L	0.0547	2.69%
Si 288.158†	1772.9	2.087 mg/L		2.087 mg/L	0.0175	0.84%
Sn 189.927†	2580.1	0.9831 mg/L		0.9831 mg/L	0.02246	2.28%
Sr 421.552†	434819.5	1.008 mg/L		1.008 mg/L	0.0020	0.20%
Ti 334.903†	13582.4	0.9916 mg/L		0.9916 mg/L	0.00157	0.16%
Tl 190.801†	2634.5	2.003 mg/L		2.003 mg/L	0.0445	2.22%
V 292.402†	57049.1	1.025 mg/L		1.025 mg/L	0.0276	2.69%
Zn 206.200†	1962.7	1.028 mg/L		1.028 mg/L	0.0077	0.74%

Sequence No.: 2

Sample ID: SEQ-ICB1

Autosampler Location: 1

Date Collected: 11/10/2020 4:10:02 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-ICB1

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: SEQ-ICB1

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	1377852.7		101.1 %	0.12				0.12%
ScR 361.383	153418.8		98.94 %	0.464				0.47%
Ag 328.068†	-39.5	-0.00031	mg/L	0.000321	-0.00031	mg/L	0.000321	103.30%
Al 308.215†	-3.0	-0.00293	mg/L	0.002308	-0.00293	mg/L	0.002308	78.63%
As 188.979†	-0.3	-0.00036	mg/L	0.001540	-0.00036	mg/L	0.001540	431.96%
B 249.677†	52.4	0.00827	mg/L	0.000553	0.00827	mg/L	0.000553	6.69%
Ba 233.527†	4.1	0.00106	mg/L	0.000594	0.00106	mg/L	0.000594	55.97%
Be 313.042†	-20.7	-0.00005	mg/L	0.000024	-0.00005	mg/L	0.000024	47.22%
Ca 317.933†	6.6	0.00102	mg/L	0.002563	0.00102	mg/L	0.002563	250.38%
Cd 228.802†	1.8	0.00011	mg/L	0.000069	0.00011	mg/L	0.000069	60.10%
Co 228.616†	-0.9	-0.00004	mg/L	0.000080	-0.00004	mg/L	0.000080	193.15%
Cr 267.716†	5.6	0.00200	mg/L	0.002692	0.00200	mg/L	0.002692	134.65%
Cu 324.752†	10.3	0.00007	mg/L	0.000188	0.00007	mg/L	0.000188	279.37%
Fe 273.955†	2.6	0.00264	mg/L	0.001261	0.00264	mg/L	0.001261	47.81%
K 766.490†	10.1	0.00907	mg/L	0.012228	0.00907	mg/L	0.012228	134.80%
Mg 279.077†	-0.4	-0.00057	mg/L	0.012425	-0.00057	mg/L	0.012425	>999.9%
Mn 257.610†	7.8	0.00022	mg/L	0.000247	0.00022	mg/L	0.000247	112.34%
Mo 202.031†	6.3	0.00052	mg/L	0.000081	0.00052	mg/L	0.000081	15.56%
Na 589.592†	65.3	0.00809	mg/L	0.005305	0.00809	mg/L	0.005305	65.60%
Na 330.237†	-5.5	-0.2870	mg/L	0.63907	-0.2870	mg/L	0.63907	222.68%
Ni 231.604†	10.4	0.00396	mg/L	0.001687	0.00396	mg/L	0.001687	42.59%
Pb 220.353†	-4.2	-0.00077	mg/L	0.001020	-0.00077	mg/L	0.001020	132.20%
Sb 206.836†	2.5	0.00131	mg/L	0.000698	0.00131	mg/L	0.000698	53.50%
Se 196.026†	2.0	0.00256	mg/L	0.004786	0.00256	mg/L	0.004786	186.84%
Si 288.158†	-8.6	-0.01019	mg/L	0.011121	-0.01019	mg/L	0.011121	109.17%
Sn 189.927†	1.6	0.00059	mg/L	0.000793	0.00059	mg/L	0.000793	133.89%
Sr 421.552†	40.6	0.00009	mg/L	0.000040	0.00009	mg/L	0.000040	42.41%
Ti 334.903†	9.7	0.00071	mg/L	0.001026	0.00071	mg/L	0.001026	144.94%
Tl 190.801†	0.9	0.00069	mg/L	0.002886	0.00069	mg/L	0.002886	421.02%
V 292.402†	14.5	0.00027	mg/L	0.000098	0.00027	mg/L	0.000098	36.23%
Zn 206.200†	1.6	0.00082	mg/L	0.001007	0.00082	mg/L	0.001007	123.28%

Sequence No.: 3

Autosampler Location: 301

Sample ID: SEQ-CRL1

Date Collected: 11/10/2020 4:14:18 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CRL1

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: SEQ-CRL1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1397692.6	102.5	%	0.79			0.77%
ScR 361.383	156271.3	100.8	%	0.90			0.90%
Ag 328.068†	364.9	0.00287	mg/L	0.000255	0.00287	mg/L	0.000255 8.86%
Al 308.215†	57.9	0.05643	mg/L	0.026483	0.05643	mg/L	0.026483 46.93%
As 188.979†	46.7	0.05268	mg/L	0.003628	0.05268	mg/L	0.003628 6.89%
B 249.677†	153.8	0.02427	mg/L	0.000056	0.02427	mg/L	0.000056 0.23%
Ba 233.527†	15.8	0.00412	mg/L	0.000574	0.00412	mg/L	0.000574 13.95%
Be 313.042†	401.6	0.00093	mg/L	0.000112	0.00093	mg/L	0.000112 12.01%
Ca 317.933†	309.2	0.04805	mg/L	0.002698	0.04805	mg/L	0.002698 5.61%
Cd 228.802†	35.7	0.00177	mg/L	0.000252	0.00177	mg/L	0.000252 14.20%
Co 228.616†	74.3	0.00313	mg/L	0.000157	0.00313	mg/L	0.000157 5.02%
Cr 267.716†	18.2	0.00643	mg/L	0.002790	0.00643	mg/L	0.002790 43.39%
Cu 324.752†	313.5	0.00204	mg/L	0.000156	0.00204	mg/L	0.000156 7.63%
Fe 273.955†	48.7	0.04968	mg/L	0.001706	0.04968	mg/L	0.001706 3.43%
K 766.490†	542.9	0.4877	mg/L	0.02647	0.4877	mg/L	0.02647 5.43%
Mg 279.077†	36.6	0.04697	mg/L	0.010466	0.04697	mg/L	0.010466 22.28%
Mn 257.610†	37.5	0.00106	mg/L	0.000087	0.00106	mg/L	0.000087 8.20%
Mo 202.031†	60.0	0.00496	mg/L	0.000348	0.00496	mg/L	0.000348 7.00%
Na 589.592†	3520.1	0.4357	mg/L	0.00367	0.4357	mg/L	0.00367 0.84%
Na 330.237†	9.0	0.4679	mg/L	0.68092	0.4679	mg/L	0.68092 145.54%
Ni 231.604†	29.8	0.01141	mg/L	0.001784	0.01141	mg/L	0.001784 15.64%
Pb 220.353†	109.0	0.02033	mg/L	0.000575	0.02033	mg/L	0.000575 2.83%
Sb 206.836†	97.5	0.05198	mg/L	0.004569	0.05198	mg/L	0.004569 8.79%
Se 196.026†	44.2	0.05697	mg/L	0.003028	0.05697	mg/L	0.003028 5.31%
Si 288.158†	43.9	0.05176	mg/L	0.002204	0.05176	mg/L	0.002204 4.26%
Sn 189.927†	48.1	0.01832	mg/L	0.001071	0.01832	mg/L	0.001071 5.85%
Sr 421.552†	457.3	0.00106	mg/L	0.000042	0.00106	mg/L	0.000042 3.98%
Ti 334.903†	60.6	0.00442	mg/L	0.000560	0.00442	mg/L	0.000560 12.68%
Tl 190.801†	66.9	0.05106	mg/L	0.003339	0.05106	mg/L	0.003339 6.54%
V 292.402†	180.9	0.00327	mg/L	0.000341	0.00327	mg/L	0.000341 10.42%
Zn 206.200†	20.6	0.01079	mg/L	0.000850	0.01079	mg/L	0.000850 7.88%

Sequence No.: 4

Sample ID: SEQ-IF1

Autosampler Location: 302

Date Collected: 11/10/2020 4:18:34 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-IF1

Analyte	Back Pressure	Flow
All	233.0 kPa	0.65 L/min

Mean Data: SEQ-IF1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1399863.8	102.7	%	0.64				0.62%
ScR 361.383	156388.8	100.9	%	0.44				0.44%
Ag 328.068†	-187.2	-0.00148	mg/L	0.000304	-0.00148	mg/L	0.000304	20.61%
Al 308.215†	203811.3	199.2	mg/L	1.27	199.2	mg/L	1.27	0.64%
As 188.979†	21.2	0.01413	mg/L	0.001377	0.01413	mg/L	0.001377	9.75%
B 249.677†	-38.1	0.00974	mg/L	0.001004	0.00974	mg/L	0.001004	10.31%
Ba 233.527†	104.2	0.00567	mg/L	0.000548	0.00567	mg/L	0.000548	9.67%
Be 313.042†	34.6	0.00013	mg/L	0.000020	0.00013	mg/L	0.000020	15.10%
Ca 317.933†	639747.7	99.43	mg/L	0.623	99.43	mg/L	0.623	0.63%
Cd 228.802†	27.0	-0.00013	mg/L	0.000118	-0.00013	mg/L	0.000118	89.78%
Co 228.616†	105.9	0.00141	mg/L	0.000335	0.00141	mg/L	0.000335	23.68%
Cr 267.716†	-2.9	0.00208	mg/L	0.005602	0.00208	mg/L	0.005602	268.92%
Cu 324.752†	-1089.1	0.00105	mg/L	0.000089	0.00105	mg/L	0.000089	8.45%
Fe 273.955†	194381.6	198.3	mg/L	0.44	198.3	mg/L	0.44	0.22%
K 766.490†	43.3	0.03887	mg/L	0.012876	0.03887	mg/L	0.012876	33.13%
Mg 279.077†	80148.6	102.7	mg/L	0.86	102.7	mg/L	0.86	0.84%
Mn 257.610†	102.9	-0.00048	mg/L	0.000097	-0.00048	mg/L	0.000097	20.27%
Mo 202.031†	87.5	0.00590	mg/L	0.000482	0.00590	mg/L	0.000482	8.18%
Na 589.592†	32.1	0.00397	mg/L	0.003103	0.00397	mg/L	0.003103	78.09%
Na 330.237†	-33.9	-1.761	mg/L	0.8917	-1.761	mg/L	0.8917	50.65%
Ni 231.604†	-4.5	-0.00170	mg/L	0.002974	-0.00170	mg/L	0.002974	175.05%
Pb 220.353†	-263.9	-0.00628	mg/L	0.001460	-0.00628	mg/L	0.001460	23.26%
Sb 206.836†	46.9	0.02474	mg/L	0.003317	0.02474	mg/L	0.003317	13.41%
Se 196.026†	-37.3	-0.02715	mg/L	0.015815	-0.02715	mg/L	0.015815	58.26%
Si 288.158†	-17.1	-0.00814	mg/L	0.005169	-0.00814	mg/L	0.005169	63.52%
Sn 189.927†	-87.7	-0.01179	mg/L	0.001868	-0.01179	mg/L	0.001868	15.84%
Sr 421.552†	429.2	0.00099	mg/L	0.000042	0.00099	mg/L	0.000042	4.23%
Ti 334.903†	103.7	0.00210	mg/L	0.000432	0.00210	mg/L	0.000432	20.61%
Tl 190.801†	198.1	0.1512	mg/L	0.00098	0.1512	mg/L	0.00098	0.65%
V 292.402†	-633.3	-0.00427	mg/L	0.000076	-0.00427	mg/L	0.000076	1.78%
Zn 206.200†	-9.6	-0.00505	mg/L	0.001788	-0.00505	mg/L	0.001788	35.38%

Sequence No.: 5

Autosampler Location: 303

Sample ID: SEQ-IFB1

Date Collected: 11/10/2020 4:23:05 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-IFB1

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: SEQ-IFB1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1396359.7	102.4	%	0.76			0.74%
ScR 361.383	154160.5	99.41	%	0.018			0.02%
Ag 328.068†	130835.8	1.030	mg/L	0.0071	1.030	mg/L	0.69%
Al 308.215†	203644.9	199.1	mg/L	0.64	199.1	mg/L	0.32%
As 188.979†	904.0	1.007	mg/L	0.0108	1.007	mg/L	1.07%
B 249.677†	-35.0	0.00787	mg/L	0.001587	0.00787	mg/L	20.16%
Ba 233.527†	3908.9	0.9995	mg/L	0.00221	0.9995	mg/L	0.22%
Be 313.042†	419976.1	0.9865	mg/L	0.00218	0.9865	mg/L	0.22%
Ca 317.933†	633685.5	98.48	mg/L	0.027	98.48	mg/L	0.03%
Cd 228.802†	16473.3	0.9828	mg/L	0.01006	0.9828	mg/L	1.02%
Co 228.616†	22199.4	0.9352	mg/L	0.00632	0.9352	mg/L	0.68%
Cr 267.716†	2854.9	1.015	mg/L	0.0027	1.015	mg/L	0.26%
Cu 324.752†	154613.8	1.017	mg/L	0.0095	1.017	mg/L	0.93%
Fe 273.955†	192671.8	196.5	mg/L	1.34	196.5	mg/L	0.68%
K 766.490†	106.1	0.09526	mg/L	0.037235	0.09526	mg/L	39.09%
Mg 279.077†	76596.7	98.10	mg/L	0.289	98.10	mg/L	0.29%
Mn 257.610†	34596.6	0.9701	mg/L	0.00584	0.9701	mg/L	0.60%
Mo 202.031†	82.2	0.00542	mg/L	0.000366	0.00542	mg/L	6.76%
Na 589.592†	60.9	0.00754	mg/L	0.003576	0.00754	mg/L	47.41%
Na 330.237†	-21.0	-1.351	mg/L	0.3072	-1.351	mg/L	22.74%
Ni 231.604†	2537.4	0.9675	mg/L	0.00726	0.9675	mg/L	0.75%
Pb 220.353†	5051.6	0.9850	mg/L	0.00781	0.9850	mg/L	0.79%
Sb 206.836†	1967.8	1.036	mg/L	0.0012	1.036	mg/L	0.12%
Se 196.026†	755.7	0.9955	mg/L	0.01369	0.9955	mg/L	1.38%
Si 288.158†	-19.1	-0.00654	mg/L	0.007946	-0.00654	mg/L	121.54%
Sn 189.927†	-93.5	-0.01362	mg/L	0.003295	-0.01362	mg/L	24.19%
Sr 421.552†	431.3	0.00100	mg/L	0.000059	0.00100	mg/L	5.89%
Ti 334.903†	109.5	0.00238	mg/L	0.001022	0.00238	mg/L	43.03%
Tl 190.801†	1434.9	1.087	mg/L	0.0074	1.087	mg/L	0.68%
V 292.402†	54472.6	0.9856	mg/L	0.01298	0.9856	mg/L	1.32%
Zn 206.200†	1852.0	0.9700	mg/L	0.00565	0.9700	mg/L	0.58%

Sequence No.: 6

Autosampler Location: 7

Sample ID: SEQ-CCV1

Date Collected: 11/10/2020 4:30:06 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV1

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: SEQ-CCV1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1428807.2	104.8	%	0.40			0.38%
ScR 361.383	159623.1	102.9	%	0.43			0.42%
Ag 328.068†	127890.8	1.007	mg/L	0.0023	1.007	mg/L	0.23%
Al 308.215†	2083.4	2.002	mg/L	0.0136	2.002	mg/L	0.68%
As 188.979†	1735.8	1.975	mg/L	0.0113	1.975	mg/L	0.57%
B 249.677†	6284.9	0.9910	mg/L	0.00695	0.9910	mg/L	0.70%
Ba 233.527†	3871.4	1.011	mg/L	0.0084	1.011	mg/L	0.83%
Be 313.042†	420356.6	0.9873	mg/L	0.00509	0.9873	mg/L	0.52%
Ca 317.933†	12930.2	2.009	mg/L	0.0160	2.009	mg/L	0.80%
Cd 228.802†	16798.1	0.9971	mg/L	0.00319	0.9971	mg/L	0.32%
Co 228.616†	23551.0	0.9936	mg/L	0.00275	0.9936	mg/L	0.28%
Cr 267.716†	2880.1	1.020	mg/L	0.0098	1.020	mg/L	0.97%
Cu 324.752†	151794.4	0.9903	mg/L	0.00350	0.9903	mg/L	0.35%
Fe 273.955†	1962.9	1.993	mg/L	0.0248	1.993	mg/L	1.24%
K 766.490†	21358.6	19.18	mg/L	0.181	19.18	mg/L	0.94%
Mg 279.077†	1546.3	1.993	mg/L	0.0149	1.993	mg/L	0.75%
Mn 257.610†	34671.7	0.9757	mg/L	0.00433	0.9757	mg/L	0.44%
Mo 202.031†	11820.3	0.9775	mg/L	0.00321	0.9775	mg/L	0.33%
Na 589.592†	397389.2	49.19	mg/L	0.319	49.19	mg/L	0.65%
Na 330.237†	960.7	49.91	mg/L	0.669	49.91	mg/L	1.34%
Ni 231.604†	2652.0	1.012	mg/L	0.0076	1.012	mg/L	0.75%
Pb 220.353†	10851.2	2.023	mg/L	0.0077	2.023	mg/L	0.38%
Sb 206.836†	3798.7	2.019	mg/L	0.0102	2.019	mg/L	0.50%
Se 196.026†	1562.5	2.014	mg/L	0.0218	2.014	mg/L	1.08%
Si 288.158†	1718.9	2.023	mg/L	0.0061	2.023	mg/L	0.30%
Sn 189.927†	2557.3	0.9743	mg/L	0.00574	0.9743	mg/L	0.59%
Sr 421.552†	418700.2	0.9707	mg/L	0.00350	0.9707	mg/L	0.36%
Ti 334.903†	13101.6	0.9565	mg/L	0.00252	0.9565	mg/L	0.26%
Tl 190.801†	2603.5	1.980	mg/L	0.0076	1.980	mg/L	0.38%
V 292.402†	55158.7	0.9912	mg/L	0.01441	0.9912	mg/L	1.45%
Zn 206.200†	1936.9	1.014	mg/L	0.0065	1.014	mg/L	0.64%

Sequence No.: 7

Sample ID: SEQ-CCB1

Autosampler Location: 1

Date Collected: 11/10/2020 4:35:27 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB1

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: SEQ-CCB1

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	1378544.1	101.1 %	%	0.90			0.89%
ScR 361.383	155697.8	100.4 %	%	0.68			0.68%
Ag 328.068†	-46.3	-0.00036 mg/L	mg/L	0.000191	-0.00036 mg/L	0.000191	52.55%
Al 308.215†	7.6	0.00743 mg/L	mg/L	0.021991	0.00743 mg/L	0.021991	296.04%
As 188.979†	-1.9	-0.00209 mg/L	mg/L	0.001920	-0.00209 mg/L	0.001920	92.03%
B 249.677†	14.6	0.00230 mg/L	mg/L	0.001691	0.00230 mg/L	0.001691	73.45%
Ba 233.527†	5.3	0.00137 mg/L	mg/L	0.000160	0.00137 mg/L	0.000160	11.65%
Be 313.042†	-12.0	-0.00003 mg/L	mg/L	0.000063	-0.00003 mg/L	0.000063	219.57%
Ca 317.933†	12.1	0.00188 mg/L	mg/L	0.002190	0.00188 mg/L	0.002190	116.21%
Cd 228.802†	-2.9	-0.00016 mg/L	mg/L	0.000181	-0.00016 mg/L	0.000181	114.67%
Co 228.616†	-2.7	-0.00012 mg/L	mg/L	0.000192	-0.00012 mg/L	0.000192	166.06%
Cr 267.716†	0.1	0.00003 mg/L	mg/L	0.000877	0.00003 mg/L	0.000877	>999.9%
Cu 324.752†	47.9	0.00031 mg/L	mg/L	0.000225	0.00031 mg/L	0.000225	72.04%
Fe 273.955†	-0.6	-0.00060 mg/L	mg/L	0.003353	-0.00060 mg/L	0.003353	562.85%
K 766.490†	-5.7	-0.00510 mg/L	mg/L	0.030056	-0.00510 mg/L	0.030056	589.11%
Mg 279.077†	5.8	0.00750 mg/L	mg/L	0.005479	0.00750 mg/L	0.005479	73.04%
Mn 257.610†	10.8	0.00030 mg/L	mg/L	0.000231	0.00030 mg/L	0.000231	76.23%
Mo 202.031†	2.5	0.00020 mg/L	mg/L	0.000377	0.00020 mg/L	0.000377	185.94%
Na 589.592†	-2.3	-0.00029 mg/L	mg/L	0.003494	-0.00029 mg/L	0.003494	>999.9%
Na 330.237†	4.3	0.2238 mg/L	mg/L	0.48134	0.2238 mg/L	0.48134	215.12%
Ni 231.604†	4.9	0.00188 mg/L	mg/L	0.001405	0.00188 mg/L	0.001405	74.73%
Pb 220.353†	0.0	0.00001 mg/L	mg/L	0.000710	0.00001 mg/L	0.000710	>999.9%
Sb 206.836†	0.5	0.00029 mg/L	mg/L	0.000860	0.00029 mg/L	0.000860	301.39%
Se 196.026†	5.4	0.00695 mg/L	mg/L	0.004422	0.00695 mg/L	0.004422	63.60%
Si 288.158†	-5.5	-0.00647 mg/L	mg/L	0.005579	-0.00647 mg/L	0.005579	86.29%
Sn 189.927†	-0.4	-0.00017 mg/L	mg/L	0.000222	-0.00017 mg/L	0.000222	131.59%
Sr 421.552†	25.0	0.00006 mg/L	mg/L	0.000098	0.00006 mg/L	0.000098	169.21%
Ti 334.903†	17.6	0.00129 mg/L	mg/L	0.002142	0.00129 mg/L	0.002142	166.61%
Tl 190.801†	0.5	0.00040 mg/L	mg/L	0.002364	0.00040 mg/L	0.002364	584.22%
V 292.402†	4.3	0.00008 mg/L	mg/L	0.000409	0.00008 mg/L	0.000409	528.52%
Zn 206.200†	4.2	0.00218 mg/L	mg/L	0.001158	0.00218 mg/L	0.001158	53.13%

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Analysis Begun

Start Time: 11/10/2020 4:40:26 PM Plasma On Time: 11/10/2020 1:54:30 PM
Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1110.sif

Batch ID:
Results Data Set: I2201110
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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Sequence No.: 1 Autosampler Location: 304
Sample ID: 20K0053-01 03 Date Collected: 11/10/2020 4:40:34 PM
Data Type: Original

Dilution: 1X TH 11-10-20

Nebulizer Parameters: 20K0053-01 03

Analyte Back Pressure Flow
All 236.0 kPa 0.65 L/min

Mean Data: 20K0053-01 03

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1431105.6	105.0 %		0.73			0.70%
ScR 361.383	160259.4	103.3 %		0.51			0.49%
Ag 328.068†	-123.6	-0.00097 mg/L		0.000231	-0.00097 mg/L	0.000231	23.83%
Al 308.215†	6.1	0.00519 mg/L		0.002458	0.00519 mg/L	0.002458	47.36%
As 188.979†	34.1	0.02651 mg/L		0.000981	0.02651 mg/L	0.000981	3.70%
B 249.677†	1589.9	0.2509 mg/L		0.00387	0.2509 mg/L	0.00387	1.54%
Ba 233.527†	446.6	0.1167 mg/L		0.00202	0.1167 mg/L	0.00202	1.73%
Be 313.042†	-31.1	-0.00011 mg/L		0.000157	-0.00011 mg/L	0.000157	143.31%
Ca 317.933†	770443.6	119.7 mg/L		1.52	119.7 mg/L	1.52	1.27%
Cd 228.802†	-2.9	-0.00045 mg/L		0.000227	-0.00045 mg/L	0.000227	50.63%
Co 228.616†	58.1	0.00243 mg/L		0.000132	0.00243 mg/L	0.000132	5.44%
Cr 267.716†	82.1	0.01403 mg/L		0.006619	0.01403 mg/L	0.006619	47.18%
Cu 324.752†	356.4	0.00142 mg/L		0.000253	0.00142 mg/L	0.000253	17.82%
Fe 273.955†	4.2	0.00398 mg/L		0.004185	0.00398 mg/L	0.004185	105.18%
K 766.490†	17073.6	15.34 mg/L		0.133	15.34 mg/L	0.133	0.87%
Mg 279.077†	102441.3	131.3 mg/L		1.70	131.3 mg/L	1.70	1.30%
Mn 257.610†	17.2	0.00016 mg/L		0.000374	0.00016 mg/L	0.000374	240.99%
Mo 202.031†	385.8	0.03029 mg/L		0.000213	0.03029 mg/L	0.000213	0.70%
Na 589.592†	1037356.5	128.4 mg/L		0.15	128.4 mg/L	0.15	0.12%
Na 330.237†	2250.4	117.0 mg/L		1.08	117.0 mg/L	1.08	0.92%
Ni 231.604†	16.8	0.00639 mg/L		0.003264	0.00639 mg/L	0.003264	51.04%
Pb 220.353†	-42.9	-0.00793 mg/L		0.001506	-0.00793 mg/L	0.001506	19.00%
Sb 206.836†	12.1	0.00583 mg/L		0.001338	0.00583 mg/L	0.001338	22.96%
Se 196.026†	77.5	0.09992 mg/L		0.002574	0.09992 mg/L	0.002574	2.58%
Si 288.158†	22806.2	26.95 mg/L		0.295	26.95 mg/L	0.295	1.09%
Sn 189.927†	-75.3	-0.00269 mg/L		0.001188	-0.00269 mg/L	0.001188	44.17%
Sr 421.552†	252044.6	0.5843 mg/L		0.00079	0.5843 mg/L	0.00079	0.14%
Ti 334.903†	123.1	0.00236 mg/L		0.000516	0.00236 mg/L	0.000516	21.82%
Tl 190.801†	68.7	0.05240 mg/L		0.003013	0.05240 mg/L	0.003013	5.75%
V 292.402†	454.2	0.00830 mg/L		0.000128	0.00830 mg/L	0.000128	1.54%
Zn 206.200†	-16.8	-0.00879 mg/L		0.001061	-0.00879 mg/L	0.001061	12.07%

Sequence No.: 2

Sample ID: 20J0393-01

Autosampler Location: 305

Date Collected: 11/10/2020 4:45:12 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0393-01

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: 20J0393-01

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1434472.6	105.2	%	0.69			0.65%
ScR 361.383	162364.4	104.7	%	0.73			0.70%
Ag 328.068†	-102.0	-0.00072	mg/L	0.000652	-0.00361	mg/L	90.28%
Al 308.215†	88881.8	86.88	mg/L	0.195	434.4	mg/L	0.22%
As 188.979†	224.6	0.3887	mg/L	0.00419	1.943	mg/L	1.08%
B 249.677†	33.3	0.01319	mg/L	0.001671	0.06597	mg/L	12.67%
Ba 233.527†	1469.8	0.3729	mg/L	0.00415	1.864	mg/L	0.208%
Be 313.042†	858.9	0.00088	mg/L	0.000065	0.00440	mg/L	7.44%
Ca 317.933†	136668.7	21.24	mg/L	0.018	106.2	mg/L	0.09%
Cd 228.802†	63.3	0.00125	mg/L	0.000338	0.00623	mg/L	27.16%
Co 228.616†	1222.2	0.04065	mg/L	0.000677	0.2032	mg/L	1.67%
Cr 267.716†	364.1	0.1325	mg/L	0.00363	0.6626	mg/L	2.74%
Cu 324.752†	19737.8	0.1322	mg/L	0.00126	0.6608	mg/L	0.95%
Fe 273.955†	99605.5	101.6	mg/L	0.32	508.0	mg/L	0.31%
K 766.490†	8393.1	7.539	mg/L	0.0473	37.69	mg/L	0.63%
Mg 279.077†	17528.0	22.42	mg/L	0.022	112.1	mg/L	0.10%
Mn 257.610†	46120.9	1.296	mg/L	0.0017	6.480	mg/L	0.13%
Mo 202.031†	35.2	0.00262	mg/L	0.000652	0.01309	mg/L	24.92%
Na 589.592†	10932.3	1.353	mg/L	0.0064	6.766	mg/L	0.48%
Na 330.237†	-1.2	0.9660	mg/L	0.31048	4.830	mg/L	32.14%
Ni 231.604†	294.6	0.1122	mg/L	0.00178	0.5611	mg/L	1.58%
Pb 220.353†	317.0	0.07714	mg/L	0.000741	0.3857	mg/L	0.96%
Sb 206.836†	6.7	0.01072	mg/L	0.003247	0.05362	mg/L	30.27%
Se 196.026†	-10.1	-0.00217	mg/L	0.005762	-0.01084	mg/L	265.85%
Si 288.158†	777.5	0.8606	mg/L	0.00465	4.303	mg/L	0.54%
Sn 189.927†	-31.6	-0.00522	mg/L	0.000712	-0.02611	mg/L	13.63%
Sr 421.552†	56338.8	0.1306	mg/L	0.00027	0.6531	mg/L	0.21%
Ti 334.903†	66347.5	4.849	mg/L	0.0137	24.24	mg/L	0.28%
Tl 190.801†	115.4	0.08845	mg/L	0.002356	0.4422	mg/L	2.66%
V 292.402†	14519.0	0.2630	mg/L	0.00387	1.315	mg/L	1.47%
Zn 206.200†	430.9	0.2257	mg/L	0.00139	1.129	mg/L	0.62%

Sequence No.: 3

Sample ID: 20J0393-03

Autosampler Location: 306

Date Collected: 11/10/2020 4:49:28 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0393-03

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: 20J0393-03

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	1409927.3	103.4 %	%	0.55				0.54%
ScR 361.383	158406.9	102.2 %	%	0.26				0.25%
Ag 328.068†	-119.3	-0.00086 mg/L	mg/L	0.000133	-0.00430 mg/L	mg/L	0.000663	15.44%
Al 308.215†	90398.5	88.36 mg/L	mg/L	0.203	441.8 mg/L	mg/L	1.02	0.23%
As 188.979†	186.1	0.3328 mg/L	mg/L	0.00074	1.664 mg/L	mg/L	0.0037	0.22%
B 249.677†	51.0	0.01567 mg/L	mg/L	0.000374	0.07833 mg/L	mg/L	0.001868	2.39%
Ba 233.527†	1413.8	0.3587 mg/L	mg/L	0.00313	1.793 mg/L	mg/L	0.0156	0.87%
Be 313.042†	875.8	0.00093 mg/L	mg/L	0.000075	0.00463 mg/L	mg/L	0.000377	8.15%
Ca 317.933†	157451.0	24.47 mg/L	mg/L	0.112	122.3 mg/L	mg/L	0.56	0.46%
Cd 228.802†	56.1	0.00117 mg/L	mg/L	0.000103	0.00585 mg/L	mg/L	0.000513	8.78%
Co 228.616†	1169.7	0.03933 mg/L	mg/L	0.000184	0.1966 mg/L	mg/L	0.00092	0.47%
Cr 267.716†	386.7	0.1401 mg/L	mg/L	0.00101	0.7007 mg/L	mg/L	0.00505	0.72%
Cu 324.752†	19676.4	0.1317 mg/L	mg/L	0.00059	0.6584 mg/L	mg/L	0.00294	0.45%
Fe 273.955†	95661.2	97.57 mg/L	mg/L	0.538	487.9 mg/L	mg/L	2.69	0.55%
K 766.490†	7938.5	7.131 mg/L	mg/L	0.0381	35.65 mg/L	mg/L	0.191	0.53%
Mg 279.077†	16909.5	21.63 mg/L	mg/L	0.064	108.2 mg/L	mg/L	0.32	0.30%
Mn 257.610†	63176.7	1.776 mg/L	mg/L	0.0046	8.879 mg/L	mg/L	0.0230	0.26%
Mo 202.031†	36.2	0.00266 mg/L	mg/L	0.000546	0.01328 mg/L	mg/L	0.002728	20.54%
Na 589.592†	11878.9	1.470 mg/L	mg/L	0.0042	7.352 mg/L	mg/L	0.0208	0.28%
Na 330.237†	-2.0	0.8273 mg/L	mg/L	0.14016	4.136 mg/L	mg/L	0.7008	16.94%
Ni 231.604†	310.1	0.1181 mg/L	mg/L	0.00192	0.5907 mg/L	mg/L	0.00958	1.62%
Pb 220.353†	244.7	0.06426 mg/L	mg/L	0.000855	0.3213 mg/L	mg/L	0.00428	1.33%
Sb 206.836†	14.1	0.01377 mg/L	mg/L	0.000838	0.06886 mg/L	mg/L	0.004190	6.08%
Se 196.026†	-15.6	-0.00960 mg/L	mg/L	0.005239	-0.04801 mg/L	mg/L	0.026195	54.56%
Si 288.158†	1209.2	1.376 mg/L	mg/L	0.0068	6.879 mg/L	mg/L	0.0339	0.49%
Sn 189.927†	-39.1	-0.00756 mg/L	mg/L	0.001760	-0.03780 mg/L	mg/L	0.008798	23.28%
Sr 421.552†	66838.7	0.1550 mg/L	mg/L	0.00036	0.7748 mg/L	mg/L	0.00180	0.23%
Ti 334.903†	60459.0	4.418 mg/L	mg/L	0.0097	22.09 mg/L	mg/L	0.049	0.22%
Tl 190.801†	108.2	0.08360 mg/L	mg/L	0.001521	0.4180 mg/L	mg/L	0.00760	1.82%
V 292.402†	14432.1	0.2615 mg/L	mg/L	0.00182	1.307 mg/L	mg/L	0.0091	0.70%
Zn 206.200†	434.7	0.2277 mg/L	mg/L	0.00078	1.139 mg/L	mg/L	0.0039	0.34%

Sequence No.: 4

Sample ID: 20J0410-04

Autosampler Location: 307

Date Collected: 11/10/2020 4:53:44 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0410-04

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: 20J0410-04

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1440889.6	105.7	%	0.36			0.34%
ScR 361.383	161228.3	104.0	%	0.47			0.45%
Ag 328.068†	196.6	0.00157	mg/L	0.000078	0.01570	mg/L	0.000781 4.97%
Al 308.215†	18083.3	17.68	mg/L	0.041	176.8	mg/L	0.41 0.23%
As 188.979†	-21.1	0.00797	mg/L	0.001238	0.07968	mg/L	0.012379 15.54%
B 249.677†	66.6	0.01274	mg/L	0.000219	0.1274	mg/L	0.00219 1.72%
Ba 233.527†	1444.3	0.3741	mg/L	0.00059	3.741	mg/L	0.0059 0.16%
Be 313.042†	197.1	0.00015	mg/L	0.000020	0.00148	mg/L	0.000205 13.84%
Ca 317.933†	53066.1	8.247	mg/L	0.0395	82.47	mg/L	0.395 0.48%
Cd 228.802†	72.4	0.00431	mg/L	0.000204	0.04306	mg/L	0.002038 4.73%
Co 228.616†	1000.2	0.03956	mg/L	0.000360	0.3956	mg/L	0.00360 0.91%
Cr 267.716†	553.8	0.1977	mg/L	0.00076	1.977	mg/L	0.0076 0.39%
Cu 324.752†	16349.7	0.1077	mg/L	0.00042	1.077	mg/L	0.0042 0.39%
Fe 273.955†	29151.4	29.73	mg/L	0.156	297.3	mg/L	1.56 0.53%
K 766.490†	1410.6	1.267	mg/L	0.0133	12.67	mg/L	0.133 1.05%
Mg 279.077†	3675.1	4.696	mg/L	0.0210	46.96	mg/L	0.210 0.45%
Mn 257.610†	7768.0	0.2184	mg/L	0.00083	2.184	mg/L	0.0083 0.38%
Mo 202.031†	86.3	0.00701	mg/L	0.000121	0.07014	mg/L	0.001208 1.72%
Na 589.592†	26260.7	3.250	mg/L	0.0029	32.50	mg/L	0.029 0.09%
Na 330.237†	63.3	3.289	mg/L	0.2561	32.89	mg/L	2.561 7.79%
Ni 231.604†	62.3	0.02374	mg/L	0.000286	0.2374	mg/L	0.00286 1.21%
Pb 220.353†	9650.6	1.802	mg/L	0.0165	18.02	mg/L	0.165 0.92%
Sb 206.836†	13.1	0.00618	mg/L	0.002110	0.06177	mg/L	0.021097 34.15%
Se 196.026†	-3.3	-0.00093	mg/L	0.004849	-0.00931	mg/L	0.048493 520.71%
Si 288.158†	386.8	0.4432	mg/L	0.00406	4.432	mg/L	0.0406 0.92%
Sn 189.927†	7.7	0.00531	mg/L	0.000327	0.05305	mg/L	0.003266 6.16%
Sr 421.552†	44452.9	0.1031	mg/L	0.00033	1.031	mg/L	0.0033 0.32%
Ti 334.903†	15768.9	1.152	mg/L	0.0042	11.52	mg/L	0.042 0.36%
Tl 190.801†	28.0	0.02114	mg/L	0.002764	0.2114	mg/L	0.02764 13.08%
V 292.402†	4011.8	0.07374	mg/L	0.001039	0.7374	mg/L	0.01039 1.41%
Zn 206.200†	1535.2	0.8043	mg/L	0.00153	8.043	mg/L	0.0153 0.19%

Sequence No.: 5

Sample ID: 20J0410-21

Autosampler Location: 308

Date Collected: 11/10/2020 4:57:59 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0410-21

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: 20J0410-21

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1425104.7	104.5	%	1.23			1.18%
ScR 361.383	160781.4	103.7	%	0.17			0.17%
Ag 328.068†	-120.6	-0.00090	mg/L	0.000266	-0.00450	mg/L	0.001329 29.50%
Al 308.215†	37399.4	36.56	mg/L	0.037	182.8	mg/L	0.18 0.10%
As 188.979†	-50.8	0.00972	mg/L	0.001407	0.04861	mg/L	0.007033 14.47%
B 249.677†	61.7	0.01389	mg/L	0.001671	0.06946	mg/L	0.008354 12.03%
Ba 233.527†	531.7	0.1330	mg/L	0.00095	0.6652	mg/L	0.00474 0.71%
Be 313.042†	385.7	0.00022	mg/L	0.000078	0.00110	mg/L	0.000389 35.36%
Ca 317.933†	93810.2	14.58	mg/L	0.075	72.90	mg/L	0.375 0.51%
Cd 228.802†	13.0	0.00080	mg/L	0.000115	0.00402	mg/L	0.000574 14.28%
Co 228.616†	840.0	0.03002	mg/L	0.000350	0.1501	mg/L	0.00175 1.16%
Cr 267.716†	211.8	0.07734	mg/L	0.002596	0.3867	mg/L	0.01298 3.36%
Cu 324.752†	9965.9	0.06686	mg/L	0.000604	0.3343	mg/L	0.00302 0.90%
Fe 273.955†	52414.1	53.46	mg/L	0.206	267.3	mg/L	1.03 0.38%
K 766.490†	2583.4	2.320	mg/L	0.0150	11.60	mg/L	0.075 0.64%
Mg 279.077†	6565.4	8.389	mg/L	0.0095	41.95	mg/L	0.048 0.11%
Mn 257.610†	13702.0	0.3847	mg/L	0.00099	1.924	mg/L	0.0049 0.26%
Mo 202.031†	82.7	0.00664	mg/L	0.000114	0.03322	mg/L	0.000570 1.72%
Na 589.592†	50951.9	6.307	mg/L	0.0179	31.53	mg/L	0.089 0.28%
Na 330.237†	119.6	6.725	mg/L	0.3922	33.63	mg/L	1.961 5.83%
Ni 231.604†	110.0	0.04191	mg/L	0.004267	0.2096	mg/L	0.02133 10.18%
Pb 220.353†	254.6	0.05455	mg/L	0.001520	0.2727	mg/L	0.00760 2.79%
Sb 206.836†	8.1	0.00827	mg/L	0.002004	0.04136	mg/L	0.010019 24.23%
Se 196.026†	-6.5	-0.00266	mg/L	0.005044	-0.01328	mg/L	0.025218 189.90%
Si 288.158†	1094.7	1.264	mg/L	0.0071	6.320	mg/L	0.0354 0.56%
Sn 189.927†	173.1	0.07008	mg/L	0.002444	0.3504	mg/L	0.01222 3.49%
Sr 421.552†	62628.4	0.1452	mg/L	0.00006	0.7260	mg/L	0.00031 0.04%
Ti 334.903†	32812.7	2.398	mg/L	0.0014	11.99	mg/L	0.007 0.06%
Tl 190.801†	53.7	0.04071	mg/L	0.001356	0.2035	mg/L	0.00678 3.33%
V 292.402†	8733.4	0.1579	mg/L	0.00105	0.7895	mg/L	0.00524 0.66%
Zn 206.200†	248.8	0.1303	mg/L	0.00207	0.6515	mg/L	0.01037 1.59%

Sequence No.: 6

Autosampler Location: 309

Sample ID: 20J0435-01

Date Collected: 11/10/2020 5:02:15 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0435-01

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: 20J0435-01

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	1409200.8	103.4 %	%	1.32				1.28%
ScR 361.383	155908.4	100.5 %	%	0.51				0.51%
Ag 328.068†	-29.0	-0.00011	mg/L	0.000125	-0.00022	mg/L	0.000250	111.20%
Al 308.215†	123203.9	120.4	mg/L	0.33	240.9	mg/L	0.66	0.27%
As 188.979†	-135.1	0.03286	mg/L	0.005643	0.06573	mg/L	0.011286	17.17%
B 249.677†	274.6	0.05901	mg/L	0.001887	0.1180	mg/L	0.00377	3.20%
Ba 233.527†	5559.5	1.431	mg/L	0.0055	2.861	mg/L	0.0110	0.38%
Be 313.042†	1405.9	0.00166	mg/L	0.000049	0.00333	mg/L	0.000098	2.96%
Ca 317.933†	502104.2	78.03	mg/L	0.475	156.1	mg/L	0.95	0.61%
Cd 228.802†	130.3	0.00764	mg/L	0.000451	0.01527	mg/L	0.000902	5.91%
Co 228.616†	2225.8	0.07770	mg/L	0.001463	0.1554	mg/L	0.00293	1.88%
Cr 267.716†	1144.6	0.4112	mg/L	0.00375	0.8224	mg/L	0.00750	0.91%
Cu 324.752†	146056.5	0.9604	mg/L	0.01576	1.921	mg/L	0.0315	1.64%
Fe 273.955†	196861.4	200.8	mg/L	1.22	401.6	mg/L	2.45	0.61%
K 766.490†	8850.5	7.950	mg/L	0.0445	15.90	mg/L	0.089	0.56%
Mg 279.077†	39935.7	51.10	mg/L	0.198	102.2	mg/L	0.40	0.39%
Mn 257.610†	140150.2	3.940	mg/L	0.0120	7.880	mg/L	0.0240	0.30%
Mo 202.031†	289.2	0.02285	mg/L	0.000555	0.04570	mg/L	0.001110	2.43%
Na 589.592†	30642.5	3.793	mg/L	0.0210	7.586	mg/L	0.0419	0.55%
Na 330.237†	55.1	2.982	mg/L	0.6078	5.964	mg/L	1.2156	20.38%
Ni 231.604†	813.4	0.3099	mg/L	0.00235	0.6197	mg/L	0.00470	0.76%
Pb 220.353†	2462.6	0.4804	mg/L	0.00585	0.9608	mg/L	0.01169	1.22%
Sb 206.836†	47.3	0.03188	mg/L	0.003702	0.06376	mg/L	0.007404	11.61%
Se 196.026†	-21.9	-0.00658	mg/L	0.008918	-0.01316	mg/L	0.017837	135.51%
Si 288.158†	7290.6	8.533	mg/L	0.0605	17.07	mg/L	0.121	0.71%
Sn 189.927†	17.4	0.02661	mg/L	0.000623	0.05321	mg/L	0.001245	2.34%
Sr 421.552†	179958.5	0.4172	mg/L	0.00124	0.8344	mg/L	0.00248	0.30%
Ti 334.903†	92767.5	6.777	mg/L	0.0214	13.55	mg/L	0.043	0.32%
Tl 190.801†	180.4	0.1407	mg/L	0.00186	0.2814	mg/L	0.00372	1.32%
V 292.402†	20918.8	0.3826	mg/L	0.00828	0.7652	mg/L	0.01656	2.16%
Zn 206.200†	8194.2	4.292	mg/L	0.0204	8.585	mg/L	0.0408	0.48%

Sequence No.: 7

Sample ID: 20J0422-03

Autosampler Location: 310

Date Collected: 11/10/2020 5:06:32 PM

Data Type: Original

Dilution: 4X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0422-03

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: 20J0422-03

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1427931.9	104.8	%	1.43			1.36%	
ScR 361.383	156821.1	101.1	%	0.73			0.72%	
Ag 328.068†	923.9	0.00733	mg/L	0.000093	0.02932	mg/L	0.000374	1.28%
Al 308.215†	56144.9	54.88	mg/L	0.573	219.5	mg/L	2.29	1.04%
As 188.979†	-46.0	0.02721	mg/L	0.009254	0.1088	mg/L	0.03702	34.01%
B 249.677†	862.3	0.1489	mg/L	0.00260	0.5957	mg/L	0.01038	1.74%
Ba 233.527†	2766.1	0.7027	mg/L	0.01023	2.811	mg/L	0.0409	1.46%
Be 313.042†	669.0	0.00075	mg/L	0.000051	0.00301	mg/L	0.000203	6.74%
Ca 317.933†	136129.1	21.16	mg/L	0.210	84.62	mg/L	0.841	0.99%
Cd 228.802†	152.2	0.00849	mg/L	0.000499	0.03398	mg/L	0.001998	5.88%
Co 228.616†	1919.6	0.07195	mg/L	0.001284	0.2878	mg/L	0.00514	1.78%
Cr 267.716†	17792.8	6.318	mg/L	0.0865	25.27	mg/L	0.346	1.37%
Cu 324.752†	248850.7	1.632	mg/L	0.0072	6.526	mg/L	0.0290	0.44%
Fe 273.955†	180039.8	183.6	mg/L	2.01	734.6	mg/L	8.04	1.10%
K 766.490†	4074.9	3.660	mg/L	0.0251	14.64	mg/L	0.100	0.68%
Mg 279.077†	15692.5	20.03	mg/L	0.266	80.13	mg/L	1.066	1.33%
Mn 257.610†	125611.4	3.532	mg/L	0.0394	14.13	mg/L	0.157	1.11%
Mo 202.031†	538.4	0.04394	mg/L	0.000555	0.1757	mg/L	0.00222	1.26%
Na 589.592†	54675.6	6.767	mg/L	0.0494	27.07	mg/L	0.198	0.73%
Na 330.237†	147.9	6.406	mg/L	0.4687	25.62	mg/L	1.875	7.32%
Ni 231.604†	1113.0	0.4240	mg/L	0.00511	1.696	mg/L	0.0204	1.20%
Pb 220.353†	6570.7	1.241	mg/L	0.0149	4.962	mg/L	0.0598	1.20%
Sb 206.836†	179.7	0.00421	mg/L	0.003222	0.01685	mg/L	0.012888	76.50%
Se 196.026†	-18.2	0.00390	mg/L	0.011450	0.01559	mg/L	0.045800	293.77%
Si 288.158†	2774.5	3.247	mg/L	0.0349	12.99	mg/L	0.139	1.07%
Sn 189.927†	214.3	0.08763	mg/L	0.001091	0.3505	mg/L	0.00437	1.25%
Sr 421.552†	92882.1	0.2153	mg/L	0.00201	0.8613	mg/L	0.00806	0.94%
Ti 334.903†	44133.8	3.224	mg/L	0.0366	12.90	mg/L	0.146	1.13%
Tl 190.801†	106.7	0.08282	mg/L	0.001381	0.3313	mg/L	0.00553	1.67%
V 292.402†	10446.6	0.2328	mg/L	0.00117	0.9314	mg/L	0.00466	0.50%
Zn 206.200†	11608.3	6.080	mg/L	0.0880	24.32	mg/L	0.352	1.45%

Sequence No.: 8

Sample ID: 20J0422-05

Autosampler Location: 311

Date Collected: 11/10/2020 5:10:48 PM

Data Type: Original

Dilution: 4X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0422-05

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0422-05

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1473583.5	108.1	%	0.87			0.81%
ScR 361.383	163122.4	105.2	%	0.22			0.21%
Ag 328.068†	954.6	0.00756	mg/L	0.000381	0.03025	mg/L	0.001524 5.04%
Al 308.215†	51349.8	50.19	mg/L	0.062	200.8	mg/L	0.25 0.12%
As 188.979†	-41.9	0.02568	mg/L	0.002068	0.1027	mg/L	0.00827 8.05%
B 249.677†	1303.3	0.2180	mg/L	0.00100	0.8719	mg/L	0.00401 0.46%
Ba 233.527†	4029.6	1.035	mg/L	0.0054	4.140	mg/L	0.0216 0.52%
Be 313.042†	445.1	0.00035	mg/L	0.000007	0.00142	mg/L	0.000028 1.96%
Ca 317.933†	144729.9	22.49	mg/L	0.079	89.97	mg/L	0.315 0.35%
Cd 228.802†	302.2	0.01791	mg/L	0.000405	0.07166	mg/L	0.001622 2.26%
Co 228.616†	1897.3	0.07216	mg/L	0.000331	0.2886	mg/L	0.00132 0.46%
Cr 267.716†	6074.5	2.162	mg/L	0.0397	8.649	mg/L	0.1588 1.84%
Cu 324.752†	301030.8	1.971	mg/L	0.0217	7.885	mg/L	0.0867 1.10%
Fe 273.955†	159817.7	163.0	mg/L	2.52	652.1	mg/L	10.06 1.54%
K 766.490†	3171.2	2.848	mg/L	0.0398	11.39	mg/L	0.159 1.40%
Mg 279.077†	13445.0	17.16	mg/L	0.048	68.63	mg/L	0.194 0.28%
Mn 257.610†	94153.6	2.647	mg/L	0.0153	10.59	mg/L	0.061 0.58%
Mo 202.031†	727.1	0.05973	mg/L	0.000168	0.2389	mg/L	0.00067 0.28%
Na 589.592†	34974.3	4.329	mg/L	0.0417	17.32	mg/L	0.167 0.96%
Na 330.237†	137.4	4.643	mg/L	0.2886	18.57	mg/L	1.154 6.22%
Ni 231.604†	1769.8	0.6742	mg/L	0.00716	2.697	mg/L	0.0286 1.06%
Pb 220.353†	7781.6	1.457	mg/L	0.0137	5.828	mg/L	0.0549 0.94%
Sb 206.836†	90.3	0.02061	mg/L	0.000393	0.08245	mg/L	0.001574 1.91%
Se 196.026†	-17.9	-0.00324	mg/L	0.003522	-0.01294	mg/L	0.014087 108.86%
Si 288.158†	963.9	1.109	mg/L	0.0257	4.435	mg/L	0.1026 2.31%
Sn 189.927†	288.5	0.1159	mg/L	0.00057	0.4636	mg/L	0.00227 0.49%
Sr 421.552†	82658.0	0.1916	mg/L	0.00106	0.7665	mg/L	0.00425 0.55%
Ti 334.903†	37875.4	2.767	mg/L	0.0052	11.07	mg/L	0.021 0.19%
Tl 190.801†	92.9	0.07260	mg/L	0.001281	0.2904	mg/L	0.00512 1.76%
V 292.402†	8806.9	0.1766	mg/L	0.00441	0.7063	mg/L	0.01764 2.50%
Zn 206.200†	18000.6	9.429	mg/L	0.0317	37.72	mg/L	0.127 0.34%

Sequence No.: 9

Sample ID: 20J0422-06

Autosampler Location: 312

Date Collected: 11/10/2020 5:14:19 PM

Data Type: Original

Dilution: 4X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0422-06

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: 20J0422-06

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1442966.5	105.9	%	2.96			2.79%
ScR 361.383	163256.9	105.3	%	1.31			1.24%
Ag 328.068†	917.6	0.00728	mg/L	0.000134	0.02911	mg/L	0.000535 1.84%
Al 308.215†	57157.7	55.87	mg/L	0.805	223.5	mg/L	3.22 1.44%
As 188.979†	-63.2	0.01953	mg/L	0.004753	0.07811	mg/L	0.019012 24.34%
B 249.677†	1033.5	0.1770	mg/L	0.00074	0.7078	mg/L	0.00297 0.42%
Ba 233.527†	3985.2	1.022	mg/L	0.0082	4.088	mg/L	0.0329 0.81%
Be 313.042†	558.3	0.00054	mg/L	0.000025	0.00216	mg/L	0.000101 4.68%
Ca 317.933†	189168.2	29.40	mg/L	0.443	117.6	mg/L	1.77 1.51%
Cd 228.802†	388.3	0.02295	mg/L	0.001255	0.09180	mg/L	0.005020 5.47%
Co 228.616†	1817.0	0.06748	mg/L	0.003243	0.2699	mg/L	0.01297 4.81%
Cr 267.716†	1939.7	0.6957	mg/L	0.00226	2.783	mg/L	0.0090 0.33%
Cu 324.752†	272274.3	1.784	mg/L	0.0301	7.136	mg/L	0.1204 1.69%
Fe 273.955†	174486.7	178.0	mg/L	2.40	711.9	mg/L	9.58 1.35%
K 766.490†	3492.5	3.137	mg/L	0.0394	12.55	mg/L	0.158 1.26%
Mg 279.077†	16321.8	20.84	mg/L	0.163	83.35	mg/L	0.652 0.78%
Mn 257.610†	145359.5	4.088	mg/L	0.0593	16.35	mg/L	0.237 1.45%
Mo 202.031†	691.2	0.05674	mg/L	0.002541	0.2270	mg/L	0.01016 4.48%
Na 589.592†	32091.2	3.972	mg/L	0.0302	15.89	mg/L	0.121 0.76%
Na 330.237†	127.8	3.608	mg/L	0.1902	14.43	mg/L	0.761 5.27%
Ni 231.604†	1275.2	0.4858	mg/L	0.00280	1.943	mg/L	0.0112 0.58%
Pb 220.353†	7987.0	1.493	mg/L	0.0673	5.973	mg/L	0.2693 4.51%
Sb 206.836†	48.4	0.02208	mg/L	0.002804	0.08833	mg/L	0.011214 12.70%
Se 196.026†	-18.8	-0.00464	mg/L	0.011627	-0.01857	mg/L	0.046509 250.41%
Si 288.158†	1684.8	1.952	mg/L	0.0039	7.807	mg/L	0.0156 0.20%
Sn 189.927†	260.6	0.1070	mg/L	0.00433	0.4282	mg/L	0.01731 4.04%
Sr 421.552†	96706.3	0.2242	mg/L	0.00262	0.8968	mg/L	0.01049 1.17%
Ti 334.903†	45522.6	3.326	mg/L	0.0479	13.30	mg/L	0.191 1.44%
Tl 190.801†	105.7	0.08462	mg/L	0.007622	0.3385	mg/L	0.03049 9.01%
V 292.402†	9845.8	0.1866	mg/L	0.00527	0.7464	mg/L	0.02108 2.82%
Zn 206.200†	21793.9	11.42	mg/L	0.076	45.67	mg/L	0.305 0.67%

Sequence No.: 10

Sample ID: 20J0422-07

Autosampler Location: 313

Date Collected: 11/10/2020 5:18:35 PM

Data Type: Original

Dilution: 4X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0422-07

Analyte	Back Pressure	Flow
All	234.0 kPa	0.65 L/min

Mean Data: 20J0422-07

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	1421842.7	104.3 %	%	0.29				0.28%
ScR 361.383	159643.2	102.9 %	%	0.43				0.42%
Ag 328.068†	-54.5	-0.00037	mg/L	0.000221	-0.00148	mg/L	0.000886	59.93%
Al 308.215†	47322.5	46.25	mg/L	0.307	185.0	mg/L	1.23	0.66%
As 188.979†	-100.4	-0.00638	mg/L	0.003342	-0.02551	mg/L	0.013367	52.40%
B 249.677†	69.5	0.02170	mg/L	0.001369	0.08679	mg/L	0.005477	6.31%
Ba 233.527†	1782.8	0.4508	mg/L	0.00190	1.803	mg/L	0.0076	0.42%
Be 313.042†	590.0	0.00054	mg/L	0.000011	0.00217	mg/L	0.000046	2.12%
Ca 317.933†	229497.0	35.67	mg/L	0.091	142.7	mg/L	0.36	0.25%
Cd 228.802†	34.8	0.00202	mg/L	0.000250	0.00806	mg/L	0.001002	12.43%
Co 228.616†	1056.4	0.03494	mg/L	0.000120	0.1397	mg/L	0.00048	0.34%
Cr 267.716†	1205.6	0.4319	mg/L	0.00332	1.727	mg/L	0.0133	0.77%
Cu 324.752†	96435.0	0.6345	mg/L	0.00200	2.538	mg/L	0.0080	0.32%
Fe 273.955†	134509.6	137.2	mg/L	1.39	548.8	mg/L	5.54	1.01%
K 766.490†	3119.4	2.802	mg/L	0.0078	11.21	mg/L	0.031	0.28%
Mg 279.077†	21029.8	26.90	mg/L	0.096	107.6	mg/L	0.38	0.36%
Mn 257.610†	143072.7	4.023	mg/L	0.0279	16.09	mg/L	0.112	0.69%
Mo 202.031†	263.7	0.02131	mg/L	0.000615	0.08523	mg/L	0.002459	2.89%
Na 589.592†	17126.0	2.120	mg/L	0.0101	8.479	mg/L	0.0405	0.48%
Na 330.237†	23.0	1.672	mg/L	0.2758	6.689	mg/L	1.1030	16.49%
Ni 231.604†	517.1	0.1970	mg/L	0.00097	0.7880	mg/L	0.00390	0.49%
Pb 220.353†	777.1	0.1504	mg/L	0.00160	0.6015	mg/L	0.00639	1.06%
Sb 206.836†	29.0	0.01610	mg/L	0.002918	0.06440	mg/L	0.011674	18.13%
Se 196.026†	-21.7	-0.01298	mg/L	0.006122	-0.05192	mg/L	0.024488	47.17%
Si 288.158†	1296.9	1.487	mg/L	0.0053	5.948	mg/L	0.0212	0.36%
Sn 189.927†	-8.8	0.00616	mg/L	0.000547	0.02464	mg/L	0.002190	8.89%
Sr 421.552†	74741.9	0.1733	mg/L	0.00122	0.6931	mg/L	0.00490	0.71%
Ti 334.903†	53232.0	3.889	mg/L	0.0292	15.56	mg/L	0.117	0.75%
Tl 190.801†	98.0	0.07879	mg/L	0.003295	0.3152	mg/L	0.01318	4.18%
V 292.402†	10756.8	0.1996	mg/L	0.00264	0.7986	mg/L	0.01054	1.32%
Zn 206.200†	2345.1	1.228	mg/L	0.0034	4.913	mg/L	0.0135	0.27%

Sequence No.: 11

Autosampler Location: 7

Sample ID: SEQ-CCV2

Date Collected: 11/10/2020 5:22:51 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV2

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: SEQ-CCV2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1432444.2	105.1	%	0.78			0.75%
ScR 361.383	158316.3	102.1	%	0.28			0.27%
Ag 328.068†	131002.0	1.031	mg/L	0.0183	1.031	mg/L	0.0183
Al 308.215†	2122.4	2.039	mg/L	0.0123	2.039	mg/L	0.0123
As 188.979†	1797.7	2.045	mg/L	0.0307	2.045	mg/L	0.0307
B 249.677†	6383.1	1.006	mg/L	0.0029	1.006	mg/L	0.0029
Ba 233.527†	3949.5	1.031	mg/L	0.0039	1.031	mg/L	0.0039
Be 313.042†	426135.5	1.001	mg/L	0.0035	1.001	mg/L	0.0035
Ca 317.933†	13128.9	2.040	mg/L	0.0088	2.040	mg/L	0.0088
Cd 228.802†	17142.4	1.017	mg/L	0.0214	1.017	mg/L	0.0214
Co 228.616†	24275.9	1.024	mg/L	0.0179	1.024	mg/L	0.0179
Cr 267.716†	2902.7	1.028	mg/L	0.0096	1.028	mg/L	0.0096
Cu 324.752†	154734.7	1.009	mg/L	0.0170	1.009	mg/L	0.0170
Fe 273.955†	1986.5	2.017	mg/L	0.0128	2.017	mg/L	0.0128
K 766.490†	21480.7	19.29	mg/L	0.014	19.29	mg/L	0.014
Mg 279.077†	1582.1	2.039	mg/L	0.0050	2.039	mg/L	0.0050
Mn 257.610†	35322.2	0.9940	mg/L	0.00308	0.9940	mg/L	0.00308
Mo 202.031†	12205.2	1.009	mg/L	0.0125	1.009	mg/L	0.0125
Na 589.592†	402710.4	49.85	mg/L	0.234	49.85	mg/L	0.234
Na 330.237†	966.8	50.22	mg/L	0.194	50.22	mg/L	0.194
Ni 231.604†	2689.2	1.026	mg/L	0.0044	1.026	mg/L	0.0044
Pb 220.353†	11213.0	2.091	mg/L	0.0277	2.091	mg/L	0.0277
Sb 206.836†	3909.9	2.078	mg/L	0.0246	2.078	mg/L	0.0246
Se 196.026†	1617.6	2.085	mg/L	0.0331	2.085	mg/L	0.0331
Si 288.158†	1789.6	2.106	mg/L	0.0072	2.106	mg/L	0.0072
Sn 189.927†	2654.6	1.011	mg/L	0.0140	1.011	mg/L	0.0140
Sr 421.552†	423070.6	0.9808	mg/L	0.00181	0.9808	mg/L	0.00181
Ti 334.903†	13287.4	0.9700	mg/L	0.00106	0.9700	mg/L	0.00106
Tl 190.801†	2685.5	2.042	mg/L	0.0299	2.042	mg/L	0.0299
V 292.402†	56437.9	1.014	mg/L	0.0146	1.014	mg/L	0.0146
Zn 206.200†	1985.0	1.040	mg/L	0.0024	1.040	mg/L	0.0024

Sequence No.: 12
 Sample ID: SEQ-CCB2

Autosampler Location: 1
 Date Collected: 11/10/2020 5:28:11 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB2

Analyte Back Pressure Flow
 All 236.0 kPa 0.65 L/min

Mean Data: SEQ-CCB2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1415878.4	103.9	%	0.43			0.41%
ScR 361.383	158871.4	102.5	%	0.65			0.64%
Ag 328.068†	82.5	0.00065	mg/L	0.000439	0.00065	mg/L	0.000439 67.59%
Al 308.215†	12.1	0.01182	mg/L	0.009411	0.01182	mg/L	0.009411 79.61%
As 188.979†	0.8	0.00092	mg/L	0.004302	0.00092	mg/L	0.004302 467.55%
B 249.677†	16.6	0.00262	mg/L	0.002289	0.00262	mg/L	0.002289 87.41%
Ba 233.527†	5.3	0.00138	mg/L	0.000667	0.00138	mg/L	0.000667 48.35%
Be 313.042†	-7.0	-0.00002	mg/L	0.000073	-0.00002	mg/L	0.000073 421.17%
Ca 317.933†	-2.7	-0.00042	mg/L	0.001011	-0.00042	mg/L	0.001011 243.20%
Cd 228.802†	0.3	0.00001	mg/L	0.000280	0.00001	mg/L	0.000280 >999.9%
Co 228.616†	3.2	0.00013	mg/L	0.000051	0.00013	mg/L	0.000051 38.14%
Cr 267.716†	-9.0	-0.00319	mg/L	0.003103	-0.00319	mg/L	0.003103 97.41%
Cu 324.752†	26.3	0.00017	mg/L	0.000163	0.00017	mg/L	0.000163 95.04%
Fe 273.955†	2.0	0.00204	mg/L	0.004120	0.00204	mg/L	0.004120 201.60%
K 766.490†	-1.5	-0.00133	mg/L	0.032653	-0.00133	mg/L	0.032653 >999.9%
Mg 279.077†	0.9	0.00114	mg/L	0.005752	0.00114	mg/L	0.005752 506.07%
Mn 257.610†	20.0	0.00056	mg/L	0.000213	0.00056	mg/L	0.000213 37.90%
Mo 202.031†	3.8	0.00031	mg/L	0.000272	0.00031	mg/L	0.000272 87.39%
Na 589.592†	-11.2	-0.00138	mg/L	0.001126	-0.00138	mg/L	0.001126 81.53%
Na 330.237†	-9.8	-0.5091	mg/L	0.60825	-0.5091	mg/L	0.60825 119.48%
Ni 231.604†	2.0	0.00076	mg/L	0.000889	0.00076	mg/L	0.000889 116.99%
Pb 220.353†	8.1	0.00151	mg/L	0.001417	0.00151	mg/L	0.001417 94.12%
Sb 206.836†	5.1	0.00277	mg/L	0.002817	0.00277	mg/L	0.002817 101.73%
Se 196.026†	4.1	0.00521	mg/L	0.001671	0.00521	mg/L	0.001671 32.06%
Si 288.158†	-2.7	-0.00324	mg/L	0.006107	-0.00324	mg/L	0.006107 188.47%
Sn 189.927†	1.9	0.00072	mg/L	0.000713	0.00072	mg/L	0.000713 99.08%
Sr 421.552†	42.3	0.00010	mg/L	0.000073	0.00010	mg/L	0.000073 74.72%
Ti 334.903†	15.8	0.00115	mg/L	0.001388	0.00115	mg/L	0.001388 120.27%
Tl 190.801†	4.0	0.00306	mg/L	0.001497	0.00306	mg/L	0.001497 48.97%
V 292.402†	9.5	0.00015	mg/L	0.000375	0.00015	mg/L	0.000375 251.89%
Zn 206.200†	2.7	0.00140	mg/L	0.000807	0.00140	mg/L	0.000807 57.72%

Sequence No.: 13

Sample ID: 20K0053-01

Autosampler Location: 314

Date Collected: 11/10/2020 5:32:27 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0053-01

Analyte Back Pressure Flow
 All 235.0 kPa 0.65 L/min

Mean Data: 20K0053-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1346938.0	98.81	%	0.271			0.27%
ScR 361.383	150196.0	96.86	%	0.394			0.41%
Ag 328.068†	-116.1	-0.00091	mg/L	0.000214	-0.00091	mg/L	0.000214 23.49%
Al 308.215†	42.2	0.04043	mg/L	0.005232	0.04043	mg/L	0.005232 12.94%
As 188.979†	35.9	0.02801	mg/L	0.004009	0.02801	mg/L	0.004009 14.31%
B 249.677†	1653.4	0.2609	mg/L	0.00283	0.2609	mg/L	0.00283 1.09%
Ba 233.527†	468.0	0.1223	mg/L	0.00152	0.1223	mg/L	0.00152 1.24%
Be 313.042†	98.3	0.00019	mg/L	0.000064	0.00019	mg/L	0.000064 32.94%
Ca 317.933†	808093.7	125.6	mg/L	0.79	125.6	mg/L	0.79 0.63%
Cd 228.802†	4.0	-0.00005	mg/L	0.000356	-0.00005	mg/L	0.000356 697.70%
Co 228.616†	50.1	0.00209	mg/L	0.000019	0.00209	mg/L	0.000019 0.91%
Cr 267.716†	60.4	0.00577	mg/L	0.003046	0.00577	mg/L	0.003046 52.83%
Cu 324.752†	464.2	0.00209	mg/L	0.000048	0.00209	mg/L	0.000048 2.30%
Fe 273.955†	9.7	0.00948	mg/L	0.002926	0.00948	mg/L	0.002926 30.85%
K 766.490†	16788.8	15.08	mg/L	0.139	15.08	mg/L	0.139 0.92%
Mg 279.077†	106289.0	136.3	mg/L	1.28	136.3	mg/L	1.28 0.94%
Mn 257.610†	67.7	0.00156	mg/L	0.000114	0.00156	mg/L	0.000114 7.28%
Mo 202.031†	403.3	0.03166	mg/L	0.000491	0.03166	mg/L	0.000491 1.55%
Na 589.592†	1056626.5	130.8	mg/L	0.73	130.8	mg/L	0.73 0.56%
Na 330.237†	2322.7	120.8	mg/L	1.23	120.8	mg/L	1.23 1.02%
Ni 231.604†	16.1	0.00613	mg/L	0.001923	0.00613	mg/L	0.001923 31.35%
Pb 220.353†	-41.2	-0.00762	mg/L	0.000719	-0.00762	mg/L	0.000719 9.43%
Sb 206.836†	15.3	0.00763	mg/L	0.001892	0.00763	mg/L	0.001892 24.78%
Se 196.026†	48.2	0.06209	mg/L	0.000865	0.06209	mg/L	0.000865 1.39%
Si 288.158†	23468.6	27.73	mg/L	0.412	27.73	mg/L	0.412 1.48%
Sn 189.927†	-89.4	-0.00678	mg/L	0.001879	-0.00678	mg/L	0.001879 27.72%
Sr 421.552†	259538.8	0.6017	mg/L	0.00215	0.6017	mg/L	0.00215 0.36%
Ti 334.903†	142.4	0.00345	mg/L	0.000674	0.00345	mg/L	0.000674 19.53%
Tl 190.801†	61.8	0.04714	mg/L	0.001624	0.04714	mg/L	0.001624 3.45%
V 292.402†	476.3	0.00865	mg/L	0.000462	0.00865	mg/L	0.000462 5.34%
Zn 206.200†	-16.6	-0.00871	mg/L	0.000732	-0.00871	mg/L	0.000732 8.40%

Sequence No.: 14

Sample ID: 20K0053-02

Autosampler Location: 315

Date Collected: 11/10/2020 5:37:00 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0053-02

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20K0053-02

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1394778.1	102.3	%	1.69			1.65%
ScR 361.383	154374.9	99.55	%	0.398			0.40%
Ag 328.068†	-141.3	-0.00111	mg/L	0.000163	-0.00111	mg/L	0.000163 14.68%
Al 308.215†	45.9	0.04382	mg/L	0.009943	0.04382	mg/L	0.009943 22.69%
As 188.979†	36.8	0.02624	mg/L	0.004705	0.02624	mg/L	0.004705 17.93%
B 249.677†	1846.8	0.2916	mg/L	0.00459	0.2916	mg/L	0.00459 1.57%
Ba 233.527†	225.2	0.05875	mg/L	0.001470	0.05875	mg/L	0.001470 2.50%
Be 313.042†	26.2	0.00003	mg/L	0.000058	0.00003	mg/L	0.000058 168.80%
Ca 317.933†	989829.2	153.8	mg/L	1.32	153.8	mg/L	1.32 0.86%
Cd 228.802†	5.8	0.00005	mg/L	0.000019	0.00005	mg/L	0.000019 38.36%
Co 228.616†	61.9	0.00258	mg/L	0.000200	0.00258	mg/L	0.000200 7.77%
Cr 267.716†	60.4	0.00801	mg/L	0.001689	0.00801	mg/L	0.001689 21.09%
Cu 324.752†	481.1	0.00236	mg/L	0.000221	0.00236	mg/L	0.000221 9.38%
Fe 273.955†	745.2	0.7600	mg/L	0.01178	0.7600	mg/L	0.01178 1.55%
K 766.490†	18849.0	16.93	mg/L	0.225	16.93	mg/L	0.225 1.33%
Mg 279.077†	88115.5	113.0	mg/L	1.49	113.0	mg/L	1.49 1.32%
Mn 257.610†	381.4	0.01030	mg/L	0.000259	0.01030	mg/L	0.000259 2.52%
Mo 202.031†	593.3	0.04700	mg/L	0.000772	0.04700	mg/L	0.000772 1.64%
Na 589.592†	536189.5	66.37	mg/L	0.312	66.37	mg/L	0.312 0.47%
Na 330.237†	1178.2	61.28	mg/L	1.361	61.28	mg/L	1.361 2.22%
Ni 231.604†	15.4	0.00588	mg/L	0.001328	0.00588	mg/L	0.001328 22.56%
Pb 220.353†	-47.7	-0.00887	mg/L	0.001891	-0.00887	mg/L	0.001891 21.31%
Sb 206.836†	15.4	0.00768	mg/L	0.002840	0.00768	mg/L	0.002840 36.98%
Se 196.026†	28.8	0.03723	mg/L	0.003991	0.03723	mg/L	0.003991 10.72%
Si 288.158†	21022.5	24.84	mg/L	0.201	24.84	mg/L	0.201 0.81%
Sn 189.927†	-94.2	-0.00250	mg/L	0.002075	-0.00250	mg/L	0.002075 82.88%
Sr 421.552†	246658.5	0.5718	mg/L	0.00332	0.5718	mg/L	0.00332 0.58%
Ti 334.903†	169.2	0.00384	mg/L	0.000642	0.00384	mg/L	0.000642 16.74%
Tl 190.801†	58.8	0.04486	mg/L	0.001143	0.04486	mg/L	0.001143 2.55%
V 292.402†	352.0	0.00646	mg/L	0.000192	0.00646	mg/L	0.000192 2.98%
Zn 206.200†	-12.7	-0.00668	mg/L	0.000530	-0.00668	mg/L	0.000530 7.94%

Sequence No.: 15

Sample ID: 20J0425-01

Autosampler Location: 316

Date Collected: 11/10/2020 5:41:31 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-01

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0425-01

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
ScA 357.253	1447273.1	106.2 %	%	0.29			0.27%
ScR 361.383	164425.8	106.0 %	%	0.42			0.39%
Ag 328.068†	-129.5	-0.00094 mg/L	mg/L	0.000196	-0.00187 mg/L	0.000391	20.91%
Al 308.215†	75643.4	73.94 mg/L	mg/L	0.397	147.9 mg/L	0.79	0.54%
As 188.979†	-115.7	-0.00187 mg/L	mg/L	0.003823	-0.00375 mg/L	0.007646	204.15%
B 249.677†	433.7	0.07815 mg/L	mg/L	0.000213	0.1563 mg/L	0.00043	0.27%
Ba 233.527†	1428.8	0.3596 mg/L	mg/L	0.00205	0.7191 mg/L	0.00411	0.57%
Be 313.042†	922.9	0.00097 mg/L	mg/L	0.000038	0.00194 mg/L	0.000075	3.88%
Ca 317.933†	197869.8	30.75 mg/L	mg/L	0.289	61.50 mg/L	0.577	0.94%
Cd 228.802†	45.1	0.00292 mg/L	mg/L	0.000140	0.00583 mg/L	0.000280	4.81%
Co 228.616†	1914.6	0.06998 mg/L	mg/L	0.000539	0.1400 mg/L	0.00108	0.77%
Cr 267.716†	748.2	0.2672 mg/L	mg/L	0.00560	0.5344 mg/L	0.01119	2.09%
Cu 324.752†	25817.7	0.1728 mg/L	mg/L	0.00121	0.3456 mg/L	0.00243	0.70%
Fe 273.955†	122634.9	125.1 mg/L	mg/L	1.16	250.2 mg/L	2.32	0.93%
K 766.490†	9343.6	8.393 mg/L	mg/L	0.0768	16.79 mg/L	0.154	0.92%
Mg 279.077†	35737.5	45.76 mg/L	mg/L	0.228	91.52 mg/L	0.456	0.50%
Mn 257.610†	119946.7	3.373 mg/L	mg/L	0.0311	6.745 mg/L	0.0622	0.92%
Mo 202.031†	82.2	0.00637 mg/L	mg/L	0.000330	0.01274 mg/L	0.000659	5.17%
Na 589.592†	196085.6	24.27 mg/L	mg/L	0.223	48.54 mg/L	0.447	0.92%
Na 330.237†	451.9	24.25 mg/L	mg/L	0.304	48.50 mg/L	0.608	1.25%
Ni 231.604†	693.9	0.2643 mg/L	mg/L	0.00077	0.5287 mg/L	0.00155	0.29%
Pb 220.353†	426.2	0.09317 mg/L	mg/L	0.000991	0.1863 mg/L	0.00198	1.06%
Sb 206.836†	18.3	0.01442 mg/L	mg/L	0.001778	0.02885 mg/L	0.003557	12.33%
Se 196.026†	-17.1	-0.00859 mg/L	mg/L	0.009764	-0.01719 mg/L	0.019527	113.61%
Si 288.158†	748.8	0.8325 mg/L	mg/L	0.00123	1.665 mg/L	0.0025	0.15%
Sn 189.927†	-34.8	-0.00446 mg/L	mg/L	0.000284	-0.00893 mg/L	0.000567	6.35%
Sr 421.552†	96846.3	0.2245 mg/L	mg/L	0.00143	0.4490 mg/L	0.00286	0.64%
Ti 334.903†	63204.8	4.619 mg/L	mg/L	0.0252	9.237 mg/L	0.0504	0.55%
Tl 190.801†	116.5	0.09166 mg/L	mg/L	0.000671	0.1833 mg/L	0.00134	0.73%
V 292.402†	15276.5	0.2786 mg/L	mg/L	0.00220	0.5572 mg/L	0.00439	0.79%
Zn 206.200†	1733.5	0.9080 mg/L	mg/L	0.00487	1.816 mg/L	0.0097	0.54%

Sequence No.: 16

Sample ID: 20J0425-02

Autosampler Location: 317

Date Collected: 11/10/2020 5:45:47 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-02

Analyte	Back Pressure	Flow
All	235.0 kPa	0.65 L/min

Mean Data: 20J0425-02

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1439114.6	105.6	%	0.36				0.34%
ScR 361.383	158802.9	102.4	%	0.45				0.44%
Ag 328.068†	-107.7	-0.00076	mg/L	0.000196	-0.00153	mg/L	0.000393	25.72%
Al 308.215†	74901.9	73.21	mg/L	0.445	146.4	mg/L	0.89	0.61%
As 188.979†	-93.8	0.00713	mg/L	0.005158	0.01426	mg/L	0.010315	72.33%
B 249.677†	1148.7	0.1940	mg/L	0.00127	0.3880	mg/L	0.00254	0.66%
Ba 233.527†	2167.5	0.5485	mg/L	0.00562	1.097	mg/L	0.0112	1.02%
Be 313.042†	911.3	0.00094	mg/L	0.000038	0.00189	mg/L	0.000075	4.00%
Ca 317.933†	531424.8	82.59	mg/L	0.600	165.2	mg/L	1.20	0.73%
Cd 228.802†	33.5	0.00161	mg/L	0.000216	0.00322	mg/L	0.000433	13.43%
Co 228.616†	1397.8	0.04826	mg/L	0.000531	0.09653	mg/L	0.001062	1.10%
Cr 267.716†	929.8	0.3322	mg/L	0.00447	0.6643	mg/L	0.00895	1.35%
Cu 324.752†	32765.3	0.2199	mg/L	0.00140	0.4398	mg/L	0.00280	0.64%
Fe 273.955†	159704.7	162.9	mg/L	0.96	325.8	mg/L	1.92	0.59%
K 766.490†	5792.5	5.203	mg/L	0.0338	10.41	mg/L	0.068	0.65%
Mg 279.077†	35165.0	45.01	mg/L	0.417	90.03	mg/L	0.834	0.93%
Mn 257.610†	267986.0	7.537	mg/L	0.0339	15.07	mg/L	0.068	0.45%
Mo 202.031†	131.3	0.00973	mg/L	0.000539	0.01947	mg/L	0.001078	5.54%
Na 589.592†	36784.9	4.553	mg/L	0.0307	9.106	mg/L	0.0614	0.67%
Na 330.237†	59.6	3.565	mg/L	0.3207	7.130	mg/L	0.6413	9.00%
Ni 231.604†	373.6	0.1423	mg/L	0.00270	0.2846	mg/L	0.00539	1.89%
Pb 220.353†	516.7	0.1081	mg/L	0.00104	0.2161	mg/L	0.00207	0.96%
Sb 206.836†	28.3	0.01806	mg/L	0.002453	0.03613	mg/L	0.004907	13.58%
Se 196.026†	-37.8	-0.03110	mg/L	0.004628	-0.06219	mg/L	0.009255	14.88%
Si 288.158†	1080.6	1.229	mg/L	0.0268	2.458	mg/L	0.0537	2.18%
Sn 189.927†	-65.4	-0.00503	mg/L	0.002647	-0.01005	mg/L	0.005293	52.66%
Sr 421.552†	116679.2	0.2705	mg/L	0.00141	0.5410	mg/L	0.00283	0.52%
Ti 334.903†	58248.6	4.253	mg/L	0.0230	8.507	mg/L	0.0460	0.54%
Tl 190.801†	127.2	0.1051	mg/L	0.00178	0.2103	mg/L	0.00356	1.69%
V 292.402†	15276.7	0.2812	mg/L	0.00363	0.5624	mg/L	0.00725	1.29%
Zn 206.200†	2891.8	1.515	mg/L	0.0135	3.030	mg/L	0.0270	0.89%

Sequence No.: 17

Sample ID: 20J0425-03

Autosampler Location: 318

Date Collected: 11/10/2020 5:50:04 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-03

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0425-03

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1477874.1	108.4	%	0.35			0.32%
ScR 361.383	162981.2	105.1	%	0.26			0.25%
Ag 328.068†	-100.5	-0.00073	mg/L	0.000119	-0.00145	mg/L	0.000238 16.38%
Al 308.215†	57385.6	56.09	mg/L	0.345	112.2	mg/L	0.69 0.61%
As 188.979†	-62.4	0.00664	mg/L	0.004290	0.01329	mg/L	0.008579 64.56%
B 249.677†	144.5	0.03130	mg/L	0.000490	0.06259	mg/L	0.000981 1.57%
Ba 233.527†	1920.6	0.4899	mg/L	0.00109	0.9798	mg/L	0.00218 0.22%
Be 313.042†	709.2	0.00075	mg/L	0.000014	0.00150	mg/L	0.000028 1.86%
Ca 317.933†	217294.6	33.77	mg/L	0.402	67.54	mg/L	0.805 1.19%
Cd 228.802†	38.8	0.00221	mg/L	0.000115	0.00442	mg/L	0.000229 5.19%
Co 228.616†	1438.9	0.05360	mg/L	0.000065	0.1072	mg/L	0.00013 0.12%
Cr 267.716†	513.9	0.1849	mg/L	0.00413	0.3698	mg/L	0.00826 2.23%
Cu 324.752†	32580.8	0.2167	mg/L	0.00125	0.4333	mg/L	0.00250 0.58%
Fe 273.955†	106762.1	108.9	mg/L	0.54	217.8	mg/L	1.09 0.50%
K 766.490†	4586.8	4.120	mg/L	0.0341	8.240	mg/L	0.0683 0.83%
Mg 279.077†	25645.1	32.83	mg/L	0.058	65.65	mg/L	0.115 0.18%
Mn 257.610†	85243.7	2.397	mg/L	0.0156	4.793	mg/L	0.0313 0.65%
Mo 202.031†	103.4	0.00808	mg/L	0.000168	0.01617	mg/L	0.000337 2.08%
Na 589.592†	29983.7	3.711	mg/L	0.0330	7.422	mg/L	0.0660 0.89%
Na 330.237†	67.2	3.560	mg/L	0.1462	7.120	mg/L	0.2925 4.11%
Ni 231.604†	635.9	0.2422	mg/L	0.00160	0.4845	mg/L	0.00320 0.66%
Pb 220.353†	555.1	0.1130	mg/L	0.00227	0.2261	mg/L	0.00454 2.01%
Sb 206.836†	18.0	0.01229	mg/L	0.001092	0.02457	mg/L	0.002184 8.89%
Se 196.026†	-18.3	-0.01186	mg/L	0.009715	-0.02371	mg/L	0.019429 81.93%
Si 288.158†	833.9	0.9538	mg/L	0.00693	1.908	mg/L	0.0139 0.73%
Sn 189.927†	-24.5	-0.00071	mg/L	0.000674	-0.00143	mg/L	0.001349 94.46%
Sr 421.552†	95288.9	0.2209	mg/L	0.00149	0.4418	mg/L	0.00297 0.67%
Ti 334.903†	38626.1	2.822	mg/L	0.0200	5.643	mg/L	0.0400 0.71%
Tl 190.801†	88.1	0.06917	mg/L	0.000287	0.1383	mg/L	0.00057 0.42%
V 292.402†	11669.0	0.2132	mg/L	0.00116	0.4265	mg/L	0.00231 0.54%
Zn 206.200†	3331.3	1.745	mg/L	0.0038	3.490	mg/L	0.0077 0.22%

Sequence No.: 18

Sample ID: 20J0425-04

Autosampler Location: 319

Date Collected: 11/10/2020 5:54:20 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-04

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20J0425-04

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1443343.9	105.9	%	1.64			1.55%
ScR 361.383	165785.8	106.9	%	0.54			0.50%
Ag 328.068†	33.4	0.00033	mg/L	0.000122	0.00065	mg/L	0.000244 37.33%
Al 308.215†	52987.3	51.79	mg/L	0.244	103.6	mg/L	0.49 0.47%
As 188.979†	-55.7	0.01770	mg/L	0.004779	0.03540	mg/L	0.009559 27.00%
B 249.677†	185.7	0.03659	mg/L	0.000904	0.07318	mg/L	0.001809 2.47%
Ba 233.527†	2278.8	0.5851	mg/L	0.00480	1.170	mg/L	0.0096 0.82%
Be 313.042†	698.9	0.00073	mg/L	0.000033	0.00146	mg/L	0.000066 4.55%
Ca 317.933†	239495.8	37.22	mg/L	0.185	74.44	mg/L	0.369 0.50%
Cd 228.802†	119.7	0.00708	mg/L	0.000340	0.01416	mg/L	0.000681 4.81%
Co 228.616†	1699.3	0.06458	mg/L	0.001296	0.1292	mg/L	0.00259 2.01%
Cr 267.716†	608.0	0.2177	mg/L	0.00177	0.4354	mg/L	0.00353 0.81%
Cu 324.752†	79668.3	0.5234	mg/L	0.00844	1.047	mg/L	0.0169 1.61%
Fe 273.955†	92251.3	94.09	mg/L	0.784	188.2	mg/L	1.57 0.83%
K 766.490†	3350.8	3.010	mg/L	0.0351	6.019	mg/L	0.0702 1.17%
Mg 279.077†	16549.1	21.17	mg/L	0.115	42.35	mg/L	0.229 0.54%
Mn 257.610†	133536.0	3.755	mg/L	0.0199	7.511	mg/L	0.0398 0.53%
Mo 202.031†	173.7	0.01386	mg/L	0.000290	0.02771	mg/L	0.000580 2.09%
Na 589.592†	15210.1	1.883	mg/L	0.0123	3.765	mg/L	0.0246 0.65%
Na 330.237†	43.6	1.759	mg/L	0.1743	3.519	mg/L	0.3487 9.91%
Ni 231.604†	483.0	0.1840	mg/L	0.00298	0.3680	mg/L	0.00597 1.62%
Pb 220.353†	1558.3	0.2992	mg/L	0.00445	0.5984	mg/L	0.00890 1.49%
Sb 206.836†	28.7	0.01784	mg/L	0.002260	0.03567	mg/L	0.004521 12.67%
Se 196.026†	-12.9	-0.00644	mg/L	0.006664	-0.01289	mg/L	0.013328 103.44%
Si 288.158†	842.3	0.9608	mg/L	0.00606	1.922	mg/L	0.0121 0.63%
Sn 189.927†	33.2	0.02204	mg/L	0.000603	0.04407	mg/L	0.001205 2.73%
Sr 421.552†	72296.9	0.1676	mg/L	0.00079	0.3352	mg/L	0.00158 0.47%
Ti 334.903†	40478.0	2.957	mg/L	0.0123	5.914	mg/L	0.0247 0.42%
Tl 190.801†	93.8	0.07516	mg/L	0.003605	0.1503	mg/L	0.00721 4.80%
V 292.402†	11619.2	0.2123	mg/L	0.00308	0.4245	mg/L	0.00616 1.45%
Zn 206.200†	6804.3	3.564	mg/L	0.0200	7.129	mg/L	0.0400 0.56%

Sequence No.: 19
 Sample ID: 20J0425-05

DEL

Autosampler Location: 320
 Date Collected: 11/10/2020 5:58:36 PM
 Data Type: Original

Dilution: 2X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-05

Analyte Back Pressure Flow
 All 236.0 kPa 0.65 L/min

Mean Data: 20J0425-05

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1320042.9	96.84	%	3.934			4.06%
ScR 361.383	157223.7	101.4	%	1.49			1.47%
Ag 328.068†	-71.0	-0.00046	mg/L	0.000198	-0.00093	mg/L	42.81%
Al 308.215†	74233.8	72.56	mg/L	0.503	145.1	mg/L	0.69%
As 188.979†	41.3	0.1477	mg/L	0.00098	0.2954	mg/L	0.66%
B 249.677†	1362.0	0.2406	mg/L	0.00221	0.4812	mg/L	0.92%
Ba 233.527†	3534.9	0.8882	mg/L	0.00833	1.776	mg/L	0.94%
Be 313.042†	1046.6	0.00110	mg/L	0.000035	0.00219	mg/L	0.00070
Ca 317.933†	267335.9	41.55	mg/L	0.132	83.09	mg/L	0.32%
Cd 228.802†	162.4	0.00701	mg/L	0.000608	0.01402	mg/L	8.67%
Co 228.616†	1443.9	0.04875	mg/L	0.001554	0.09749	mg/L	0.003107
Cr 267.716†	659.3	0.2501	mg/L	0.00142	0.5001	mg/L	0.00284
Cu 324.752†	92712.1	0.6184	mg/L	0.02486	1.237	mg/L	0.0497
Fe 273.955†	318520.4	324.9	mg/L	1.16	649.8	mg/L	2.32
K 766.490†	8831.2	7.932	mg/L	0.0503	15.86	mg/L	0.101
Mg 279.077†	33276.6	42.49	mg/L	0.372	84.99	mg/L	0.745
Mn 257.610†	117060.8	3.290	mg/L	0.0340	6.580	mg/L	0.0681
Mo 202.031†	282.3	0.02277	mg/L	0.000754	0.04555	mg/L	0.001509
Na 589.592†	436614.1	54.04	mg/L	0.568	108.1	mg/L	1.14
Na 330.237†	1028.5	52.90	mg/L	0.261	105.8	mg/L	0.52
Ni 231.604†	495.5	0.1888	mg/L	0.00174	0.3776	mg/L	0.00349
Pb 220.353†	9173.2	1.712	mg/L	0.0473	3.425	mg/L	0.0945
Sb 206.836†	70.9	0.04186	mg/L	0.001489	0.08372	mg/L	0.002978
Se 196.026†	-39.5	-0.01641	mg/L	0.005483	-0.03282	mg/L	0.010966
Si 288.158†	822.5	0.9305	mg/L	0.02425	1.861	mg/L	0.0485
Sn 189.927†	98.2	0.04812	mg/L	0.002908	0.09625	mg/L	0.005817
Sr 421.552†	211024.5	0.4892	mg/L	0.00354	0.9785	mg/L	0.00709
Ti 334.903†	50795.6	3.711	mg/L	0.0191	7.422	mg/L	0.0382
Tl 190.801†	169.4	0.1319	mg/L	0.00853	0.2639	mg/L	0.01705
V 292.402†	17380.0	0.3232	mg/L	0.00961	0.6464	mg/L	0.01922
Zn 206.200†	8333.4	4.365	mg/L	0.0386	8.731	mg/L	0.0772

Sequence No.: 20

Sample ID: 20J0425-06

Autosampler Location: 321

Date Collected: 11/10/2020 6:02:53 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-06

Analyte Back Pressure Flow
 All 237.0 kPa 0.65 L/min

Mean Data: 20J0425-06

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1396785.0	102.5	%	1.87			1.82%
ScR 361.383	154612.5	99.71	%	1.577			1.58%
Ag 328.068†	85.8	0.00080	mg/L	0.000273	0.00160	mg/L	34.15%
Al 308.215†	84989.3	83.07	mg/L	0.102	166.1	mg/L	0.12%
As 188.979†	-53.6	0.07217	mg/L	0.002680	0.1443	mg/L	3.71%
B 249.677†	247.6	0.05862	mg/L	0.000194	0.1172	mg/L	0.33%
Ba 233.527†	4227.2	1.077	mg/L	0.0167	2.155	mg/L	0.335
Be 313.042†	1219.5	0.00110	mg/L	0.000065	0.00219	mg/L	5.90%
Ca 317.933†	399936.4	62.16	mg/L	0.263	124.3	mg/L	0.53
Cd 228.802†	123.3	0.00616	mg/L	0.000249	0.01232	mg/L	0.00498
Co 228.616†	1980.0	0.07029	mg/L	0.002065	0.1406	mg/L	0.00413
Cr 267.716†	785.9	0.2824	mg/L	0.00501	0.5648	mg/L	0.01002
Cu 324.752†	94854.4	0.6288	mg/L	0.01037	1.258	mg/L	0.0207
Fe 273.955†	243919.3	248.8	mg/L	2.40	497.6	mg/L	4.79
K 766.490†	6341.9	5.696	mg/L	0.0531	11.39	mg/L	0.106
Mg 279.077†	29839.9	38.17	mg/L	0.620	76.33	mg/L	1.241
Mn 257.610†	712584.8	20.04	mg/L	0.020	40.09	mg/L	0.040
Mo 202.031†	243.0	0.01924	mg/L	0.000228	0.03849	mg/L	0.000456
Na 589.592†	36230.1	4.484	mg/L	0.0030	8.969	mg/L	0.0061
Na 330.237†	57.3	3.004	mg/L	0.3406	6.008	mg/L	0.6813
Ni 231.604†	812.5	0.3095	mg/L	0.00558	0.6191	mg/L	0.01116
Pb 220.353†	1678.1	0.3223	mg/L	0.00506	0.6446	mg/L	0.01013
Sb 206.836†	45.5	0.02974	mg/L	0.003320	0.05949	mg/L	0.006640
Se 196.026†	-29.8	-0.01192	mg/L	0.005309	-0.02384	mg/L	0.010617
Si 288.158†	803.7	0.8932	mg/L	0.00237	1.786	mg/L	0.0047
Sn 189.927†	-4.8	0.01389	mg/L	0.000187	0.02778	mg/L	0.000373
Sr 421.552†	141576.0	0.3282	mg/L	0.00033	0.6564	mg/L	0.00067
Ti 334.903†	66738.5	4.875	mg/L	0.0096	9.750	mg/L	0.0191
Tl 190.801†	168.3	0.1516	mg/L	0.00514	0.3032	mg/L	0.01029
V 292.402†	22549.1	0.4159	mg/L	0.01064	0.8318	mg/L	0.02127
Zn 206.200†	6295.7	3.298	mg/L	0.0617	6.596	mg/L	0.1234

Sequence No.: 21

Autosampler Location: 322

Sample ID: 20J0425-07

Date Collected: 11/10/2020 6:07:10 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-07

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: 20J0425-07

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1453570.0	106.6	%	2.55			2.39%
ScR 361.383	159032.8	102.6	%	1.64			1.60%
Ag 328.068†	85.3	0.00077	mg/L	0.000186	0.00154	mg/L	0.000371 24.14%
Al 308.215†	64965.0	63.50	mg/L	0.113	127.0	mg/L	0.23 0.18%
As 188.979†	-48.1	0.04867	mg/L	0.002674	0.09734	mg/L	0.005347 5.49%
B 249.677†	173.7	0.04124	mg/L	0.001024	0.08248	mg/L	0.002048 2.48%
Ba 233.527†	4133.6	1.061	mg/L	0.0122	2.122	mg/L	0.0243 1.15%
Be 313.042†	1020.8	0.00100	mg/L	0.000107	0.00201	mg/L	0.000214 10.66%
Ca 317.933†	201513.4	31.32	mg/L	0.152	62.64	mg/L	0.303 0.48%
Cd 228.802†	82.1	0.00420	mg/L	0.000347	0.00839	mg/L	0.000693 8.26%
Co 228.616†	1456.9	0.05153	mg/L	0.001181	0.1031	mg/L	0.00236 2.29%
Cr 267.716†	644.3	0.2285	mg/L	0.00487	0.4571	mg/L	0.00974 2.13%
Cu 324.752†	50552.9	0.3368	mg/L	0.01999	0.6735	mg/L	0.03997 5.93%
Fe 273.955†	172748.1	176.2	mg/L	1.44	352.4	mg/L	2.87 0.81%
K 766.490†	4948.6	4.445	mg/L	0.0196	8.890	mg/L	0.0391 0.44%
Mg 279.077†	22842.3	29.23	mg/L	0.348	58.46	mg/L	0.696 1.19%
Mn 257.610†	696638.7	19.60	mg/L	0.068	39.19	mg/L	0.137 0.35%
Mo 202.031†	134.5	0.01069	mg/L	0.000174	0.02138	mg/L	0.000347 1.62%
Na 589.592†	17126.6	2.120	mg/L	0.0249	4.240	mg/L	0.0498 1.17%
Na 330.237†	25.4	1.398	mg/L	0.3005	2.796	mg/L	0.6009 21.50%
Ni 231.604†	737.2	0.2808	mg/L	0.00097	0.5616	mg/L	0.00194 0.35%
Pb 220.353†	1232.0	0.2378	mg/L	0.00364	0.4756	mg/L	0.00729 1.53%
Sb 206.836†	27.2	0.01846	mg/L	0.000571	0.03692	mg/L	0.001141 3.09%
Se 196.026†	-8.2	0.00824	mg/L	0.000680	0.01647	mg/L	0.001360 8.26%
Si 288.158†	871.0	0.9860	mg/L	0.02336	1.972	mg/L	0.0467 2.37%
Sn 189.927†	-4.9	0.00663	mg/L	0.002060	0.01325	mg/L	0.004121 31.09%
Sr 421.552†	93330.0	0.2164	mg/L	0.00098	0.4327	mg/L	0.00196 0.45%
Ti 334.903†	50972.4	3.724	mg/L	0.0021	7.449	mg/L	0.0043 0.06%
Tl 190.801†	122.8	0.1167	mg/L	0.00269	0.2334	mg/L	0.00539 2.31%
V 292.402†	17772.4	0.3279	mg/L	0.01908	0.6558	mg/L	0.03816 5.82%
Zn 206.200†	4458.5	2.335	mg/L	0.0235	4.671	mg/L	0.0471 1.01%

Sequence No.: 22

Sample ID: 20J0425-08

Autosampler Location: 323

Date Collected: 11/10/2020 6:11:27 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-08

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0425-08

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1432103.1	105.1	%	0.24				0.23%
ScR 361.383	159095.2	102.6	%	0.38				0.37%
Ag 328.068†	-138.4	-0.00099	mg/L	0.000195	-0.00199	mg/L	0.000391	19.64%
Al 308.215†	94033.1	91.91	mg/L	0.587	183.8	mg/L	1.17	0.64%
As 188.979†	-90.5	0.03428	mg/L	0.005608	0.06856	mg/L	0.011216	16.36%
B 249.677†	565.3	0.1044	mg/L	0.00065	0.2088	mg/L	0.00129	0.62%
Ba 233.527†	2585.7	0.6544	mg/L	0.00198	1.309	mg/L	0.0040	0.30%
Be 313.042†	1038.9	0.00110	mg/L	0.000022	0.00219	mg/L	0.000044	1.99%
Ca 317.933†	577698.3	89.78	mg/L	0.961	179.6	mg/L	1.92	1.07%
Cd 228.802†	71.6	0.00370	mg/L	0.000326	0.00739	mg/L	0.000652	8.82%
Co 228.616†	1715.4	0.05955	mg/L	0.000129	0.1191	mg/L	0.00026	0.22%
Cr 267.716†	829.0	0.2991	mg/L	0.00365	0.5983	mg/L	0.00731	1.22%
Cu 324.752†	60531.1	0.4022	mg/L	0.00337	0.8044	mg/L	0.00673	0.84%
Fe 273.955†	189721.4	193.5	mg/L	1.01	387.0	mg/L	2.02	0.52%
K 766.490†	10002.5	8.984	mg/L	0.0430	17.97	mg/L	0.086	0.48%
Mg 279.077†	42555.4	54.46	mg/L	0.389	108.9	mg/L	0.78	0.71%
Mn 257.610†	135170.6	3.800	mg/L	0.0262	7.600	mg/L	0.0524	0.69%
Mo 202.031†	261.1	0.02037	mg/L	0.000485	0.04075	mg/L	0.000971	2.38%
Na 589.592†	227190.5	28.12	mg/L	0.212	56.24	mg/L	0.424	0.75%
Na 330.237†	493.4	26.03	mg/L	0.365	52.06	mg/L	0.730	1.40%
Ni 231.604†	548.9	0.2091	mg/L	0.00364	0.4182	mg/L	0.00727	1.74%
Pb 220.353†	3449.5	0.6577	mg/L	0.00378	1.315	mg/L	0.0076	0.58%
Sb 206.836†	36.3	0.02460	mg/L	0.003363	0.04920	mg/L	0.006727	13.67%
Se 196.026†	-36.4	-0.02614	mg/L	0.007853	-0.05228	mg/L	0.015705	30.04%
Si 288.158†	865.7	0.9656	mg/L	0.01943	1.931	mg/L	0.0389	2.01%
Sn 189.927†	-9.1	0.01835	mg/L	0.002021	0.03669	mg/L	0.004043	11.02%
Sr 421.552†	202276.0	0.4689	mg/L	0.00283	0.9379	mg/L	0.00565	0.60%
Ti 334.903†	69843.4	5.101	mg/L	0.0305	10.20	mg/L	0.061	0.60%
Tl 190.801†	162.4	0.1271	mg/L	0.00392	0.2543	mg/L	0.00784	3.08%
V 292.402†	17158.1	0.3148	mg/L	0.00291	0.6296	mg/L	0.00583	0.93%
Zn 206.200†	4570.4	2.394	mg/L	0.0114	4.788	mg/L	0.0227	0.47%

Sequence No.: 23
Sample ID: SEQ-CCV3

Autosampler Location: 7
Date Collected: 11/10/2020 6:15:44 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV3

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: SEQ-CCV3

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1409014.6	103.4	%	0.46			0.44%
ScR 361.383	154686.6	99.75	%	0.347			0.35%
Ag 328.068†	134976.9	1.063	mg/L	0.0087	1.063	mg/L	0.82%
Al 308.215†	2192.4	2.107	mg/L	0.0161	2.107	mg/L	0.76%
As 188.979†	1826.5	2.079	mg/L	0.0061	2.079	mg/L	0.29%
B 249.677†	6614.0	1.043	mg/L	0.0063	1.043	mg/L	0.60%
Ba 233.527†	4090.3	1.068	mg/L	0.0046	1.068	mg/L	0.43%
Be 313.042†	439914.2	1.033	mg/L	0.0014	1.033	mg/L	0.13%
Ca 317.933†	13614.2	2.115	mg/L	0.0111	2.115	mg/L	0.53%
Cd 228.802†	17660.7	1.048	mg/L	0.0039	1.048	mg/L	0.37%
Co 228.616†	24870.2	1.049	mg/L	0.0071	1.049	mg/L	0.68%
Cr 267.716†	2983.7	1.057	mg/L	0.0088	1.057	mg/L	0.83%
Cu 324.752†	158776.7	1.036	mg/L	0.0070	1.036	mg/L	0.68%
Fe 273.955†	2048.0	2.080	mg/L	0.0074	2.080	mg/L	0.36%
K 766.490†	22172.5	19.92	mg/L	0.023	19.92	mg/L	0.11%
Mg 279.077†	1639.8	2.113	mg/L	0.0217	2.113	mg/L	1.03%
Mn 257.610†	36728.3	1.034	mg/L	0.0029	1.034	mg/L	0.28%
Mo 202.031†	12455.6	1.030	mg/L	0.0036	1.030	mg/L	0.35%
Na 589.592†	413345.2	51.16	mg/L	0.213	51.16	mg/L	0.42%
Na 330.237†	989.7	51.41	mg/L	0.529	51.41	mg/L	1.03%
Ni 231.604†	2794.6	1.067	mg/L	0.0056	1.067	mg/L	0.53%
Pb 220.353†	11465.4	2.138	mg/L	0.0081	2.138	mg/L	0.38%
Sb 206.836†	3988.3	2.120	mg/L	0.0100	2.120	mg/L	0.47%
Se 196.026†	1652.3	2.130	mg/L	0.0083	2.130	mg/L	0.39%
Si 288.158†	1854.2	2.183	mg/L	0.0174	2.183	mg/L	0.80%
Sn 189.927†	2733.2	1.041	mg/L	0.0060	1.041	mg/L	0.57%
Sr 421.552†	433880.1	1.006	mg/L	0.0028	1.006	mg/L	0.28%
Ti 334.903†	13715.6	1.001	mg/L	0.0023	1.001	mg/L	0.23%
Tl 190.801†	2753.2	2.094	mg/L	0.0130	2.094	mg/L	0.62%
V 292.402†	57381.5	1.031	mg/L	0.0042	1.031	mg/L	0.41%
Zn 206.200†	2068.3	1.083	mg/L	0.0045	1.083	mg/L	0.42%

Sequence No.: 24
 Sample ID: SEQ-CCB3

Autosampler Location: 1
 Date Collected: 11/10/2020 6:21:04 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB3

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: SEQ-CCB3

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1460027.3	107.1	%	0.29			0.27%
ScR 361.383	160123.1	103.3	%	1.26			1.22%
Ag 328.068†	-30.6	-0.00024	mg/L	0.000104	-0.00024	mg/L	0.000104 43.10%
Al 308.215†	11.6	0.01131	mg/L	0.006569	0.01131	mg/L	0.006569 58.06%
As 188.979†	1.6	0.00185	mg/L	0.001469	0.00185	mg/L	0.001469 79.44%
B 249.677†	18.3	0.00289	mg/L	0.001244	0.00289	mg/L	0.001244 43.11%
Ba 233.527†	7.2	0.00189	mg/L	0.001191	0.00189	mg/L	0.001191 62.91%
Be 313.042†	-9.7	-0.00003	mg/L	0.000028	-0.00003	mg/L	0.000028 109.54%
Ca 317.933†	14.8	0.00230	mg/L	0.000478	0.00230	mg/L	0.000478 20.82%
Cd 228.802†	-0.6	-0.00004	mg/L	0.000280	-0.00004	mg/L	0.000280 624.11%
Co 228.616†	1.1	0.00004	mg/L	0.000162	0.00004	mg/L	0.000162 386.33%
Cr 267.716†	-6.4	-0.00229	mg/L	0.000951	-0.00229	mg/L	0.000951 41.62%
Cu 324.752†	28.6	0.00019	mg/L	0.000121	0.00019	mg/L	0.000121 64.70%
Fe 273.955†	6.6	0.00667	mg/L	0.002654	0.00667	mg/L	0.002654 39.77%
K 766.490†	-25.6	-0.02300	mg/L	0.019133	-0.02300	mg/L	0.019133 83.20%
Mg 279.077†	6.4	0.00824	mg/L	0.003852	0.00824	mg/L	0.003852 46.76%
Mn 257.610†	33.0	0.00093	mg/L	0.000315	0.00093	mg/L	0.000315 33.90%
Mo 202.031†	7.3	0.00061	mg/L	0.000312	0.00061	mg/L	0.000312 51.46%
Na 589.592†	1.0	0.00013	mg/L	0.003248	0.00013	mg/L	0.003248 >999.9%
Na 330.237†	-8.9	-0.4645	mg/L	0.62812	-0.4645	mg/L	0.62812 135.21%
Ni 231.604†	6.7	0.00257	mg/L	0.002506	0.00257	mg/L	0.002506 97.59%
Pb 220.353†	4.6	0.00086	mg/L	0.000432	0.00086	mg/L	0.000432 50.37%
Sb 206.836†	2.8	0.00154	mg/L	0.000643	0.00154	mg/L	0.000643 41.74%
Se 196.026†	3.0	0.00385	mg/L	0.006372	0.00385	mg/L	0.006372 165.59%
Si 288.158†	-5.2	-0.00618	mg/L	0.001730	-0.00618	mg/L	0.001730 27.98%
Sn 189.927†	0.6	0.00024	mg/L	0.000482	0.00024	mg/L	0.000482 198.65%
Sr 421.552†	16.4	0.00004	mg/L	0.000049	0.00004	mg/L	0.000049 127.56%
Ti 334.903†	17.8	0.00130	mg/L	0.001469	0.00130	mg/L	0.001469 112.95%
Tl 190.801†	7.9	0.00600	mg/L	0.000882	0.00600	mg/L	0.000882 14.69%
V 292.402†	28.2	0.00049	mg/L	0.000223	0.00049	mg/L	0.000223 45.59%
Zn 206.200†	2.0	0.00105	mg/L	0.000929	0.00105	mg/L	0.000929 88.25%

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Analysis Begun

Start Time: 11/10/2020 6:25:26 PM Plasma On Time: 11/10/2020 1:54:30 PM
Logged In Analyst: Metals Instrument Controller Technique: ICP Continuous
Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1110.sif

Batch ID:

Results Data Set: I2201110

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: SEQ-CAL2

Date Collected: 11/10/2020 6:25:27 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL2

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: SEQ-CAL2

Analyte	Mean Corrected		RSD	Calib	
	Intensity	Std.Dev.		Conc.	Units
ScA 357.253	1437947.8	6312.87	0.44%	105.5	%
ScR 361.383	159388.9	131.55	0.08%	102.8	%
Ba 233.527†	40390.8	44.50	0.11%	[10]	mg/L
Cd 228.802†	169924.0	362.85	0.21%	[10]	mg/L
Co 228.616†	248447.9	490.83	0.20%	[10]	mg/L
Cr 267.716†	29159.1	369.63	1.27%	[10]	mg/L
Cu 324.752†	1535304.9	3607.49	0.23%	[10]	mg/L
Mn 257.610†	376548.1	1273.50	0.34%	[10]	mg/L
V 292.402†	559344.9	3712.62	0.66%	[10]	mg/L

Sequence No.: 2

Sample ID: SEQ-CAL3

Date Collected: 11/10/2020 6:29:06 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL3

Analyte	Back Pressure	Flow
All	236.0 kPa	0.65 L/min

Mean Data: SEQ-CAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	1401439.5	3431.58	0.24%	102.8	%
ScR 361.383	156503.8	1052.31	0.67%	100.9	%
Ag 328.068†	128795.4	328.75	0.26%	[1.0]	mg/L
As 188.979†	9136.7	49.06	0.54%	[10]	mg/L
B 249.677†	64469.9	537.11	0.83%	[10]	mg/L
Be 313.042†	2174862.7	15800.72	0.73%	[5.0]	mg/L
Na 589.592†	404418.8	3567.01	0.88%	[50]	mg/L
Ni 231.604†	27009.8	127.90	0.47%	[10]	mg/L
Pb 220.353†	55188.2	270.04	0.49%	[10]	mg/L
Se 196.026†	8077.2	44.89	0.56%	[10]	mg/L
Sr 421.552†	2141818.6	15667.43	0.73%	[5]	mg/L
Tl 190.801†	13495.2	56.68	0.42%	[10]	mg/L
Zn 206.200†	20202.9	129.67	0.64%	[10]	mg/L

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Analysis Begun

Start Time: 11/10/2020 6:32:02 PM
Logged In Analyst: Metals Instrument Controller
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 11/10/2020 1:54:30 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1110.sif

Batch ID:

Results Data Set: I2201110

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 7

Sample ID: SEQ-CCV4

Date Collected: 11/10/2020 6:32:03 PM

Data Type: Original

Dilution: 1X

Nebulizer Parameters: SEQ-CCV4

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: SEQ-CCV4

Analyte	Mean Corrected			Std.Dev.	Sample		RSD
	Intensity	Conc. Units	Calib.		Conc. Units	Std.Dev.	
ScA 357.253	1415642.2	103.9 %		0.12			0.12%
ScR 361.383	156177.7	100.7 %		0.78			0.77%
Ag 328.068†	134382.0	1.044 mg/L		0.0059	1.044 mg/L	0.0059	0.56%
Al 308.215†	2196.9	2.112 mg/L		0.0312	2.112 mg/L	0.0312	1.48%
As 188.979†	1840.9	2.038 mg/L		0.0279	2.038 mg/L	0.0279	1.37%
B 249.677†	6836.7	1.060 mg/L		0.0085	1.060 mg/L	0.0085	0.80%
Ba 233.527†	4079.0	1.009 mg/L		0.0100	1.009 mg/L	0.0100	0.99%
Be 313.042†	441835.1	1.011 mg/L		0.0044	1.011 mg/L	0.0044	0.44%
Ca 317.933†	13473.2	2.094 mg/L		0.0151	2.094 mg/L	0.0151	0.72%
Cd 228.802†	17401.8	1.010 mg/L		0.0060	1.010 mg/L	0.0060	0.60%
Co 228.616†	24724.4	0.9931 mg/L		0.00108	0.9931 mg/L	0.00108	0.11%
Cr 267.716†	2950.9	1.011 mg/L		0.0049	1.011 mg/L	0.0049	0.49%
Cu 324.752†	158047.1	1.029 mg/L		0.0047	1.029 mg/L	0.0047	0.46%
Fe 273.955†	2028.7	2.060 mg/L		0.0288	2.060 mg/L	0.0288	1.40%
K 766.490†	22160.7	19.91 mg/L		0.073	19.91 mg/L	0.073	0.37%
Mg 279.077†	1628.1	2.098 mg/L		0.0079	2.098 mg/L	0.0079	0.38%
Mn 257.610†	36755.2	0.9764 mg/L		0.00468	0.9764 mg/L	0.00468	0.48%
Mo 202.031†	12400.5	1.026 mg/L		0.0026	1.026 mg/L	0.0026	0.25%
Na 589.592†	419691.7	51.89 mg/L		0.345	51.89 mg/L	0.345	0.67%
Na 330.237†	1000.0	51.97 mg/L		0.685	51.97 mg/L	0.685	1.32%
Ni 231.604†	2756.7	1.023 mg/L		0.0068	1.023 mg/L	0.0068	0.66%
Pb 220.353†	11500.5	2.085 mg/L		0.0326	2.085 mg/L	0.0326	1.57%
Sb 206.836†	3981.7	2.117 mg/L		0.0061	2.117 mg/L	0.0061	0.29%
Se 196.026†	1665.1	2.063 mg/L		0.0279	2.063 mg/L	0.0279	1.35%
Si 288.158†	1861.8	2.191 mg/L		0.0109	2.191 mg/L	0.0109	0.50%
Sn 189.927†	2715.2	1.034 mg/L		0.0005	1.034 mg/L	0.0005	0.05%
Sr 421.552†	436957.6	1.020 mg/L		0.0030	1.020 mg/L	0.0030	0.29%
Ti 334.903†	13704.1	1.000 mg/L		0.0012	1.000 mg/L	0.0012	0.11%
Tl 190.801†	2754.0	2.034 mg/L		0.0124	2.034 mg/L	0.0124	0.61%
V 292.402†	56878.1	1.024 mg/L		0.0080	1.024 mg/L	0.0080	0.79%
Zn 206.200†	2046.4	1.013 mg/L		0.0113	1.013 mg/L	0.0113	1.12%

Sequence No.: 2
 Sample ID: SEQ-CCB4

Autosampler Location: 1
 Date Collected: 11/10/2020 6:37:24 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB4

Analyte Back Pressure Flow
 All 240.0 kPa 0.65 L/min

Mean Data: SEQ-CCB4

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1438251.0	105.5	%	0.40			0.38%
ScR 361.383	161114.8	103.9	%	0.46			0.44%
Ag 328.068†	16.4	0.00013	mg/L	0.000245	0.00013	mg/L	0.000245 191.74%
Al 308.215†	2.4	0.00236	mg/L	0.013256	0.00236	mg/L	0.013256 561.28%
As 188.979†	1.0	0.00116	mg/L	0.002138	0.00116	mg/L	0.002138 184.68%
B 249.677†	80.2	0.01244	mg/L	0.001894	0.01244	mg/L	0.001894 15.23%
Ba 233.527†	11.1	0.00275	mg/L	0.000450	0.00275	mg/L	0.000450 16.35%
Be 313.042†	-4.3	-0.00001	mg/L	0.000024	-0.00001	mg/L	0.000024 200.80%
Ca 317.933†	8.7	0.00136	mg/L	0.000936	0.00136	mg/L	0.000936 68.87%
Cd 228.802†	-0.8	-0.00005	mg/L	0.000242	-0.00005	mg/L	0.000242 445.17%
Co 228.616†	0.3	0.00001	mg/L	0.000159	0.00001	mg/L	0.000159 >999.9%
Cr 267.716†	1.4	0.00047	mg/L	0.003683	0.00047	mg/L	0.003683 788.58%
Cu 324.752†	78.4	0.00051	mg/L	0.000085	0.00051	mg/L	0.000085 16.66%
Fe 273.955†	3.6	0.00362	mg/L	0.000480	0.00362	mg/L	0.000480 13.25%
K 766.490†	-13.0	-0.01166	mg/L	0.032236	-0.01166	mg/L	0.032236 276.44%
Mg 279.077†	2.3	0.00293	mg/L	0.010491	0.00293	mg/L	0.010491 358.23%
Mn 257.610†	24.6	0.00065	mg/L	0.000121	0.00065	mg/L	0.000121 18.56%
Mo 202.031†	3.7	0.00031	mg/L	0.000327	0.00031	mg/L	0.000327 105.82%
Na 589.592†	22.3	0.00275	mg/L	0.004130	0.00275	mg/L	0.004130 150.10%
Na 330.237†	-8.6	-0.4478	mg/L	0.91466	-0.4478	mg/L	0.91466 204.24%
Ni 231.604†	-0.1	-0.00004	mg/L	0.002041	-0.00004	mg/L	0.002041 >999.9%
Pb 220.353†	-2.1	-0.00038	mg/L	0.001565	-0.00038	mg/L	0.001565 411.28%
Sb 206.836†	5.3	0.00283	mg/L	0.001631	0.00283	mg/L	0.001631 57.70%
Se 196.026†	7.0	0.00866	mg/L	0.007253	0.00866	mg/L	0.007253 83.73%
Si 288.158†	-3.5	-0.00416	mg/L	0.005533	-0.00416	mg/L	0.005533 133.03%
Sn 189.927†	-0.4	-0.00014	mg/L	0.000479	-0.00014	mg/L	0.000479 338.31%
Sr 421.552†	37.1	0.00009	mg/L	0.000016	0.00009	mg/L	0.000016 19.05%
Ti 334.903†	14.4	0.00105	mg/L	0.001004	0.00105	mg/L	0.001004 95.63%
Tl 190.801†	7.2	0.00536	mg/L	0.000732	0.00536	mg/L	0.000732 13.65%
V 292.402†	25.4	0.00046	mg/L	0.000291	0.00046	mg/L	0.000291 63.81%
Zn 206.200†	0.3	0.00016	mg/L	0.000945	0.00016	mg/L	0.000945 605.35%

Sequence No.: 3

Autosampler Location: 324

Sample ID: BIK0175-BLK1

Date Collected: 11/10/2020 6:41:40 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-BLK1

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: BIK0175-BLK1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1416539.9	103.9	%	0.58				0.56%
ScR 361.383	158198.5	102.0	%	0.36				0.35%
Ag 328.068†	-41.3	-0.00032	mg/L	0.000147	-0.00064	mg/L	0.000293	45.82%
Al 308.215†	14.5	0.01415	mg/L	0.020598	0.02830	mg/L	0.041196	145.59%
As 188.979†	-1.5	-0.00161	mg/L	0.000985	-0.00322	mg/L	0.001971	61.28%
B 249.677†	51.4	0.00797	mg/L	0.002042	0.01594	mg/L	0.004083	25.62%
Ba 233.527†	6.2	0.00154	mg/L	0.000561	0.00308	mg/L	0.001122	36.38%
Be 313.042†	-17.5	-0.00004	mg/L	0.000042	-0.00008	mg/L	0.000084	98.70%
Ca 317.933†	38.0	0.00591	mg/L	0.000582	0.01182	mg/L	0.001165	9.86%
Cd 228.802†	1.1	0.00008	mg/L	0.000110	0.00016	mg/L	0.000220	140.01%
Co 228.616†	-5.2	-0.00021	mg/L	0.000192	-0.00042	mg/L	0.000385	90.70%
Cr 267.716†	-10.7	-0.00366	mg/L	0.000376	-0.00732	mg/L	0.000753	10.28%
Cu 324.752†	77.1	0.00050	mg/L	0.000105	0.00101	mg/L	0.000211	20.97%
Fe 273.955†	11.0	0.01122	mg/L	0.001656	0.02243	mg/L	0.003312	14.76%
K 766.490†	-1.5	-0.00135	mg/L	0.016030	-0.00270	mg/L	0.032061	>999.9%
Mg 279.077†	-3.7	-0.00478	mg/L	0.005809	-0.00956	mg/L	0.011618	121.50%
Mn 257.610†	27.2	0.00072	mg/L	0.000110	0.00145	mg/L	0.000220	15.19%
Mo 202.031†	-2.9	-0.00024	mg/L	0.000290	-0.00047	mg/L	0.000579	122.66%
Na 589.592†	-16.4	-0.00203	mg/L	0.004739	-0.00407	mg/L	0.009478	233.11%
Na 330.237†	-1.7	-0.09098	mg/L	0.870223	-0.1820	mg/L	1.74045	956.52%
Ni 231.604†	8.3	0.00309	mg/L	0.001706	0.00617	mg/L	0.003412	55.28%
Pb 220.353†	5.1	0.00092	mg/L	0.000608	0.00184	mg/L	0.001216	66.11%
Sb 206.836†	-2.7	-0.00135	mg/L	0.000968	-0.00271	mg/L	0.001936	71.49%
Se 196.026†	3.1	0.00386	mg/L	0.006761	0.00773	mg/L	0.013523	174.95%
Si 288.158†	-2.3	-0.00277	mg/L	0.001328	-0.00554	mg/L	0.002655	47.90%
Sn 189.927†	1.4	0.00054	mg/L	0.000808	0.00109	mg/L	0.001615	148.23%
Sr 421.552†	39.3	0.00009	mg/L	0.000067	0.00018	mg/L	0.000133	72.63%
Ti 334.903†	9.1	0.00067	mg/L	0.001756	0.00133	mg/L	0.003512	263.23%
Tl 190.801†	1.3	0.00098	mg/L	0.002436	0.00196	mg/L	0.004871	248.61%
V 292.402†	27.7	0.00047	mg/L	0.000134	0.00094	mg/L	0.000268	28.39%
Zn 206.200†	3.8	0.00186	mg/L	0.000181	0.00373	mg/L	0.000361	9.68%

Sequence No.: 4

Sample ID: 20K0008-03

Autosampler Location: 325

Date Collected: 11/10/2020 6:45:56 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-03

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-03

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1439080.5	105.6	%	0.67			0.64%
ScR 361.383	160270.1	103.4	%	0.39			0.38%
Ag 328.068†	-178.3	-0.00125	mg/L	0.000145	-0.00250	mg/L	0.000291 11.66%
Al 308.215†	88211.3	86.22	mg/L	0.379	172.4	mg/L	0.76 0.44%
As 188.979†	-124.5	0.00902	mg/L	0.002921	0.01804	mg/L	0.005841 32.37%
B 249.677†	241.5	0.04294	mg/L	0.001466	0.08587	mg/L	0.002931 3.41%
Ba 233.527†	966.2	0.2313	mg/L	0.00070	0.4626	mg/L	0.00140 0.30%
Be 313.042†	1020.3	0.00039	mg/L	0.000021	0.00078	mg/L	0.000043 5.49%
Ca 317.933†	237900.6	36.97	mg/L	0.275	73.95	mg/L	0.550 0.74%
Cd 228.802†	12.0	0.00118	mg/L	0.000176	0.00237	mg/L	0.000353 14.89%
Co 228.616†	1009.4	0.02936	mg/L	0.000589	0.05873	mg/L	0.001177 2.01%
Cr 267.716†	403.0	0.1400	mg/L	0.00127	0.2800	mg/L	0.00253 0.90%
Cu 324.752†	21204.2	0.1400	mg/L	0.00025	0.2801	mg/L	0.00051 0.18%
Fe 273.955†	68769.1	70.14	mg/L	0.088	140.3	mg/L	0.18 0.13%
K 766.490†	5229.6	4.697	mg/L	0.0547	9.395	mg/L	0.1095 1.17%
Mg 279.077†	13239.8	16.94	mg/L	0.042	33.88	mg/L	0.083 0.25%
Mn 257.610†	23551.1	0.6241	mg/L	0.00390	1.248	mg/L	0.0078 0.62%
Mo 202.031†	180.0	0.01439	mg/L	0.000218	0.02877	mg/L	0.000436 1.52%
Na 589.592†	137735.8	17.03	mg/L	0.168	34.06	mg/L	0.336 0.99%
Na 330.237†	297.1	16.59	mg/L	0.794	33.18	mg/L	1.587 4.78%
Ni 231.604†	194.0	0.07181	mg/L	0.002871	0.1436	mg/L	0.00574 4.00%
Pb 220.353†	3.6	0.02007	mg/L	0.001511	0.04014	mg/L	0.003022 7.53%
Sb 206.836†	4.5	0.01073	mg/L	0.000741	0.02145	mg/L	0.001482 6.91%
Se 196.026†	-16.8	-0.01326	mg/L	0.009776	-0.02652	mg/L	0.019552 73.71%
Si 288.158†	1016.5	1.137	mg/L	0.0214	2.275	mg/L	0.0428 1.88%
Sn 189.927†	-42.3	-0.00572	mg/L	0.000981	-0.01144	mg/L	0.001962 17.15%
Sr 421.552†	185122.5	0.4322	mg/L	0.00256	0.8643	mg/L	0.00513 0.59%
Ti 334.903†	71600.8	5.232	mg/L	0.0231	10.46	mg/L	0.046 0.44%
Tl 190.801†	110.2	0.08068	mg/L	0.003672	0.1614	mg/L	0.00734 4.55%
V 292.402†	24706.8	0.4443	mg/L	0.00259	0.8887	mg/L	0.00519 0.58%
Zn 206.200†	375.3	0.1857	mg/L	0.00072	0.3714	mg/L	0.00144 0.39%

Sequence No.: 5

Sample ID: 20K0008-07

Autosampler Location: 326

Date Collected: 11/10/2020 6:50:12 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-07

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0008-07

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		RSD	
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1473777.1	108.1 %	%	0.30			0.27%	
ScR 361.383	162517.2	104.8 %	%	0.35			0.33%	
Ag 328.068†	-191.4	-0.00137	mg/L	0.000306	-0.00274	mg/L	0.000613	22.38%
Al 308.215†	80453.2	78.63	mg/L	0.093	157.3	mg/L	0.19	0.12%
As 188.979†	-187.5	-0.01118	mg/L	0.002716	-0.02237	mg/L	0.005432	24.29%
B 249.677†	112.4	0.02859	mg/L	0.000408	0.05717	mg/L	0.000816	1.43%
Ba 233.527†	3976.9	0.9689	mg/L	0.00204	1.938	mg/L	0.0041	0.21%
Be 313.042†	980.0	0.00058	mg/L	0.000015	0.00116	mg/L	0.000029	2.52%
Ca 317.933†	263982.0	41.03	mg/L	0.219	82.05	mg/L	0.438	0.53%
Cd 228.802†	47.0	0.00319	mg/L	0.000153	0.00638	mg/L	0.000305	4.78%
Co 228.616†	1483.6	0.04393	mg/L	0.000164	0.08787	mg/L	0.000328	0.37%
Cr 267.716†	538.4	0.1903	mg/L	0.00234	0.3806	mg/L	0.00467	1.23%
Cu 324.752†	18638.7	0.1261	mg/L	0.00045	0.2523	mg/L	0.00089	0.35%
Fe 273.955†	139653.4	142.4	mg/L	0.70	284.9	mg/L	1.39	0.49%
K 766.490†	5458.9	4.903	mg/L	0.0178	9.806	mg/L	0.0356	0.36%
Mg 279.077†	19268.2	24.63	mg/L	0.070	49.26	mg/L	0.139	0.28%
Mn 257.610†	44489.7	1.180	mg/L	0.0059	2.359	mg/L	0.0118	0.50%
Mo 202.031†	131.0	0.01027	mg/L	0.000734	0.02054	mg/L	0.001468	7.15%
Na 589.592†	95436.0	11.80	mg/L	0.043	23.60	mg/L	0.086	0.36%
Na 330.237†	200.7	11.67	mg/L	0.371	23.34	mg/L	0.743	3.18%
Ni 231.604†	248.1	0.09186	mg/L	0.001345	0.1837	mg/L	0.00269	1.46%
Pb 220.353†	2198.7	0.4124	mg/L	0.00319	0.8249	mg/L	0.00638	0.77%
Sb 206.836†	11.9	0.01662	mg/L	0.000383	0.03324	mg/L	0.000766	2.30%
Se 196.026†	-22.3	-0.01237	mg/L	0.008410	-0.02474	mg/L	0.016820	67.98%
Si 288.158†	987.5	1.083	mg/L	0.0183	2.165	mg/L	0.0367	1.69%
Sn 189.927†	-45.9	-0.00538	mg/L	0.001736	-0.01077	mg/L	0.003471	32.24%
Sr 421.552†	157498.5	0.3677	mg/L	0.00056	0.7353	mg/L	0.00112	0.15%
Ti 334.903†	95186.3	6.956	mg/L	0.0165	13.91	mg/L	0.033	0.24%
Tl 190.801†	135.1	0.09992	mg/L	0.001741	0.1998	mg/L	0.00348	1.74%
V 292.402†	21104.8	0.3826	mg/L	0.00131	0.7652	mg/L	0.00263	0.34%
Zn 206.200†	2115.2	1.047	mg/L	0.0049	2.094	mg/L	0.0097	0.46%

Sequence No.: 6

Autosampler Location: 327

Sample ID: 20K0008-09

Date Collected: 11/10/2020 6:54:28 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-09

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-09

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1455967.5	106.8	%	0.44				0.41%
ScR 361.383	162203.8	104.6	%	0.45				0.43%
Ag 328.068†	-150.2	-0.00102	mg/L	0.000156	-0.00205	mg/L	0.000311	15.22%
Al 308.215†	96963.6	94.78	mg/L	0.265	189.6	mg/L	0.53	0.28%
As 188.979†	-149.0	0.00247	mg/L	0.005093	0.00494	mg/L	0.010187	206.01%
B 249.677†	81.6	0.01870	mg/L	0.000762	0.03740	mg/L	0.001524	4.08%
Ba 233.527†	1322.4	0.3186	mg/L	0.00175	0.6371	mg/L	0.00350	0.55%
Be 313.042†	1501.7	0.00140	mg/L	0.000103	0.00280	mg/L	0.000207	7.38%
Ca 317.933†	254100.9	39.49	mg/L	0.215	78.98	mg/L	0.430	0.54%
Cd 228.802†	21.2	0.00188	mg/L	0.000102	0.00376	mg/L	0.000204	5.42%
Co 228.616†	1828.7	0.06082	mg/L	0.000330	0.1216	mg/L	0.00066	0.54%
Cr 267.716†	356.2	0.1242	mg/L	0.00527	0.2484	mg/L	0.01053	4.24%
Cu 324.752†	24098.8	0.1591	mg/L	0.00117	0.3182	mg/L	0.00233	0.73%
Fe 273.955†	76823.8	78.36	mg/L	0.256	156.7	mg/L	0.51	0.33%
K 766.490†	4717.2	4.237	mg/L	0.0234	8.474	mg/L	0.0467	0.55%
Mg 279.077†	14859.8	19.01	mg/L	0.053	38.02	mg/L	0.105	0.28%
Mn 257.610†	23108.3	0.6122	mg/L	0.00204	1.224	mg/L	0.0041	0.33%
Mo 202.031†	81.0	0.00616	mg/L	0.000514	0.01232	mg/L	0.001027	8.34%
Na 589.592†	110062.2	13.61	mg/L	0.060	27.21	mg/L	0.119	0.44%
Na 330.237†	230.5	13.27	mg/L	0.766	26.55	mg/L	1.532	5.77%
Ni 231.604†	283.8	0.1050	mg/L	0.00130	0.2101	mg/L	0.00261	1.24%
Pb 220.353†	-33.1	0.01521	mg/L	0.000953	0.03043	mg/L	0.001906	6.26%
Sb 206.836†	4.0	0.01200	mg/L	0.000710	0.02400	mg/L	0.001421	5.92%
Se 196.026†	-21.0	-0.01755	mg/L	0.002608	-0.03510	mg/L	0.005216	14.86%
Si 288.158†	1213.1	1.361	mg/L	0.0138	2.722	mg/L	0.0276	1.02%
Sn 189.927†	-51.6	-0.00836	mg/L	0.001453	-0.01673	mg/L	0.002907	17.38%
Sr 421.552†	164559.2	0.3842	mg/L	0.00105	0.7683	mg/L	0.00210	0.27%
Ti 334.903†	81356.5	5.945	mg/L	0.0077	11.89	mg/L	0.015	0.13%
Tl 190.801†	122.0	0.08918	mg/L	0.001233	0.1784	mg/L	0.00247	1.38%
V 292.402†	25898.0	0.4657	mg/L	0.00519	0.9314	mg/L	0.01038	1.11%
Zn 206.200†	454.1	0.2248	mg/L	0.00178	0.4495	mg/L	0.00356	0.79%

Sequence No.: 7

Sample ID: 20K0008-14

DEL

Autosampler Location: 328

Date Collected: 11/10/2020 6:58:44 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-14

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-14

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc. Units			
ScA 357.253	1395211.6		102.4 %	3.29				3.21%
ScR 361.383	156723.3		101.1 %	1.22				1.21%
Ag 328.068†	-93.0	-0.00064	mg/L	0.000295	-0.00127	mg/L	0.000591	46.38%
Al 308.215†	99669.1	97.42	mg/L	0.406	194.8	mg/L	0.81	0.42%
As 188.979†	-176.8	-0.00483	mg/L	0.005788	-0.00966	mg/L	0.011576	119.77%
B 249.677†	257.3	0.05282	mg/L	0.000554	0.1056	mg/L	0.00111	1.05%
Ba 233.527†	19572.7	4.827	mg/L	0.0546	9.654	mg/L	0.1092	1.13%
Be 313.042†	1132.5	0.00139	mg/L	0.000025	0.00277	mg/L	0.000051	1.84%
Ca 317.933†	413990.0	64.34	mg/L	0.337	128.7	mg/L	0.67	0.52%
Cd 228.802†	264.0	0.01564	mg/L	0.000618	0.03127	mg/L	0.001236	3.95%
Co 228.616†	1965.0	0.06250	mg/L	0.001785	0.1250	mg/L	0.00357	2.86%
Cr 267.716†	7413.9	2.549	mg/L	0.0255	5.097	mg/L	0.0509	1.00%
Cu 324.752†	45858.1	0.3045	mg/L	0.00816	0.6091	mg/L	0.01632	2.68%
Fe 273.955†	169123.2	172.5	mg/L	1.10	345.0	mg/L	2.20	0.64%
K 766.490†	15476.4	13.90	mg/L	0.136	27.80	mg/L	0.273	0.98%
Mg 279.077†	32658.8	41.78	mg/L	0.531	83.56	mg/L	1.062	1.27%
Mn 257.610†	40979.4	1.089	mg/L	0.0062	2.179	mg/L	0.0125	0.57%
Mo 202.031†	276.9	0.02191	mg/L	0.001097	0.04382	mg/L	0.002194	5.01%
Na 589.592†	198754.9	24.57	mg/L	0.202	49.15	mg/L	0.404	0.82%
Na 330.237†	609.2	24.63	mg/L	0.425	49.26	mg/L	0.850	1.73%
Ni 231.604†	231.3	0.08577	mg/L	0.000991	0.1715	mg/L	0.00198	1.16%
Pb 220.353†	109322.4	19.83	mg/L	0.694	39.66	mg/L	1.388	3.50%
Sb 206.836†	269.0	0.1166	mg/L	0.00503	0.2333	mg/L	0.01007	4.32%
Se 196.026†	-39.8	-0.02790	mg/L	0.006050	-0.05579	mg/L	0.012099	21.69%
Si 288.158†	785.6	0.8488	mg/L	0.01196	1.698	mg/L	0.0239	1.41%
Sn 189.927†	3.7	0.01946	mg/L	0.000197	0.03892	mg/L	0.000395	1.01%
Sr 421.552†	231015.5	0.5393	mg/L	0.00269	1.079	mg/L	0.0054	0.50%
Ti 334.903†	95699.6	6.992	mg/L	0.0273	13.98	mg/L	0.055	0.39%
Tl 190.801†	177.7	0.1309	mg/L	0.00356	0.2618	mg/L	0.00711	2.72%
V 292.402†	15375.1	0.2961	mg/L	0.00830	0.5922	mg/L	0.01660	2.80%
Zn 206.200†	52503.6	25.99	mg/L	0.211	51.98	mg/L	0.423	0.81%

Sequence No.: 8

Sample ID: BIK0175-DUP1

DEL

Autosampler Location: 329

Date Collected: 11/10/2020 7:03:00 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-DUP1

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0175-DUP1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1516515.0	111.3	%	0.22			0.19%
ScR 361.383	165309.5	106.6	%	0.47			0.44%
Ag 328.068†	-138.9	-0.00105	mg/L	0.000338	-0.00526	mg/L	0.001692 32.19%
Al 308.215†	31250.0	30.55	mg/L	0.169	152.7	mg/L	0.85 0.55%
As 188.979†	-21.9	0.02599	mg/L	0.004030	0.1299	mg/L	0.02015 15.50%
B 249.677†	45.4	0.03013	mg/L	0.000511	0.1506	mg/L	0.00256 1.70%
Ba 233.527†	994.0	0.2142	mg/L	0.00290	1.071	mg/L	0.0145 1.35%
Be 313.042†	369.3	0.00046	mg/L	0.000025	0.00230	mg/L	0.000125 5.43%
Ca 317.933†	74471.5	11.57	mg/L	0.063	57.87	mg/L	0.315 0.54%
Cd 228.802†	57.1	0.00130	mg/L	0.000072	0.00651	mg/L	0.000358 5.49%
Co 228.616†	1235.4	0.04171	mg/L	0.000228	0.2085	mg/L	0.00114 0.55%
Cr 267.716†	352.5	0.1398	mg/L	0.00089	0.6988	mg/L	0.00445 0.64%
Cu 324.752†	82409.9	0.5493	mg/L	0.00347	2.746	mg/L	0.0174 0.63%
Fe 273.955†	286519.7	292.3	mg/L	0.38	1461	mg/L	1.91 0.13%
K 766.490†	1669.6	1.500	mg/L	0.0215	7.498	mg/L	0.1076 1.44%
Mg 279.077†	6352.8	7.986	mg/L	0.0509	39.93	mg/L	0.254 0.64%
Mn 257.610†	43190.1	1.145	mg/L	0.0088	5.723	mg/L	0.0438 0.77%
Mo 202.031†	59.4	0.00475	mg/L	0.000076	0.02375	mg/L	0.000378 1.59%
Na 589.592†	22049.2	2.726	mg/L	0.0206	13.63	mg/L	0.103 0.76%
Na 330.237†	44.7	2.397	mg/L	0.2080	11.98	mg/L	1.040 8.68%
Ni 231.604†	279.6	0.1038	mg/L	0.00171	0.5192	mg/L	0.00856 1.65%
Pb 220.353†	15329.0	2.771	mg/L	0.0203	13.86	mg/L	0.102 0.73%
Sb 206.836†	561.6	0.3189	mg/L	0.00210	1.595	mg/L	0.0105 0.66%
Se 196.026†	-29.0	-0.00509	mg/L	0.007597	-0.02544	mg/L	0.037984 149.33%
Si 288.158†	377.7	0.4248	mg/L	0.00983	2.124	mg/L	0.0491 2.31%
Sn 189.927†	6962.4	2.651	mg/L	0.0134	13.25	mg/L	0.067 0.51%
Sr 421.552†	46718.5	0.1091	mg/L	0.00033	0.5453	mg/L	0.00163 0.30%
Ti 334.903†	24611.8	1.798	mg/L	0.0066	8.992	mg/L	0.0328 0.36%
Tl 190.801†	91.7	0.06876	mg/L	0.001068	0.3438	mg/L	0.00534 1.55%
V 292.402†	4924.1	0.09909	mg/L	0.001691	0.4955	mg/L	0.00846 1.71%
Zn 206.200†	2033.3	1.007	mg/L	0.0047	5.033	mg/L	0.0236 0.47%

User canceled analysis.

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Analysis Begun

Start Time: 11/10/2020 7:11:27 PM

Plasma On Time: 11/10/2020 1:54:30 PM

Logged In Analyst: Metals Instrument Controller

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
1110.sif

Batch ID:

Results Data Set: I2201110

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 12

Autosampler Location: 333

Sample ID: BIK0175-BS1

Date Collected: 11/10/2020 7:11:28 PM

Data Type: Original

Dilution: 2X

Nebulizer Parameters: BIK0175-BS1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIK0175-BS1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1445082.4	106.0 %	0.54			0.51%
ScR 361.383	160067.6	103.2 %	0.12			0.12%
Ag 328.068†	66046.6	0.5130 mg/L	0.00246	1.026 mg/L	0.0049	0.48%
Al 308.215†	2078.9	2.026 mg/L	0.0186	4.051 mg/L	0.0371	0.92%
As 188.979†	1765.0	1.931 mg/L	0.0160	3.861 mg/L	0.0320	0.83%
B 249.677†	12.7	0.00100 mg/L	0.000986	0.00200 mg/L	0.001971	98.33%
Ba 233.527†	7842.0	1.941 mg/L	0.0042	3.882 mg/L	0.0084	0.22%
Be 313.042†	210373.2	0.4815 mg/L	0.00208	0.9630 mg/L	0.00416	0.43%
Ca 317.933†	62104.2	9.651 mg/L	0.0471	19.30 mg/L	0.094	0.49%
Cd 228.802†	8370.4	0.4789 mg/L	0.00320	0.9578 mg/L	0.00640	0.67%
Co 228.616†	11778.8	0.4738 mg/L	0.00159	0.9477 mg/L	0.00317	0.33%
Cr 267.716†	1425.5	0.4873 mg/L	0.00239	0.9747 mg/L	0.00478	0.49%
Cu 324.752†	74015.3	0.4821 mg/L	0.00204	0.9643 mg/L	0.00408	0.42%
Fe 273.955†	1963.8	1.995 mg/L	0.0112	3.990 mg/L	0.0224	0.56%
K 766.490†	10252.3	9.209 mg/L	0.0256	18.42 mg/L	0.051	0.28%
Mg 279.077†	7993.9	10.25 mg/L	0.009	20.50 mg/L	0.018	0.09%
Mn 257.610†	17513.0	0.4653 mg/L	0.00305	0.9307 mg/L	0.00610	0.66%
Mo 202.031†	15.5	0.00113 mg/L	0.000201	0.00225 mg/L	0.000403	17.87%
Na 589.592†	74768.3	9.244 mg/L	0.0431	18.49 mg/L	0.086	0.47%
Na 330.237†	186.1	9.555 mg/L	0.1738	19.11 mg/L	0.348	1.82%
Ni 231.604†	1313.0	0.4861 mg/L	0.00038	0.9721 mg/L	0.00077	0.08%
Pb 220.353†	10722.3	1.944 mg/L	0.0058	3.887 mg/L	0.0115	0.30%
Sb 206.836†	12.0	0.00059 mg/L	0.002015	0.00118 mg/L	0.004030	340.29%
Se 196.026†	1548.3	1.918 mg/L	0.0187	3.835 mg/L	0.0374	0.97%
Si 288.158†	-11.5	-0.01013 mg/L	0.007187	-0.02027 mg/L	0.014375	70.92%
Sn 189.927†	-11.6	-0.00225 mg/L	0.000449	-0.00450 mg/L	0.000898	19.97%
Sr 421.552†	207342.8	0.4840 mg/L	0.00190	0.9681 mg/L	0.00379	0.39%
Ti 334.903†	48.9	0.00295 mg/L	0.000277	0.00590 mg/L	0.000553	9.38%
Tl 190.801†	2614.7	1.934 mg/L	0.0119	3.867 mg/L	0.0239	0.62%
V 292.402†	27080.0	0.4874 mg/L	0.00408	0.9748 mg/L	0.00816	0.84%
Zn 206.200†	964.1	0.4772 mg/L	0.00303	0.9545 mg/L	0.00605	0.63%

Sequence No.: 13

Sample ID: SEQ-CCV5

Autosampler Location: 7

Date Collected: 11/10/2020 7:15:44 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV5

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCV5

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1455756.8	106.8	%	0.26			0.24%
ScR 361.383	160237.4	103.3	%	0.34			0.33%
Ag 328.068†	131455.2	1.021	mg/L	0.0072	1.021	mg/L	0.71%
Al 308.215†	2149.7	2.066	mg/L	0.0057	2.066	mg/L	0.28%
As 188.979†	1788.2	1.980	mg/L	0.0047	1.980	mg/L	0.24%
B 249.677†	6483.6	1.005	mg/L	0.0014	1.005	mg/L	0.13%
Ba 233.527†	4019.3	0.9942	mg/L	0.00060	0.9942	mg/L	0.06%
Be 313.042†	433616.6	0.9925	mg/L	0.00822	0.9925	mg/L	0.83%
Ca 317.933†	13263.3	2.061	mg/L	0.0018	2.061	mg/L	0.09%
Cd 228.802†	17101.9	0.9930	mg/L	0.00572	0.9930	mg/L	0.58%
Co 228.616†	24282.5	0.9753	mg/L	0.00609	0.9753	mg/L	0.62%
Cr 267.716†	2887.8	0.9892	mg/L	0.00312	0.9892	mg/L	0.32%
Cu 324.752†	154347.2	1.005	mg/L	0.0072	1.005	mg/L	0.72%
Fe 273.955†	1985.4	2.016	mg/L	0.0065	2.016	mg/L	0.32%
K 766.490†	21593.2	19.40	mg/L	0.124	19.40	mg/L	0.64%
Mg 279.077†	1604.2	2.067	mg/L	0.0122	2.067	mg/L	0.59%
Mn 257.610†	36030.4	0.9572	mg/L	0.00673	0.9572	mg/L	0.70%
Mo 202.031†	12156.7	1.005	mg/L	0.0005	1.005	mg/L	0.05%
Na 589.592†	408675.7	50.53	mg/L	0.353	50.53	mg/L	0.70%
Na 330.237†	974.9	50.66	mg/L	0.229	50.66	mg/L	0.45%
Ni 231.604†	2702.6	1.003	mg/L	0.0035	1.003	mg/L	0.35%
Pb 220.353†	11208.7	2.032	mg/L	0.0059	2.032	mg/L	0.29%
Sb 206.836†	3894.1	2.071	mg/L	0.0058	2.071	mg/L	0.28%
Se 196.026†	1627.6	2.017	mg/L	0.0020	2.017	mg/L	0.10%
Si 288.158†	1830.2	2.154	mg/L	0.0121	2.154	mg/L	0.56%
Sn 189.927†	2675.2	1.019	mg/L	0.0032	1.019	mg/L	0.32%
Sr 421.552†	426200.3	0.9949	mg/L	0.00544	0.9949	mg/L	0.55%
Ti 334.903†	13441.5	0.9813	mg/L	0.00709	0.9813	mg/L	0.72%
Tl 190.801†	2693.1	1.989	mg/L	0.0019	1.989	mg/L	0.10%
V 292.402†	55509.3	0.9991	mg/L	0.00645	0.9991	mg/L	0.65%
Zn 206.200†	2021.5	1.000	mg/L	0.0013	1.000	mg/L	0.13%

Sequence No.: 14
 Sample ID: SEQ-CCB5

Autosampler Location: 1
 Date Collected: 11/10/2020 7:21:04 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB5

Analyte Back Pressure Flow
 All 240.0 kPa 0.65 L/min

Mean Data: SEQ-CCB5

Analyte	Mean Corrected		Calib.		Sample			
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
ScA 357.253	1474320.4	108.2	%	0.42				0.39%
ScR 361.383	163907.3	105.7	%	0.92				0.87%
Ag 328.068†	-14.9	-0.00012	mg/L	0.000354	-0.00012	mg/L	0.000354	305.99%
Al 308.215†	5.9	0.00575	mg/L	0.008699	0.00575	mg/L	0.008699	151.33%
As 188.979†	0.2	0.00021	mg/L	0.002545	0.00021	mg/L	0.002545	>999.9%
B 249.677†	18.0	0.00279	mg/L	0.001217	0.00279	mg/L	0.001217	43.69%
Ba 233.527†	8.9	0.00220	mg/L	0.000629	0.00220	mg/L	0.000629	28.56%
Be 313.042†	-19.3	-0.00005	mg/L	0.000059	-0.00005	mg/L	0.000059	129.60%
Ca 317.933†	9.0	0.00140	mg/L	0.001210	0.00140	mg/L	0.001210	86.26%
Cd 228.802†	-1.2	-0.00007	mg/L	0.000156	-0.00007	mg/L	0.000156	215.64%
Co 228.616†	0.2	0.00001	mg/L	0.000214	0.00001	mg/L	0.000214	>999.9%
Cr 267.716†	0.2	0.00006	mg/L	0.001494	0.00006	mg/L	0.001494	>999.9%
Cu 324.752†	4.9	0.00003	mg/L	0.000156	0.00003	mg/L	0.000156	490.71%
Fe 273.955†	1.4	0.00144	mg/L	0.003110	0.00144	mg/L	0.003110	216.45%
K 766.490†	9.0	0.00812	mg/L	0.019257	0.00812	mg/L	0.019257	237.05%
Mg 279.077†	2.0	0.00257	mg/L	0.003662	0.00257	mg/L	0.003662	142.26%
Mn 257.610†	17.3	0.00046	mg/L	0.000159	0.00046	mg/L	0.000159	34.57%
Mo 202.031†	4.2	0.00035	mg/L	0.000463	0.00035	mg/L	0.000463	132.16%
Na 589.592†	-19.1	-0.00236	mg/L	0.002797	-0.00236	mg/L	0.002797	118.31%
Na 330.237†	4.9	0.2547	mg/L	0.48889	0.2547	mg/L	0.48889	191.91%
Ni 231.604†	3.3	0.00124	mg/L	0.002391	0.00124	mg/L	0.002391	193.01%
Pb 220.353†	10.1	0.00183	mg/L	0.000279	0.00183	mg/L	0.000279	15.26%
Sb 206.836†	2.4	0.00128	mg/L	0.002448	0.00128	mg/L	0.002448	191.51%
Se 196.026†	3.8	0.00466	mg/L	0.003263	0.00466	mg/L	0.003263	70.04%
Si 288.158†	-5.8	-0.00684	mg/L	0.007063	-0.00684	mg/L	0.007063	103.26%
Sn 189.927†	0.6	0.00025	mg/L	0.000267	0.00025	mg/L	0.000267	108.63%
Sr 421.552†	41.0	0.00010	mg/L	0.000016	0.00010	mg/L	0.000016	16.33%
Ti 334.903†	12.4	0.00091	mg/L	0.001284	0.00091	mg/L	0.001284	141.20%
Tl 190.801†	3.2	0.00240	mg/L	0.000530	0.00240	mg/L	0.000530	22.08%
V 292.402†	18.2	0.00033	mg/L	0.000588	0.00033	mg/L	0.000588	180.57%
Zn 206.200†	1.7	0.00083	mg/L	0.000284	0.00083	mg/L	0.000284	34.15%

Sequence No.: 15

Sample ID: 20K0008-16

Autosampler Location: 334

Date Collected: 11/10/2020 7:25:20 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-16

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-16

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1457351.3	106.9	%	0.51				0.47%
ScR 361.383	161923.9	104.4	%	0.21				0.20%
Ag 328.068†	-173.8	-0.00124	mg/L	0.000198	-0.00248	mg/L	0.000397	15.97%
Al 308.215†	84196.4	82.30	mg/L	0.180	164.6	mg/L	0.36	0.22%
As 188.979†	-142.9	-0.00917	mg/L	0.003048	-0.01833	mg/L	0.006096	33.25%
B 249.677†	83.8	0.02000	mg/L	0.000109	0.03999	mg/L	0.000219	0.55%
Ba 233.527†	1196.7	0.2863	mg/L	0.00277	0.5726	mg/L	0.00554	0.97%
Be 313.042†	842.2	0.00041	mg/L	0.000074	0.00081	mg/L	0.000148	18.20%
Ca 317.933†	234020.6	36.37	mg/L	0.176	72.74	mg/L	0.352	0.48%
Cd 228.802†	20.7	0.00169	mg/L	0.000209	0.00338	mg/L	0.000418	12.35%
Co 228.616†	1355.3	0.04285	mg/L	0.000323	0.08571	mg/L	0.000647	0.75%
Cr 267.716†	400.5	0.1404	mg/L	0.00229	0.2808	mg/L	0.00458	1.63%
Cu 324.752†	17004.1	0.1135	mg/L	0.00125	0.2270	mg/L	0.00250	1.10%
Fe 273.955†	88117.7	89.88	mg/L	0.745	179.8	mg/L	1.49	0.83%
K 766.490†	10899.1	9.790	mg/L	0.0356	19.58	mg/L	0.071	0.36%
Mg 279.077†	14716.9	18.82	mg/L	0.048	37.64	mg/L	0.097	0.26%
Mn 257.610†	25720.9	0.6816	mg/L	0.00297	1.363	mg/L	0.0059	0.44%
Mo 202.031†	51.7	0.00378	mg/L	0.000537	0.00756	mg/L	0.001073	14.19%
Na 589.592†	206816.1	25.57	mg/L	0.158	51.14	mg/L	0.316	0.62%
Na 330.237†	443.9	24.22	mg/L	0.437	48.43	mg/L	0.874	1.80%
Ni 231.604†	202.2	0.07485	mg/L	0.001908	0.1497	mg/L	0.00382	2.55%
Pb 220.353†	442.1	0.09757	mg/L	0.000895	0.1951	mg/L	0.00179	0.92%
Sb 206.836†	7.3	0.01196	mg/L	0.001919	0.02393	mg/L	0.003838	16.04%
Se 196.026†	-17.3	-0.01184	mg/L	0.006242	-0.02368	mg/L	0.012483	52.73%
Si 288.158†	659.1	0.7148	mg/L	0.00786	1.430	mg/L	0.0157	1.10%
Sn 189.927†	-44.7	-0.00671	mg/L	0.001758	-0.01343	mg/L	0.003517	26.19%
Sr 421.552†	161175.8	0.3763	mg/L	0.00083	0.7525	mg/L	0.00167	0.22%
Ti 334.903†	72459.5	5.295	mg/L	0.0067	10.59	mg/L	0.013	0.13%
Tl 190.801†	108.5	0.07976	mg/L	0.001158	0.1595	mg/L	0.00232	1.45%
V 292.402†	19332.5	0.3489	mg/L	0.00288	0.6979	mg/L	0.00575	0.82%
Zn 206.200†	475.1	0.2352	mg/L	0.00237	0.4703	mg/L	0.00474	1.01%

Sequence No.: 16

Sample ID: 20K0008-20

Autosampler Location: 335

Date Collected: 11/10/2020 7:29:37 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-20

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0008-20

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1483904.1	108.9	%	0.46			0.42%
ScR 361.383	161679.2	104.3	%	0.50			0.48%
Ag 328.068†	-122.3	-0.00084	mg/L	0.000092	-0.00169	mg/L	10.91%
Al 308.215†	169897.8	166.1	mg/L	1.07	332.1	mg/L	0.64%
As 188.979†	-260.0	-0.03213	mg/L	0.005678	-0.06425	mg/L	17.67%
B 249.677†	86.1	0.02363	mg/L	0.001070	0.04726	mg/L	4.53%
Ba 233.527†	4621.5	1.129	mg/L	0.0050	2.259	mg/L	0.45%
Be 313.042†	1777.2	0.00257	mg/L	0.000029	0.00515	mg/L	1.13%
Ca 317.933†	276562.1	42.98	mg/L	0.261	85.96	mg/L	0.61%
Cd 228.802†	39.8	0.00340	mg/L	0.000123	0.00680	mg/L	3.62%
Co 228.616†	1765.7	0.05138	mg/L	0.000224	0.1028	mg/L	0.44%
Cr 267.716†	1858.2	0.6423	mg/L	0.00484	1.285	mg/L	0.75%
Cu 324.752†	28450.1	0.1890	mg/L	0.00065	0.3780	mg/L	0.35%
Fe 273.955†	130679.6	133.3	mg/L	0.60	266.6	mg/L	0.45%
K 766.490†	38013.5	34.14	mg/L	0.138	68.29	mg/L	0.41%
Mg 279.077†	17471.0	22.33	mg/L	0.041	44.66	mg/L	0.18%
Mn 257.610†	47758.4	1.266	mg/L	0.0081	2.533	mg/L	0.64%
Mo 202.031†	56.3	0.00405	mg/L	0.000272	0.00810	mg/L	6.72%
Na 589.592†	804860.2	99.51	mg/L	0.363	199.0	mg/L	0.36%
Na 330.237†	1856.0	95.76	mg/L	0.291	191.5	mg/L	0.30%
Ni 231.604†	197.7	0.07318	mg/L	0.000758	0.1464	mg/L	1.04%
Pb 220.353†	16716.8	3.067	mg/L	0.0122	6.135	mg/L	0.40%
Sb 206.836†	18.0	0.01644	mg/L	0.001288	0.03288	mg/L	7.83%
Se 196.026†	-19.8	-0.00963	mg/L	0.005408	-0.01925	mg/L	56.18%
Si 288.158†	635.6	0.6414	mg/L	0.00338	1.283	mg/L	0.53%
Sn 189.927†	32.4	0.02585	mg/L	0.000914	0.05171	mg/L	3.54%
Sr 421.552†	208822.2	0.4875	mg/L	0.00231	0.9750	mg/L	0.47%
Ti 334.903†	123666.5	9.038	mg/L	0.0484	18.08	mg/L	0.54%
Tl 190.801†	191.7	0.1419	mg/L	0.00045	0.2837	mg/L	0.32%
V 292.402†	19105.9	0.3491	mg/L	0.00169	0.6982	mg/L	0.48%
Zn 206.200†	17145.7	8.487	mg/L	0.0185	16.97	mg/L	0.22%

Sequence No.: 17

Sample ID: 20K0008-22

Autosampler Location: 336

Date Collected: 11/10/2020 7:33:55 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-22

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0008-22

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	1502090.5	110.2 %	%	0.30				0.27%
ScR 361.383	164218.0	105.9 %	%	1.06				1.00%
Ag 328.068†	-148.6	-0.00108 mg/L	mg/L	0.000135	-0.00216 mg/L		0.000270	12.49%
Al 308.215†	145883.4	142.6 mg/L	mg/L	1.21	285.2 mg/L		2.43	0.85%
As 188.979†	-244.6	-0.03560 mg/L	mg/L	0.001339	-0.07120 mg/L		0.002679	3.76%
B 249.677†	162.5	0.03260 mg/L	mg/L	0.002205	0.06519 mg/L		0.004409	6.76%
Ba 233.527†	3482.9	0.8518 mg/L	mg/L	0.00462	1.704 mg/L		0.0092	0.54%
Be 313.042†	1614.3	0.00268 mg/L	mg/L	0.000058	0.00537 mg/L		0.000117	2.18%
Ca 317.933†	284040.6	44.14 mg/L	mg/L	0.325	88.29 mg/L		0.650	0.74%
Cd 228.802†	20.0	0.00244 mg/L	mg/L	0.000217	0.00488 mg/L		0.000433	8.87%
Co 228.616†	1627.9	0.04787 mg/L	mg/L	0.000350	0.09575 mg/L		0.000700	0.73%
Cr 267.716†	442.9	0.1546 mg/L	mg/L	0.00508	0.3091 mg/L		0.01016	3.29%
Cu 324.752†	26918.7	0.1775 mg/L	mg/L	0.00039	0.3551 mg/L		0.00078	0.22%
Fe 273.955†	93291.1	95.15 mg/L	mg/L	0.944	190.3 mg/L		1.89	0.99%
K 766.490†	33417.8	30.02 mg/L	mg/L	0.272	60.03 mg/L		0.543	0.90%
Mg 279.077†	17172.8	21.97 mg/L	mg/L	0.104	43.93 mg/L		0.207	0.47%
Mn 257.610†	35235.2	0.9338 mg/L	mg/L	0.00584	1.868 mg/L		0.0117	0.63%
Mo 202.031†	58.8	0.00426 mg/L	mg/L	0.000240	0.00853 mg/L		0.000480	5.63%
Na 589.592†	578588.9	71.53 mg/L	mg/L	0.495	143.1 mg/L		0.99	0.69%
Na 330.237†	1351.9	68.86 mg/L	mg/L	0.334	137.7 mg/L		0.67	0.48%
Ni 231.604†	233.7	0.08653 mg/L	mg/L	0.001564	0.1731 mg/L		0.00313	1.81%
Pb 220.353†	150.9	0.06038 mg/L	mg/L	0.001697	0.1208 mg/L		0.00339	2.81%
Sb 206.836†	6.5	0.01602 mg/L	mg/L	0.002695	0.03203 mg/L		0.005390	16.83%
Se 196.026†	-15.3	-0.00871 mg/L	mg/L	0.008643	-0.01743 mg/L		0.017286	99.19%
Si 288.158†	722.3	0.7524 mg/L	mg/L	0.01103	1.505 mg/L		0.0221	1.47%
Sn 189.927†	-33.3	0.00067 mg/L	mg/L	0.000644	0.00134 mg/L		0.001288	95.97%
Sr 421.552†	202202.5	0.4720 mg/L	mg/L	0.00361	0.9441 mg/L		0.00722	0.76%
Ti 334.903†	113545.5	8.298 mg/L	mg/L	0.0614	16.60 mg/L		0.123	0.74%
Tl 190.801†	168.0	0.1245 mg/L	mg/L	0.00328	0.2490 mg/L		0.00656	2.63%
V 292.402†	12991.2	0.2354 mg/L	mg/L	0.00085	0.4708 mg/L		0.00169	0.36%
Zn 206.200†	20224.9	10.01 mg/L	mg/L	0.036	20.02 mg/L		0.073	0.36%

Sequence No.: 18

Sample ID: 20K0008-26

Autosampler Location: 337

Date Collected: 11/10/2020 7:38:13 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-26

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0008-26

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1466933.4	107.6	%	1.18				1.09%
ScR 361.383	161580.3	104.2	%	0.52				0.50%
Ag 328.068†	-225.9	-0.00166	mg/L	0.000074	-0.00331	mg/L	0.000149	4.49%
Al 308.215†	86432.1	84.48	mg/L	0.314	169.0	mg/L	0.63	0.37%
As 188.979†	-147.9	0.01157	mg/L	0.004126	0.02314	mg/L	0.008252	35.66%
B 249.677†	115.0	0.02473	mg/L	0.000518	0.04947	mg/L	0.001037	2.10%
Ba 233.527†	1647.4	0.3980	mg/L	0.00029	0.7961	mg/L	0.00059	0.07%
Be 313.042†	921.5	0.00071	mg/L	0.000035	0.00143	mg/L	0.000069	4.84%
Ca 317.933†	647596.3	100.6	mg/L	0.17	201.3	mg/L	0.34	0.17%
Cd 228.802†	21.2	0.00179	mg/L	0.000184	0.00359	mg/L	0.000367	10.23%
Co 228.616†	1314.0	0.03898	mg/L	0.000439	0.07795	mg/L	0.000878	1.13%
Cr 267.716†	426.6	0.1482	mg/L	0.00258	0.2965	mg/L	0.00515	1.74%
Cu 324.752†	16940.8	0.1128	mg/L	0.00212	0.2256	mg/L	0.00424	1.88%
Fe 273.955†	86769.0	88.50	mg/L	0.882	177.0	mg/L	1.76	1.00%
K 766.490†	5280.4	4.743	mg/L	0.0502	9.486	mg/L	0.1005	1.06%
Mg 279.077†	17457.2	22.34	mg/L	0.091	44.67	mg/L	0.182	0.41%
Mn 257.610†	33805.2	0.8961	mg/L	0.00200	1.792	mg/L	0.0040	0.22%
Mo 202.031†	156.8	0.01160	mg/L	0.000112	0.02320	mg/L	0.000223	0.96%
Na 589.592†	94905.6	11.73	mg/L	0.042	23.47	mg/L	0.083	0.35%
Na 330.237†	195.6	11.32	mg/L	0.274	22.64	mg/L	0.549	2.42%
Ni 231.604†	258.5	0.09571	mg/L	0.001705	0.1914	mg/L	0.00341	1.78%
Pb 220.353†	277.3	0.06838	mg/L	0.000616	0.1368	mg/L	0.00123	0.90%
Sb 206.836†	11.4	0.01597	mg/L	0.001795	0.03194	mg/L	0.003590	11.24%
Se 196.026†	-28.9	-0.02626	mg/L	0.015477	-0.05252	mg/L	0.030954	58.94%
Si 288.158†	827.3	0.8995	mg/L	0.00751	1.799	mg/L	0.0150	0.83%
Sn 189.927†	-7.1	0.02203	mg/L	0.002113	0.04405	mg/L	0.004226	9.59%
Sr 421.552†	165555.2	0.3865	mg/L	0.00150	0.7730	mg/L	0.00300	0.39%
Ti 334.903†	88149.4	6.438	mg/L	0.0134	12.88	mg/L	0.027	0.21%
Tl 190.801†	127.7	0.09435	mg/L	0.003348	0.1887	mg/L	0.00670	3.55%
V 292.402†	17755.5	0.3206	mg/L	0.00593	0.6412	mg/L	0.01187	1.85%
Zn 206.200†	1922.7	0.9516	mg/L	0.00445	1.903	mg/L	0.0089	0.47%

Sequence No.: 19

Sample ID: 20K0008-28

Autosampler Location: 338

Date Collected: 11/10/2020 7:42:30 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-28

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: 20K0008-28

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1487164.3	109.1	%	0.60				0.55%
ScR 361.383	164564.8	106.1	%	0.35				0.33%
Ag 328.068†	-211.7	-0.00154	mg/L	0.000179	-0.00308	mg/L	0.000358	11.62%
Al 308.215†	115556.6	113.0	mg/L	0.91	225.9	mg/L	1.82	0.80%
As 188.979†	-164.5	-0.00215	mg/L	0.001421	-0.00431	mg/L	0.002843	65.99%
B 249.677†	106.4	0.02376	mg/L	0.000987	0.04753	mg/L	0.001975	4.15%
Ba 233.527†	1133.2	0.2702	mg/L	0.00209	0.5405	mg/L	0.00418	0.77%
Be 313.042†	892.0	0.00057	mg/L	0.000065	0.00114	mg/L	0.000130	11.43%
Ca 317.933†	262138.1	40.74	mg/L	0.279	81.48	mg/L	0.558	0.68%
Cd 228.802†	21.2	0.00187	mg/L	0.000191	0.00375	mg/L	0.000382	10.20%
Co 228.616†	1330.4	0.03969	mg/L	0.000376	0.07938	mg/L	0.000752	0.95%
Cr 267.716†	367.2	0.1285	mg/L	0.00179	0.2570	mg/L	0.00358	1.39%
Cu 324.752†	23237.7	0.1540	mg/L	0.00106	0.3080	mg/L	0.00211	0.69%
Fe 273.955†	91177.4	93.00	mg/L	1.086	186.0	mg/L	2.17	1.17%
K 766.490†	6624.6	5.950	mg/L	0.0174	11.90	mg/L	0.035	0.29%
Mg 279.077†	18801.4	24.06	mg/L	0.212	48.11	mg/L	0.424	0.88%
Mn 257.610†	27362.7	0.7250	mg/L	0.00513	1.450	mg/L	0.0103	0.71%
Mo 202.031†	96.2	0.00740	mg/L	0.000180	0.01480	mg/L	0.000359	2.43%
Na 589.592†	109466.8	13.53	mg/L	0.091	27.07	mg/L	0.182	0.67%
Na 330.237†	235.7	13.63	mg/L	0.244	27.25	mg/L	0.488	1.79%
Ni 231.604†	212.8	0.07877	mg/L	0.003784	0.1575	mg/L	0.00757	4.80%
Pb 220.353†	-31.8	0.01954	mg/L	0.001552	0.03908	mg/L	0.003103	7.94%
Sb 206.836†	8.2	0.01440	mg/L	0.006100	0.02880	mg/L	0.012199	42.35%
Se 196.026†	-16.4	-0.01041	mg/L	0.004144	-0.02081	mg/L	0.008289	39.83%
Si 288.158†	1289.9	1.447	mg/L	0.0102	2.894	mg/L	0.0204	0.70%
Sn 189.927†	-51.5	-0.00786	mg/L	0.000896	-0.01571	mg/L	0.001793	11.41%
Sr 421.552†	229859.1	0.5366	mg/L	0.00427	1.073	mg/L	0.0085	0.80%
Ti 334.903†	87352.3	6.383	mg/L	0.0559	12.77	mg/L	0.112	0.88%
Tl 190.801†	137.2	0.1011	mg/L	0.00296	0.2022	mg/L	0.00593	2.93%
V 292.402†	18709.2	0.3377	mg/L	0.00503	0.6754	mg/L	0.01007	1.49%
Zn 206.200†	482.7	0.2389	mg/L	0.00085	0.4778	mg/L	0.00170	0.36%

Sequence No.: 20

Sample ID: 20K0008-31

Autosampler Location: 339

Date Collected: 11/10/2020 7:46:46 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-31

Analyte	Back Pressure	Flow
All	243.0 kPa	0.65 L/min

Mean Data: 20K0008-31

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1514157.6	111.1	%	0.15				0.14%
ScR 361.383	167989.4	108.3	%	0.32				0.29%
Ag 328.068†	-220.2	-0.00159	mg/L	0.000304	-0.00318	mg/L	0.000608	19.15%
Al 308.215†	132442.5	129.5	mg/L	0.52	258.9	mg/L	1.05	0.41%
As 188.979†	-199.5	-0.00194	mg/L	0.000609	-0.00389	mg/L	0.001217	31.31%
B 249.677†	237.6	0.05518	mg/L	0.001803	0.1104	mg/L	0.00361	3.27%
Ba 233.527†	6516.1	1.587	mg/L	0.0048	3.175	mg/L	0.0097	0.31%
Be 313.042†	1353.3	0.00136	mg/L	0.000018	0.00273	mg/L	0.000035	1.30%
Ca 317.933†	383822.2	59.65	mg/L	0.179	119.3	mg/L	0.36	0.30%
Cd 228.802†	81.7	0.00491	mg/L	0.000289	0.00981	mg/L	0.000579	5.90%
Co 228.616†	2871.9	0.09662	mg/L	0.000272	0.1932	mg/L	0.00054	0.28%
Cr 267.716†	1484.3	0.5177	mg/L	0.00327	1.035	mg/L	0.0065	0.63%
Cu 324.752†	46813.4	0.3134	mg/L	0.00100	0.6268	mg/L	0.00200	0.32%
Fe 273.955†	230058.9	234.7	mg/L	0.69	469.3	mg/L	1.37	0.29%
K 766.490†	7837.7	7.040	mg/L	0.0191	14.08	mg/L	0.038	0.27%
Mg 279.077†	40423.2	51.70	mg/L	0.093	103.4	mg/L	0.19	0.18%
Mn 257.610†	88401.5	2.345	mg/L	0.0051	4.689	mg/L	0.0103	0.22%
Mo 202.031†	421.5	0.03403	mg/L	0.000497	0.06807	mg/L	0.000994	1.46%
Na 589.592†	52786.8	6.526	mg/L	0.0304	13.05	mg/L	0.061	0.47%
Na 330.237†	83.1	5.662	mg/L	0.2282	11.32	mg/L	0.456	4.03%
Ni 231.604†	1065.9	0.3947	mg/L	0.00452	0.7893	mg/L	0.00905	1.15%
Pb 220.353†	7574.3	1.396	mg/L	0.0015	2.792	mg/L	0.0030	0.11%
Sb 206.836†	34.4	0.02540	mg/L	0.002312	0.05079	mg/L	0.004624	9.10%
Se 196.026†	-34.7	-0.01766	mg/L	0.008162	-0.03532	mg/L	0.016324	46.22%
Si 288.158†	863.0	0.9284	mg/L	0.00254	1.857	mg/L	0.0051	0.27%
Sn 189.927†	67.6	0.04226	mg/L	0.000292	0.08452	mg/L	0.000584	0.69%
Sr 421.552†	187549.0	0.4378	mg/L	0.00258	0.8757	mg/L	0.00515	0.59%
Ti 334.903†	107102.9	7.826	mg/L	0.0231	15.65	mg/L	0.046	0.30%
Tl 190.801†	195.3	0.1456	mg/L	0.00355	0.2911	mg/L	0.00711	2.44%
V 292.402†	22059.9	0.4051	mg/L	0.00111	0.8102	mg/L	0.00221	0.27%
Zn 206.200†	2647.9	1.311	mg/L	0.0062	2.621	mg/L	0.0125	0.48%

Sequence No.: 21

Sample ID: 20K0008-33

Autosampler Location: 340

Date Collected: 11/10/2020 7:51:02 PM

Data Type: Original

Dilution: 2X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-33

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20K0008-33

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1505311.8	110.4	%	1.01				0.91%
ScR 361.383	168359.0	108.6	%	0.21				0.20%
Ag 328.068†	-171.8	-0.00124	mg/L	0.000232	-0.00248	mg/L	0.000463	18.66%
Al 308.215†	67927.0	66.39	mg/L	0.233	132.8	mg/L	0.47	0.35%
As 188.979†	-138.3	-0.00000	mg/L	0.002054	-0.00000	mg/L	0.004107	>999.9%
B 249.677†	82.7	0.02140	mg/L	0.000364	0.04281	mg/L	0.000728	1.70%
Ba 233.527†	1046.7	0.2464	mg/L	0.00250	0.4927	mg/L	0.00499	1.01%
Be 313.042†	886.2	0.00071	mg/L	0.000008	0.00142	mg/L	0.000016	1.14%
Ca 317.933†	190457.9	29.60	mg/L	0.091	59.20	mg/L	0.181	0.31%
Cd 228.802†	56.7	0.00362	mg/L	0.000126	0.00724	mg/L	0.000252	3.48%
Co 228.616†	1376.8	0.04286	mg/L	0.000433	0.08572	mg/L	0.000867	1.01%
Cr 267.716†	5944.0	2.042	mg/L	0.0021	4.085	mg/L	0.0041	0.10%
Cu 324.752†	15178.5	0.1028	mg/L	0.00090	0.2055	mg/L	0.00179	0.87%
Fe 273.955†	113534.7	115.8	mg/L	0.31	231.6	mg/L	0.62	0.27%
K 766.490†	5105.3	4.586	mg/L	0.0220	9.171	mg/L	0.0441	0.48%
Mg 279.077†	20919.9	26.76	mg/L	0.163	53.52	mg/L	0.326	0.61%
Mn 257.610†	35183.0	0.9328	mg/L	0.00462	1.866	mg/L	0.0092	0.50%
Mo 202.031†	130.0	0.01026	mg/L	0.000496	0.02051	mg/L	0.000991	4.83%
Na 589.592†	53338.4	6.594	mg/L	0.0508	13.19	mg/L	0.102	0.77%
Na 330.237†	104.9	6.426	mg/L	0.1313	12.85	mg/L	0.263	2.04%
Ni 231.604†	331.1	0.1226	mg/L	0.00044	0.2452	mg/L	0.00088	0.36%
Pb 220.353†	574.4	0.1200	mg/L	0.00211	0.2400	mg/L	0.00422	1.76%
Sb 206.836†	56.9	0.00906	mg/L	0.003939	0.01812	mg/L	0.007879	43.48%
Se 196.026†	-15.9	-0.00490	mg/L	0.007075	-0.00980	mg/L	0.014149	144.42%
Si 288.158†	1170.6	1.319	mg/L	0.0205	2.639	mg/L	0.0410	1.55%
Sn 189.927†	-30.7	-0.00273	mg/L	0.001790	-0.00546	mg/L	0.003580	65.59%
Sr 421.552†	133011.1	0.3105	mg/L	0.00195	0.6210	mg/L	0.00389	0.63%
Ti 334.903†	75692.3	5.531	mg/L	0.0171	11.06	mg/L	0.034	0.31%
Tl 190.801†	112.6	0.08264	mg/L	0.003206	0.1653	mg/L	0.00641	3.88%
V 292.402†	16738.0	0.3155	mg/L	0.00164	0.6309	mg/L	0.00328	0.52%
Zn 206.200†	1748.2	0.8650	mg/L	0.00662	1.730	mg/L	0.0132	0.77%

Sequence No.: 22

Sample ID: 20J0425-05

Autosampler Location: 341

Date Collected: 11/10/2020 7:55:18 PM

Data Type: Original

Dilution: 4X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-05

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20J0425-05

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1478445.5	108.5	%	0.51			0.47%
ScR 361.383	164151.4	105.9	%	0.76			0.72%
Ag 328.068†	7.5	0.00010	mg/L	0.000135	0.00042	mg/L	0.000539 129.65%
Al 308.215†	37183.5	36.35	mg/L	0.020	145.4	mg/L	0.08 0.06%
As 188.979†	18.6	0.06955	mg/L	0.001608	0.2782	mg/L	0.00643 2.31%
B 249.677†	659.3	0.1147	mg/L	0.00089	0.4588	mg/L	0.00357 0.78%
Ba 233.527†	1710.9	0.4063	mg/L	0.00163	1.625	mg/L	0.0065 0.40%
Be 313.042†	476.2	0.00044	mg/L	0.000054	0.00177	mg/L	0.000217 12.26%
Ca 317.933†	130031.0	20.21	mg/L	0.056	80.83	mg/L	0.223 0.28%
Cd 228.802†	68.4	0.00270	mg/L	0.000172	0.01080	mg/L	0.000687 6.37%
Co 228.616†	693.4	0.02194	mg/L	0.000090	0.08777	mg/L	0.000362 0.41%
Cr 267.716†	326.3	0.1198	mg/L	0.00293	0.4794	mg/L	0.01171 2.44%
Cu 324.752†	43299.4	0.2885	mg/L	0.00161	1.154	mg/L	0.0064 0.56%
Fe 273.955†	154542.8	157.6	mg/L	1.28	630.5	mg/L	5.10 0.81%
K 766.490†	4191.0	3.764	mg/L	0.0234	15.06	mg/L	0.094 0.62%
Mg 279.077†	16048.4	20.49	mg/L	0.037	81.97	mg/L	0.147 0.18%
Mn 257.610†	57377.1	1.522	mg/L	0.0069	6.089	mg/L	0.0276 0.45%
Mo 202.031†	133.8	0.01079	mg/L	0.000272	0.04316	mg/L	0.001087 2.52%
Na 589.592†	203148.6	25.12	mg/L	0.126	100.5	mg/L	0.50 0.50%
Na 330.237†	486.2	25.04	mg/L	0.314	100.1	mg/L	1.26 1.25%
Ni 231.604†	245.5	0.09089	mg/L	0.001704	0.3636	mg/L	0.00682 1.88%
Pb 220.353†	4412.1	0.8013	mg/L	0.00255	3.205	mg/L	0.0102 0.32%
Sb 206.836†	27.9	0.01688	mg/L	0.001239	0.06753	mg/L	0.004956 7.34%
Se 196.026†	-18.7	-0.00645	mg/L	0.004235	-0.02580	mg/L	0.016941 65.66%
Si 288.158†	396.2	0.4480	mg/L	0.00152	1.792	mg/L	0.0061 0.34%
Sn 189.927†	47.9	0.02345	mg/L	0.001457	0.09379	mg/L	0.005826 6.21%
Sr 421.552†	102556.8	0.2394	mg/L	0.00023	0.9577	mg/L	0.00091 0.10%
Ti 334.903†	24690.6	1.804	mg/L	0.0046	7.215	mg/L	0.0184 0.25%
Tl 190.801†	71.8	0.05440	mg/L	0.003984	0.2176	mg/L	0.01594 7.32%
V 292.402†	8229.0	0.1534	mg/L	0.00081	0.6137	mg/L	0.00325 0.53%
Zn 206.200†	4028.2	1.994	mg/L	0.0050	7.976	mg/L	0.0200 0.25%

Sequence No.: 23

Sample ID: 20J0425-07RE1

Autosampler Location: 342

Date Collected: 11/10/2020 7:59:34 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0425-07RE1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: 20J0425-07RE1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1496148.4	109.8	%	0.27			0.24%
ScR 361.383	165184.8	106.5	%	0.69			0.65%
Ag 328.068†	23.8	0.00020	mg/L	0.000029	0.00205	mg/L	0.000290 14.15%
Al 308.215†	12611.7	12.33	mg/L	0.037	123.3	mg/L	0.37 0.30%
As 188.979†	-11.2	0.00778	mg/L	0.002143	0.07781	mg/L	0.021426 27.54%
B 249.677†	38.7	0.00866	mg/L	0.000325	0.08662	mg/L	0.003254 3.76%
Ba 233.527†	814.1	0.1978	mg/L	0.00157	1.978	mg/L	0.0157 0.79%
Be 313.042†	190.5	0.00015	mg/L	0.000034	0.00149	mg/L	0.000335 22.48%
Ca 317.933†	39090.6	6.075	mg/L	0.0039	60.75	mg/L	0.039 0.06%
Cd 228.802†	13.7	0.00068	mg/L	0.000073	0.00677	mg/L	0.000729 10.77%
Co 228.616†	304.3	0.01029	mg/L	0.000270	0.1029	mg/L	0.00270 2.63%
Cr 267.716†	132.0	0.04532	mg/L	0.000858	0.4532	mg/L	0.00858 1.89%
Cu 324.752†	10308.8	0.06847	mg/L	0.000551	0.6847	mg/L	0.00551 0.80%
Fe 273.955†	33323.2	33.99	mg/L	0.066	339.9	mg/L	0.66 0.20%
K 766.490†	946.3	0.8500	mg/L	0.01863	8.500	mg/L	0.1863 2.19%
Mg 279.077†	4450.2	5.695	mg/L	0.0350	56.95	mg/L	0.350 0.61%
Mn 257.610†	137358.9	3.647	mg/L	0.0108	36.47	mg/L	0.108 0.30%
Mo 202.031†	25.6	0.00203	mg/L	0.000249	0.02030	mg/L	0.002491 12.27%
Na 589.592†	3128.4	0.3868	mg/L	0.00265	3.868	mg/L	0.0265 0.68%
Na 330.237†	1.4	0.09762	mg/L	0.150457	0.9762	mg/L	1.50457 154.13%
Ni 231.604†	151.4	0.05606	mg/L	0.001122	0.5606	mg/L	0.01122 2.00%
Pb 220.353†	255.3	0.04786	mg/L	0.000684	0.4786	mg/L	0.00684 1.43%
Sb 206.836†	7.3	0.00468	mg/L	0.001155	0.04675	mg/L	0.011549 24.70%
Se 196.026†	2.6	0.00686	mg/L	0.006343	0.06862	mg/L	0.063428 92.43%
Si 288.158†	169.2	0.1916	mg/L	0.00386	1.916	mg/L	0.0386 2.01%
Sn 189.927†	-3.5	0.00033	mg/L	0.000996	0.00333	mg/L	0.009956 298.74%
Sr 421.552†	18289.2	0.04270	mg/L	0.000072	0.4270	mg/L	0.00072 0.17%
Ti 334.903†	9930.4	0.7256	mg/L	0.00259	7.256	mg/L	0.0259 0.36%
Tl 190.801†	26.8	0.02411	mg/L	0.000416	0.2411	mg/L	0.00416 1.73%
V 292.402†	3646.9	0.06725	mg/L	0.000254	0.6725	mg/L	0.00254 0.38%
Zn 206.200†	869.5	0.4304	mg/L	0.00463	4.304	mg/L	0.0463 1.08%

Sequence No.: 24

Sample ID: BIK0224-BS1

Autosampler Location: 343

Date Collected: 11/10/2020 8:03:50 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0224-BS1

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: BIK0224-BS1

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1476250.2	108.3	%	0.35			0.32%
ScR 361.383	164507.8	106.1	%	0.58			0.54%
Ag 328.068†	68198.1	0.5297	mg/L	0.00204	0.5297	mg/L	0.00204 0.39%
Al 308.215†	2135.5	2.081	mg/L	0.0168	2.081	mg/L	0.0168 0.81%
As 188.979†	1863.8	2.039	mg/L	0.0065	2.039	mg/L	0.0065 0.32%
B 249.677†	7.2	0.00011	mg/L	0.003093	0.00011	mg/L	0.003093 >999.9%
Ba 233.527†	8186.8	2.026	mg/L	0.0158	2.026	mg/L	0.0158 0.78%
Be 313.042†	219328.7	0.5020	mg/L	0.00278	0.5020	mg/L	0.00278 0.55%
Ca 317.933†	64921.9	10.09	mg/L	0.069	10.09	mg/L	0.069 0.69%
Cd 228.802†	8691.1	0.4970	mg/L	0.00597	0.4970	mg/L	0.00597 1.20%
Co 228.616†	12382.5	0.4981	mg/L	0.00240	0.4981	mg/L	0.00240 0.48%
Cr 267.716†	1490.3	0.5095	mg/L	0.00790	0.5095	mg/L	0.00790 1.55%
Cu 324.752†	76453.1	0.4980	mg/L	0.00300	0.4980	mg/L	0.00300 0.60%
Fe 273.955†	2044.1	2.076	mg/L	0.0159	2.076	mg/L	0.0159 0.76%
K 766.490†	10520.3	9.450	mg/L	0.0735	9.450	mg/L	0.0735 0.78%
Mg 279.077†	8372.6	10.74	mg/L	0.095	10.74	mg/L	0.095 0.88%
Mn 257.610†	18339.0	0.4873	mg/L	0.00221	0.4873	mg/L	0.00221 0.45%
Mo 202.031†	13.8	0.00098	mg/L	0.000438	0.00098	mg/L	0.000438 44.53%
Na 589.592†	76783.9	9.493	mg/L	0.0419	9.493	mg/L	0.0419 0.44%
Na 330.237†	183.7	9.420	mg/L	0.2272	9.420	mg/L	0.2272 2.41%
Ni 231.604†	1380.4	0.5110	mg/L	0.00630	0.5110	mg/L	0.00630 1.23%
Pb 220.353†	11295.3	2.048	mg/L	0.0098	2.048	mg/L	0.0098 0.48%
Sb 206.836†	15.9	0.00242	mg/L	0.002239	0.00242	mg/L	0.002239 92.39%
Se 196.026†	1638.8	2.030	mg/L	0.0098	2.030	mg/L	0.0098 0.48%
Si 288.158†	-2.7	0.00036	mg/L	0.005899	0.00036	mg/L	0.005899 >999.9%
Sn 189.927†	-17.8	-0.00450	mg/L	0.000696	-0.00450	mg/L	0.000696 15.48%
Sr 421.552†	213041.2	0.4973	mg/L	0.00154	0.4973	mg/L	0.00154 0.31%
Ti 334.903†	33.9	0.00182	mg/L	0.000706	0.00182	mg/L	0.000706 38.76%
Tl 190.801†	2745.5	2.030	mg/L	0.0040	2.030	mg/L	0.0040 0.20%
V 292.402†	28157.8	0.5068	mg/L	0.00231	0.5068	mg/L	0.00231 0.46%
Zn 206.200†	1025.8	0.5078	mg/L	0.00321	0.5078	mg/L	0.00321 0.63%

Sequence No.: 25

Sample ID: SEQ-CCV6

Autosampler Location: 7

Date Collected: 11/10/2020 8:08:06 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV6

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCV6

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1458671.1	107.0	%	0.33			0.30%
ScR 361.383	160443.3	103.5	%	0.10			0.09%
Ag 328.068†	131610.7	1.022	mg/L	0.0051	1.022	mg/L	0.50%
Al 308.215†	2158.8	2.076	mg/L	0.0049	2.076	mg/L	0.24%
As 188.979†	1789.7	1.982	mg/L	0.0212	1.982	mg/L	1.07%
B 249.677†	6507.4	1.009	mg/L	0.0047	1.009	mg/L	0.46%
Ba 233.527†	4064.5	1.005	mg/L	0.0059	1.005	mg/L	0.59%
Be 313.042†	438250.3	1.003	mg/L	0.0004	1.003	mg/L	0.04%
Ca 317.933†	13490.4	2.096	mg/L	0.0131	2.096	mg/L	0.63%
Cd 228.802†	17086.7	0.9921	mg/L	0.00117	0.9921	mg/L	0.12%
Co 228.616†	24336.9	0.9775	mg/L	0.00596	0.9775	mg/L	0.61%
Cr 267.716†	2914.5	0.9983	mg/L	0.00743	0.9983	mg/L	0.74%
Cu 324.752†	153460.7	0.9992	mg/L	0.00333	0.9992	mg/L	0.33%
Fe 273.955†	2017.3	2.049	mg/L	0.0066	2.049	mg/L	0.32%
K 766.490†	21729.3	19.52	mg/L	0.069	19.52	mg/L	0.36%
Mg 279.077†	1629.3	2.099	mg/L	0.0127	2.099	mg/L	0.60%
Mn 257.610†	36533.0	0.9705	mg/L	0.00249	0.9705	mg/L	0.26%
Mo 202.031†	12096.9	1.000	mg/L	0.0077	1.000	mg/L	0.77%
Na 589.592†	408275.6	50.48	mg/L	0.138	50.48	mg/L	0.27%
Na 330.237†	980.1	50.92	mg/L	0.424	50.92	mg/L	0.83%
Ni 231.604†	2757.6	1.023	mg/L	0.0040	1.023	mg/L	0.39%
Pb 220.353†	11177.6	2.027	mg/L	0.0195	2.027	mg/L	0.96%
Sb 206.836†	3883.2	2.065	mg/L	0.0156	2.065	mg/L	0.76%
Se 196.026†	1624.3	2.013	mg/L	0.0229	2.013	mg/L	1.14%
Si 288.158†	1838.2	2.164	mg/L	0.0072	2.164	mg/L	0.33%
Sn 189.927†	2676.5	1.020	mg/L	0.0102	1.020	mg/L	1.00%
Sr 421.552†	427601.7	0.9982	mg/L	0.00015	0.9982	mg/L	0.02%
Ti 334.903†	13527.1	0.9875	mg/L	0.00377	0.9875	mg/L	0.38%
Tl 190.801†	2690.9	1.987	mg/L	0.0187	1.987	mg/L	0.94%
V 292.402†	54723.5	0.9851	mg/L	0.00284	0.9851	mg/L	0.29%
Zn 206.200†	2066.9	1.023	mg/L	0.0072	1.023	mg/L	0.70%

Sequence No.: 26
 Sample ID: SEQ-CCB6

Autosampler Location: 1
 Date Collected: 11/10/2020 8:13:26 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB6

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: SEQ-CCB6

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1471151.4	107.9	%	1.06			0.98%
ScR 361.383	162061.8	104.5	%	1.02			0.97%
Ag 328.068†	-8.2	-0.00006	mg/L	0.000304	-0.00006	mg/L	0.000304 480.85%
Al 308.215†	-3.7	-0.00362	mg/L	0.027544	-0.00362	mg/L	0.027544 759.86%
As 188.979†	1.0	0.00115	mg/L	0.001397	0.00115	mg/L	0.001397 122.00%
B 249.677†	11.0	0.00171	mg/L	0.000551	0.00171	mg/L	0.000551 32.30%
Ba 233.527†	3.4	0.00083	mg/L	0.000532	0.00083	mg/L	0.000532 64.04%
Be 313.042†	-39.1	-0.00009	mg/L	0.000132	-0.00009	mg/L	0.000132 143.18%
Ca 317.933†	5.4	0.00084	mg/L	0.000817	0.00084	mg/L	0.000817 96.88%
Cd 228.802†	2.7	0.00015	mg/L	0.000077	0.00015	mg/L	0.000077 50.39%
Co 228.616†	4.2	0.00017	mg/L	0.000110	0.00017	mg/L	0.000110 66.19%
Cr 267.716†	-8.7	-0.00298	mg/L	0.001530	-0.00298	mg/L	0.001530 51.30%
Cu 324.752†	26.3	0.00017	mg/L	0.000108	0.00017	mg/L	0.000108 63.23%
Fe 273.955†	4.2	0.00423	mg/L	0.002518	0.00423	mg/L	0.002518 59.52%
K 766.490†	5.2	0.00468	mg/L	0.042873	0.00468	mg/L	0.042873 915.96%
Mg 279.077†	3.8	0.00483	mg/L	0.005528	0.00483	mg/L	0.005528 114.36%
Mn 257.610†	10.8	0.00029	mg/L	0.000192	0.00029	mg/L	0.000192 67.26%
Mo 202.031†	0.9	0.00007	mg/L	0.000424	0.00007	mg/L	0.000424 566.09%
Na 589.592†	11.7	0.00145	mg/L	0.004136	0.00145	mg/L	0.004136 285.87%
Na 330.237†	2.3	0.1219	mg/L	0.38999	0.1219	mg/L	0.38999 319.93%
Ni 231.604†	1.0	0.00036	mg/L	0.001397	0.00036	mg/L	0.001397 391.39%
Pb 220.353†	7.7	0.00139	mg/L	0.000612	0.00139	mg/L	0.000612 44.18%
Sb 206.836†	1.8	0.00102	mg/L	0.002130	0.00102	mg/L	0.002130 208.17%
Se 196.026†	4.4	0.00545	mg/L	0.005915	0.00545	mg/L	0.005915 108.50%
Si 288.158†	-2.2	-0.00261	mg/L	0.008772	-0.00261	mg/L	0.008772 336.66%
Sn 189.927†	3.9	0.00149	mg/L	0.002334	0.00149	mg/L	0.002334 156.23%
Sr 421.552†	14.5	0.00003	mg/L	0.000039	0.00003	mg/L	0.000039 113.80%
Ti 334.903†	22.2	0.00162	mg/L	0.000533	0.00162	mg/L	0.000533 32.78%
Tl 190.801†	0.0	0.00001	mg/L	0.000659	0.00001	mg/L	0.000659 >999.9%
V 292.402†	30.2	0.00052	mg/L	0.000435	0.00052	mg/L	0.000435 83.33%
Zn 206.200†	0.8	0.00040	mg/L	0.001823	0.00040	mg/L	0.001823 456.65%

Sequence No.: 27

Autosampler Location: 344

Sample ID: BIK0168-BLK2

Date Collected: 11/10/2020 8:17:42 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-BLK2

Analyte	Back Pressure	Flow
All	242.0 kPa	0.65 L/min

Mean Data: BIK0168-BLK2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1488585.4	109.2	%	0.57			0.52%
ScR 361.383	165573.8	106.8	%	0.94			0.88%
Ag 328.068†	7.8	0.00006	mg/L	0.000110	0.00006	mg/L	0.000110 181.04%
Al 308.215†	21.2	0.02073	mg/L	0.014912	0.02073	mg/L	0.014912 71.92%
As 188.979†	0.3	0.00035	mg/L	0.001571	0.00035	mg/L	0.001571 452.20%
B 249.677†	14.0	0.00217	mg/L	0.001615	0.00217	mg/L	0.001615 74.53%
Ba 233.527†	7.4	0.00182	mg/L	0.001491	0.00182	mg/L	0.001491 81.74%
Be 313.042†	-77.7	-0.00018	mg/L	0.000020	-0.00018	mg/L	0.000020 11.07%
Ca 317.933†	66.7	0.01037	mg/L	0.001616	0.01037	mg/L	0.001616 15.59%
Cd 228.802†	-0.6	-0.00004	mg/L	0.000049	-0.00004	mg/L	0.000049 128.17%
Co 228.616†	-0.4	-0.00001	mg/L	0.000169	-0.00001	mg/L	0.000169 >999.9%
Cr 267.716†	8.2	0.00281	mg/L	0.002033	0.00281	mg/L	0.002033 72.43%
Cu 324.752†	49.6	0.00032	mg/L	0.000116	0.00032	mg/L	0.000116 35.72%
Fe 273.955†	5.4	0.00551	mg/L	0.002566	0.00551	mg/L	0.002566 46.54%
K 766.490†	-35.8	-0.03219	mg/L	0.052064	-0.03219	mg/L	0.052064 161.76%
Mg 279.077†	-0.7	-0.00089	mg/L	0.003499	-0.00089	mg/L	0.003499 393.49%
Mn 257.610†	18.8	0.00050	mg/L	0.000304	0.00050	mg/L	0.000304 60.99%
Mo 202.031†	-0.6	-0.00005	mg/L	0.000206	-0.00005	mg/L	0.000206 430.32%
Na 589.592†	-29.0	-0.00358	mg/L	0.007361	-0.00358	mg/L	0.007361 205.60%
Na 330.237†	10.3	0.5358	mg/L	0.31883	0.5358	mg/L	0.31883 59.50%
Ni 231.604†	1.9	0.00072	mg/L	0.002974	0.00072	mg/L	0.002974 414.57%
Pb 220.353†	0.8	0.00016	mg/L	0.001191	0.00016	mg/L	0.001191 765.35%
Sb 206.836†	-2.8	-0.00153	mg/L	0.002581	-0.00153	mg/L	0.002581 168.32%
Se 196.026†	4.7	0.00577	mg/L	0.004947	0.00577	mg/L	0.004947 85.80%
Si 288.158†	8.1	0.00956	mg/L	0.012171	0.00956	mg/L	0.012171 127.37%
Sn 189.927†	0.1	0.00006	mg/L	0.000587	0.00006	mg/L	0.000587 >999.9%
Sr 421.552†	21.9	0.00005	mg/L	0.000066	0.00005	mg/L	0.000066 128.65%
Ti 334.903†	-1.9	-0.00014	mg/L	0.001606	-0.00014	mg/L	0.001606 >999.9%
Tl 190.801†	2.4	0.00178	mg/L	0.003337	0.00178	mg/L	0.003337 187.45%
V 292.402†	24.0	0.00045	mg/L	0.000414	0.00045	mg/L	0.000414 92.52%
Zn 206.200†	6.9	0.00340	mg/L	0.001386	0.00340	mg/L	0.001386 40.80%

Sequence No.: 28

Autosampler Location: 345

Sample ID: BIK0224-BLK1

Date Collected: 11/10/2020 8:21:58 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0224-BLK1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIK0224-BLK1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1462852.2	107.3	%	0.35				0.33%
ScR 361.383	163413.4	105.4	%	0.59				0.56%
Ag 328.068†	-27.2	-0.00021	mg/L	0.000253	-0.00021	mg/L	0.000253	119.77%
Al 308.215†	18.5	0.01805	mg/L	0.020519	0.01805	mg/L	0.020519	113.69%
As 188.979†	1.6	0.00176	mg/L	0.002752	0.00176	mg/L	0.002752	155.96%
B 249.677†	7.3	0.00113	mg/L	0.001062	0.00113	mg/L	0.001062	93.96%
Ba 233.527†	3.2	0.00080	mg/L	0.000558	0.00080	mg/L	0.000558	69.45%
Be 313.042†	-44.9	-0.00010	mg/L	0.000018	-0.00010	mg/L	0.000018	17.06%
Ca 317.933†	38.0	0.00591	mg/L	0.000728	0.00591	mg/L	0.000728	12.32%
Cd 228.802†	-2.2	-0.00014	mg/L	0.000069	-0.00014	mg/L	0.000069	49.26%
Co 228.616†	0.4	0.00001	mg/L	0.000086	0.00001	mg/L	0.000086	630.55%
Cr 267.716†	-0.0	-0.00000	mg/L	0.001266	-0.00000	mg/L	0.001266	>999.9%
Cu 324.752†	14.9	0.00010	mg/L	0.000073	0.00010	mg/L	0.000073	75.22%
Fe 273.955†	1.0	0.00107	mg/L	0.004808	0.00107	mg/L	0.004808	451.45%
K 766.490†	1.2	0.00106	mg/L	0.033213	0.00106	mg/L	0.033213	>999.9%
Mg 279.077†	-4.7	-0.00602	mg/L	0.005134	-0.00602	mg/L	0.005134	85.31%
Mn 257.610†	14.2	0.00038	mg/L	0.000141	0.00038	mg/L	0.000141	37.42%
Mo 202.031†	-3.3	-0.00027	mg/L	0.000067	-0.00027	mg/L	0.000067	24.66%
Na 589.592†	-40.2	-0.00497	mg/L	0.004124	-0.00497	mg/L	0.004124	83.05%
Na 330.237†	8.7	0.4525	mg/L	0.41981	0.4525	mg/L	0.41981	92.78%
Ni 231.604†	9.1	0.00338	mg/L	0.002229	0.00338	mg/L	0.002229	66.01%
Pb 220.353†	-1.7	-0.00031	mg/L	0.000860	-0.00031	mg/L	0.000860	276.72%
Sb 206.836†	0.5	0.00028	mg/L	0.001027	0.00028	mg/L	0.001027	360.72%
Se 196.026†	5.8	0.00719	mg/L	0.002828	0.00719	mg/L	0.002828	39.35%
Si 288.158†	8.2	0.00969	mg/L	0.008011	0.00969	mg/L	0.008011	82.64%
Sn 189.927†	-0.6	-0.00024	mg/L	0.000430	-0.00024	mg/L	0.000430	179.93%
Sr 421.552†	-9.9	-0.00002	mg/L	0.000031	-0.00002	mg/L	0.000031	133.06%
Ti 334.903†	0.9	0.00006	mg/L	0.000598	0.00006	mg/L	0.000598	945.52%
Tl 190.801†	-0.4	-0.00028	mg/L	0.001057	-0.00028	mg/L	0.001057	378.28%
V 292.402†	18.9	0.00034	mg/L	0.000216	0.00034	mg/L	0.000216	63.72%
Zn 206.200†	4.6	0.00229	mg/L	0.000247	0.00229	mg/L	0.000247	10.75%

Sequence No.: 29

Autosampler Location: 346

Sample ID: 20K0127-01

Date Collected: 11/10/2020 8:26:13 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-01

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: 20K0127-01

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1466278.5	107.6	%	0.35			0.33%
ScR 361.383	160944.0	103.8	%	0.03			0.03%
Ag 328.068†	-37.5	-0.00029	mg/L	0.000050	-0.00029	mg/L	0.000050 17.15%
Al 308.215†	13.1	0.01284	mg/L	0.015773	0.01284	mg/L	0.015773 122.84%
As 188.979†	-0.0	0.00001	mg/L	0.002481	0.00001	mg/L	0.002481 >999.9%
B 249.677†	5.2	0.00081	mg/L	0.000655	0.00081	mg/L	0.000655 80.85%
Ba 233.527†	2.5	0.00061	mg/L	0.000401	0.00061	mg/L	0.000401 65.71%
Be 313.042†	-85.3	-0.00020	mg/L	0.000068	-0.00020	mg/L	0.000068 34.75%
Ca 317.933†	150.6	0.02340	mg/L	0.000794	0.02340	mg/L	0.000794 3.40%
Cd 228.802†	-3.9	-0.00023	mg/L	0.000033	-0.00023	mg/L	0.000033 14.75%
Co 228.616†	-0.6	-0.00002	mg/L	0.000064	-0.00002	mg/L	0.000064 259.54%
Cr 267.716†	5.2	0.00177	mg/L	0.000782	0.00177	mg/L	0.000782 44.09%
Cu 324.752†	26.1	0.00017	mg/L	0.000076	0.00017	mg/L	0.000076 44.66%
Fe 273.955†	4.4	0.00446	mg/L	0.002802	0.00446	mg/L	0.002802 62.85%
K 766.490†	-2.6	-0.00235	mg/L	0.004473	-0.00235	mg/L	0.004473 190.39%
Mg 279.077†	-4.8	-0.00620	mg/L	0.005255	-0.00620	mg/L	0.005255 84.80%
Mn 257.610†	24.0	0.00064	mg/L	0.000087	0.00064	mg/L	0.000087 13.58%
Mo 202.031†	-3.7	-0.00031	mg/L	0.000024	-0.00031	mg/L	0.000024 7.82%
Na 589.592†	24.8	0.00307	mg/L	0.002139	0.00307	mg/L	0.002139 69.68%
Na 330.237†	-2.0	-0.1029	mg/L	0.58707	-0.1029	mg/L	0.58707 570.33%
Ni 231.604†	2.4	0.00090	mg/L	0.005764	0.00090	mg/L	0.005764 642.94%
Pb 220.353†	3.7	0.00068	mg/L	0.000356	0.00068	mg/L	0.000356 52.14%
Sb 206.836†	-0.9	-0.00053	mg/L	0.002267	-0.00053	mg/L	0.002267 427.85%
Se 196.026†	5.1	0.00637	mg/L	0.005348	0.00637	mg/L	0.005348 83.92%
Si 288.158†	2.5	0.00295	mg/L	0.003607	0.00295	mg/L	0.003607 122.46%
Sn 189.927†	-2.0	-0.00075	mg/L	0.000844	-0.00075	mg/L	0.000844 112.61%
Sr 421.552†	46.0	0.00011	mg/L	0.000110	0.00011	mg/L	0.000110 102.27%
Ti 334.903†	11.1	0.00081	mg/L	0.001554	0.00081	mg/L	0.001554 192.40%
Tl 190.801†	0.8	0.00058	mg/L	0.000584	0.00058	mg/L	0.000584 100.59%
V 292.402†	-1.3	-0.00001	mg/L	0.000194	-0.00001	mg/L	0.000194 >999.9%
Zn 206.200†	5.3	0.00261	mg/L	0.000221	0.00261	mg/L	0.000221 8.47%

Sequence No.: 30

Sample ID: 20K0127-03

Autosampler Location: 347

Date Collected: 11/10/2020 8:30:28 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-03

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0127-03

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1491330.0	109.4	%	0.64			0.58%
ScR 361.383	163216.7	105.3	%	0.76			0.72%
Ag 328.068†	-18.2	-0.00014	mg/L	0.000346	-0.00014	mg/L	0.000346 245.19%
Al 308.215†	16.4	0.01606	mg/L	0.009823	0.01606	mg/L	0.009823 61.15%
As 188.979†	-2.8	-0.00303	mg/L	0.000098	-0.00303	mg/L	0.000098 3.24%
B 249.677†	4.0	0.00062	mg/L	0.001782	0.00062	mg/L	0.001782 285.42%
Ba 233.527†	7.7	0.00190	mg/L	0.000823	0.00190	mg/L	0.000823 43.39%
Be 313.042†	-59.4	-0.00014	mg/L	0.000014	-0.00014	mg/L	0.000014 10.00%
Ca 317.933†	163.6	0.02543	mg/L	0.001517	0.02543	mg/L	0.001517 5.97%
Cd 228.802†	-0.7	-0.00002	mg/L	0.000142	-0.00002	mg/L	0.000142 632.99%
Co 228.616†	5.1	0.00021	mg/L	0.000085	0.00021	mg/L	0.000085 40.79%
Cr 267.716†	-4.9	-0.00169	mg/L	0.001375	-0.00169	mg/L	0.001375 81.42%
Cu 324.752†	40.7	0.00027	mg/L	0.000278	0.00027	mg/L	0.000278 104.84%
Fe 273.955†	5.6	0.00572	mg/L	0.002049	0.00572	mg/L	0.002049 35.85%
K 766.490†	-3.2	-0.00285	mg/L	0.035016	-0.00285	mg/L	0.035016 >999.9%
Mg 279.077†	5.8	0.00741	mg/L	0.004264	0.00741	mg/L	0.004264 57.56%
Mn 257.610†	28.0	0.00074	mg/L	0.000182	0.00074	mg/L	0.000182 24.41%
Mo 202.031†	-4.3	-0.00035	mg/L	0.000255	-0.00035	mg/L	0.000255 72.16%
Na 589.592†	24.5	0.00303	mg/L	0.004339	0.00303	mg/L	0.004339 143.07%
Na 330.237†	-9.5	-0.4958	mg/L	0.83605	-0.4958	mg/L	0.83605 168.63%
Ni 231.604†	-1.9	-0.00071	mg/L	0.002945	-0.00071	mg/L	0.002945 415.40%
Pb 220.353†	4.3	0.00078	mg/L	0.001027	0.00078	mg/L	0.001027 131.91%
Sb 206.836†	-2.6	-0.00138	mg/L	0.003171	-0.00138	mg/L	0.003171 230.19%
Se 196.026†	3.7	0.00452	mg/L	0.002837	0.00452	mg/L	0.002837 62.79%
Si 288.158†	12.1	0.01430	mg/L	0.005272	0.01430	mg/L	0.005272 36.87%
Sn 189.927†	-1.4	-0.00053	mg/L	0.001099	-0.00053	mg/L	0.001099 206.26%
Sr 421.552†	38.8	0.00009	mg/L	0.000006	0.00009	mg/L	0.000006 7.02%
Ti 334.903†	-11.3	-0.00083	mg/L	0.001864	-0.00083	mg/L	0.001864 225.23%
Tl 190.801†	3.8	0.00282	mg/L	0.000448	0.00282	mg/L	0.000448 15.89%
V 292.402†	21.0	0.00036	mg/L	0.000352	0.00036	mg/L	0.000352 96.53%
Zn 206.200†	3.0	0.00148	mg/L	0.001498	0.00148	mg/L	0.001498 101.20%

Sequence No.: 31

Sample ID: 20K0127-05

Autosampler Location: 348

Date Collected: 11/10/2020 8:34:43 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0127-05

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0127-05

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1468885.7	107.8	%	0.21				0.19%
ScR 361.383	164120.6	105.8	%	0.60				0.57%
Ag 328.068†	-27.8	-0.00022	mg/L	0.000172	-0.00022	mg/L	0.000172	79.41%
Al 308.215†	6.0	0.00583	mg/L	0.012527	0.00583	mg/L	0.012527	214.72%
As 188.979†	-2.1	-0.00232	mg/L	0.002573	-0.00232	mg/L	0.002573	111.07%
B 249.677†	2.6	0.00040	mg/L	0.000535	0.00040	mg/L	0.000535	132.48%
Ba 233.527†	4.1	0.00102	mg/L	0.001066	0.00102	mg/L	0.001066	104.34%
Be 313.042†	-78.3	-0.00018	mg/L	0.000025	-0.00018	mg/L	0.000025	13.69%
Ca 317.933†	140.4	0.02181	mg/L	0.002645	0.02181	mg/L	0.002645	12.13%
Cd 228.802†	-3.2	-0.00017	mg/L	0.000399	-0.00017	mg/L	0.000399	236.96%
Co 228.616†	-0.1	-0.00000	mg/L	0.000173	-0.00000	mg/L	0.000173	>999.9%
Cr 267.716†	0.4	0.00012	mg/L	0.001153	0.00012	mg/L	0.001153	956.54%
Cu 324.752†	49.6	0.00032	mg/L	0.000204	0.00032	mg/L	0.000204	63.09%
Fe 273.955†	1.1	0.00108	mg/L	0.005604	0.00108	mg/L	0.005604	518.09%
K 766.490†	0.5	0.00045	mg/L	0.003549	0.00045	mg/L	0.003549	781.50%
Mg 279.077†	-3.2	-0.00412	mg/L	0.015195	-0.00412	mg/L	0.015195	368.59%
Mn 257.610†	21.8	0.00058	mg/L	0.000101	0.00058	mg/L	0.000101	17.43%
Mo 202.031†	-2.7	-0.00022	mg/L	0.000141	-0.00022	mg/L	0.000141	64.14%
Na 589.592†	16.1	0.00200	mg/L	0.006743	0.00200	mg/L	0.006743	338.00%
Na 330.237†	1.5	0.07672	mg/L	0.203637	0.07672	mg/L	0.203637	265.43%
Ni 231.604†	1.7	0.00064	mg/L	0.001097	0.00064	mg/L	0.001097	172.60%
Pb 220.353†	-1.4	-0.00026	mg/L	0.000669	-0.00026	mg/L	0.000669	260.30%
Sb 206.836†	0.2	0.00011	mg/L	0.001249	0.00011	mg/L	0.001249	>999.9%
Se 196.026†	5.4	0.00673	mg/L	0.001053	0.00673	mg/L	0.001053	15.63%
Si 288.158†	10.2	0.01211	mg/L	0.015181	0.01211	mg/L	0.015181	125.36%
Sn 189.927†	2.7	0.00105	mg/L	0.000531	0.00105	mg/L	0.000531	50.63%
Sr 421.552†	43.2	0.00010	mg/L	0.000008	0.00010	mg/L	0.000008	7.87%
Ti 334.903†	-21.3	-0.00156	mg/L	0.001849	-0.00156	mg/L	0.001849	118.75%
Tl 190.801†	2.0	0.00152	mg/L	0.001060	0.00152	mg/L	0.001060	69.77%
V 292.402†	1.5	0.00003	mg/L	0.000332	0.00003	mg/L	0.000332	>999.9%
Zn 206.200†	4.7	0.00233	mg/L	0.001027	0.00233	mg/L	0.001027	44.14%

Sequence No.: 32

Sample ID: 20K0124-01

Autosampler Location: 349

Date Collected: 11/10/2020 8:38:59 PM

Data Type: Original

Dilution: 5X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0124-01

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0124-01

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1341326.0	98.40	%	1.390				1.41%
ScR 361.383	161510.1	104.2	%	1.20				1.15%
Ag 328.068†	-60.2	-0.00047	mg/L	0.000389	-0.00233	mg/L	0.001943	83.24%
Al 308.215†	33.5	0.03144	mg/L	0.020780	0.1572	mg/L	0.10390	66.09%
As 188.979†	16.1	0.01301	mg/L	0.001553	0.06507	mg/L	0.007767	11.94%
B 249.677†	69209.6	10.74	mg/L	0.118	53.68	mg/L	0.590	1.10%
Ba 233.527†	6.5	0.00154	mg/L	0.000611	0.00771	mg/L	0.003057	39.62%
Be 313.042†	-50.9	-0.00012	mg/L	0.000029	-0.00060	mg/L	0.000145	24.20%
Ca 317.933†	199894.5	31.07	mg/L	0.287	155.3	mg/L	1.43	0.92%
Cd 228.802†	1.7	-0.00001	mg/L	0.000442	-0.00007	mg/L	0.002210	>999.9%
Co 228.616†	24.3	0.00097	mg/L	0.000068	0.00486	mg/L	0.000340	6.99%
Cr 267.716†	2.6	0.00176	mg/L	0.005379	0.00878	mg/L	0.026893	306.43%
Cu 324.752†	834.8	0.00542	mg/L	0.000212	0.02709	mg/L	0.001059	3.91%
Fe 273.955†	477.2	0.4868	mg/L	0.00308	2.434	mg/L	0.0154	0.63%
K 766.490†	2471.6	2.220	mg/L	0.0377	11.10	mg/L	0.188	1.70%
Mg 279.077†	403.2	0.5173	mg/L	0.01377	2.587	mg/L	0.0688	2.66%
Mn 257.610†	2609.1	0.06920	mg/L	0.001034	0.3460	mg/L	0.00517	1.49%
Mo 202.031†	776.3	0.06379	mg/L	0.000425	0.3189	mg/L	0.00213	0.67%
Na 589.592†	9966722.8	1232	mg/L	11.78	6161	mg/L	58.89	0.96%
Na 330.237†	23573.1	1226	mg/L	12.07	6130	mg/L	60.35	0.98%
Ni 231.604†	41.7	0.01545	mg/L	0.002366	0.07723	mg/L	0.011828	15.32%
Pb 220.353†	26.5	0.00478	mg/L	0.001214	0.02389	mg/L	0.006069	25.40%
Sb 206.836†	9.8	0.00510	mg/L	0.000967	0.02551	mg/L	0.004837	18.96%
Se 196.026†	-15.3	-0.01895	mg/L	0.006761	-0.09474	mg/L	0.033805	35.68%
Si 288.158†	32.7	0.03867	mg/L	0.008084	0.1934	mg/L	0.04042	20.90%
Sn 189.927†	-43.9	-0.00996	mg/L	0.001555	-0.04979	mg/L	0.007775	15.62%
Sr 421.552†	12236.4	0.02857	mg/L	0.000475	0.1428	mg/L	0.00237	1.66%
Ti 334.903†	28.3	0.00029	mg/L	0.001874	0.00147	mg/L	0.009372	637.74%
Tl 190.801†	29.5	0.02202	mg/L	0.004780	0.1101	mg/L	0.02390	21.71%
V 292.402†	31.2	0.00062	mg/L	0.000227	0.00309	mg/L	0.001136	36.77%
Zn 206.200†	8.2	0.00404	mg/L	0.000536	0.02018	mg/L	0.002678	13.27%

Sequence No.: 33

Sample ID: BIK0168-DUP2

Autosampler Location: 350

Date Collected: 11/10/2020 8:46:20 PM

Data Type: Original

Dilution: 1X

Wash Time: 200

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-DUP2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0168-DUP2

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1446792.5	106.1	%	0.36			0.34%	
ScR 361.383	161390.0	104.1	%	0.70			0.67%	
Ag 328.068†	-39.5	-0.00031	mg/L	0.000153	-0.00031	mg/L	0.000153	49.91%
Al 308.215†	43.5	0.04235	mg/L	0.004848	0.04235	mg/L	0.004848	11.45%
As 188.979†	36.8	0.03299	mg/L	0.004350	0.03299	mg/L	0.004350	13.19%
B 249.677†	3157.4	0.4901	mg/L	0.00367	0.4901	mg/L	0.00367	0.75%
Ba 233.527†	366.2	0.09014	mg/L	0.001739	0.09014	mg/L	0.001739	1.93%
Be 313.042†	-27.7	-0.00007	mg/L	0.000027	-0.00007	mg/L	0.000027	38.18%
Ca 317.933†	480990.5	74.75	mg/L	0.571	74.75	mg/L	0.571	0.76%
Cd 228.802†	5.6	0.00002	mg/L	0.000187	0.00002	mg/L	0.000187	>999.9%
Co 228.616†	207.5	0.00825	mg/L	0.000218	0.00825	mg/L	0.000218	2.64%
Cr 267.716†	36.5	0.00473	mg/L	0.004691	0.00473	mg/L	0.004691	99.19%
Cu 324.752†	322.9	0.00168	mg/L	0.000055	0.00168	mg/L	0.000055	3.24%
Fe 273.955†	4693.8	4.787	mg/L	0.0071	4.787	mg/L	0.0071	0.15%
K 766.490†	45030.4	40.45	mg/L	0.025	40.45	mg/L	0.025	0.06%
Mg 279.077†	41936.0	53.77	mg/L	0.163	53.77	mg/L	0.163	0.30%
Mn 257.610†	79285.2	2.105	mg/L	0.0063	2.105	mg/L	0.0063	0.30%
Mo 202.031†	90.3	0.00646	mg/L	0.000180	0.00646	mg/L	0.000180	2.79%
Na 589.592†	1208439.1	149.4	mg/L	0.79	149.4	mg/L	0.79	0.53%
Na 330.237†	2662.4	138.5	mg/L	0.96	138.5	mg/L	0.96	0.69%
Ni 231.604†	48.1	0.01782	mg/L	0.000298	0.01782	mg/L	0.000298	1.67%
Pb 220.353†	-31.8	-0.00596	mg/L	0.000318	-0.00596	mg/L	0.000318	5.34%
Sb 206.836†	14.0	0.00712	mg/L	0.000921	0.00712	mg/L	0.000921	12.94%
Se 196.026†	-22.3	-0.02706	mg/L	0.006640	-0.02706	mg/L	0.006640	24.54%
Si 288.158†	24425.9	28.86	mg/L	0.123	28.86	mg/L	0.123	0.43%
Sn 189.927†	-67.0	-0.00928	mg/L	0.000161	-0.00928	mg/L	0.000161	1.74%
Sr 421.552†	245116.8	0.5722	mg/L	0.00231	0.5722	mg/L	0.00231	0.40%
Ti 334.903†	138.4	0.00599	mg/L	0.000042	0.00599	mg/L	0.000042	0.69%
Tl 190.801†	42.6	0.03412	mg/L	0.001553	0.03412	mg/L	0.001553	4.55%
V 292.402†	79.8	0.00207	mg/L	0.000117	0.00207	mg/L	0.000117	5.66%
Zn 206.200†	12.4	0.00612	mg/L	0.001180	0.00612	mg/L	0.001180	19.29%

Sequence No.: 34

Sample ID: 20K0097-01

Autosampler Location: 351

Date Collected: 11/10/2020 8:50:52 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0097-01

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0097-01

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1414116.5	103.7	%	0.40			0.38%
ScR 361.383	159205.6	102.7	%	0.41			0.40%
Ag 328.068†	-85.6	-0.00066	mg/L	0.000309	-0.00066	mg/L	0.000309 46.57%
Al 308.215†	24.5	0.02373	mg/L	0.022411	0.02373	mg/L	0.022411 94.45%
As 188.979†	39.7	0.03607	mg/L	0.004229	0.03607	mg/L	0.004229 11.72%
B 249.677†	3142.0	0.4877	mg/L	0.00257	0.4877	mg/L	0.00257 0.53%
Ba 233.527†	377.6	0.09298	mg/L	0.001078	0.09298	mg/L	0.001078 1.16%
Be 313.042†	-14.1	-0.00004	mg/L	0.000050	-0.00004	mg/L	0.000050 127.93%
Ca 317.933†	484413.7	75.28	mg/L	0.175	75.28	mg/L	0.175 0.23%
Cd 228.802†	4.4	-0.00008	mg/L	0.000318	-0.00008	mg/L	0.000318 417.89%
Co 228.616†	204.3	0.00812	mg/L	0.000054	0.00812	mg/L	0.000054 0.67%
Cr 267.716†	28.5	0.00195	mg/L	0.001404	0.00195	mg/L	0.001404 72.13%
Cu 324.752†	339.0	0.00178	mg/L	0.000167	0.00178	mg/L	0.000167 9.36%
Fe 273.955†	4678.9	4.772	mg/L	0.0449	4.772	mg/L	0.0449 0.94%
K 766.490†	45201.7	40.60	mg/L	0.312	40.60	mg/L	0.312 0.77%
Mg 279.077†	42136.9	54.03	mg/L	0.400	54.03	mg/L	0.400 0.74%
Mn 257.610†	80012.0	2.125	mg/L	0.0146	2.125	mg/L	0.0146 0.69%
Mo 202.031†	92.8	0.00666	mg/L	0.000300	0.00666	mg/L	0.000300 4.51%
Na 589.592†	1221364.4	151.0	mg/L	0.43	151.0	mg/L	0.43 0.29%
Na 330.237†	2673.3	139.0	mg/L	0.99	139.0	mg/L	0.99 0.71%
Ni 231.604†	54.1	0.02005	mg/L	0.000533	0.02005	mg/L	0.000533 2.66%
Pb 220.353†	-29.0	-0.00545	mg/L	0.000379	-0.00545	mg/L	0.000379 6.94%
Sb 206.836†	16.0	0.00823	mg/L	0.001622	0.00823	mg/L	0.001622 19.70%
Se 196.026†	-24.3	-0.02954	mg/L	0.004146	-0.02954	mg/L	0.004146 14.03%
Si 288.158†	24783.4	29.28	mg/L	0.215	29.28	mg/L	0.215 0.74%
Sn 189.927†	-68.4	-0.00970	mg/L	0.000719	-0.00970	mg/L	0.000719 7.41%
Sr 421.552†	248005.9	0.5790	mg/L	0.00097	0.5790	mg/L	0.00097 0.17%
Ti 334.903†	114.4	0.00420	mg/L	0.001725	0.00420	mg/L	0.001725 41.04%
Tl 190.801†	42.4	0.03400	mg/L	0.001514	0.03400	mg/L	0.001514 4.45%
V 292.402†	86.7	0.00218	mg/L	0.000278	0.00218	mg/L	0.000278 12.77%
Zn 206.200†	-9.4	-0.00466	mg/L	0.000923	-0.00466	mg/L	0.000923 19.81%

Sequence No.: 35

Autosampler Location: 352

Sample ID: BIK0168-MS2

Date Collected: 11/10/2020 8:55:24 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-MS2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0168-MS2

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1419606.0	104.1	%	1.24				1.20%
ScR 361.383	160805.1	103.7	%	0.17				0.16%
Ag 328.068†	67764.3	0.5263	mg/L	0.00788	0.5263	mg/L	0.00788	1.50%
Al 308.215†	2201.5	2.135	mg/L	0.0081	2.135	mg/L	0.0081	0.38%
As 188.979†	1891.5	2.060	mg/L	0.0263	2.060	mg/L	0.0263	1.28%
B 249.677†	3111.0	0.4827	mg/L	0.00243	0.4827	mg/L	0.00243	0.50%
Ba 233.527†	8390.1	2.076	mg/L	0.0028	2.076	mg/L	0.0028	0.14%
Be 313.042†	219906.2	0.5034	mg/L	0.00086	0.5034	mg/L	0.00086	0.17%
Ca 317.933†	521020.6	80.97	mg/L	0.391	80.97	mg/L	0.391	0.48%
Cd 228.802†	8827.6	0.5048	mg/L	0.00558	0.5048	mg/L	0.00558	1.11%
Co 228.616†	12243.2	0.4925	mg/L	0.00641	0.4925	mg/L	0.00641	1.30%
Cr 267.716†	1489.4	0.5020	mg/L	0.00171	0.5020	mg/L	0.00171	0.34%
Cu 324.752†	77942.9	0.5072	mg/L	0.00781	0.5072	mg/L	0.00781	1.54%
Fe 273.955†	6560.9	6.683	mg/L	0.0168	6.683	mg/L	0.0168	0.25%
K 766.490†	54667.6	49.10	mg/L	0.277	49.10	mg/L	0.277	0.56%
Mg 279.077†	47286.9	60.63	mg/L	0.244	60.63	mg/L	0.244	0.40%
Mn 257.610†	93513.9	2.483	mg/L	0.0123	2.483	mg/L	0.0123	0.50%
Mo 202.031†	6202.4	0.5119	mg/L	0.00602	0.5119	mg/L	0.00602	1.18%
Na 589.592†	1277458.2	157.9	mg/L	0.29	157.9	mg/L	0.29	0.18%
Na 330.237†	2841.5	147.7	mg/L	0.26	147.7	mg/L	0.26	0.18%
Ni 231.604†	1358.6	0.5030	mg/L	0.00278	0.5030	mg/L	0.00278	0.55%
Pb 220.353†	10876.2	1.971	mg/L	0.0243	1.971	mg/L	0.0243	1.23%
Sb 206.836†	18.4	0.00714	mg/L	0.002256	0.00714	mg/L	0.002256	31.60%
Se 196.026†	1607.8	1.992	mg/L	0.0222	1.992	mg/L	0.0222	1.11%
Si 288.158†	23456.3	27.71	mg/L	0.197	27.71	mg/L	0.197	0.71%
Sn 189.927†	1282.3	0.5052	mg/L	0.00529	0.5052	mg/L	0.00529	1.05%
Sr 421.552†	450897.6	1.053	mg/L	0.0024	1.053	mg/L	0.0024	0.22%
Ti 334.903†	152.0	0.00604	mg/L	0.000749	0.00604	mg/L	0.000749	12.38%
Tl 190.801†	2623.6	1.943	mg/L	0.0225	1.943	mg/L	0.0225	1.16%
V 292.402†	27322.2	0.4926	mg/L	0.00999	0.4926	mg/L	0.00999	2.03%
Zn 206.200†	973.7	0.4819	mg/L	0.00185	0.4819	mg/L	0.00185	0.38%

Sequence No.: 36

Autosampler Location: 353

Sample ID: **BIK0168-BS2**

Date Collected: 11/10/2020 8:59:57 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0168-BS2

Analyte Back Pressure Flow
 All 241.0 kPa 0.65 L/min

Mean Data: BIK0168-BS2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1483389.9	108.8	%	0.71			0.65%
ScR 361.383	166611.1	107.4	%	0.84			0.78%
Ag 328.068†	67373.6	0.5233	mg/L	0.00363	0.5233	mg/L	0.69%
Al 308.215†	2127.7	2.063	mg/L	0.0095	2.063	mg/L	0.46%
As 188.979†	1850.0	2.021	mg/L	0.0101	2.021	mg/L	0.50%
B 249.677†	105.9	0.01615	mg/L	0.001759	0.01615	mg/L	10.89%
Ba 233.527†	8055.9	1.994	mg/L	0.0143	1.994	mg/L	0.72%
Be 313.042†	216138.7	0.4947	mg/L	0.00685	0.4947	mg/L	1.38%
Ca 317.933†	63798.2	9.915	mg/L	0.0812	9.915	mg/L	0.82%
Cd 228.802†	8615.2	0.4926	mg/L	0.00240	0.4926	mg/L	0.49%
Co 228.616†	12606.1	0.5072	mg/L	0.00403	0.5072	mg/L	0.79%
Cr 267.716†	1455.2	0.4975	mg/L	0.00284	0.4975	mg/L	0.57%
Cu 324.752†	76551.0	0.4985	mg/L	0.00414	0.4985	mg/L	0.83%
Fe 273.955†	1987.1	2.018	mg/L	0.0178	2.018	mg/L	0.88%
K 766.490†	10468.0	9.402	mg/L	0.0577	9.402	mg/L	0.61%
Mg 279.077†	8246.2	10.58	mg/L	0.081	10.58	mg/L	0.77%
Mn 257.610†	18065.0	0.4800	mg/L	0.00665	0.4800	mg/L	1.38%
Mo 202.031†	6199.1	0.5125	mg/L	0.00461	0.5125	mg/L	0.90%
Na 589.592†	77506.1	9.582	mg/L	0.0613	9.582	mg/L	0.64%
Na 330.237†	194.0	9.957	mg/L	0.1275	9.957	mg/L	1.28%
Ni 231.604†	1335.2	0.4943	mg/L	0.00755	0.4943	mg/L	1.53%
Pb 220.353†	11140.6	2.020	mg/L	0.0116	2.020	mg/L	0.57%
Sb 206.836†	1.2	-0.00166	mg/L	0.001502	-0.00166	mg/L	90.61%
Se 196.026†	1628.0	2.016	mg/L	0.0234	2.016	mg/L	1.16%
Si 288.158†	116.8	0.1414	mg/L	0.00926	0.1414	mg/L	6.55%
Sn 189.927†	1352.2	0.5164	mg/L	0.00133	0.5164	mg/L	0.26%
Sr 421.552†	212509.8	0.4961	mg/L	0.00601	0.4961	mg/L	1.21%
Ti 334.903†	19.0	0.00024	mg/L	0.001234	0.00024	mg/L	511.60%
Tl 190.801†	2735.3	2.023	mg/L	0.0180	2.023	mg/L	0.89%
V 292.402†	27493.6	0.4950	mg/L	0.00291	0.4950	mg/L	0.59%
Zn 206.200†	993.1	0.4915	mg/L	0.00562	0.4915	mg/L	1.14%

Sequence No.: 37

Autosampler Location: 7

Sample ID: SEQ-CCV7

Date Collected: 11/10/2020 9:04:14 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV7

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: SEQ-CCV7

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1466842.3	107.6	%	0.07			0.06%
ScR 361.383	162787.3	105.0	%	0.48			0.46%
Ag 328.068†	131804.7	1.024	mg/L	0.0072	1.024	mg/L	0.70%
Al 308.215†	2140.8	2.058	mg/L	0.0265	2.058	mg/L	1.29%
As 188.979†	1796.0	1.989	mg/L	0.0069	1.989	mg/L	0.35%
B 249.677†	6522.9	1.011	mg/L	0.0047	1.011	mg/L	0.46%
Ba 233.527†	4045.9	1.001	mg/L	0.0084	1.001	mg/L	0.84%
Be 313.042†	438058.4	1.003	mg/L	0.0023	1.003	mg/L	0.23%
Ca 317.933†	13375.4	2.078	mg/L	0.0137	2.078	mg/L	0.66%
Cd 228.802†	16958.9	0.9845	mg/L	0.00577	0.9845	mg/L	0.59%
Co 228.616†	24493.1	0.9838	mg/L	0.00773	0.9838	mg/L	0.79%
Cr 267.716†	2876.6	0.9853	mg/L	0.00709	0.9853	mg/L	0.72%
Cu 324.752†	154209.6	1.004	mg/L	0.0053	1.004	mg/L	0.53%
Fe 273.955†	1992.7	2.023	mg/L	0.0156	2.023	mg/L	0.77%
K 766.490†	21541.1	19.35	mg/L	0.168	19.35	mg/L	0.87%
Mg 279.077†	1628.0	2.098	mg/L	0.0182	2.098	mg/L	0.87%
Mn 257.610†	36535.5	0.9706	mg/L	0.00543	0.9706	mg/L	0.56%
Mo 202.031†	12164.4	1.006	mg/L	0.0028	1.006	mg/L	0.27%
Na 589.592†	409285.0	50.60	mg/L	0.370	50.60	mg/L	0.73%
Na 330.237†	981.1	50.97	mg/L	0.351	50.97	mg/L	0.69%
Ni 231.604†	2716.2	1.008	mg/L	0.0073	1.008	mg/L	0.73%
Pb 220.353†	11248.4	2.039	mg/L	0.0069	2.039	mg/L	0.34%
Sb 206.836†	3900.3	2.074	mg/L	0.0098	2.074	mg/L	0.47%
Se 196.026†	1653.0	2.048	mg/L	0.0135	2.048	mg/L	0.66%
Si 288.158†	1874.4	2.206	mg/L	0.0121	2.206	mg/L	0.55%
Sn 189.927†	2711.4	1.033	mg/L	0.0049	1.033	mg/L	0.48%
Sr 421.552†	427575.1	0.9982	mg/L	0.00408	0.9982	mg/L	0.41%
Ti 334.903†	13543.0	0.9887	mg/L	0.00525	0.9887	mg/L	0.53%
Tl 190.801†	2710.6	2.002	mg/L	0.0070	2.002	mg/L	0.35%
V 292.402†	55480.2	0.9986	mg/L	0.00285	0.9986	mg/L	0.29%
Zn 206.200†	2056.4	1.018	mg/L	0.0057	1.018	mg/L	0.56%

Sequence No.: 38
 Sample ID: SEQ-CCB7

Autosampler Location: 1
 Date Collected: 11/10/2020 9:09:35 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB7

Analyte Back Pressure Flow
 All 238.0 kPa 0.65 L/min

Mean Data: SEQ-CCB7

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1453764.8	106.7	%	0.21				0.19%
ScR 361.383	162012.3	104.5	%	0.15				0.15%
Ag 328.068†	22.5	0.00017	mg/L	0.000238	0.00017	mg/L	0.000238	136.37%
Al 308.215†	-5.2	-0.00510	mg/L	0.015236	-0.00510	mg/L	0.015236	298.60%
As 188.979†	0.5	0.00058	mg/L	0.002357	0.00058	mg/L	0.002357	405.06%
B 249.677†	43.8	0.00680	mg/L	0.000492	0.00680	mg/L	0.000492	7.23%
Ba 233.527†	8.2	0.00204	mg/L	0.000251	0.00204	mg/L	0.000251	12.32%
Be 313.042†	-73.3	-0.00017	mg/L	0.000034	-0.00017	mg/L	0.000034	20.08%
Ca 317.933†	-3.7	-0.00057	mg/L	0.002219	-0.00057	mg/L	0.002219	389.91%
Cd 228.802†	-1.1	-0.00007	mg/L	0.000103	-0.00007	mg/L	0.000103	152.95%
Co 228.616†	4.2	0.00017	mg/L	0.000120	0.00017	mg/L	0.000120	72.70%
Cr 267.716†	2.0	0.00069	mg/L	0.003490	0.00069	mg/L	0.003490	509.29%
Cu 324.752†	7.0	0.00005	mg/L	0.000065	0.00005	mg/L	0.000065	143.57%
Fe 273.955†	2.3	0.00235	mg/L	0.002472	0.00235	mg/L	0.002472	105.23%
K 766.490†	8.4	0.00755	mg/L	0.024472	0.00755	mg/L	0.024472	324.14%
Mg 279.077†	1.8	0.00231	mg/L	0.013861	0.00231	mg/L	0.013861	600.64%
Mn 257.610†	6.9	0.00018	mg/L	0.000121	0.00018	mg/L	0.000121	65.98%
Mo 202.031†	3.8	0.00032	mg/L	0.000245	0.00032	mg/L	0.000245	77.11%
Na 589.592†	76.9	0.00951	mg/L	0.006742	0.00951	mg/L	0.006742	70.89%
Na 330.237†	-6.8	-0.3555	mg/L	0.31270	-0.3555	mg/L	0.31270	87.95%
Ni 231.604†	6.6	0.00246	mg/L	0.002988	0.00246	mg/L	0.002988	121.32%
Pb 220.353†	1.6	0.00029	mg/L	0.000405	0.00029	mg/L	0.000405	139.94%
Sb 206.836†	3.8	0.00204	mg/L	0.000879	0.00204	mg/L	0.000879	43.07%
Se 196.026†	5.6	0.00696	mg/L	0.002179	0.00696	mg/L	0.002179	31.30%
Si 288.158†	9.9	0.01167	mg/L	0.006078	0.01167	mg/L	0.006078	52.07%
Sn 189.927†	2.4	0.00093	mg/L	0.000176	0.00093	mg/L	0.000176	18.92%
Sr 421.552†	-0.7	-0.00000	mg/L	0.000006	-0.00000	mg/L	0.000006	350.90%
Ti 334.903†	18.1	0.00132	mg/L	0.001521	0.00132	mg/L	0.001521	115.12%
Tl 190.801†	-0.1	-0.00009	mg/L	0.001348	-0.00009	mg/L	0.001348	>999.9%
V 292.402†	22.5	0.00041	mg/L	0.000413	0.00041	mg/L	0.000413	101.67%
Zn 206.200†	-0.3	-0.00016	mg/L	0.001230	-0.00016	mg/L	0.001230	758.90%

Sequence No.: 39

Autosampler Location: 354

Sample ID: BIK0220-BLK2

Date Collected: 11/10/2020 9:13:51 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-BLK2

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: BIK0220-BLK2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1529963.1	112.2	%	0.89				0.79%
ScR 361.383	169910.5	109.6	%	0.61				0.56%
Ag 328.068†	-15.8	-0.00012	mg/L	0.000223	-0.00012	mg/L	0.000223	181.52%
Al 308.215†	-21.4	-0.02089	mg/L	0.017334	-0.02089	mg/L	0.017334	82.98%
As 188.979†	-0.8	-0.00087	mg/L	0.004253	-0.00087	mg/L	0.004253	489.01%
B 249.677†	16.4	0.00255	mg/L	0.000527	0.00255	mg/L	0.000527	20.71%
Ba 233.527†	-0.1	-0.00002	mg/L	0.001196	-0.00002	mg/L	0.001196	>999.9%
Be 313.042†	-149.5	-0.00035	mg/L	0.000028	-0.00035	mg/L	0.000028	8.05%
Ca 317.933†	20.0	0.00312	mg/L	0.000201	0.00312	mg/L	0.000201	6.46%
Cd 228.802†	-6.5	-0.00038	mg/L	0.000155	-0.00038	mg/L	0.000155	41.31%
Co 228.616†	7.0	0.00028	mg/L	0.000157	0.00028	mg/L	0.000157	55.58%
Cr 267.716†	14.4	0.00494	mg/L	0.001251	0.00494	mg/L	0.001251	25.32%
Cu 324.752†	-20.6	-0.00013	mg/L	0.000174	-0.00013	mg/L	0.000174	129.89%
Fe 273.955†	-0.3	-0.00026	mg/L	0.001851	-0.00026	mg/L	0.001851	703.30%
K 766.490†	-11.3	-0.01015	mg/L	0.038559	-0.01015	mg/L	0.038559	379.81%
Mg 279.077†	5.6	0.00712	mg/L	0.002849	0.00712	mg/L	0.002849	39.99%
Mn 257.610†	-12.1	-0.00032	mg/L	0.000099	-0.00032	mg/L	0.000099	30.83%
Mo 202.031†	-5.4	-0.00045	mg/L	0.000171	-0.00045	mg/L	0.000171	38.39%
Na 589.592†	98.2	0.01214	mg/L	0.004464	0.01214	mg/L	0.004464	36.76%
Na 330.237†	5.0	0.2589	mg/L	0.40543	0.2589	mg/L	0.40543	156.59%
Ni 231.604†	1.0	0.00036	mg/L	0.001139	0.00036	mg/L	0.001139	319.59%
Pb 220.353†	5.9	0.00107	mg/L	0.000855	0.00107	mg/L	0.000855	80.06%
Sb 206.836†	-5.5	-0.00303	mg/L	0.002705	-0.00303	mg/L	0.002705	89.42%
Se 196.026†	8.0	0.00996	mg/L	0.002888	0.00996	mg/L	0.002888	29.00%
Si 288.158†	1.3	0.00159	mg/L	0.003033	0.00159	mg/L	0.003033	190.90%
Sn 189.927†	1.6	0.00060	mg/L	0.001086	0.00060	mg/L	0.001086	179.53%
Sr 421.552†	-46.1	-0.00011	mg/L	0.000069	-0.00011	mg/L	0.000069	64.05%
Ti 334.903†	-16.8	-0.00123	mg/L	0.000970	-0.00123	mg/L	0.000970	79.08%
Tl 190.801†	-1.6	-0.00122	mg/L	0.001829	-0.00122	mg/L	0.001829	149.36%
V 292.402†	19.1	0.00037	mg/L	0.000403	0.00037	mg/L	0.000403	108.05%
Zn 206.200†	5.1	0.00252	mg/L	0.001011	0.00252	mg/L	0.001011	40.08%

Sequence No.: 40

Sample ID: BIK0220-DUP2

Autosampler Location: 355

Date Collected: 11/10/2020 9:18:07 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-DUP2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0220-DUP2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1520491.9	111.5	%	0.41				0.37%
ScR 361.383	170536.7	110.0	%	0.48				0.43%
Ag 328.068†	-37.1	-0.00029	mg/L	0.000200	-0.00029	mg/L	0.000200	69.76%
Al 308.215†	-10.2	-0.01002	mg/L	0.008744	-0.01002	mg/L	0.008744	87.25%
As 188.979†	7.9	0.00760	mg/L	0.002815	0.00760	mg/L	0.002815	37.06%
B 249.677†	51.7	0.00802	mg/L	0.000218	0.00802	mg/L	0.000218	2.72%
Ba 233.527†	16.4	0.00406	mg/L	0.000639	0.00406	mg/L	0.000639	15.73%
Be 313.042†	-117.3	-0.00028	mg/L	0.000081	-0.00028	mg/L	0.000081	28.58%
Ca 317.933†	69478.7	10.80	mg/L	0.046	10.80	mg/L	0.046	0.42%
Cd 228.802†	1.9	0.00005	mg/L	0.000165	0.00005	mg/L	0.000165	323.64%
Co 228.616†	12.1	0.00048	mg/L	0.000052	0.00048	mg/L	0.000052	10.72%
Cr 267.716†	18.8	0.00538	mg/L	0.002724	0.00538	mg/L	0.002724	50.60%
Cu 324.752†	37.3	0.00021	mg/L	0.000185	0.00021	mg/L	0.000185	86.56%
Fe 273.955†	27.3	0.02781	mg/L	0.003186	0.02781	mg/L	0.003186	11.46%
K 766.490†	1147.7	1.031	mg/L	0.0261	1.031	mg/L	0.0261	2.53%
Mg 279.077†	2911.4	3.733	mg/L	0.0111	3.733	mg/L	0.0111	0.30%
Mn 257.610†	425.2	0.01126	mg/L	0.000355	0.01126	mg/L	0.000355	3.15%
Mo 202.031†	17.2	0.00128	mg/L	0.000161	0.00128	mg/L	0.000161	12.60%
Na 589.592†	30411.9	3.760	mg/L	0.0127	3.760	mg/L	0.0127	0.34%
Na 330.237†	72.6	3.776	mg/L	0.3072	3.776	mg/L	0.3072	8.14%
Ni 231.604†	7.6	0.00280	mg/L	0.001110	0.00280	mg/L	0.001110	39.70%
Pb 220.353†	-6.5	-0.00117	mg/L	0.000775	-0.00117	mg/L	0.000775	66.40%
Sb 206.836†	-6.1	-0.00336	mg/L	0.001943	-0.00336	mg/L	0.001943	57.89%
Se 196.026†	2.1	0.00262	mg/L	0.002098	0.00262	mg/L	0.002098	80.14%
Si 288.158†	9832.2	11.61	mg/L	0.058	11.61	mg/L	0.058	0.50%
Sn 189.927†	-15.7	-0.00362	mg/L	0.000615	-0.00362	mg/L	0.000615	16.99%
Sr 421.552†	17846.9	0.04166	mg/L	0.000224	0.04166	mg/L	0.000224	0.54%
Ti 334.903†	7.9	-0.00002	mg/L	0.000492	-0.00002	mg/L	0.000492	>999.9%
Tl 190.801†	6.2	0.00460	mg/L	0.002191	0.00460	mg/L	0.002191	47.66%
V 292.402†	184.5	0.00334	mg/L	0.000064	0.00334	mg/L	0.000064	1.91%
Zn 206.200†	-2.1	-0.00106	mg/L	0.000939	-0.00106	mg/L	0.000939	88.40%

Sequence No.: 41

Sample ID: 20J0383-02

Autosampler Location: 356

Date Collected: 11/10/2020 9:22:23 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20J0383-02

Analyte	Back Pressure	Flow
All	237.0 kPa	0.65 L/min

Mean Data: 20J0383-02

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1497120.7	109.8	%	0.18				0.16%
ScR 361.383	169333.6	109.2	%	0.94				0.86%
Ag 328.068†	-7.7	-0.00006	mg/L	0.000315	-0.00006	mg/L	0.000315	532.95%
Al 308.215†	-9.5	-0.00934	mg/L	0.003812	-0.00934	mg/L	0.003812	40.83%
As 188.979†	11.3	0.01131	mg/L	0.005570	0.01131	mg/L	0.005570	49.23%
B 249.677†	37.4	0.00581	mg/L	0.000899	0.00581	mg/L	0.000899	15.49%
Ba 233.527†	10.0	0.00247	mg/L	0.001307	0.00247	mg/L	0.001307	52.97%
Be 313.042†	-137.4	-0.00033	mg/L	0.000018	-0.00033	mg/L	0.000018	5.40%
Ca 317.933†	68248.2	10.61	mg/L	0.035	10.61	mg/L	0.035	0.33%
Cd 228.802†	0.3	-0.00007	mg/L	0.000124	-0.00007	mg/L	0.000124	175.37%
Co 228.616†	12.7	0.00051	mg/L	0.000125	0.00051	mg/L	0.000125	24.39%
Cr 267.716†	15.9	0.00442	mg/L	0.004247	0.00442	mg/L	0.004247	96.19%
Cu 324.752†	-3.7	-0.00005	mg/L	0.000110	-0.00005	mg/L	0.000110	207.57%
Fe 273.955†	17.6	0.01790	mg/L	0.004008	0.01790	mg/L	0.004008	22.40%
K 766.490†	1176.2	1.057	mg/L	0.0145	1.057	mg/L	0.0145	1.37%
Mg 279.077†	2843.8	3.646	mg/L	0.0207	3.646	mg/L	0.0207	0.57%
Mn 257.610†	408.0	0.01081	mg/L	0.000057	0.01081	mg/L	0.000057	0.52%
Mo 202.031†	16.5	0.00122	mg/L	0.000484	0.00122	mg/L	0.000484	39.54%
Na 589.592†	30260.8	3.741	mg/L	0.0085	3.741	mg/L	0.0085	0.23%
Na 330.237†	79.2	4.122	mg/L	0.1986	4.122	mg/L	0.1986	4.82%
Ni 231.604†	-0.4	-0.00014	mg/L	0.001452	-0.00014	mg/L	0.001452	>999.9%
Pb 220.353†	-2.0	-0.00036	mg/L	0.000654	-0.00036	mg/L	0.000654	183.27%
Sb 206.836†	-0.0	-0.00014	mg/L	0.001014	-0.00014	mg/L	0.001014	743.65%
Se 196.026†	-0.2	-0.00024	mg/L	0.002967	-0.00024	mg/L	0.002967	>999.9%
Si 288.158†	9784.2	11.56	mg/L	0.119	11.56	mg/L	0.119	1.03%
Sn 189.927†	-17.1	-0.00419	mg/L	0.000950	-0.00419	mg/L	0.000950	22.69%
Sr 421.552†	17714.4	0.04135	mg/L	0.000207	0.04135	mg/L	0.000207	0.50%
Ti 334.903†	2.3	-0.00042	mg/L	0.001948	-0.00042	mg/L	0.001948	461.33%
Tl 190.801†	3.9	0.00287	mg/L	0.001189	0.00287	mg/L	0.001189	41.37%
V 292.402†	176.2	0.00319	mg/L	0.000105	0.00319	mg/L	0.000105	3.31%
Zn 206.200†	-1.7	-0.00082	mg/L	0.001506	-0.00082	mg/L	0.001506	183.79%

Sequence No.: 42

Autosampler Location: 357

Sample ID: **BIK0220-MS2**

Date Collected: 11/10/2020 9:26:39 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-MS2

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0220-MS2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1508800.8	110.7	%	0.60			0.54%
ScR 361.383	167356.3	107.9	%	0.35			0.33%
Ag 328.068†	64887.2	0.5040	mg/L	0.01192	0.5040	mg/L	0.01192 2.36%
Al 308.215†	2153.9	2.089	mg/L	0.0140	2.089	mg/L	0.0140 0.67%
As 188.979†	1914.3	2.091	mg/L	0.0131	2.091	mg/L	0.0131 0.62%
B 249.677†	45.4	0.00676	mg/L	0.001183	0.00676	mg/L	0.001183 17.50%
Ba 233.527†	8100.0	2.005	mg/L	0.0066	2.005	mg/L	0.0066 0.33%
Be 313.042†	217622.3	0.4981	mg/L	0.00191	0.4981	mg/L	0.00191 0.38%
Ca 317.933†	131629.9	20.46	mg/L	0.014	20.46	mg/L	0.014 0.07%
Cd 228.802†	8925.7	0.5104	mg/L	0.00087	0.5104	mg/L	0.00087 0.17%
Co 228.616†	12167.2	0.4895	mg/L	0.00240	0.4895	mg/L	0.00240 0.49%
Cr 267.716†	1455.1	0.4964	mg/L	0.00392	0.4964	mg/L	0.00392 0.79%
Cu 324.752†	75214.6	0.4898	mg/L	0.00049	0.4898	mg/L	0.00049 0.10%
Fe 273.955†	1982.7	2.014	mg/L	0.0086	2.014	mg/L	0.0086 0.43%
K 766.490†	11866.6	10.66	mg/L	0.049	10.66	mg/L	0.049 0.46%
Mg 279.077†	11317.2	14.51	mg/L	0.044	14.51	mg/L	0.044 0.30%
Mn 257.610†	18530.7	0.4923	mg/L	0.00010	0.4923	mg/L	0.00010 0.02%
Mo 202.031†	5810.9	0.4803	mg/L	0.00056	0.4803	mg/L	0.00056 0.12%
Na 589.592†	111321.2	13.76	mg/L	0.046	13.76	mg/L	0.046 0.34%
Na 330.237†	272.6	14.05	mg/L	0.236	14.05	mg/L	0.236 1.68%
Ni 231.604†	1331.6	0.4929	mg/L	0.00554	0.4929	mg/L	0.00554 1.12%
Pb 220.353†	11156.5	2.022	mg/L	0.0058	2.022	mg/L	0.0058 0.29%
Sb 206.836†	8.5	-0.00143	mg/L	0.001750	-0.00143	mg/L	0.001750 122.76%
Se 196.026†	1872.9	2.320	mg/L	0.0161	2.320	mg/L	0.0161 0.70%
Si 288.158†	9831.8	11.62	mg/L	0.084	11.62	mg/L	0.084 0.73%
Sn 189.927†	-28.2	-0.00620	mg/L	0.000814	-0.00620	mg/L	0.000814 13.13%
Sr 421.552†	231403.1	0.5402	mg/L	0.00105	0.5402	mg/L	0.00105 0.19%
Ti 334.903†	34.5	0.00082	mg/L	0.000671	0.00082	mg/L	0.000671 81.64%
Tl 190.801†	2745.0	2.031	mg/L	0.0170	2.031	mg/L	0.0170 0.84%
V 292.402†	27669.5	0.4982	mg/L	0.00305	0.4982	mg/L	0.00305 0.61%
Zn 206.200†	996.3	0.4931	mg/L	0.00235	0.4931	mg/L	0.00235 0.48%

Sequence No.: 43

Autosampler Location: 358

Sample ID: BIK0220-BS2

Date Collected: 11/10/2020 9:30:55 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0220-BS2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: BIK0220-BS2

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1540945.3	113.0	%	0.74			0.66%
ScR 361.383	172949.4	111.5	%	0.85			0.77%
Ag 328.068†	69356.9	0.5387	mg/L	0.00413	0.5387	mg/L	0.00413 0.77%
Al 308.215†	2140.1	2.075	mg/L	0.0269	2.075	mg/L	0.0269 1.30%
As 188.979†	1936.8	2.116	mg/L	0.0195	2.116	mg/L	0.0195 0.92%
B 249.677†	13.4	0.00180	mg/L	0.001359	0.00180	mg/L	0.001359 75.50%
Ba 233.527†	8212.4	2.033	mg/L	0.0270	2.033	mg/L	0.0270 1.33%
Be 313.042†	221136.9	0.5062	mg/L	0.00348	0.5062	mg/L	0.00348 0.69%
Ca 317.933†	65019.4	10.10	mg/L	0.058	10.10	mg/L	0.058 0.58%
Cd 228.802†	9005.0	0.5149	mg/L	0.00532	0.5149	mg/L	0.00532 1.03%
Co 228.616†	12545.2	0.5047	mg/L	0.00360	0.5047	mg/L	0.00360 0.71%
Cr 267.716†	1488.0	0.5087	mg/L	0.00239	0.5087	mg/L	0.00239 0.47%
Cu 324.752†	75700.9	0.4930	mg/L	0.00396	0.4930	mg/L	0.00396 0.80%
Fe 273.955†	2015.8	2.047	mg/L	0.0245	2.047	mg/L	0.0245 1.20%
K 766.490†	10703.3	9.614	mg/L	0.0225	9.614	mg/L	0.0225 0.23%
Mg 279.077†	8439.5	10.83	mg/L	0.137	10.83	mg/L	0.137 1.26%
Mn 257.610†	18430.9	0.4897	mg/L	0.00351	0.4897	mg/L	0.00351 0.72%
Mo 202.031†	6118.6	0.5059	mg/L	0.00406	0.5059	mg/L	0.00406 0.80%
Na 589.592†	77576.3	9.591	mg/L	0.0753	9.591	mg/L	0.0753 0.79%
Na 330.237†	195.4	10.03	mg/L	0.221	10.03	mg/L	0.221 2.21%
Ni 231.604†	1370.0	0.5072	mg/L	0.00535	0.5072	mg/L	0.00535 1.06%
Pb 220.353†	11516.0	2.088	mg/L	0.0215	2.088	mg/L	0.0215 1.03%
Sb 206.836†	4.1	-0.00389	mg/L	0.000060	-0.00389	mg/L	0.000060 1.55%
Se 196.026†	1878.6	2.327	mg/L	0.0145	2.327	mg/L	0.0145 0.62%
Si 288.158†	-6.3	-0.00374	mg/L	0.006126	-0.00374	mg/L	0.006126 163.72%
Sn 189.927†	-15.1	-0.00346	mg/L	0.000447	-0.00346	mg/L	0.000447 12.93%
Sr 421.552†	214542.0	0.5008	mg/L	0.00072	0.5008	mg/L	0.00072 0.14%
Ti 334.903†	11.4	-0.00032	mg/L	0.000843	-0.00032	mg/L	0.000843 264.49%
Tl 190.801†	2789.2	2.063	mg/L	0.0161	2.063	mg/L	0.0161 0.78%
V 292.402†	28181.8	0.5074	mg/L	0.00420	0.5074	mg/L	0.00420 0.83%
Zn 206.200†	1031.1	0.5103	mg/L	0.01116	0.5103	mg/L	0.01116 2.19%

Sequence No.: 44

Sample ID: 20K0008-14

Autosampler Location: 359

Date Collected: 11/10/2020 9:36:34 PM

Data Type: Original

Dilution: 10X

Wash Time: 120

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-14

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: 20K0008-14

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1462938.7	107.3	%	0.69				0.65%
ScR 361.383	165808.4	106.9	%	0.74				0.69%
Ag 328.068†	165.7	0.00130	mg/L	0.000333	0.01303	mg/L	0.003332	25.56%
Al 308.215†	19788.6	19.34	mg/L	0.134	193.4	mg/L	1.34	0.69%
As 188.979†	-34.1	-0.00047	mg/L	0.001636	-0.00468	mg/L	0.016360	349.60%
B 249.677†	59.7	0.01175	mg/L	0.000701	0.1175	mg/L	0.00701	5.96%
Ba 233.527†	3765.9	0.9287	mg/L	0.00592	9.287	mg/L	0.0592	0.64%
Be 313.042†	168.8	0.00014	mg/L	0.000025	0.00144	mg/L	0.000253	17.55%
Ca 317.933†	80447.7	12.50	mg/L	0.036	125.0	mg/L	0.36	0.29%
Cd 228.802†	52.6	0.00311	mg/L	0.000064	0.03113	mg/L	0.000637	2.05%
Co 228.616†	397.3	0.01276	mg/L	0.000312	0.1276	mg/L	0.00312	2.44%
Cr 267.716†	1410.8	0.4850	mg/L	0.00314	4.850	mg/L	0.0314	0.65%
Cu 324.752†	9107.2	0.06044	mg/L	0.000873	0.6044	mg/L	0.00873	1.45%
Fe 273.955†	32623.8	33.27	mg/L	0.226	332.7	mg/L	2.26	0.68%
K 766.490†	2946.8	2.647	mg/L	0.0218	26.47	mg/L	0.218	0.83%
Mg 279.077†	6216.0	7.952	mg/L	0.0631	79.52	mg/L	0.631	0.79%
Mn 257.610†	8288.9	0.2204	mg/L	0.00099	2.204	mg/L	0.0099	0.45%
Mo 202.031†	88.9	0.00716	mg/L	0.000335	0.07157	mg/L	0.003354	4.69%
Na 589.592†	36162.2	4.471	mg/L	0.0432	44.71	mg/L	0.432	0.97%
Na 330.237†	122.6	4.981	mg/L	0.2335	49.81	mg/L	2.335	4.69%
Ni 231.604†	43.3	0.01607	mg/L	0.001632	0.1607	mg/L	0.01632	10.15%
Pb 220.353†	22322.8	4.049	mg/L	0.0521	40.49	mg/L	0.521	1.29%
Sb 206.836†	54.2	0.02385	mg/L	0.001830	0.2385	mg/L	0.01830	7.67%
Se 196.026†	-7.0	-0.00460	mg/L	0.005330	-0.04597	mg/L	0.053303	115.96%
Si 288.158†	156.2	0.1690	mg/L	0.01056	1.690	mg/L	0.1056	6.25%
Sn 189.927†	-4.1	0.00195	mg/L	0.000661	0.01947	mg/L	0.006615	33.97%
Sr 421.552†	46067.9	0.1075	mg/L	0.00072	1.075	mg/L	0.0072	0.67%
Ti 334.903†	18696.6	1.366	mg/L	0.0038	13.66	mg/L	0.038	0.28%
Tl 190.801†	36.6	0.02696	mg/L	0.004465	0.2696	mg/L	0.04465	16.57%
V 292.402†	3079.7	0.05911	mg/L	0.000756	0.5911	mg/L	0.00756	1.28%
Zn 206.200†	10363.3	5.130	mg/L	0.0263	51.30	mg/L	0.263	0.51%

Sequence No.: 45

Autosampler Location: 360

Sample ID: BIK0175-DUP1

Date Collected: 11/10/2020 9:40:50 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-DUP1

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0175-DUP1

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.		
ScA 357.253	1490585.4	109.4 %		0.35				0.32%
ScR 361.383	165499.4	106.7 %		0.57				0.53%
Ag 328.068†	25.8	0.00021 mg/L		0.000138	0.00214 mg/L		0.001380	64.41%
Al 308.215†	15254.8	14.91 mg/L		0.029	149.1 mg/L		0.29	0.20%
As 188.979†	-9.2	0.01532 mg/L		0.004914	0.1532 mg/L		0.04914	32.07%
B 249.677†	27.4	0.01580 mg/L		0.000768	0.1580 mg/L		0.00768	4.86%
Ba 233.527†	511.2	0.1106 mg/L		0.00100	1.106 mg/L		0.0100	0.90%
Be 313.042†	149.0	0.00015 mg/L		0.000059	0.00147 mg/L		0.000590	40.00%
Ca 317.933†	37593.4	5.842 mg/L		0.0204	58.42 mg/L		0.204	0.35%
Cd 228.802†	32.9	0.00089 mg/L		0.000203	0.00887 mg/L		0.002030	22.88%
Co 228.616†	649.9	0.02212 mg/L		0.000247	0.2212 mg/L		0.00247	1.12%
Cr 267.716†	173.9	0.06908 mg/L		0.002921	0.6908 mg/L		0.02921	4.23%
Cu 324.752†	42603.4	0.2837 mg/L		0.00166	2.837 mg/L		0.0166	0.59%
Fe 273.955†	143368.6	146.2 mg/L		0.34	1462 mg/L		3.38	0.23%
K 766.490†	789.6	0.7092 mg/L		0.05772	7.092 mg/L		0.5772	8.14%
Mg 279.077†	3222.6	4.052 mg/L		0.0143	40.52 mg/L		0.143	0.35%
Mn 257.610†	21990.4	0.5828 mg/L		0.00132	5.828 mg/L		0.0132	0.23%
Mo 202.031†	33.4	0.00268 mg/L		0.000256	0.02677 mg/L		0.002561	9.56%
Na 589.592†	11128.7	1.376 mg/L		0.0098	13.76 mg/L		0.098	0.72%
Na 330.237†	26.3	1.405 mg/L		0.1376	14.05 mg/L		1.376	9.79%
Ni 231.604†	135.7	0.05040 mg/L		0.002360	0.5040 mg/L		0.02360	4.68%
Pb 220.353†	7915.4	1.431 mg/L		0.0148	14.31 mg/L		0.148	1.03%
Sb 206.836†	286.6	0.1629 mg/L		0.00031	1.629 mg/L		0.0031	0.19%
Se 196.026†	-5.8	0.00829 mg/L		0.006445	0.08285 mg/L		0.064451	77.79%
Si 288.158†	202.7	0.2286 mg/L		0.00646	2.286 mg/L		0.0646	2.83%
Sn 189.927†	3626.8	1.381 mg/L		0.0006	13.81 mg/L		0.006	0.04%
Sr 421.552†	23905.8	0.05581 mg/L		0.000048	0.5581 mg/L		0.00048	0.09%
Ti 334.903†	12493.9	0.9130 mg/L		0.00092	9.130 mg/L		0.0092	0.10%
Tl 190.801†	44.4	0.03335 mg/L		0.000751	0.3335 mg/L		0.00751	2.25%
V 292.402†	2465.1	0.04960 mg/L		0.000225	0.4960 mg/L		0.00225	0.45%
Zn 206.200†	1024.0	0.5069 mg/L		0.00145	5.069 mg/L		0.0145	0.29%

Sequence No.: 46

Autosampler Location: 361

Sample ID: 20K0008-01

Date Collected: 11/10/2020 9:45:06 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: 20K0008-01

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: 20K0008-01

Analyte	Mean Corrected		Calib.		Sample		RSD	
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1530536.6	112.3	%	0.35			0.32%	
ScR 361.383	168833.4	108.9	%	0.50			0.46%	
Ag 328.068†	-44.4	-0.00033	mg/L	0.000172	-0.00332	mg/L	0.001716	51.69%
Al 308.215†	14765.3	14.43	mg/L	0.040	144.3	mg/L	0.40	0.28%
As 188.979†	2.4	0.02652	mg/L	0.001290	0.2652	mg/L	0.01290	4.86%
B 249.677†	-6.0	0.01803	mg/L	0.001105	0.1803	mg/L	0.01105	6.13%
Ba 233.527†	534.8	0.1063	mg/L	0.00095	1.063	mg/L	0.0095	0.89%
Be 313.042†	150.1	0.00017	mg/L	0.000028	0.00167	mg/L	0.000285	17.09%
Ca 317.933†	38405.6	5.968	mg/L	0.0403	59.68	mg/L	0.403	0.68%
Cd 228.802†	49.0	0.00100	mg/L	0.000145	0.01003	mg/L	0.001449	14.44%
Co 228.616†	835.9	0.02828	mg/L	0.000173	0.2828	mg/L	0.00173	0.61%
Cr 267.716†	199.6	0.08437	mg/L	0.001600	0.8437	mg/L	0.01600	1.90%
Cu 324.752†	28096.7	0.1934	mg/L	0.00211	1.934	mg/L	0.0211	1.09%
Fe 273.955†	234912.9	239.6	mg/L	0.96	2396	mg/L	9.57	0.40%
K 766.490†	762.9	0.6852	mg/L	0.01428	6.852	mg/L	0.1428	2.08%
Mg 279.077†	3032.3	3.757	mg/L	0.0050	37.57	mg/L	0.050	0.13%
Mn 257.610†	33842.7	0.8967	mg/L	0.00338	8.967	mg/L	0.0338	0.38%
Mo 202.031†	41.6	0.00336	mg/L	0.000319	0.03360	mg/L	0.003185	9.48%
Na 589.592†	10645.5	1.316	mg/L	0.0066	13.16	mg/L	0.066	0.50%
Na 330.237†	20.5	1.101	mg/L	0.2763	11.01	mg/L	2.763	25.09%
Ni 231.604†	149.1	0.05526	mg/L	0.001141	0.5526	mg/L	0.01141	2.06%
Pb 220.353†	8140.9	1.467	mg/L	0.0209	14.67	mg/L	0.209	1.42%
Sb 206.836†	113.2	0.06461	mg/L	0.003056	0.6461	mg/L	0.03056	4.73%
Se 196.026†	-16.2	0.00528	mg/L	0.003393	0.05275	mg/L	0.033929	64.32%
Si 288.158†	124.5	0.1369	mg/L	0.00539	1.369	mg/L	0.0539	3.94%
Sn 189.927†	1443.3	0.5505	mg/L	0.00431	5.505	mg/L	0.0431	0.78%
Sr 421.552†	23944.7	0.05590	mg/L	0.000229	0.5590	mg/L	0.00229	0.41%
Ti 334.903†	11767.5	0.8599	mg/L	0.00327	8.599	mg/L	0.0327	0.38%
Tl 190.801†	64.7	0.04869	mg/L	0.000448	0.4869	mg/L	0.00448	0.92%
V 292.402†	2252.2	0.04923	mg/L	0.002343	0.4923	mg/L	0.02343	4.76%
Zn 206.200†	978.6	0.4845	mg/L	0.00119	4.845	mg/L	0.0119	0.24%

Sequence No.: 47

Autosampler Location: 362

Sample ID: BIK0175-MS1

Date Collected: 11/10/2020 9:49:22 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-MS1

Analyte	Back Pressure	Flow
All	239.0 kPa	0.65 L/min

Mean Data: BIK0175-MS1

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1486288.5	109.0	%	0.60				0.55%
ScR 361.383	166324.5	107.3	%	0.58				0.54%
Ag 328.068†	12481.3	0.09695	mg/L	0.000669	0.9695	mg/L	0.00669	0.69%
Al 308.215†	17221.0	16.83	mg/L	0.022	168.3	mg/L	0.22	0.13%
As 188.979†	326.8	0.3838	mg/L	0.00370	3.838	mg/L	0.0370	0.96%
B 249.677†	30.9	0.01480	mg/L	0.000907	0.1480	mg/L	0.00907	6.12%
Ba 233.527†	2028.0	0.4879	mg/L	0.00169	4.879	mg/L	0.0169	0.35%
Be 313.042†	40916.3	0.09346	mg/L	0.000352	0.9346	mg/L	0.00352	0.38%
Ca 317.933†	57013.7	8.860	mg/L	0.0183	88.60	mg/L	0.183	0.21%
Cd 228.802†	1696.7	0.09634	mg/L	0.000492	0.9634	mg/L	0.00492	0.51%
Co 228.616†	3002.4	0.1169	mg/L	0.00045	1.169	mg/L	0.0045	0.38%
Cr 267.716†	626.0	0.2226	mg/L	0.00312	2.226	mg/L	0.0312	1.40%
Cu 324.752†	56225.0	0.3717	mg/L	0.00038	3.717	mg/L	0.0038	0.10%
Fe 273.955†	127187.7	129.7	mg/L	0.72	1297	mg/L	7.17	0.55%
K 766.490†	2769.7	2.488	mg/L	0.0254	24.88	mg/L	0.254	1.02%
Mg 279.077†	5090.3	6.457	mg/L	0.0188	64.57	mg/L	0.188	0.29%
Mn 257.610†	25808.3	0.6844	mg/L	0.00191	6.844	mg/L	0.0191	0.28%
Mo 202.031†	61.0	0.00491	mg/L	0.000178	0.04912	mg/L	0.001779	3.62%
Na 589.592†	26054.0	3.221	mg/L	0.0068	32.21	mg/L	0.068	0.21%
Na 330.237†	56.8	2.999	mg/L	0.1942	29.99	mg/L	1.942	6.48%
Ni 231.604†	399.8	0.1481	mg/L	0.00116	1.481	mg/L	0.0116	0.78%
Pb 220.353†	11840.5	2.144	mg/L	0.0041	21.44	mg/L	0.041	0.19%
Sb 206.836†	147.9	0.08191	mg/L	0.001639	0.8191	mg/L	0.01639	2.00%
Se 196.026†	285.7	0.3676	mg/L	0.00171	3.676	mg/L	0.0171	0.46%
Si 288.158†	206.5	0.2334	mg/L	0.00551	2.334	mg/L	0.0551	2.36%
Sn 189.927†	1643.8	0.6275	mg/L	0.00241	6.275	mg/L	0.0241	0.38%
Sr 421.552†	67009.7	0.1564	mg/L	0.00052	1.564	mg/L	0.0052	0.33%
Ti 334.903†	13066.2	0.9546	mg/L	0.00212	9.546	mg/L	0.0212	0.22%
Tl 190.801†	553.8	0.4101	mg/L	0.00048	4.101	mg/L	0.0048	0.12%
V 292.402†	7612.9	0.1420	mg/L	0.00201	1.420	mg/L	0.0201	1.42%
Zn 206.200†	1091.8	0.5405	mg/L	0.00214	5.405	mg/L	0.0214	0.40%

STL

Sequence No.: 48

Autosampler Location: 363

Sample ID: BIK0175-MSD1

Date Collected: 11/10/2020 9:53:38 PM

Data Type: Original

Dilution: 10X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: BIK0175-MSD1

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: BIK0175-MSD1

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units		
ScA 357.253	1471186.5	107.9	%	0.12				0.11%
ScR 361.383	163020.2	105.1	%	0.81				0.77%
Ag 328.068†	12201.8	0.09477	mg/L	0.000586	0.9477	mg/L	0.00586	0.62%
Al 308.215†	11874.2	11.61	mg/L	0.100	116.1	mg/L	1.00	0.86%
As 188.979†	338.8	0.3882	mg/L	0.00100	3.882	mg/L	0.0100	0.26%
B 249.677†	11.9	0.01853	mg/L	0.000307	0.1853	mg/L	0.00307	1.65%
Ba 233.527†	1986.6	0.4685	mg/L	0.00606	4.685	mg/L	0.0606	1.29%
Be 313.042†	39369.6	0.08999	mg/L	0.000717	0.8999	mg/L	0.00717	0.80%
Ca 317.933†	46193.5	7.179	mg/L	0.0584	71.79	mg/L	0.584	0.81%
Cd 228.802†	1674.3	0.09426	mg/L	0.000733	0.9426	mg/L	0.00733	0.78%
Co 228.616†	3067.9	0.1189	mg/L	0.00055	1.189	mg/L	0.0055	0.46%
Cr 267.716†	449.7	0.1681	mg/L	0.00119	1.681	mg/L	0.0119	0.71%
Cu 324.752†	50291.8	0.3369	mg/L	0.00054	3.369	mg/L	0.0054	0.16%
Fe 273.955†	209521.0	213.7	mg/L	0.47	2137	mg/L	4.73	0.22%
K 766.490†	2366.6	2.126	mg/L	0.0211	21.26	mg/L	0.211	0.99%
Mg 279.077†	4115.1	5.160	mg/L	0.0350	51.60	mg/L	0.350	0.68%
Mn 257.610†	35627.0	0.9445	mg/L	0.00794	9.445	mg/L	0.0794	0.84%
Mo 202.031†	40.8	0.00327	mg/L	0.000820	0.03271	mg/L	0.008198	25.06%
Na 589.592†	21846.1	2.701	mg/L	0.0248	27.01	mg/L	0.248	0.92%
Na 330.237†	43.9	2.257	mg/L	0.6413	22.57	mg/L	6.413	28.41%
Ni 231.604†	408.9	0.1516	mg/L	0.00252	1.516	mg/L	0.0252	1.66%
Pb 220.353†	12283.1	2.218	mg/L	0.0056	22.18	mg/L	0.056	0.25%
Sb 206.836†	383.5	0.2121	mg/L	0.00408	2.121	mg/L	0.0408	1.92%
Se 196.026†	283.6	0.3738	mg/L	0.00299	3.738	mg/L	0.0299	0.80%
Si 288.158†	175.1	0.1999	mg/L	0.00756	1.999	mg/L	0.0756	3.78%
Sn 189.927†	3340.8	1.272	mg/L	0.0034	12.72	mg/L	0.034	0.27%
Sr 421.552†	58271.8	0.1360	mg/L	0.00106	1.360	mg/L	0.0106	0.78%
Ti 334.903†	8748.9	0.6391	mg/L	0.00450	6.391	mg/L	0.0450	0.70%
Tl 190.801†	547.0	0.4054	mg/L	0.00328	4.054	mg/L	0.0328	0.81%
V 292.402†	6554.7	0.1258	mg/L	0.00265	1.258	mg/L	0.0265	2.11%
Zn 206.200†	1085.3	0.5373	mg/L	0.00385	5.373	mg/L	0.0385	0.72%

STL

Sequence No.: 49
Sample ID: SEQ-CCV8

Autosampler Location: 7
Date Collected: 11/10/2020 9:57:54 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCV8

Analyte Back Pressure Flow
All 242.0 kPa 0.65 L/min

Mean Data: SEQ-CCV8

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1484553.9	108.9	%	0.25			0.23%
ScR 361.383	161579.8	104.2	%	0.42			0.40%
Ag 328.068†	134004.6	1.041	mg/L	0.0088	1.041	mg/L	0.85%
Al 308.215†	2192.5	2.108	mg/L	0.0187	2.108	mg/L	0.89%
As 188.979†	1840.2	2.038	mg/L	0.0145	2.038	mg/L	0.71%
B 249.677†	6634.5	1.028	mg/L	0.0069	1.028	mg/L	0.67%
Ba 233.527†	4122.8	1.020	mg/L	0.0035	1.020	mg/L	0.34%
Be 313.042†	445780.9	1.020	mg/L	0.0016	1.020	mg/L	0.16%
Ca 317.933†	13625.0	2.117	mg/L	0.0148	2.117	mg/L	0.70%
Cd 228.802†	17166.7	0.9964	mg/L	0.00527	0.9964	mg/L	0.53%
Co 228.616†	25008.6	1.005	mg/L	0.0104	1.005	mg/L	1.03%
Cr 267.716†	2906.7	0.9957	mg/L	0.00855	0.9957	mg/L	0.86%
Cu 324.752†	155751.1	1.014	mg/L	0.0046	1.014	mg/L	0.45%
Fe 273.955†	2020.9	2.052	mg/L	0.0114	2.052	mg/L	0.55%
K 766.490†	21832.6	19.61	mg/L	0.025	19.61	mg/L	0.13%
Mg 279.077†	1660.4	2.139	mg/L	0.0182	2.139	mg/L	0.85%
Mn 257.610†	37235.2	0.9892	mg/L	0.00166	0.9892	mg/L	0.17%
Mo 202.031†	12086.1	0.9995	mg/L	0.00558	0.9995	mg/L	0.56%
Na 589.592†	417739.3	51.65	mg/L	0.184	51.65	mg/L	0.36%
Na 330.237†	987.5	51.30	mg/L	0.350	51.30	mg/L	0.68%
Ni 231.604†	2768.6	1.027	mg/L	0.0062	1.027	mg/L	0.60%
Pb 220.353†	11210.3	2.033	mg/L	0.0152	2.033	mg/L	0.75%
Sb 206.836†	3968.9	2.111	mg/L	0.0081	2.111	mg/L	0.38%
Se 196.026†	1682.8	2.085	mg/L	0.0076	2.085	mg/L	0.37%
Si 288.158†	1913.8	2.253	mg/L	0.0062	2.253	mg/L	0.28%
Sn 189.927†	2772.9	1.056	mg/L	0.0060	1.056	mg/L	0.57%
Sr 421.552†	433496.6	1.012	mg/L	0.0002	1.012	mg/L	0.02%
Ti 334.903†	13694.3	0.9998	mg/L	0.00255	0.9998	mg/L	0.26%
Tl 190.801†	2766.1	2.043	mg/L	0.0092	2.043	mg/L	0.45%
V 292.402†	55963.2	1.007	mg/L	0.0116	1.007	mg/L	1.15%
Zn 206.200†	2100.5	1.039	mg/L	0.0053	1.039	mg/L	0.51%

Sequence No.: 50

Sample ID: SEQ-CCB8

Autosampler Location: 1

Date Collected: 11/10/2020 10:03:14 PM

Data Type: Original

Dilution: 1X

Wash Time: 100

Auto Dilution Factor: 1

Nebulizer Parameters: SEQ-CCB8

Analyte	Back Pressure	Flow
All	240.0 kPa	0.65 L/min

Mean Data: SEQ-CCB8

Analyte	Mean Corrected		Calib.		Sample		RSD
	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	
ScA 357.253	1479662.0	108.6	%	0.42			0.39%
ScR 361.383	164417.3	106.0	%	0.27			0.25%
Ag 328.068†	3.1	0.00002	mg/L	0.000325	0.00002	mg/L	0.000325 >999.9%
Al 308.215†	25.1	0.02457	mg/L	0.019870	0.02457	mg/L	0.019870 80.86%
As 188.979†	-0.2	-0.00019	mg/L	0.002107	-0.00019	mg/L	0.002107 >999.9%
B 249.677†	15.0	0.00233	mg/L	0.000403	0.00233	mg/L	0.000403 17.28%
Ba 233.527†	4.1	0.00100	mg/L	0.001730	0.00100	mg/L	0.001730 172.49%
Be 313.042†	-38.9	-0.00009	mg/L	0.000053	-0.00009	mg/L	0.000053 58.30%
Ca 317.933†	6.6	0.00102	mg/L	0.000309	0.00102	mg/L	0.000309 30.22%
Cd 228.802†	2.1	0.00012	mg/L	0.000098	0.00012	mg/L	0.000098 80.12%
Co 228.616†	0.8	0.00003	mg/L	0.000071	0.00003	mg/L	0.000071 225.96%
Cr 267.716†	-2.1	-0.00074	mg/L	0.003424	-0.00074	mg/L	0.003424 464.69%
Cu 324.752†	51.0	0.00033	mg/L	0.000104	0.00033	mg/L	0.000104 31.27%
Fe 273.955†	2.3	0.00232	mg/L	0.003760	0.00232	mg/L	0.003760 162.05%
K 766.490†	-22.2	-0.01991	mg/L	0.027777	-0.01991	mg/L	0.027777 139.55%
Mg 279.077†	6.9	0.00885	mg/L	0.009311	0.00885	mg/L	0.009311 105.18%
Mn 257.610†	20.4	0.00054	mg/L	0.000033	0.00054	mg/L	0.000033 6.02%
Mo 202.031†	3.9	0.00032	mg/L	0.000145	0.00032	mg/L	0.000145 45.46%
Na 589.592†	19.4	0.00239	mg/L	0.003823	0.00239	mg/L	0.003823 159.74%
Na 330.237†	3.0	0.1566	mg/L	0.40486	0.1566	mg/L	0.40486 258.52%
Ni 231.604†	-1.1	-0.00041	mg/L	0.001268	-0.00041	mg/L	0.001268 307.50%
Pb 220.353†	3.8	0.00070	mg/L	0.001212	0.00070	mg/L	0.001212 173.59%
Sb 206.836†	3.0	0.00159	mg/L	0.003769	0.00159	mg/L	0.003769 236.88%
Se 196.026†	4.3	0.00536	mg/L	0.009668	0.00536	mg/L	0.009668 180.34%
Si 288.158†	-5.1	-0.00599	mg/L	0.002212	-0.00599	mg/L	0.002212 36.94%
Sn 189.927†	-0.7	-0.00026	mg/L	0.000464	-0.00026	mg/L	0.000464 177.24%
Sr 421.552†	23.0	0.00005	mg/L	0.000053	0.00005	mg/L	0.000053 99.55%
Ti 334.903†	-7.2	-0.00053	mg/L	0.000879	-0.00053	mg/L	0.000879 166.25%
Tl 190.801†	3.3	0.00242	mg/L	0.001994	0.00242	mg/L	0.001994 82.46%
V 292.402†	17.7	0.00031	mg/L	0.000120	0.00031	mg/L	0.000120 38.25%
Zn 206.200†	1.4	0.00068	mg/L	0.000790	0.00068	mg/L	0.000790 115.42%

Sequence No.: 51
 Sample ID: RINSE - 1

Autosampler Location: 9
 Date Collected: 11/10/2020 10:07:30 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 1

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: RINSE - 1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1457515.0	106.9	%	0.74				0.69%
ScR 361.383	161166.7	103.9	%	0.80				0.77%
Ag 328.068†	-16.0	-0.00012	mg/L	0.000232	-0.00012	mg/L	0.000232	187.00%
Al 308.215†	-0.9	-0.00087	mg/L	0.003498	-0.00087	mg/L	0.003498	401.98%
As 188.979†	-3.3	-0.00358	mg/L	0.001503	-0.00358	mg/L	0.001503	42.02%
B 249.677†	10.3	0.00159	mg/L	0.002184	0.00159	mg/L	0.002184	137.39%
Ba 233.527†	6.2	0.00153	mg/L	0.001975	0.00153	mg/L	0.001975	129.36%
Be 313.042†	-58.0	-0.00013	mg/L	0.000063	-0.00013	mg/L	0.000063	47.32%
Ca 317.933†	13.9	0.00216	mg/L	0.002416	0.00216	mg/L	0.002416	111.99%
Cd 228.802†	-2.1	-0.00010	mg/L	0.000054	-0.00010	mg/L	0.000054	54.41%
Co 228.616†	1.3	0.00005	mg/L	0.000218	0.00005	mg/L	0.000218	427.74%
Cr 267.716†	-3.2	-0.00108	mg/L	0.003800	-0.00108	mg/L	0.003800	351.29%
Cu 324.752†	26.0	0.00017	mg/L	0.000253	0.00017	mg/L	0.000253	149.39%
Fe 273.955†	-1.1	-0.00111	mg/L	0.003800	-0.00111	mg/L	0.003800	341.46%
K 766.490†	13.8	0.01237	mg/L	0.045173	0.01237	mg/L	0.045173	365.25%
Mg 279.077†	4.7	0.00596	mg/L	0.015296	0.00596	mg/L	0.015296	256.53%
Mn 257.610†	19.7	0.00052	mg/L	0.000210	0.00052	mg/L	0.000210	40.11%
Mo 202.031†	-8.3	-0.00069	mg/L	0.000072	-0.00069	mg/L	0.000072	10.46%
Na 589.592†	-5.3	-0.00066	mg/L	0.007347	-0.00066	mg/L	0.007347	>999.9%
Na 330.237†	-3.4	-0.1768	mg/L	0.65116	-0.1768	mg/L	0.65116	368.38%
Ni 231.604†	1.9	0.00072	mg/L	0.000506	0.00072	mg/L	0.000506	70.64%
Pb 220.353†	8.5	0.00154	mg/L	0.001160	0.00154	mg/L	0.001160	75.15%
Sb 206.836†	-2.0	-0.00107	mg/L	0.002858	-0.00107	mg/L	0.002858	266.79%
Se 196.026†	1.8	0.00229	mg/L	0.007510	0.00229	mg/L	0.007510	328.19%
Si 288.158†	3.6	0.00427	mg/L	0.006189	0.00427	mg/L	0.006189	144.77%
Sn 189.927†	-0.5	-0.00018	mg/L	0.000552	-0.00018	mg/L	0.000552	299.08%
Sr 421.552†	34.8	0.00008	mg/L	0.000050	0.00008	mg/L	0.000050	62.04%
Ti 334.903†	3.9	0.00029	mg/L	0.001508	0.00029	mg/L	0.001508	527.81%
Tl 190.801†	3.1	0.00233	mg/L	0.002734	0.00233	mg/L	0.002734	117.56%
V 292.402†	5.8	0.00010	mg/L	0.000408	0.00010	mg/L	0.000408	422.44%
Zn 206.200†	2.2	0.00107	mg/L	0.000944	0.00107	mg/L	0.000944	88.54%

Sequence No.: 52
 Sample ID: RINSE - 2

Autosampler Location: 9
 Date Collected: 11/10/2020 10:11:46 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 2

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: RINSE - 2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1479665.5	108.6	%	0.69			0.64%
ScR 361.383	163635.3	105.5	%	0.15			0.15%
Ag 328.068†	-3.4	-0.00003	mg/L	0.000178	-0.00003	mg/L	0.000178 684.89%
Al 308.215†	8.7	0.00849	mg/L	0.034663	0.00849	mg/L	0.034663 408.52%
As 188.979†	0.5	0.00048	mg/L	0.000264	0.00048	mg/L	0.000264 55.62%
B 249.677†	9.0	0.00139	mg/L	0.000462	0.00139	mg/L	0.000462 33.24%
Ba 233.527†	4.0	0.00100	mg/L	0.001024	0.00100	mg/L	0.001024 102.84%
Be 313.042†	-86.6	-0.00020	mg/L	0.000042	-0.00020	mg/L	0.000042 20.97%
Ca 317.933†	12.0	0.00186	mg/L	0.001547	0.00186	mg/L	0.001547 82.96%
Cd 228.802†	-1.0	-0.00007	mg/L	0.000088	-0.00007	mg/L	0.000088 134.97%
Co 228.616†	1.3	0.00005	mg/L	0.000120	0.00005	mg/L	0.000120 224.88%
Cr 267.716†	3.8	0.00132	mg/L	0.002480	0.00132	mg/L	0.002480 188.49%
Cu 324.752†	20.8	0.00014	mg/L	0.000017	0.00014	mg/L	0.000017 12.88%
Fe 273.955†	0.9	0.00091	mg/L	0.001628	0.00091	mg/L	0.001628 178.35%
K 766.490†	-0.5	-0.00048	mg/L	0.026802	-0.00048	mg/L	0.026802 >999.9%
Mg 279.077†	1.9	0.00244	mg/L	0.005691	0.00244	mg/L	0.005691 233.03%
Mn 257.610†	8.4	0.00022	mg/L	0.000107	0.00022	mg/L	0.000107 47.79%
Mo 202.031†	-3.9	-0.00032	mg/L	0.000148	-0.00032	mg/L	0.000148 46.06%
Na 589.592†	-4.8	-0.00059	mg/L	0.003814	-0.00059	mg/L	0.003814 643.55%
Na 330.237†	-0.2	-0.01012	mg/L	0.207917	-0.01012	mg/L	0.207917 >999.9%
Ni 231.604†	-0.7	-0.00027	mg/L	0.001624	-0.00027	mg/L	0.001624 599.21%
Pb 220.353†	7.4	0.00134	mg/L	0.001371	0.00134	mg/L	0.001371 102.16%
Sb 206.836†	-3.6	-0.00193	mg/L	0.001104	-0.00193	mg/L	0.001104 57.29%
Se 196.026†	6.4	0.00799	mg/L	0.004846	0.00799	mg/L	0.004846 60.69%
Si 288.158†	2.0	0.00235	mg/L	0.002652	0.00235	mg/L	0.002652 112.70%
Sn 189.927†	1.7	0.00065	mg/L	0.000197	0.00065	mg/L	0.000197 30.41%
Sr 421.552†	-5.9	-0.00001	mg/L	0.000015	-0.00001	mg/L	0.000015 110.36%
Ti 334.903†	-11.6	-0.00085	mg/L	0.000861	-0.00085	mg/L	0.000861 101.74%
Tl 190.801†	0.8	0.00057	mg/L	0.002336	0.00057	mg/L	0.002336 412.50%
V 292.402†	12.7	0.00024	mg/L	0.000212	0.00024	mg/L	0.000212 89.98%
Zn 206.200†	2.6	0.00130	mg/L	0.000891	0.00130	mg/L	0.000891 68.56%

Sequence No.: 53
 Sample ID: RINSE - 3

Autosampler Location: 9
 Date Collected: 11/10/2020 10:16:02 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 3

Analyte Back Pressure Flow
 All 242.0 kPa 0.65 L/min

Mean Data: RINSE - 3

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1487506.9	109.1	%	0.81				0.75%
ScR 361.383	166541.6	107.4	%	0.64				0.60%
Ag 328.068†	-17.0	-0.00013	mg/L	0.000116	-0.00013	mg/L	0.000116	88.12%
Al 308.215†	3.0	0.00290	mg/L	0.004956	0.00290	mg/L	0.004956	171.04%
As 188.979†	-1.1	-0.00117	mg/L	0.000124	-0.00117	mg/L	0.000124	10.61%
B 249.677†	5.3	0.00082	mg/L	0.000754	0.00082	mg/L	0.000754	92.24%
Ba 233.527†	7.4	0.00184	mg/L	0.001218	0.00184	mg/L	0.001218	66.07%
Be 313.042†	-92.7	-0.00021	mg/L	0.000083	-0.00021	mg/L	0.000083	38.67%
Ca 317.933†	-2.5	-0.00038	mg/L	0.003188	-0.00038	mg/L	0.003188	833.22%
Cd 228.802†	-1.6	-0.00008	mg/L	0.000195	-0.00008	mg/L	0.000195	236.14%
Co 228.616†	1.3	0.00005	mg/L	0.000218	0.00005	mg/L	0.000218	405.73%
Cr 267.716†	-6.3	-0.00215	mg/L	0.001351	-0.00215	mg/L	0.001351	62.83%
Cu 324.752†	-3.2	-0.00002	mg/L	0.000085	-0.00002	mg/L	0.000085	410.66%
Fe 273.955†	2.1	0.00215	mg/L	0.004748	0.00215	mg/L	0.004748	220.77%
K 766.490†	-1.8	-0.00163	mg/L	0.015489	-0.00163	mg/L	0.015489	948.76%
Mg 279.077†	3.1	0.00399	mg/L	0.003613	0.00399	mg/L	0.003613	90.56%
Mn 257.610†	10.9	0.00029	mg/L	0.000132	0.00029	mg/L	0.000132	45.90%
Mo 202.031†	-3.5	-0.00029	mg/L	0.000145	-0.00029	mg/L	0.000145	50.19%
Na 589.592†	-27.0	-0.00334	mg/L	0.005003	-0.00334	mg/L	0.005003	149.63%
Na 330.237†	-3.6	-0.1851	mg/L	0.68946	-0.1851	mg/L	0.68946	372.48%
Ni 231.604†	4.5	0.00165	mg/L	0.001630	0.00165	mg/L	0.001630	98.60%
Pb 220.353†	2.8	0.00050	mg/L	0.001087	0.00050	mg/L	0.001087	218.30%
Sb 206.836†	2.0	0.00111	mg/L	0.003020	0.00111	mg/L	0.003020	271.17%
Se 196.026†	6.4	0.00792	mg/L	0.003969	0.00792	mg/L	0.003969	50.14%
Si 288.158†	1.8	0.00210	mg/L	0.008888	0.00210	mg/L	0.008888	422.69%
Sn 189.927†	0.0	0.00000	mg/L	0.000874	0.00000	mg/L	0.000874	>999.9%
Sr 421.552†	-6.2	-0.00001	mg/L	0.000023	-0.00001	mg/L	0.000023	157.31%
Ti 334.903†	-8.8	-0.00064	mg/L	0.001454	-0.00064	mg/L	0.001454	225.40%
Tl 190.801†	3.0	0.00226	mg/L	0.000566	0.00226	mg/L	0.000566	25.07%
V 292.402†	15.3	0.00026	mg/L	0.000202	0.00026	mg/L	0.000202	77.42%
Zn 206.200†	1.7	0.00086	mg/L	0.001179	0.00086	mg/L	0.001179	137.03%

Sequence No.: 54

Autosampler Location: 9

Sample ID: RINSE - 4

Date Collected: 11/10/2020 10:20:18 PM

Data Type: Original

Dilution: 1X

Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: RINSE - 4

Analyte	Back Pressure	Flow
All	238.0 kPa	0.65 L/min

Mean Data: RINSE - 4

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	1458417.5	107.0	%	0.19				0.17%
ScR 361.383	162740.5	104.9	%	0.55				0.52%
Ag 328.068†	-40.8	-0.00032	mg/L	0.000052	-0.00032	mg/L	0.000052	16.39%
Al 308.215†	19.1	0.01869	mg/L	0.016255	0.01869	mg/L	0.016255	86.95%
As 188.979†	-2.4	-0.00261	mg/L	0.001934	-0.00261	mg/L	0.001934	74.07%
B 249.677†	-0.1	-0.00001	mg/L	0.001444	-0.00001	mg/L	0.001444	>999.9%
Ba 233.527†	4.9	0.00121	mg/L	0.000133	0.00121	mg/L	0.000133	10.97%
Be 313.042†	-43.7	-0.00010	mg/L	0.000093	-0.00010	mg/L	0.000093	91.49%
Ca 317.933†	13.6	0.00211	mg/L	0.002122	0.00211	mg/L	0.002122	100.62%
Cd 228.802†	-4.4	-0.00024	mg/L	0.000107	-0.00024	mg/L	0.000107	44.78%
Co 228.616†	-0.5	-0.00002	mg/L	0.000017	-0.00002	mg/L	0.000017	80.02%
Cr 267.716†	-4.8	-0.00164	mg/L	0.001320	-0.00164	mg/L	0.001320	80.55%
Cu 324.752†	21.8	0.00014	mg/L	0.000170	0.00014	mg/L	0.000170	119.37%
Fe 273.955†	2.4	0.00240	mg/L	0.002602	0.00240	mg/L	0.002602	108.24%
K 766.490†	-8.0	-0.00720	mg/L	0.006677	-0.00720	mg/L	0.006677	92.75%
Mg 279.077†	1.4	0.00180	mg/L	0.012602	0.00180	mg/L	0.012602	699.72%
Mn 257.610†	16.0	0.00042	mg/L	0.000157	0.00042	mg/L	0.000157	36.91%
Mo 202.031†	-3.7	-0.00031	mg/L	0.000239	-0.00031	mg/L	0.000239	77.37%
Na 589.592†	-52.9	-0.00654	mg/L	0.003951	-0.00654	mg/L	0.003951	60.38%
Na 330.237†	6.1	0.3148	mg/L	0.66345	0.3148	mg/L	0.66345	210.77%
Ni 231.604†	0.8	0.00030	mg/L	0.002758	0.00030	mg/L	0.002758	927.29%
Pb 220.353†	4.0	0.00073	mg/L	0.000370	0.00073	mg/L	0.000370	50.93%
Sb 206.836†	-2.1	-0.00106	mg/L	0.000239	-0.00106	mg/L	0.000239	22.58%
Se 196.026†	5.1	0.00628	mg/L	0.001940	0.00628	mg/L	0.001940	30.88%
Si 288.158†	-4.7	-0.00559	mg/L	0.002027	-0.00559	mg/L	0.002027	36.24%
Sn 189.927†	2.5	0.00093	mg/L	0.000713	0.00093	mg/L	0.000713	76.42%
Sr 421.552†	-11.2	-0.00003	mg/L	0.000081	-0.00003	mg/L	0.000081	309.87%
Ti 334.903†	3.4	0.00025	mg/L	0.000158	0.00025	mg/L	0.000158	63.29%
Tl 190.801†	2.8	0.00207	mg/L	0.002304	0.00207	mg/L	0.002304	111.36%
V 292.402†	18.0	0.00031	mg/L	0.000324	0.00031	mg/L	0.000324	104.28%
Zn 206.200†	1.3	0.00066	mg/L	0.000740	0.00066	mg/L	0.000740	112.70%

Sequence No.: 55
 Sample ID: DI - 1

Autosampler Location: 10
 Date Collected: 11/10/2020 10:24:34 PM
 Data Type: Original

Dilution: 1X
 Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 1

Analyte Back Pressure Flow
 All 239.0 kPa 0.65 L/min

Mean Data: DI - 1

Analyte	Mean Corrected			Std.Dev.	Sample		
	Intensity	Conc.	Calib. Units		Conc.	Units	Std.Dev.
ScA 357.253	1500277.0	110.1	%	0.18			0.16%
ScR 361.383	167721.4	108.2	%	0.88			0.82%
Ag 328.068†	-24.3	-0.00019	mg/L	0.000291	-0.00019	mg/L	0.000291 154.51%
Al 308.215†	-33.5	-0.03278	mg/L	0.003846	-0.03278	mg/L	0.003846 11.73%
As 188.979†	1.7	0.00183	mg/L	0.003476	0.00183	mg/L	0.003476 190.13%
B 249.677†	7.0	0.00109	mg/L	0.000927	0.00109	mg/L	0.000927 85.39%
Ba 233.527†	0.9	0.00022	mg/L	0.000194	0.00022	mg/L	0.000194 86.99%
Be 313.042†	-152.7	-0.00035	mg/L	0.000062	-0.00035	mg/L	0.000062 17.57%
Ca 317.933†	-18.2	-0.00283	mg/L	0.000327	-0.00283	mg/L	0.000327 11.54%
Cd 228.802†	-0.5	-0.00004	mg/L	0.000141	-0.00004	mg/L	0.000141 370.59%
Co 228.616†	2.2	0.00009	mg/L	0.000088	0.00009	mg/L	0.000088 97.76%
Cr 267.716†	11.4	0.00392	mg/L	0.001002	0.00392	mg/L	0.001002 25.60%
Cu 324.752†	-44.7	-0.00029	mg/L	0.000053	-0.00029	mg/L	0.000053 18.22%
Fe 273.955†	5.5	0.00565	mg/L	0.001720	0.00565	mg/L	0.001720 30.43%
K 766.490†	10.2	0.00918	mg/L	0.012992	0.00918	mg/L	0.012992 141.54%
Mg 279.077†	5.1	0.00650	mg/L	0.005421	0.00650	mg/L	0.005421 83.36%
Mn 257.610†	-13.8	-0.00036	mg/L	0.000239	-0.00036	mg/L	0.000239 65.52%
Mo 202.031†	-5.8	-0.00048	mg/L	0.000148	-0.00048	mg/L	0.000148 30.98%
Na 589.592†	-2.3	-0.00028	mg/L	0.003216	-0.00028	mg/L	0.003216 >999.9%
Na 330.237†	-7.4	-0.3871	mg/L	0.94205	-0.3871	mg/L	0.94205 243.35%
Ni 231.604†	5.2	0.00192	mg/L	0.002296	0.00192	mg/L	0.002296 119.68%
Pb 220.353†	6.2	0.00112	mg/L	0.000930	0.00112	mg/L	0.000930 83.01%
Sb 206.836†	-5.4	-0.00293	mg/L	0.002316	-0.00293	mg/L	0.002316 79.02%
Se 196.026†	7.0	0.00873	mg/L	0.006729	0.00873	mg/L	0.006729 77.07%
Si 288.158†	14.5	0.01716	mg/L	0.011458	0.01716	mg/L	0.011458 66.78%
Sn 189.927†	1.6	0.00061	mg/L	0.000187	0.00061	mg/L	0.000187 30.87%
Sr 421.552†	-15.0	-0.00003	mg/L	0.000022	-0.00003	mg/L	0.000022 61.73%
Ti 334.903†	-3.5	-0.00025	mg/L	0.001409	-0.00025	mg/L	0.001409 556.96%
Tl 190.801†	-3.1	-0.00229	mg/L	0.002016	-0.00229	mg/L	0.002016 87.94%
V 292.402†	23.4	0.00044	mg/L	0.000204	0.00044	mg/L	0.000204 45.91%
Zn 206.200†	2.2	0.00110	mg/L	0.001291	0.00110	mg/L	0.001291 117.49%

Sequence No.: 56
Sample ID: DI - 2

Autosampler Location: 10
Date Collected: 11/10/2020 10:28:49 PM
Data Type: Original

Dilution: 1X
Wash Time: 37

Auto Dilution Factor: 1

Nebulizer Parameters: DI - 2

Analyte	Back Pressure	Flow
All	241.0 kPa	0.65 L/min

Mean Data: DI - 2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	1523396.2	111.8	%	0.60			0.54%
ScR 361.383	169049.7	109.0	%	0.69			0.63%
Ag 328.068†	-26.4	-0.00021	mg/L	0.000149	-0.00021	mg/L	0.000149 72.78%
Al 308.215†	-25.8	-0.02523	mg/L	0.000738	-0.02523	mg/L	0.000738 2.93%
As 188.979†	0.0	0.00001	mg/L	0.000635	0.00001	mg/L	0.000635 >999.9%
B 249.677†	2.7	0.00042	mg/L	0.001367	0.00042	mg/L	0.001367 328.24%
Ba 233.527†	2.5	0.00063	mg/L	0.001626	0.00063	mg/L	0.001626 259.49%
Be 313.042†	-142.0	-0.00033	mg/L	0.000059	-0.00033	mg/L	0.000059 18.12%
Ca 317.933†	11.0	0.00171	mg/L	0.000518	0.00171	mg/L	0.000518 30.20%
Cd 228.802†	0.8	0.00005	mg/L	0.000158	0.00005	mg/L	0.000158 328.18%
Co 228.616†	8.3	0.00034	mg/L	0.000149	0.00034	mg/L	0.000149 44.54%
Cr 267.716†	14.5	0.00499	mg/L	0.002419	0.00499	mg/L	0.002419 48.49%
Cu 324.752†	-37.0	-0.00024	mg/L	0.000040	-0.00024	mg/L	0.000040 16.49%
Fe 273.955†	-0.3	-0.00032	mg/L	0.001801	-0.00032	mg/L	0.001801 557.00%
K 766.490†	-9.8	-0.00877	mg/L	0.034986	-0.00877	mg/L	0.034986 398.98%
Mg 279.077†	-4.0	-0.00518	mg/L	0.004365	-0.00518	mg/L	0.004365 84.29%
Mn 257.610†	-7.7	-0.00021	mg/L	0.000068	-0.00021	mg/L	0.000068 33.32%
Mo 202.031†	-9.2	-0.00076	mg/L	0.000419	-0.00076	mg/L	0.000419 55.33%
Na 589.592†	-3.1	-0.00038	mg/L	0.002816	-0.00038	mg/L	0.002816 735.10%
Na 330.237†	-4.0	-0.2102	mg/L	0.30034	-0.2102	mg/L	0.30034 142.92%
Ni 231.604†	3.9	0.00145	mg/L	0.001739	0.00145	mg/L	0.001739 120.14%
Pb 220.353†	7.8	0.00141	mg/L	0.000842	0.00141	mg/L	0.000842 59.59%
Sb 206.836†	-5.0	-0.00272	mg/L	0.001028	-0.00272	mg/L	0.001028 37.76%
Se 196.026†	7.9	0.00983	mg/L	0.005443	0.00983	mg/L	0.005443 55.40%
Si 288.158†	11.1	0.01307	mg/L	0.007387	0.01307	mg/L	0.007387 56.51%
Sn 189.927†	2.8	0.00107	mg/L	0.000738	0.00107	mg/L	0.000738 69.26%
Sr 421.552†	-16.9	-0.00004	mg/L	0.000024	-0.00004	mg/L	0.000024 59.99%
Ti 334.903†	-6.4	-0.00047	mg/L	0.000990	-0.00047	mg/L	0.000990 211.55%
Tl 190.801†	-2.3	-0.00168	mg/L	0.001699	-0.00168	mg/L	0.001699 101.29%
V 292.402†	6.9	0.00015	mg/L	0.000111	0.00015	mg/L	0.000111 71.79%
Zn 206.200†	3.1	0.00154	mg/L	0.002008	0.00154	mg/L	0.002008 130.65%



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Control Limit: +/- 10.00%

Sequence: SIK0154

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SIK0154-ICV1	Lead	2.0000	2.06	103	mg/L	EPA 6010C
SIK0154-CCV1	Lead	2.0000	2.02	101	mg/L	EPA 6010C
SIK0154-CCV2	Lead	2.0000	2.09	105	mg/L	EPA 6010C
SIK0154-CCV3	Lead	2.0000	2.14	107	mg/L	EPA 6010C
SIK0154-CCV4	Lead	2.0000	2.09	104	mg/L	EPA 6010C
SIK0154-CCV5	Lead	2.0000	2.03	102	mg/L	EPA 6010C
SIK0154-CCV6	Lead	2.0000	2.03	101	mg/L	EPA 6010C
SIK0154-CCV7	Lead	2.0000	2.04	102	mg/L	EPA 6010C
SIK0154-CCV8	Lead	2.0000	2.03	102	mg/L	EPA 6010C

* Values outside of QC limits



INSTRUMENT BLANKS EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Date Analyzed: 11/10/20 16:10

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SIK0154-ICB1	Lead	-0.0008	0.0024	0.0200	mg/L	
SIK0154-CCB1	Lead	0.00001	0.0024	0.0200	mg/L	
SIK0154-CCB2	Lead	0.0015	0.0024	0.0200	mg/L	
SIK0154-CCB3	Lead	0.0009	0.0024	0.0200	mg/L	
SIK0154-CCB4	Lead	-0.0004	0.0024	0.0200	mg/L	
SIK0154-CCB5	Lead	0.0018	0.0024	0.0200	mg/L	
SIK0154-CCB6	Lead	0.0014	0.0024	0.0200	mg/L	
SIK0154-CCB7	Lead	0.0003	0.0024	0.0200	mg/L	
SIK0154-CCB8	Lead	0.0007	0.0024	0.0200	mg/L	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIK0154

Instrument: ICP2

Calibration: DK00024

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SIK0154-CAL1	I2201110-006	NA	11/10/20 15:49
CAL 1 - LOW CHECK	SIK0154-CAL2	I2201110-007	NA	11/10/20 15:54
CAL 2	SIK0154-CAL3	I2201110-008	NA	11/10/20 15:56
CAL 3	SIK0154-CAL4	I2201110-009	NA	11/10/20 15:59
CAL 4	SIK0154-CAL5	I2201110-010	NA	11/10/20 16:01
Initial Cal Check	SIK0154-ICV1	I2201110-011	NA	11/10/20 16:05
Initial Cal Blank	SIK0154-ICB1	I2201110-012	NA	11/10/20 16:10
Instrument RL Check	SIK0154-CRL1	I2201110-013	NA	11/10/20 16:14
Interference Check A	SIK0154-IFA1	I2201110-014	NA	11/10/20 16:18
Interference Check B	SIK0154-IFB1	I2201110-015	NA	11/10/20 16:23
Calibration Check	SIK0154-CCV1	I2201110-016	NA	11/10/20 16:30
Calibration Blank	SIK0154-CCB1	I2201110-017	NA	11/10/20 16:35
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20K0053-03	I2201110-018	Water	11/10/20 16:40
ZZZZZ	20J0393-01	I2201110-019	Solid	11/10/20 16:45
ZZZZZ	20J0393-01	I2201110-019	Solid	11/10/20 16:45
ZZZZZ	20J0393-03	I2201110-020	Solid	11/10/20 16:49
ZZZZZ	20J0393-03	I2201110-020	Solid	11/10/20 16:49
ZZZZZ	20J0410-04	I2201110-021	Solid	11/10/20 16:53
ZZZZZ	20J0410-21	I2201110-022	Solid	11/10/20 16:57
ZZZZZ	20J0435-01	I2201110-023	Solid	11/10/20 17:02
ZZZZZ	20J0422-03	I2201110-024	Solid	11/10/20 17:06
ZZZZZ	20J0422-05	I2201110-025	Solid	11/10/20 17:10
ZZZZZ	20J0422-06	I2201110-026	Solid	11/10/20 17:14



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0422-07	I2201110-027	Solid	11/10/20 17:18
Calibration Check	SIK0154-CCV2	I2201110-028	NA	11/10/20 17:22
Calibration Blank	SIK0154-CCB2	I2201110-029	NA	11/10/20 17:28
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-01	I2201110-030	Water	11/10/20 17:32
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20K0053-02	I2201110-031	Water	11/10/20 17:37
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-01	I2201110-032	Solid	11/10/20 17:41
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-02	I2201110-033	Solid	11/10/20 17:45
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Coopera</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	20J0425-03	I2201110-034	Solid	11/10/20 17:50
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-04	I2201110-035	Solid	11/10/20 17:54
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-06	I2201110-037	Solid	11/10/20 18:02
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-07	I2201110-038	Solid	11/10/20 18:07
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
ZZZZZ	20J0425-08	I2201110-039	Solid	11/10/20 18:11
Calibration Check	SIK0154-CCV3	I2201110-040	NA	11/10/20 18:15
Calibration Blank	SIK0154-CCB3	I2201110-041	NA	11/10/20 18:21
Calibration Check	SIK0154-CCV4	I2201110-044	NA	11/10/20 18:32
Calibration Blank	SIK0154-CCB4	I2201110-045	NA	11/10/20 18:37
Blank	BIK0175-BLK1	I2201110-046	Solid	11/10/20 18:41
PP17-7.5	20K0008-03	I2201110-047	Solid	11/10/20 18:45
PP22-2.5	20K0008-07	I2201110-048	Solid	11/10/20 18:50
PP22-7.5	20K0008-09	I2201110-049	Solid	11/10/20 18:54
LCS	BIK0175-BS1	I2201110-052	Solid	11/10/20 19:11
Calibration Check	SIK0154-CCV5	I2201110-053	NA	11/10/20 19:15
Calibration Blank	SIK0154-CCB5	I2201110-054	NA	11/10/20 19:21
PP18-10	20K0008-16	I2201110-055	Solid	11/10/20 19:25
PP19-2.5	20K0008-20	I2201110-056	Solid	11/10/20 19:29



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0008</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Sequence:	<u>SIK0154</u>	Instrument:	<u>ICP2</u>
		Calibration:	<u>DK00024</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
PP19-7.5	20K0008-22	I2201110-057	Solid	11/10/20 19:33
PP20-5	20K0008-26	I2201110-058	Solid	11/10/20 19:38
PP20-10	20K0008-28	I2201110-059	Solid	11/10/20 19:42
PP31-2.5	20K0008-31	I2201110-060	Solid	11/10/20 19:46
PP31-7.5	20K0008-33	I2201110-061	Solid	11/10/20 19:51
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-05	I2201110-062	Solid	11/10/20 19:55
ZZZZZ	20J0425-07RE1	I2201110-063	Solid	11/10/20 19:59
ZZZZZ	BIK0224-BS1	I2201110-064	Water	11/10/20 20:03
Calibration Check	SIK0154-CCV6	I2201110-065	NA	11/10/20 20:08
Calibration Blank	SIK0154-CCB6	I2201110-066	NA	11/10/20 20:13
ZZZZZ	BIK0224-BLK1	I2201110-068	Water	11/10/20 20:21
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0124-01	I2201110-072	Water	11/10/20 20:38
ZZZZZ	20K0097-01	I2201110-074	Water	11/10/20 20:50
Calibration Check	SIK0154-CCV7	I2201110-077	NA	11/10/20 21:04
Calibration Blank	SIK0154-CCB7	I2201110-078	NA	11/10/20 21:09
ZZZZZ	20J0383-02	I2201110-081	Water	11/10/20 21:22
ZZZZZ	20J0383-02	I2201110-081	Water	11/10/20 21:22
PP18-5	20K0008-14	I2201110-084	Solid	11/10/20 21:36
PP17-2	BIK0175-DUP1	I2201110-085	Solid	11/10/20 21:40
PP17-2	20K0008-01	I2201110-086	Solid	11/10/20 21:45
PP17-2	BIK0175-MS1	I2201110-087	Solid	11/10/20 21:49
PP17-2	BIK0175-MSD1	I2201110-088	Solid	11/10/20 21:53
Calibration Check	SIK0154-CCV8	I2201110-089	NA	11/10/20 21:57
Calibration Blank	SIK0154-CCB8	I2201110-090	NA	11/10/20 22:03



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0154-IFA1	Lead	0	-0.0063		mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Standard ID: I006930

Lab Sample ID	Analyte	True	Found	%R	Units
SIK0154-IFB1	Lead	1.0000	0.9850	98.5	mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument: ICP2 IEC Date: 12/02/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Al</u>	<u>Ca</u>	<u>Fe</u>	<u>Mg</u>	<u>Sb</u>
Arsenic	188.98		0.024798			
Copper	324.75			-0.043429	0.008126	
Lead	220.35	-0.29953		0.039965		
Zinc	206.2					



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument: ICP2

IEC Date: 12/02/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>As</u>	<u>Ba</u>	<u>Be</u>	<u>Cd</u>	<u>Cr</u>
Arsenic	188.98					1.655524
Copper	324.75					-0.035547
Lead	220.35					-2.014266
Zinc	206.2					



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Coopperage
Instrument: ICP2 IEC Date: 12/02/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Co</u>	<u>Cu</u>	<u>Pb</u>	<u>Mn</u>	<u>Mo</u>
Arsenic	188.98	-1.127911				3.610309
Copper	324.75	-0.206732				0.408373
Lead	220.35	-0.160377	1.479952			
Zinc	206.2			-0.042156		



INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc. SDG: 20K0008
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument: ICP2 IEC Date: 12/02/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Ni</u>	<u>K</u>	<u>Si</u>	<u>Ag</u>	<u>Tl</u>
Arsenic	188.98					
Copper	324.75					
Lead	220.35	-0.149057				
Zinc	206.2					



INTER-ELEMENT CORRECTION FACTORS

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument: ICP2

IEC Date: 12/02/2020

Analyte	Wave-length (nm)	Interelement Correction Factors for:			
		<u>Sn</u>	<u>Ti</u>	<u>V</u>	<u>Zn</u>
Arsenic	188.98		-112.3948		
Copper	324.75		0.233423		
Lead	220.35				
Zinc	206.2				



DETECTION LEVEL STANDARD
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Instrument ID: ICP2

Calibration: DK00024

Sequence: SIK0154

Lab Sample ID: SIK0154-CRL1

Analyte	True	Found	%R	Units	QC Limits
Lead	0.0200	0.0203	102	mg/L	50 - 150

* Values outside of QC limits



HOLDING TIME SUMMARY

Analysis: EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PP17-2 20K0008-01	10/29/20 08:50	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 21:45	13	180	
PP17-7.5 20K0008-03	10/29/20 09:00	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 18:45	12	180	
PP22-2.5 20K0008-07	10/29/20 10:15	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 18:50	12	180	
PP22-7.5 20K0008-09	10/29/20 10:25	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 18:54	12	180	
PP18-5 20K0008-14	10/29/20 11:20	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 21:36	12	180	
PP18-10 20K0008-16	10/29/20 11:30	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:25	12	180	
PP19-2.5 20K0008-20	10/29/20 13:30	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:29	12	180	
PP19-7.5 20K0008-22	10/29/20 13:40	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:33	12	180	
PP20-5 20K0008-26	10/29/20 14:30	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:38	12	180	
PP20-10 20K0008-28	10/29/20 14:40	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:42	12	180	
PP31-2.5 20K0008-31	10/29/20 15:25	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:46	12	180	
PP31-7.5 20K0008-33	10/29/20 15:35	10/30/20 11:45	11/06/20 10:41	7	180	11/10/20 19:51	12	180	
Duplicate BIK0175-DUP1	10/29/20 08:50	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 21:40	13	180	
Matrix Spike BIK0175-MS1	10/29/20 08:50	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 21:49	13	180	
Matrix Spike Dup BIK0175-MSD1	10/29/20 08:50	10/30/20 11:45	11/06/20 10:41	8	180	11/10/20 21:53	13	180	

* Indicates hold time exceedance.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Solid

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.240	2.00	mg/kg



Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 20K0008

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Matrix: Water

Instrument: ICP2

Analyte	MDL	RL	Units
Lead	0.0024	0.0200	mg/L



Analytical Resources, Incorporated
Analytical Chemists and Consultants

16 December 2020

Matt Dalton
Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

RE: ICS-Former NW Cooperage

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
20K0126

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Amanda Volgardsen Johnson, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20K012G	Turn-around Requested: Normal	Date: 11/5/20
ARI Client Company: Dalton Olmsted & Fuglevand	Phone: 206-660-3466	Page: 1 of 3
Client Contact: Matt Dalton / Dave Cooper		No. of Coolers: 3
Client Project Name: ICS/Former NW Cooperage		Cooler Temps: See CR



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested								Notes/Comments		
					PCBs EPA 8082A	NWTPH-DX	Pb EPA 8010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)						ARCHIVE
PP15-2.5	11/4/2020	0930	soil	1-8oz 2-4oz	X	X	X	X							
PP15-5	11/4/2020	0935	soil	1-8oz 2-4oz	X	X	X	X							
PP15-7.5	11/4/2020	0940	soil	1-8oz 2-4oz										X	Archive
PP15-10	11/4/2020	0945	soil	1-8oz 2-4oz										X	Archive
PP15-12.5	11/4/2020	0950	soil	1-8oz 2-4oz										X	Archive
PP16-2.5	11/4/2020	1025	soil	1-8oz 2-4oz	X	X	X	X							
PP16-5	11/4/2020	1030	soil	1-8oz 2-4oz	X	X	X	X							
PP16-7.5	11/4/2020	1035	soil	1-8oz 2-4oz										X	Archive
PP16-10	11/4/2020	1040	soil	1-8oz 2-4oz										X	Archive
PP16-12.5	11/4/2020	1045	soil	1-8oz 2-4oz										X	Archive
PP13-2.5	11/4/2020	1235	soil	1-8oz 2-4oz	X	X	X	X							
PP13-5	11/4/2020	1240	soil	1-8oz 2-4oz	X	X	X	X							

Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: ANTHONY CERRUTI	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: DOF	Company: ARI	Company:	Company:
	Date & Time: 11/5/2020 1547	Date & Time: 11/05/2020 1547	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20K0126	Turn-around Requested: Normal	Date: 11/5/20
ARI Client Company: Dalton Olmsted & Fuglevand	Phone: 206-660-3466	Page: 2 of 3
Client Contact: Matt Dalton / Dave Cooper		No. of Coolers: 3 Cooler Temps: See CUP



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

Client Project Name: ICS/Former NW Coorage	Analysis Requested							Notes/Comments
Client Project #: SUM-008-03	Samplers: DG Cooper, A Cerruti	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)	ARCHIVE	

Sample ID	Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)	ARCHIVE	Notes/Comments
PP13-7.5	11/4/2020	1245	soil	1-8oz 2-4oz						X	Archive
PP13-10	11/4/2020	1250	soil	1-8oz 2-4oz						X	Archive
PP13-12.5	11/4/2020	1255	soil	1-8oz 2-4oz						X	Archive
PP7-2.5	11/4/2020	1330	soil	1-8oz 2-4oz	X	X	X	X			
PP7-5	11/4/2020	1335	soil	1-8oz 2-4oz						X	Archive
PP7-7.5	11/4/2020	1340	soil	1-8oz 2-4oz	X	X	X	X			
PP7-10	11/4/2020	1345	soil	1-8oz 2-4oz						X	Archive
PP7-12.5	11/4/2020	1350	soil	1-8oz 2-4oz						X	Archive
PP7-14	11/4/2020	1355	soil	1-8oz 2-4oz						X	
PP3-2	11/4/2020	1440	soil	1-8oz						X	Archive
PP3-2.5	11/4/2020	1445	soil	1-8oz 2-4oz	X	X	X	X			
PP3-5	11/4/2020	1450	soil	1-8oz 2-4oz	X	X	X	X			

Comments/Special Instructions (1) Based on total metals	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: ANTHONY CERRUTI	Printed Name: Sacchbacher	Printed Name:	Printed Name:
	Company: DOF	Company: ARZ	Company:	Company:
	Date & Time: 11/5/2020 1547	Date & Time: 11/05/2020 1547	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: 20K0126		Turn-around Requested: Normal			Date: 11/5/20						
ARI Client Company: Dalton Olmsted & Fuglevand		Phone: 206-660-3466			Page: 3 of 3						
Client Contact: Matt Dalton / Dave Cooper		Client Project Name: ICS/Former NW Cooperage			No. of Coolers: 3						
Client Project #: SUM-008-03		Samplers: DG Cooper, A Cerruti			Cooler Temps: See CR						
Sample ID					Analysis Requested					Notes/Comments	
Date	Time	Matrix	No. Containers	PCBs EPA 8082A	NWTPH-DX	Pb EPA 6010C	Hg EPA 7471A	TCLP RCRA 8 Metals (1)	ARCHIVE		
11/4/2020	1455	soil	1-8oz 2-4oz						X	Archive	
11/4/2020	1500	soil	1-8oz 2-4oz						X	Archive	
11/4/2020	1505	soil	1-8oz 2-4oz						X	Archive	
Comments/Special Instructions (1) Based on total metals					Relinquished by: (Signature) <i>[Signature]</i>		Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature)		Received by: (Signature)
					Printed Name: ANTHONY CERRUTI		Printed Name: Jacob Walter		Printed Name:		Printed Name:
					Company: DOF		Company: ARZ		Company:		Company:
					Date & Time: 11/5/2020 1547		Date & Time: 11/5/2020 1547		Date & Time:		Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: DOF

Project Name: ICS / Former NW

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 20K0126

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1547 0.1 1.5 2.6

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD for JBW Date: 11/5/2020 Time: 1547

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: KD Date: 11/6/2020 Time: 1445 Labels checked by: KD

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
<u>PP3-2</u>	<u>PP3-2.5</u>		
<u>PP3-2.5</u>	<u>PP3-2</u>		

Additional Notes, Discrepancies, & Resolutions:

sample IDs swapped for samples "PP-3-2" and "PP3-2.5"

By: KD Date: 11/6/2020



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale, WA 98248

Project: ICS-Former NW Cooperage
Project Number: SUM-008-03
Project Manager: Matt Dalton

Reported:
12/16/2020 15:53

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
20K0126-01	PP15-2.5	Solid	11/04/20 09:30	11/05/20 15:47
20K0126-02	PP15-5	Solid	11/04/20 09:35	11/05/20 15:47
20K0126-03	PP15-7.5	Solid	11/04/20 09:40	11/05/20 15:47
20K0126-04	PP15-10	Solid	11/04/20 09:45	11/05/20 15:47
20K0126-05	PP15-12.5	Solid	11/04/20 09:50	11/05/20 15:47
20K0126-06	PP16-2.5	Solid	11/04/20 10:25	11/05/20 15:47
20K0126-07	PP16-5	Solid	11/04/20 10:30	11/05/20 15:47
20K0126-08	PP16-7.5	Solid	11/04/20 10:35	11/05/20 15:47
20K0126-09	PP16-10	Solid	11/04/20 10:40	11/05/20 15:47
20K0126-10	PP16-12.5	Solid	11/04/20 10:45	11/05/20 15:47
20K0126-11	PP13-2.5	Solid	11/04/20 12:35	11/05/20 15:47
20K0126-12	PP13-5	Solid	11/04/20 12:40	11/05/20 15:47
20K0126-13	PP13-7.5	Solid	11/04/20 12:45	11/05/20 15:47
20K0126-14	PP13-10	Solid	11/04/20 12:50	11/05/20 15:47
20K0126-15	PP13-12.5	Solid	11/04/20 12:55	11/05/20 15:47
20K0126-16	PP7-2.5	Solid	11/04/20 13:30	11/05/20 15:47
20K0126-17	PP7-5	Solid	11/04/20 13:35	11/05/20 15:47
20K0126-18	PP7-7.5	Solid	11/04/20 13:40	11/05/20 15:47
20K0126-19	PP7-10	Solid	11/04/20 13:45	11/05/20 15:47
20K0126-20	PP7-12.5	Solid	11/04/20 13:50	11/05/20 15:47
20K0126-21	PP7-14	Solid	11/04/20 13:55	11/05/20 15:47
20K0126-22	PP3-2	Solid	11/04/20 14:40	11/05/20 15:47
20K0126-23	PP3-2.5	Solid	11/04/20 14:45	11/05/20 15:47
20K0126-24	PP3-5	Solid	11/04/20 14:50	11/05/20 15:47
20K0126-25	PP3-7.5	Solid	11/04/20 14:55	11/05/20 15:47
20K0126-26	PP3-10	Solid	11/04/20 15:00	11/05/20 15:47
20K0126-27	PP3-12.5	Solid	11/04/20 15:05	11/05/20 15:47



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: SUM-008-03
Project Manager: Matt Dalton

Reported:
16-Dec-2020 15:53

Case Narrative

Sample receipt

Samples as listed on the preceding page were received 05-Nov-2020 15:47 under ARI work order 20K0126. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception of SIK0381-ICV2/CCV2 which are outside of control limits low for the motor oil range. The calibrations were reanalyzed. No further corrective action was taken.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike and matrix spike duplicate were prepared in conjunction with sample PP 7-2.5. The matrix spike/matrix spike duplicate percent recoveries and RPD were within QC limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception of SIL0088-SCV1/SCV3/SCV5 which are all outside of control limits high for the second column surrogate Decachlorobiphenyl. Data was reported from passing columns. No corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike and matrix spike duplicate were prepared in conjunction with sample PP 7-2.5. The matrix spike/matrix spike duplicate percent recoveries and RPD were within QC limits.

Total Hg - EPA Method 7471B

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: SUM-008-03
Project Manager: Matt Dalton

Reported:
16-Dec-2020 15:53

Case Narrative

A matrix spike, matrix spike duplicate and duplicate were prepared in conjunction with sample PP15-2.5. The duplicate has high RPD. The matrix spike duplicate has high spike recovery. The results are advisory. No corrective action was taken.

Total Lead - EPA Method 6010C

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

A matrix spike, matrix spike duplicate and duplicate were prepared in conjunction with sample PP15-2.5. The duplicate has high RPD. The results are advisory. No corrective action was taken.



Dalton, Olmsted & Fuglevand, Inc
6034 N Star Rd
Ferndale WA, 98248

Project: ICS-Former NW Cooperage
Project Number: SUM-008-03
Project Manager: Matt Dalton

Reported:
16-Dec-2020 15:53

Case Narrative



QUALIFIERS AND NOTES

<u>Qualifier</u>	<u>Definition</u>
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
J	Estimated concentration value detected below the reporting limit.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D	The reported value is from a dilution
B	This analyte was detected in the method blank.
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0126-01 A SDG: 20K0126
 Sampled: 11/04/20 09:30 Prepared: 11/18/20 14:18 File ID: 420K2433.D
 % Solids: 77.66 Preparation: EPA 3546 (Microwave) Analyzed: 11/24/20 18:31
 Batch: BIK0527 Sequence: SIL0016 Initial/Final: 10.05 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

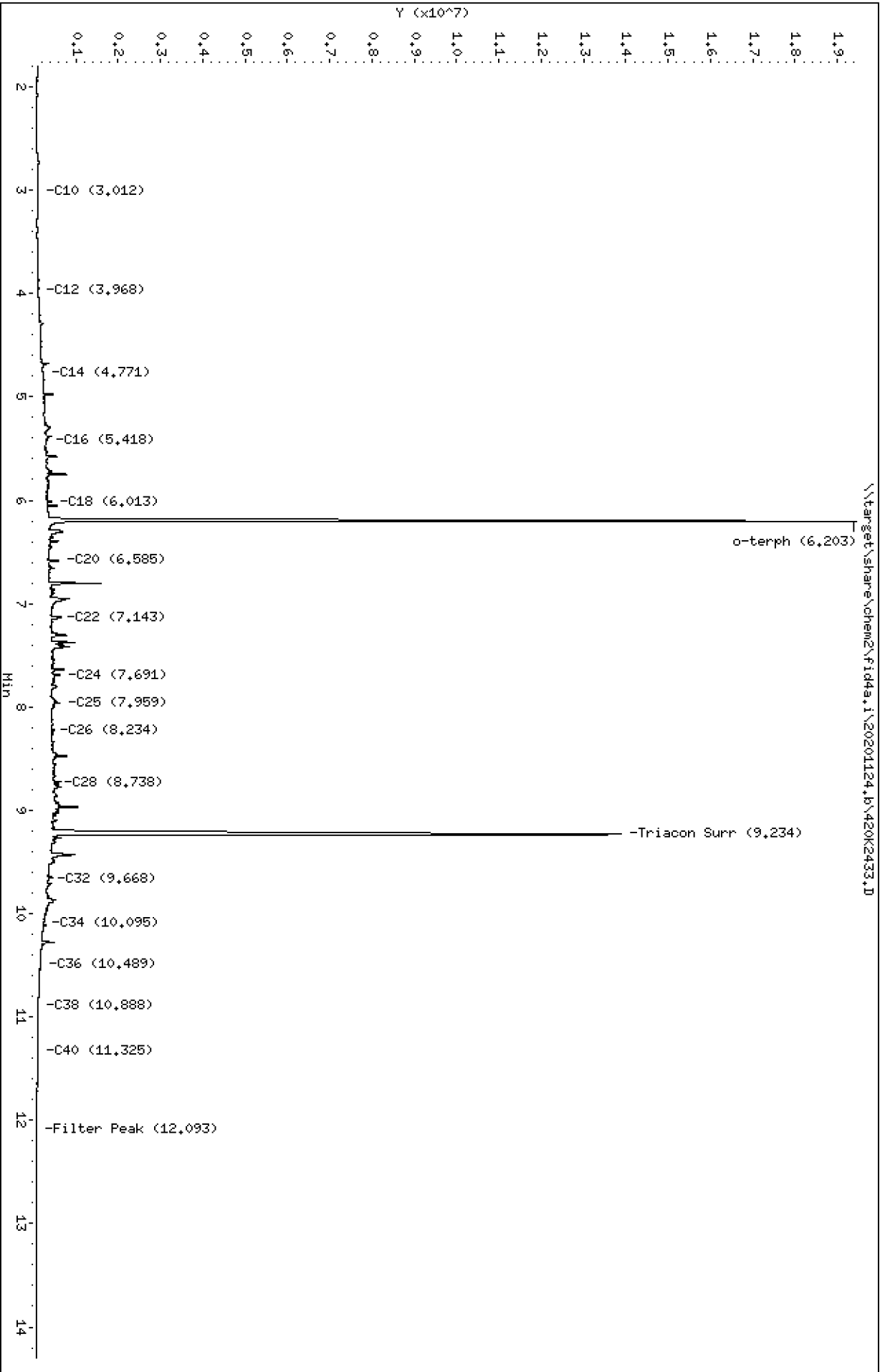
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	49.0		3.00	6.41
RRO	Motor Oil Range Organics (C24-C38)	1	73.2		3.83	12.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.414	12.7	87.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2433.D
Date: 24-NOV-2020 18:31
Client ID:
Sample Info: 20K0126-01

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2433.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-01
Client ID:
Injection: 24-NOV-2020 18:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

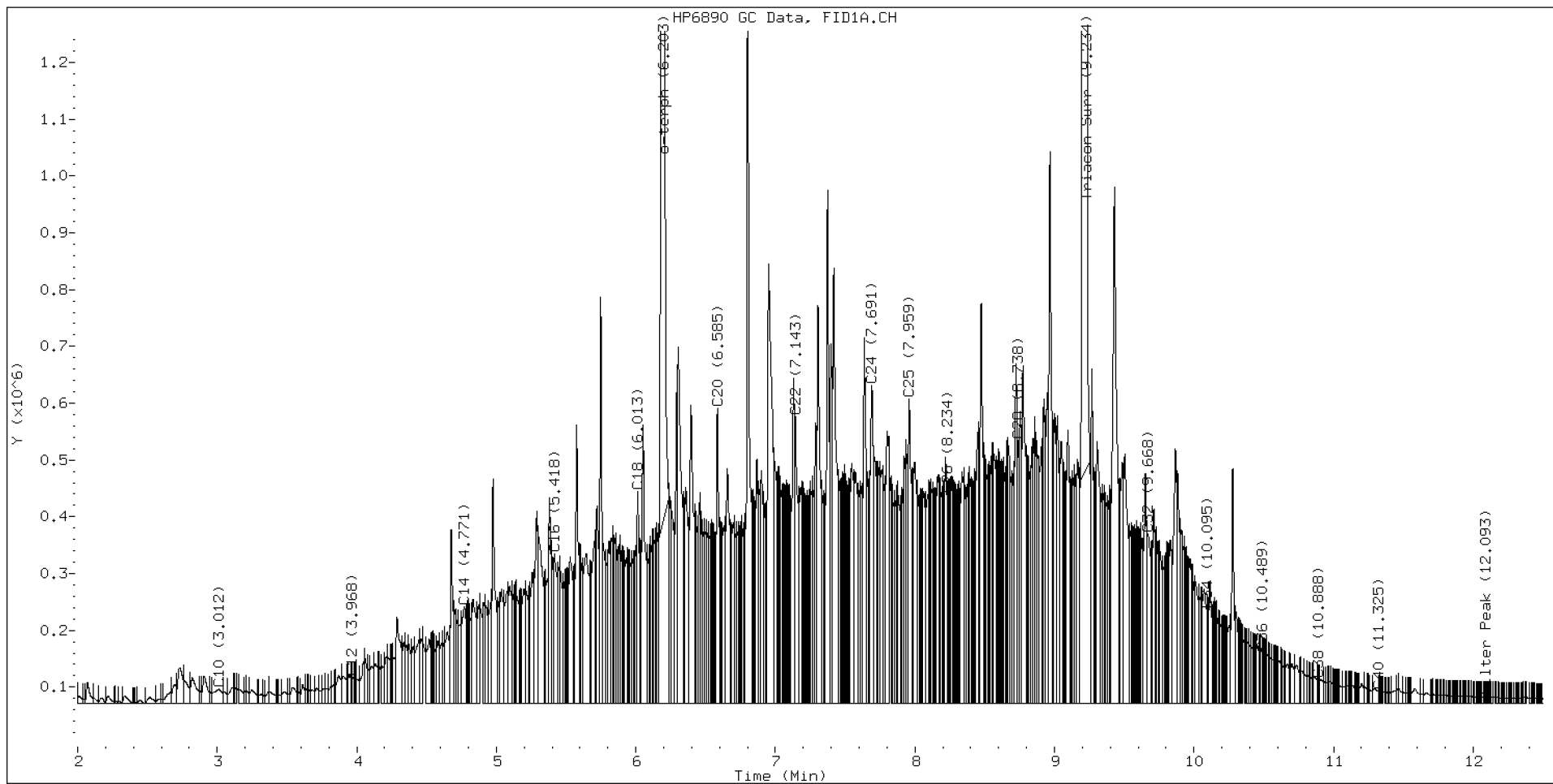
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.898	0.005	17525	33001	WATPHD	(C12-C24)	60925857	382.4
C10	3.012	0.030	25413	100874	WATPHM	(C24-C38)	57782454	571.2
C12	3.968	-0.003	47079	43685	AK102	(C10-C25)	65697469	336.1
C14	4.771	0.017	169804	354289	AK103	(C25-C36)	53225350	727.1
C16	5.418	-0.002	263381	407125	OR.DIES	(C10-C28)	87397689	445.9
C18	6.013	-0.006	373456	389794				
C20	6.585	-0.005	519179	640302	JET-A	(C10-C18)	24055165	145.0
C22	7.143	-0.010	505564	738697				
C24	7.691	-0.010	560758	948413				
C25	7.959	-0.010	536708	743811				
C26	8.234	0.004	368588	146664				
C28	8.738	0.004	464220	225412				
C32	9.668	0.006	299083	438977				
C34	10.095	0.009	164867	97682				
Filter Peak	12.093	0.005	11092	4420	BUNKERC	(C10-C38)	120297618	3047.3
C36	10.489	0.001	90929	45039				
C38	10.888	0.011	41937	20771				
C40	11.325	0.009	22112	14156				
o-terph	6.203	-0.001	19052520	20231723				
Triacon Surr	9.234	-0.003	13402877	17707323	NAS DIES	(C10-C24)	62515164	320.3

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20231723	98.8 M
Triacontane	17707323	119.3 M

M Indicates the peak was manually integrated

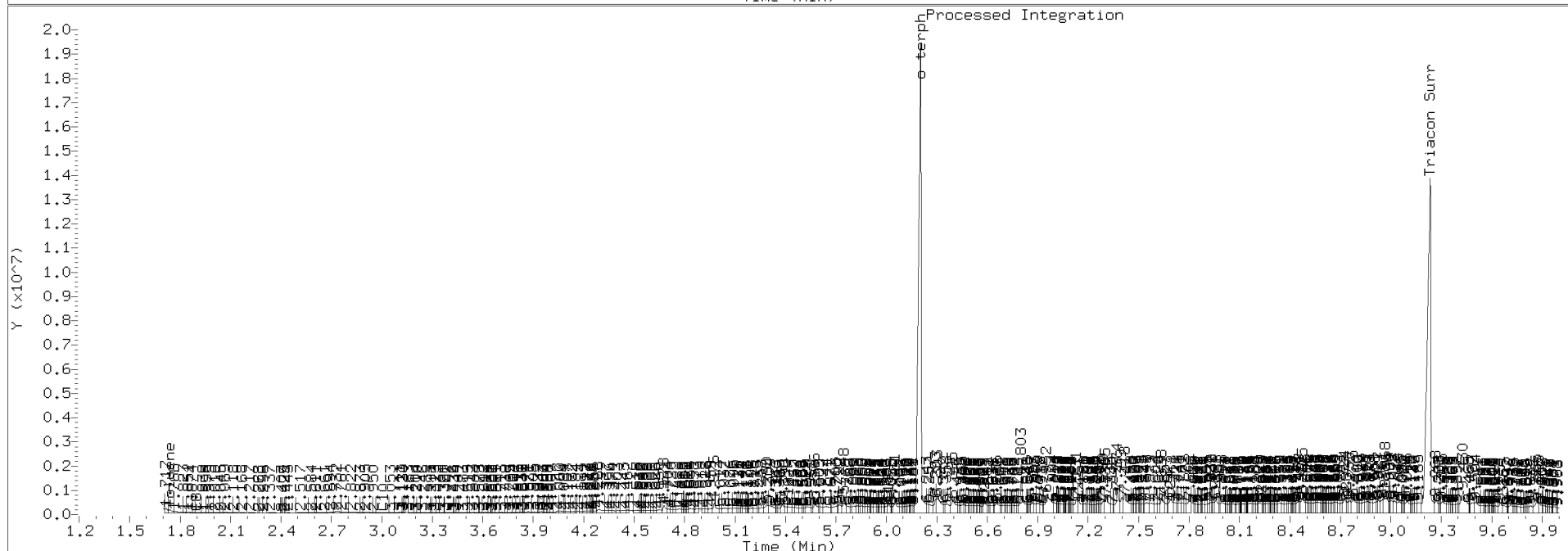
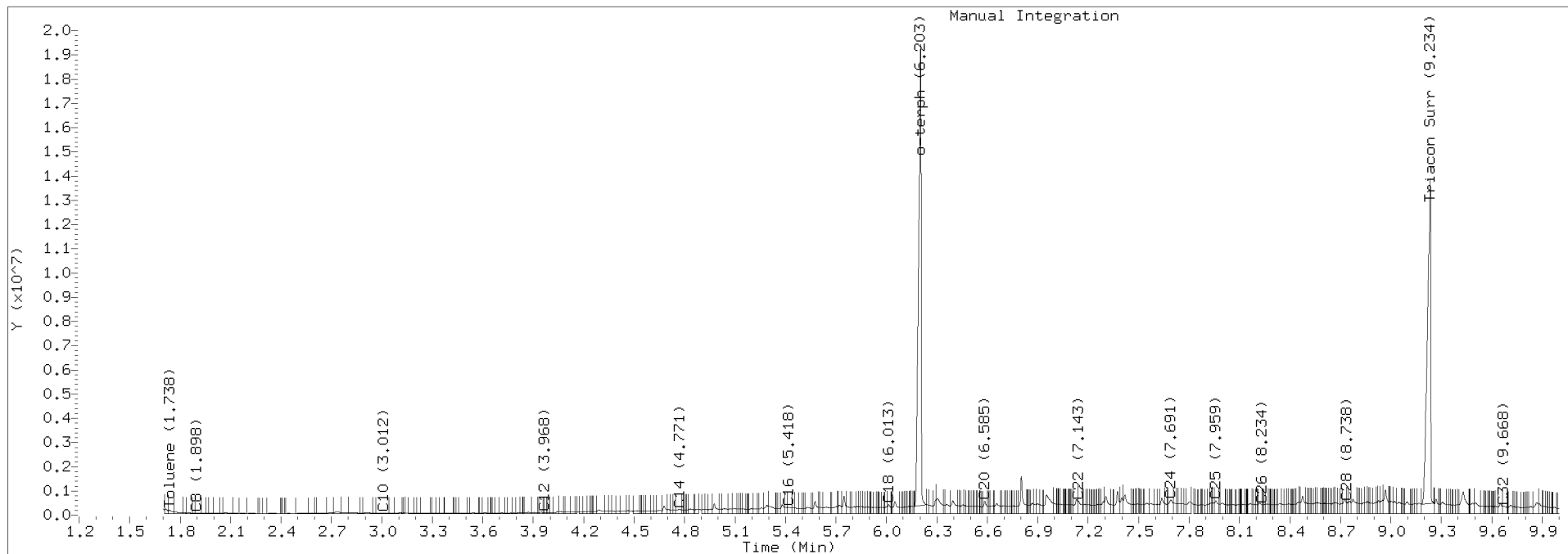
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2433.D Injection: 24-NOV-2020 18:31

Lab ID:20K0126-01





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperage
Matrix: Soil Laboratory ID: 20K0126-02 A SDG: 20K0126
Sampled: 11/04/20 09:35 Prepared: 11/18/20 14:18 File ID: 420K2723.D
% Solids: 68.97 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 18:45
Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.05 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

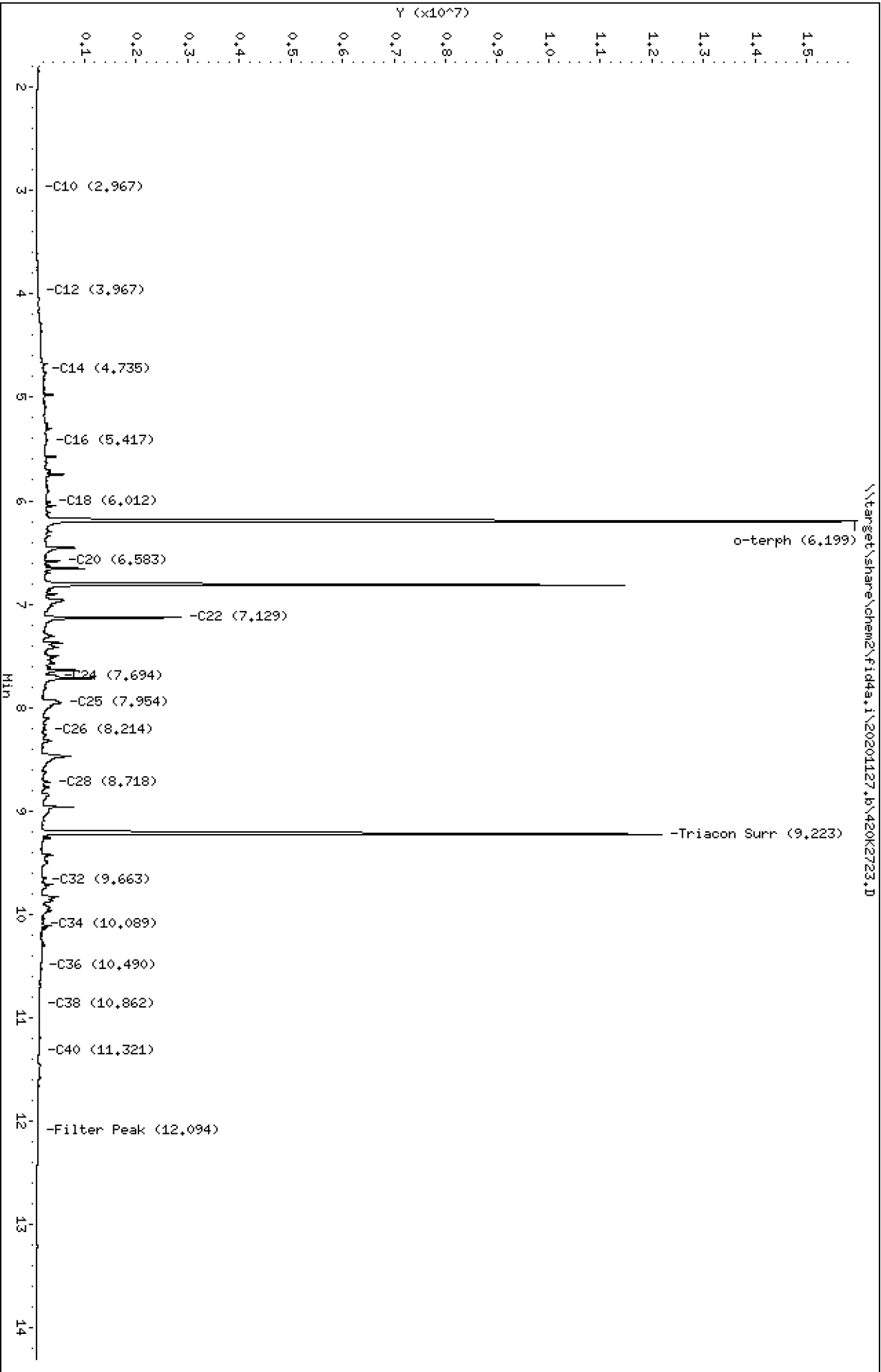
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	51.4		3.38	7.21
RRO	Motor Oil Range Organics (C24-C38)	1	39.7		4.31	14.4

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	16.230	11.8	72.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2723.D
Date: 27-NOV-2020 18:45
Client ID:
Sample Info: 20K0126-02

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2723.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-02
Client ID:
Injection: 27-NOV-2020 18:45
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

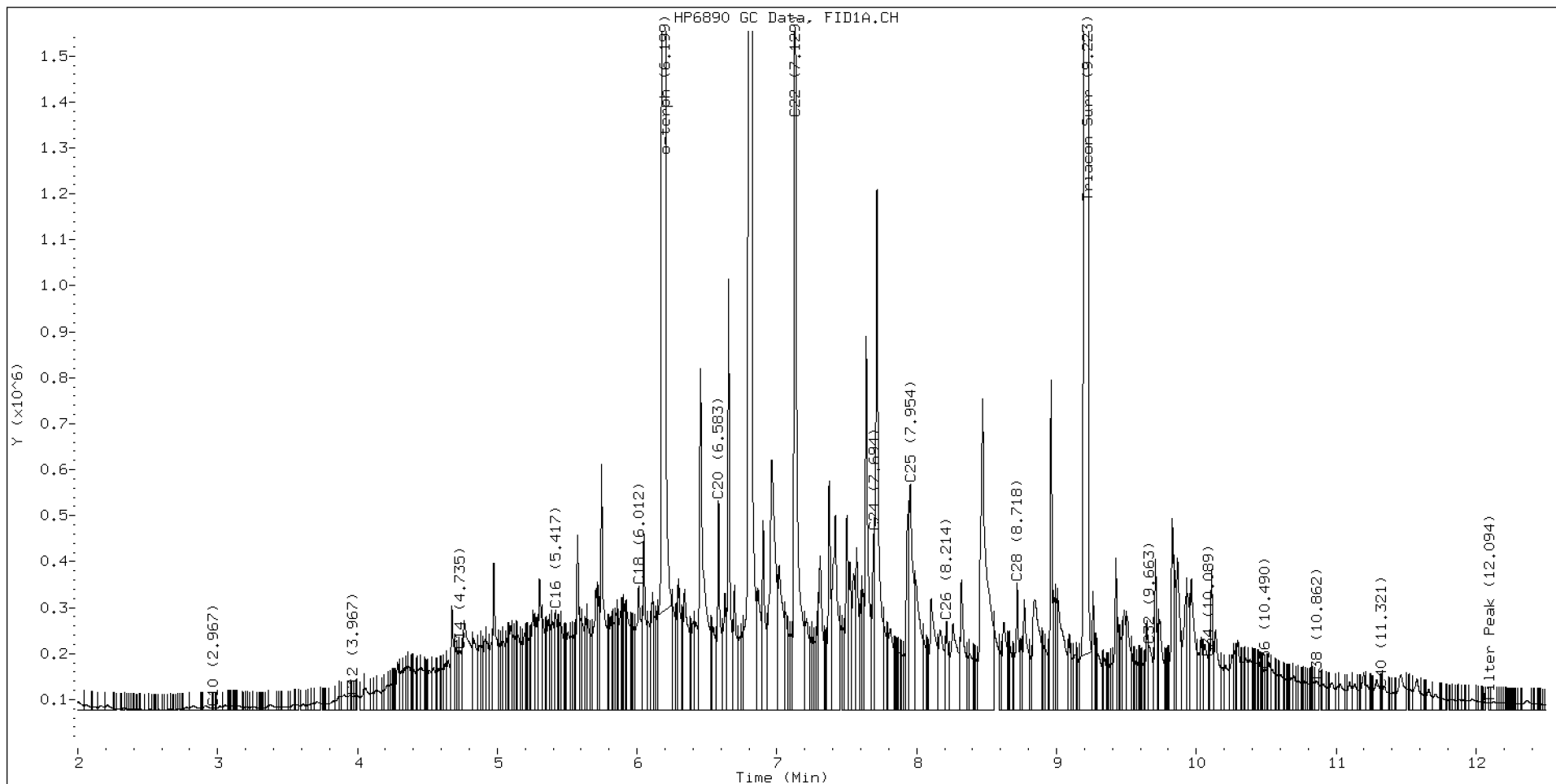
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.866	0.000	28277	60736	WATPHD	(C12-C24)	56825976	356.6
C10	2.967	-0.003	3921	2907	WATPHM	(C24-C38)	27826759	275.1
C12	3.967	0.003	30613	26871	AK102	(C10-C25)	58798670	300.8
C14	4.735	-0.012	128689	144990	AK103	(C25-C36)	25157046	343.6
C16	5.417	0.003	217419	299078	OR.DIES	(C10-C28)	68620561	350.1
C18	6.012	-0.002	269742	603396				
C20	6.583	-0.001	454430	586105	JET-A	(C10-C18)	18605943	112.2
C22	7.129	-0.018	2789139	3211984				
C24	7.694	0.000	386622	376077				
C25	7.954	-0.008	491615	975424				
C26	8.214	-0.011	193318	295518				
C28	8.718	-0.011	277539	443706				
C32	9.663	0.006	140120	267001				
C34	10.089	0.008	113527	50810				
Filter Peak	12.094	-0.003	16415	14655	BUNKERC	(C10-C38)	85391186	2163.1
C36	10.490	0.007	85721	29783				
C38	10.862	-0.012	64794	113803				
C40	11.321	0.008	45749	11414				
o-terph	6.199	0.000	15683254	16674883				
Triacon Surr	9.223	-0.006	11989362	14501203	NAS DIES	(C10-C24)	57564427	295.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	16674883	81.5 M
Triacontane	14501203	97.7 M

M Indicates the peak was manually integrated

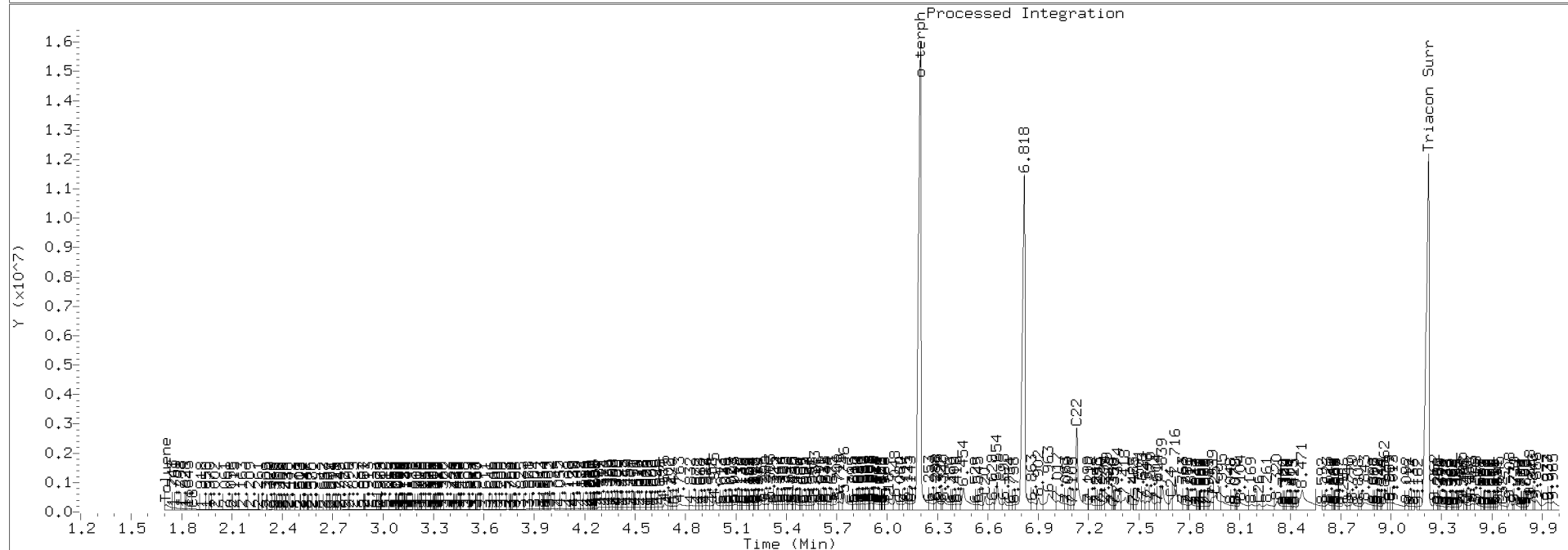
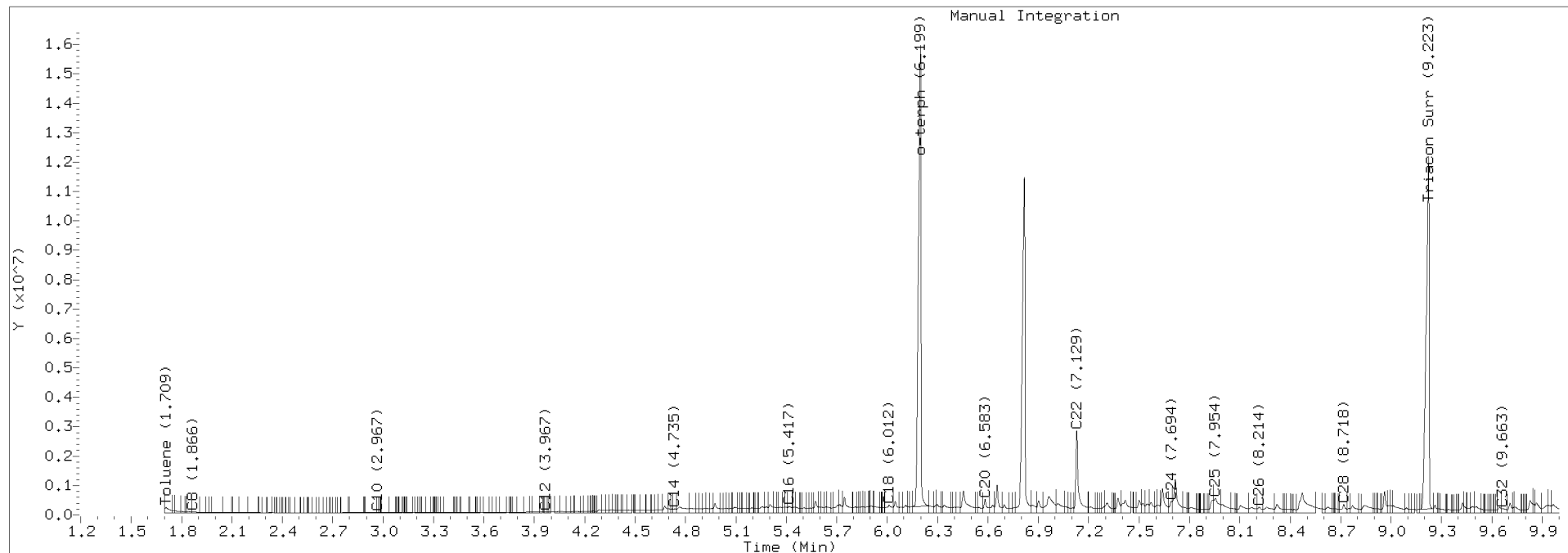
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2723.D Injection: 27-NOV-2020 18:45

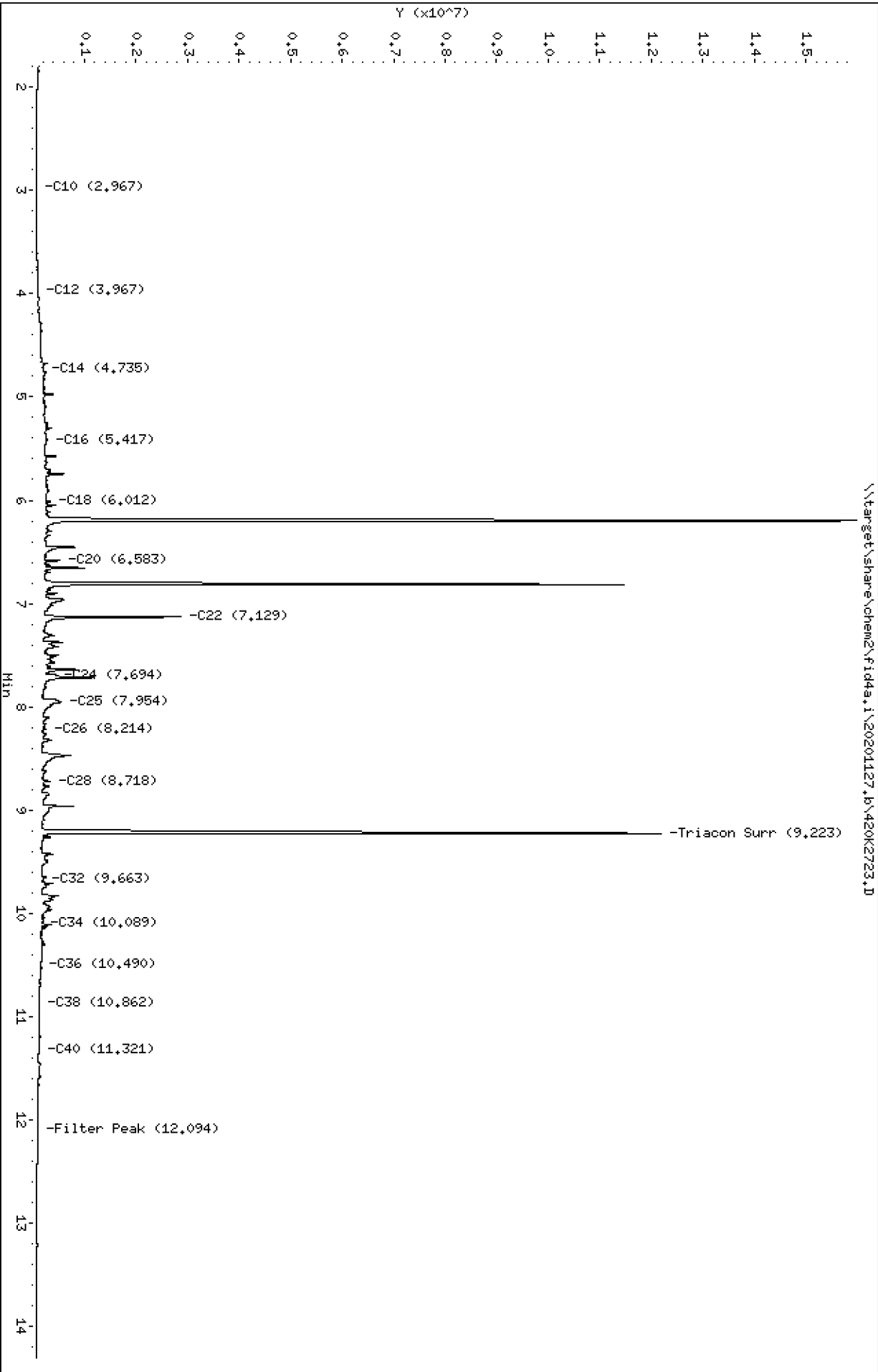
Lab ID:20K0126-02



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2723.D
Date: 27-NOV-2020 18:45
Client ID:
Sample Info: 20K0126-02

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2723.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-02
Client ID:
Injection: 27-NOV-2020 18:45
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

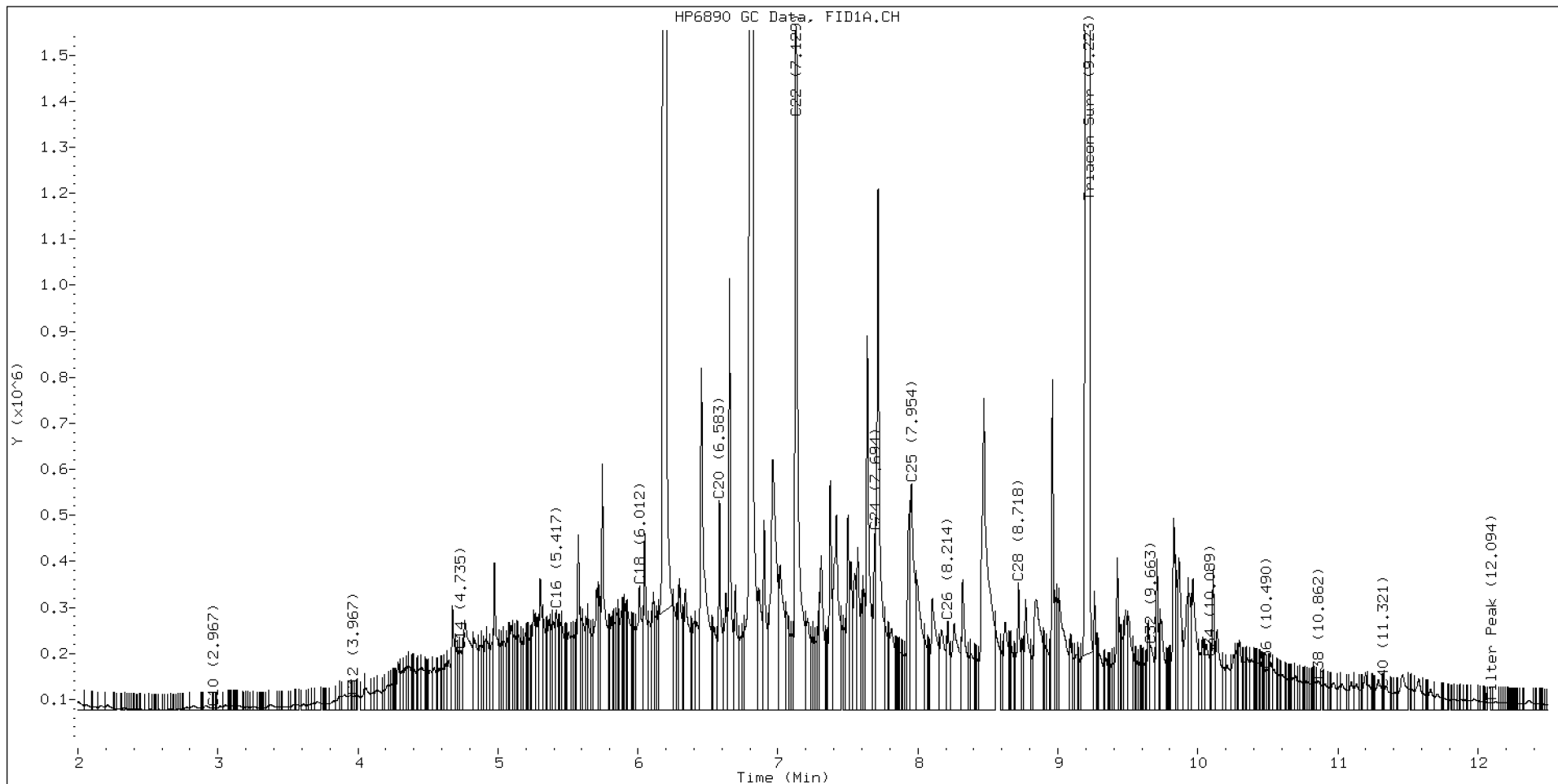
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.866	0.000	28277	60736	WATPHD	(C12-C24)	73500859	461.3
C10	2.967	-0.003	3921	2907	WATPHM	(C24-C38)	27826759	275.1
C12	3.967	0.003	30613	26871	AK102	(C10-C25)	75473553	386.1
C14	4.735	-0.012	128689	144990	AK103	(C25-C36)	25157046	343.6
C16	5.417	0.003	217419	299078	OR.DIES	(C10-C28)	85295444	435.2
C18	6.012	-0.002	269742	603396				
C20	6.583	-0.001	454430	586105	JET-A	(C10-C18)	18605943	112.2
C22	7.129	-0.018	2789139	3211984				
C24	7.694	0.000	386622	376077				
C25	7.954	-0.008	491615	975424				
C26	8.214	-0.011	193318	295518				
C28	8.718	-0.011	277539	443706				
C32	9.663	0.006	140120	267001				
C34	10.089	0.008	113527	50810				
Filter Peak	12.094	-0.003	16415	14655	BUNKERC	(C10-C38)	102066069	2585.4
C36	10.490	0.007	85721	29783				
C38	10.862	-0.012	64794	113803				
C40	11.321	0.008	45749	11414				
o-terph	----							
Triacon Surr	9.223	-0.006	11989362	14501203	NAS DIES	(C10-C24)	74239310	380.4

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	14501203	97.7 M

M Indicates the peak was manually integrated

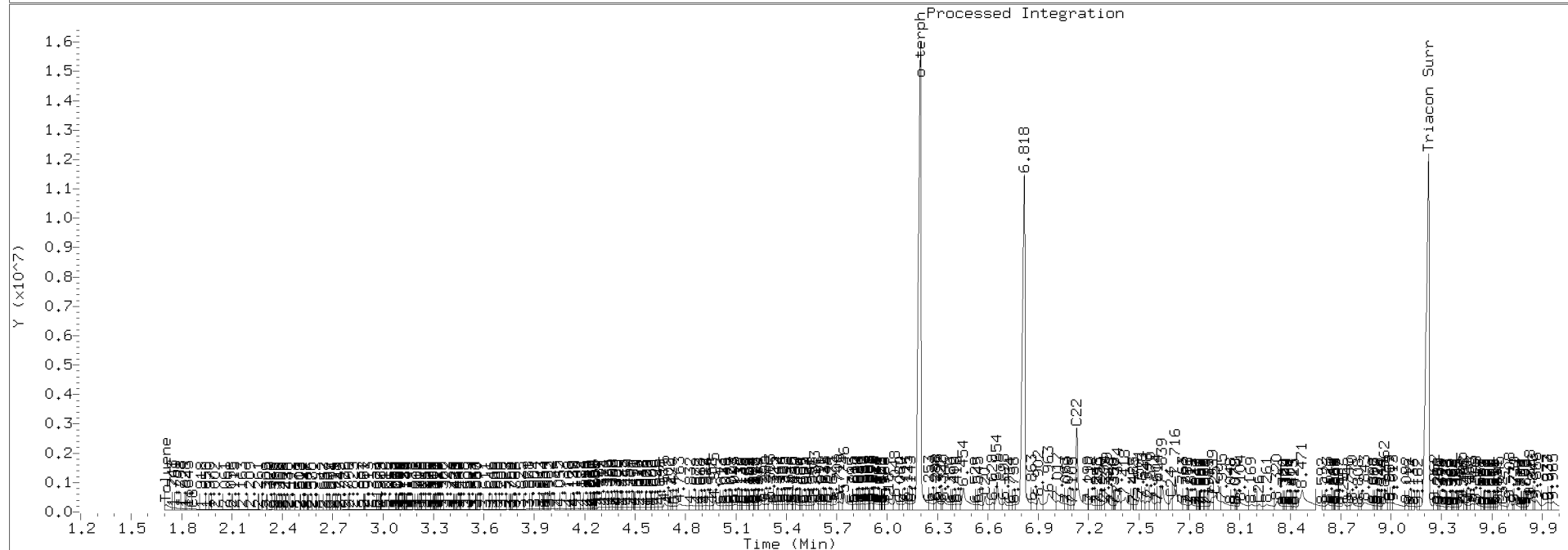
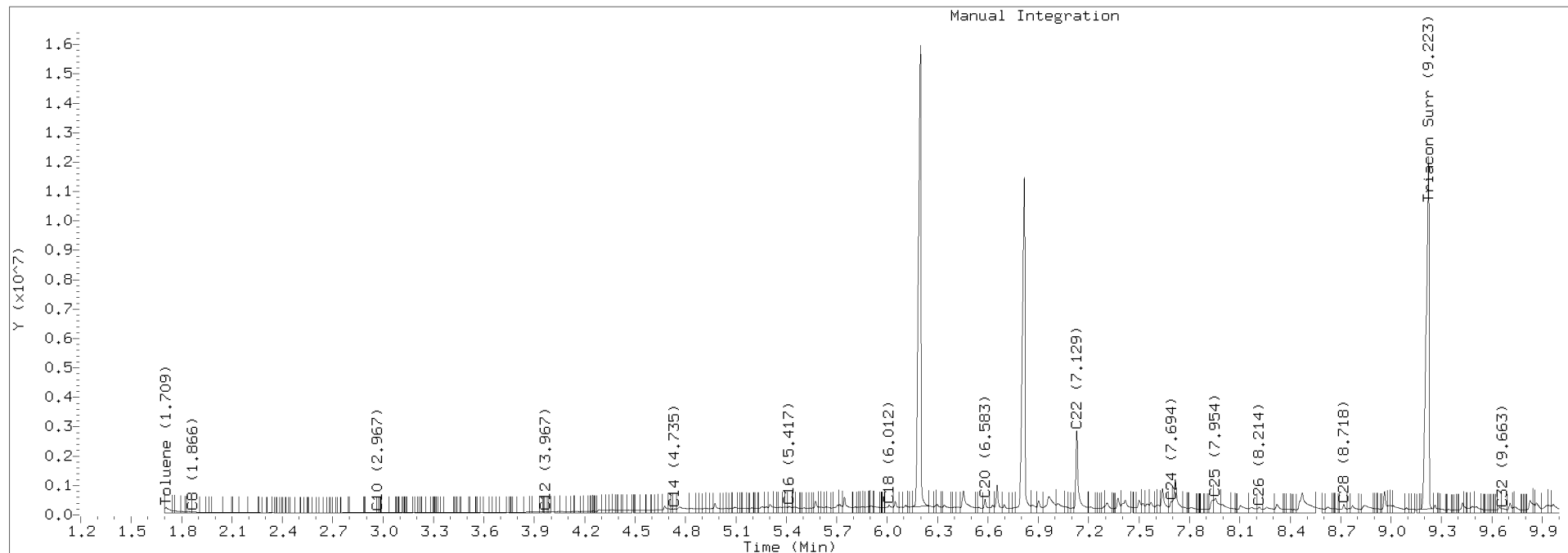
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2723.D Injection: 27-NOV-2020 18:45

Lab ID:20K0126-02





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0126-06 A SDG: 20K0126
 Sampled: 11/04/20 10:25 Prepared: 11/18/20 14:18 File ID: 420K2724.D
 % Solids: 81.50 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 19:06
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.06 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	2520	D	28.5	61.0
RRO	Motor Oil Range Organics (C24-C38)	10	5190	D	36.5	122

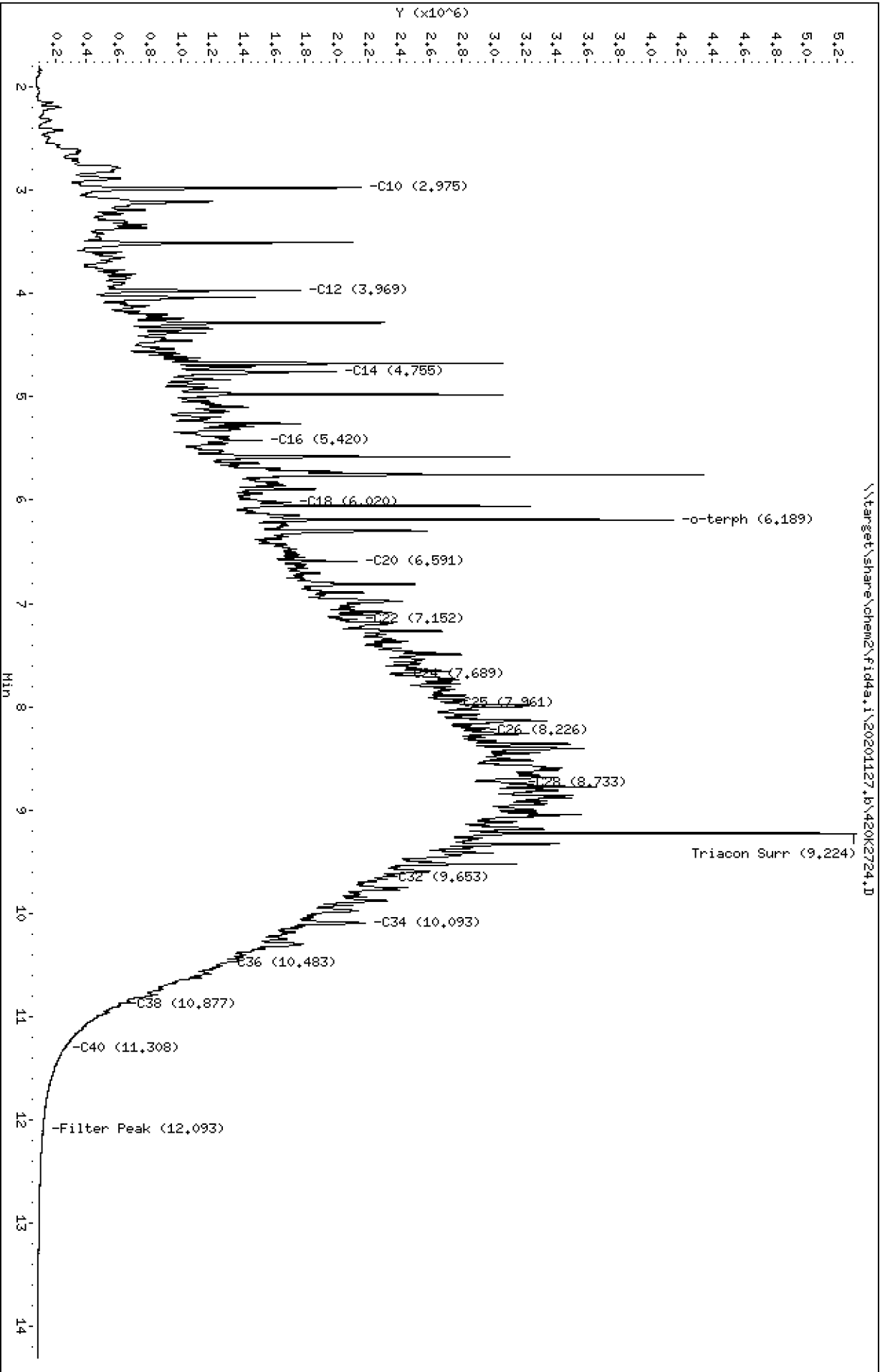
SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.721	11.5	83.6	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2724.D
Date: 27-NOV-2020 19:06
Client ID:
Sample Info: 20K0126-06,10

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2724.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-06
Client ID:
Injection: 27-NOV-2020 19:06
Dilution Factor: 10
RT Std: 419H1603.D

FID:4A RESULTS

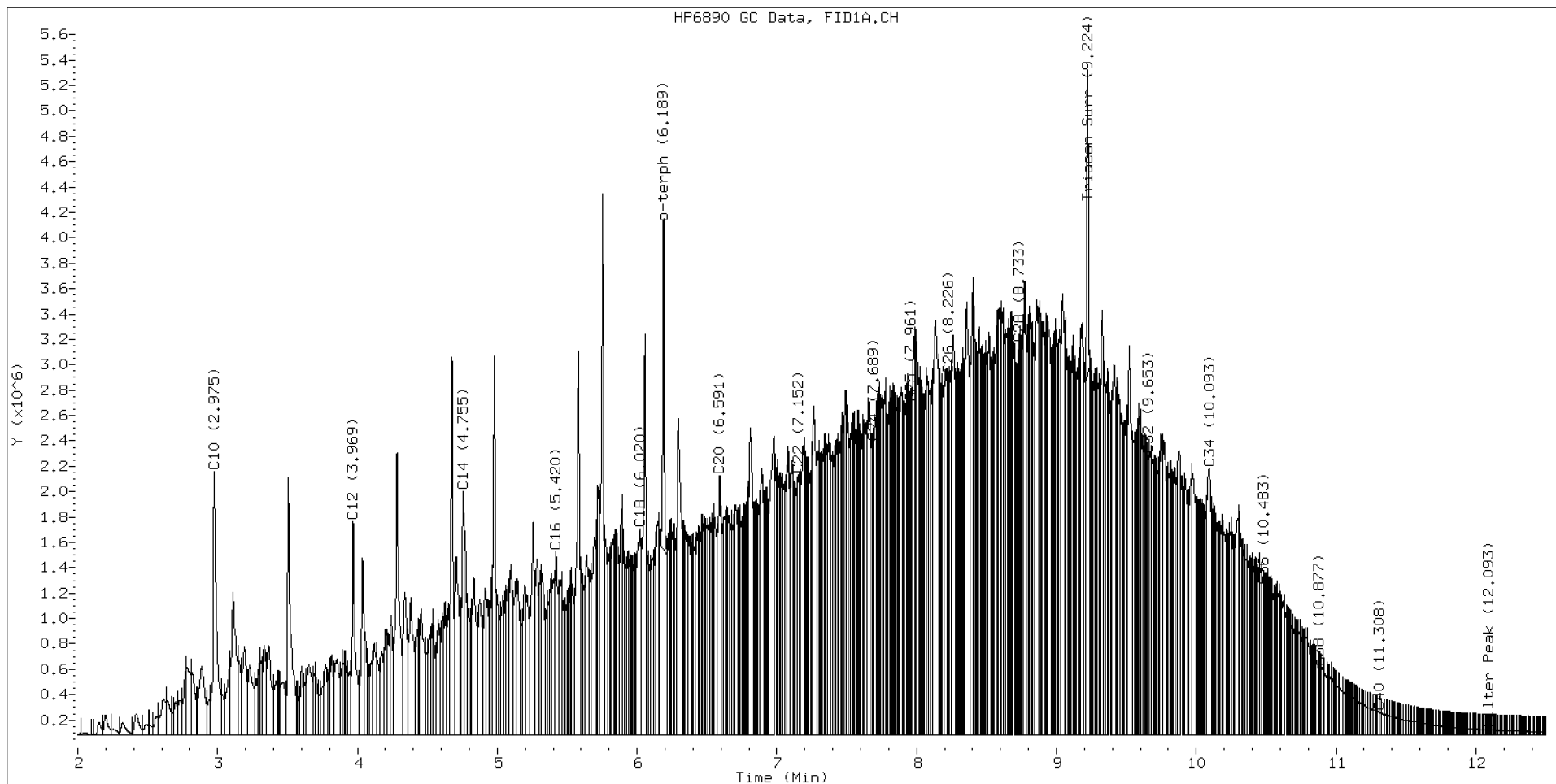
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.868	0.003	22457	52822	WATPHD	(C12-C24)	329701321	2069.2
C10	2.975	0.005	2074714	3607922	WATPHM	(C24-C38)	430401041	4254.4
C12	3.969	0.005	1685101	2701184	AK102	(C10-C25)	390079824	1995.4
C14	4.755	0.008	1918360	2187902	AK103	(C25-C36)	387142553	5288.4
C16	5.420	0.006	1441465	2327008	OR.DIES	(C10-C28)	541078064	2760.6
C18	6.020	0.007	1623626	3050689				
C20	6.591	0.007	2046169	2934246	JET-A	(C10-C18)	174672235	1053.2
C22	7.152	0.004	2048395	1993226				
C24	7.689	-0.005	2304624	574702				
C25	7.961	-0.002	2621679	653928				
C26	8.226	0.001	2839690	1396634				
C28	8.733	0.003	3084436	1356553				
C32	9.653	-0.003	2205731	1093599				
C34	10.093	0.011	2098496	4296512				
Filter Peak	12.093	-0.004	41026	18268	BUNKERC	(C10-C38)	794701052	20130.6
C36	10.483	0.000	1178031	176510				
C38	10.877	0.003	536919	160210				
C40	11.308	-0.005	179472	209524				
o-terph	6.189	-0.010	2612855	1925406				
Triacon Surr	9.224	-0.005	2389791	1733456	NAS DIES	(C10-C24)	364300011	1866.8

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	1925406	9.4 M
Triacontane	1733456	11.7 M

M Indicates the peak was manually integrated

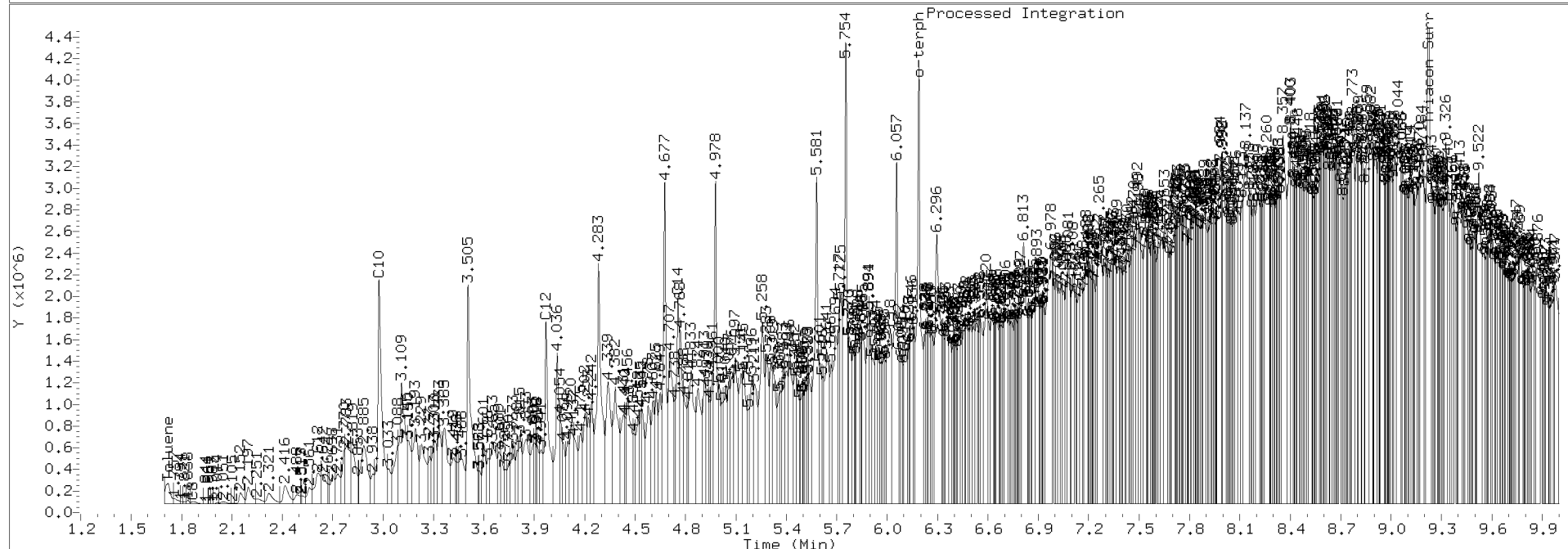
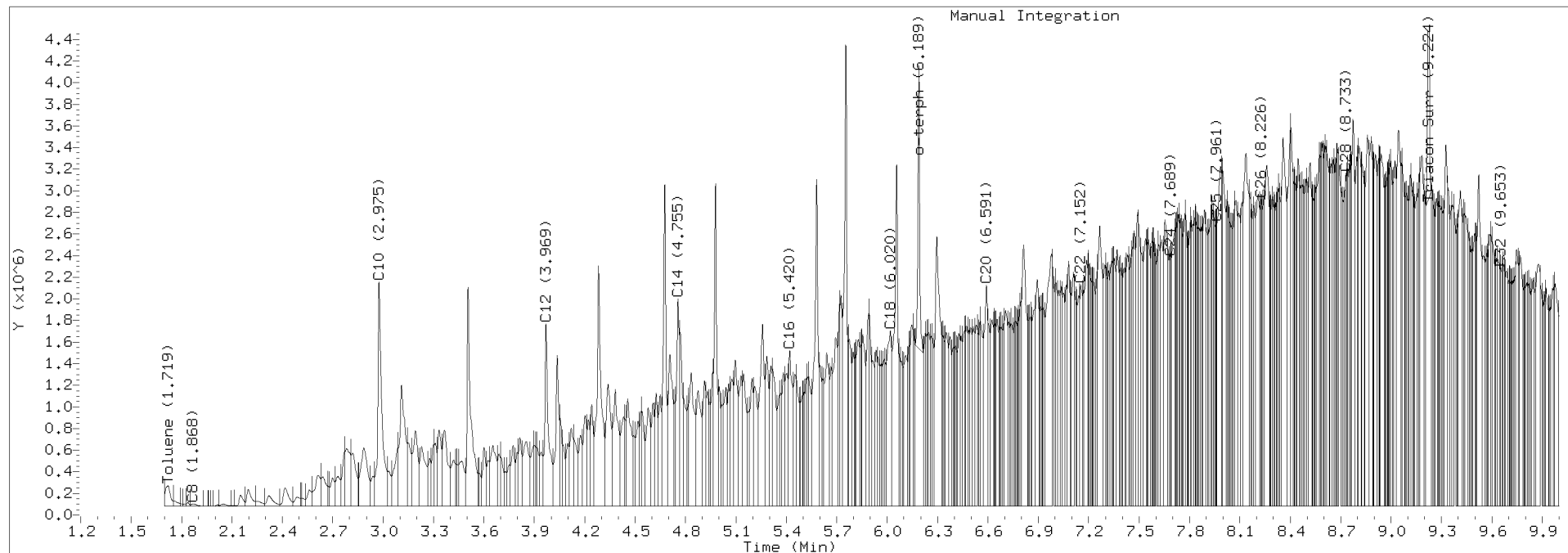
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2724.D Injection: 27-NOV-2020 19:06

Lab ID:20K0126-06





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0126-07 A SDG: 20K0126
 Sampled: 11/04/20 10:30 Prepared: 11/18/20 14:18 File ID: 420K2725.D
 % Solids: 76.64 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 19:26
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.01 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

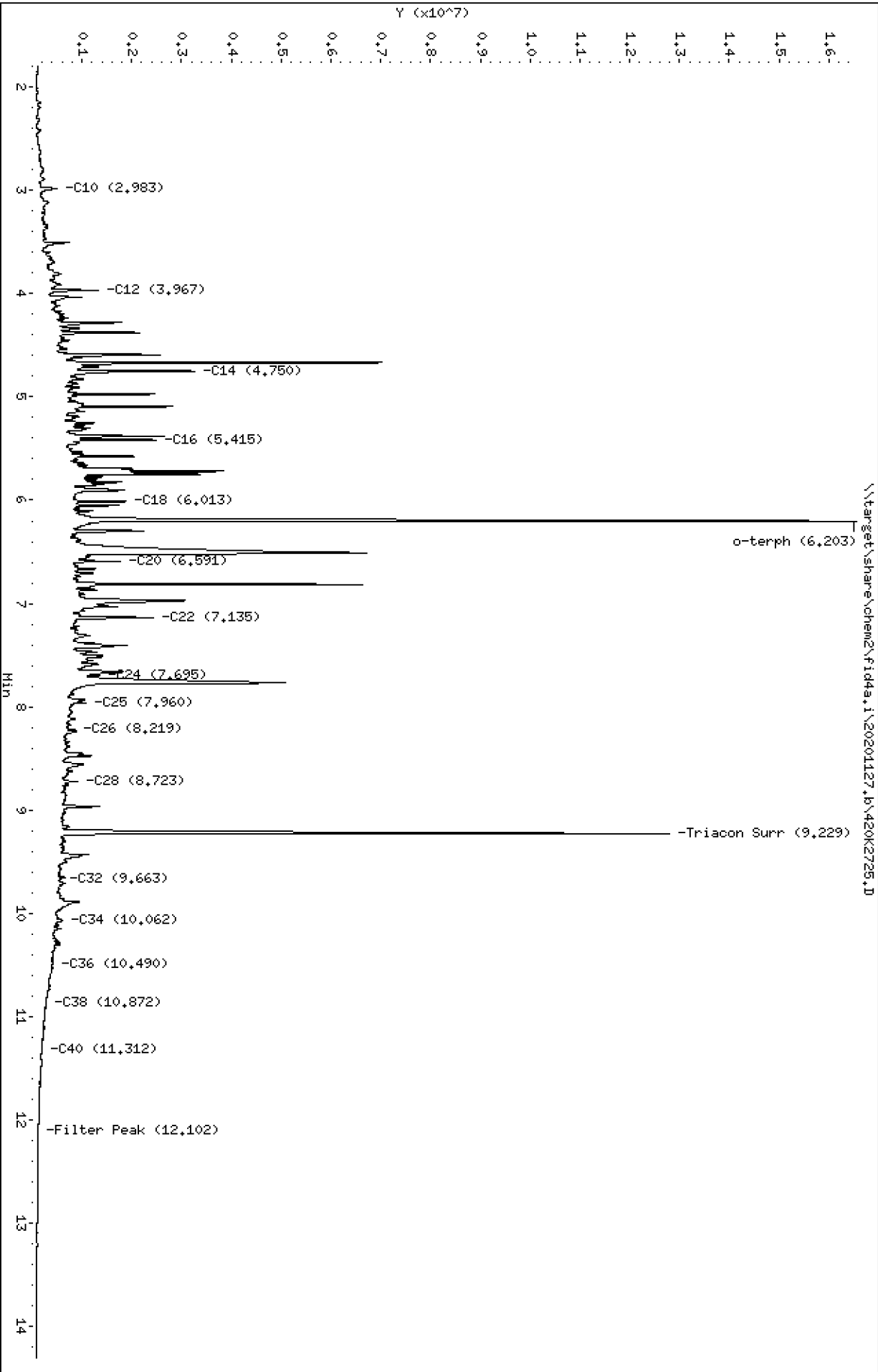
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	187		3.05	6.52
RRO	Motor Oil Range Organics (C24-C38)	1	141		3.90	13.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.664	10.7	73.1	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2725.D
Date: 27-NOV-2020 19:26
Client ID:
Sample Info: 20K0126-07

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2725.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-07
Client ID:
Injection: 27-NOV-2020 19:26
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

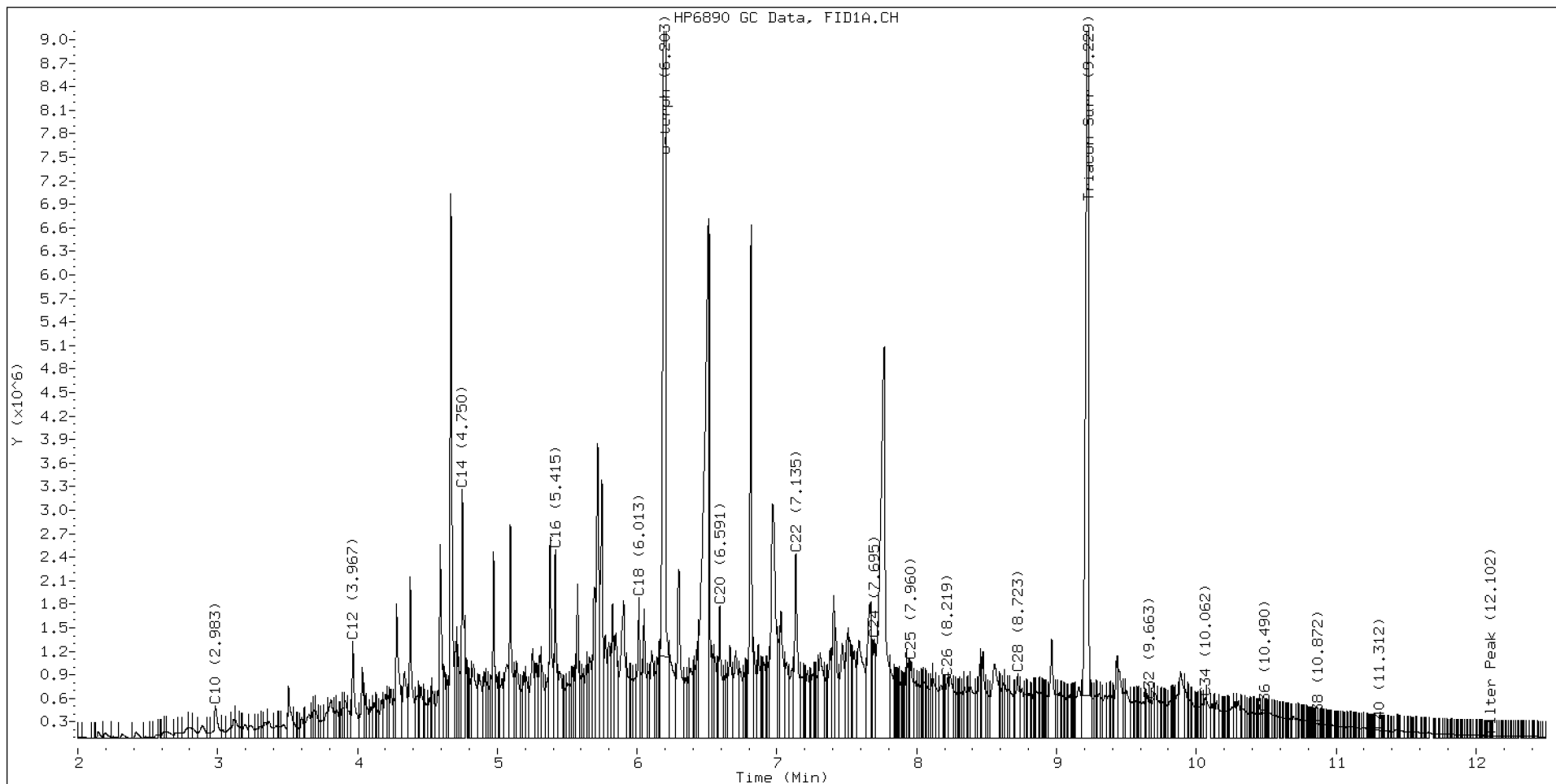
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.865	-0.001	22014	41036	WATPHD	(C12-C24)	228995169	1437.2
C10	2.983	0.013	411104	830650	WATPHM	(C24-C38)	109075679	1078.2
C12	3.967	0.003	1243322	1713664	AK102	(C10-C25)	262236634	1341.4
C14	4.750	0.003	3172508	3284301	AK103	(C25-C36)	86133840	1176.6
C16	5.415	0.001	2409281	2584128	OR.DIES	(C10-C28)	297052032	1515.6
C18	6.013	-0.000	1797908	2121668				
C20	6.591	0.007	1686891	2373940	JET-A	(C10-C18)	128459200	774.6
C22	7.135	-0.012	2360418	3664949				
C24	7.695	0.000	1270453	1371754				
C25	7.960	-0.002	989588	1408416				
C26	8.219	-0.006	779253	1123278				
C28	8.723	-0.006	827367	1439526				
C32	9.663	0.006	488762	145584				
C34	10.062	-0.020	520054	650214				
Filter Peak	12.102	0.005	35941	19617	BUNKERC	(C10-C38)	353241060	8948.0
C36	10.490	0.007	318691	188231				
C38	10.872	-0.001	189521	121187				
C40	11.312	-0.001	104693	93072				
o-terph	6.203	0.004	15425272	16818702				
Triacon Surr	9.229	-0.000	12166608	15640201	NAS DIES	(C10-C24)	244165381	1251.2

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	16818702	82.2 M
Triacontane	15640201	105.4 M

M Indicates the peak was manually integrated

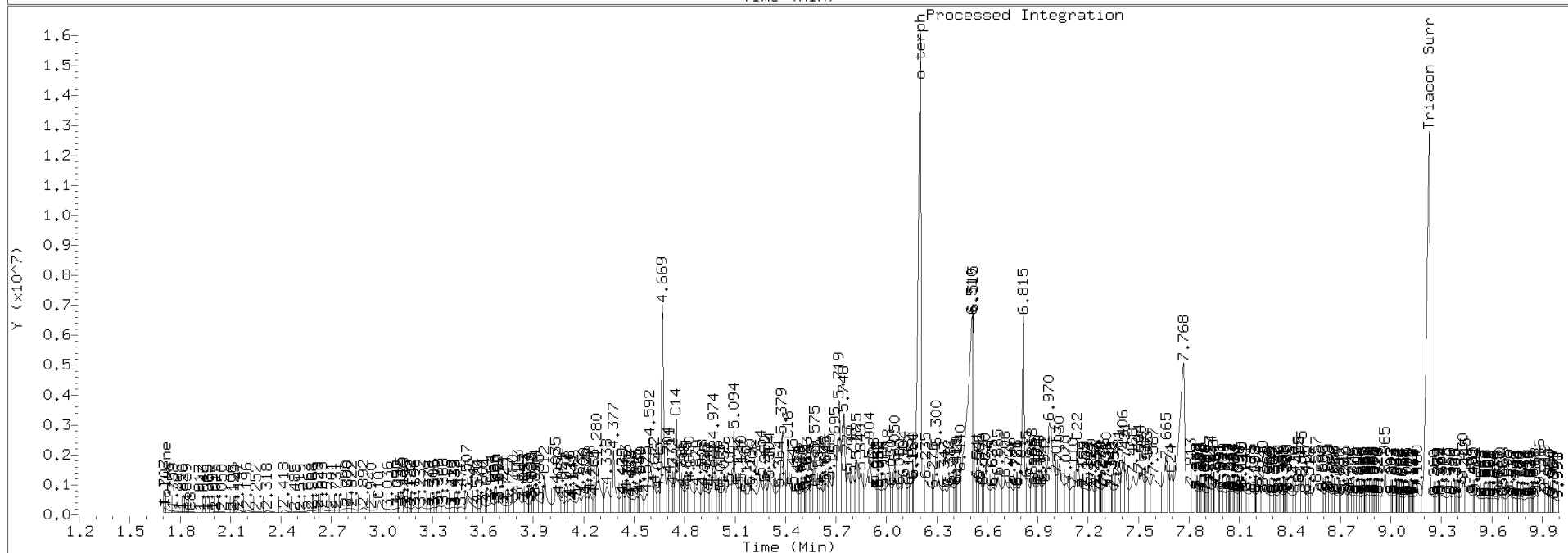
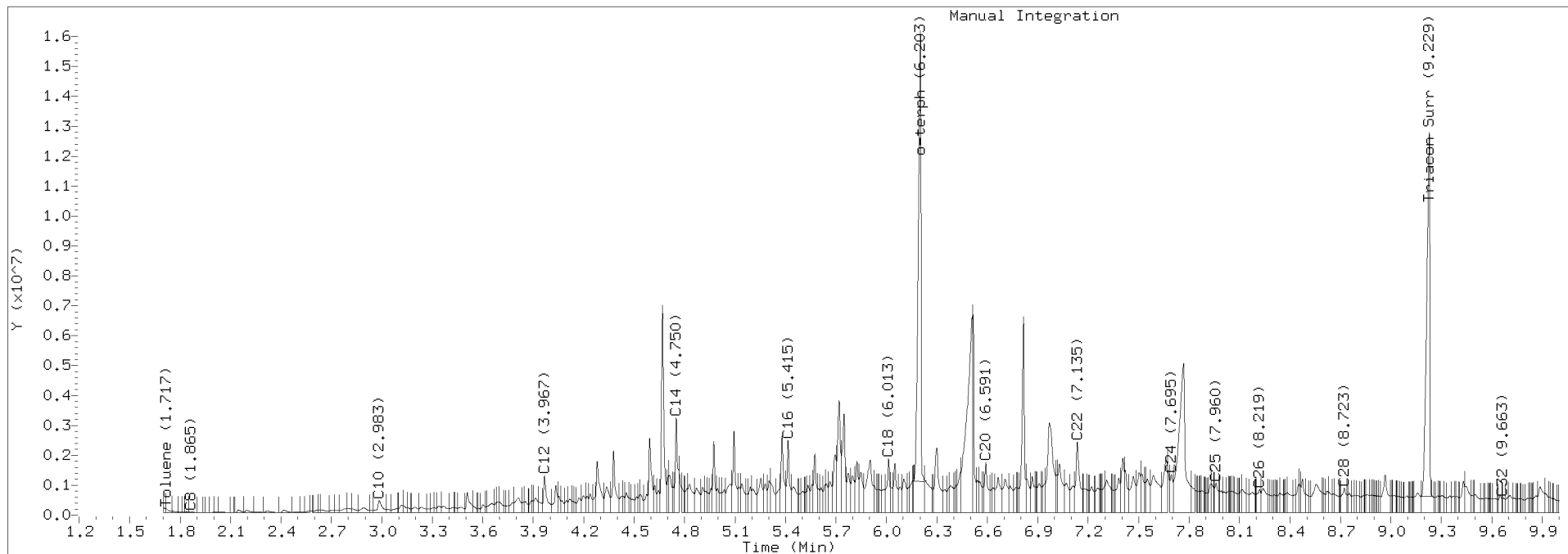
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2725.D Injection: 27-NOV-2020 19:26

Lab ID:20K0126-07





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0126-11 A SDG: 20K0126
 Sampled: 11/04/20 12:35 Prepared: 11/18/20 14:18 File ID: 420K2732.D
 % Solids: 76.79 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 21:48
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

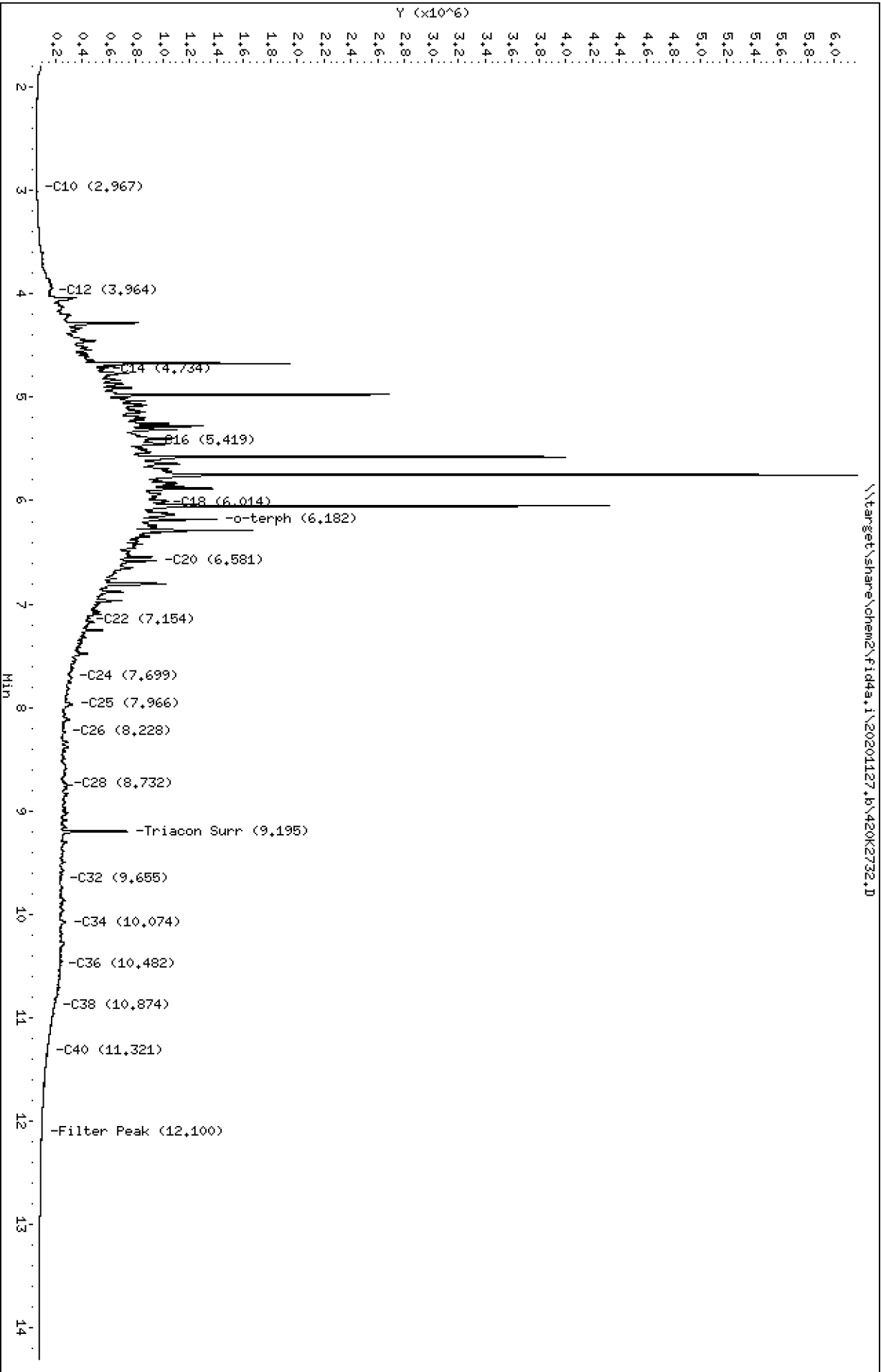
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	50	5690	D	152	326
RRO	Motor Oil Range Organics (C24-C38)	50	2340	D	195	651

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.650	13.7	93.3	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2732.D
Date: 27-NOV-2020 21:48
Client ID:
Sample Info: 20K0126-11,50

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0,25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2732.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-11
Client ID:
Injection: 27-NOV-2020 21:48
Dilution Factor: 50
RT Std: 419H1603.D

FID:4A RESULTS

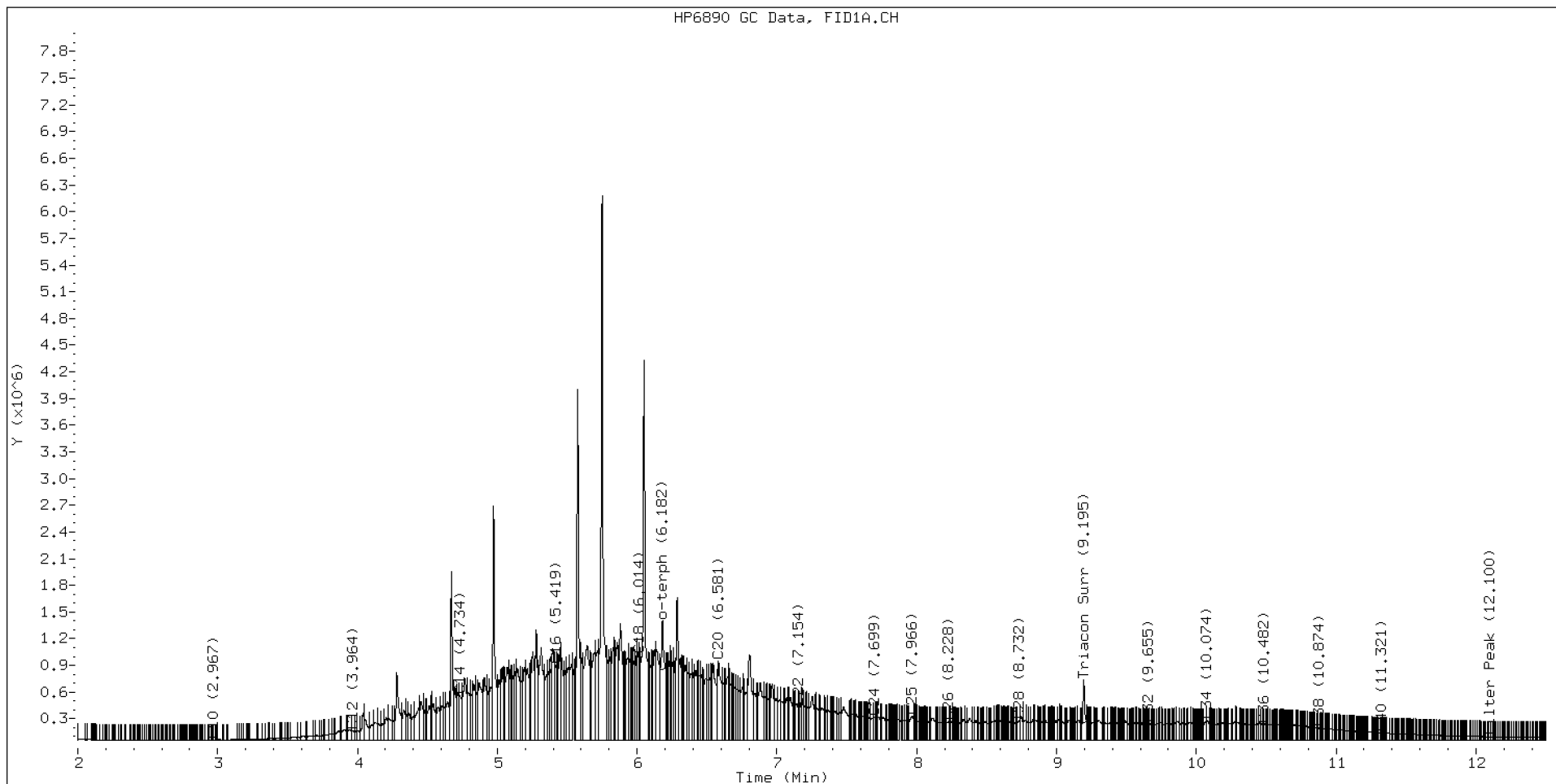
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.840	-0.026	27886	79168	WATPHD	(C12-C24)	139288053	874.2
C10	2.967	-0.003	3092	913	WATPHM	(C24-C38)	36406441	359.9
C12	3.964	-0.001	106629	128483	AK102	(C10-C25)	143825834	735.7
C14	4.734	-0.014	497632	646395	AK103	(C25-C36)	30658893	418.8
C16	5.419	0.004	835598	536321	OR.DIES	(C10-C28)	154556165	788.6
C18	6.014	0.001	957461	689690				
C20	6.581	-0.003	891618	1731625	JET-A	(C10-C18)	88784056	535.3
C22	7.154	0.006	378897	224457				
C24	7.699	0.004	261490	239491				
C25	7.966	0.004	270315	510993				
C26	8.228	0.003	208832	199851				
C28	8.732	0.003	218475	209021				
C32	9.655	-0.001	182488	90411				
C34	10.074	-0.007	216855	316810				
Filter Peak	12.100	0.003	38486	36142	BUNKERC	(C10-C38)	177996650	4508.8
C36	10.482	-0.001	177766	79254				
C38	10.874	0.001	135798	93648				
C40	11.321	0.008	80496	31964				
o-terph	6.182	-0.017	541721	430122				
Triacon Surr	9.195	-0.034	476262	337019	NAS DIES	(C10-C24)	141590209	725.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	430122	2.1 M
Triacontane	337019	2.3 M

M Indicates the peak was manually integrated

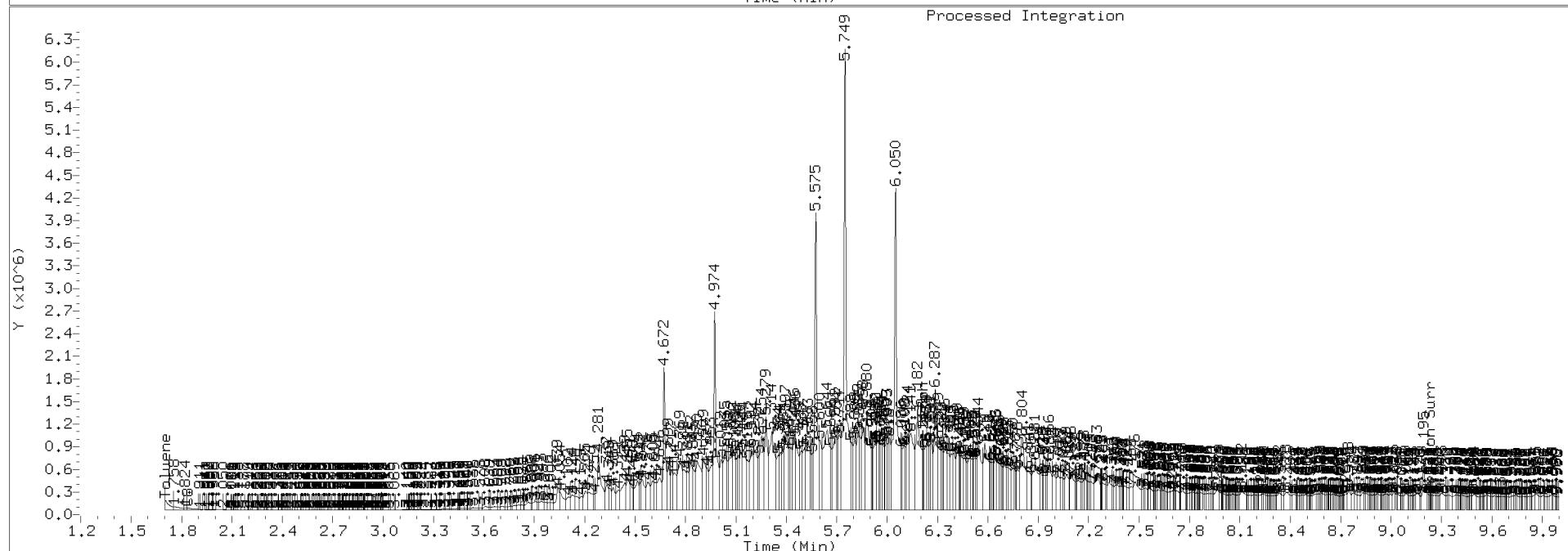
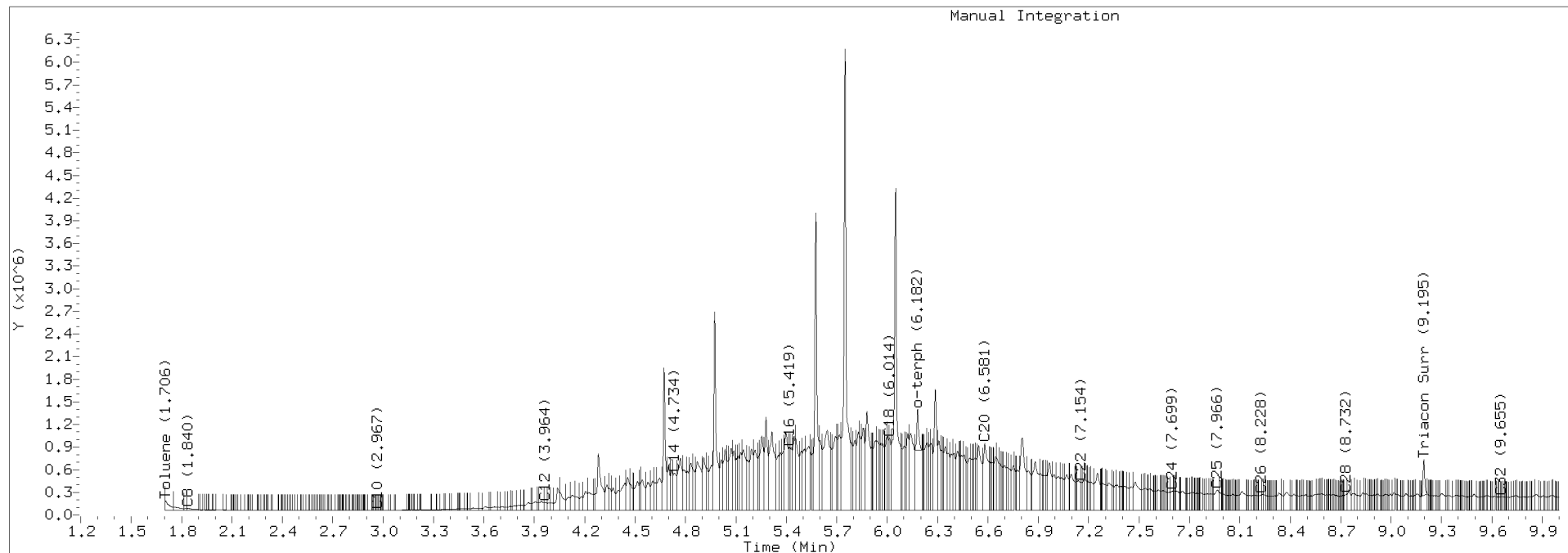
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2732.D Injection: 27-NOV-2020 21:48

Lab ID:20K0126-11





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0126-12 A SDG: 20K0126
 Sampled: 11/04/20 12:40 Prepared: 11/18/20 14:18 File ID: 420K2726.D
 % Solids: 76.86 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 19:46
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.03 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

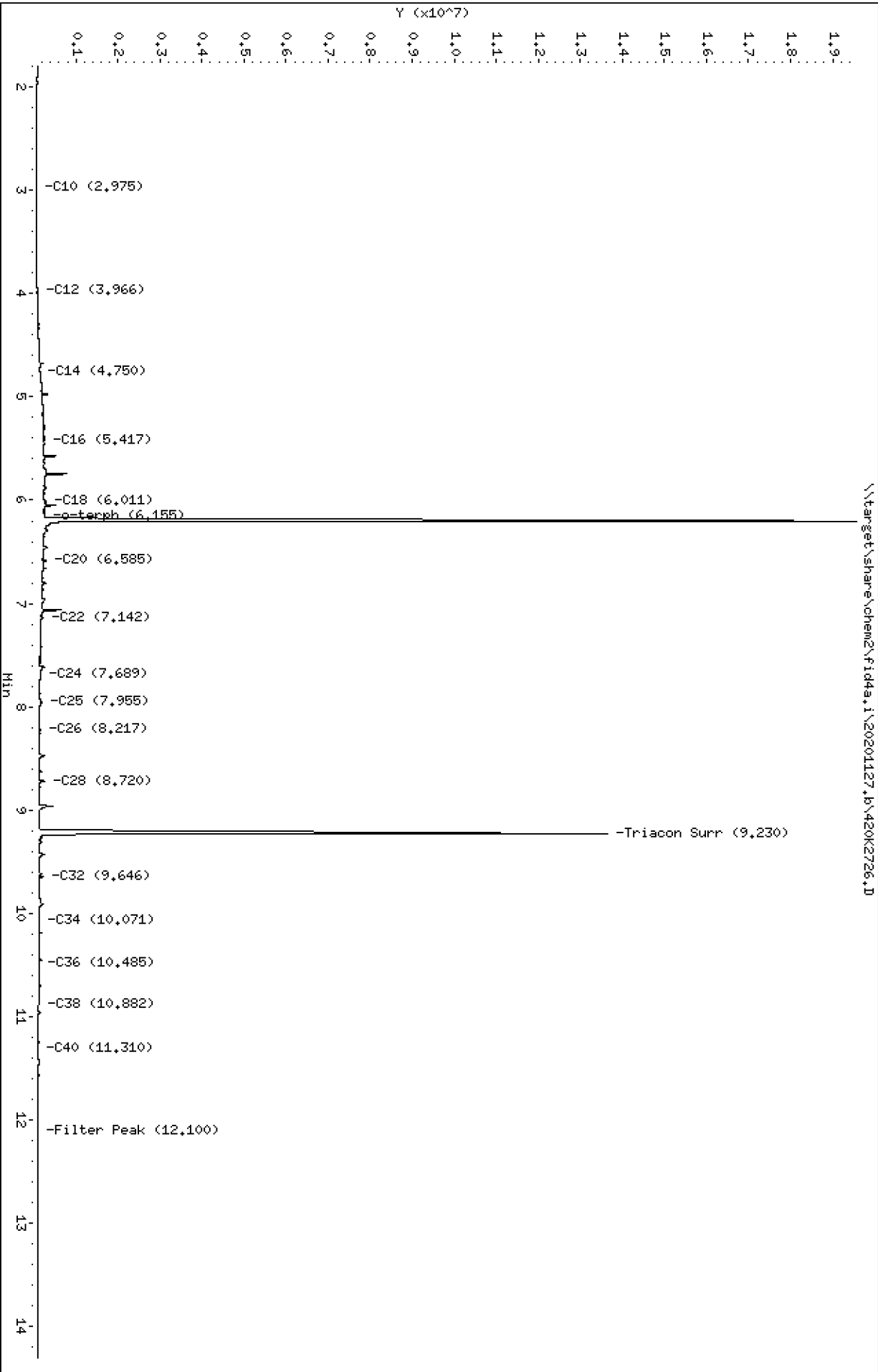
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	24.1		3.04	6.49
RRO	Motor Oil Range Organics (C24-C38)	1	17.1		3.88	13.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.593	14.1	96.9	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2726.D
Date: 27-NOV-2020 19:46
Client ID:
Sample Info: 20K0126-12

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2726.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-12
Client ID:
Injection: 27-NOV-2020 19:46
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

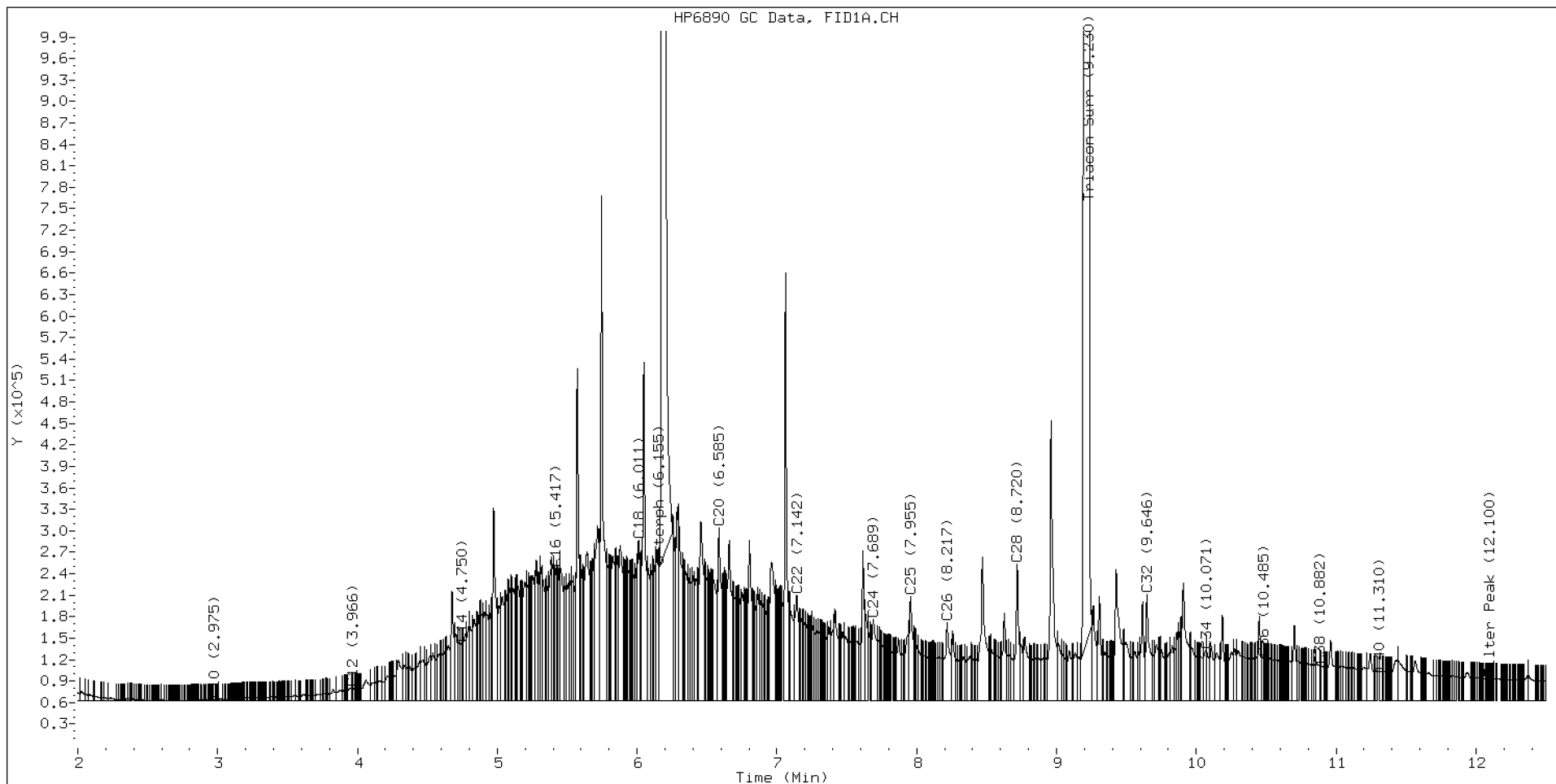
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.868	0.002	34438	88218	WATPHD	(C12-C24)	29621680	185.9
C10	2.975	0.005	941	733	WATPHM	(C24-C38)	13300617	131.5
C12	3.966	0.002	16882	7544	AK102	(C10-C25)	30685641	157.0
C14	4.750	0.003	79637	27785	AK103	(C25-C36)	11468870	156.7
C16	5.417	0.003	185299	150551	OR.DIES	(C10-C28)	34498878	176.0
C18	6.011	-0.002	224717	291298				
C20	6.585	0.001	240874	398251	JET-A	(C10-C18)	15944491	96.1
C22	7.142	-0.005	147665	285766				
C24	7.689	-0.005	113615	240519				
C25	7.955	-0.007	144821	246298				
C26	8.217	-0.008	109205	239595				
C28	8.720	-0.010	190169	290795				
C32	9.646	-0.010	148329	284824				
C34	10.071	-0.010	70404	102124				
Filter Peak	12.100	0.003	30885	10795	BUNKERC	(C10-C38)	43339116	1097.8
C36	10.485	0.002	59777	29689				
C38	10.882	0.009	49186	41445				
C40	11.310	-0.003	40785	46482				
o-terph	6.203	0.004	19300597	22305205				
Triacon Surr	9.230	0.000	13486296	19094864	NAS DIES	(C10-C24)	30038499	153.9

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22305205	109.0 M
Triacontane	19094864	128.7 M

M Indicates the peak was manually integrated

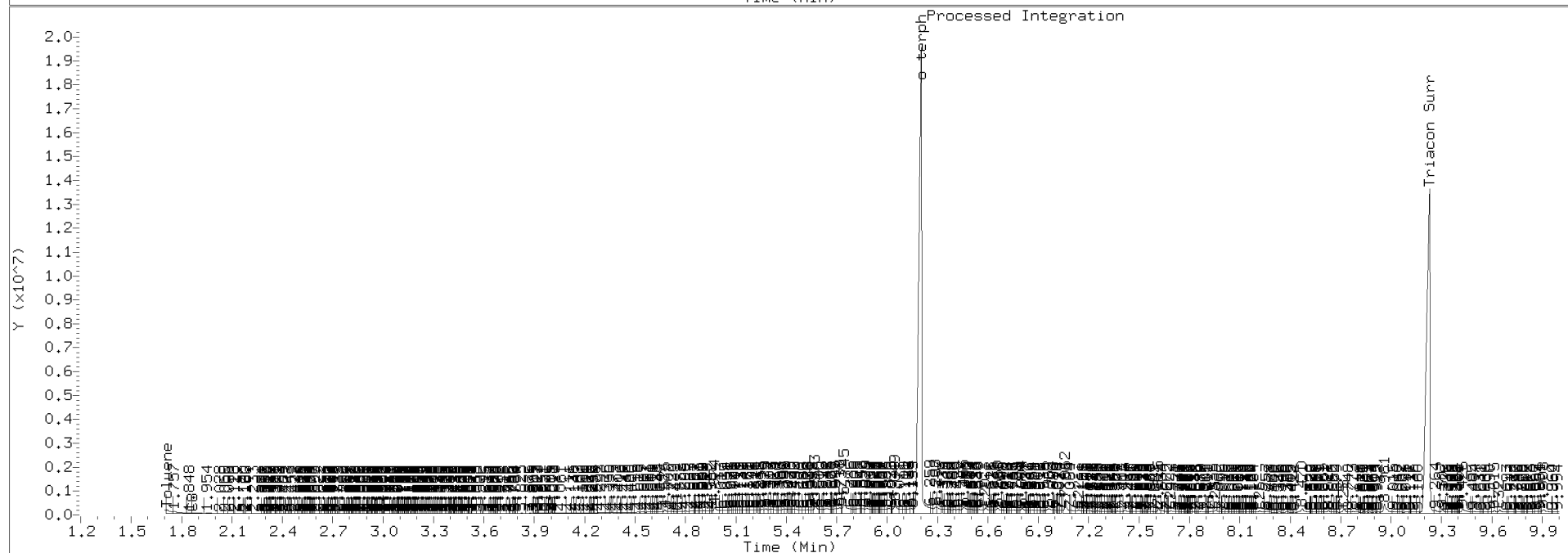
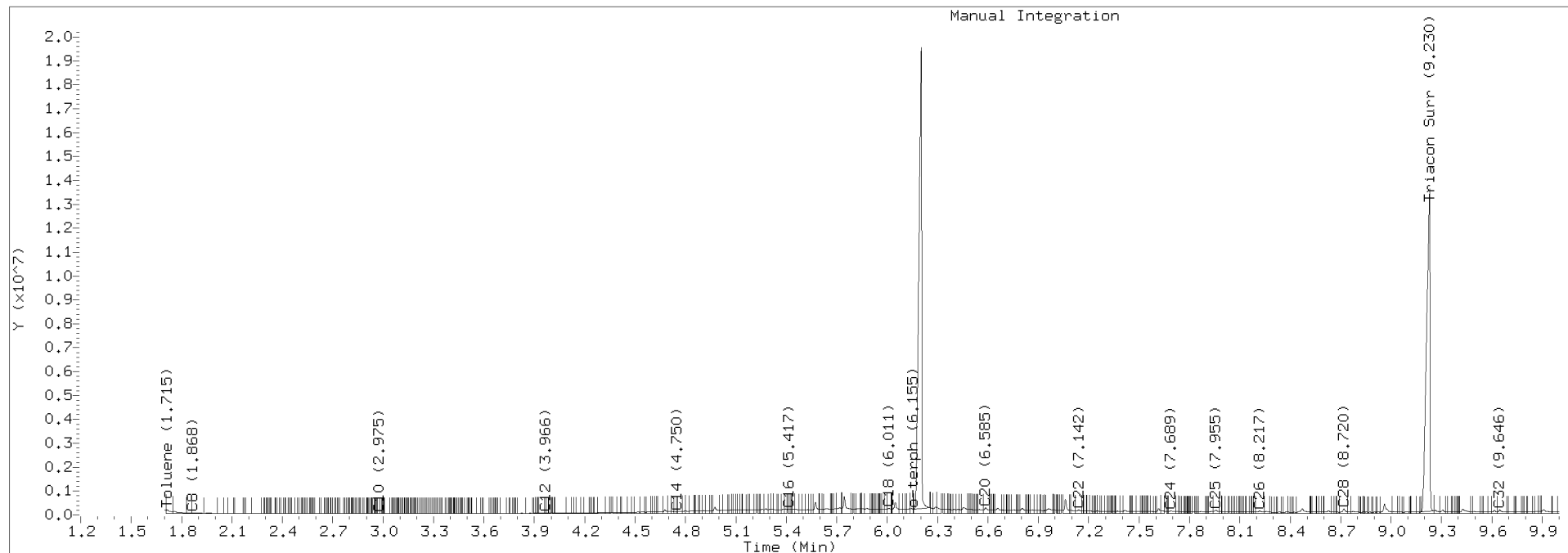
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2726.D Injection: 27-NOV-2020 19:46

Lab ID:20K0126-12





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperage
 Matrix: Soil Laboratory ID: 20K0126-16 A SDG: 20K0126
 Sampled: 11/04/20 13:30 Prepared: 11/18/20 14:18 File ID: 420K2727.D
 % Solids: 91.99 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 20:06
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.01 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

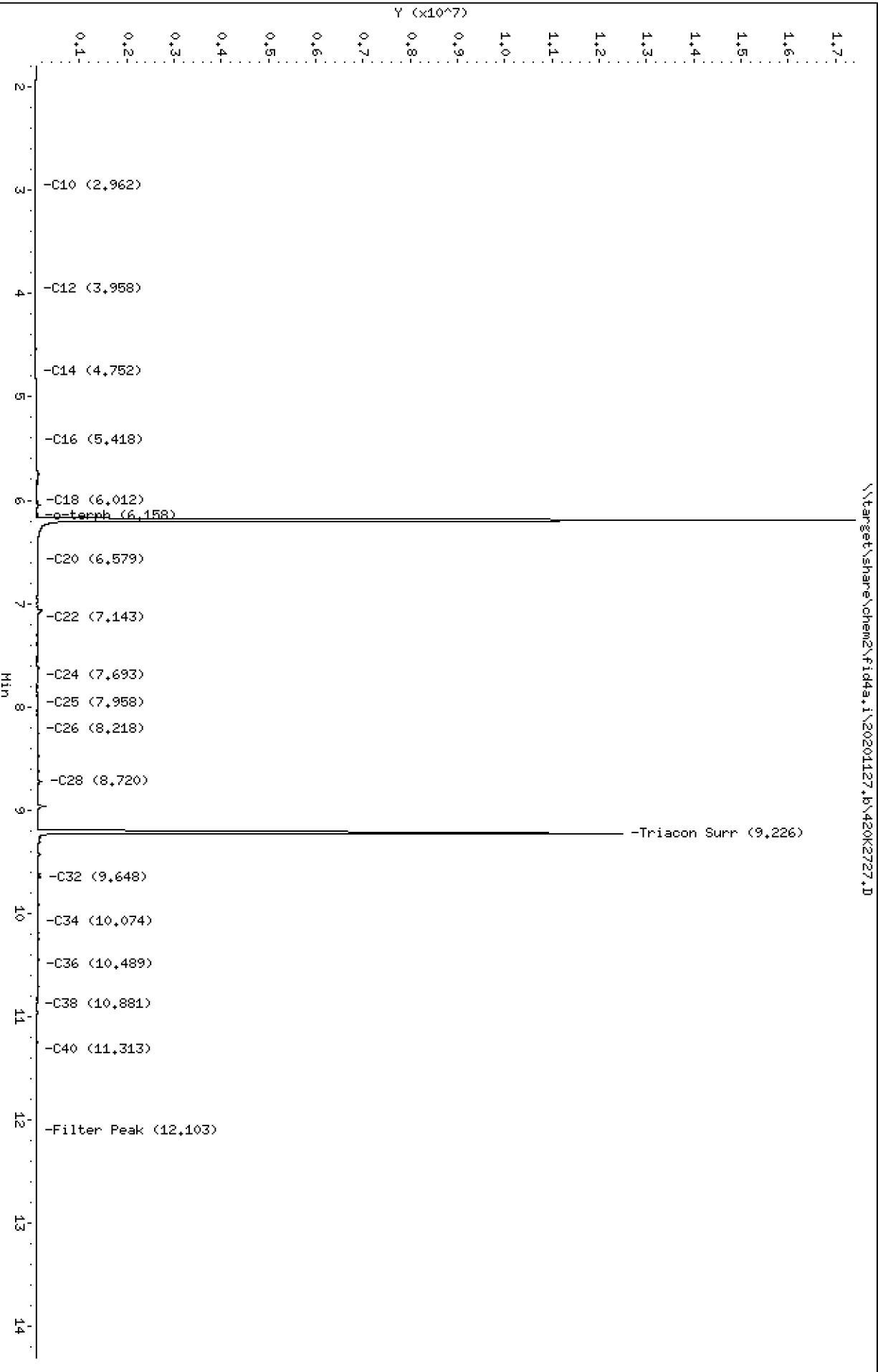
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.56		2.54	5.43
RRO	Motor Oil Range Organics (C24-C38)	1	11.3		3.25	10.9

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.217	9.72	79.6	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2727.D
Date: 27-NOV-2020 20:06
Client ID:
Sample Info: 20K0126-16

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2727.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-16
Client ID:
Injection: 27-NOV-2020 20:06
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

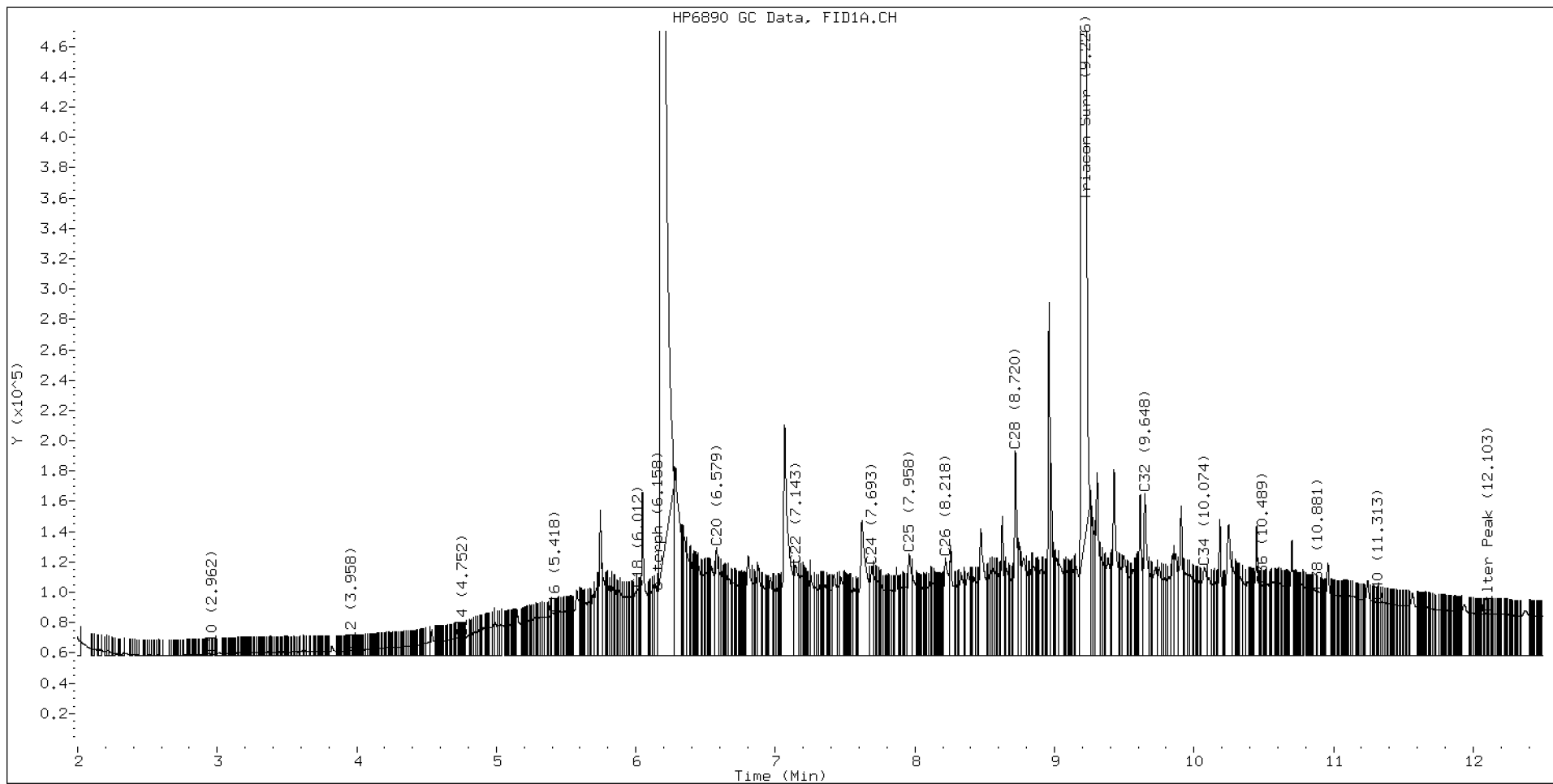
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.873	0.008	21596	47196	WATPHD	(C12-C24)	8165333	51.2
C10	2.962	-0.008	1364	912	WATPHM	(C24-C38)	10533134	104.1
C12	3.958	-0.007	3617	2869	AK102	(C10-C25)	8773463	44.9
C14	4.752	0.004	11892	4736	AK103	(C25-C36)	9094597	124.2
C16	5.418	0.003	27957	12535	OR.DIES	(C10-C28)	11576013	59.1
C18	6.012	-0.002	44109	40997				
C20	6.579	-0.005	71881	117183	JET-A	(C10-C18)	2883977	17.4
C22	7.143	-0.005	60213	115282				
C24	7.693	-0.002	59462	85045				
C25	7.958	-0.004	67631	120633				
C26	8.218	-0.007	65061	129565				
C28	8.720	-0.009	135554	188922				
C32	9.648	-0.009	107178	206034				
C34	10.074	-0.007	58739	144203				
Filter Peak	12.103	0.006	27933	11166	BUNKERC	(C10-C38)	18857964	477.7
C36	10.489	0.006	46802	32613				
C38	10.881	0.008	43005	19321				
C40	11.313	0.000	35732	16012				
o-terph	6.197	-0.002	17291404	18315310				
Triacon Surr	9.226	-0.003	12350336	16282387	NAS DIES	(C10-C24)	8324830	42.7

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18315310	89.5 M
Triacontane	16282387	109.7 M

M Indicates the peak was manually integrated

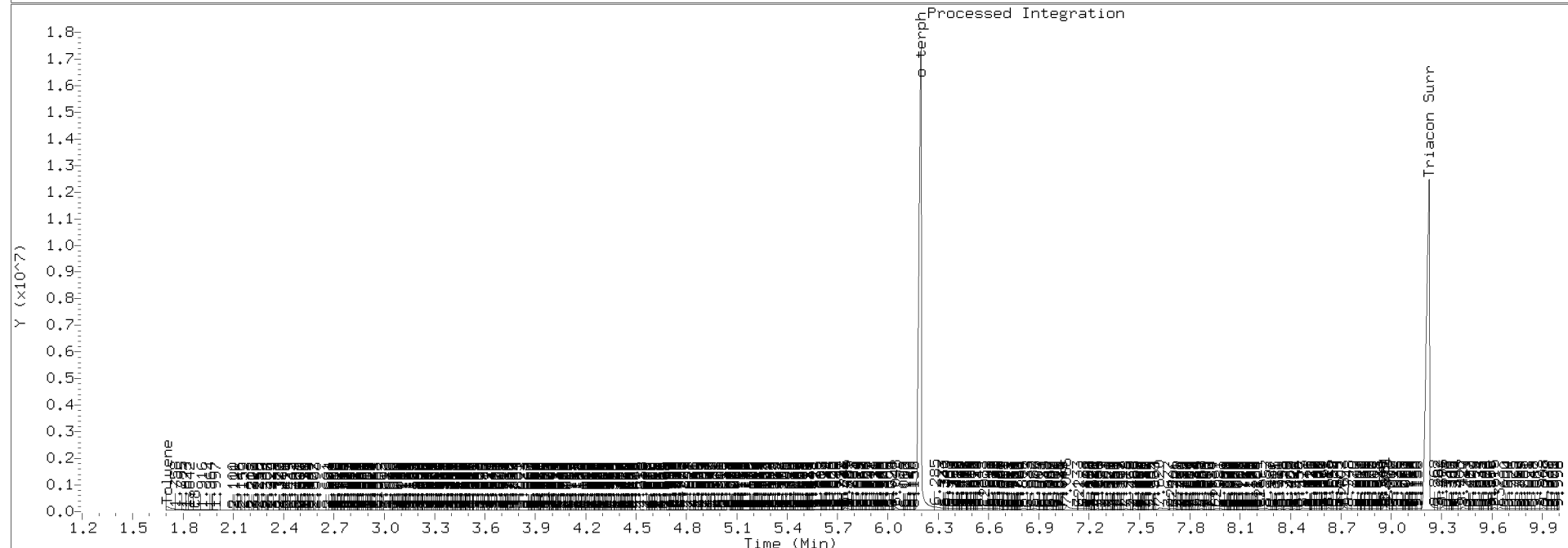
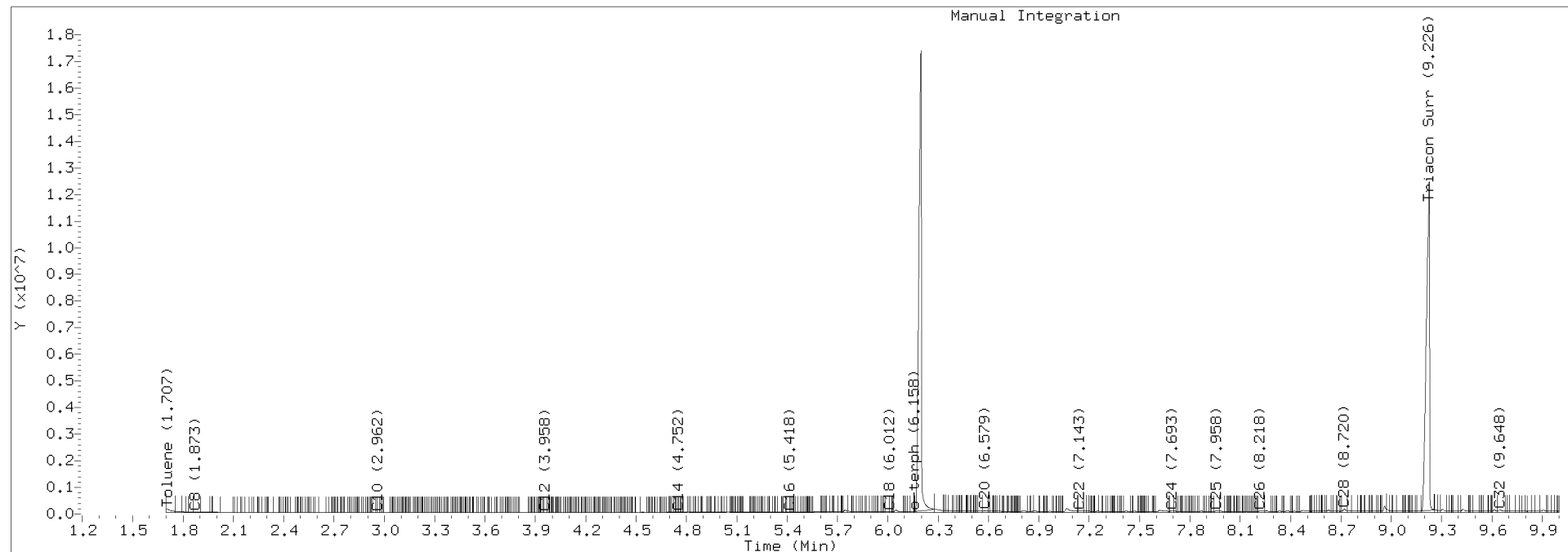
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2727.D Injection: 27-NOV-2020 20:06

Lab ID:20K0126-16





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0126-18 A SDG: 20K0126
Sampled: 11/04/20 13:40 Prepared: 11/18/20 14:18 File ID: 420K2730.D
% Solids: 77.17 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 21:07
Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.02 g Wet / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	24.9		3.03	6.47
RRO	Motor Oil Range Organics (C24-C38)	1	29.4		3.87	12.9

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.549	12.3	84.8	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2730.D

Date: 27-NOV-2020 21:07

Client ID:

Sample Info: 20K0126-18

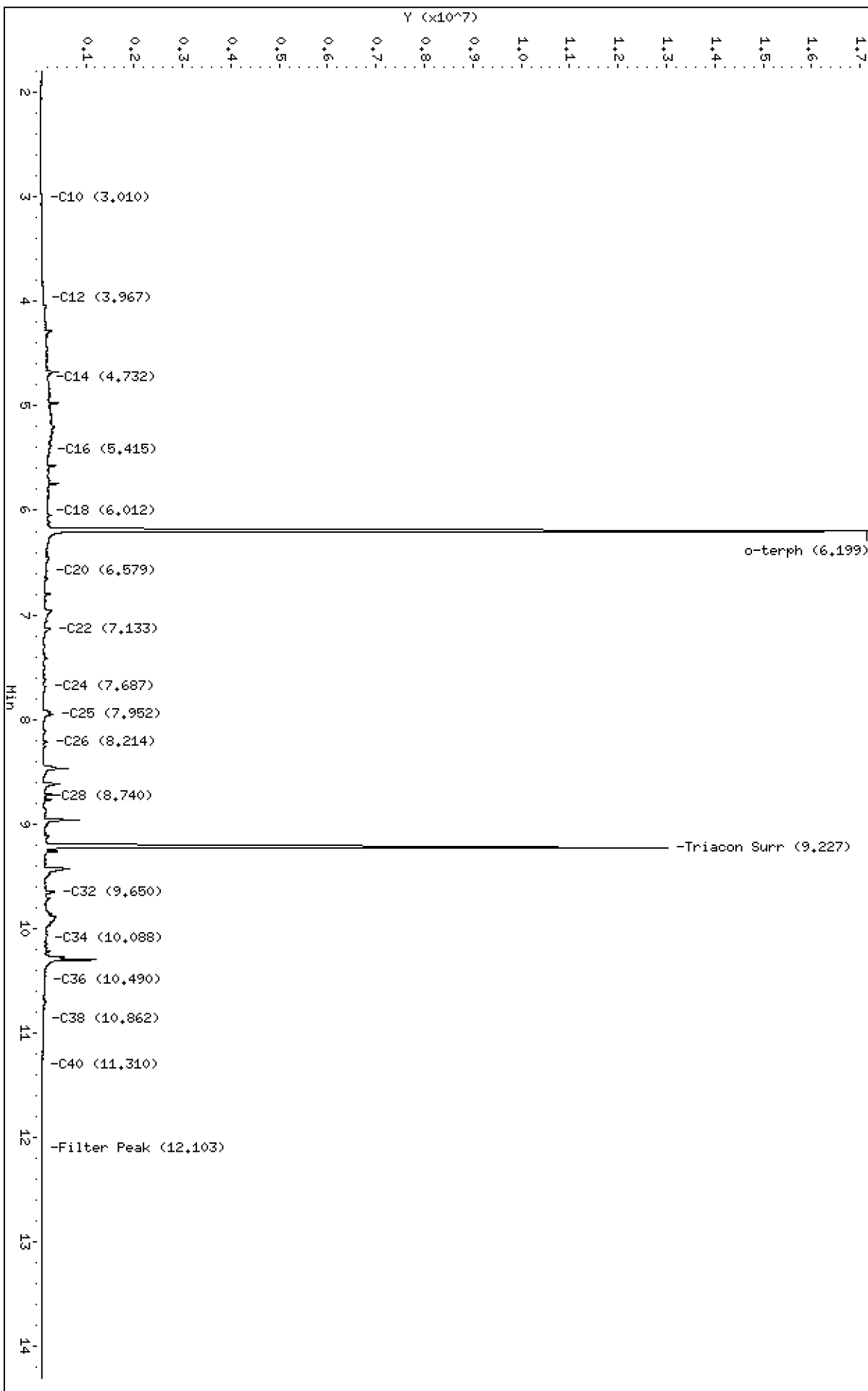
Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Column phase: RTX-1

\\target\share\chem2\fid4a,1\20201127_b\420K2730.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2730.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-18
Client ID:
Injection: 27-NOV-2020 21:07
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

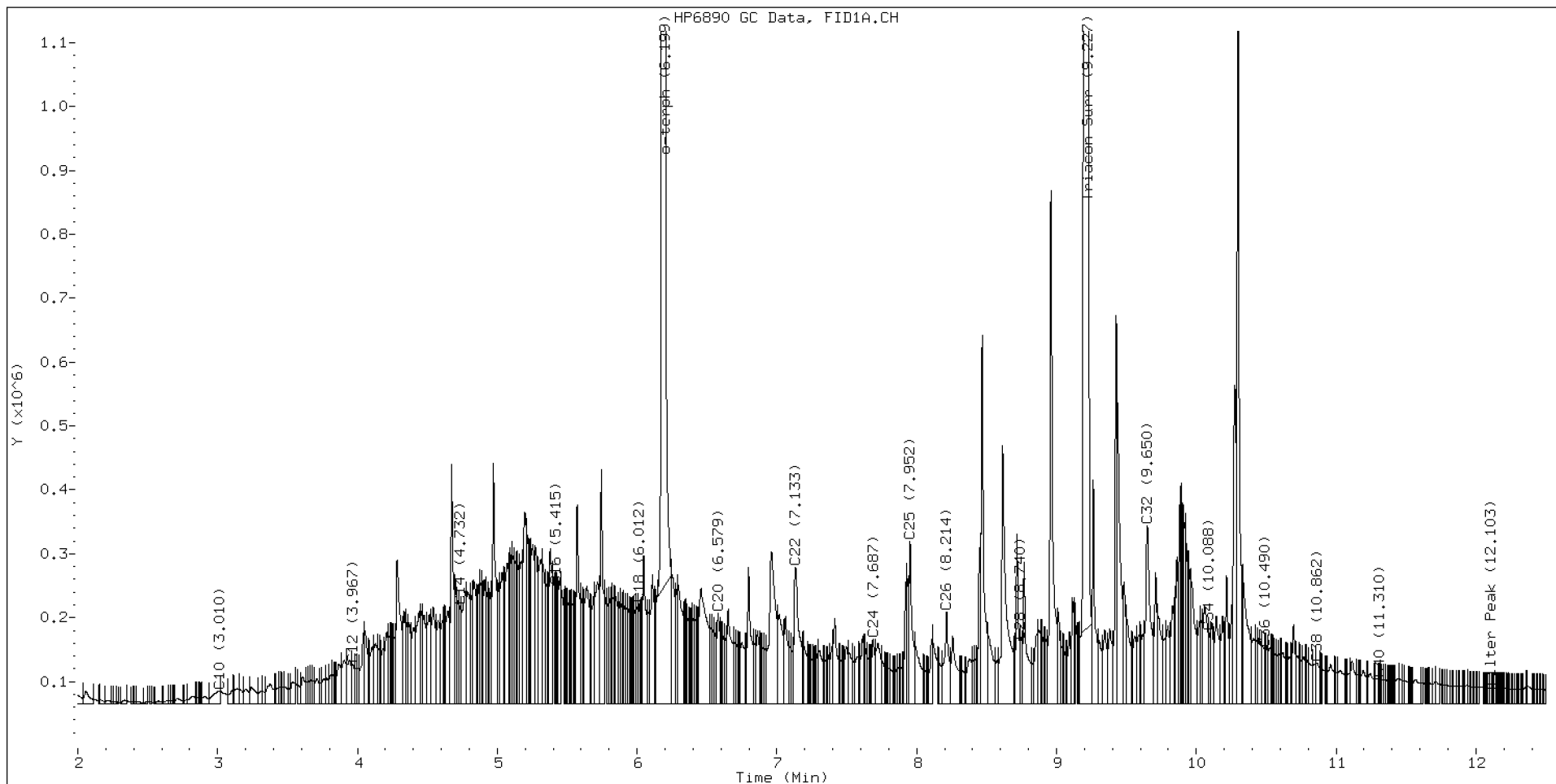
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.840	-0.026	32936	59791	WATPHD	(C12-C24)	30727380	192.8
C10	3.010	0.040	19392	69278	WATPHM	(C24-C38)	22982265	227.2
C12	3.967	0.002	60624	86968	AK102	(C10-C25)	33090389	169.3
C14	4.732	-0.016	153160	126760	AK103	(C25-C36)	21042953	287.4
C16	5.415	0.001	182715	54605	OR.DIES	(C10-C28)	38575379	196.8
C18	6.012	-0.002	155980	176883				
C20	6.579	-0.005	140937	198153	JET-A	(C10-C18)	21341502	128.7
C22	7.133	-0.014	212755	560222				
C24	7.687	-0.007	100907	135345				
C25	7.952	-0.010	254029	415131				
C26	8.214	-0.011	142727	319934				
C28	8.740	0.011	97501	19455				
C32	9.650	-0.007	278721	681969				
C34	10.088	0.007	111395	92176				
Filter Peak	12.103	0.006	24313	18195	BUNKERC	(C10-C38)	55602868	1408.5
C36	10.490	0.007	86177	38638				
C38	10.862	-0.012	63554	120764				
C40	11.310	-0.003	38320	22859				
o-terph	6.199	-0.000	16946917	19530599				
Triacon Surr	9.227	-0.002	12853098	17467389	NAS DIES	(C10-C24)	32620602	167.2

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	19530599	95.4 M
Triacontane	17467389	117.7 M

M Indicates the peak was manually integrated

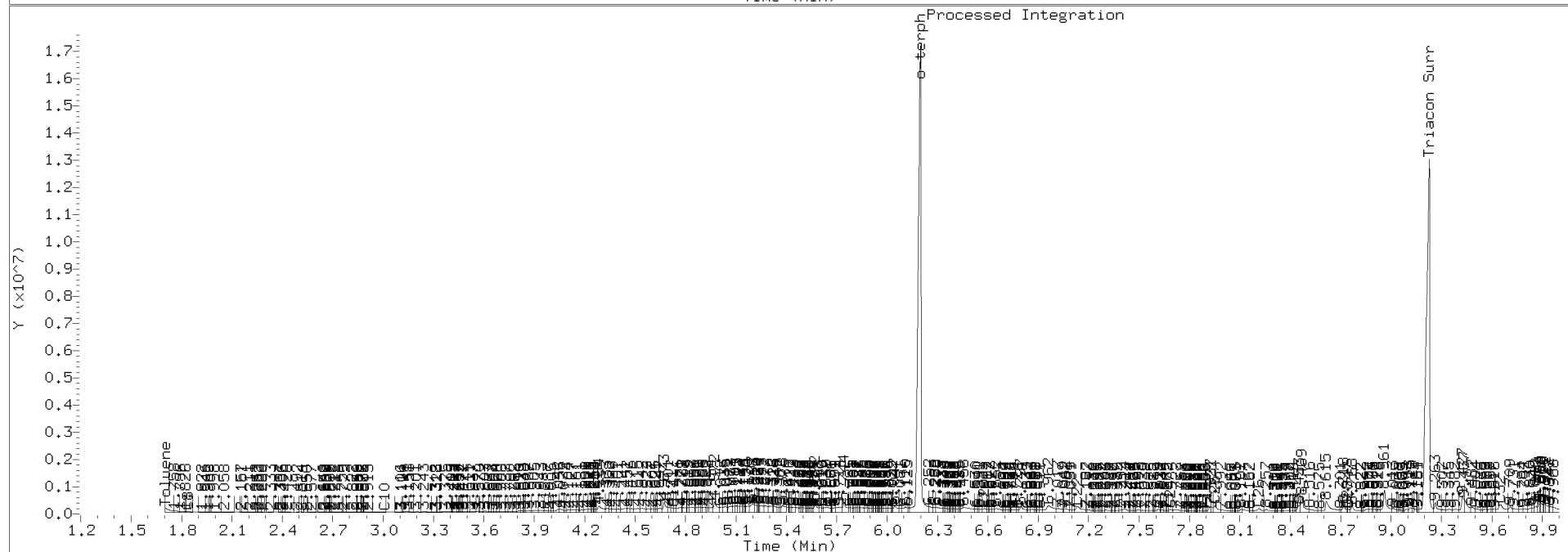
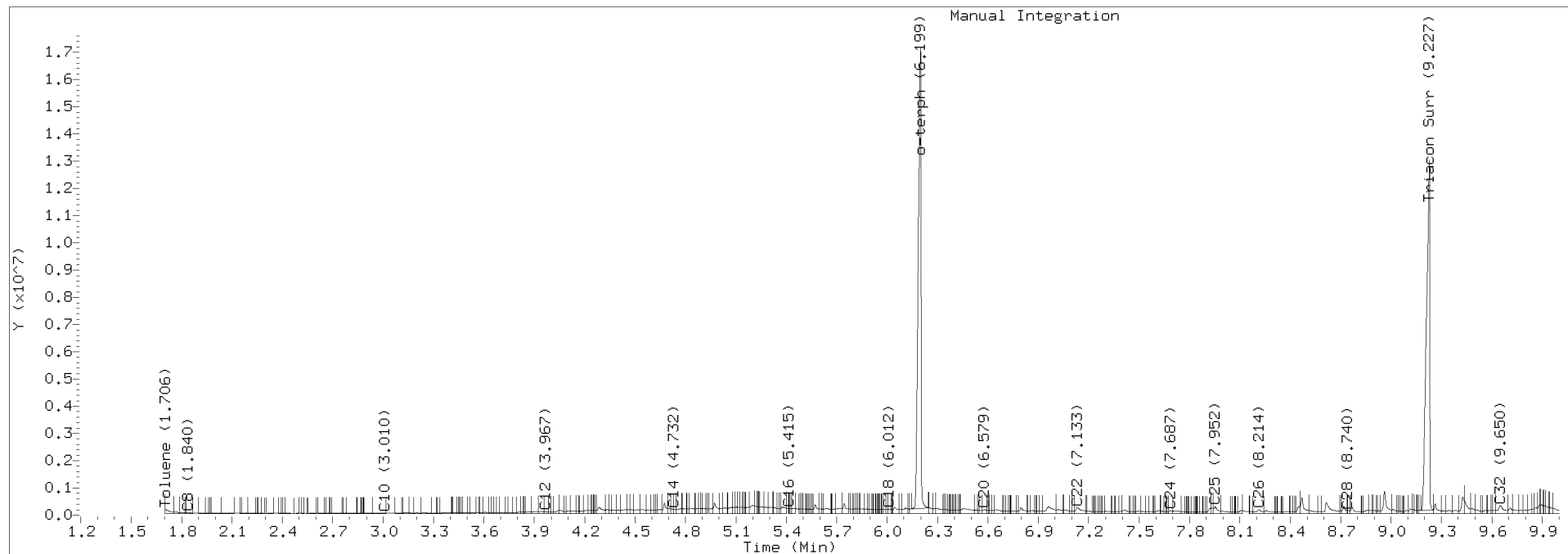
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2730.D Injection: 27-NOV-2020 21:07

Lab ID:20K0126-18





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Dalton, Olmsted & Fuglevand, Inc
Project: ICS-Former NW Cooperaage
Matrix: Soil Laboratory ID: 20K0126-22 A SDG: 20K0126
Sampled: 11/04/20 14:40 Prepared: 11/18/20 14:18 File ID: 420L0232.D
% Solids: 91.17 Preparation: EPA 3546 (Microwave) Analyzed: 12/02/20 19:28
Batch: BIK0527 Sequence: SIL0020 Initial/Final: 10 g Wet / 10 mL
Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	3	288	D	77.0	165
RRO	Motor Oil Range Organics (C24-C38)	3	4090	D	98.4	329

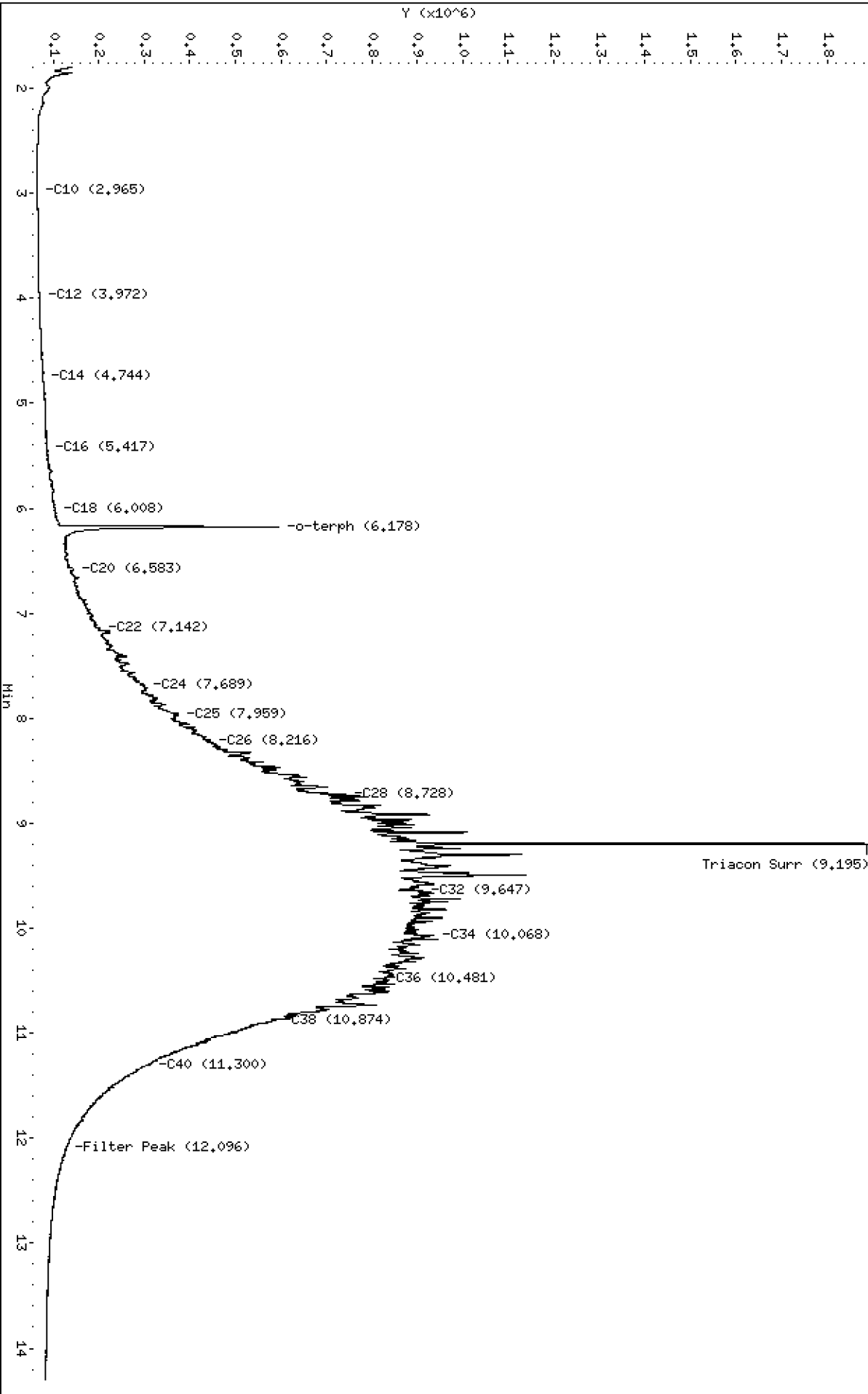
SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.340	8.23	66.7	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201202,8\42010232.D
Date: 02-DEC-2020 19:28
Client ID:
Sample Info: 20K0126-22.3

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR/CTO/VTS
Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201202,8\42010232.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0232.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-22
Client ID:
Injection: 02-DEC-2020 19:28
Dilution Factor: 3
RT Std: 419H1603.D

FID:4A RESULTS

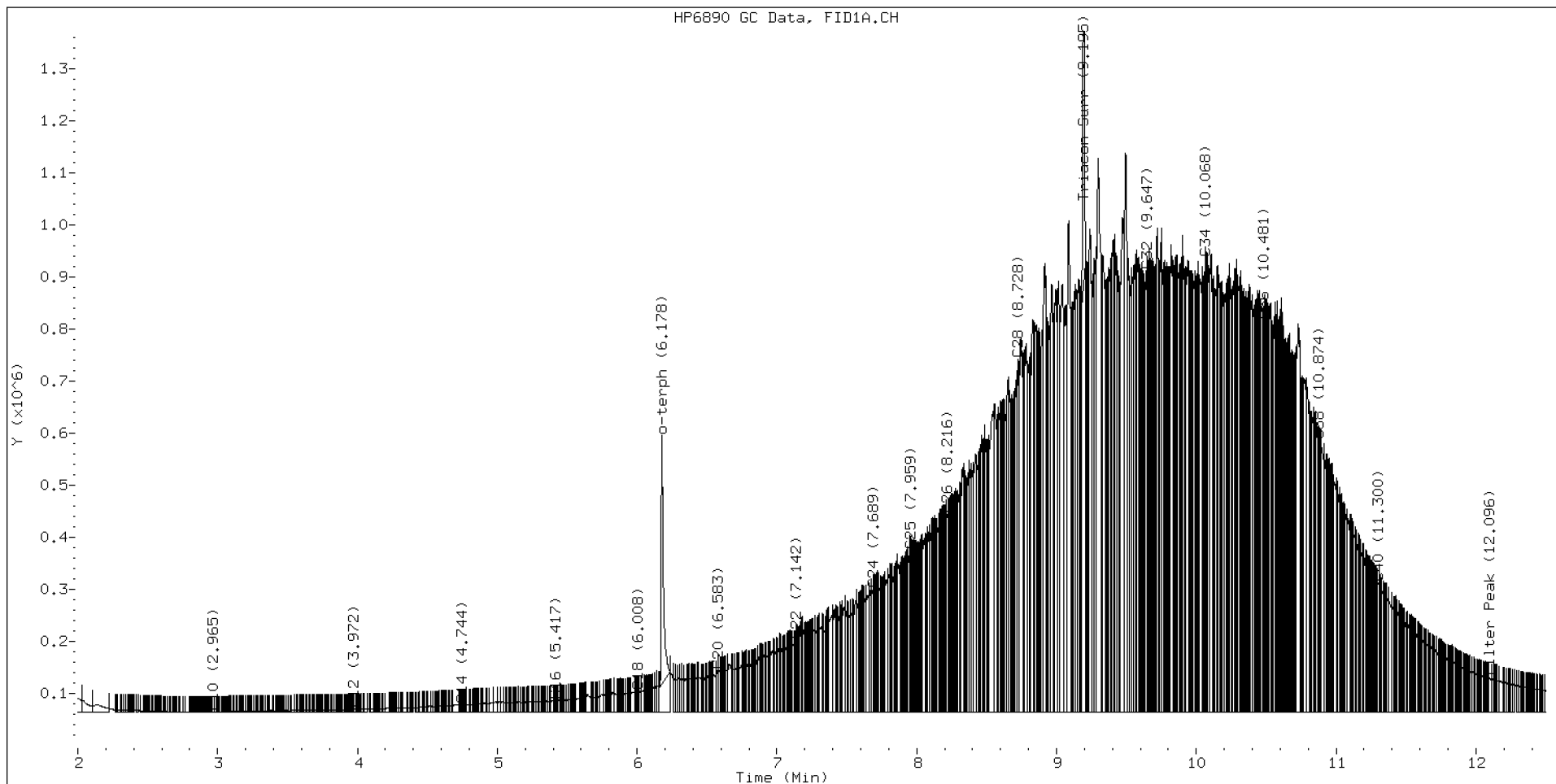
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.854	-0.028	77135	260927	WATPHD	(C12-C24)	13956581	87.6
C10	2.965	-0.008	540	306	WATPHM	(C24-C38)	125749528	1243.0
C12	3.972	0.006	4952	2451	AK102	(C10-C25)	16605315	84.9
C14	4.744	-0.004	13355	7314	AK103	(C25-C36)	108181149	1477.8
C16	5.417	0.004	21064	7338	OR.DIES	(C10-C28)	39845282	203.3
C18	6.008	-0.003	39017	25100				
C20	6.583	0.003	79635	66267	JET-A	(C10-C18)	2373890	14.3
C22	7.142	-0.000	138367	48258				
C24	7.689	-0.001	236735	117898				
C25	7.959	0.001	310825	122783				
C26	8.216	-0.003	379973	207463				
C28	8.728	0.005	678007	585818				
C32	9.647	-0.000	847754	337398				
C34	10.068	-0.000	872329	302626				
Filter Peak	12.096	-0.000	65400	77157	BUNKERC	(C10-C38)	139865615	3542.9
C36	10.481	0.007	751963	224377				
C38	10.874	-0.001	521165	103973				
C40	11.300	-0.003	248549	160520				
o-terph	6.178	-0.018	477450	520877				
Triacon Surr	9.195	-0.028	1004040	694305	NAS DIES	(C10-C24)	14116088	72.3

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	520877	2.5 M
Triacontane	694305	4.7 M

M Indicates the peak was manually integrated

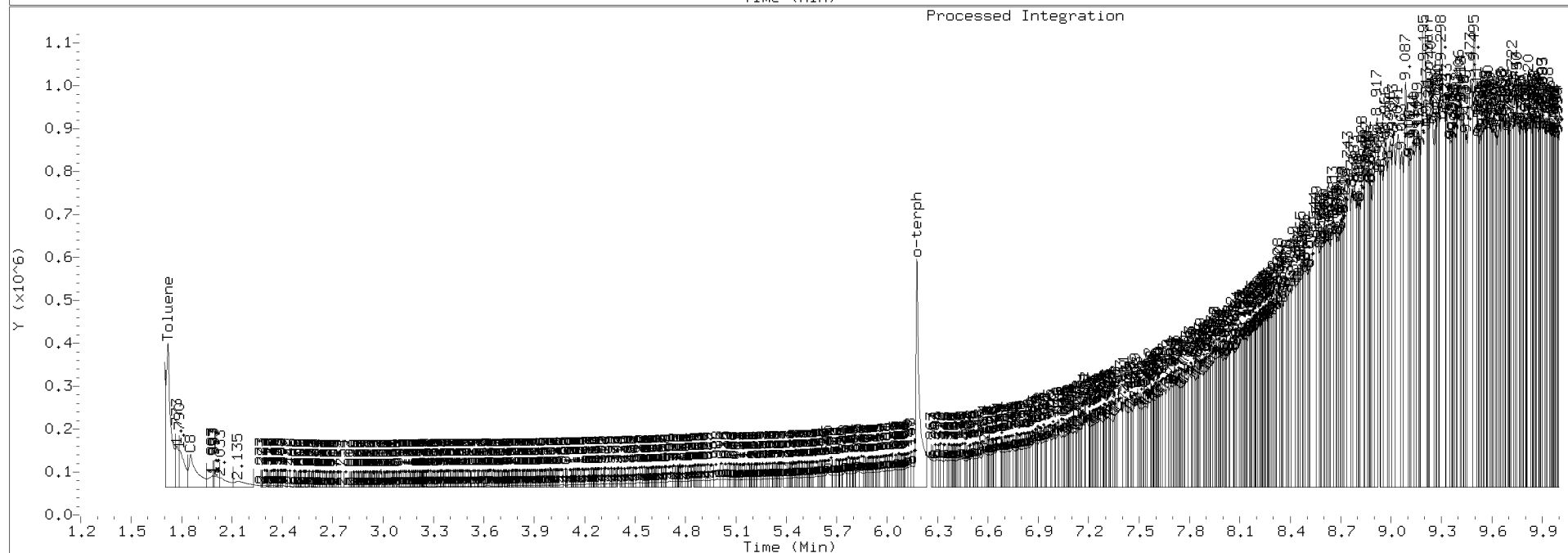
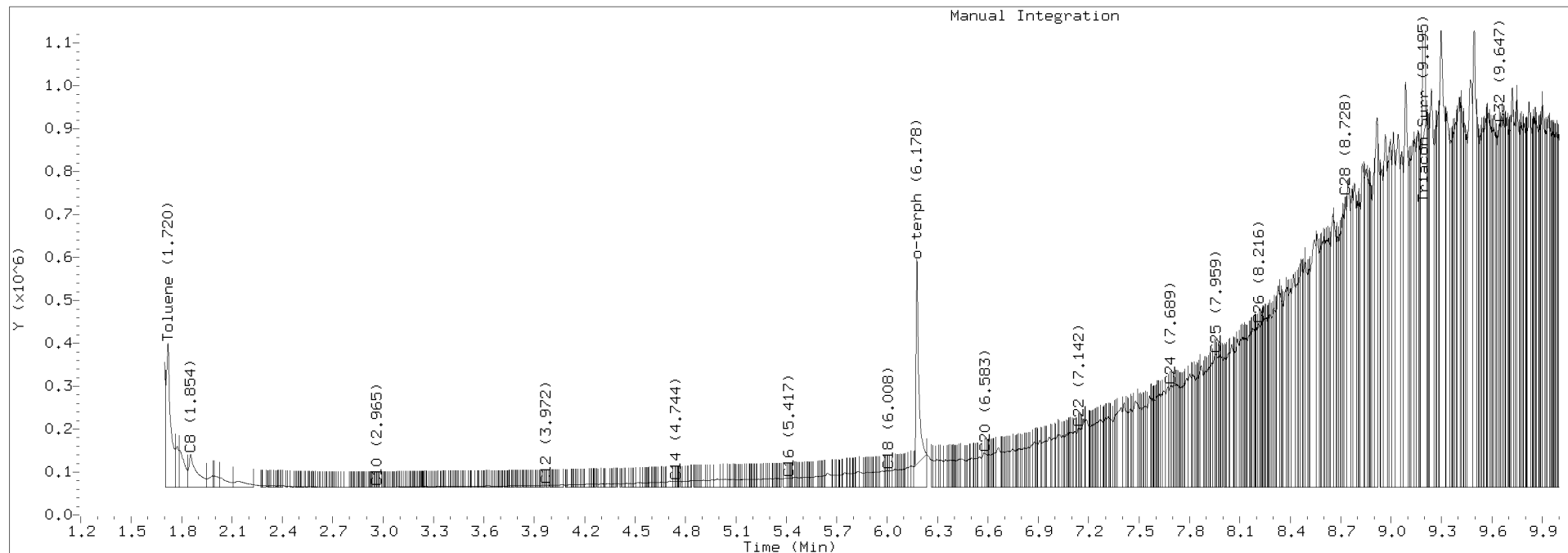
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0232.D Injection: 02-DEC-2020 19:28

Lab ID:20K0126-22





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Dalton, Olmsted & Fuglevand, Inc
 Project: ICS-Former NW Cooperaage
 Matrix: Soil Laboratory ID: 20K0126-24 A SDG: 20K0126
 Sampled: 11/04/20 14:50 Prepared: 11/18/20 14:18 File ID: 420K2731.D
 % Solids: 79.88 Preparation: EPA 3546 (Microwave) Analyzed: 11/27/20 21:27
 Batch: BIK0527 Sequence: SIK0381 Initial/Final: 10.02 g Wet / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: DA00022

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	6.25	U	2.92	6.25
RRO	Motor Oil Range Organics (C24-C38)	1	12.5	U	3.74	12.5

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.056	11.2	80.0	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2731.D

Date : 27-NOV-2020 21:27

Client ID:

Sample Info: 20K0126-24

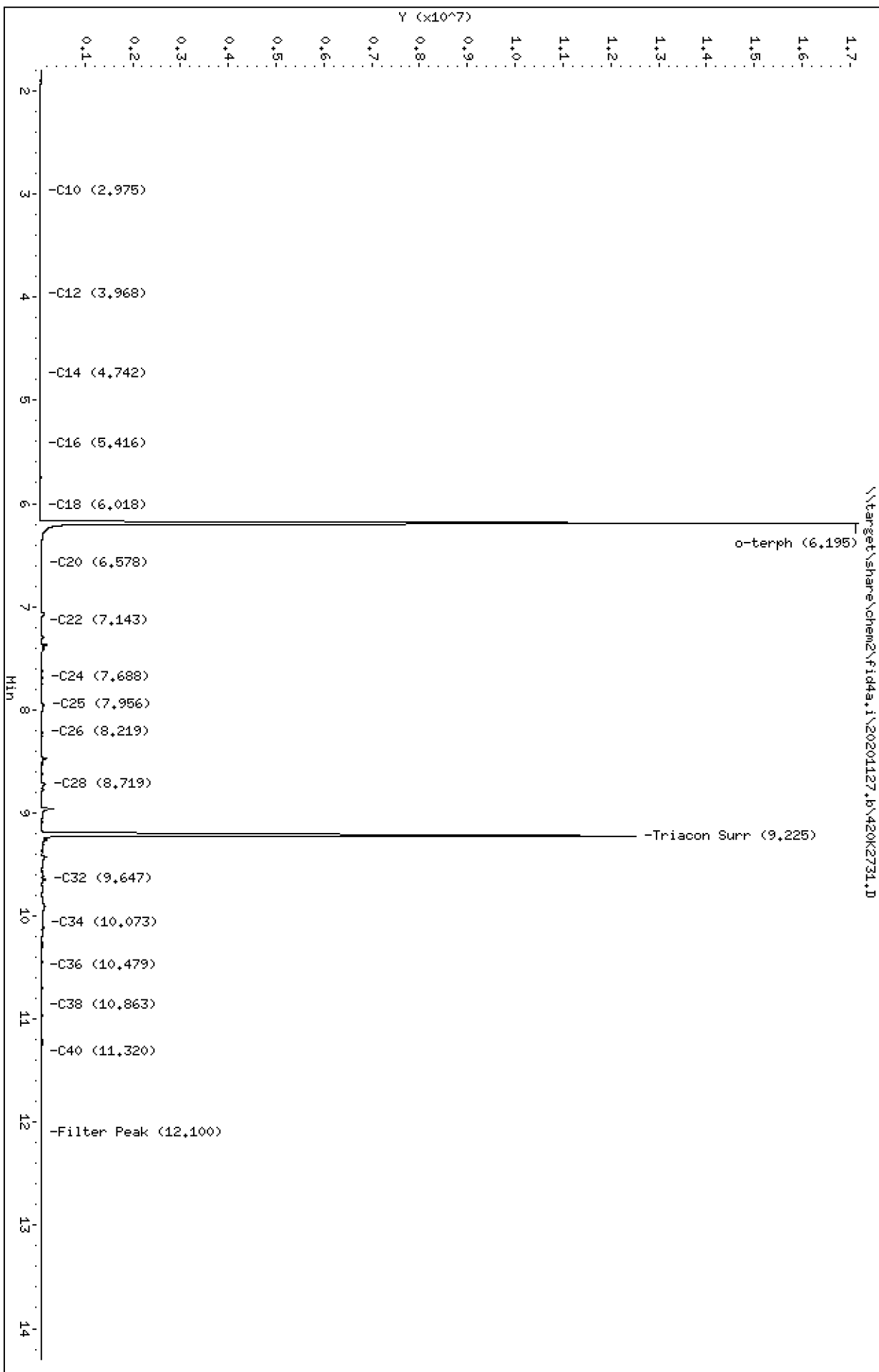
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2731.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: 20K0126-24
Client ID:
Injection: 27-NOV-2020 21:27
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

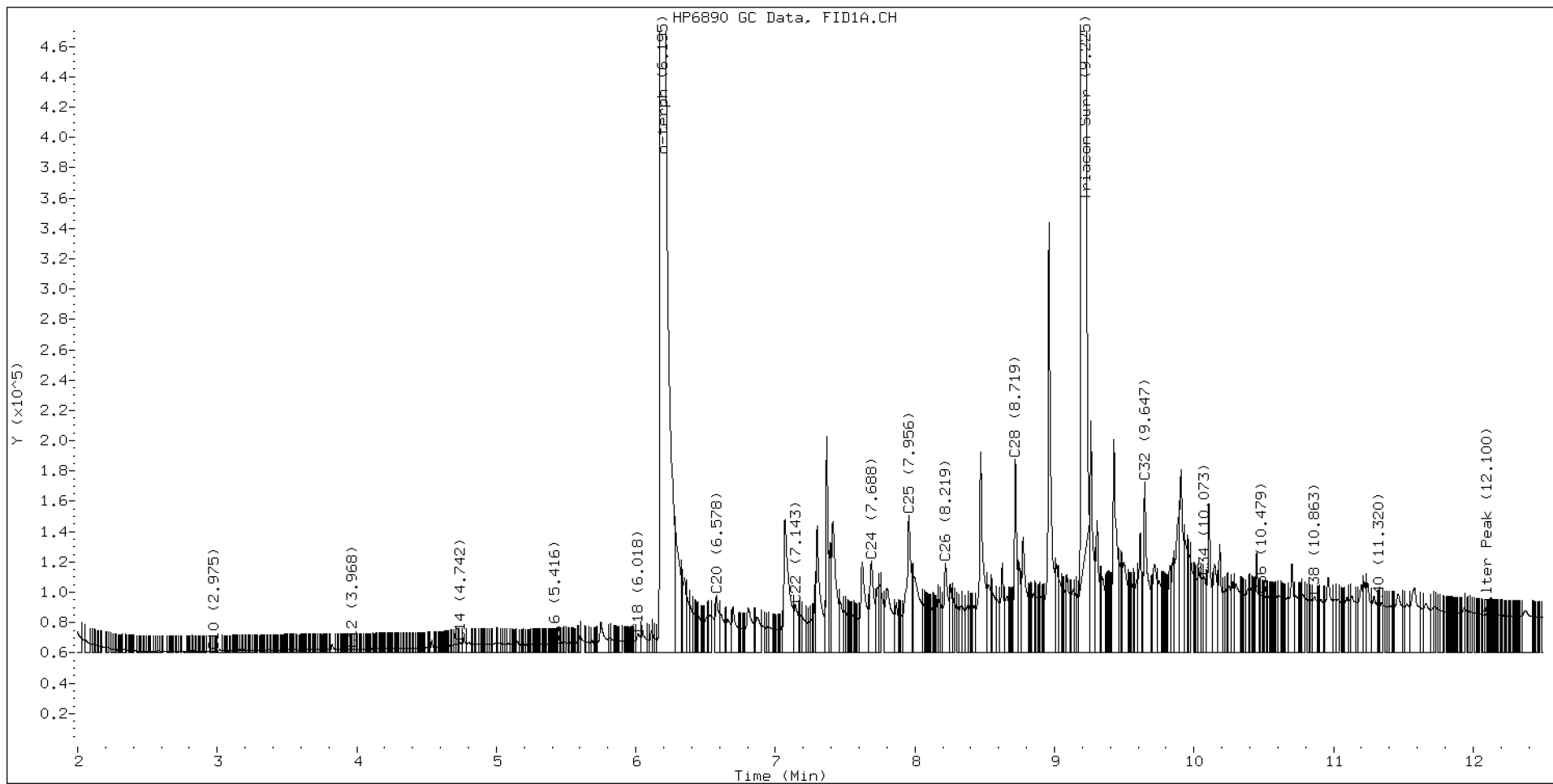
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.838	-0.027	30064	109409	WATPHD	(C12-C24)	3268504	20.5
C10	2.975	0.005	437	220	WATPHM	(C24-C38)	8552224	84.5
C12	3.968	0.003	1835	454	AK102	(C10-C25)	3620043	18.5
C14	4.742	-0.006	6272	8242	AK103	(C25-C36)	7497916	102.4
C16	5.416	0.002	5346	3713	OR.DIES	(C10-C28)	5792707	29.6
C18	6.018	0.004	11761	24134				
C20	6.578	-0.006	37276	69428	JET-A	(C10-C18)	678688	4.1
C22	7.143	-0.005	31168	61818				
C24	7.688	-0.006	60229	126016				
C25	7.956	-0.007	90358	215250				
C26	8.219	-0.006	58991	119232				
C28	8.719	-0.010	127296	161145				
C32	9.647	-0.010	111805	223651				
C34	10.073	-0.009	49775	72828				
Filter Peak	12.100	0.003	24644	11070	BUNKERC	(C10-C38)	11901959	301.5
C36	10.479	-0.004	37745	26267				
C38	10.863	-0.010	36528	80190				
C40	11.320	0.007	30807	10747				
o-terph	6.195	-0.004	17116118	18424212				
Triacon Surr	9.225	-0.004	12407902	16216509	NAS DIES	(C10-C24)	3349736	17.2

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18424212	90.0
Triacontane	16216509	109.3 M

M Indicates the peak was manually integrated

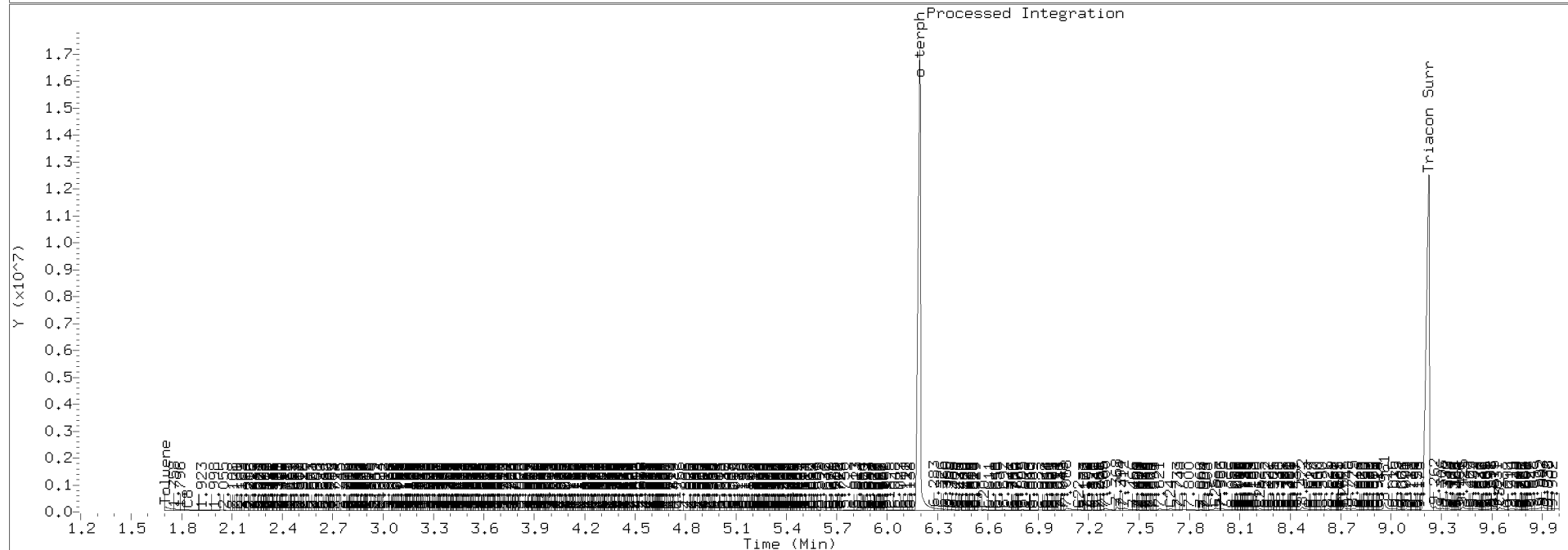
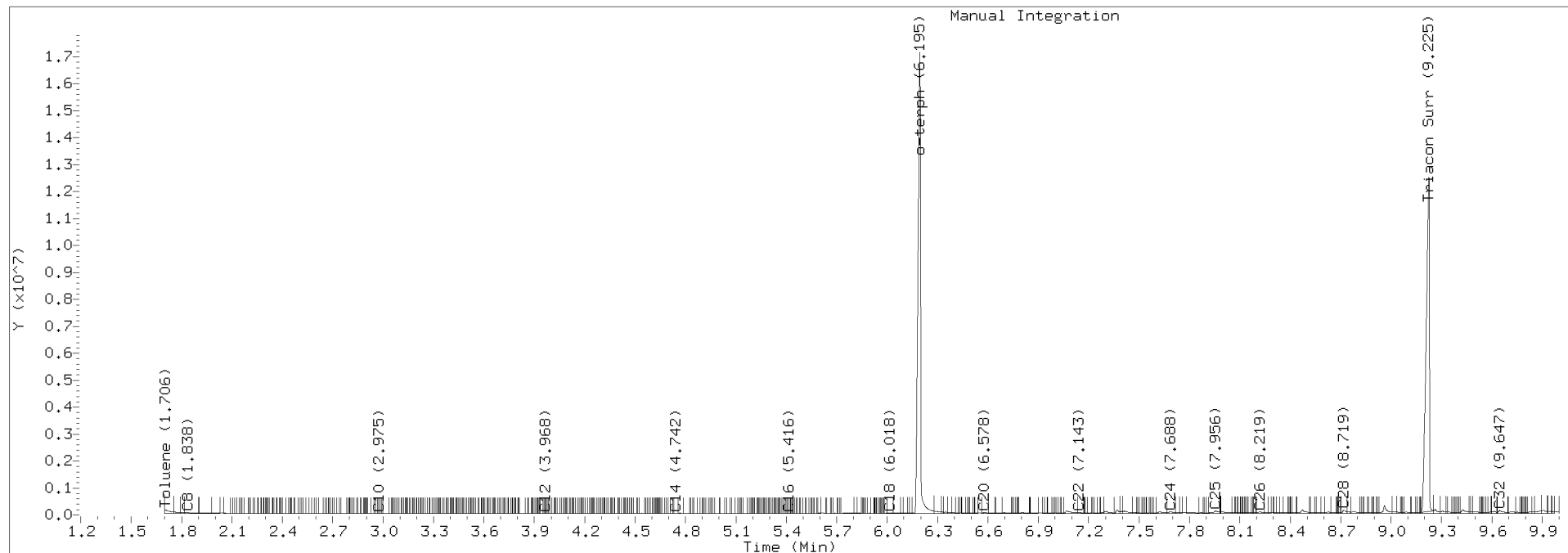
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2731.D Injection: 27-NOV-2020 21:27

Lab ID:20K0126-24





PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0126
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperaage
Batch: BIK0527 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PP15-2.5	20K0126-01	420K2433.D	11/18/20 14:18	
PP15-5	20K0126-02	420K2723.D	11/18/20 14:18	
PP16-2.5	20K0126-06	420K2724.D	11/18/20 14:18	
PP16-5	20K0126-07	420K2725.D	11/18/20 14:18	
PP13-2.5	20K0126-11	420K2732.D	11/18/20 14:18	
PP13-5	20K0126-12	420K2726.D	11/18/20 14:18	
PP7-2.5	20K0126-16	420K2727.D	11/18/20 14:18	
PP7-7.5	20K0126-18	420K2730.D	11/18/20 14:18	
PP3-2	20K0126-22	420L0232.D	11/18/20 14:18	
PP3-5	20K0126-24	420K2731.D	11/18/20 14:18	
Blank	BIK0527-BLK1	420K2426.D	11/17/20 10:00	
LCS	BIK0527-BS1	420K2427.D	11/17/20 10:00	
PP7-2.5	BIK0527-MS1	420K2728.D	11/17/20 10:00	
PP7-2.5	BIK0527-MSD1	420K2729.D	11/17/20 10:00	



Batch: BIK0527

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Matrix: Solid

Date Prepared: 11/18/20

Balance ID: B14642614

Set Up By: CTO 11/17/20

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (g)		Acid C/U (1:1) Y (N)	Silica Gel C/U (1:1) Y (N)	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
20K0115-01 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0115-02 A	(10.000)	10.07	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0115-04 A	(10.000)	10.06	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0115-05 A	(10.000)	10.04	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0115-10 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-01 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	Do not Decant samples
20K0126-02 A	(10.000)	10.05	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-06 A	(10.000)	10.06	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-07 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-11 A	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-12 A	(10.000)	10.03	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-16 A	(10.000)	10.01	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-18 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	
20K0126-22 A	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	sample ext. viscous
20K0126-24 A	(10.000)	10.02	(1:1) Y/N	(1:1) Y/N	1	1.0	

Batch QC

Lab Number	Initial (g)		Acid C/U (1:1) Y (N)	Silica Gel C/U (1:1) Y (N)	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
BIK0527-BLK1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0527-BS1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	
BIK0527-MS1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0126-16
BIK0527-MSD1	(10.000)	10.00	(1:1) Y/N	(1:1) Y/N	1	1.0	Use 20K0126-16

Client verified By: [Signature] Date: 11/18/20

Preparation Reviewed By: [Signature] Date: 11/20/20

Extraction Date and Time: 11/18/20 14:18



Batch: BIK0527

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Steps	Reagents Used	Surrogates & Spike Standards Used															
Microwave 1 2 3 Analyst/Date: 11/18/20	Station/Reagent Microwave Analyst: [Signature] Date: 11/18/20	<table border="1"> <thead> <tr> <th>Type</th> <th>Vial ID / Standard ID</th> <th>Vol uL</th> <th>Analyst</th> <th>Witness</th> </tr> </thead> <tbody> <tr> <td>Surrogate</td> <td>P 1009824 Exp: 04-19-2021</td> <td>100µL</td> <td>[Signature]</td> <td>BT</td> </tr> <tr> <td>Spike</td> <td>11 1009822 Exp: 04-20-2021</td> <td>100µL</td> <td>[Signature]</td> <td>BT</td> </tr> </tbody> </table>	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness	Surrogate	P 1009824 Exp: 04-19-2021	100µL	[Signature]	BT	Spike	11 1009822 Exp: 04-20-2021	100µL	[Signature]	BT
	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness												
Surrogate	P 1009824 Exp: 04-19-2021	100µL	[Signature]	BT													
Spike	11 1009822 Exp: 04-20-2021	100µL	[Signature]	BT													
TurboVap Pre Acid/Silica Clean 1 2 3 4 5 Analyst/Date: 11/20/20	Methylene Chloride I010678	(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards. If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator in the Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).															
	Anhydrous Sodium Sulfate I010485																
Vialing Analyst/Date: 11/20/20	Neutral Glass Wool I010014																
	Vialing Analyst: [Signature] Date: 11/20/20																
	Methylene Chloride I010678																
	Concentrated Sulfuric Acid																
	90% Silica Gel																



Batch: BIK0527

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:)

TPH NW (Extractables) low level in Solid

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. Weigh into 100mL beakers-dry with Sodium Sulfate.2. Transfer to microwave vessel.3. Add DCM to the vessel until the solvent is 1 inch above soil layer after homogenization.4. Add surr/spike.5. Microwave on appropriate power setting determined by # of samples.6. After microwave-Re-homogenize while hot then let cool 15 min. in Refridgerator 05. Re-homogenize while cool.7. Collect into turbo tube with sm. funnel containing glasswool and 1 Inch sodium sulfate.8. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube.9. TurboVap.10. Acid/Silica Clean-up?= Y <input type="checkbox"/> N <input checked="" type="checkbox"/>11. Vial in DCM. <p>A. Need Total Solids Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p> <p>B. Archive/Freeze Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	

Batch: BIK0527

Batch Comment: **NONE**

Project: Longacres

Project Comments: **NONE**

Work Order:20K0115

Work Order Comments: **NONE**

Sample: 20K0115-01

Sample Comments: **NONE**

Sample: 20K0115-02

Sample Comments: **NONE**

Sample: 20K0115-04

Sample Comments: **NONE**

Sample: 20K0115-05

Sample Comments: **NONE**

Sample: 20K0115-10

Sample Comments: **NONE**

Project: ICS-Former NW Cooperage

Project Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Work Order:20K0126

Work Order Comments: <G> Need J-flag Binary files for Aroclors .cdf

Need Acid/Silica Clean-ups for TPHDx if requested

Need MS/MSD if enough volume.

Need organic instrument files uploaded to the secure site for DMD (Raleigh Farlow).

</G>

Sample: 20K0126-01

Sample Comments: **NONE**

Sample: 20K0126-02

Sample Comments: **NONE**

Sample: 20K0126-06

Sample Comments: **NONE**

Sample: 20K0126-07

Sample Comments: **NONE**

Sample: 20K0126-11

Sample Comments: **NONE**

Sample: 20K0126-12

Sample Comments: **NONE**

Sample: 20K0126-16

Sample Comments: **NONE**

Sample: 20K0126-18

Sample Comments: **NONE**

Sample: 20K0126-22

Sample Comments: **NONE**

Sample: 20K0126-24

Sample Comments: **NONE**



Extraction Parameter: TPI+D Extraction Batch B/K0529

Total Solids Batch: B/K0352 (metals) Work Order(s): 2010126

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input checked="" type="checkbox"/> Other (Details)= <u>Do NOT decant samples, solids from metals</u>	<u>CTD 11/17/20</u>
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Extraction Parameter: TPH Extraction Batch B1K0527

Total Solids Batch: B1K0477 Work Order(s): 20K0115

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input checked="" type="checkbox"/> Rocks (%+size)? <u>01, 05, 10: small 10: med-big</u>	<u>CTD 11/14/20</u>
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperaage</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BIK0527-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>11/17/20 10:00</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BIK0527</u>	Sequence:	<u>SIL0016</u>
Instrument:	<u>FID4</u>	Column:	<u>RTX-1</u>
		File ID:	<u>420K2426.D</u>
		Analyzed:	<u>11/24/20 16:09</u>
		Initial/Final:	<u>10 g / 1 mL</u>
		Calibration:	<u>DA00022</u>

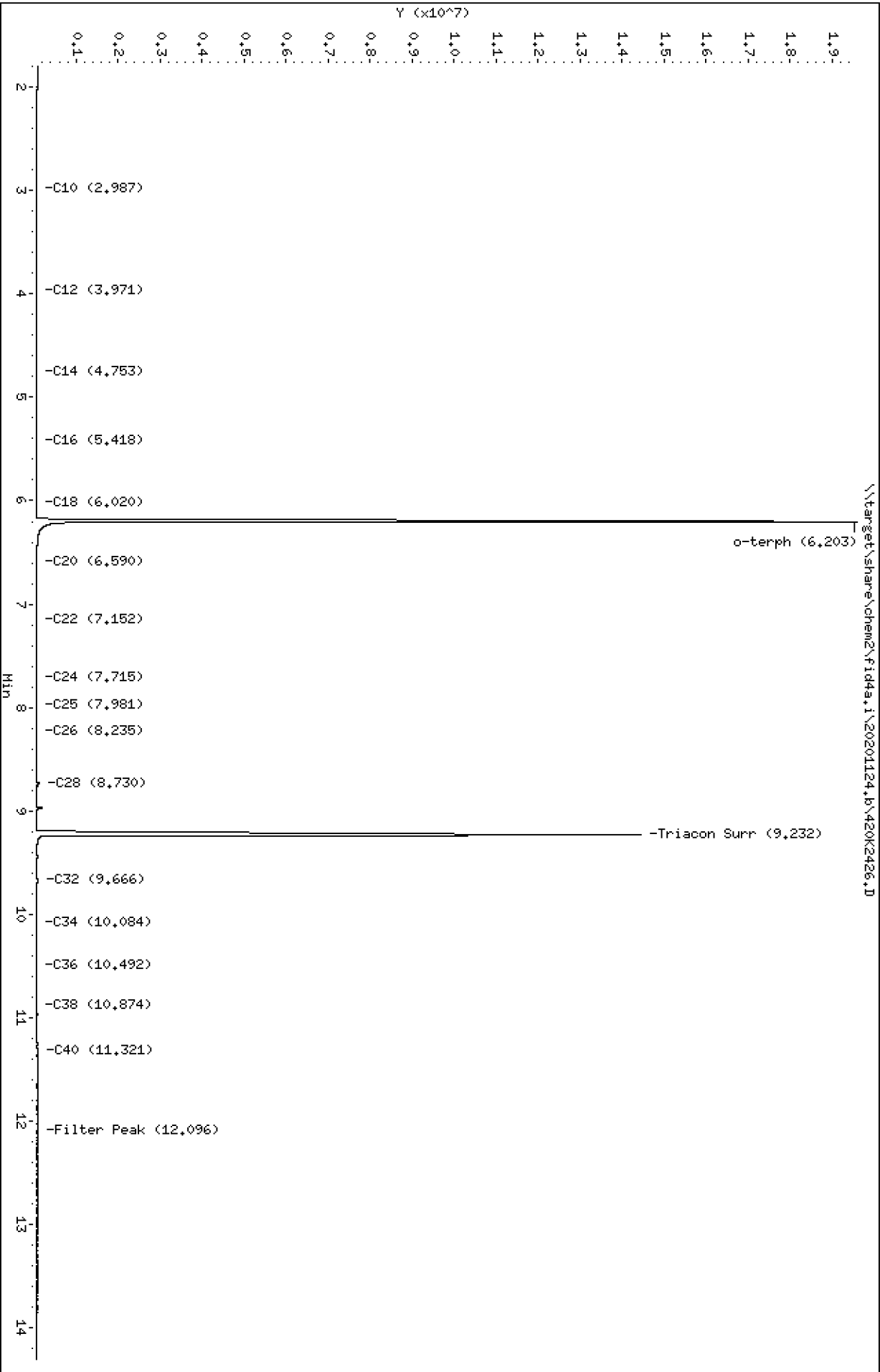
CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg wet)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.00	U	2.34	5.00
RRO	Motor Oil Range Organics (C24-C38)	1	10.0	U	2.99	10.0

SURROGATES	ADDED: (mg/kg wet)	FOUND: (mg/kg wet)	% REC	QC LIMITS	Q
o-Terphenyl	11.250	10.8	96.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2426.D
Date: 24-NOV-2020 16:09
Client ID:
Sample Info: BIK0527-BLK1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2426.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0527-BLK1
Client ID:
Injection: 24-NOV-2020 16:09
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

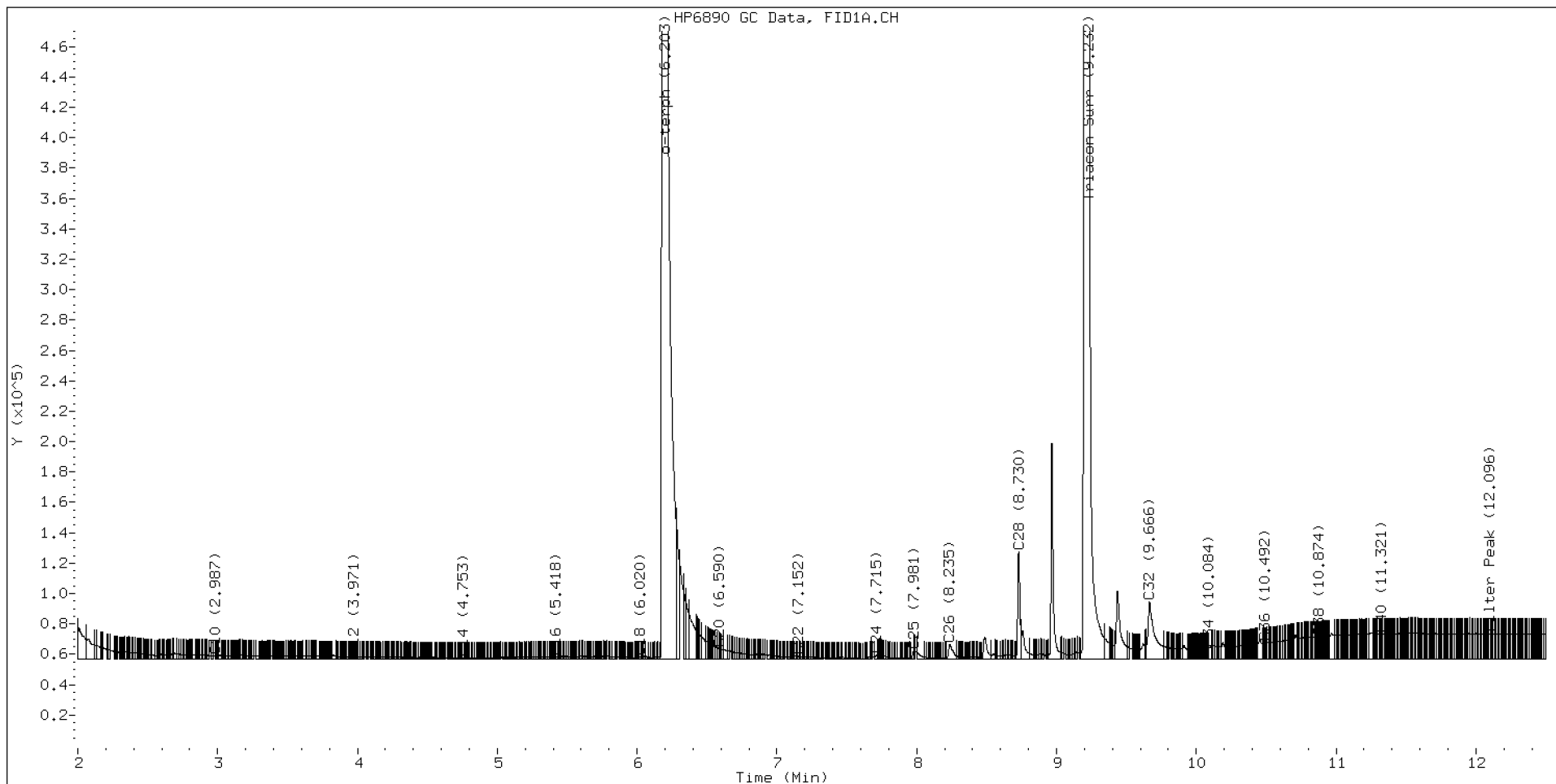
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.040	41781	138972	WATPHD	(C12-C24)	608859	3.8
C10	2.987	0.005	2018	870	WATPHM	(C24-C38)	1359064	13.4
C12	3.971	-0.001	1419	344	AK102	(C10-C25)	714161	3.7
C14	4.753	-0.001	558	366	AK103	(C25-C36)	1053123	14.4
C16	5.418	-0.002	1500	626	OR.DIES	(C10-C28)	919335	4.7
C18	6.020	0.000	1171	646				
C20	6.590	-0.001	7034	4144	JET-A	(C10-C18)	210408	1.3
C22	7.152	-0.001	1632	1249				
C24	7.715	0.014	2830	2926				
C25	7.981	0.012	5114	3957				
C26	8.235	0.004	9680	19917				
C28	8.730	-0.004	70588	76659				
C32	9.666	0.004	37298	121980				
C34	10.084	-0.002	6770	1349				
Filter Peak	12.096	0.007	16501	14791	BUNKERC	(C10-C38)	2068186	52.4
C36	10.492	0.004	10490	5211				
C38	10.874	-0.003	14475	7933				
C40	11.321	0.004	16584	10721				
o-terph	6.203	-0.001	19539038	22185452				
Triacon Surr	9.232	-0.005	14388768	19712951	NAS DIES	(C10-C24)	709122	3.6

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	22185452	108.4
Triacontane	19712951	132.9

M Indicates the peak was manually integrated

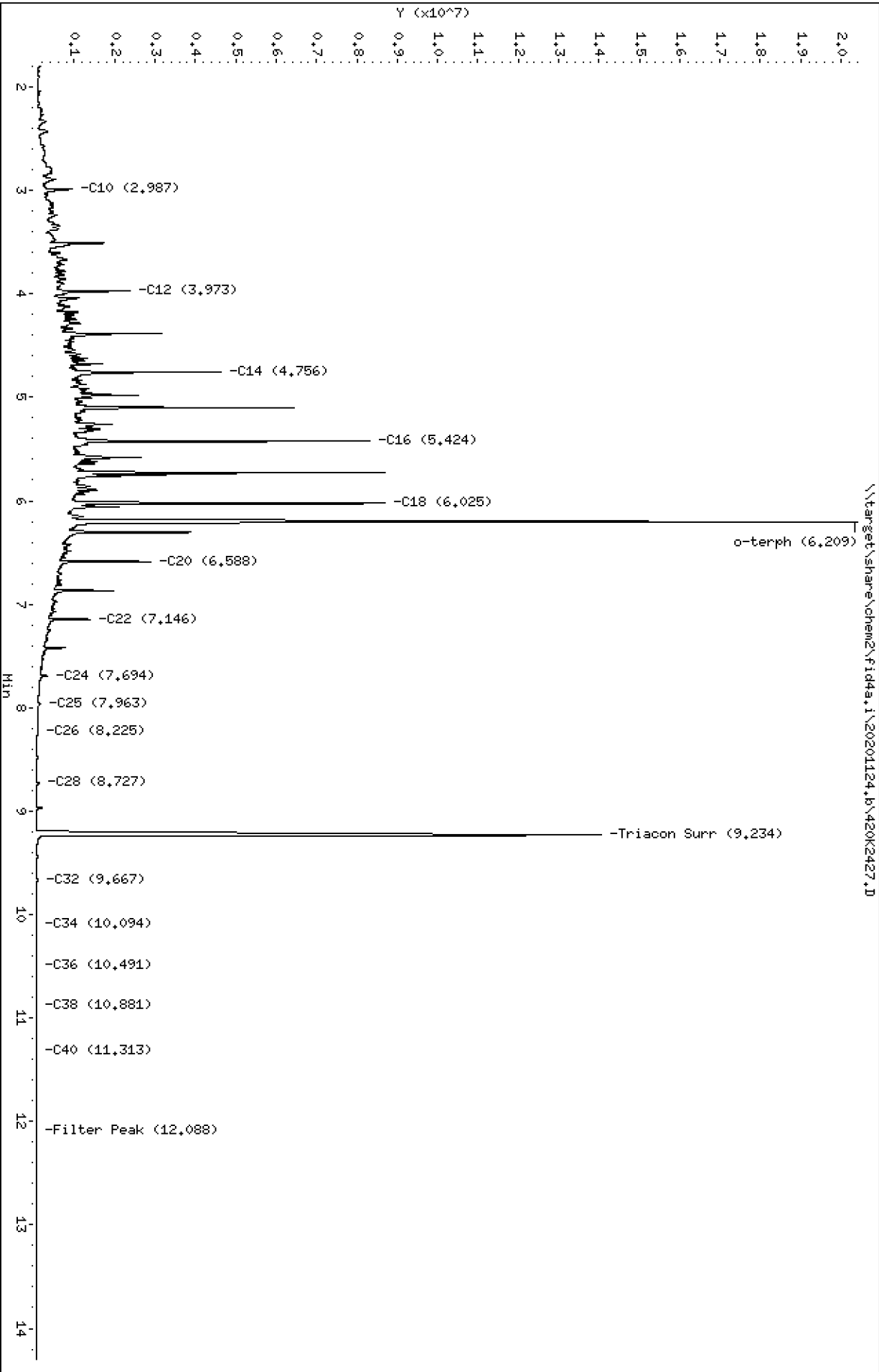
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2427.D
Date: 24-NOV-2020 16:30
Client ID:
Sample Info: BIK0527-BS1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2427.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0527-BS1
Client ID:
Injection: 24-NOV-2020 16:30
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

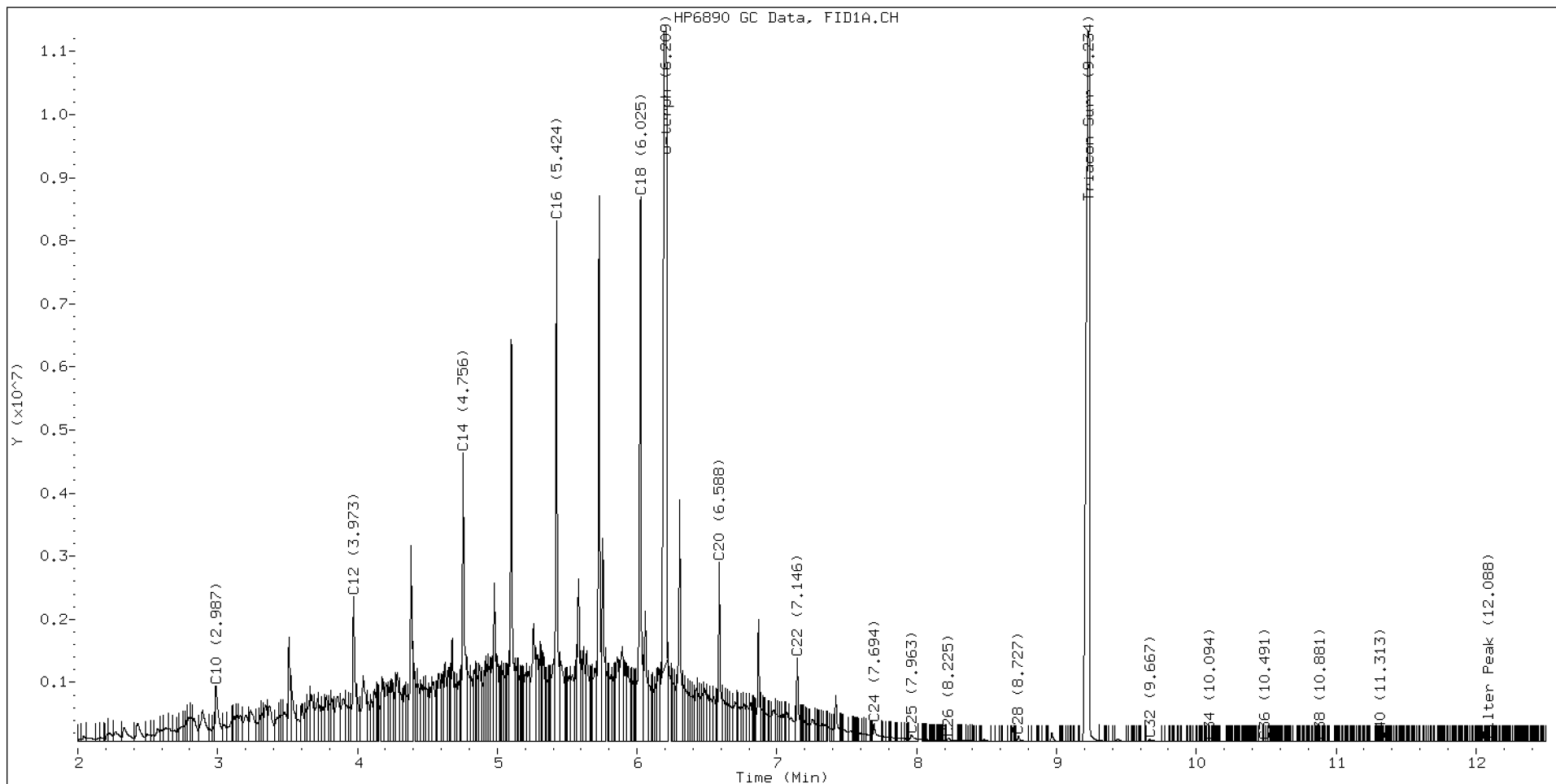
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.904	0.012	74816	130846	WATPHD	(C12-C24)	199339124	1251.1
C10	2.987	0.005	883078	1518310	WATPHM	(C24-C38)	2129286	21.0
C12	3.973	0.001	2304407	2772759	AK102	(C10-C25)	231426616	1183.8
C14	4.756	0.002	4577043	4893492	AK103	(C25-C36)	1392947	19.0
C16	5.424	0.004	8247906	6694644	OR.DIES	(C10-C28)	232381610	1185.6
C18	6.025	0.005	8637637	8719686				
C20	6.588	-0.003	2838080	2892148	JET-A	(C10-C18)	178206120	1074.5
C22	7.146	-0.007	1330187	1427639				
C24	7.694	-0.007	277361	534297				
C25	7.963	-0.006	104295	216479				
C26	8.225	-0.005	49782	84217				
C28	8.727	-0.007	81201	109795				
C32	9.667	0.005	29228	78141				
C34	10.094	0.008	268	104				
Filter Peak	12.088	-0.001	5746	1985	BUNKERC	(C10-C38)	232907854	5899.8
C36	10.491	0.003	2202	1819				
C38	10.881	0.004	4541	1805				
C40	11.313	-0.004	5829	3144				
o-terph	6.209	0.004	19105462	21382535				
Triacon Surr	9.234	-0.004	13996059	19298766	NAS DIES	(C10-C24)	230778568	1182.6

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	21382535	104.5 M
Triacontane	19298766	130.1

M Indicates the peak was manually integrated

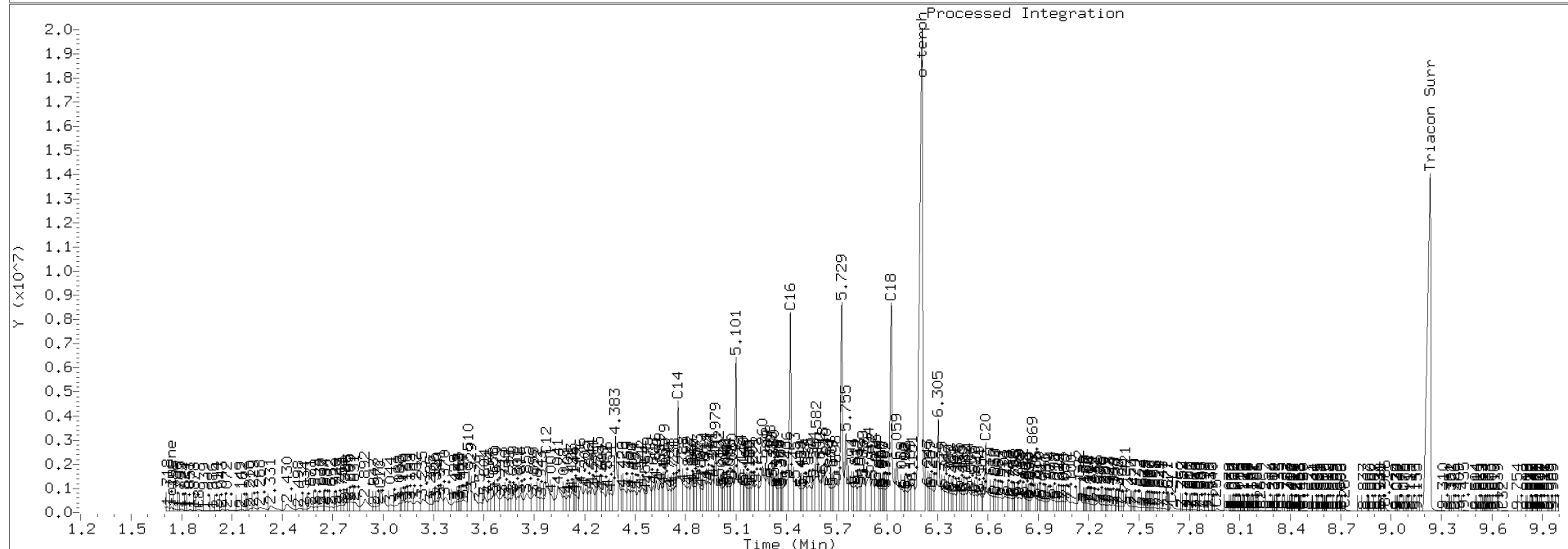
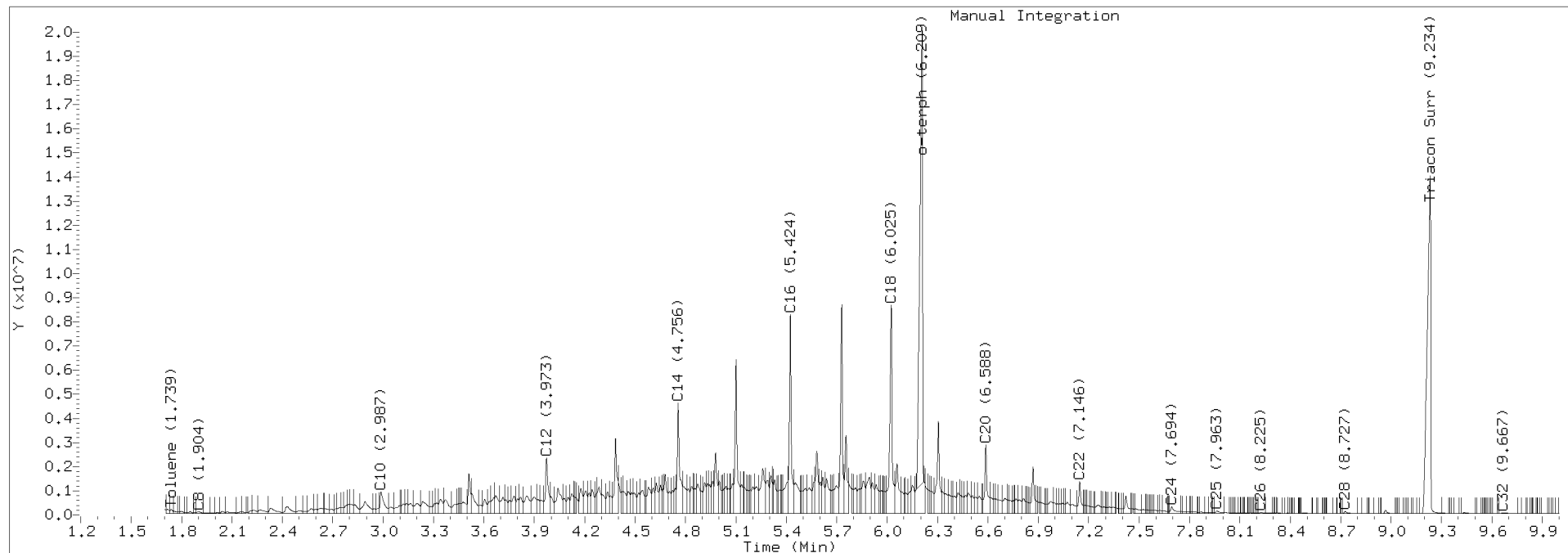
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2427.D Injection: 24-NOV-2020 16:30

Lab ID:BIK0527-BS1





MS / MS DUPLICATE RECOVERY
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>11/27/20 20:47</u>
Batch:	<u>BIK0527</u>	Laboratory ID:	<u>BIK0527-MSD1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>10 g / 1 mL</u>	Source Sample:	<u>PP7-2.5</u>

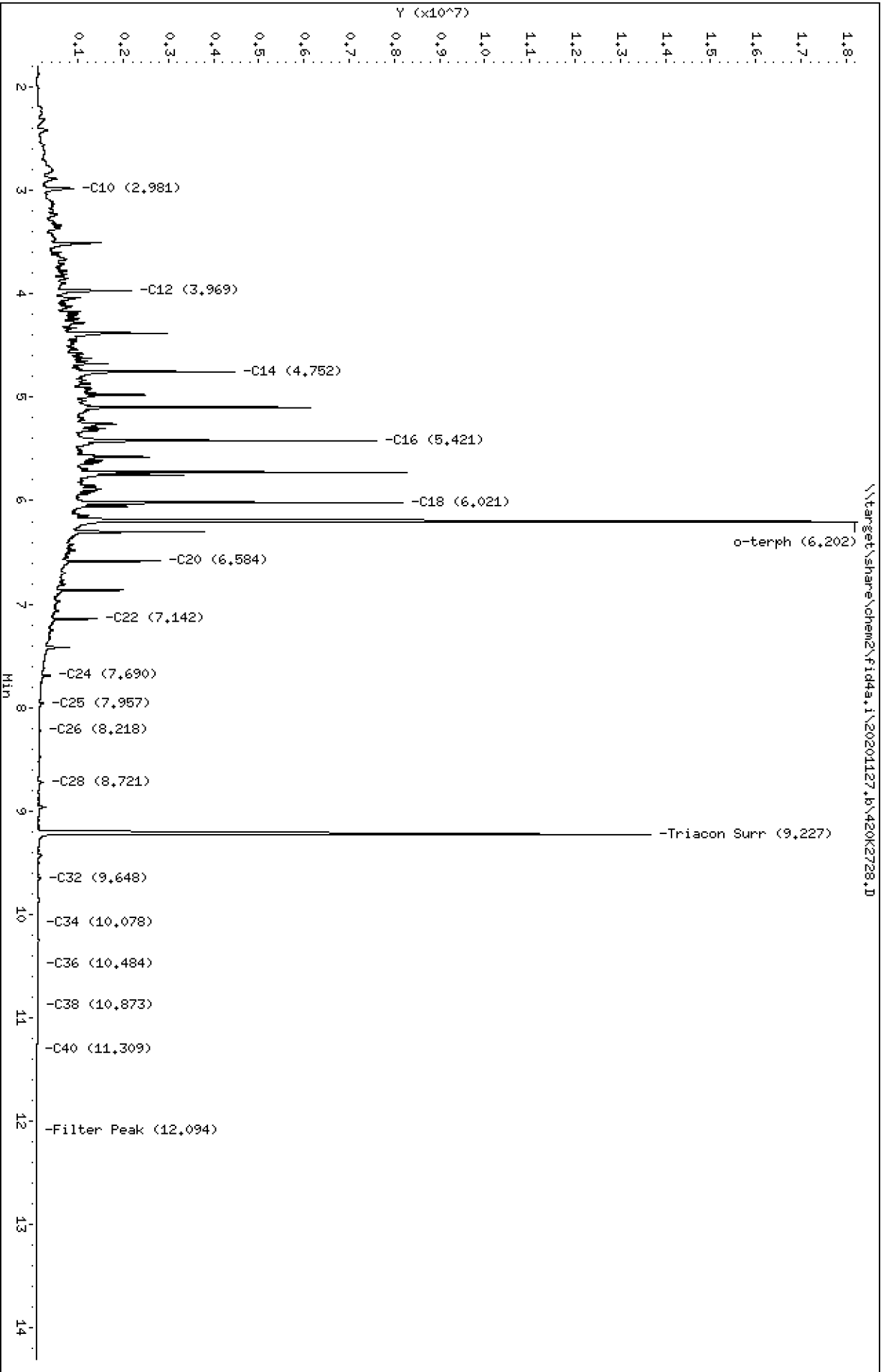
COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Diesel Range Organics (C12-C24)	163	119		69.4	13.0	30	63 - 120

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2728.D
Date: 27-NOV-2020 20:26
Client ID:
Sample Info: BIK0527-HS1

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2728.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0527-MS1
Client ID:
Injection: 27-NOV-2020 20:26
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

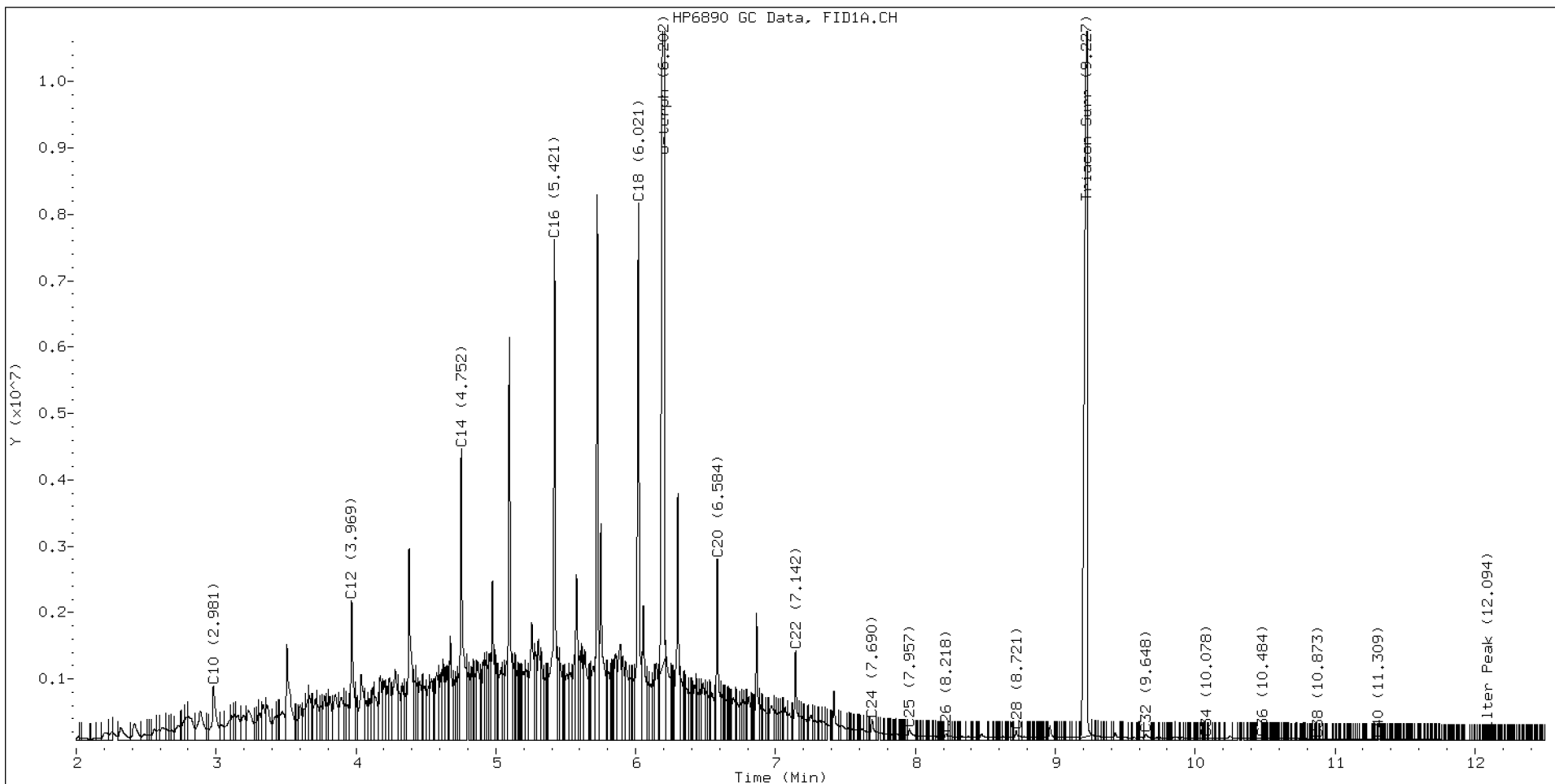
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.875	0.009	51709	121586	WATPHD	(C12-C24)	198026569	1242.8
C10	2.981	0.011	815808	1651653	WATPHM	(C24-C38)	9068070	89.6
C12	3.969	0.005	2101576	2682611	AK102	(C10-C25)	228560952	1169.2
C14	4.752	0.005	4389638	5335408	AK103	(C25-C36)	7580682	103.6
C16	5.421	0.007	7541742	8635962	OR.DIES	(C10-C28)	231597960	1181.6
C18	6.021	0.007	8099860	8435652				
C20	6.584	-0.000	2732305	2727002	JET-A	(C10-C18)	172688924	1041.2
C22	7.142	-0.005	1347777	1556416				
C24	7.690	-0.004	319133	499773				
C25	7.957	-0.005	167402	361236				
C26	8.218	-0.007	98634	148112				
C28	8.721	-0.008	138004	178330				
C32	9.648	-0.008	94909	179117				
C34	10.078	-0.003	36965	25227				
Filter Peak	12.094	-0.003	6695	3668	BUNKERC	(C10-C38)	236718714	5996.3
C36	10.484	0.001	27452	6823				
C38	10.873	-0.000	22186	16540				
C40	11.309	-0.004	13977	3478				
o-terph	6.202	0.003	16998734	18648682				
Triacon Surr	9.227	-0.003	13528200	16803868	NAS DIES	(C10-C24)	227650644	1166.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18648682	91.1 M
Triacontane	16803868	113.3 M

M Indicates the peak was manually integrated

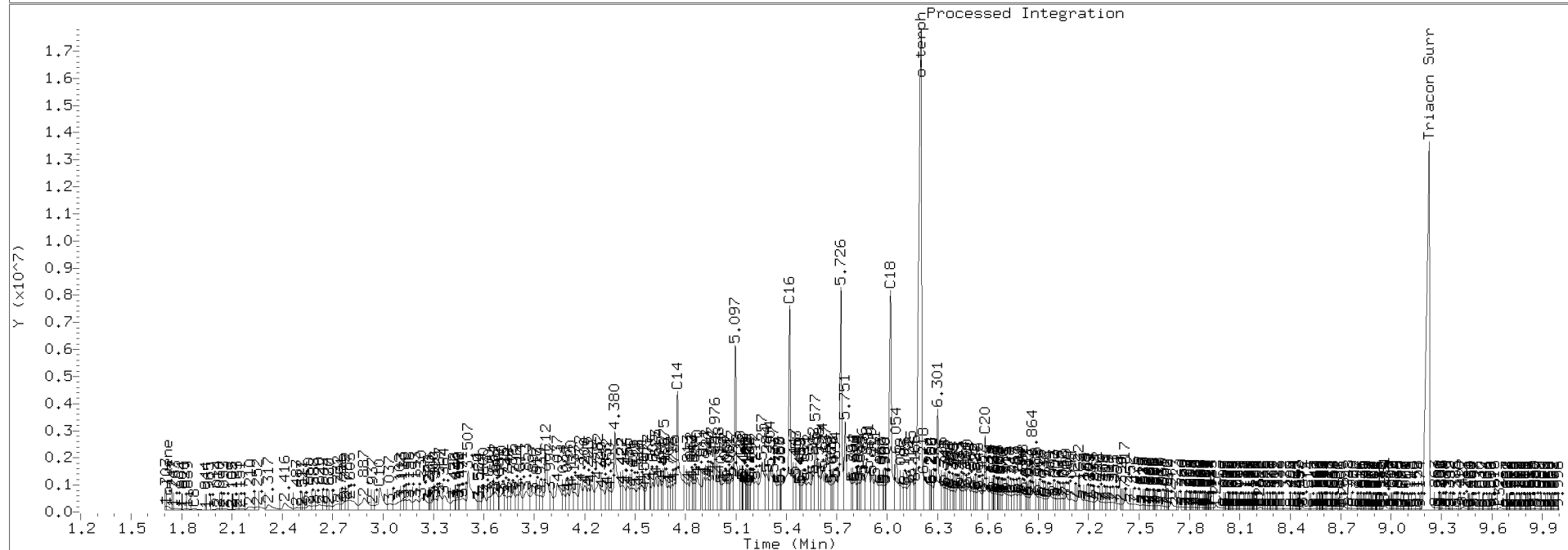
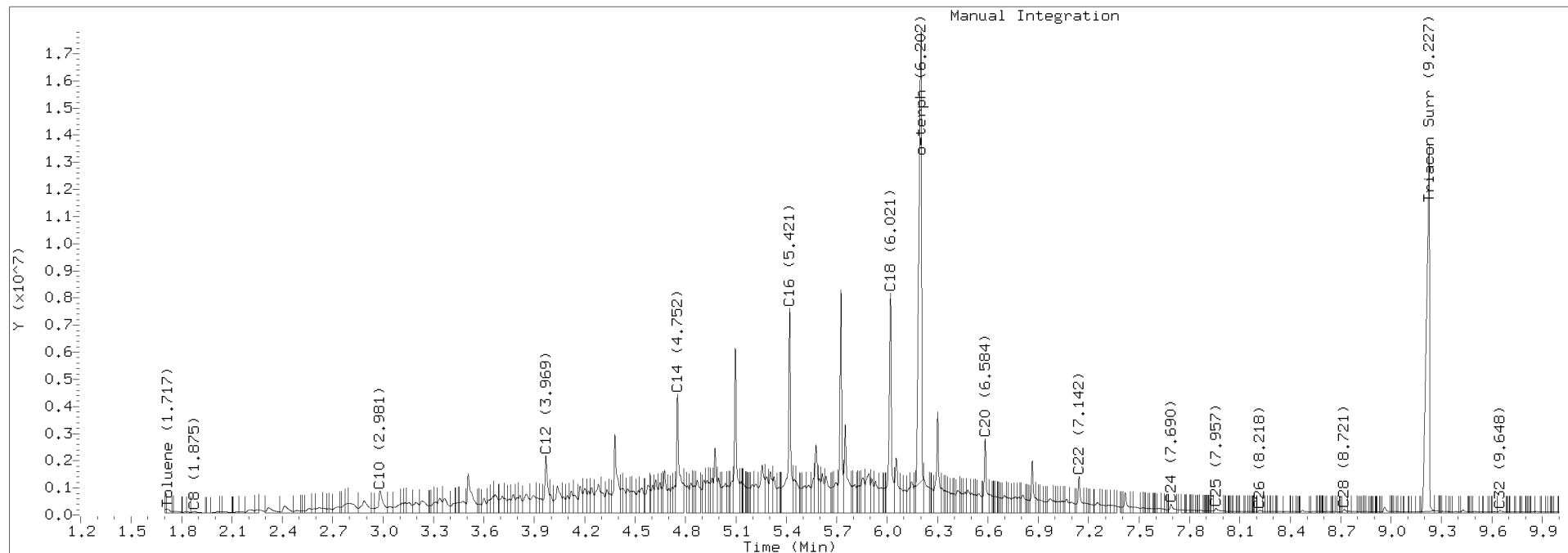
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2728.D Injection: 27-NOV-2020 20:26

Lab ID:BIK0527-MS1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420k2729.D

Date: 27-NOV-2020 20:47

Client ID:

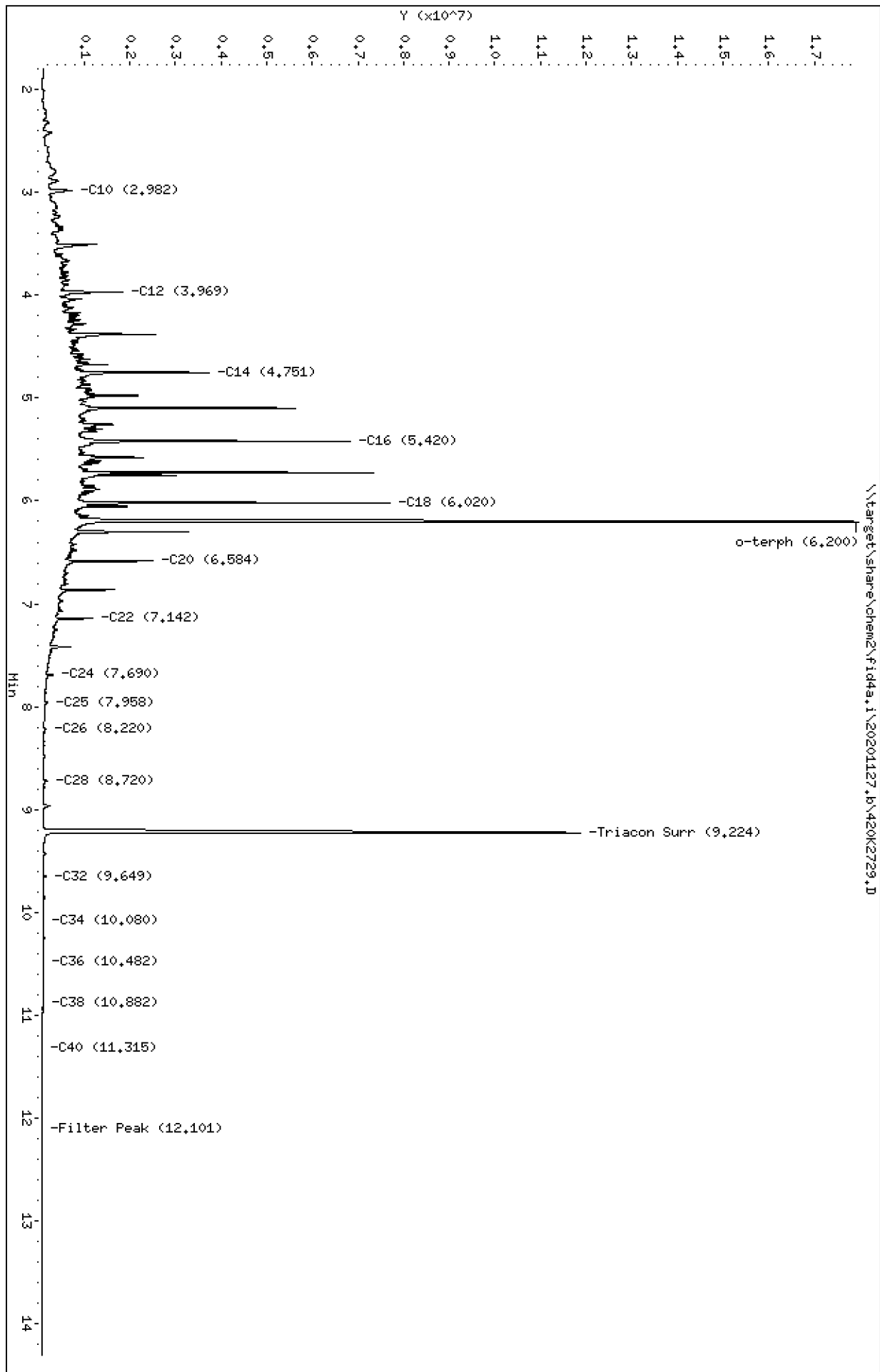
Sample Info: BIK0527-HSD1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2729.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: BIK0527-MSD1
Client ID:
Injection: 27-NOV-2020 20:47
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

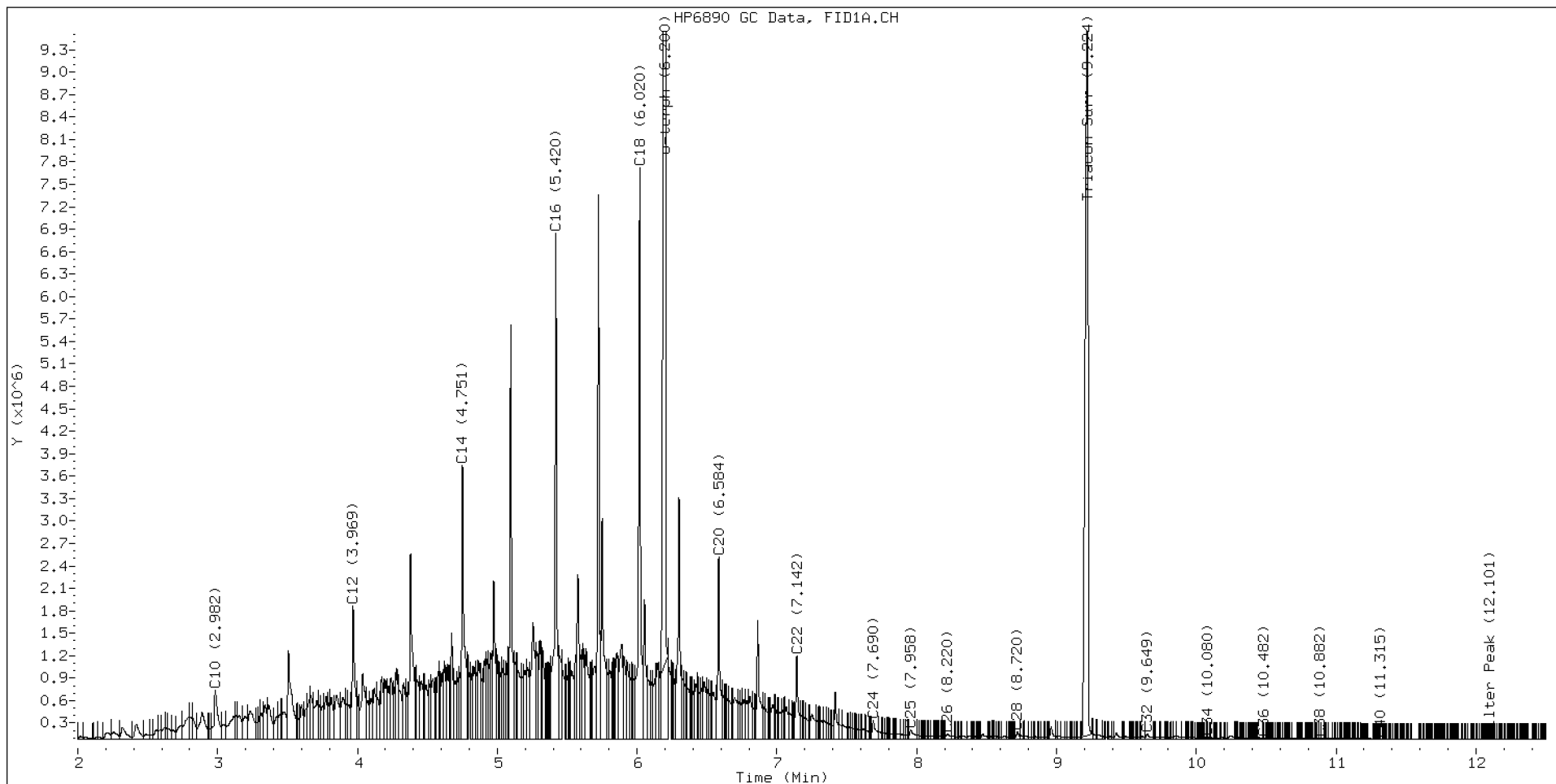
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.879	0.013	43972	76599	WATPHD	(C12-C24)	173903297	1091.4
C10	2.982	0.012	663918	1400102	WATPHM	(C24-C38)	7343671	72.6
C12	3.969	0.005	1785001	2234689	AK102	(C10-C25)	200290909	1024.6
C14	4.751	0.004	3670010	4268054	AK103	(C25-C36)	6107731	83.4
C16	5.420	0.005	6768982	6973756	OR.DIES	(C10-C28)	202686203	1034.1
C18	6.020	0.006	7638897	7963335				
C20	6.584	-0.000	2437917	2533146	JET-A	(C10-C18)	152200858	917.7
C22	7.142	-0.005	1119542	1345530				
C24	7.690	-0.004	253636	454409				
C25	7.958	-0.005	134472	287771				
C26	8.220	-0.005	76513	149438				
C28	8.720	-0.009	106393	148776				
C32	9.649	-0.008	77699	158144				
C34	10.080	-0.001	29412	31291				
Filter Peak	12.101	0.004	3506	1734	BUNKERC	(C10-C38)	206846124	5239.6
C36	10.482	-0.001	21195	7370				
C38	10.882	0.009	16815	9974				
C40	11.315	0.001	9899	3438				
o-terph	6.200	0.001	16872044	16953524				
Triacon Surr	9.224	-0.005	11744822	15299580	NAS DIES	(C10-C24)	199502453	1022.3

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	16953524	82.8
Triacontane	15299580	103.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020





INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0126
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperation
Calibration: CJ00089 Instrument: FID4
Calibration Date: 10/29/2019 Column (1): RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Diesel Range Organics (C12-C24)	50	182114.3	100	162168.4	250	151655.3	500	152220	1000	153066.8	2500	154795.4
o-Terphenyl	9	207237.8	18	202348.9	45	199293.8	90	202627.8	180	206915.5	450	209787.6



INITIAL CALIBRATION DATA
NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0126
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Calibration: CJ00089 Instrument: FID4
Calibration Date: 10/29/2019 Column (1): RTX-1

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Motor Oil Range Organics (C24-C38)	100	135784.6	250	138615.1	500	128616.3	1000	130458.6	2500	132749.3	5000	129568.6



INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0126
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	CJ00089	Instrument:	FID4
Calibration Date:	10/29/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	132632.1	2.9			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

SHJ0406

Printed: 10/30/2019 7:24:06AM

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SHJ0406

Printed: 10/30/2019 7:24:06AM

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019	11:37	419J2501.D	1	RINSE	
2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
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1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

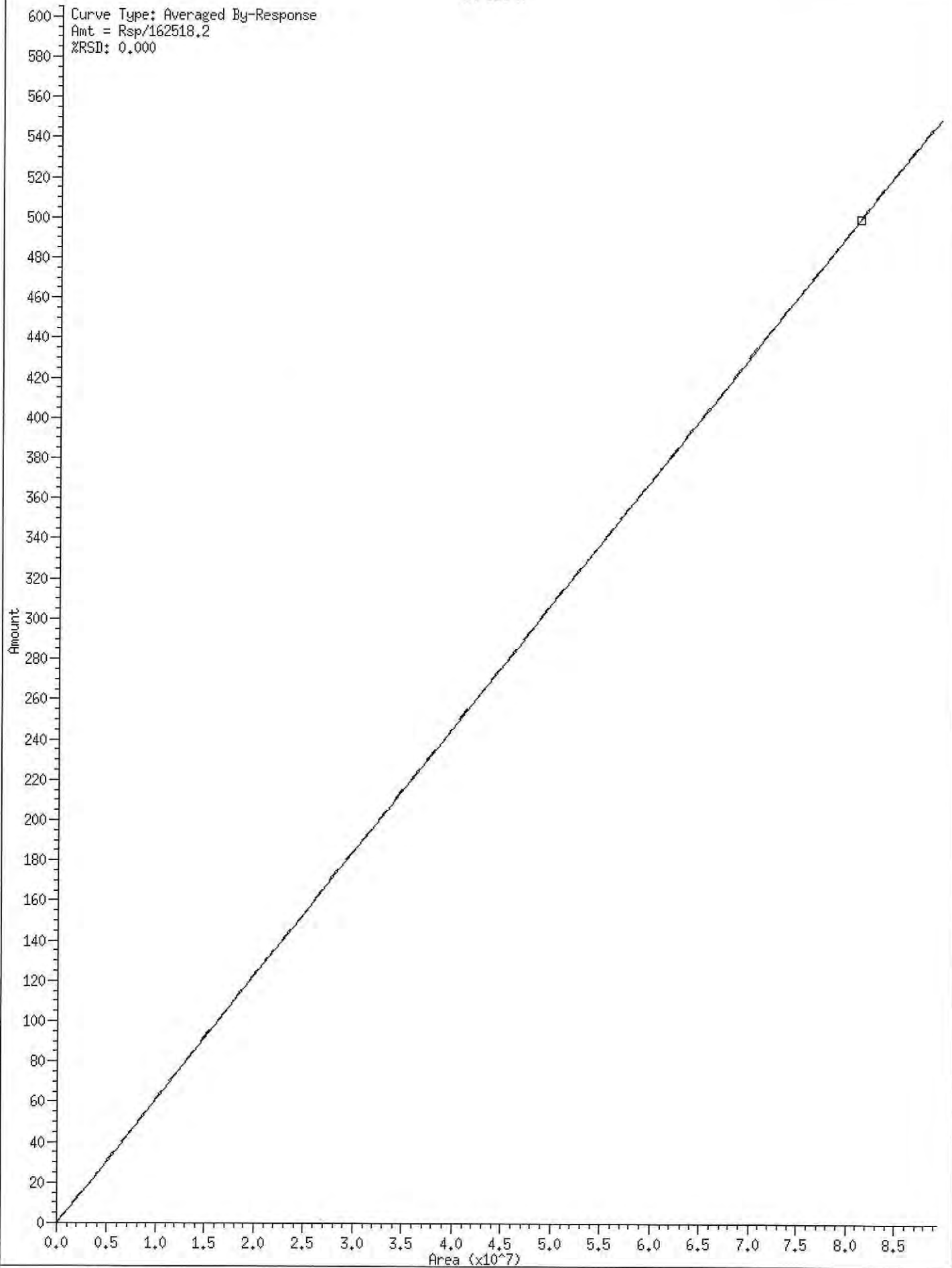
MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
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2357	419J2537.D	19J0373-06		1	Triacon Surr,
0017	419J2538.D	19J0373-07		1	Triacon Surr,
0037	419J2539.D	19J0373-08		1	Triacon Surr,
0058	419J2540.D	SHJ0406-CCV1		1	o-terph,
0118	419J2541.D	SHJ0406-CCV2		1	Triacon Surr,

Security Status Report

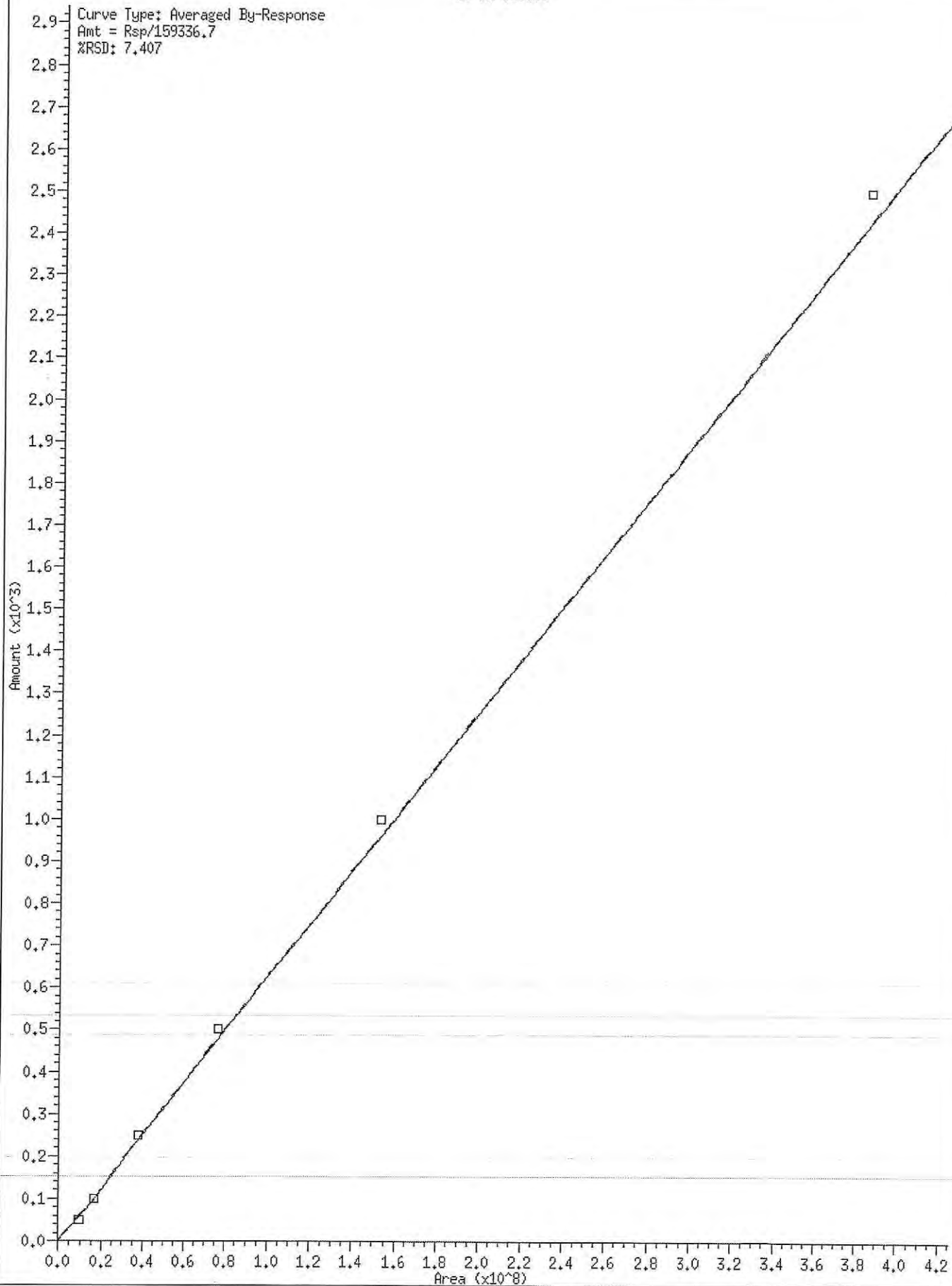
Date: 30-Oct-2019 07:25

419J2507.D	Data Locked	j rains, 30-Oct-2019 07:20
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419J2510.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2511.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2513.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2514.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2515.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2516.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2517.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2518.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2519.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2520.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2521.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2525.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2526.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2527.D	Data Locked	j rains, 30-Oct-2019 07:20

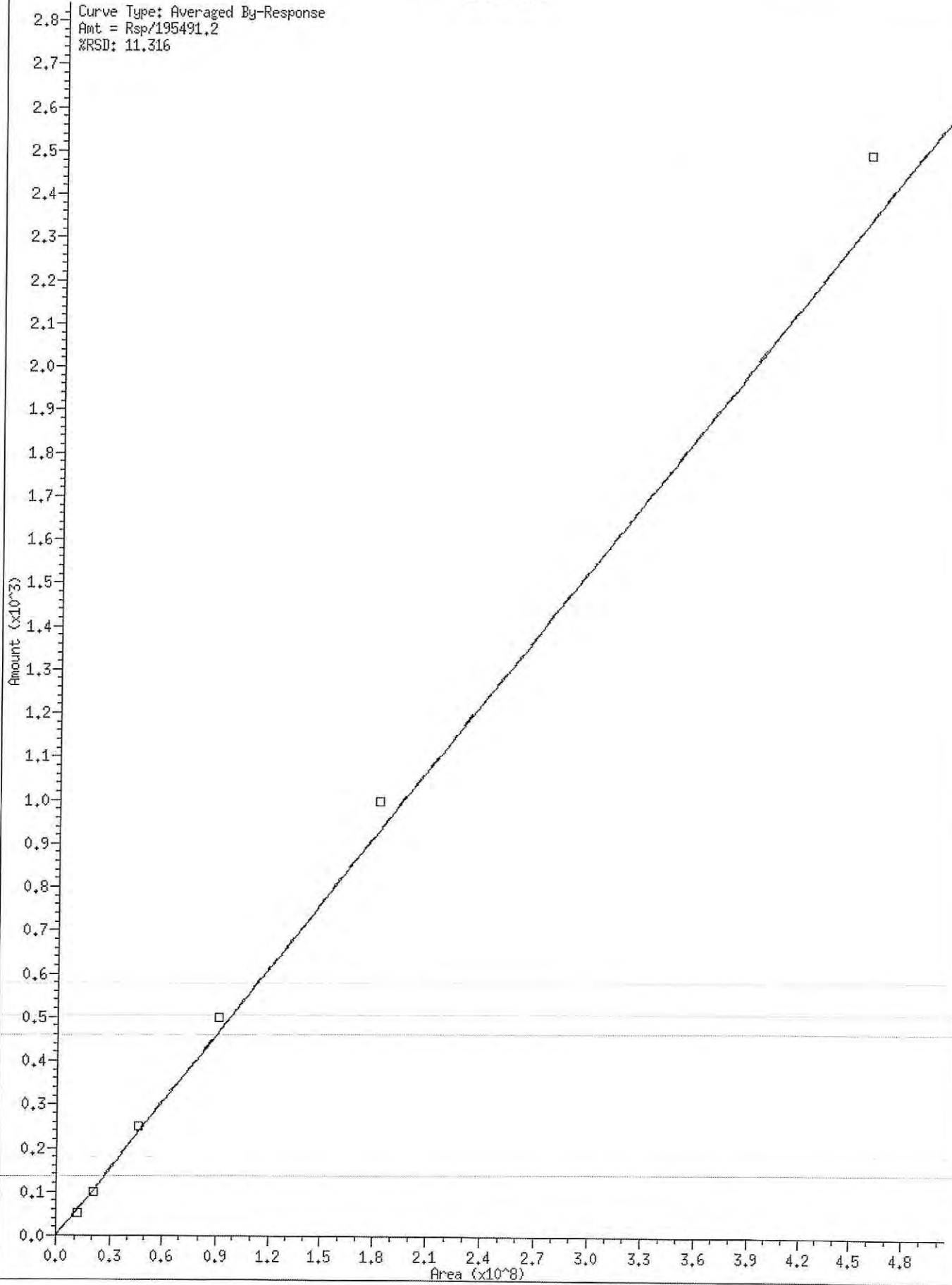


29 MW Diesel

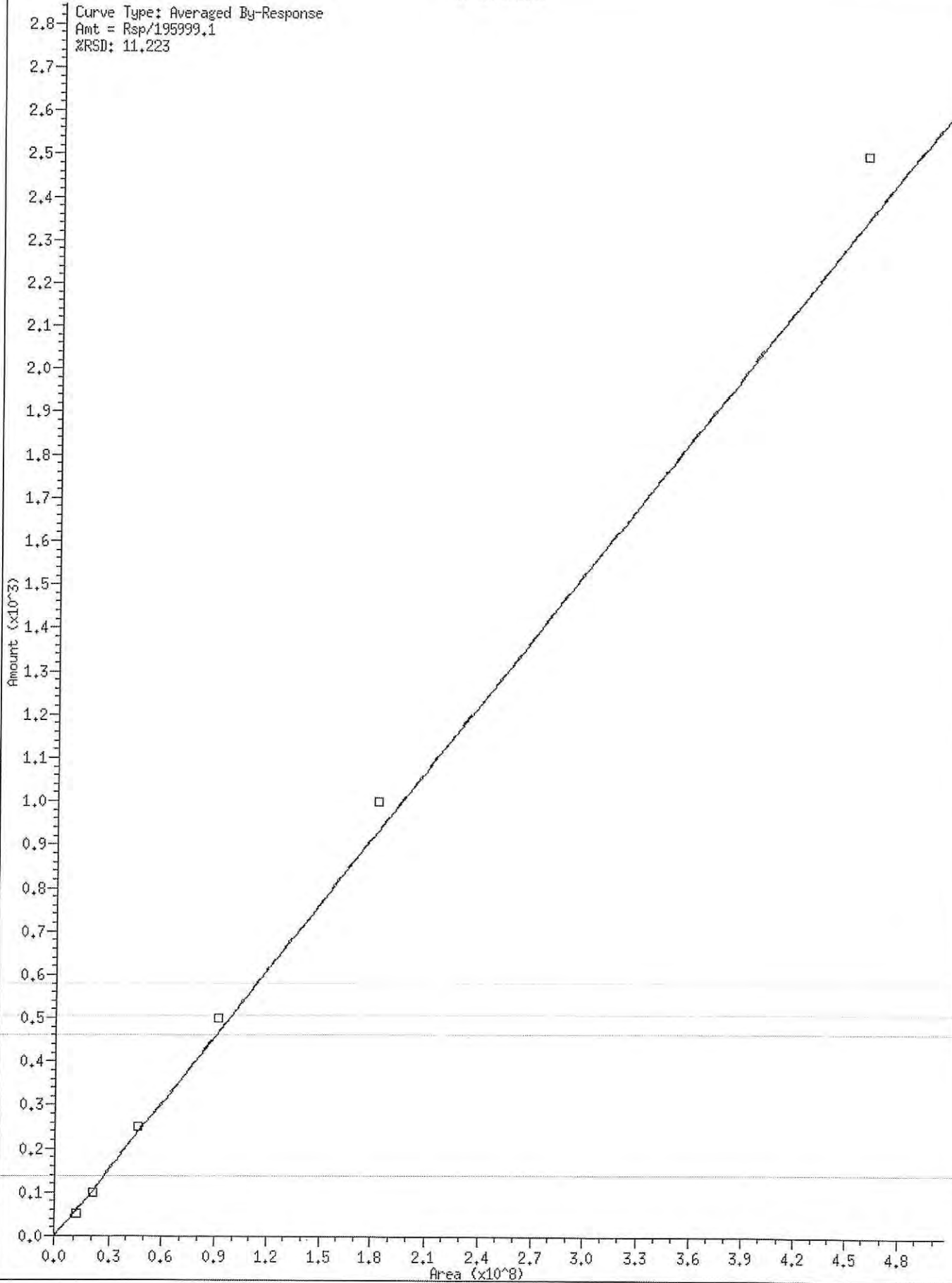
Curve Type: Averaged By-Response
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%RSD: 7.407



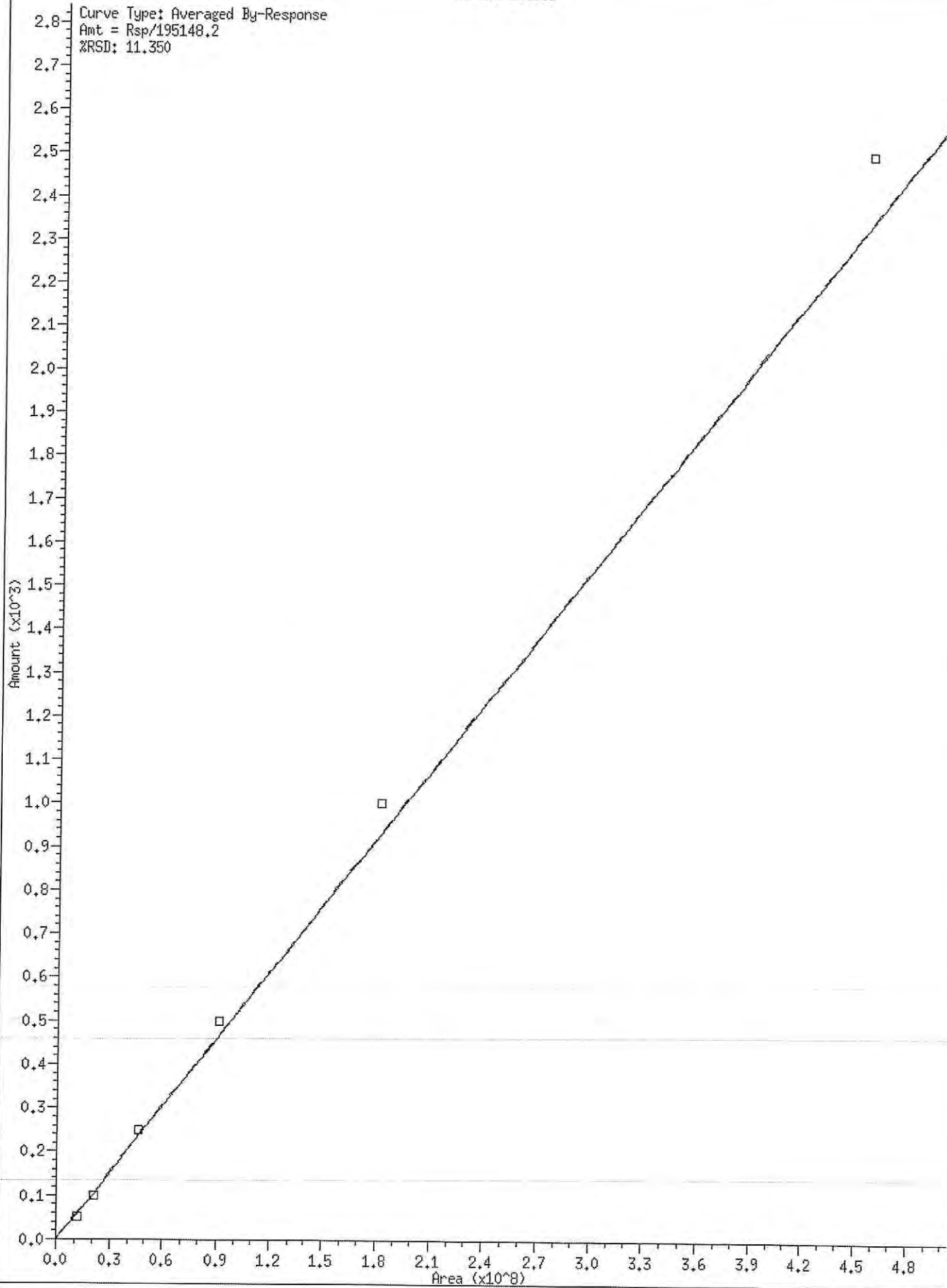
Curve Type: Averaged By-Response
Amt = Rsp/195491,2
%RSD: 11.316



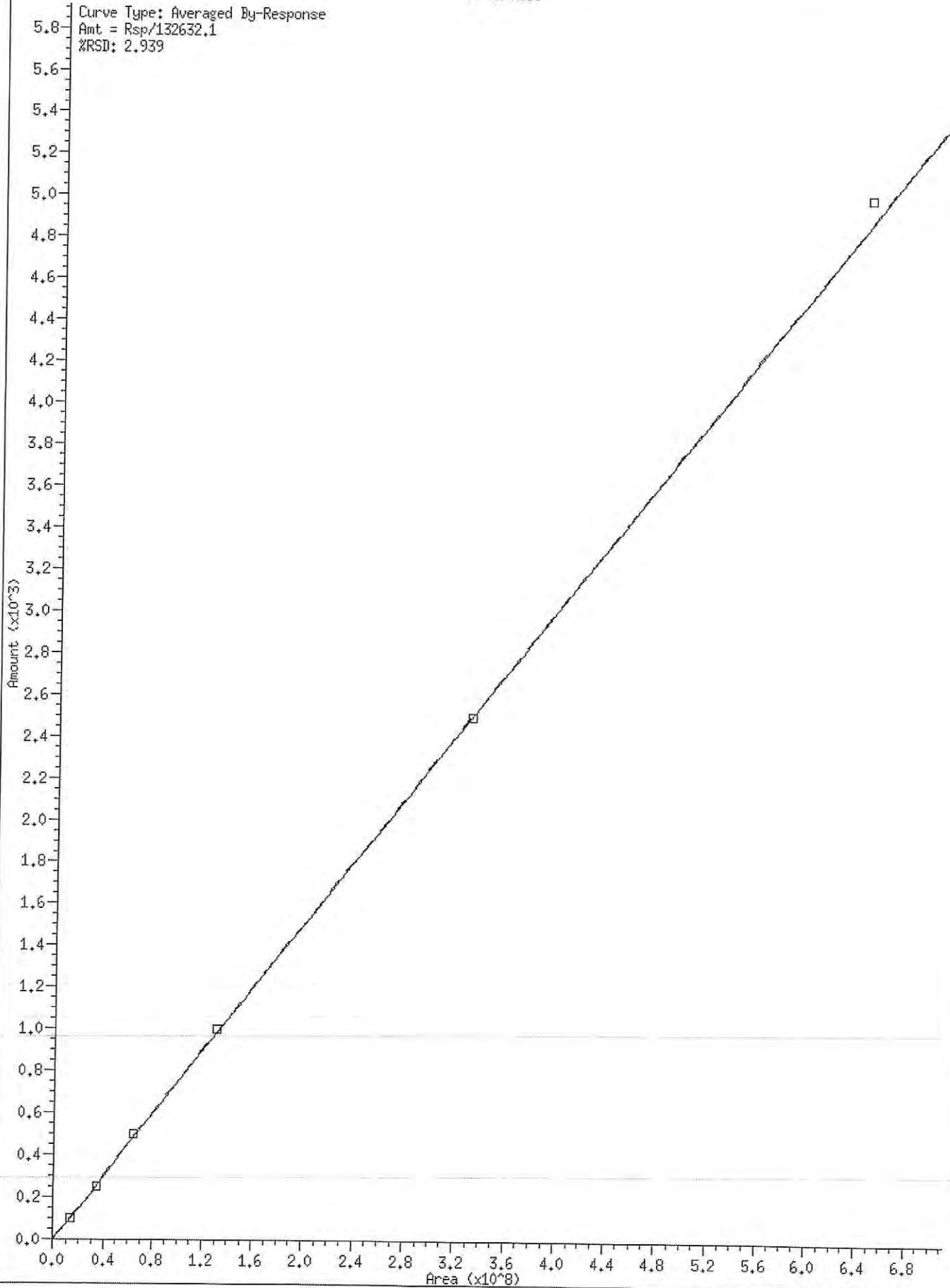
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%RSD: 11.223



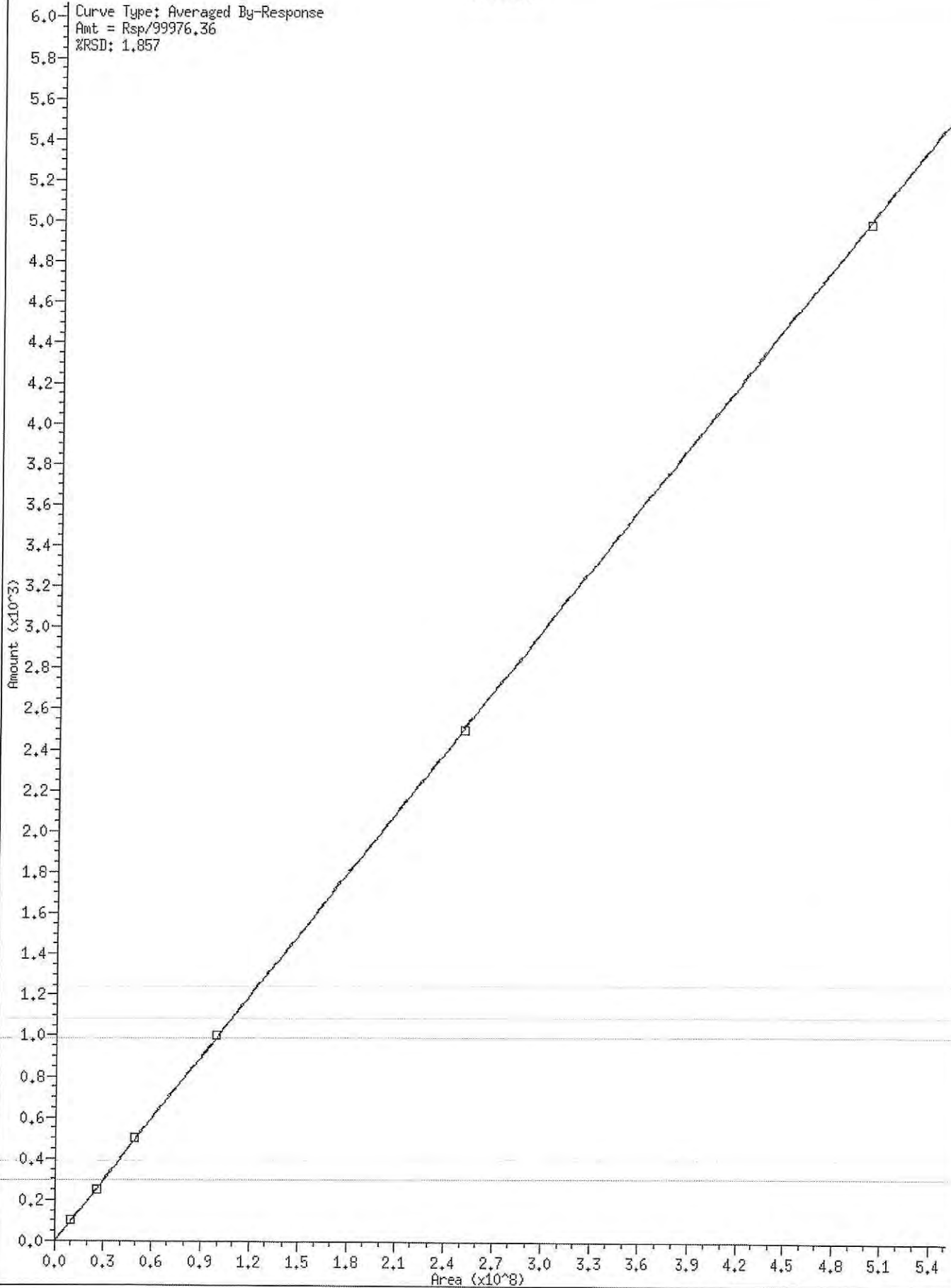
Curve Type: Averaged By-Response
Amt = Rsp/195148.2
%RSD: 11.350



Curve Type: Averaged By-Response
Amt = Rsp/132632.1
%RSD: 2.939

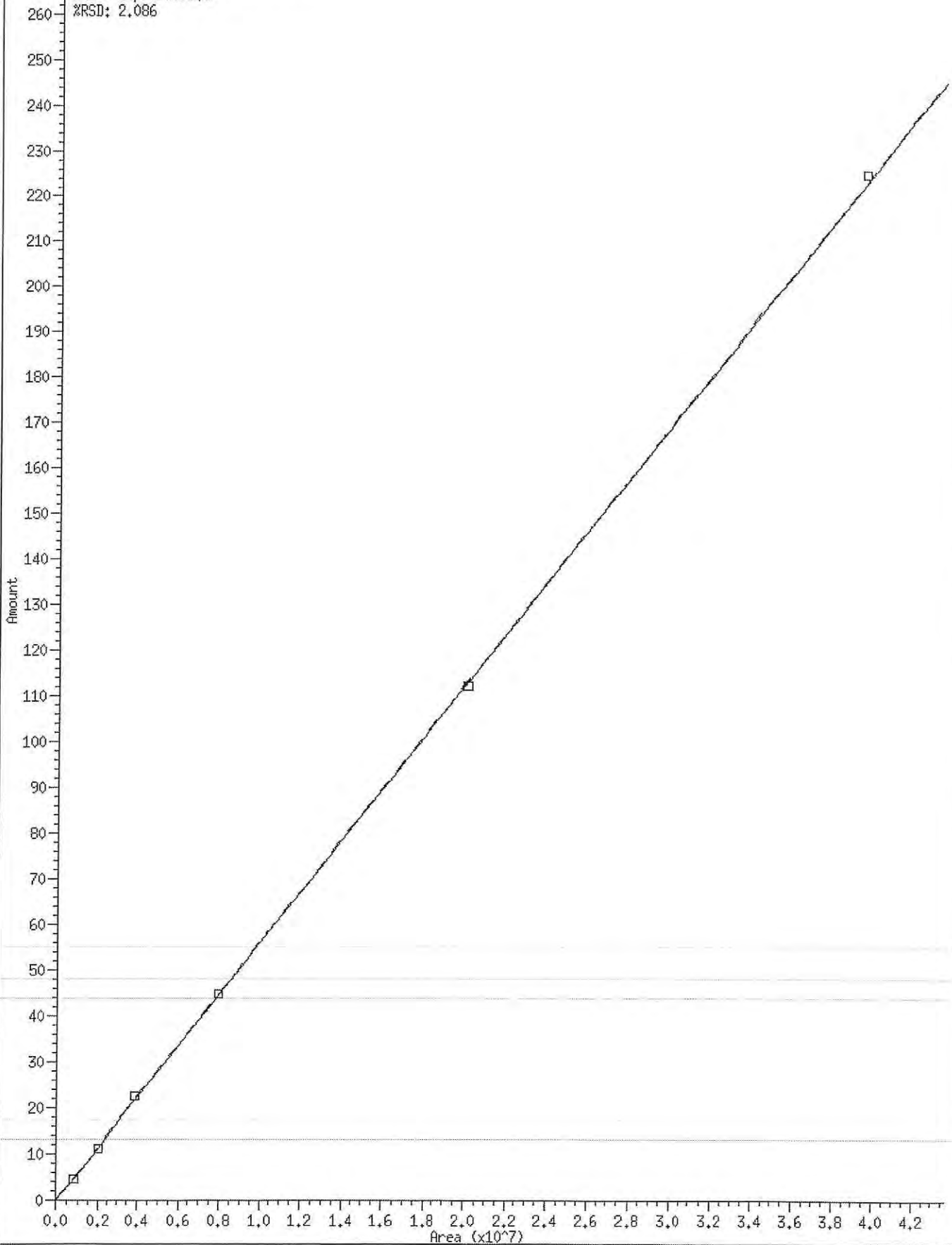


Curve Type: Averaged By-Response
Amt = Rsp/99976,36
%RSD: 1,857



15 Triacon Surr

Curve Type: Averaged By-Response
Amt = Rsp/177979.9
%RSD: 2.086

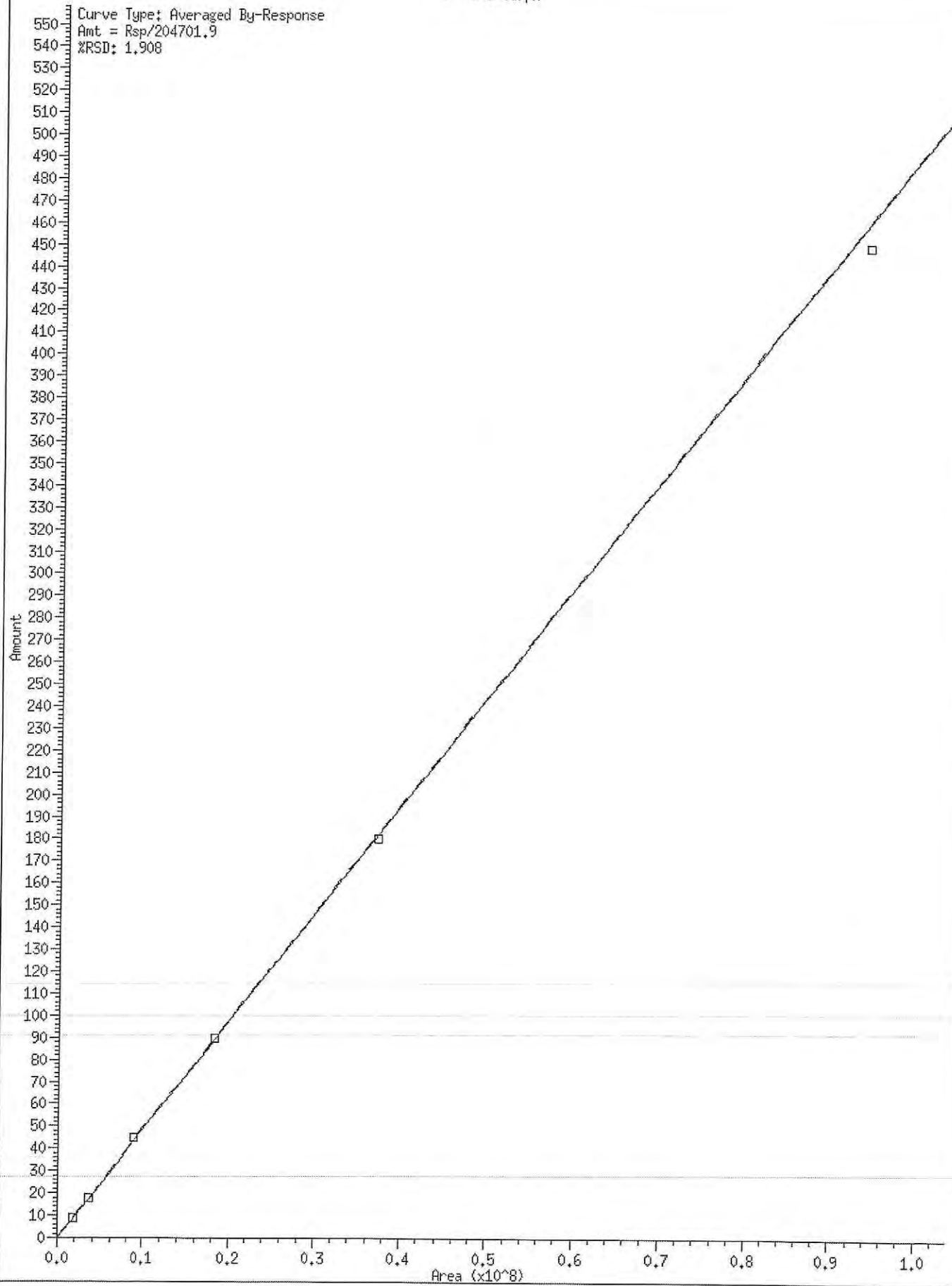


* 8 o-terph

Curve Type: Averaged By-Response

Amt = Rsp/204701.9

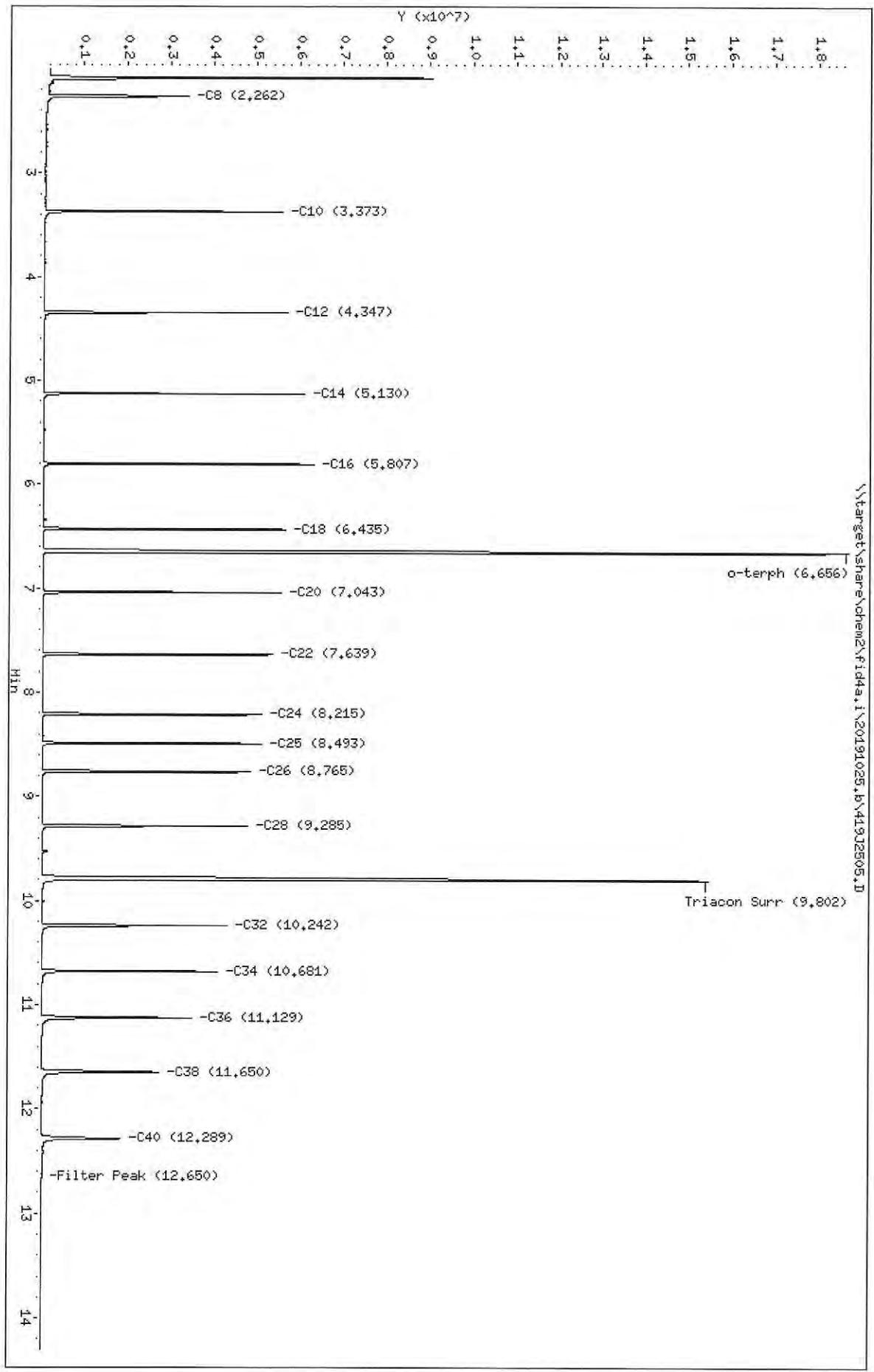
%RSD: 1.908



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2505.D
Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SH00406-IBL1

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

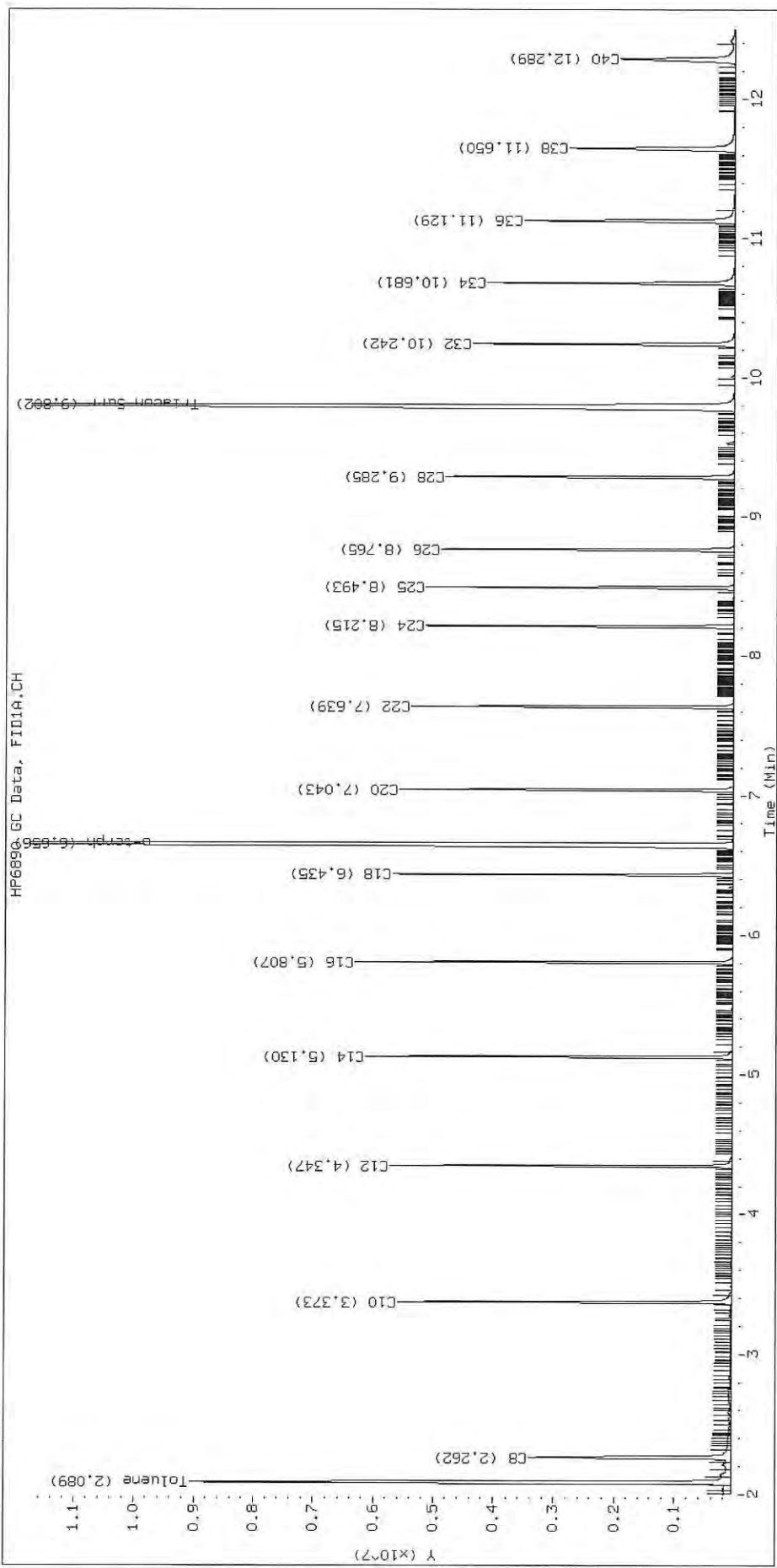
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacontane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

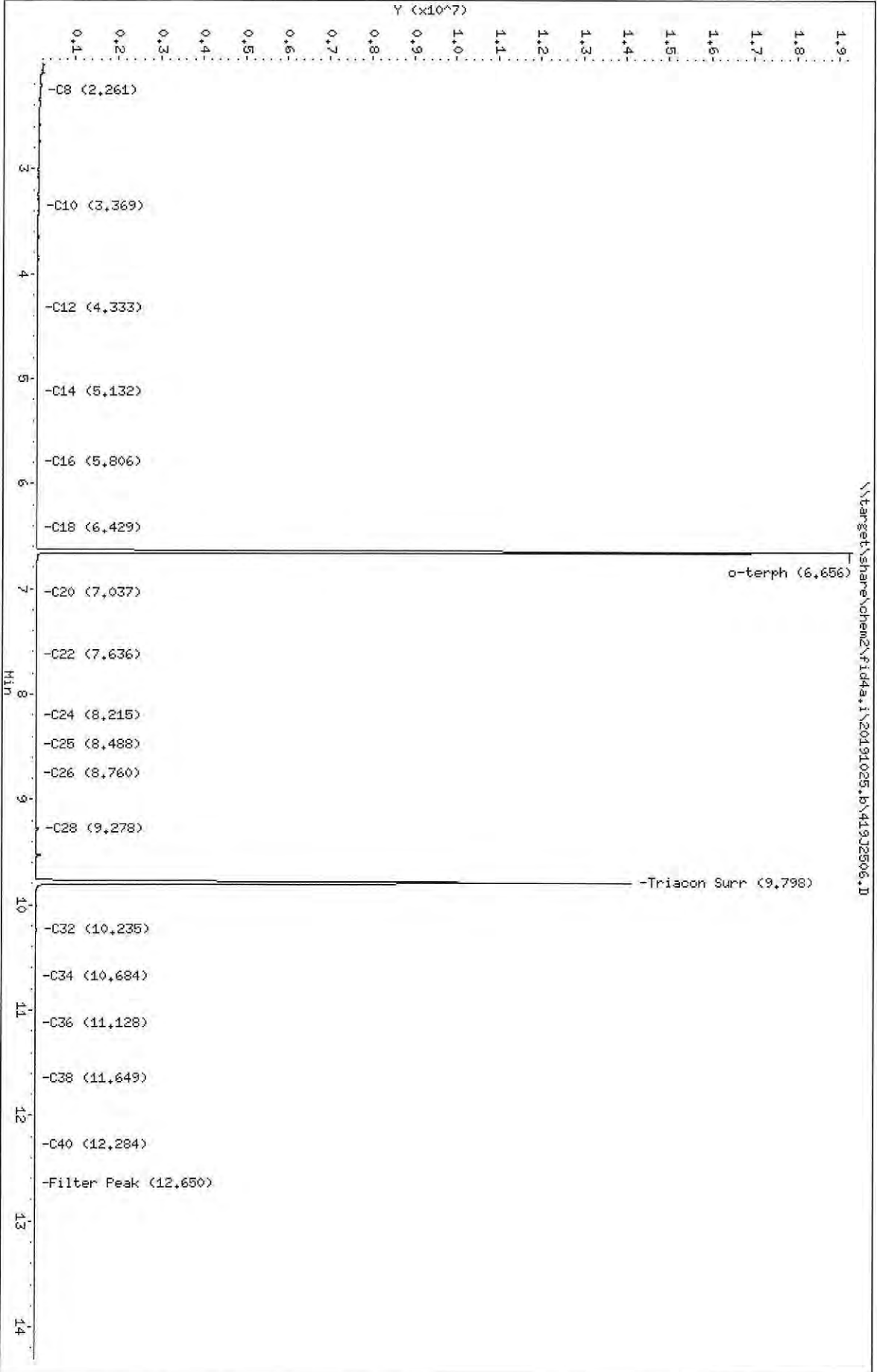
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Data File: \\target\share\chem2\fida.i\20191025.b\419J2506.D
Date: 25-OCT-2019 13:31
Client ID:
Sample Info: SH00406-IBL2

Column phase: RTX-1

Instrument: fida.i
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

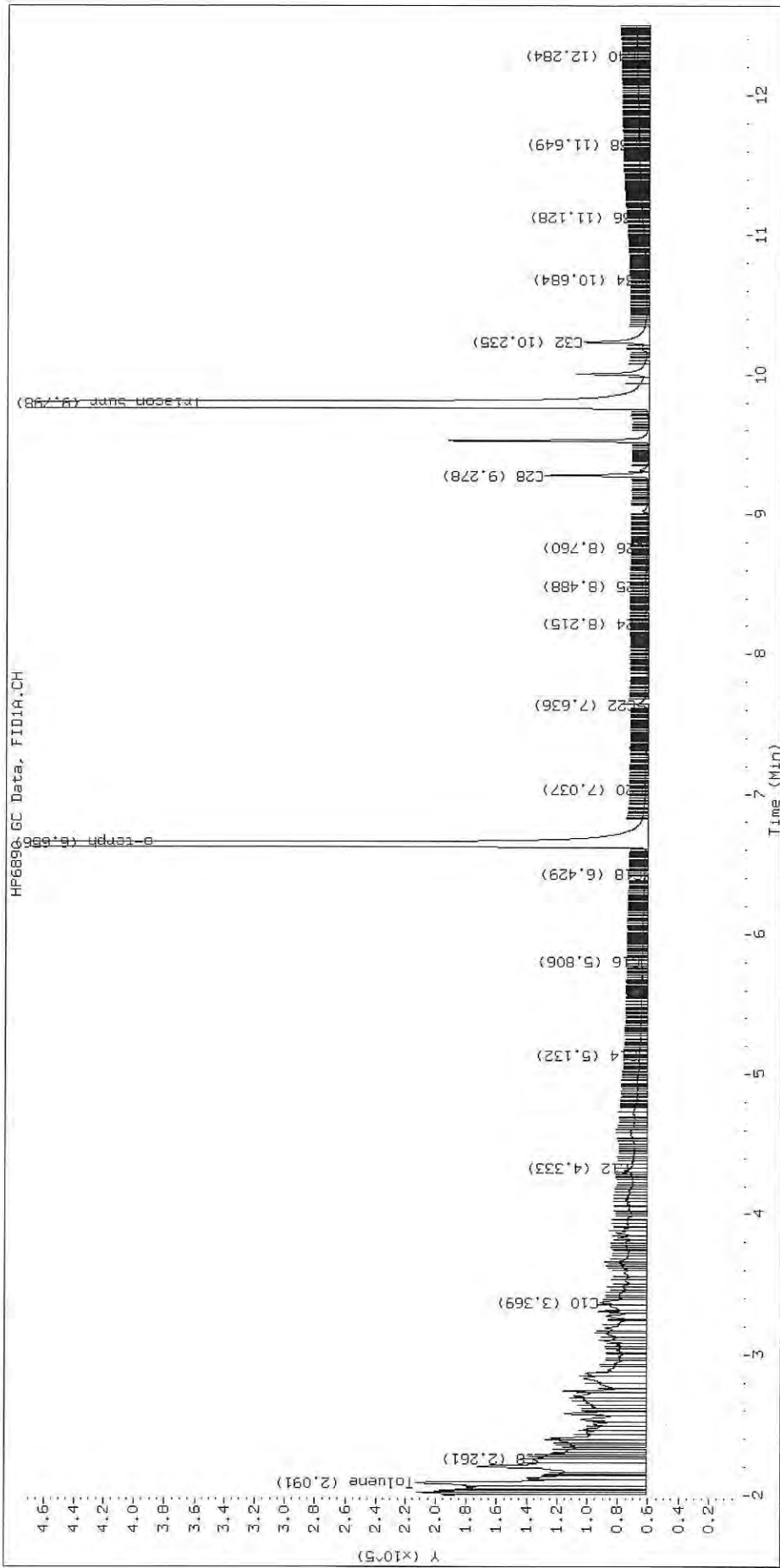
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacotane	17993211	101.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

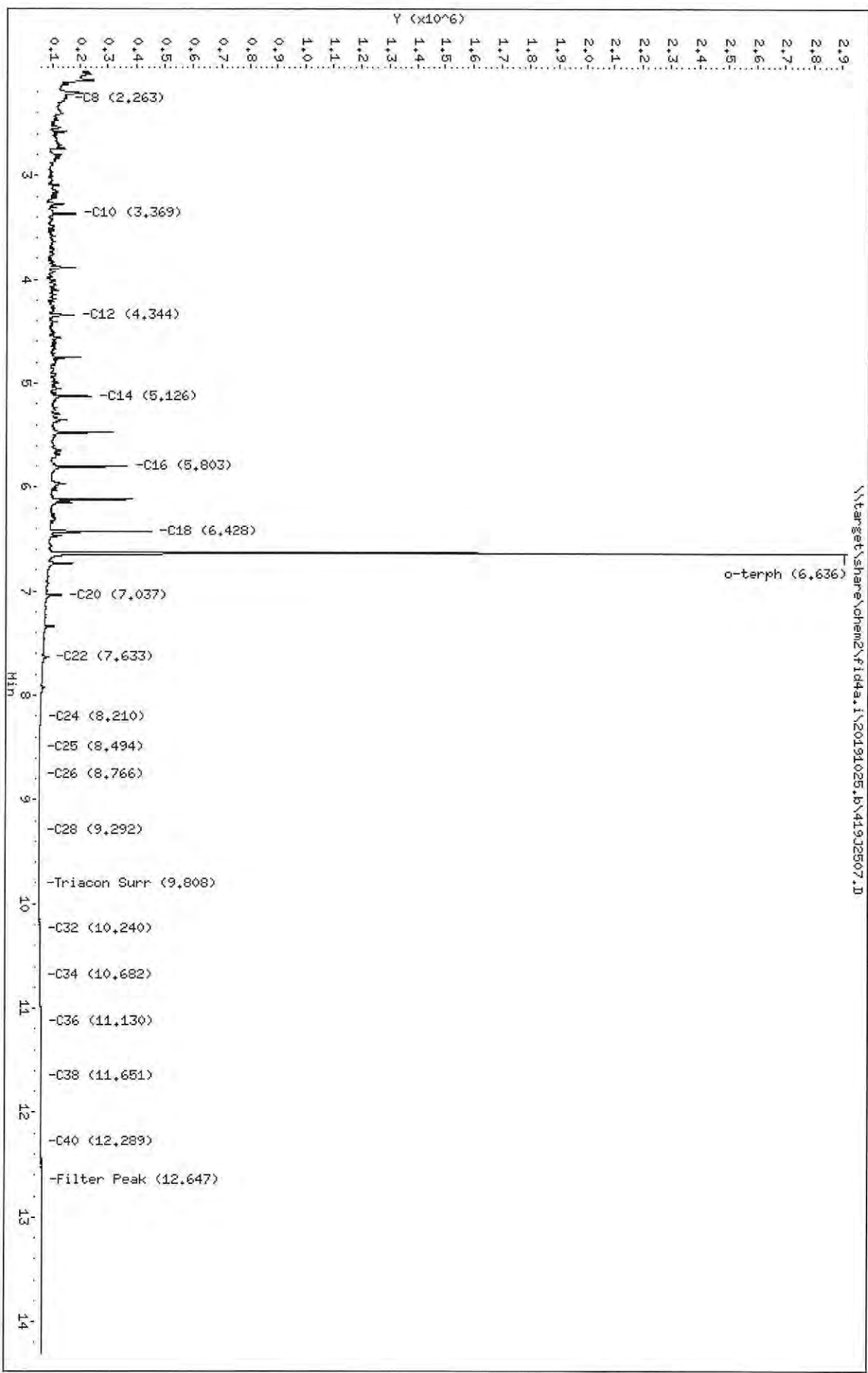
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Data File: \\target\share\chem2\fid4a.i\20191025.b\41932507.D
Date: 25-OCT-2019 13:52
Client ID:
Sample Info: SHJ0406-CALL

Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

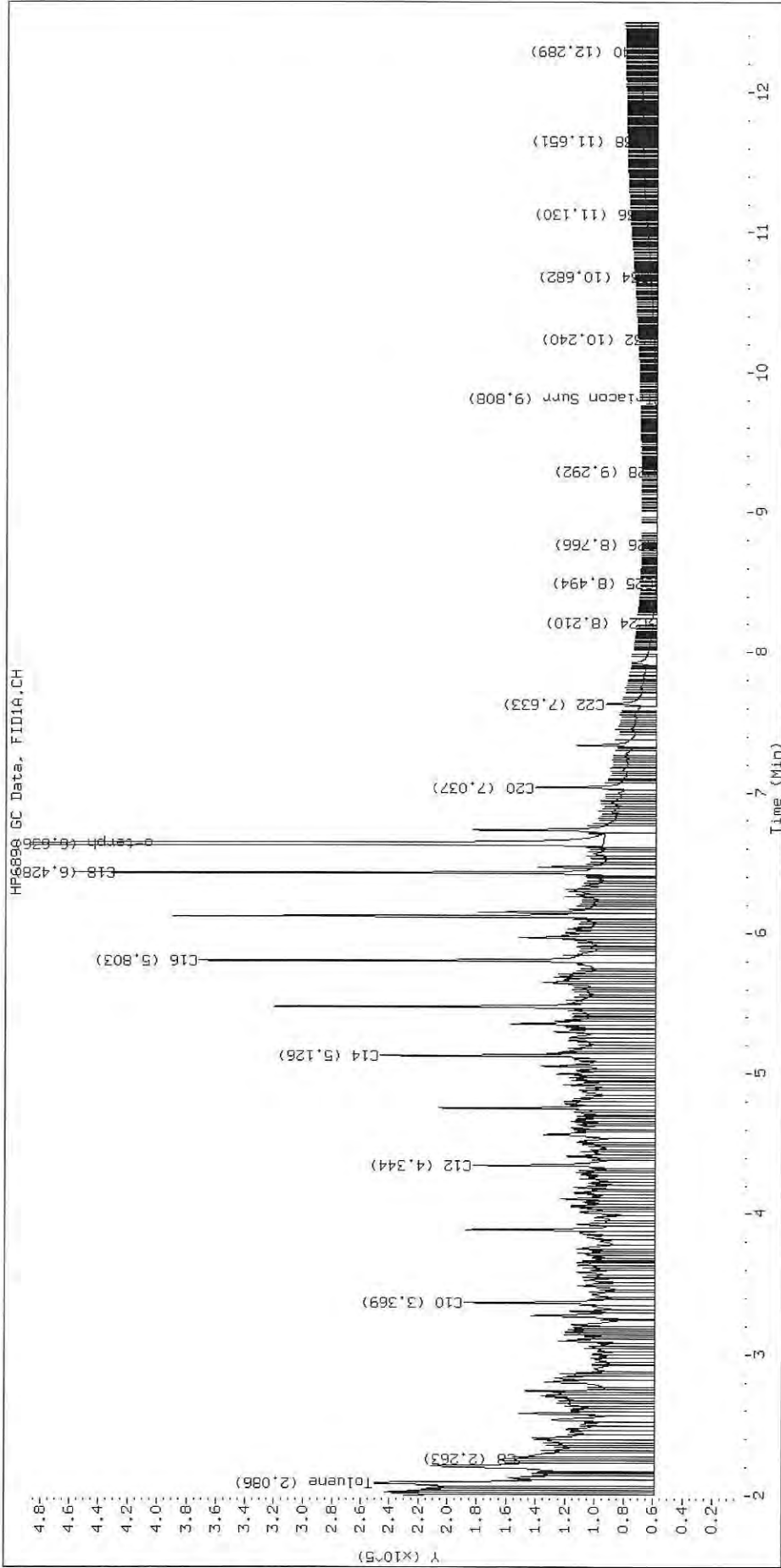
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacotane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CAL1



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TTPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.084	2.085	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd 31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.368	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.128	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.678	10.683	10.684	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.648	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACreosote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
 Batch File: \\target\share\chem2\fid4a.i\20191025.b
 Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT06
FILENAME:	419J2514	419J2515	419J2516	419J2517	419J2518	419J2519	419J2519
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.015	0.965-1.065	+++++	+++++
41 Mineral Spirits	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.259	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.333	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C25	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C26	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____ Date: _____
 Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

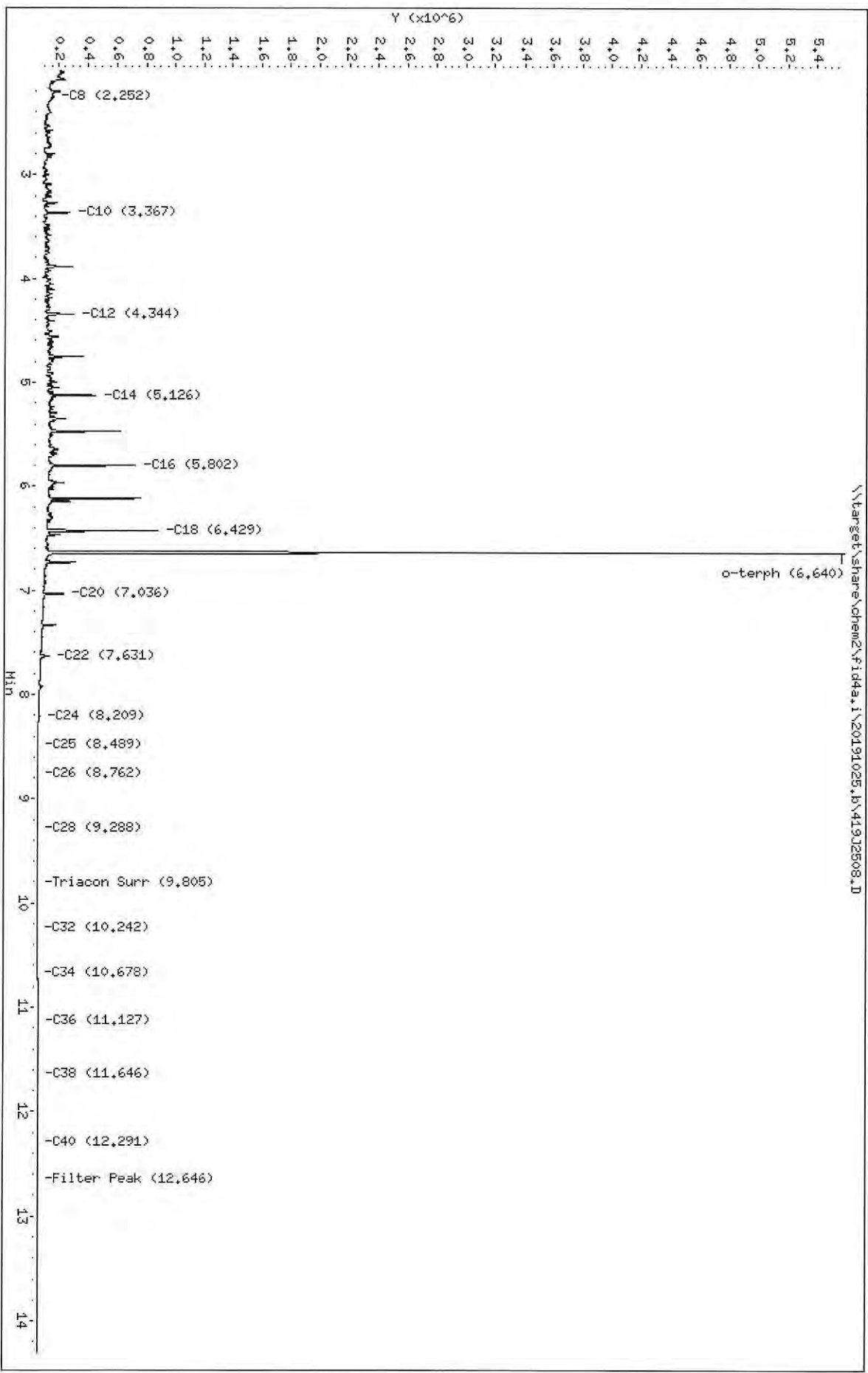
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Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.791	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
37 ACresosote	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 Jet A	+++++	+++++	+++++	+++++	+++++	+++++	1.024	0.974-1.074	+++++	+++++
30 NW Moil	+++++	+++++	+++++	+++++	+++++	+++++	0.885	0.835-0.935	+++++	+++++
31 NW AK102	+++++	+++++	+++++	+++++	+++++	+++++	0.803	0.753-0.853	+++++	+++++
32 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.812	0.762-0.862	+++++	+++++
33 AK103	+++++	+++++	+++++	+++++	+++++	+++++	1.344	1.294-1.394	+++++	+++++
36 ABunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.985	0.935-1.035	+++++	+++++
39 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
40 NAS Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2508.D
Date: 25-OCT-2019 14:12
Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

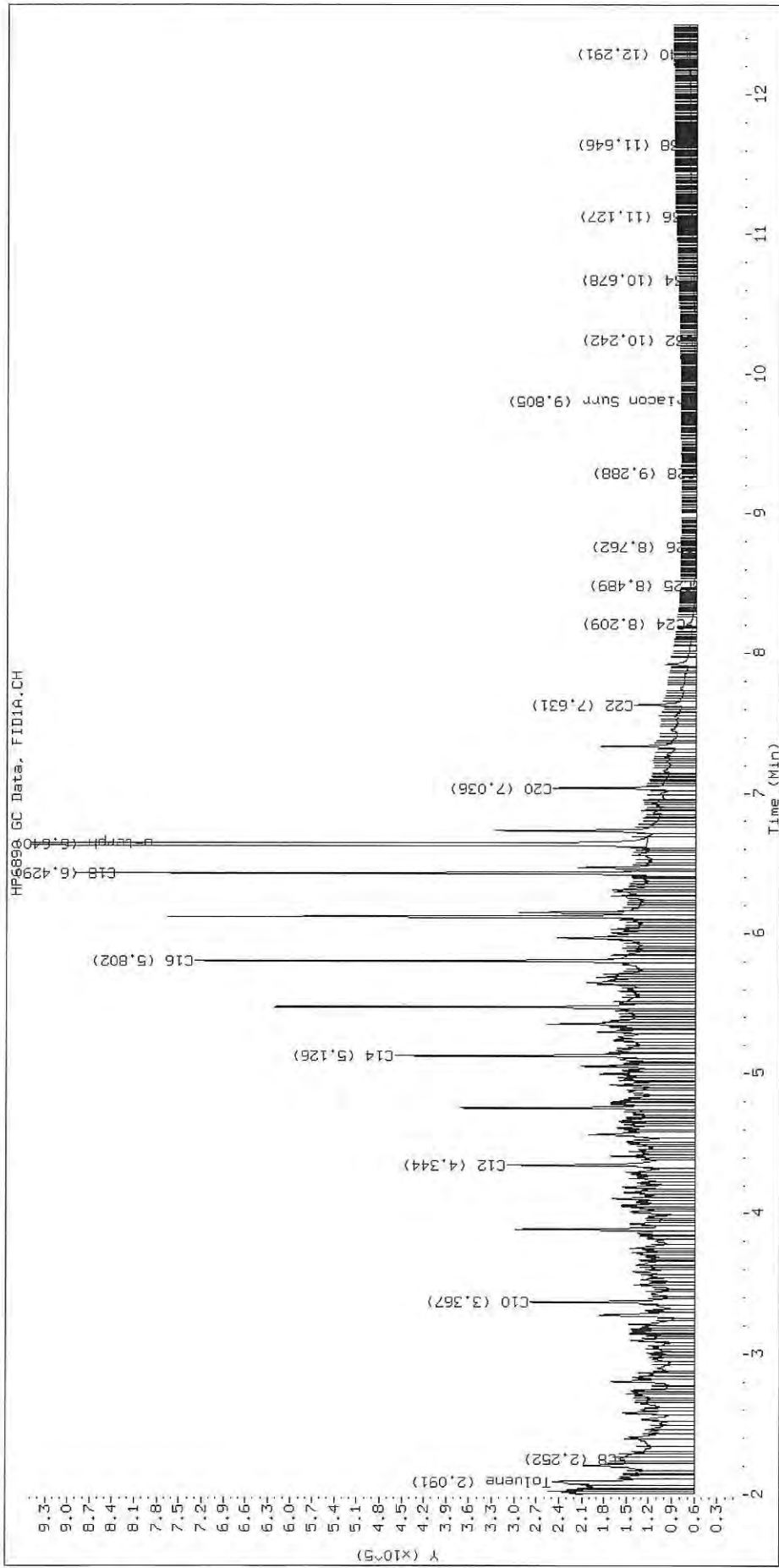
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

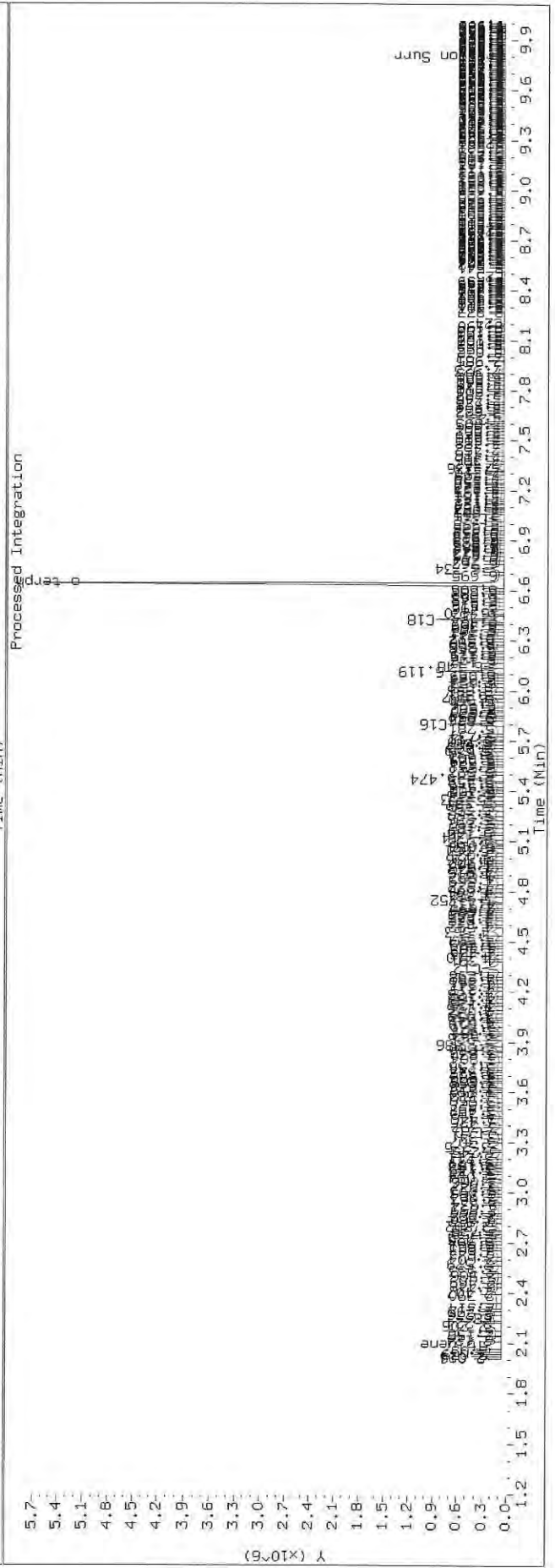
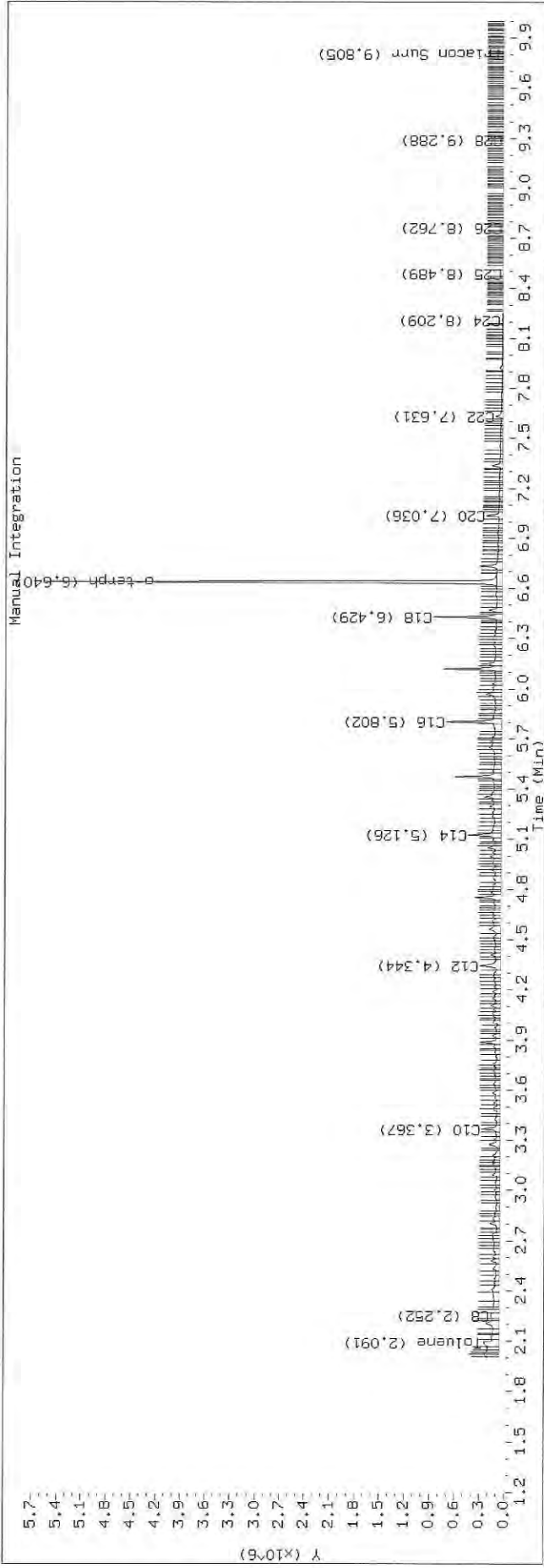
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacontane	368	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

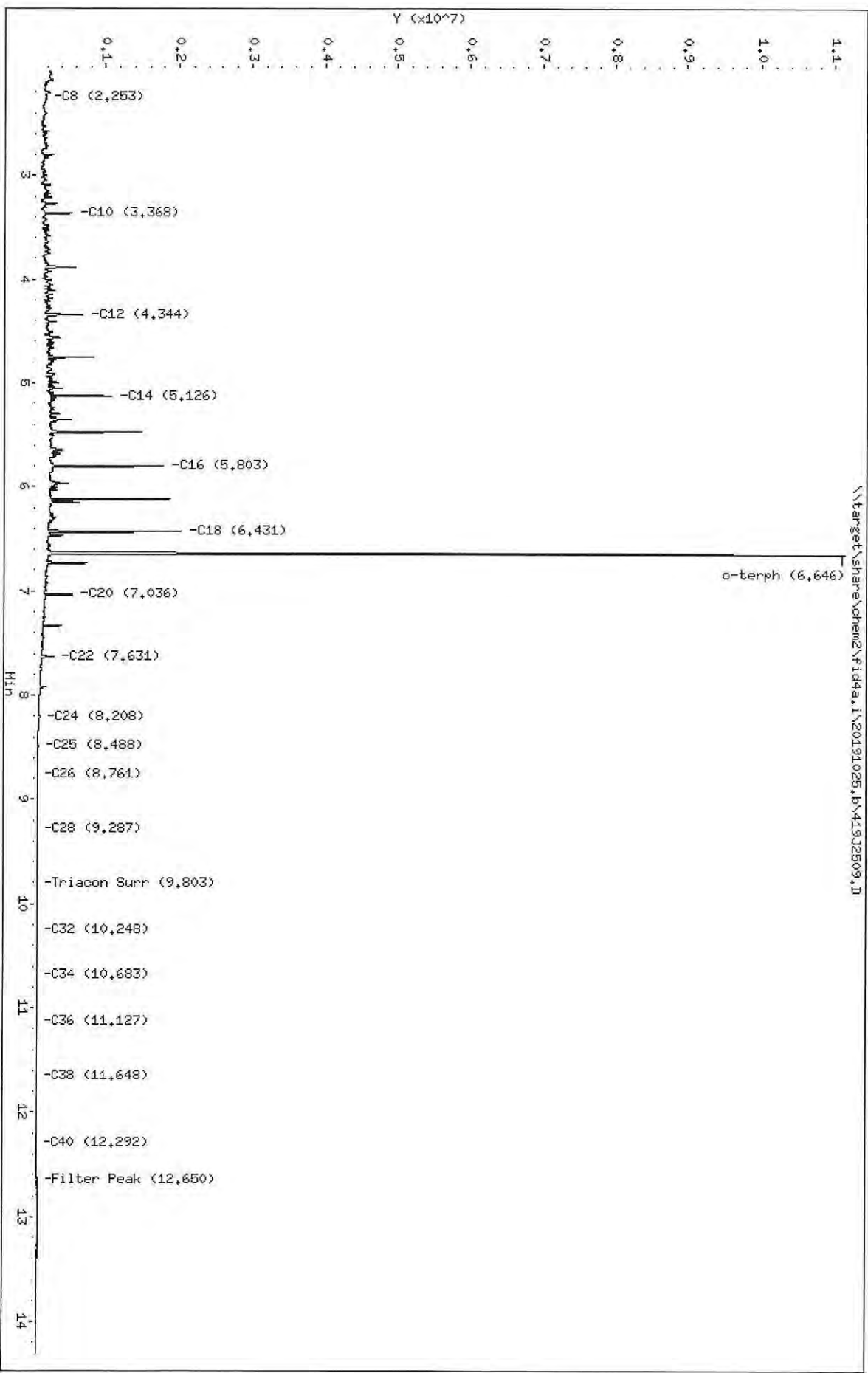




Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

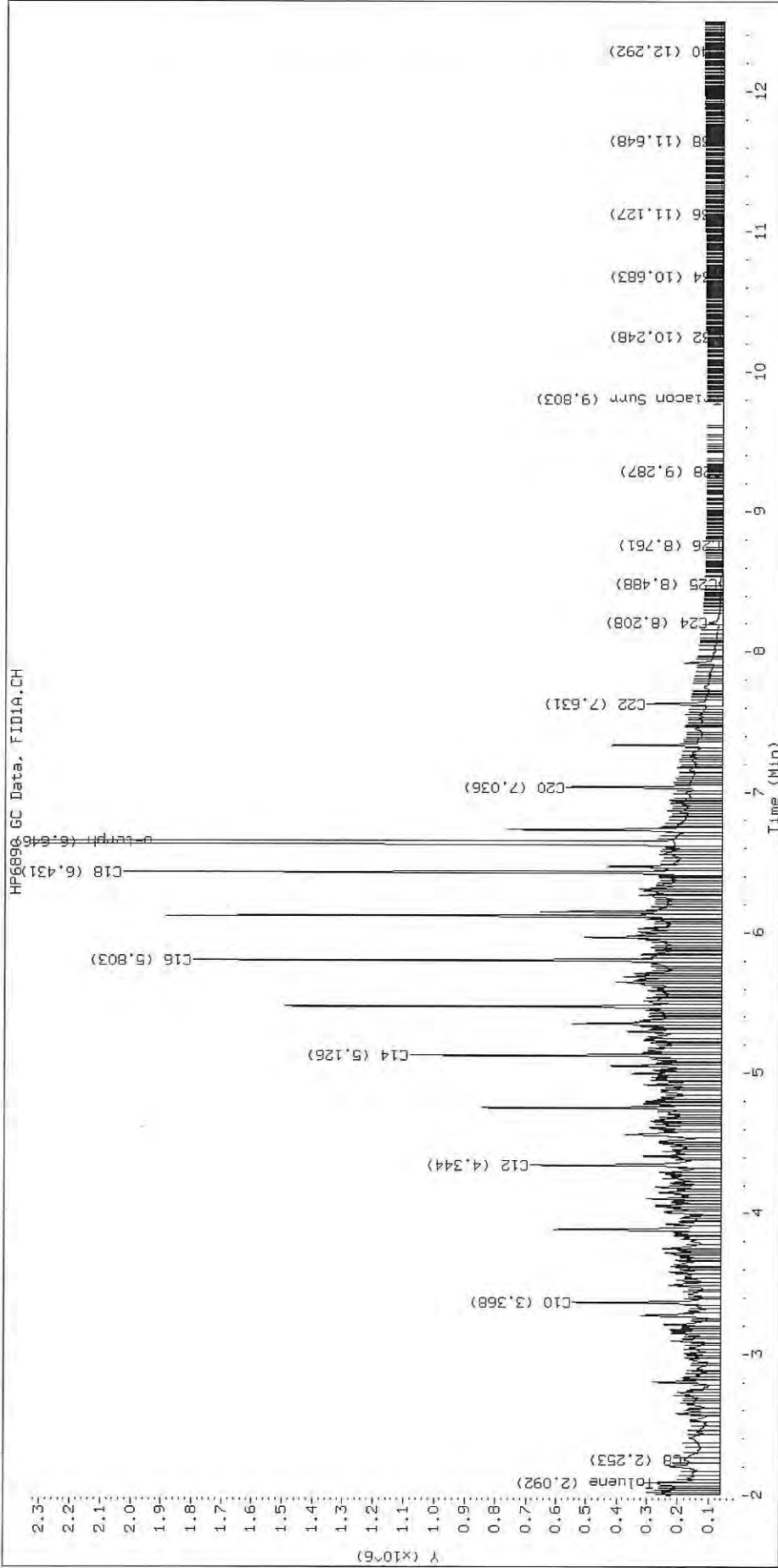
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacontane	103	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

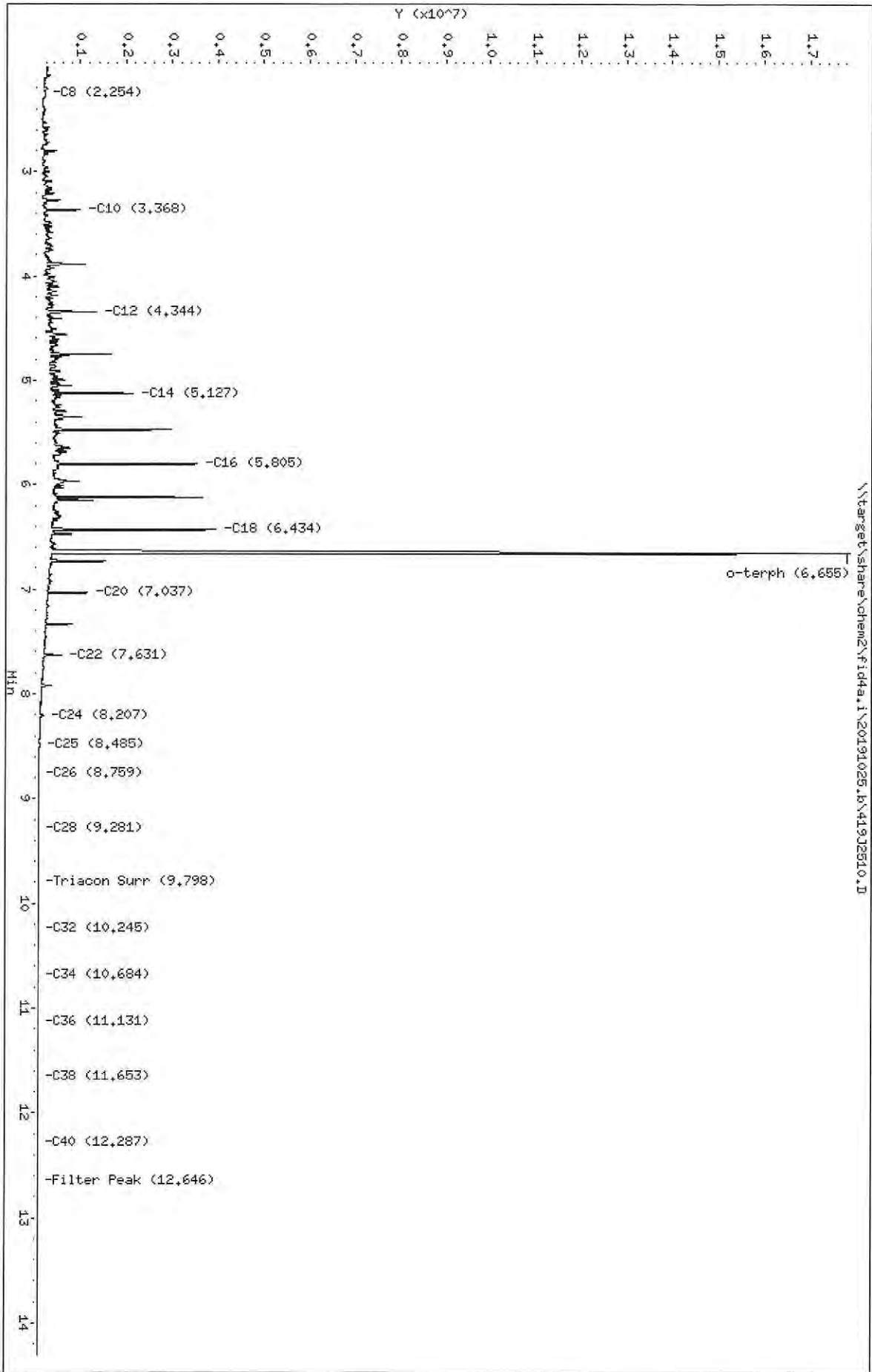
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Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SHJ0406-CAL4

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/MTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

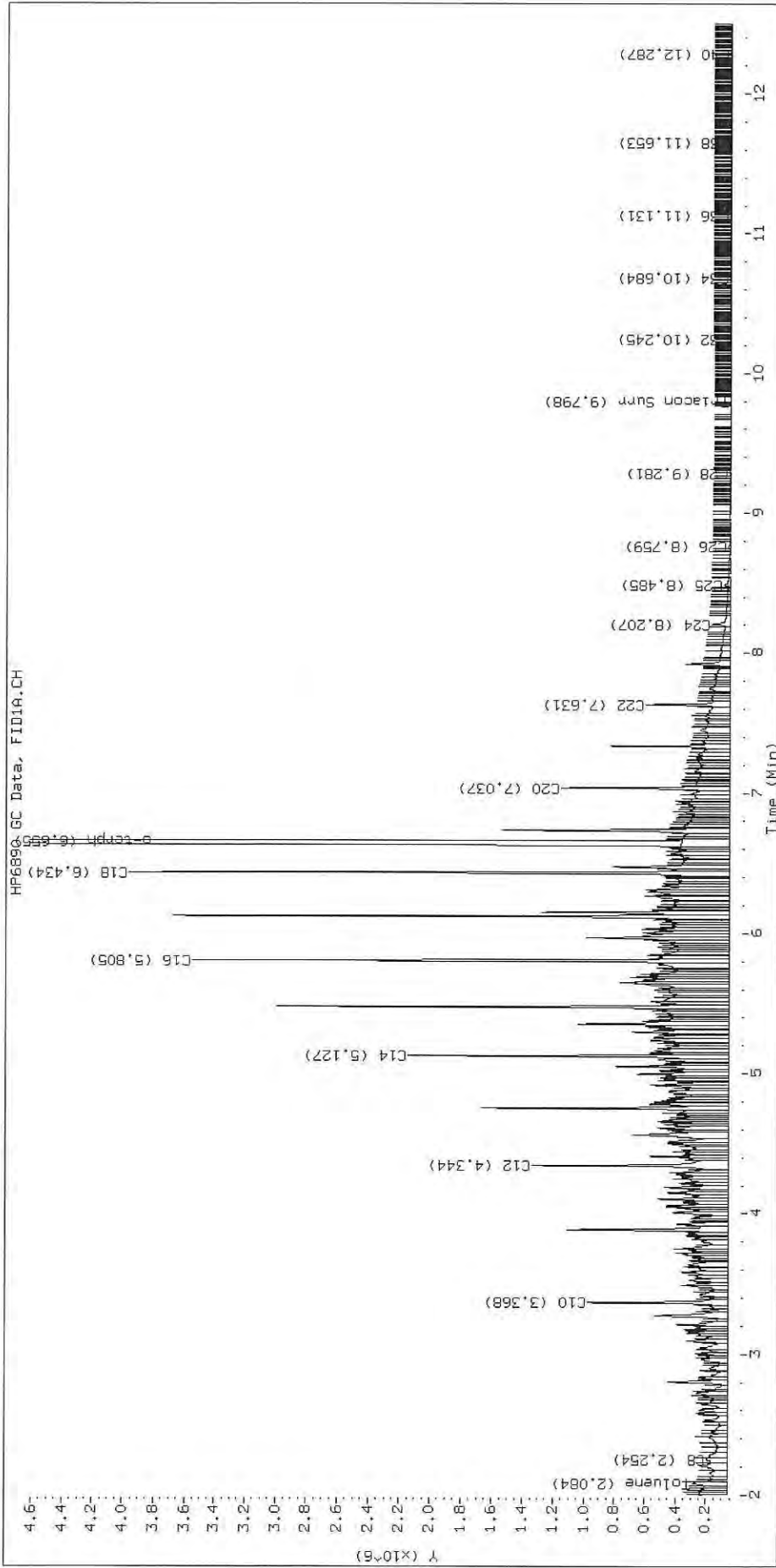
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacotane	112	0.0

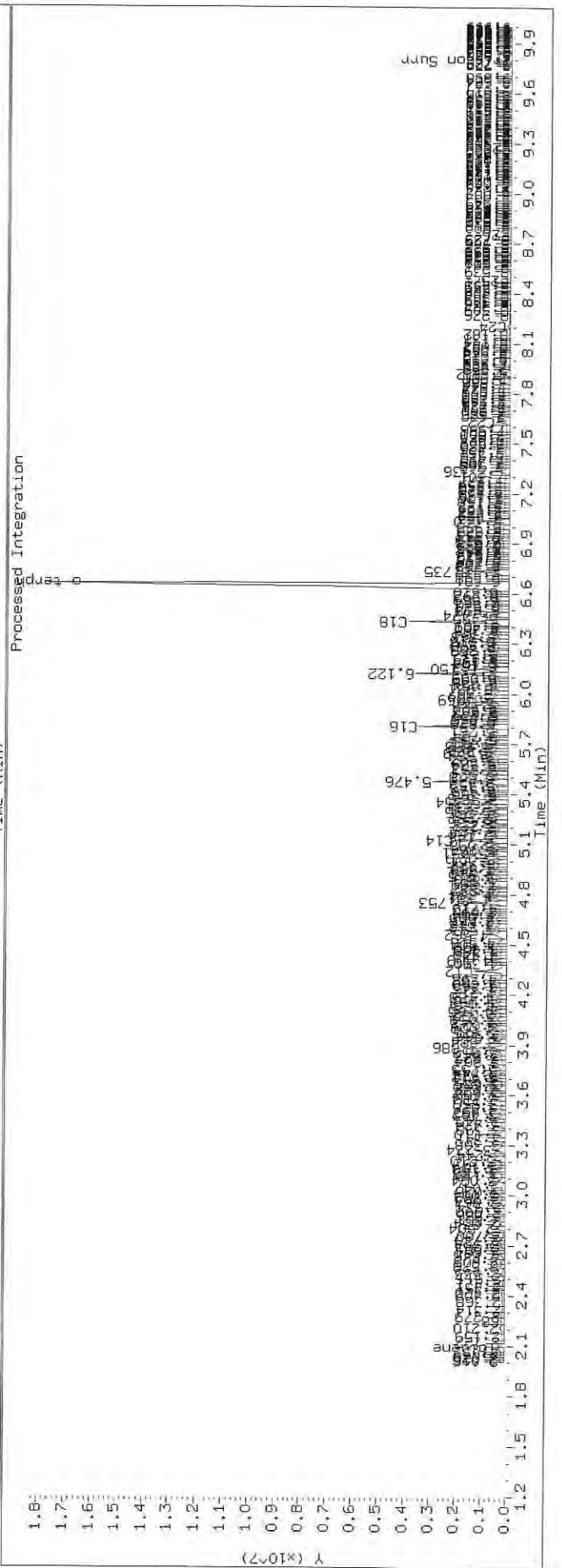
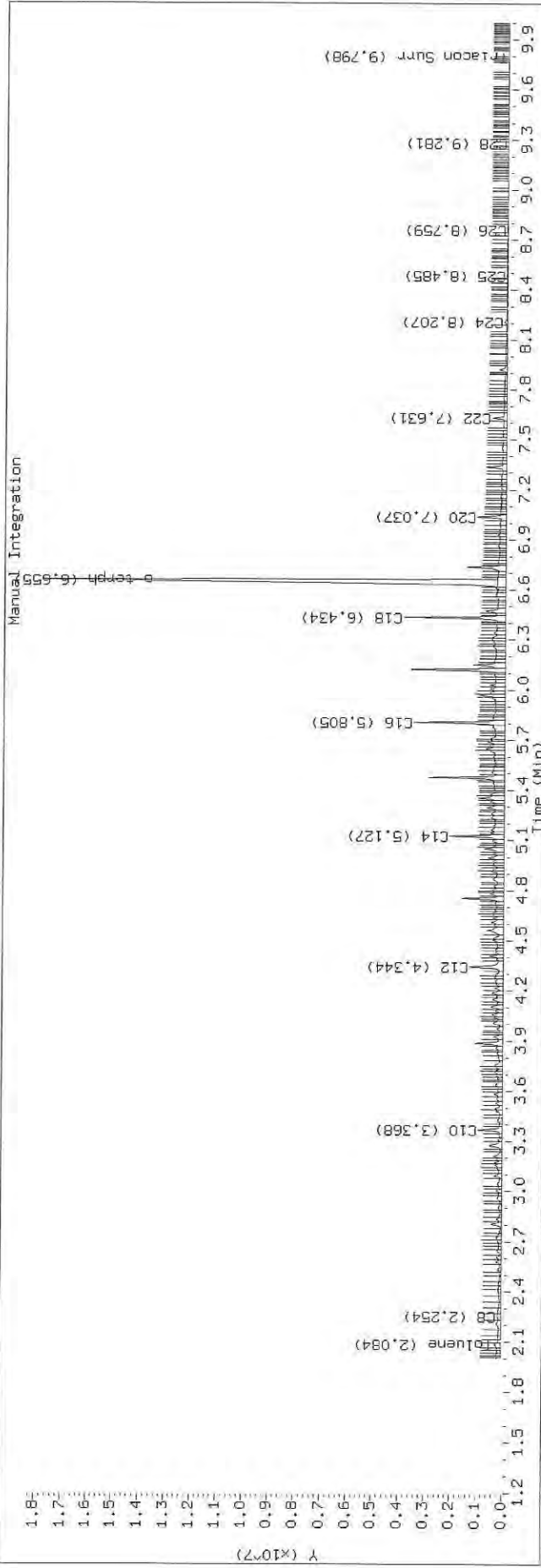
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.q/419J2510.D SHJ0406-CAL4



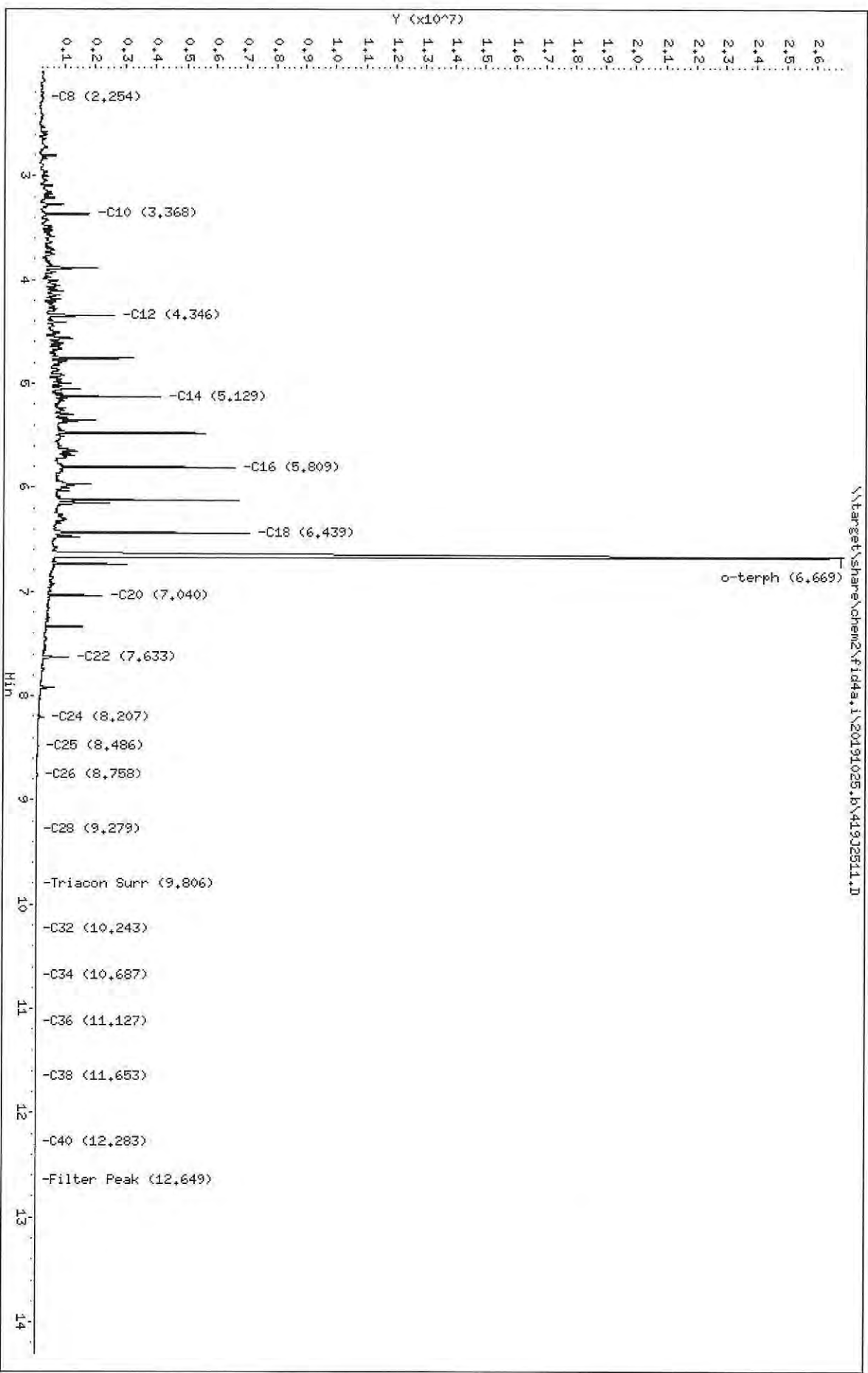
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2510.D Injection: 25-OCT-2019 14:53
 Lab ID: SHJ0406-CAL4



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2511.D
Date: 25-OCT-2019 15:13
Client ID:
Sample Info: SHJ0406-CALLS

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALS
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

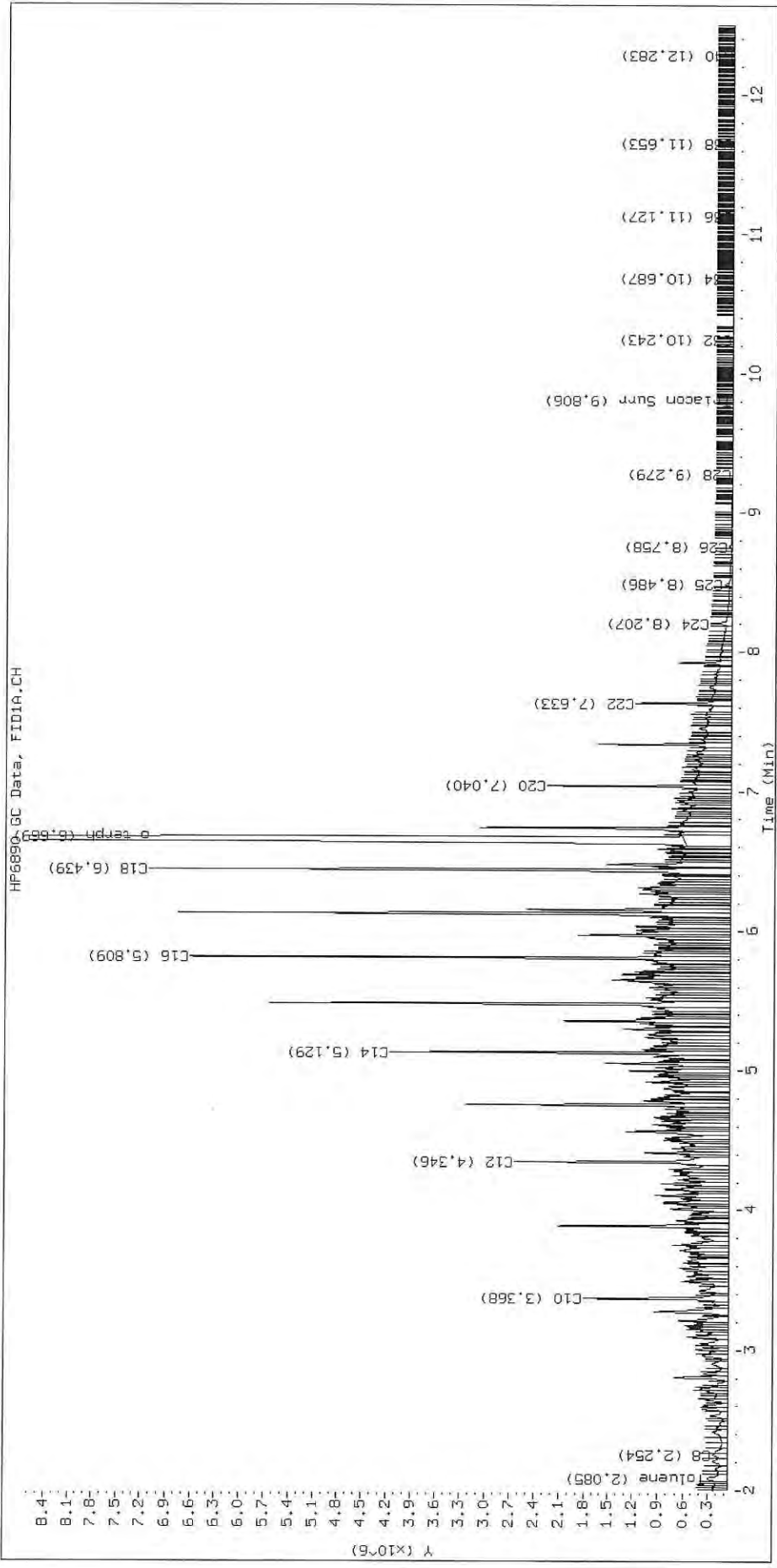
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

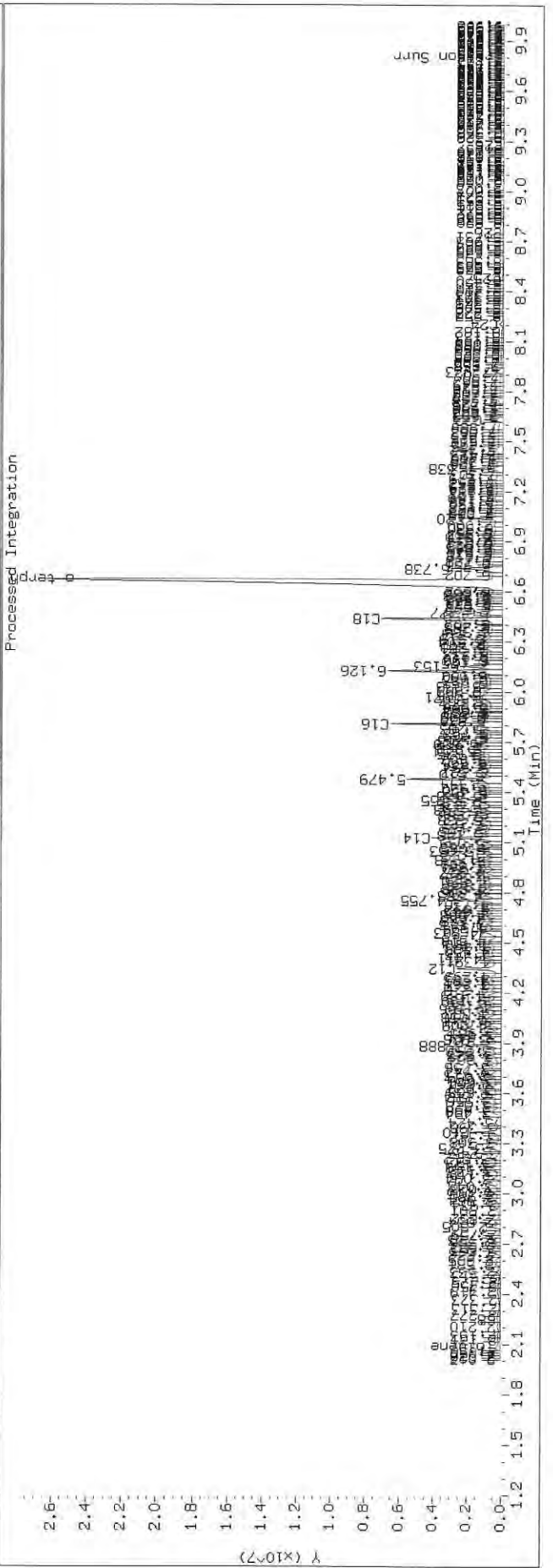
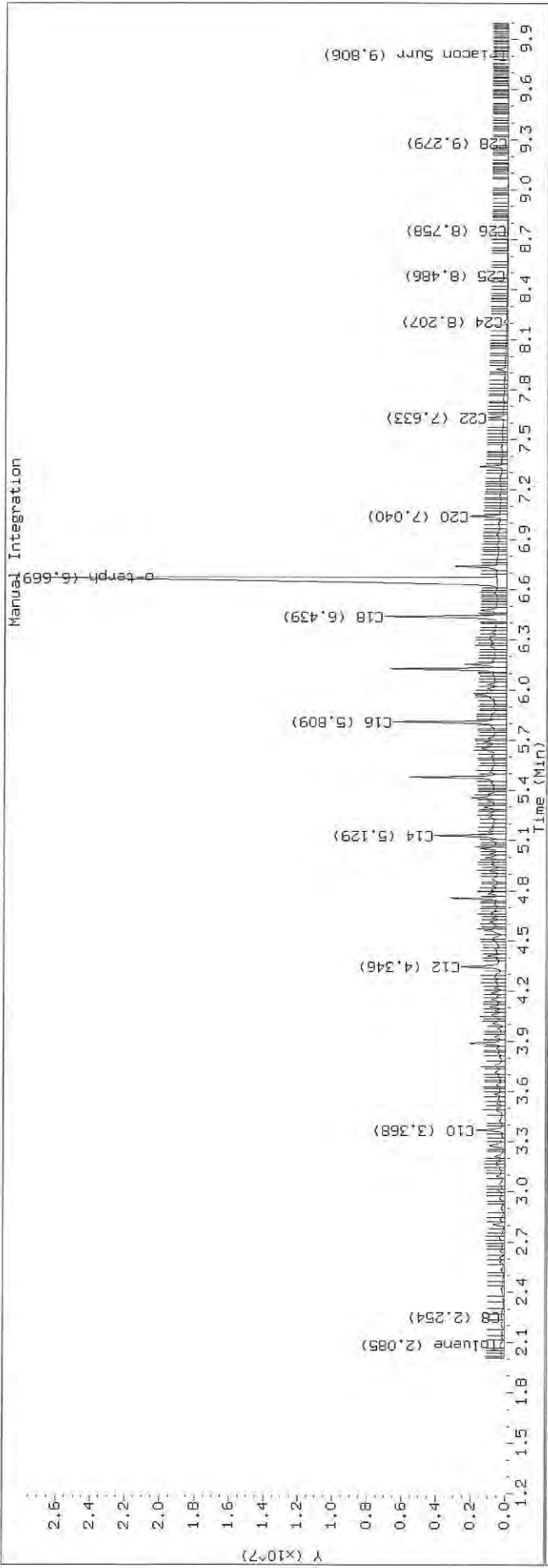
Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacontane	1069	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5

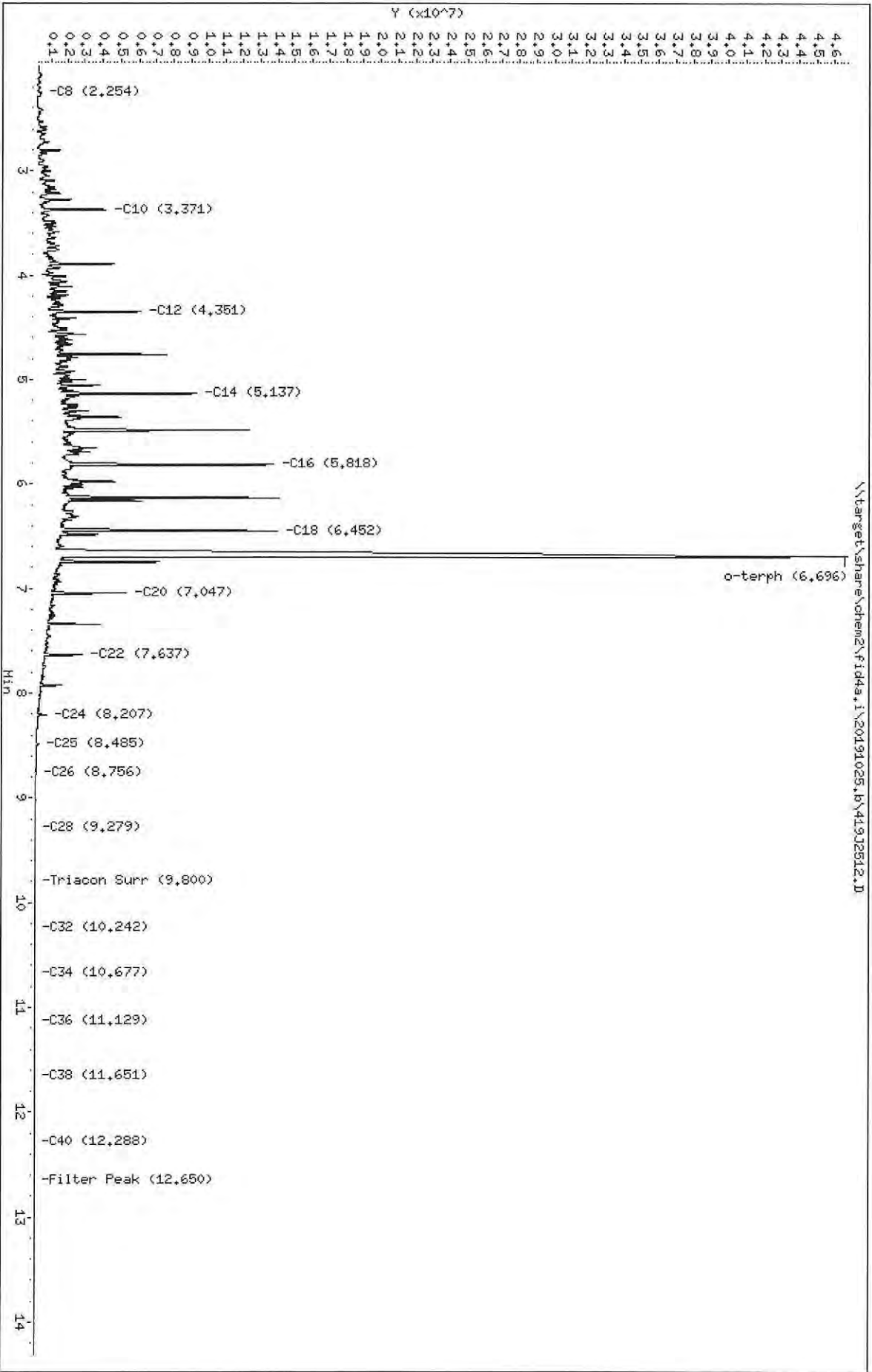




Data File: \\target\share\chem2\Fid4a.I\20191025_b\419J2512.D
Date: 26-OCT-2019 15:32
Client ID:
Sample Info: SHJ0406-CAL6

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

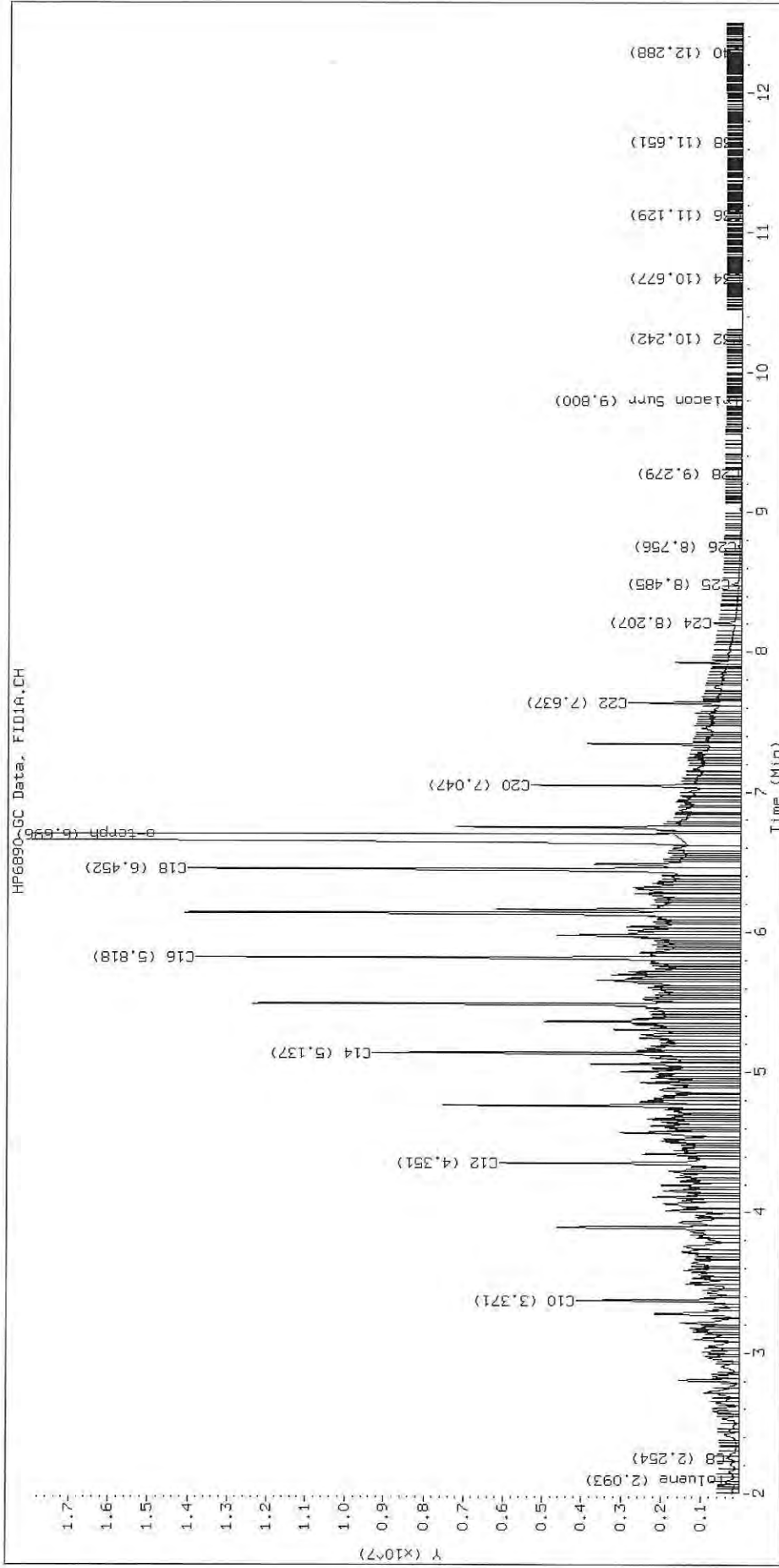
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

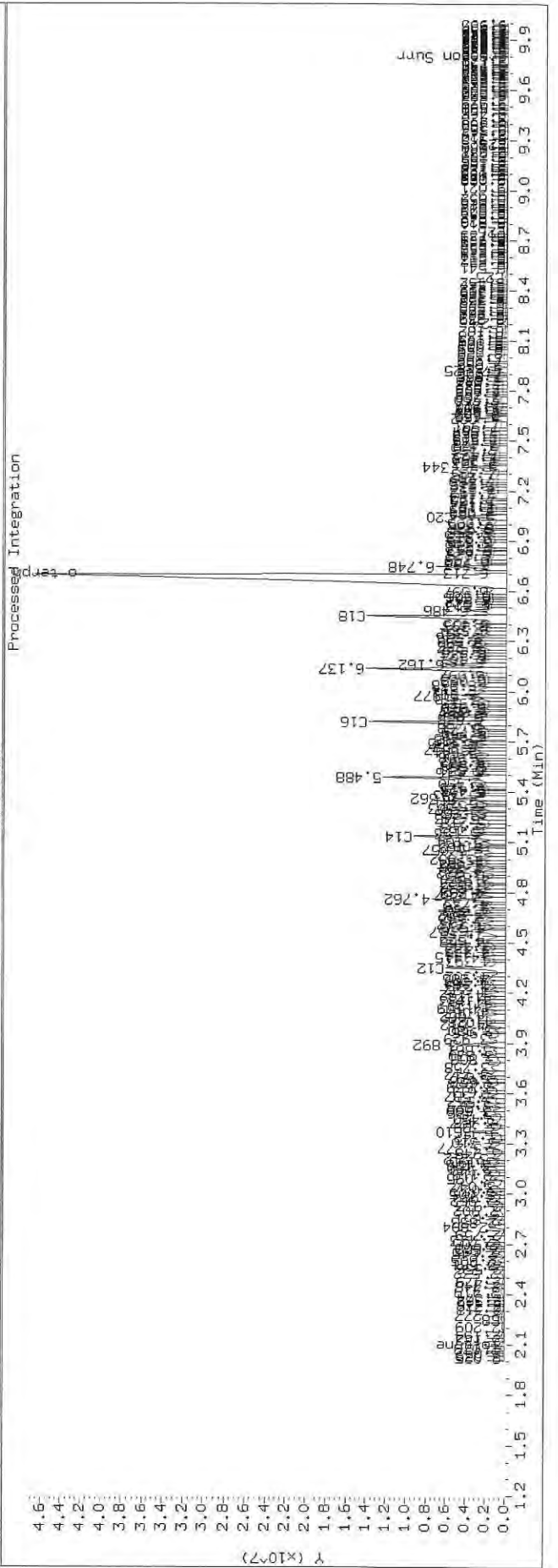
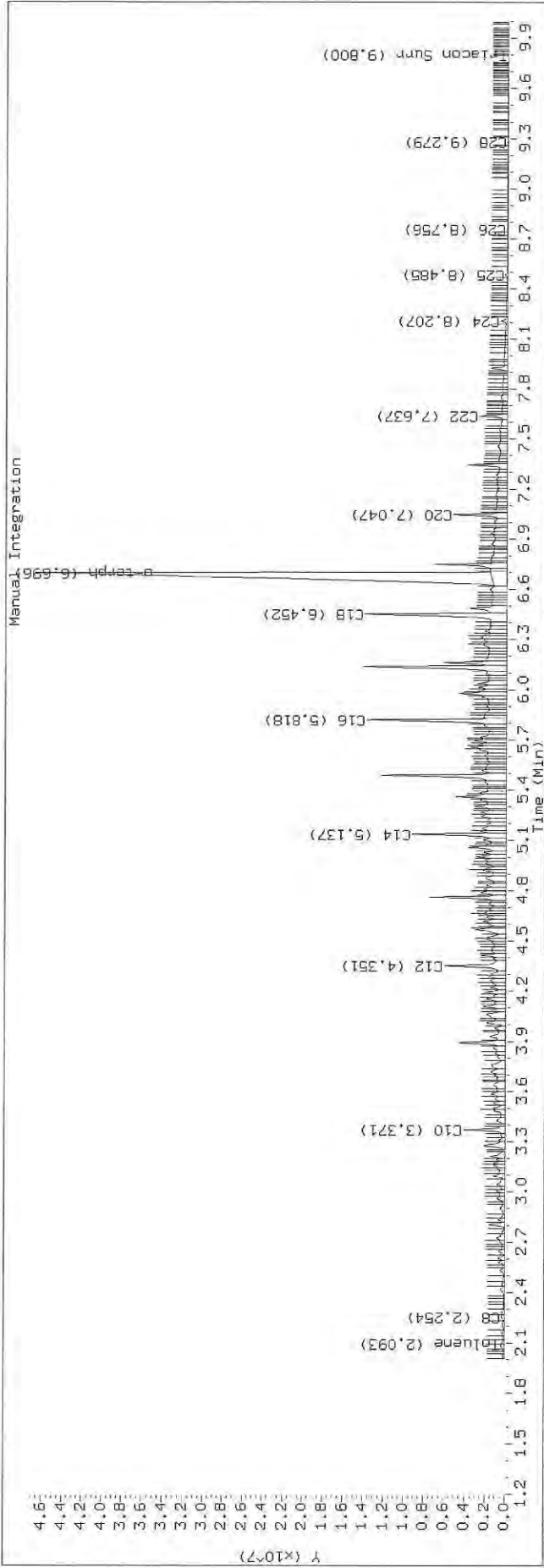
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacotane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2512.D SHJ0406-CAL6

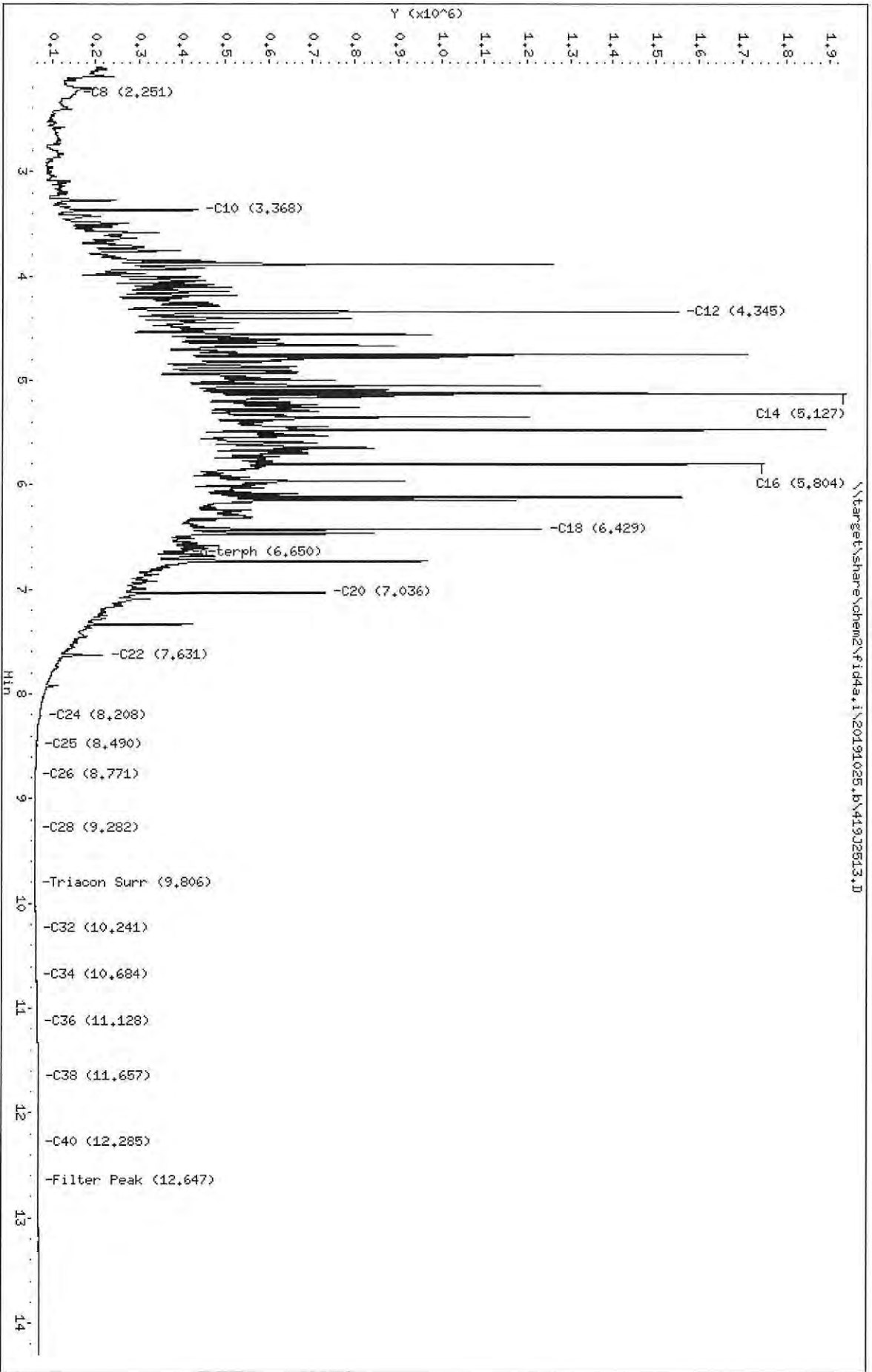




Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2513.D
Date: 25-OCT-2019 15:52
Client ID:
Sample Info: SHJ0406-SCV1

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/MTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

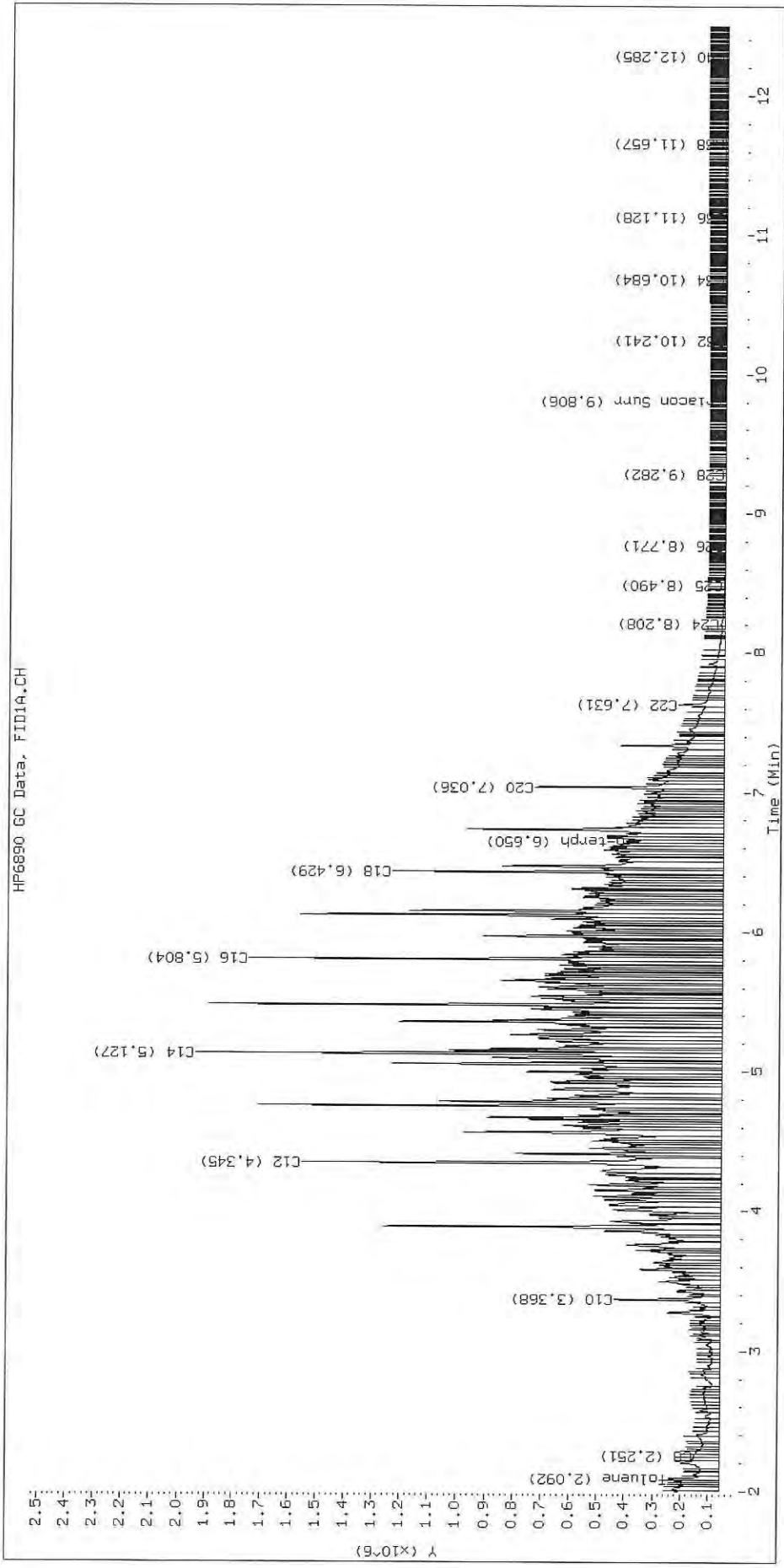
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacotane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCV1

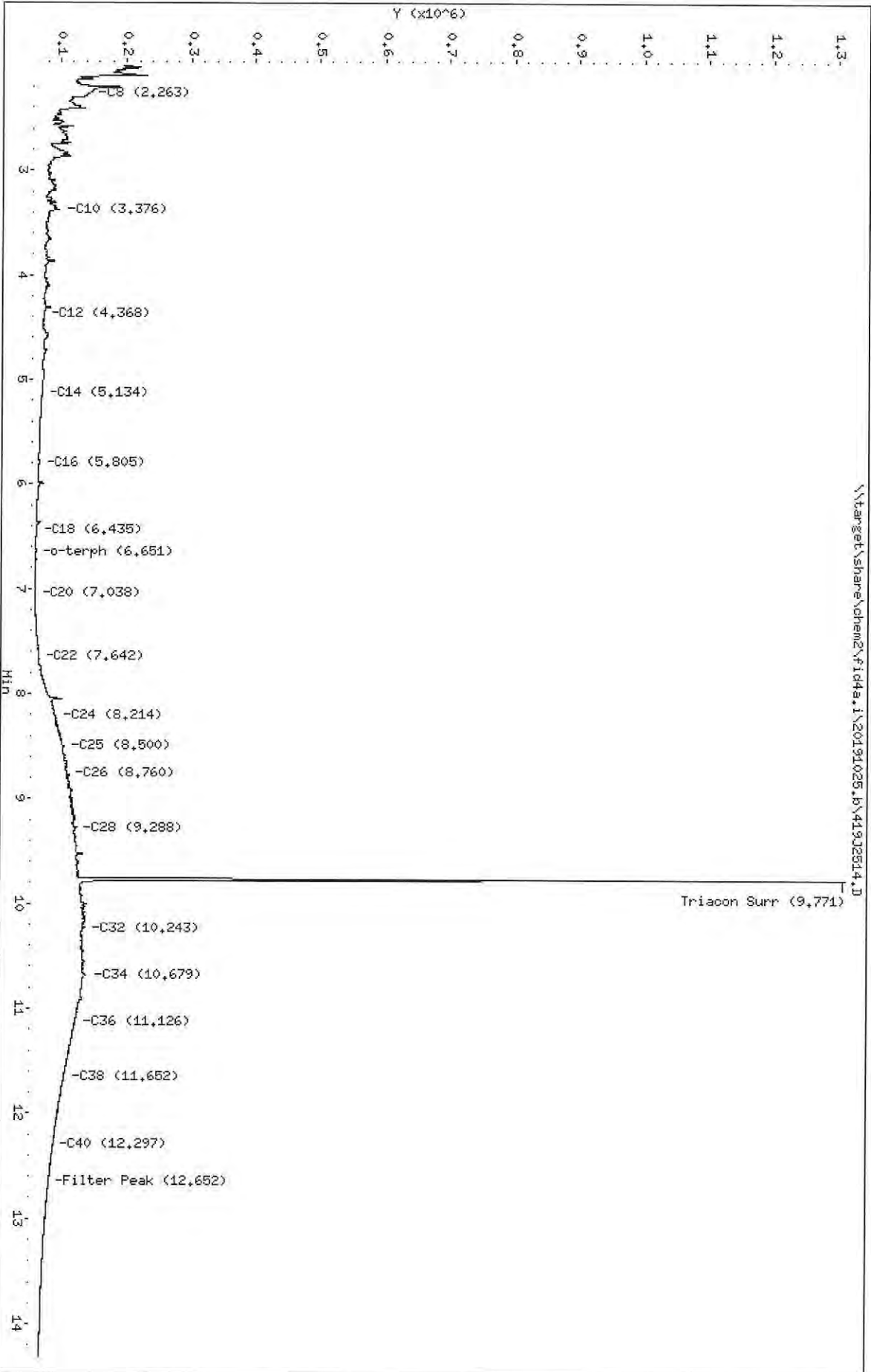
HF6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.bv41932614.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

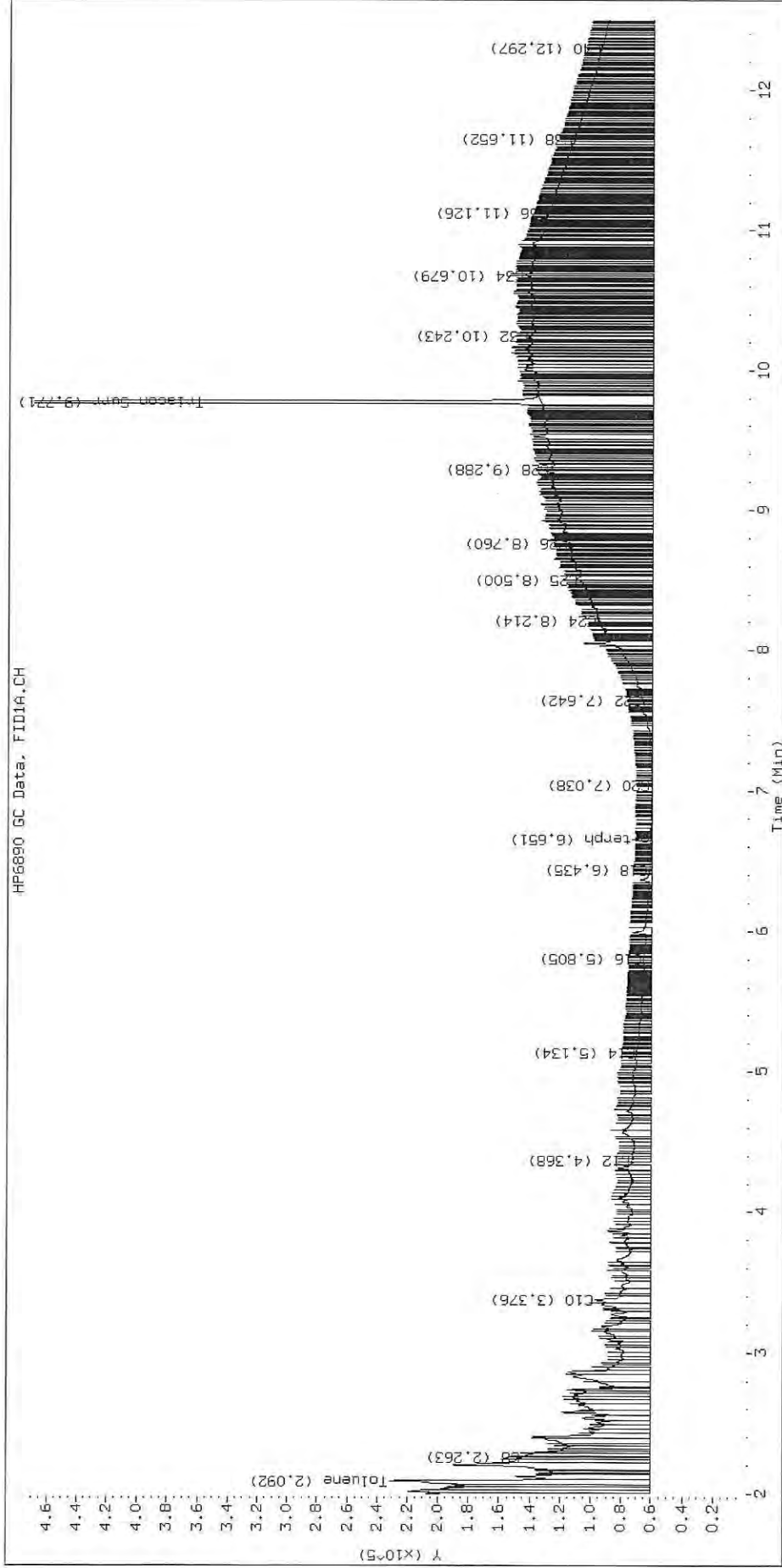
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacontane	816812	4.6 M

M Indicates the peak was manually integrated

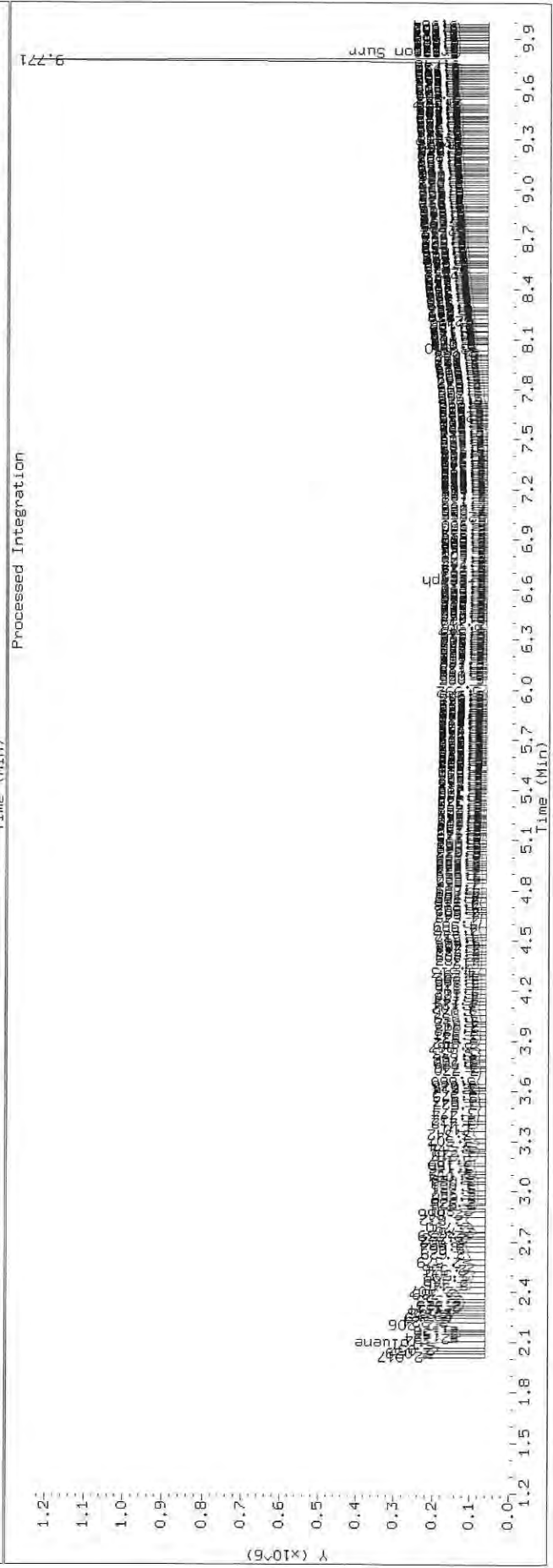
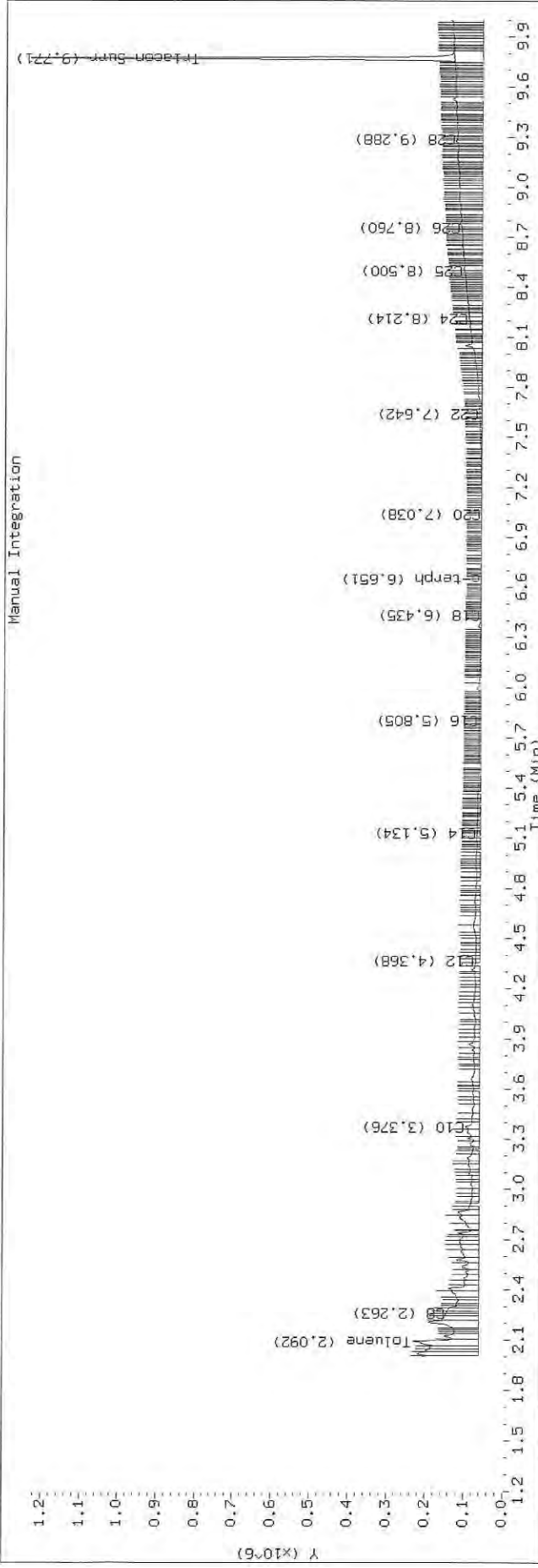
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH



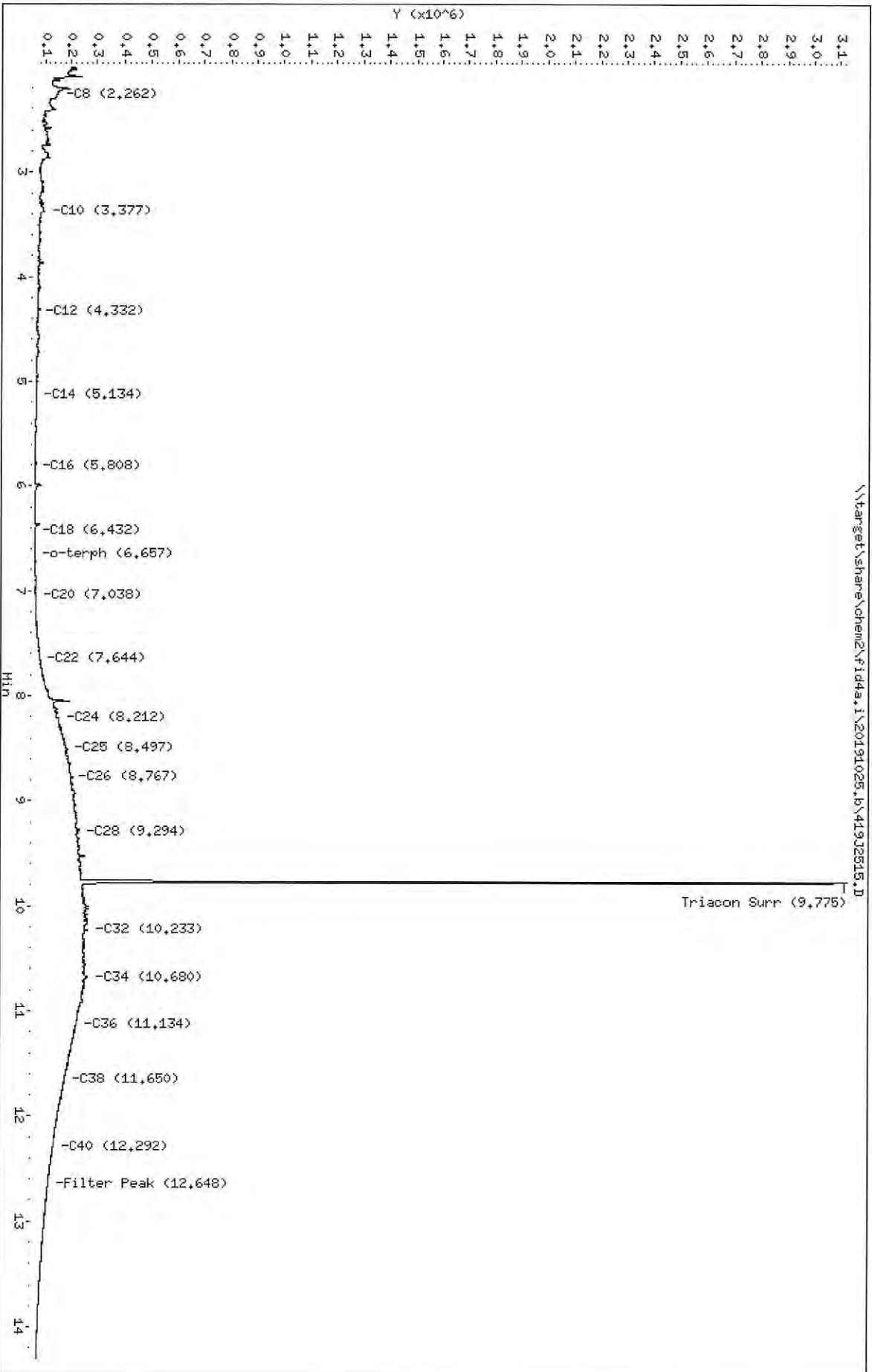
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2514.D Injection: 25-OCT-2019 16:12
 Lab ID: SHJ0406-CAL7



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Info: SHJ0406-CAL8

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

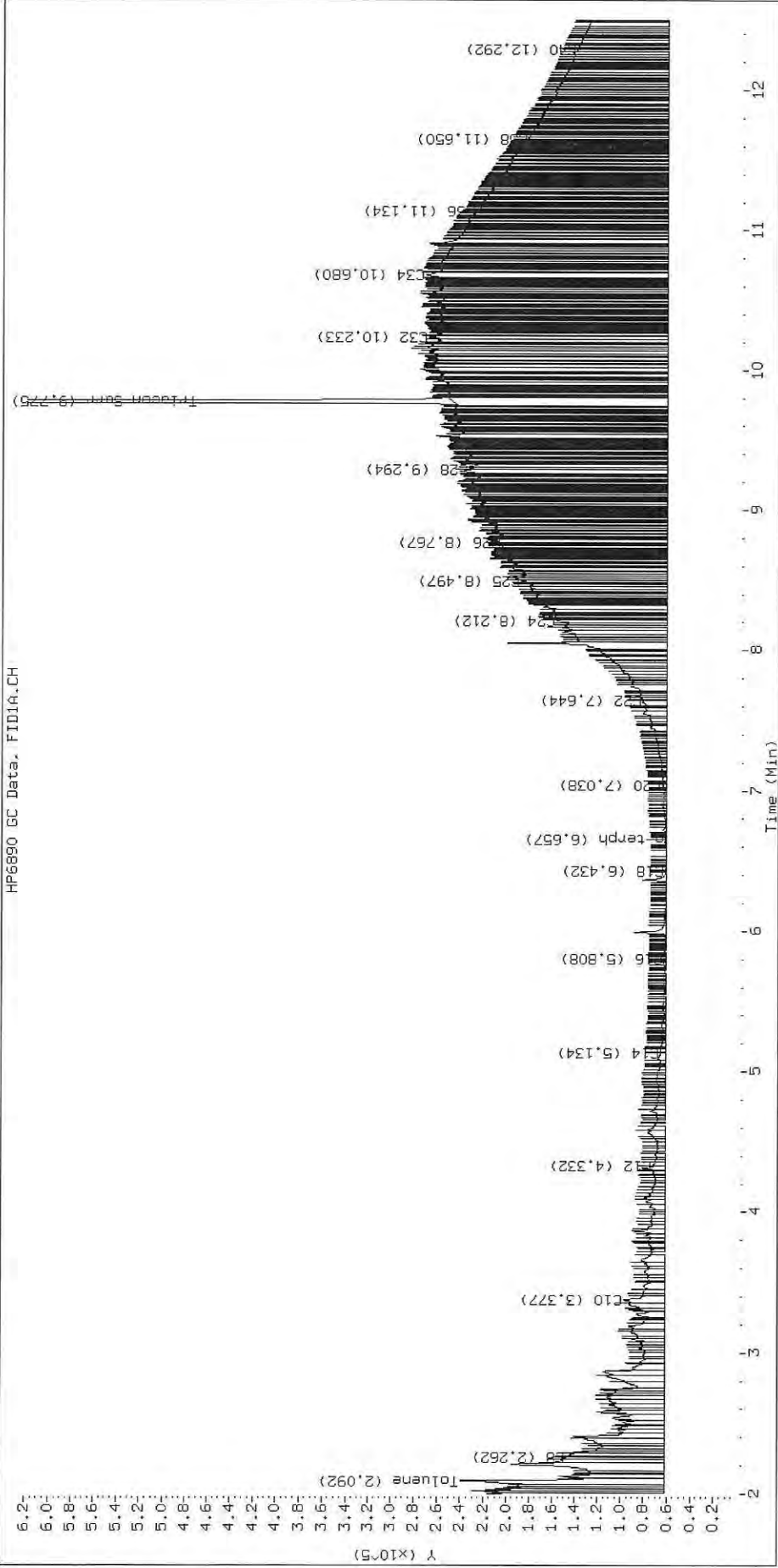
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacontane	2052387	11.5 M

M Indicates the peak was manually integrated

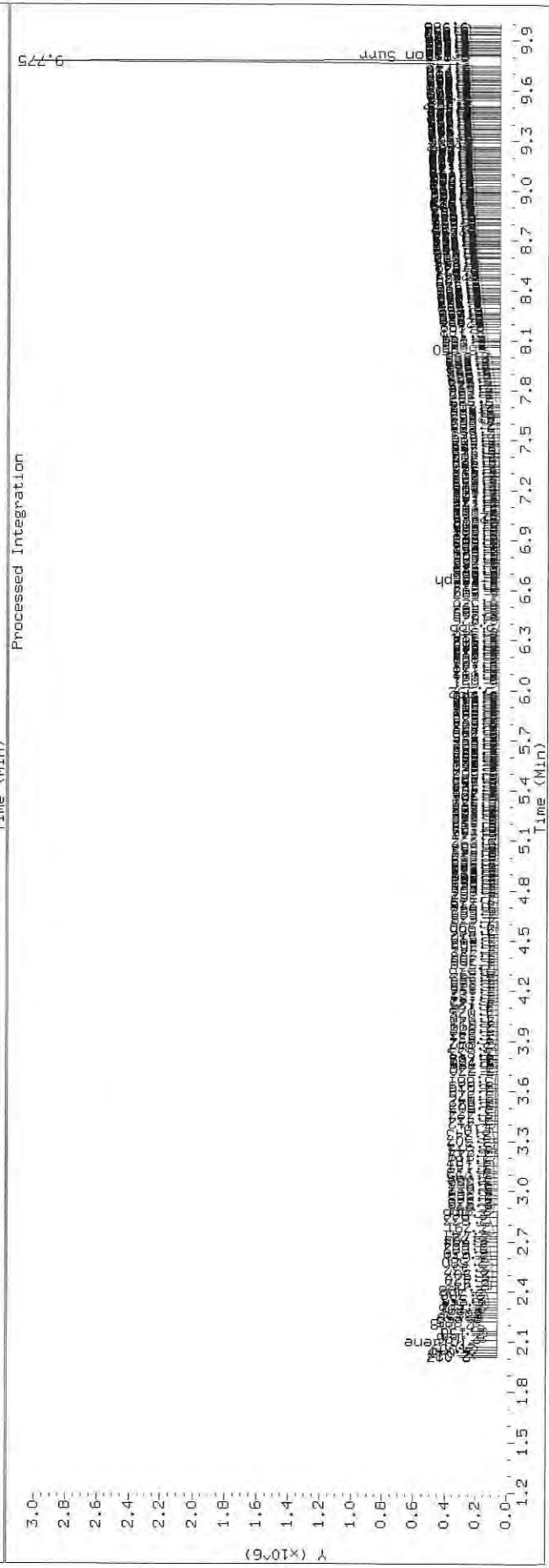
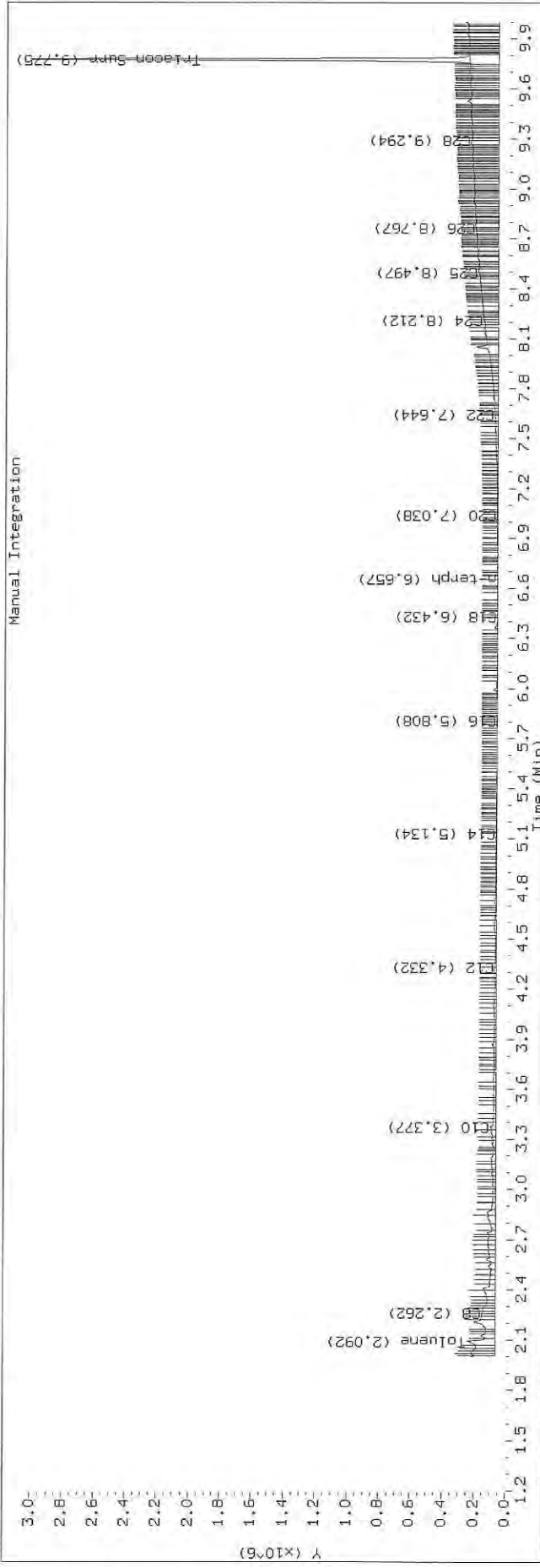
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data. FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2515.D Injection: 25-OCT-2019 16:33
 Lab ID:SHJ0406-CAL8



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2516.D

Date: 25-OCT-2019 16:53

Client ID:

Sample Info: SHJ0406-CAL9

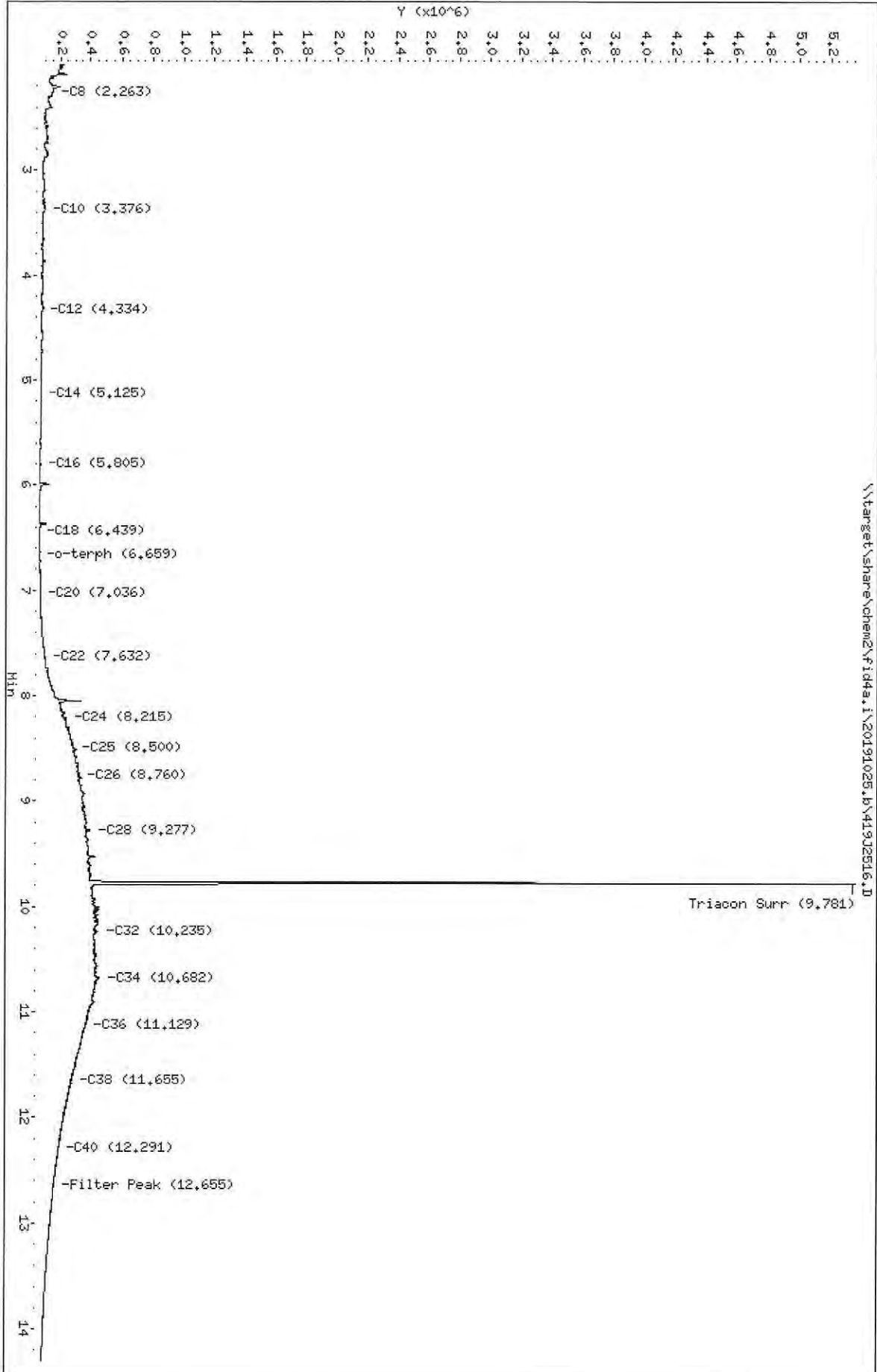
Instrument: fid4a.i

Operator: CTG/SH/VTS/JGR

Column diameter: 0.25

Column phase: RTX-1

\\target\share\chem2\fid4a.i\20191025.b\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

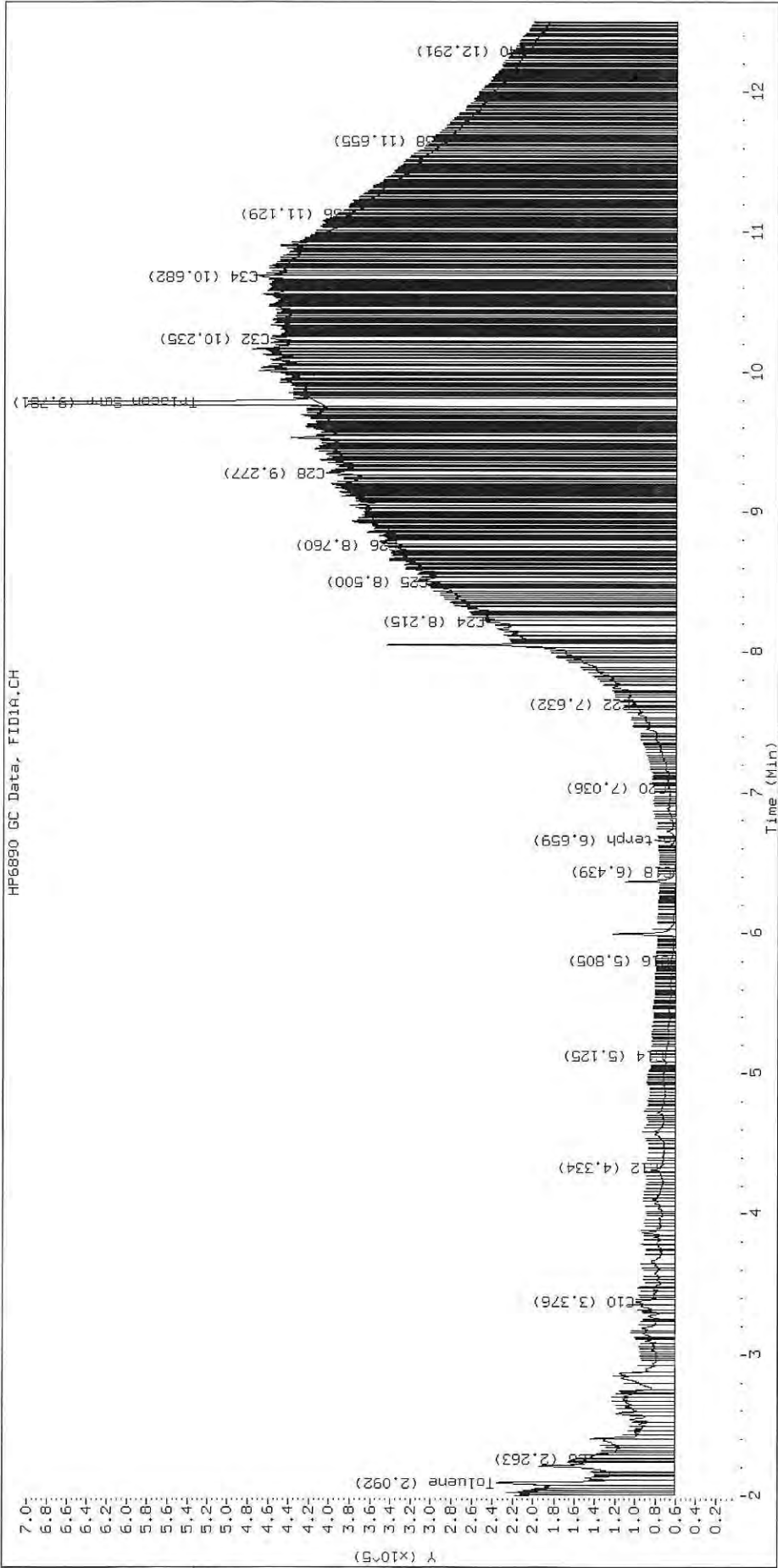
Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacotane	3881047	21.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

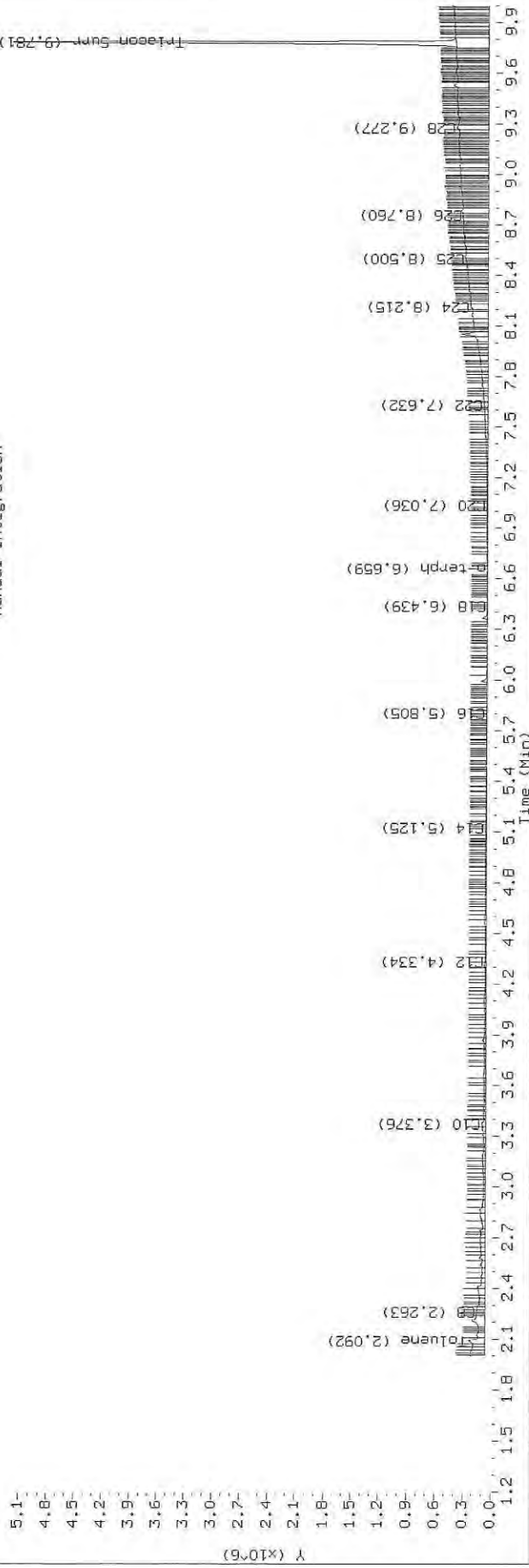
Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

HP6890 GC Data, FID1A.CH

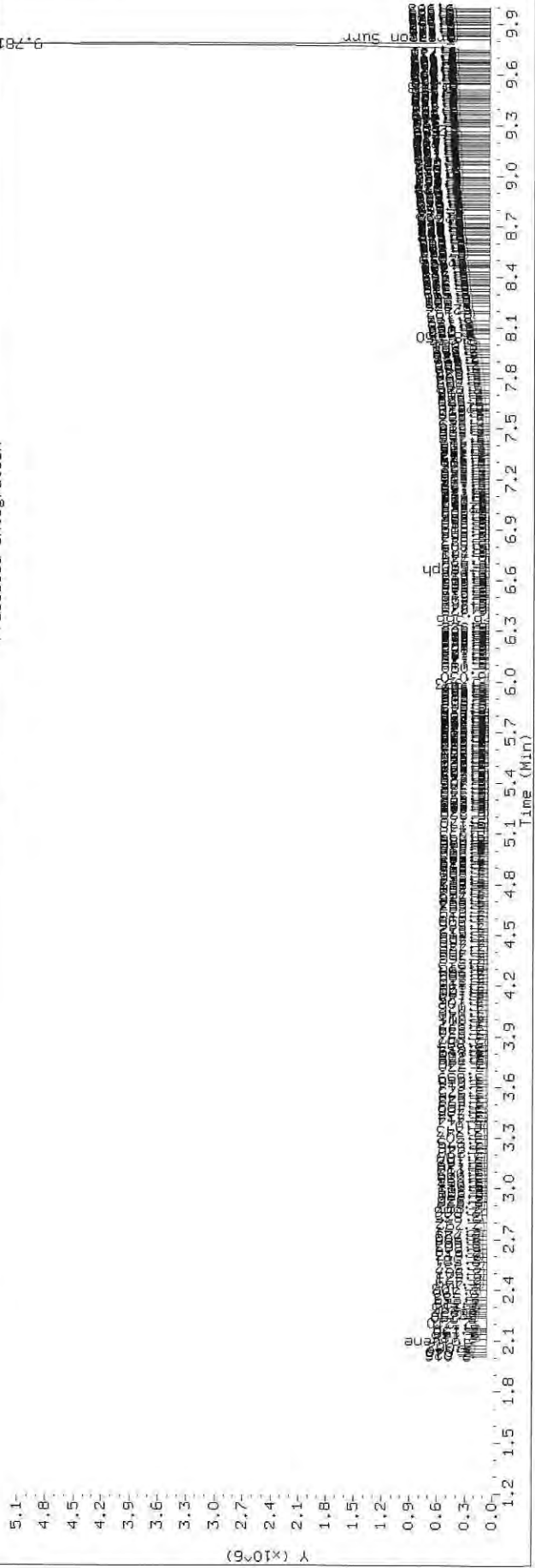


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/41902516.D Injection: 25-OCT-2019 16:53
 Lab ID: SHJ0406-CAL9

Manual Integration



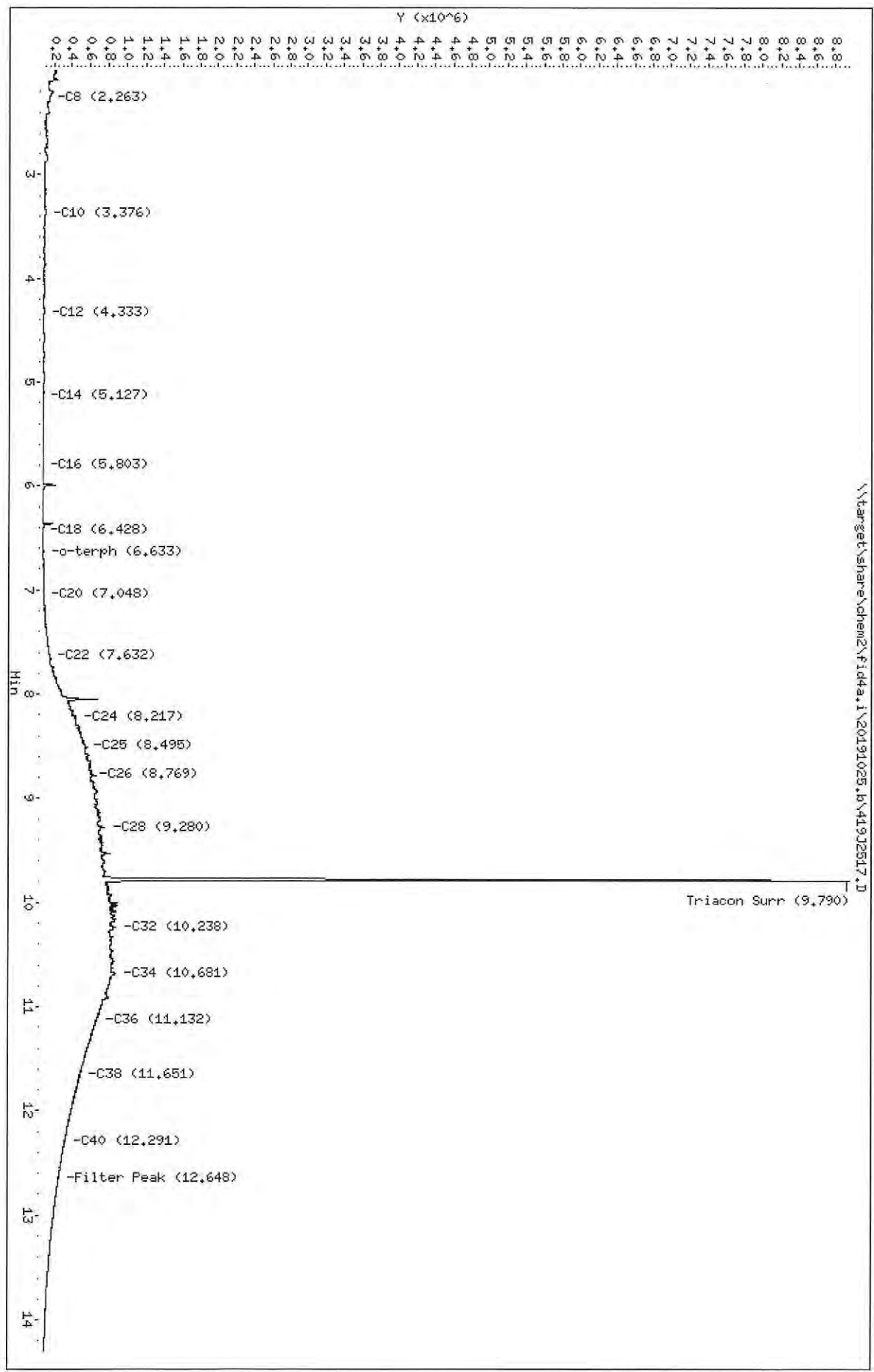
Processed Integration



Data File: \\target\share\chem2\Fid4a.I\20191025.B\419J2517.D
Date: 25-OCT-2019 17:13
Client ID:
Sample Info: SHJ0406-CALA

Column phase: RTX-1

Instrument: Fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

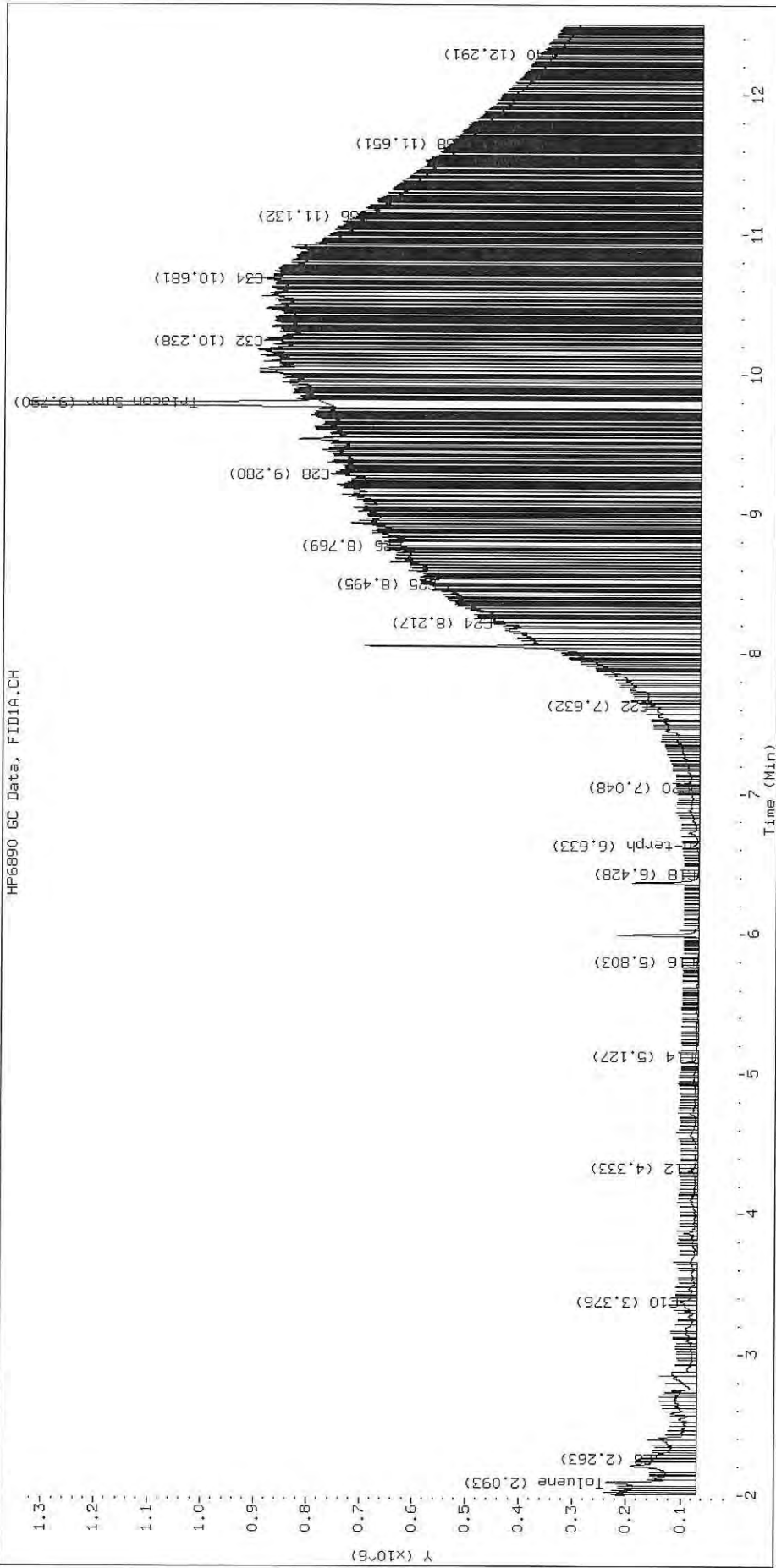
Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacotane	7927188	44.5 M

M Indicates the peak was manually integrated

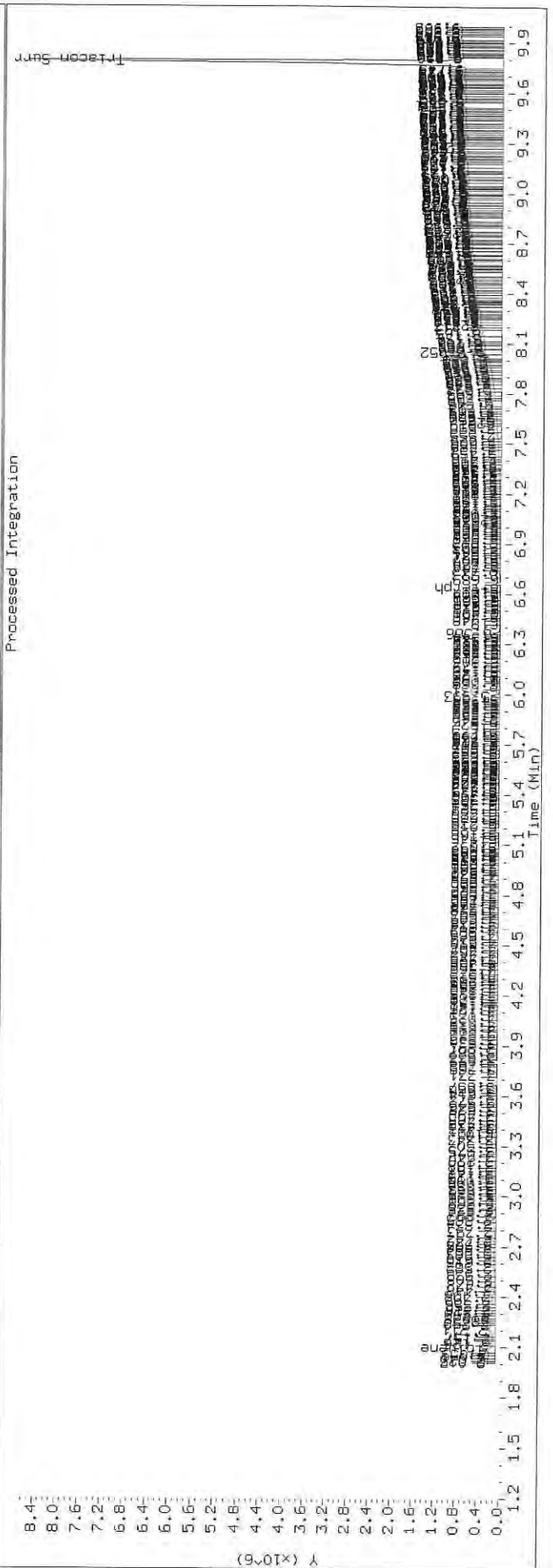
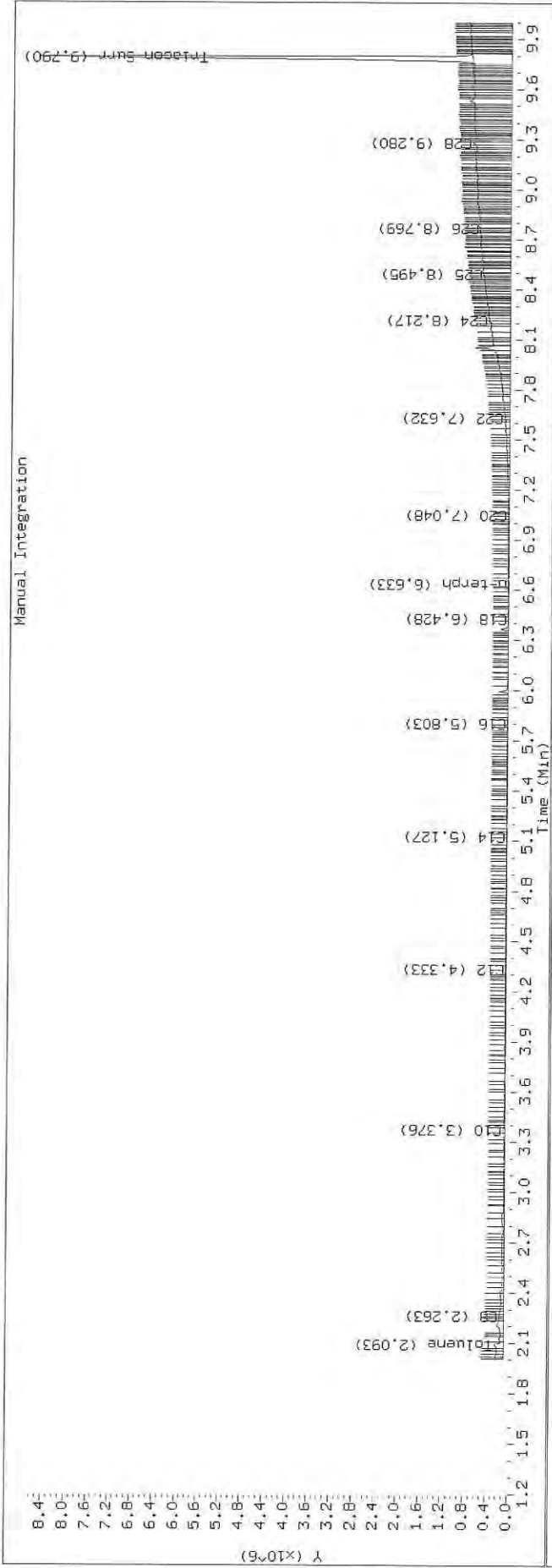
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2517.D SHJ0406-CALA

HF6890 GC Data, FID1A.CH



TPH Manual Integrations Report



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2518.D

Date: 25-OCT-2019 17:34

Client ID:

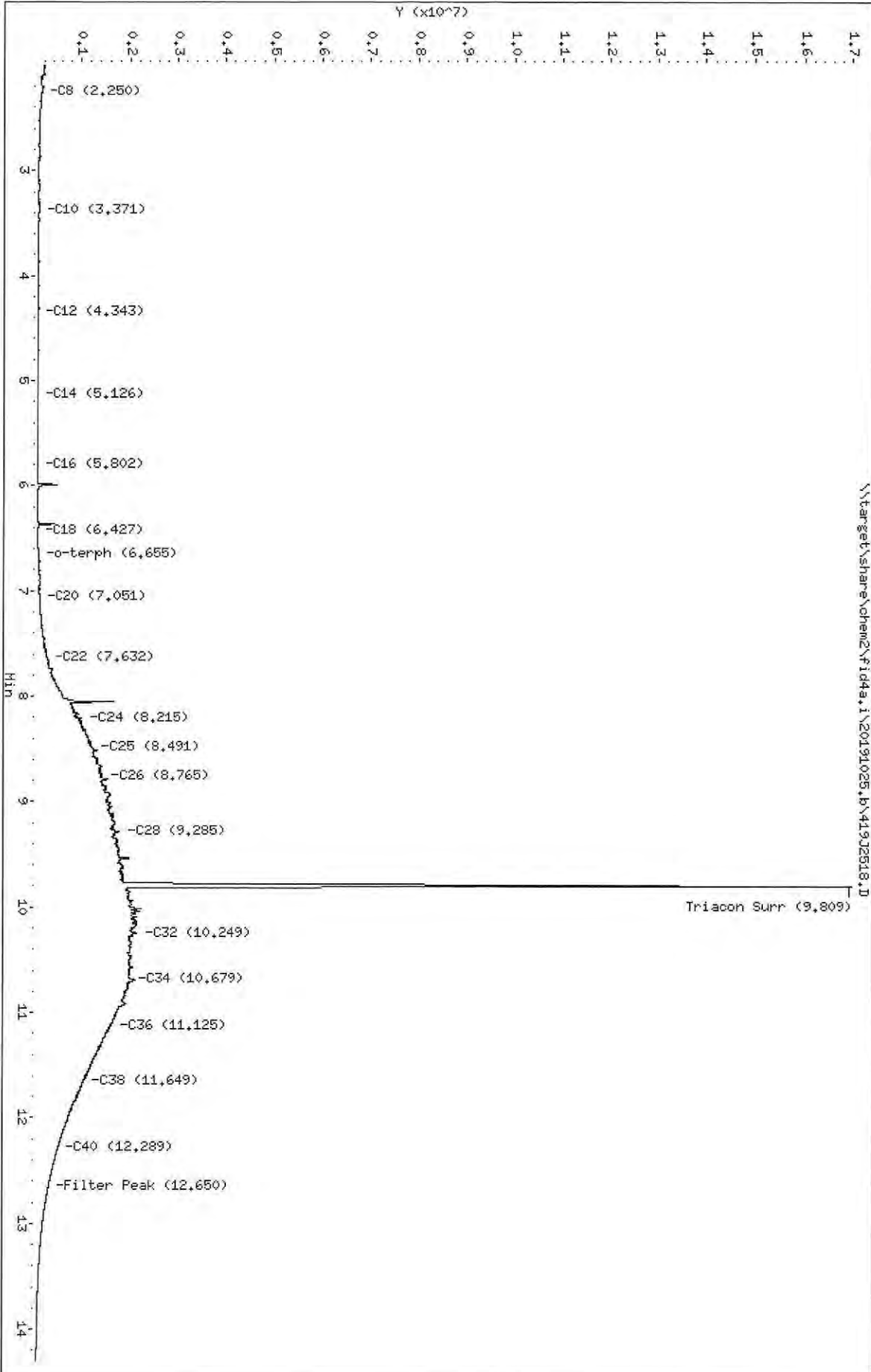
Sample Info: SHJ0406-C9LB

Column Phase: RTX-1

Instrument: fid4a.1

Operator: CTD/SH/WTS/JCR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

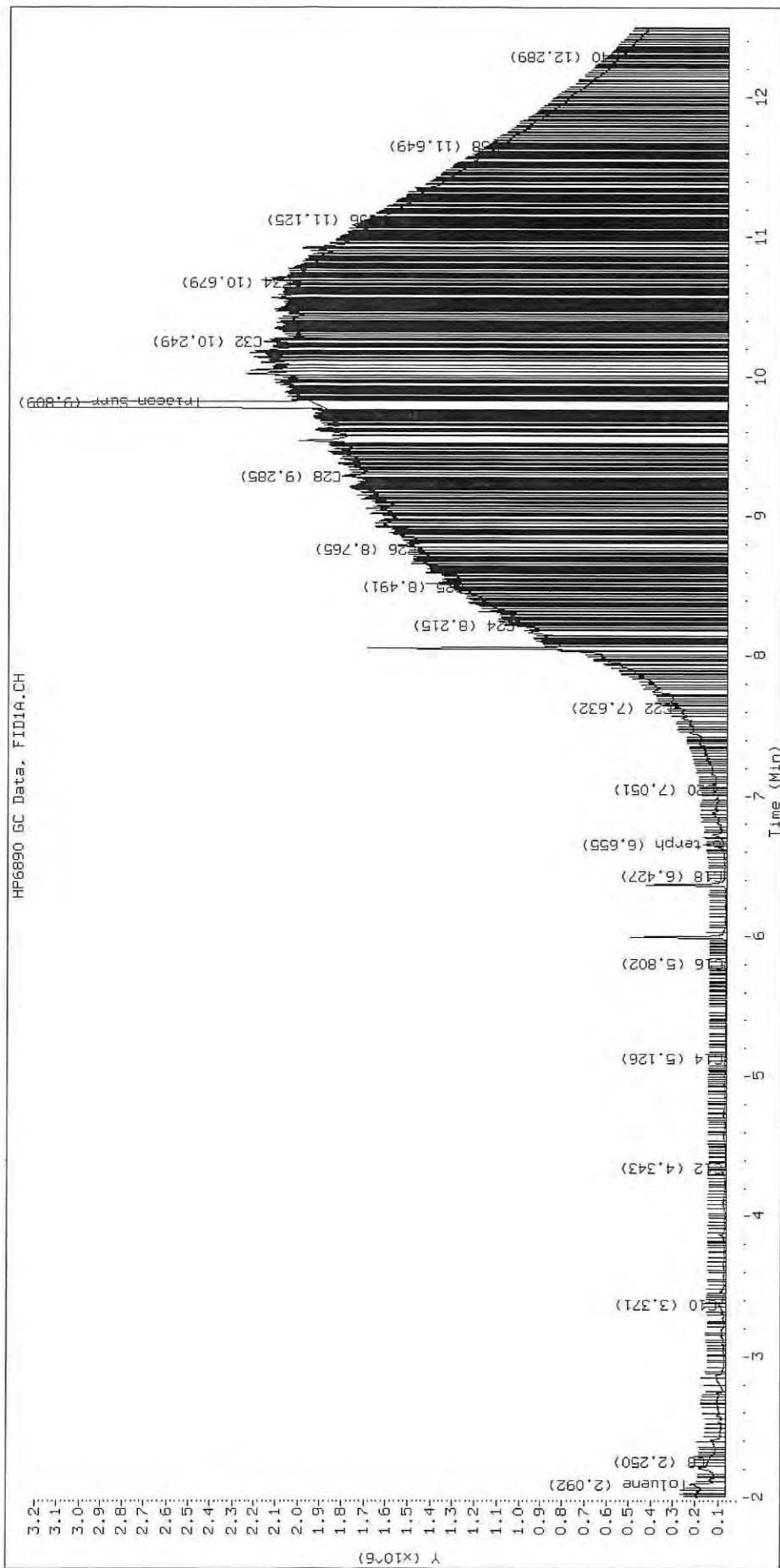
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacontane	20120024	113.0 M

M Indicates the peak was manually integrated

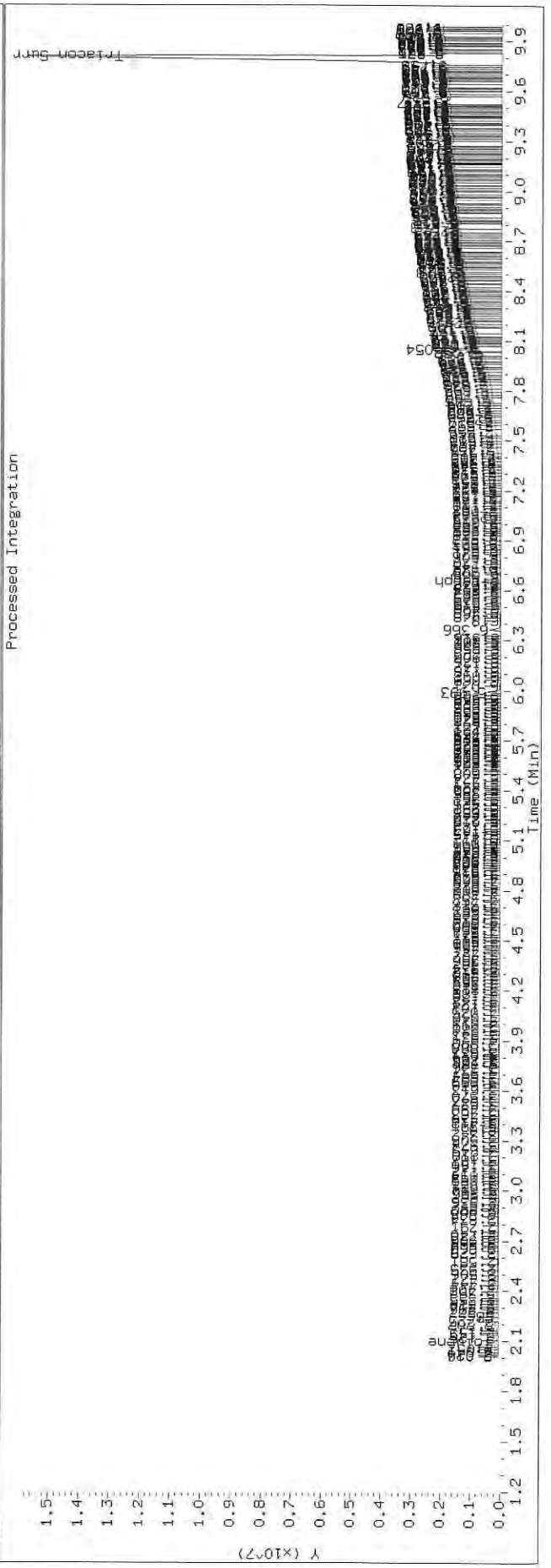
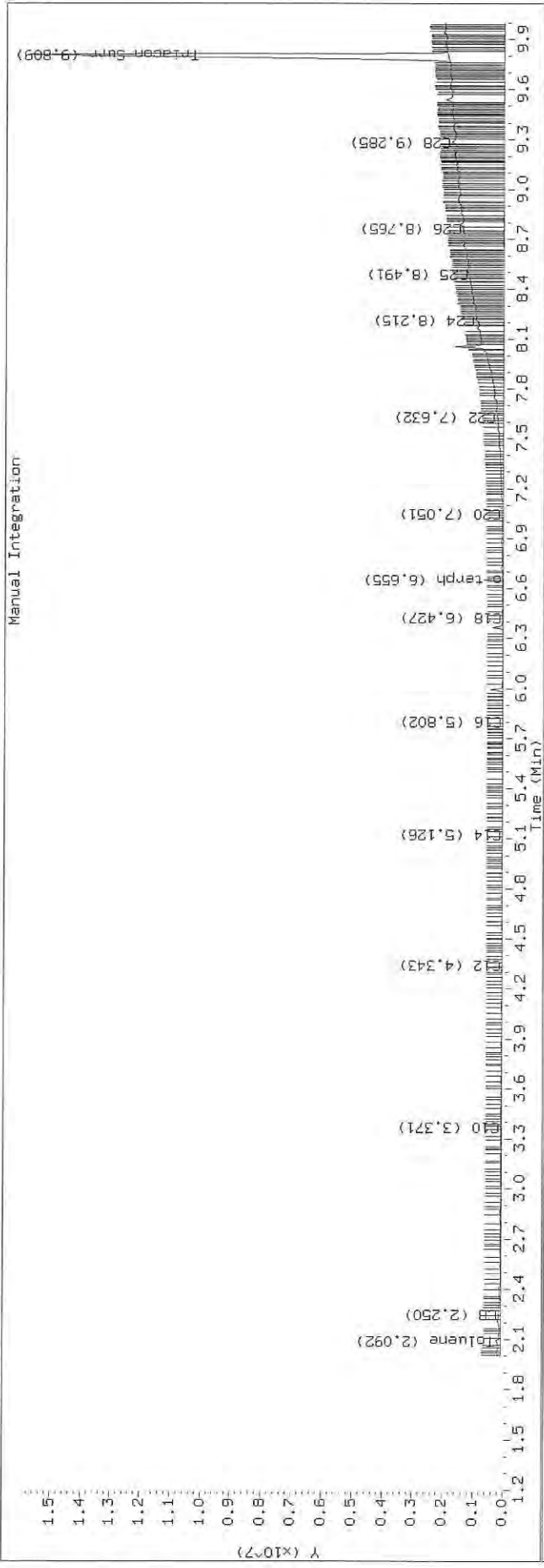
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

HP6890 GC Data, FID1A.CH



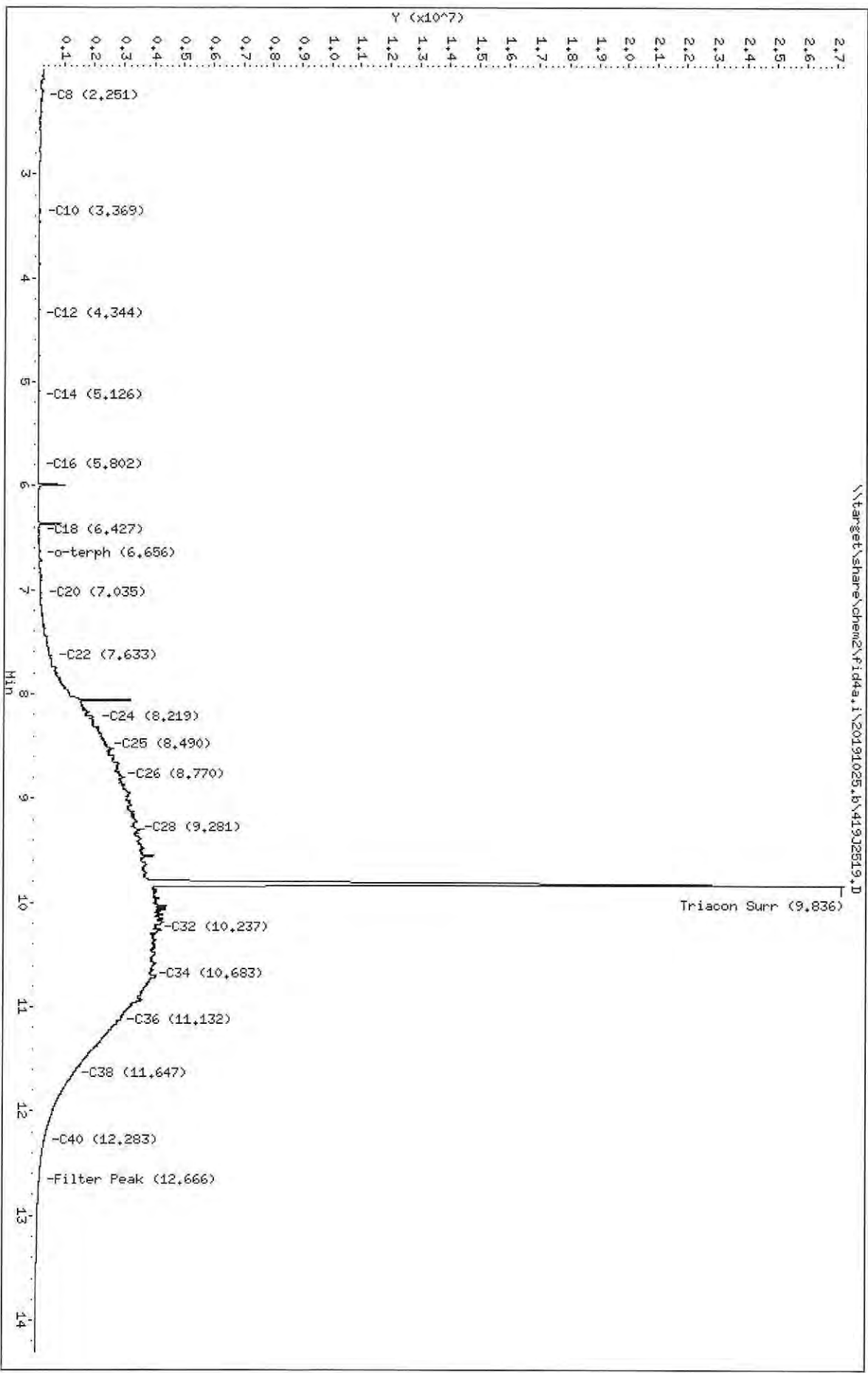
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2518.D Injection: 25-OCT-2019 17:34
 Lab ID: SHJ0406-CALB



Data File: \\target\share\chem2\fid4a.1\20191025.6\419J2519.D
Date: 25-OCT-2019 17:54
Client ID:
Sample Info: SHJ0406-CHLC

Column phase: RTX-1

Instrument: fid4a.1
Operator: CT0/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

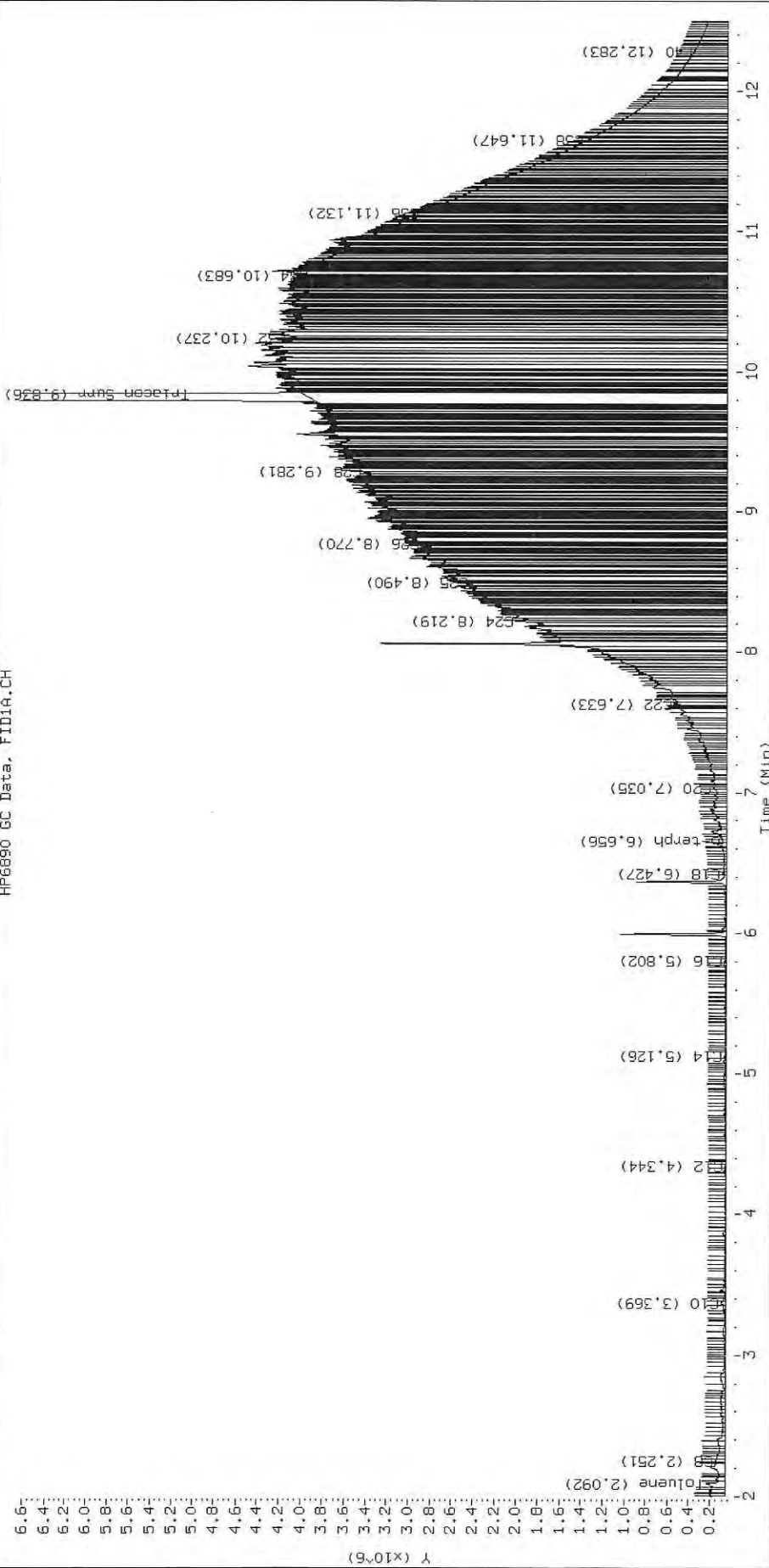
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacotane	39698048	223.0 M

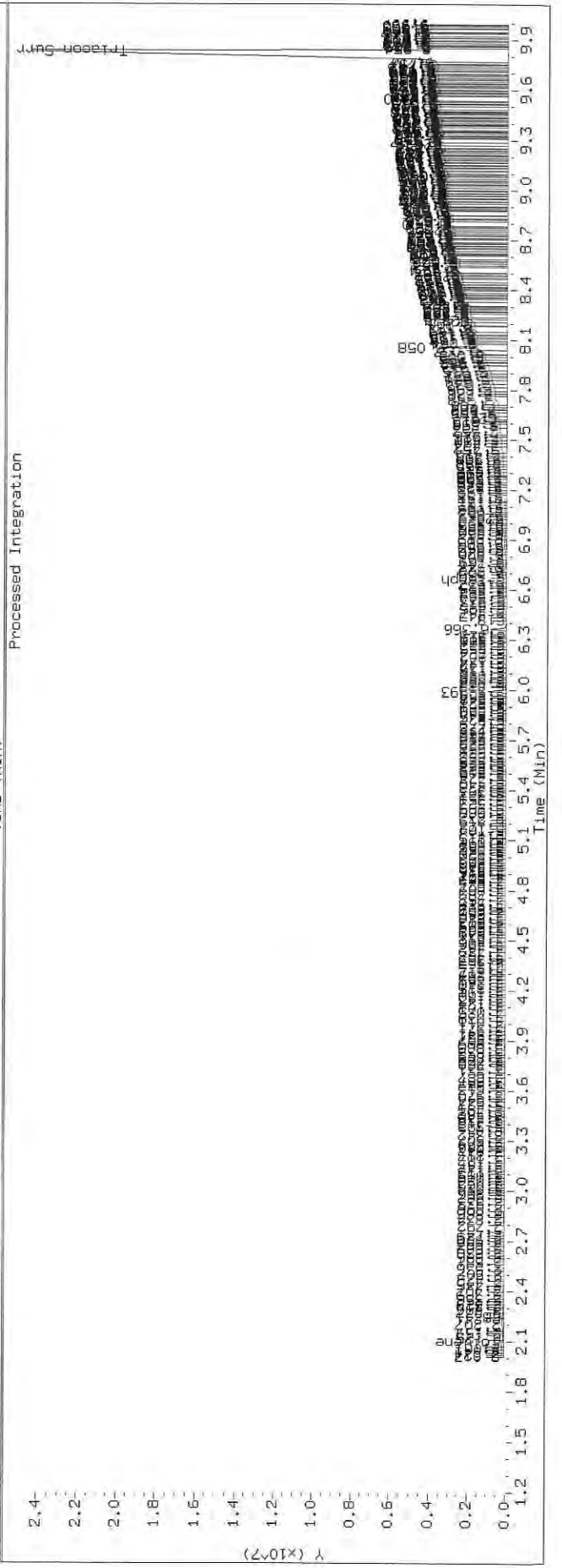
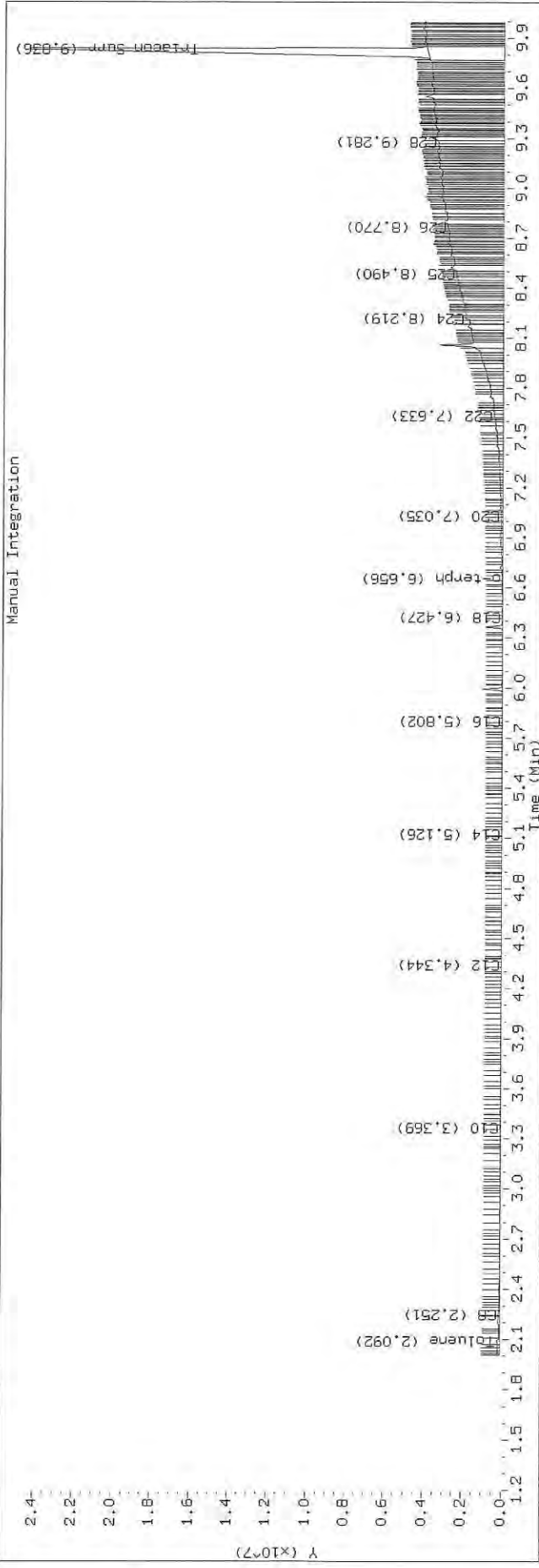
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

HP6890 GC Data, FID1A.CH



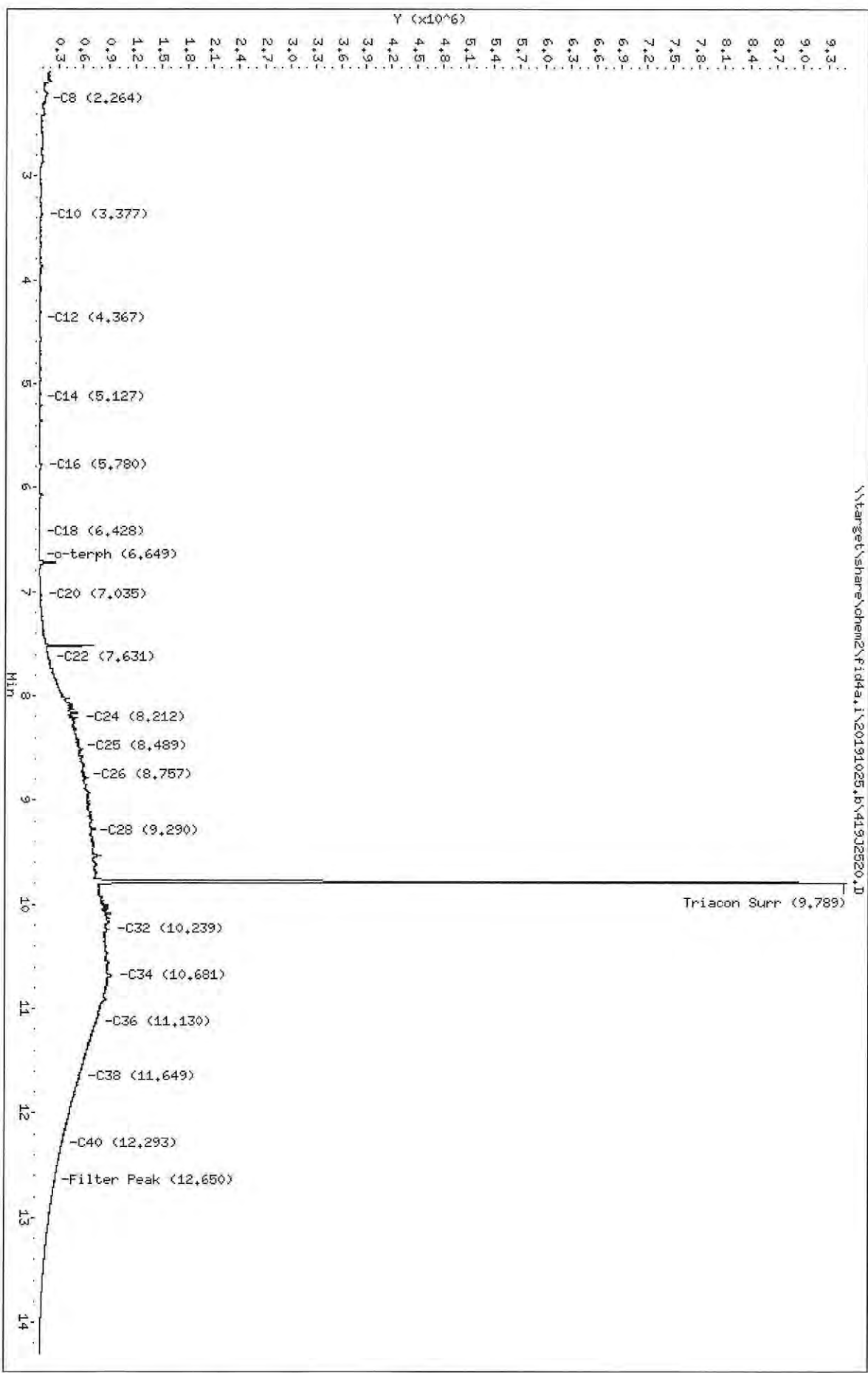


Data File: \\target\share\chem2\fid4a.1\20191025 JB\419J2520.D
Date: 25-OCT-2019 18:14
Client ID:
Sample Info: SHJ0406-SCV2

Column phase: RTX-1

Instrument: fid4a.1
Operator: CTG/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.1\20191025 JB\419J2520.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

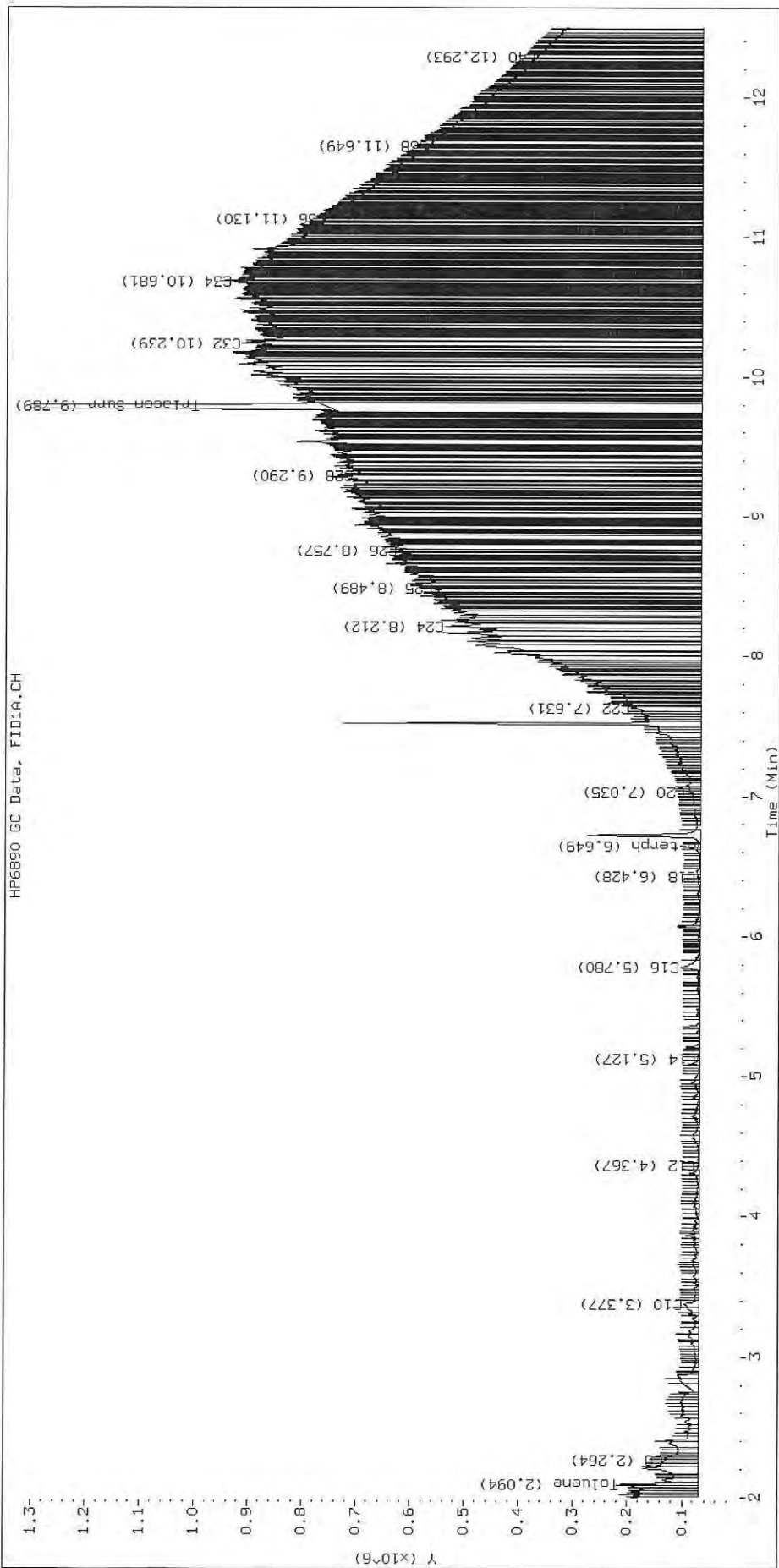
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

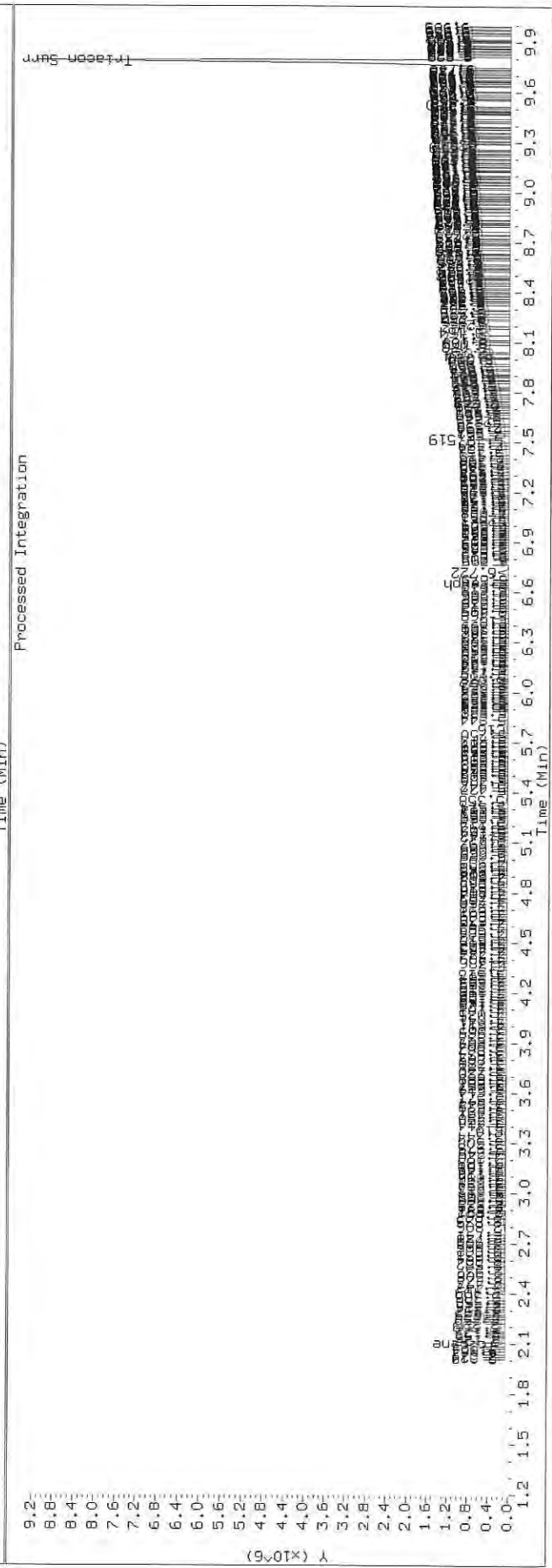
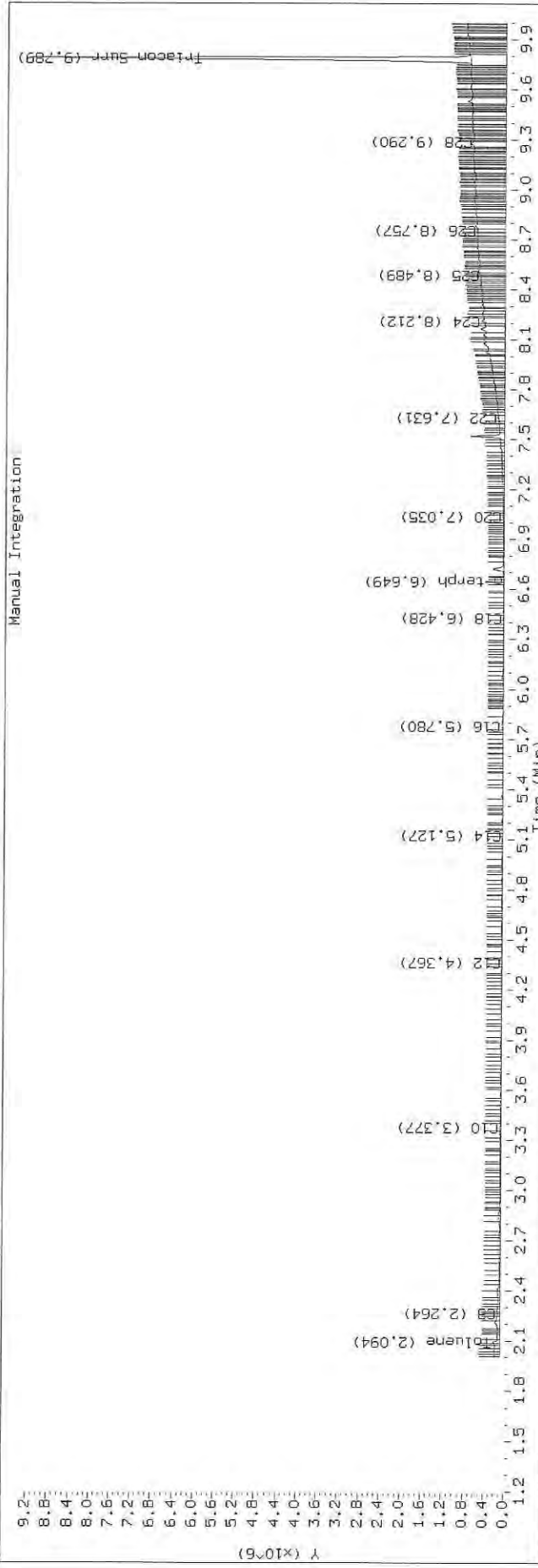
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\Fidda.i\20191025.b\41932521.D

Date: 25-OCT-2019 18:36

Client ID:

Sample Info: SH00406-CALD

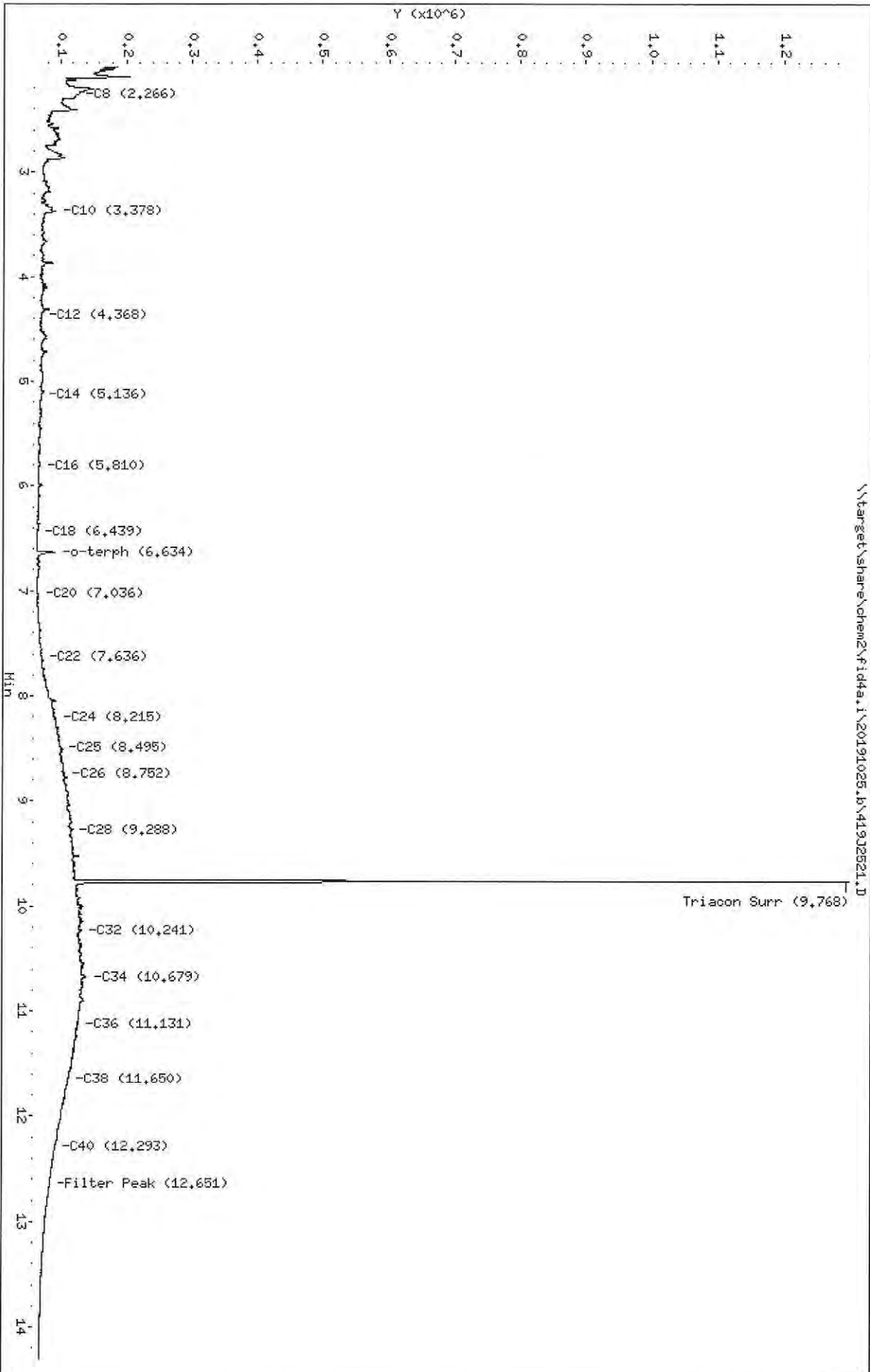
Column phase: RTX-1

Instrument: fidda.i

Operator: CTG/SH/VTS/JGR

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

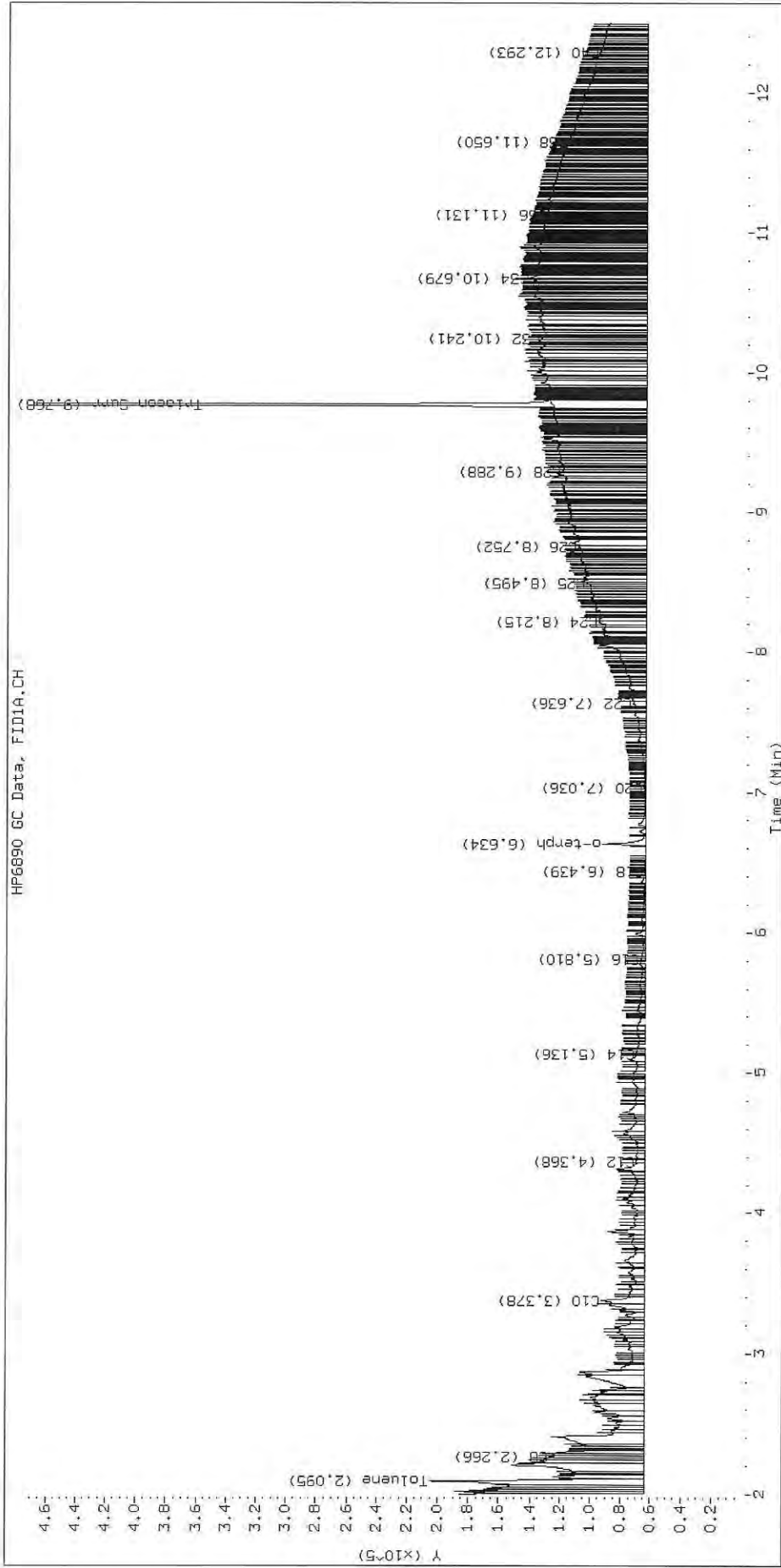
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacontane	818277	4.6 M

M Indicates the peak was manually integrated

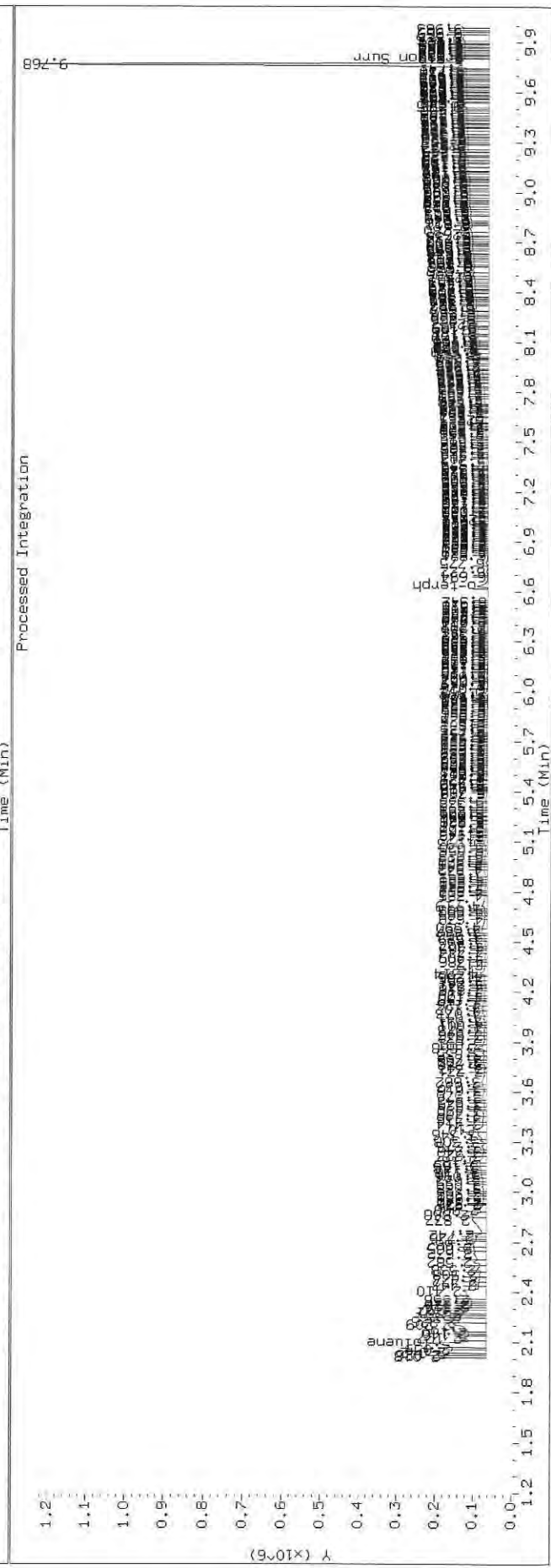
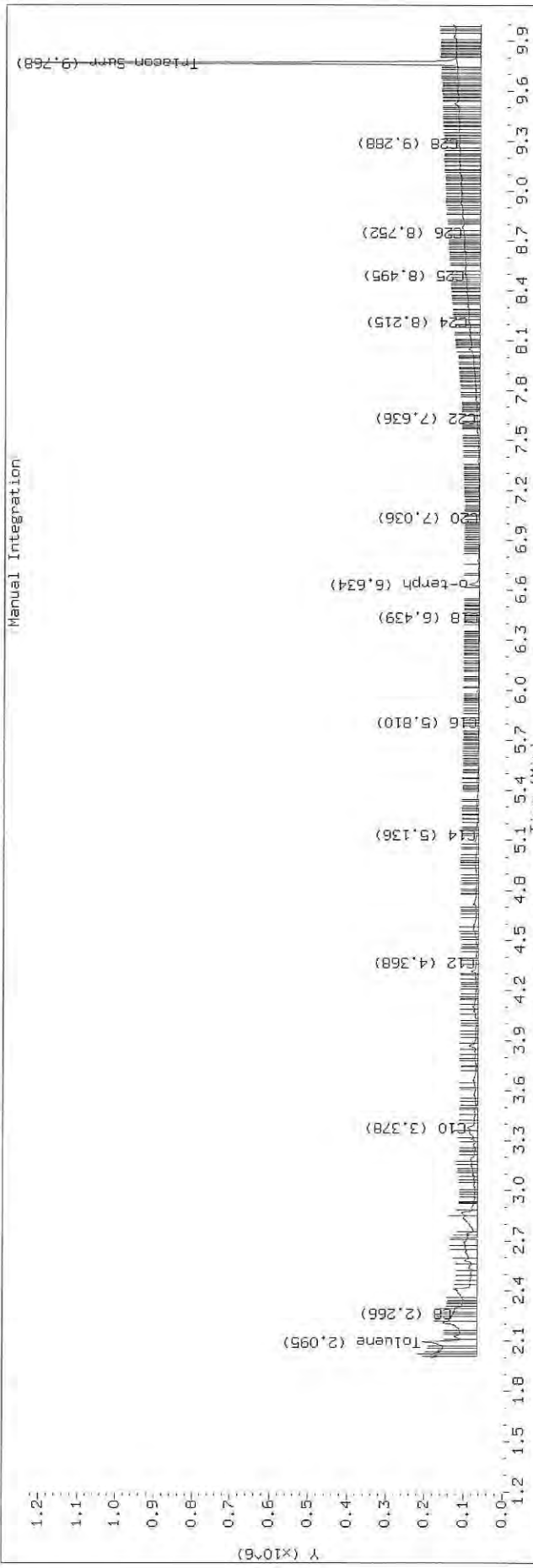
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2521.D SHJ0406-CALD

HP6890 GC Data, FID1A.CH



Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD



Data File: \\target\share\chem2\Fid4a.I\20191025.B\41932522.D

Date: 25-OCT-2019 18:55

Client ID:

Sample Info: SHJ0406-CALC

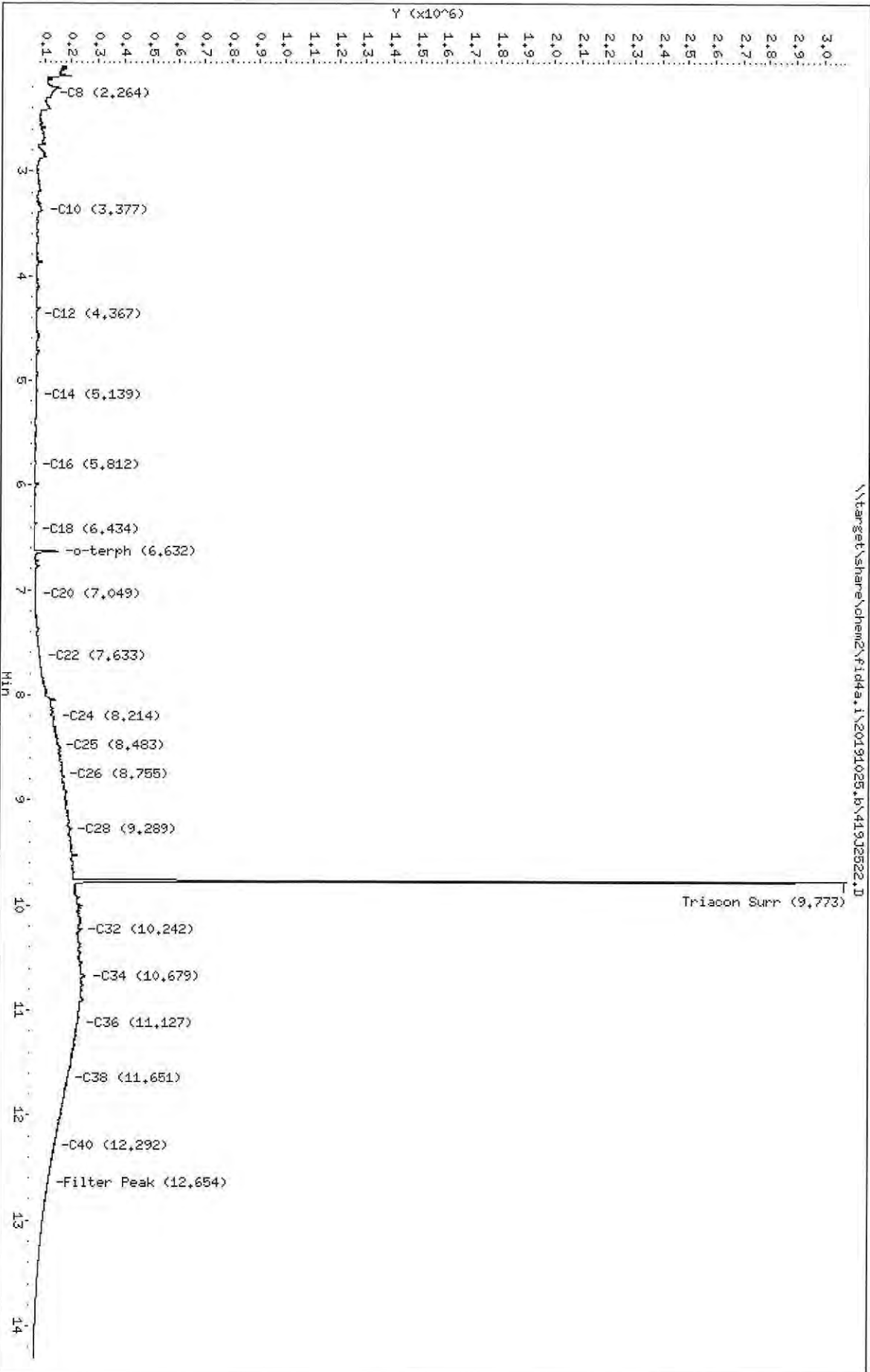
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

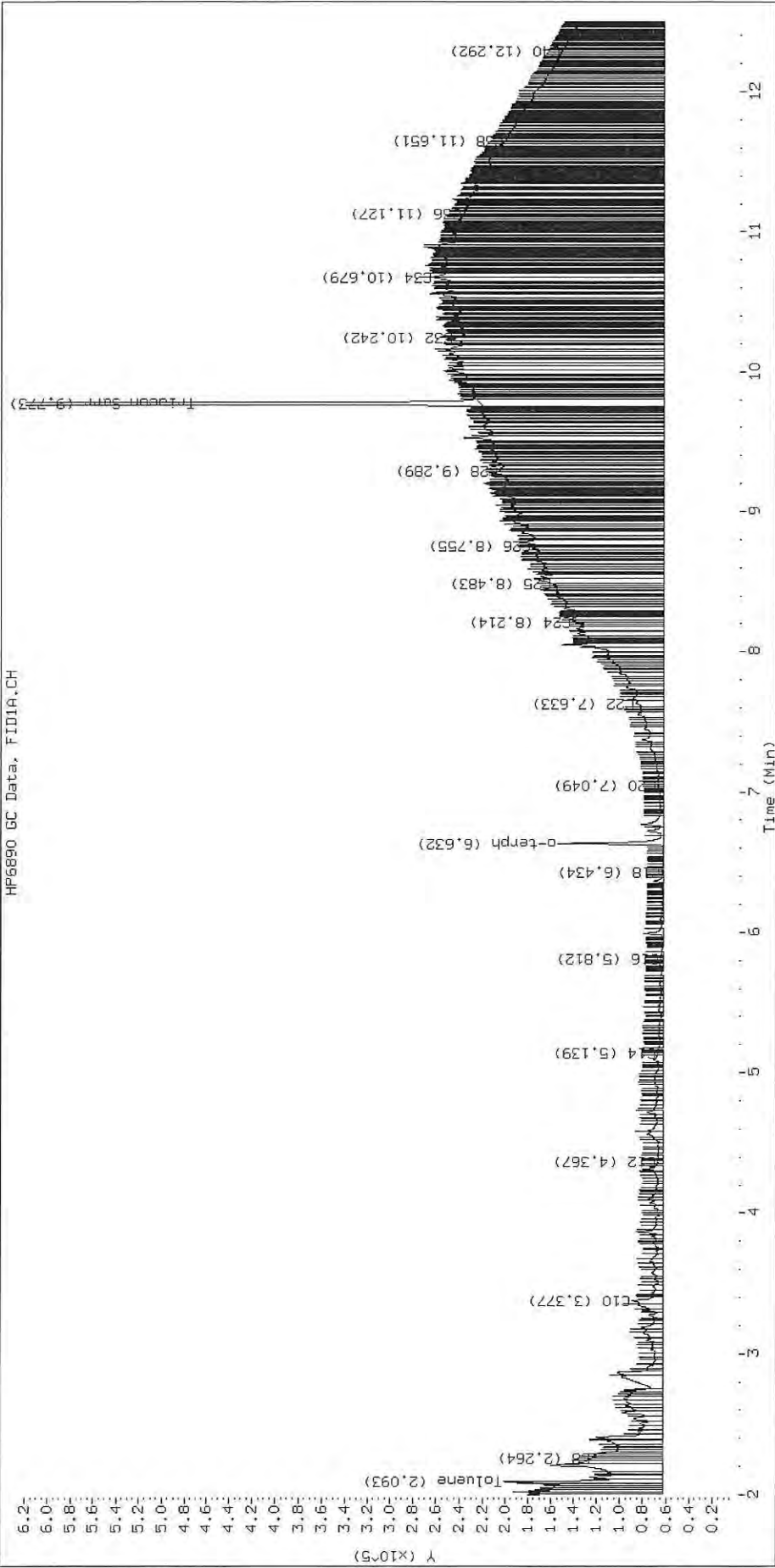
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacontane	2058184	11.6 M

M Indicates the peak was manually integrated

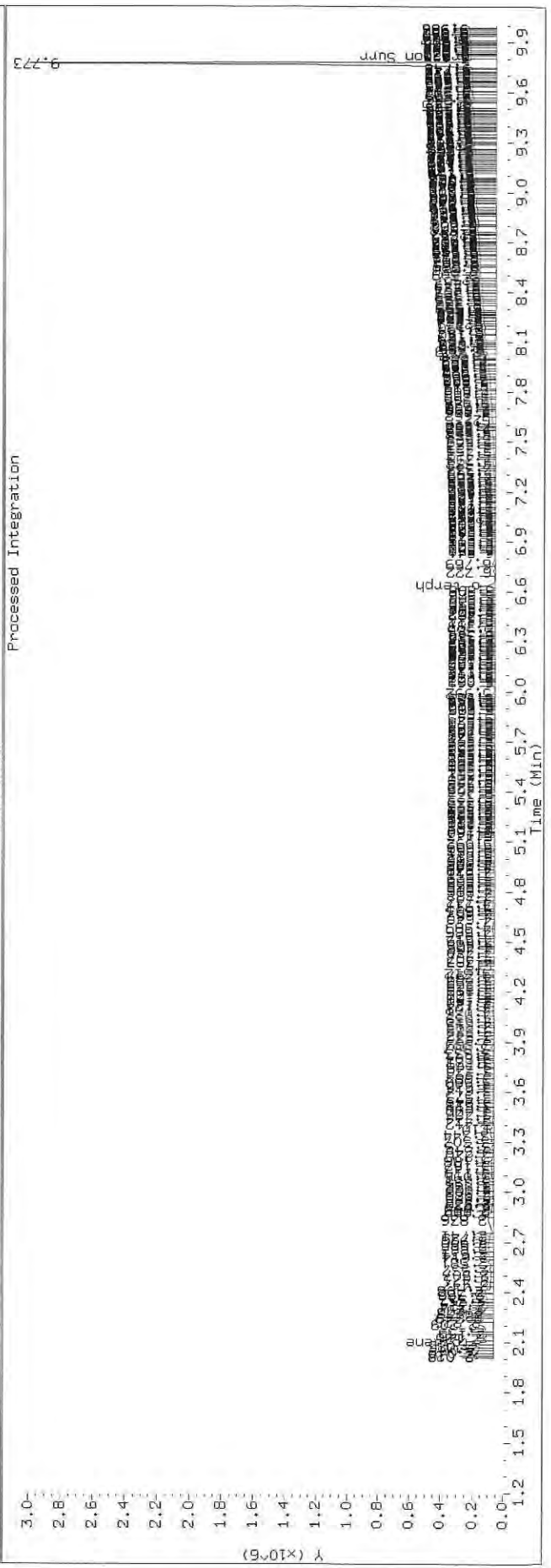
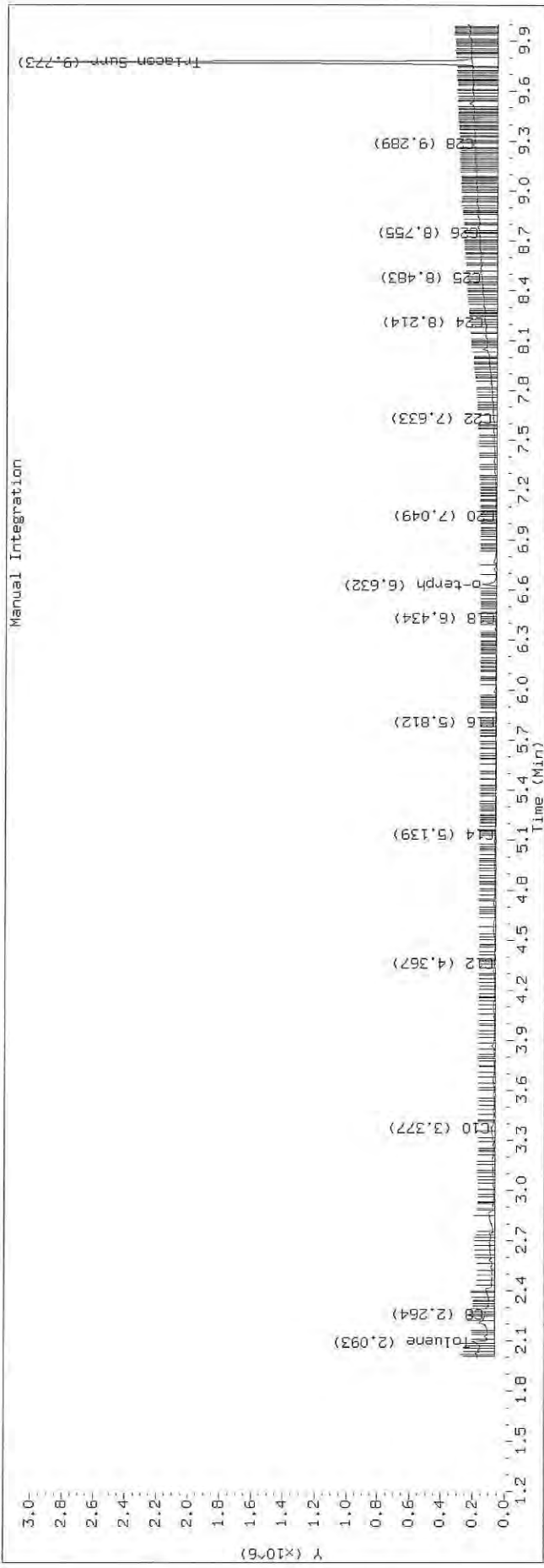
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

HF6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2522.D Injection: 25-OCT-2019 18:55
 Lab ID: SHJ0406-CALE



Data File: \\target\share\chem2\Fidda.I\20191025.B\41932623.D

Date: 25-OCT-2019 13:15

Client ID:

Sample Info: SHJ0406-CALF

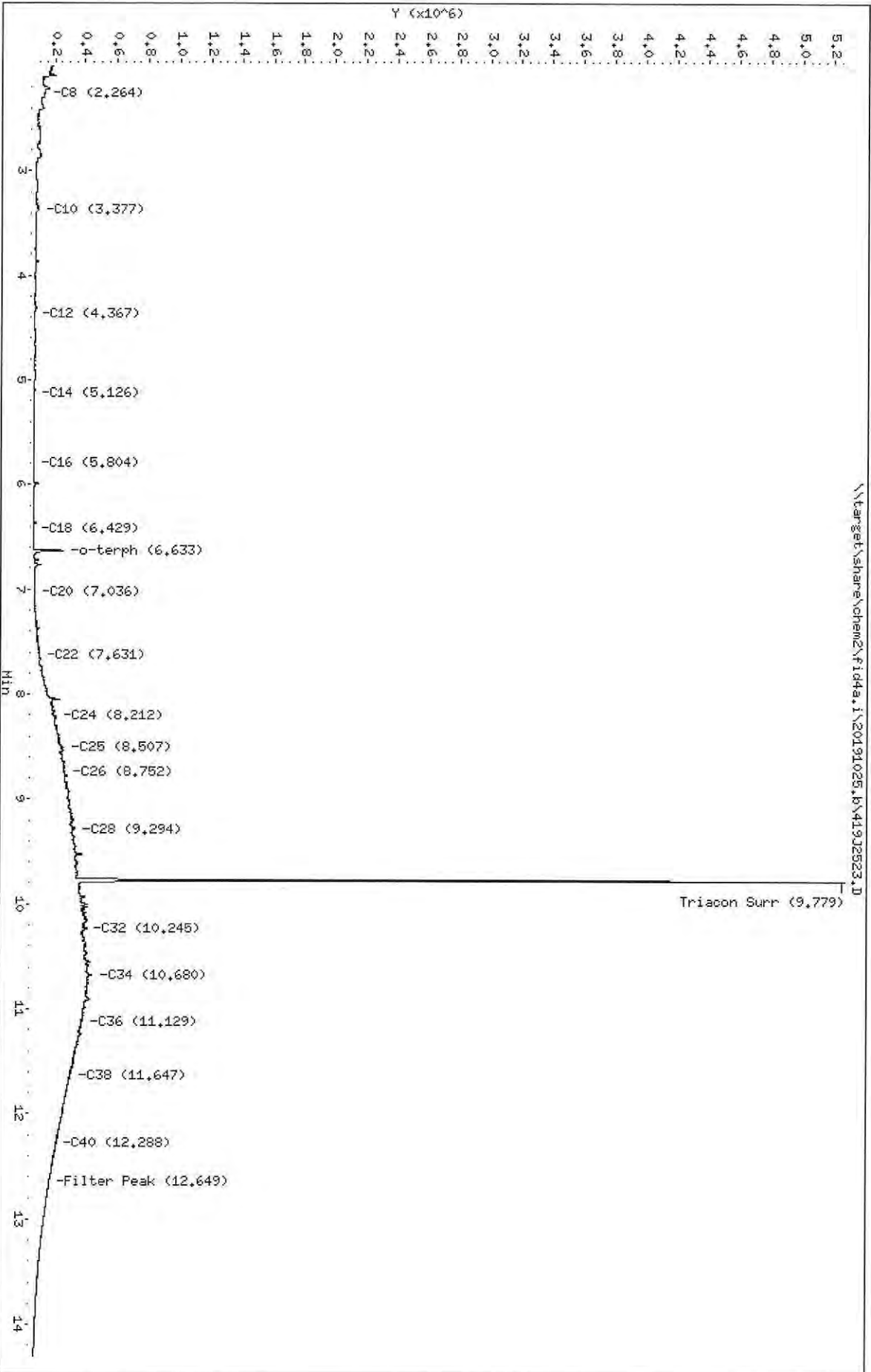
Column phase: RTX-1

Instrument: fidda.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

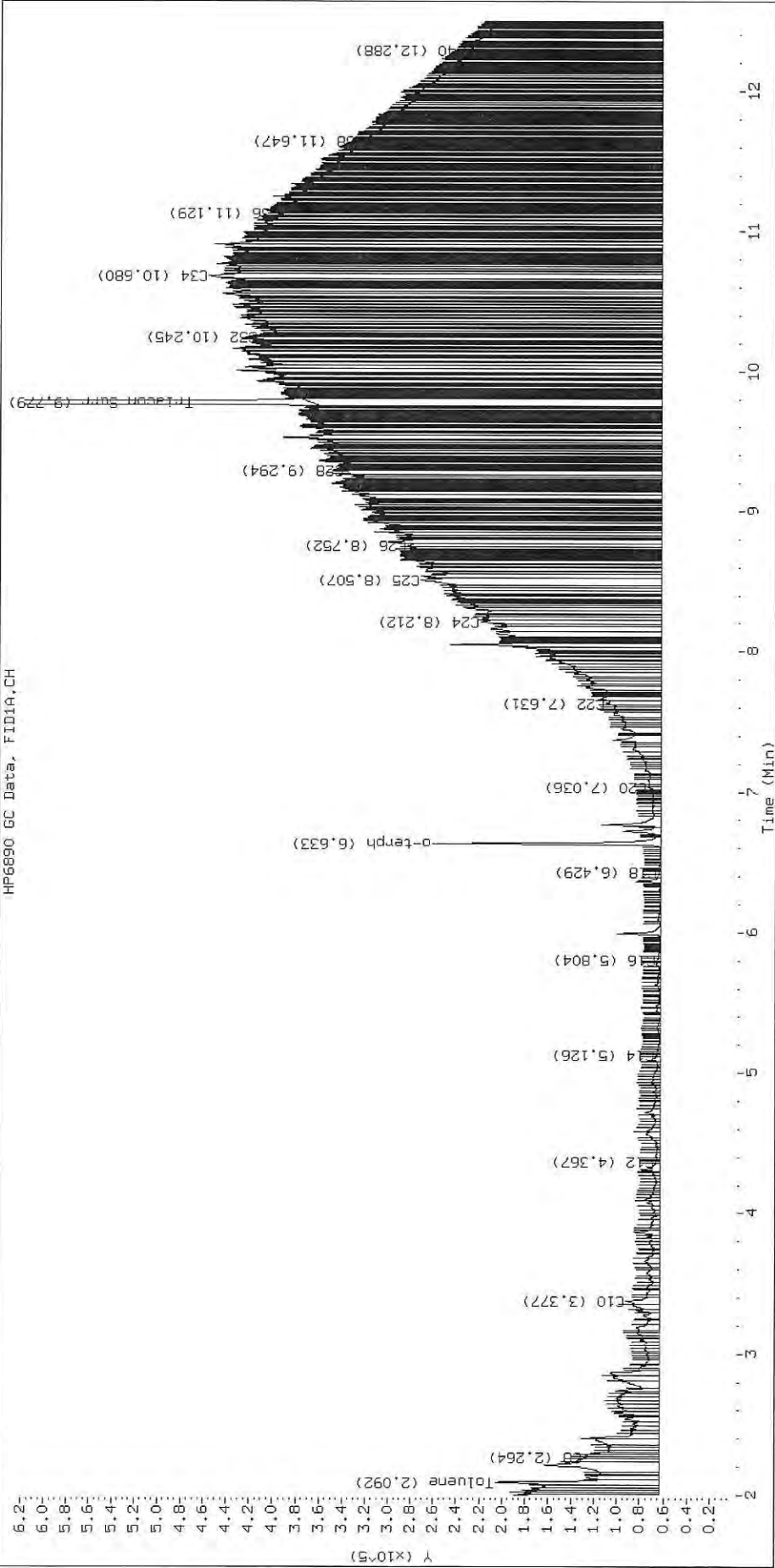
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacotane	3941895	22.1 M

M Indicates the peak was manually integrated

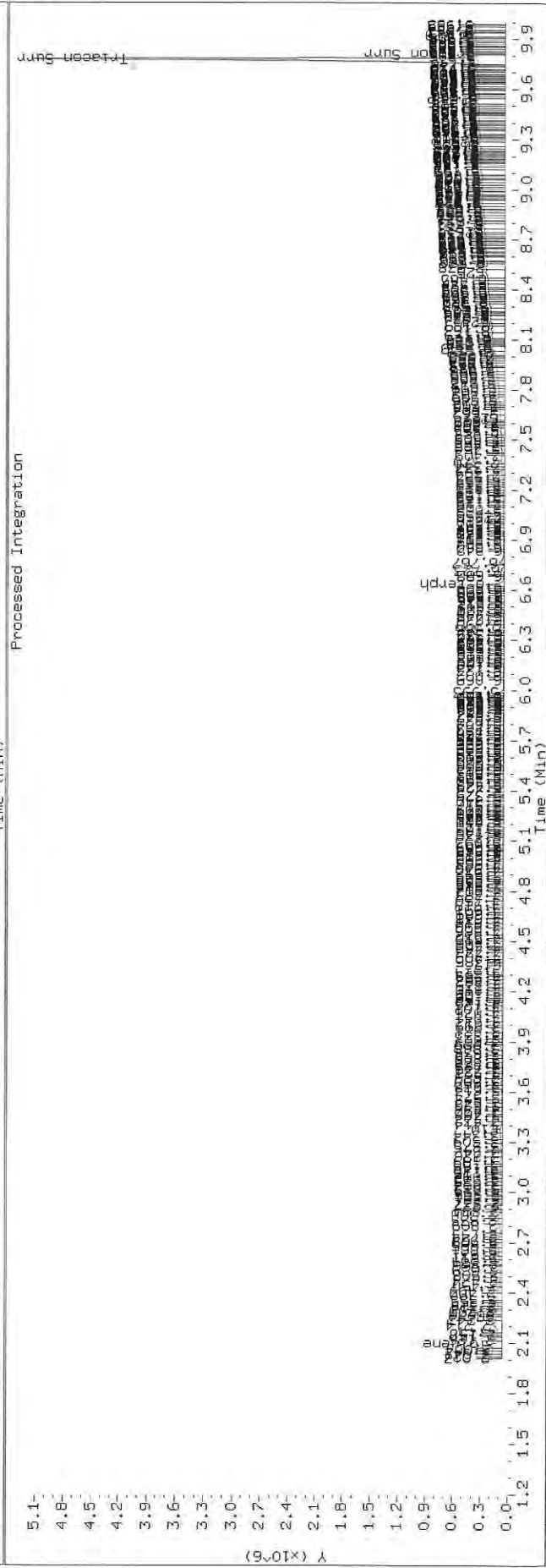
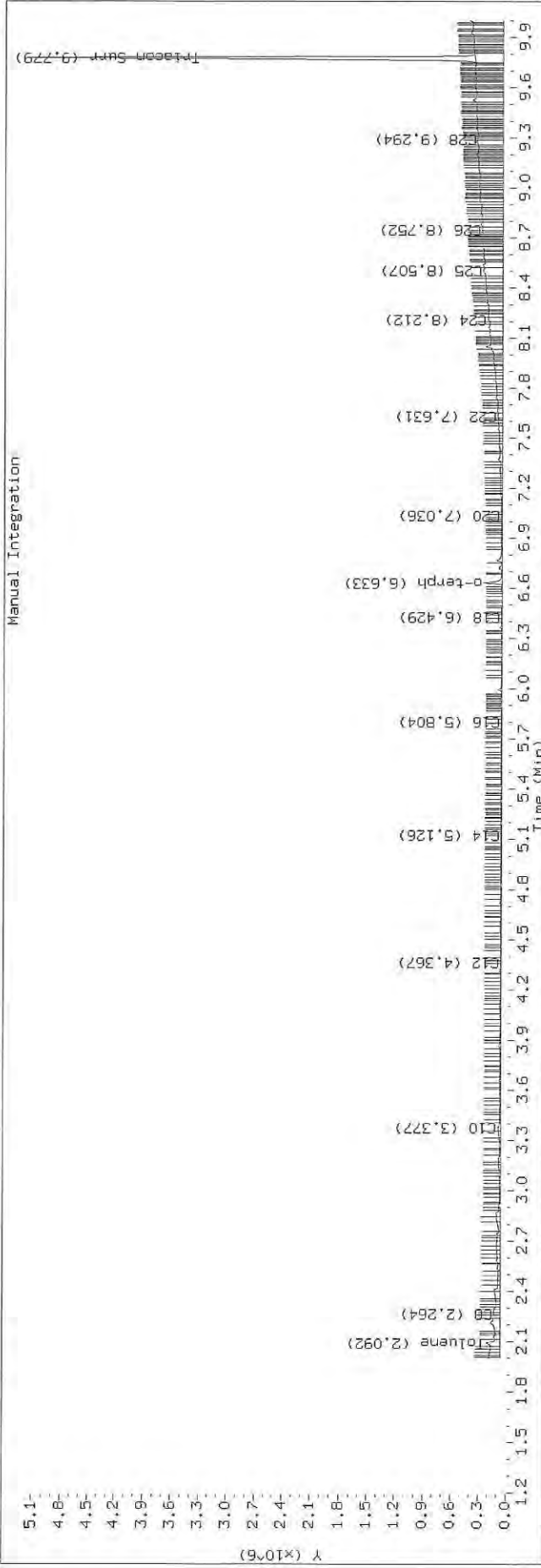
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF

HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2523.D Injection: 25-OCT-2019 19:15
 Lab ID: SHJ0406-CALF



Data File: \\target\share\chem2\Fid4a.i\20191025.b\41932824.D

Date: 25-OCT-2019 19:34

Client ID:

Sample Info: SH00406-CALG

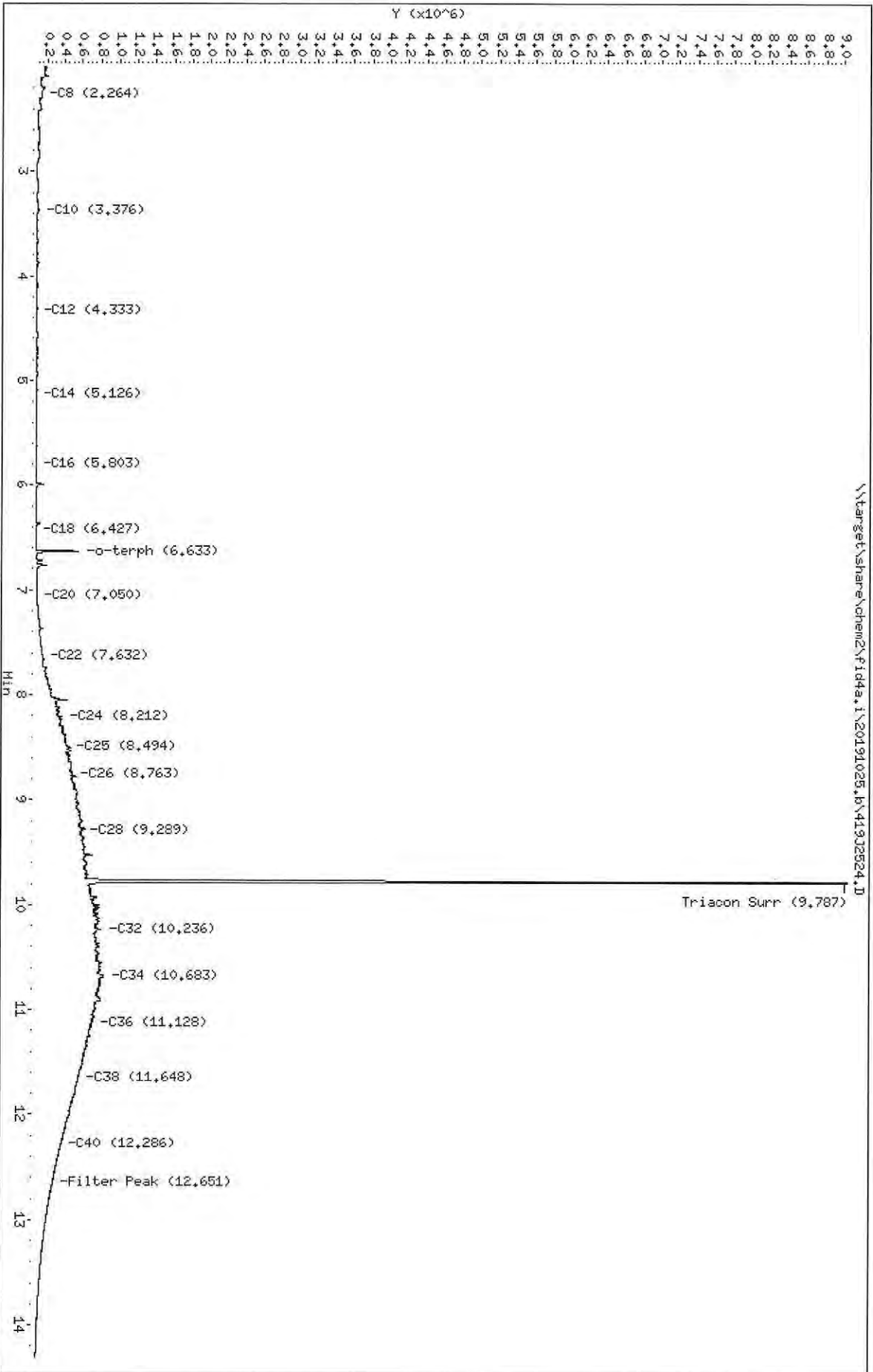
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

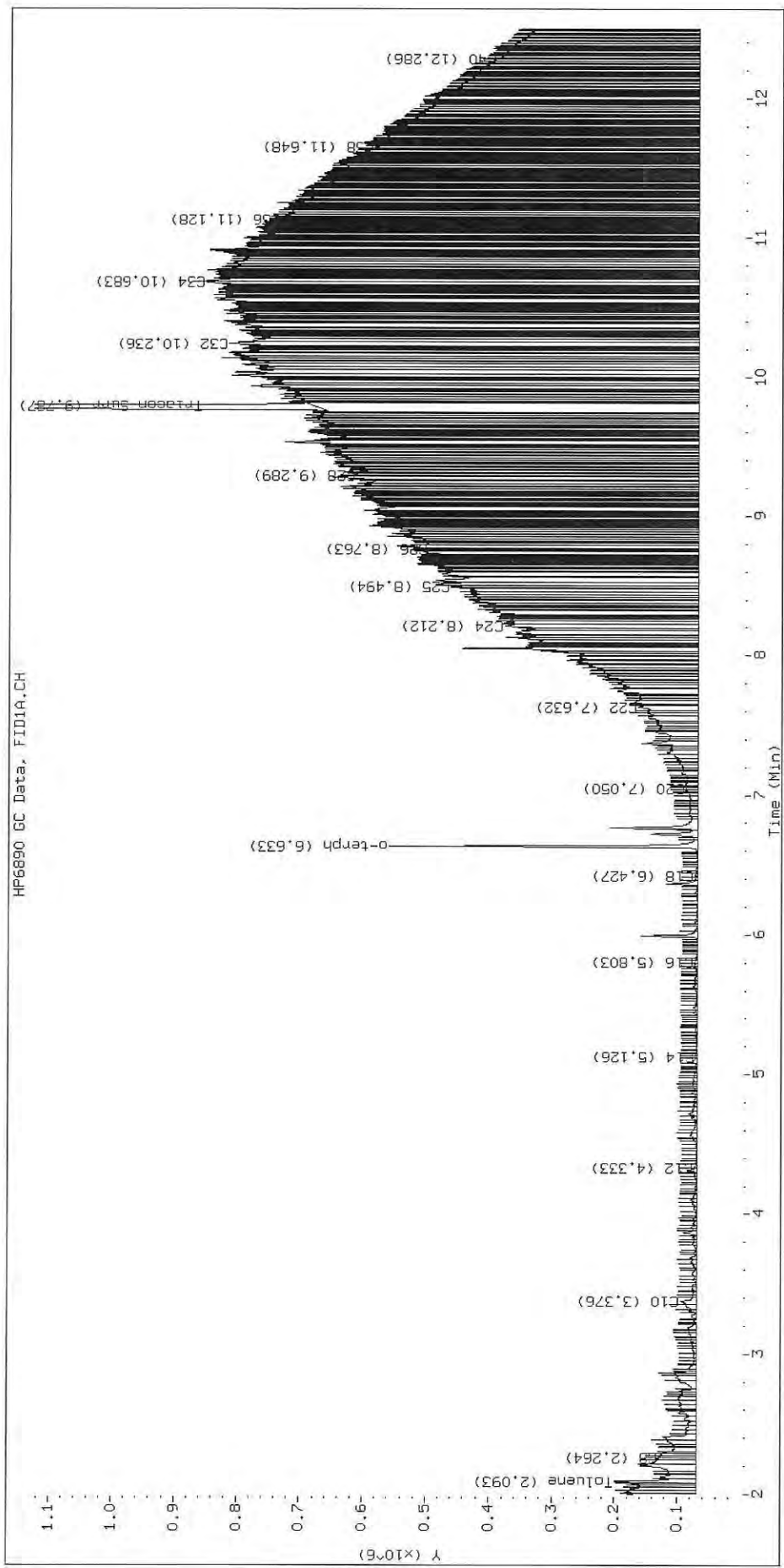
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacotane	7933666	44.6 M

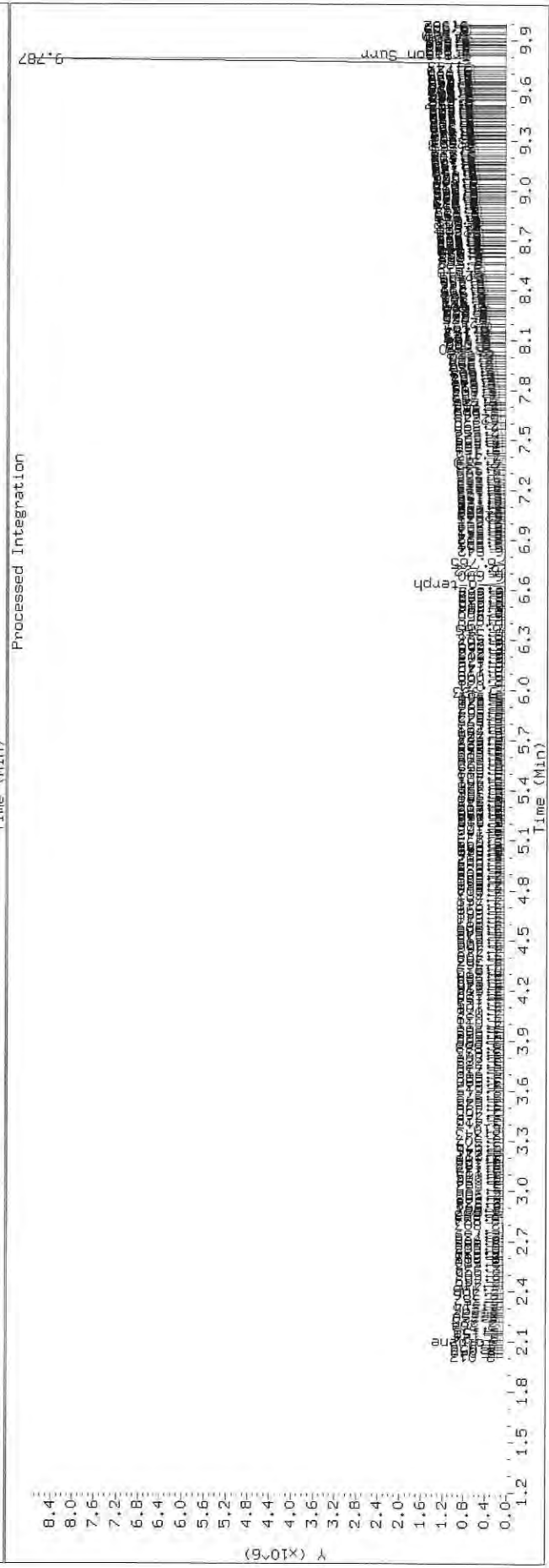
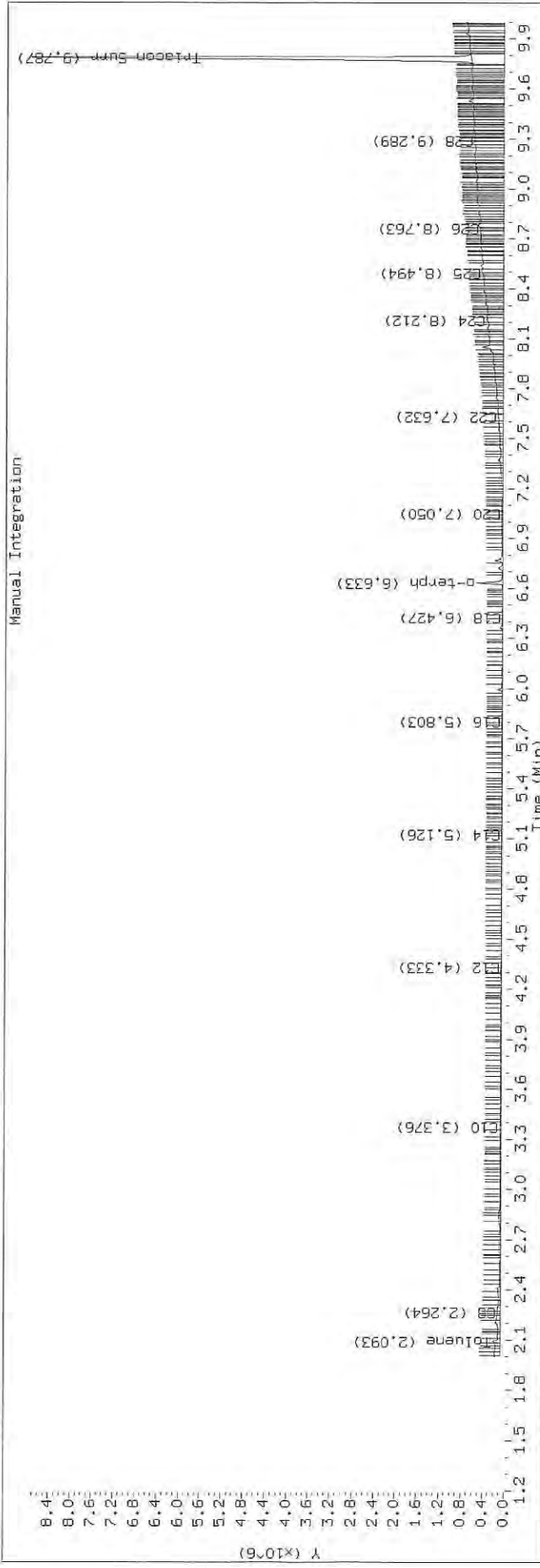
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\Fid4a.i\20191025_b\419J2525.D

Date: 25-OCT-2019 19:54

Client ID:

Sample Info: SH30406-CLLH

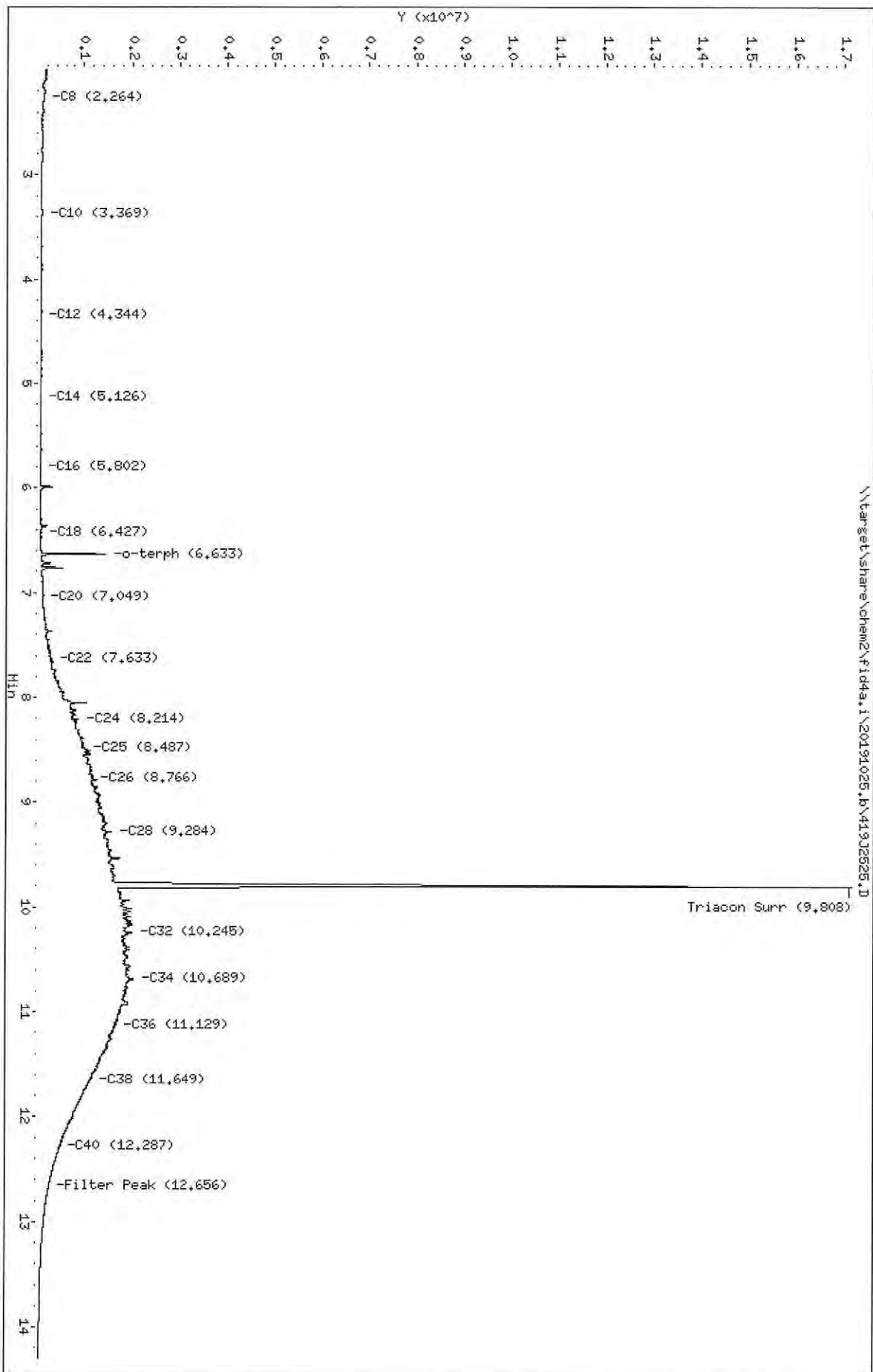
Column phase: RTX-1

Instrument: fid4a.i

Operator: CTD/SH/VTS/JGR

Column diameter: 0.25

\\target\share\chem2\Fid4a.i\20191025_b\419J2525.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

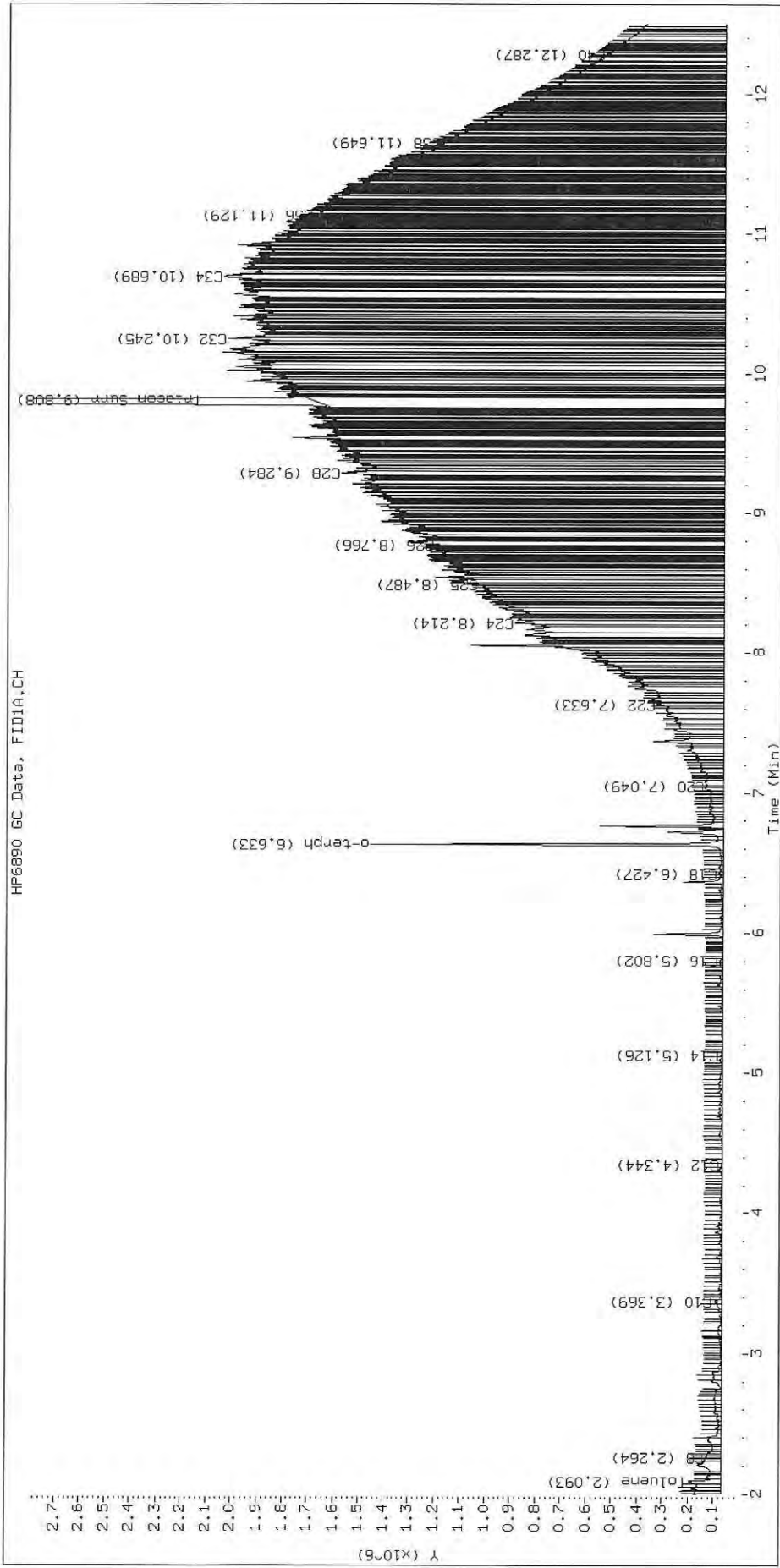
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacontane	20436973	114.8 M

M Indicates the peak was manually integrated

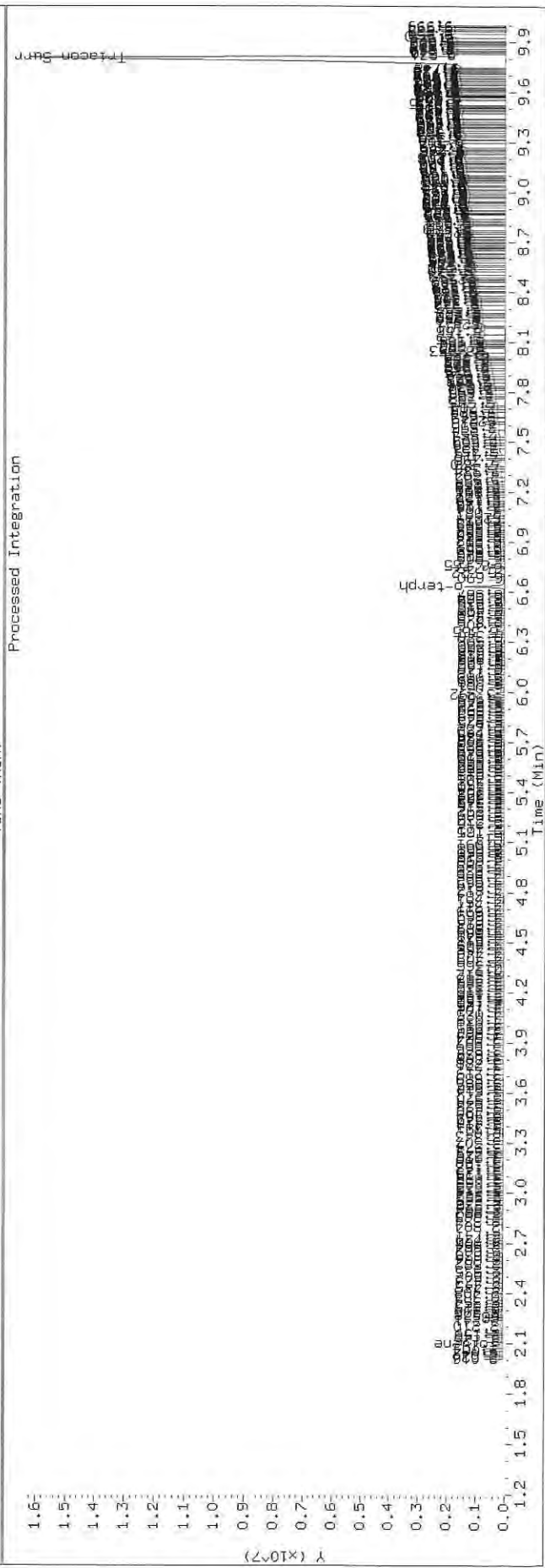
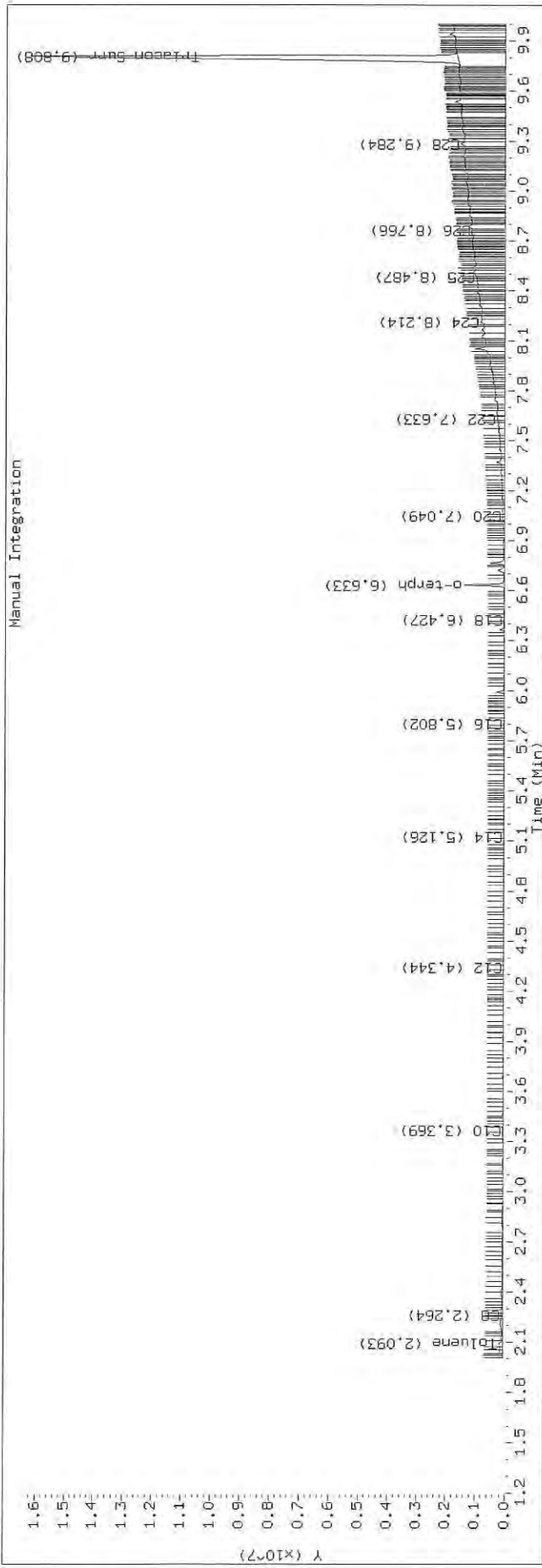
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



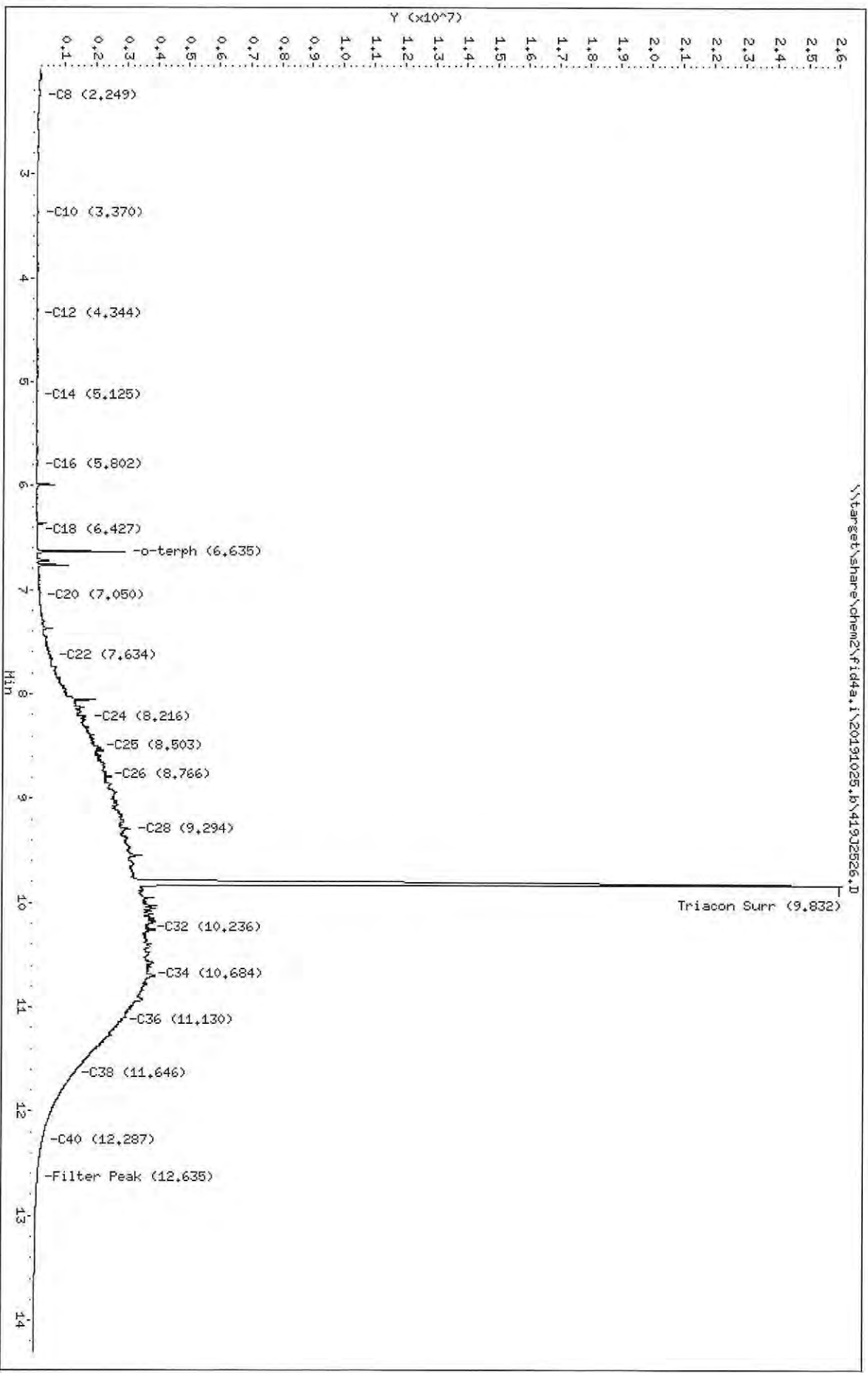
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2525.D Injection: 25-OCT-2019 19:54
 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932526.D
Date : 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column Phase: RTX-1

Instrument: fid4a.1
Operator: CTD/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

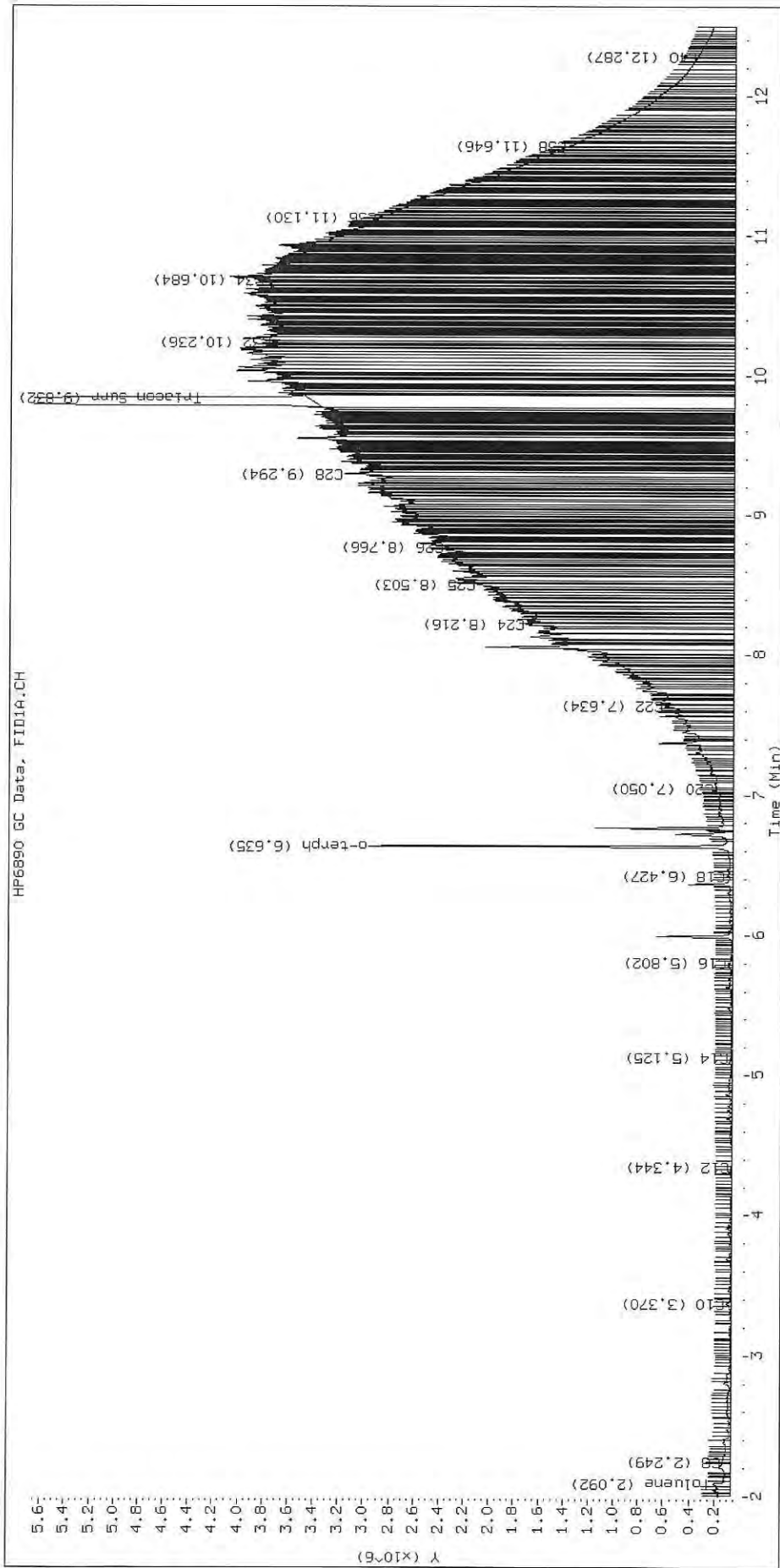
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

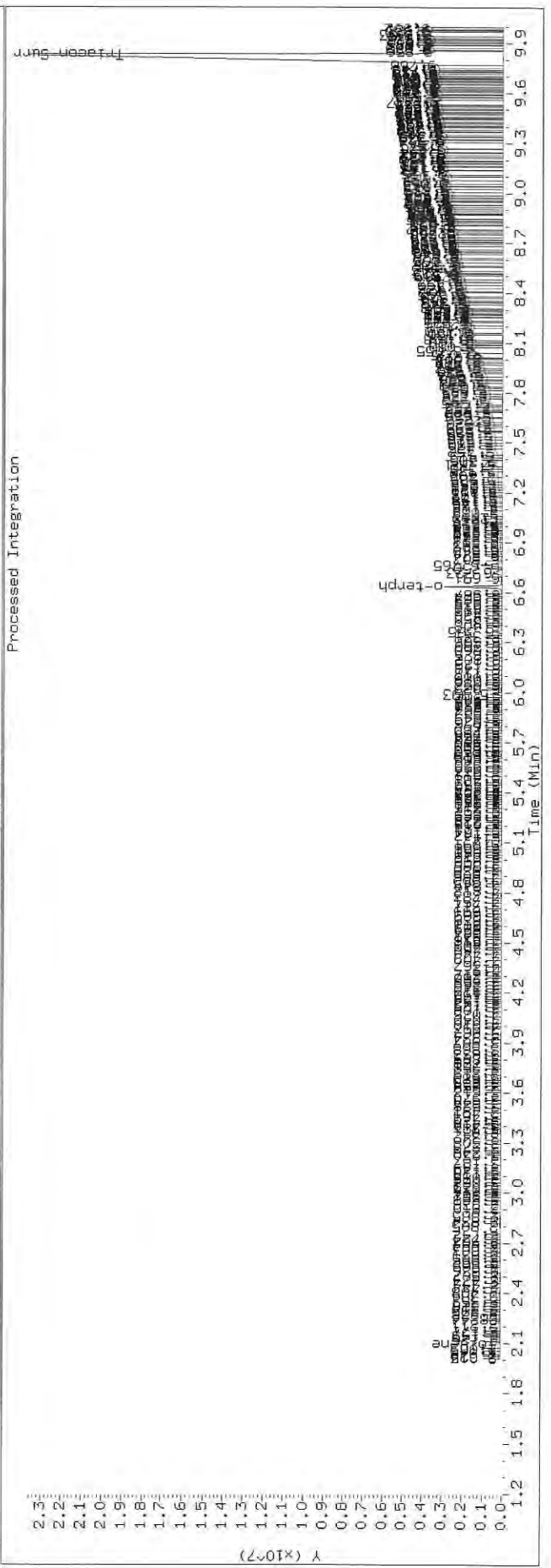
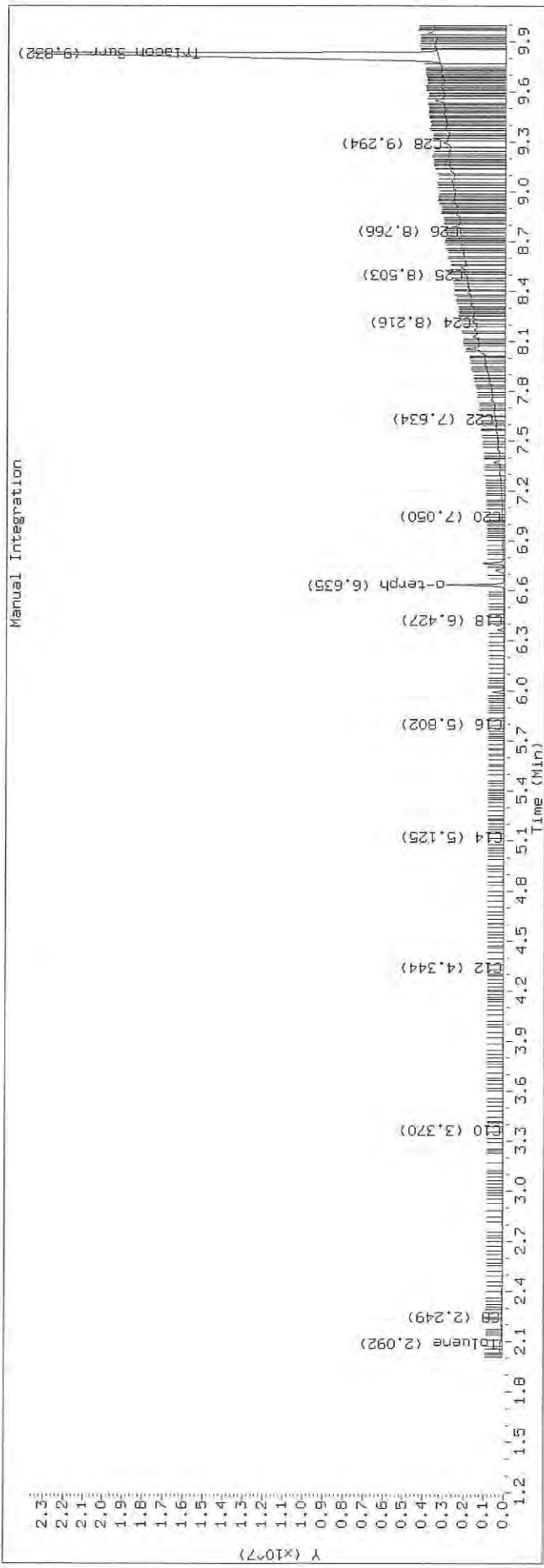
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH



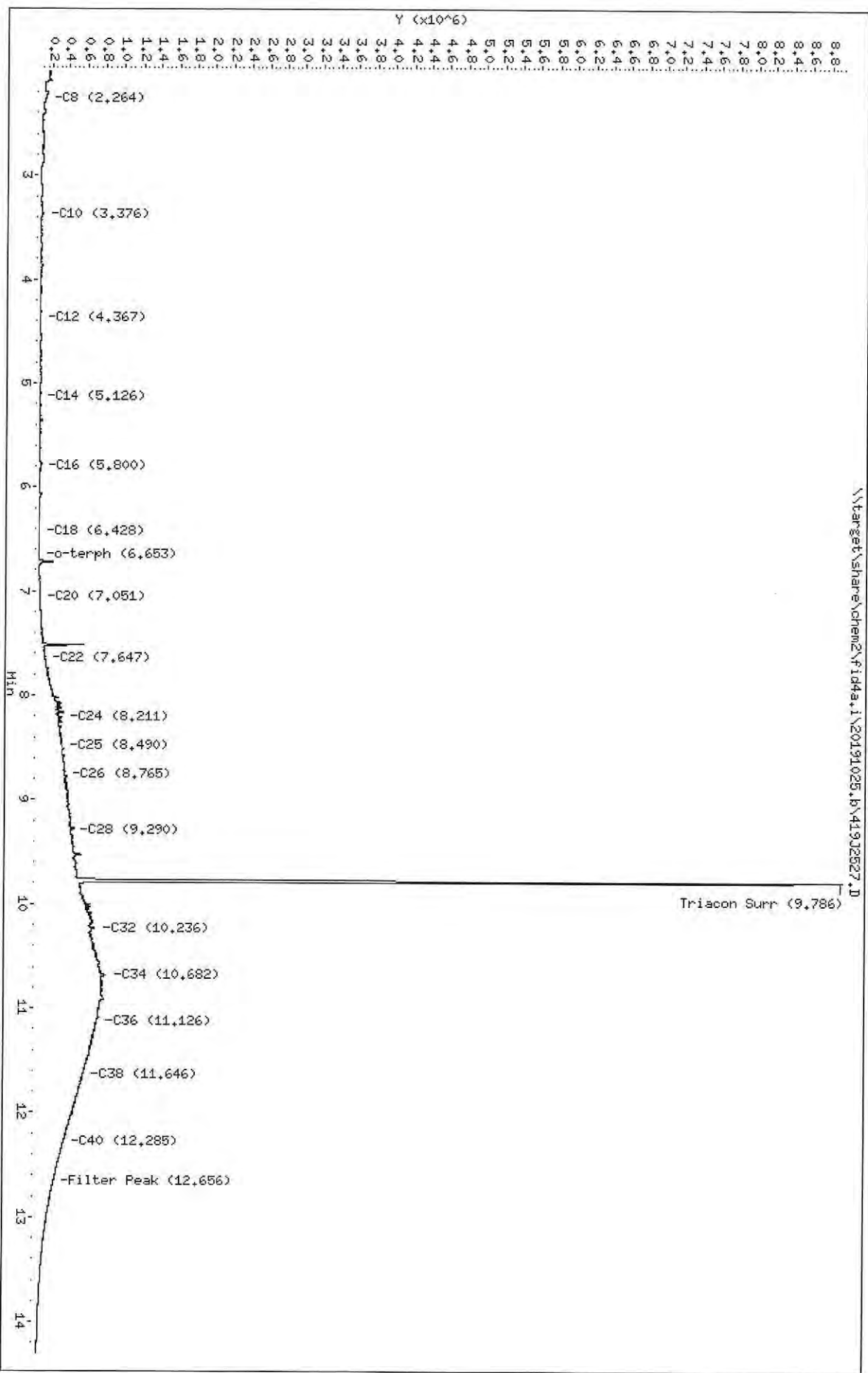
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2526.D Injection: 25-OCT-2019 20:15
 Lab ID: SHJ0406-CALI



Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3

Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

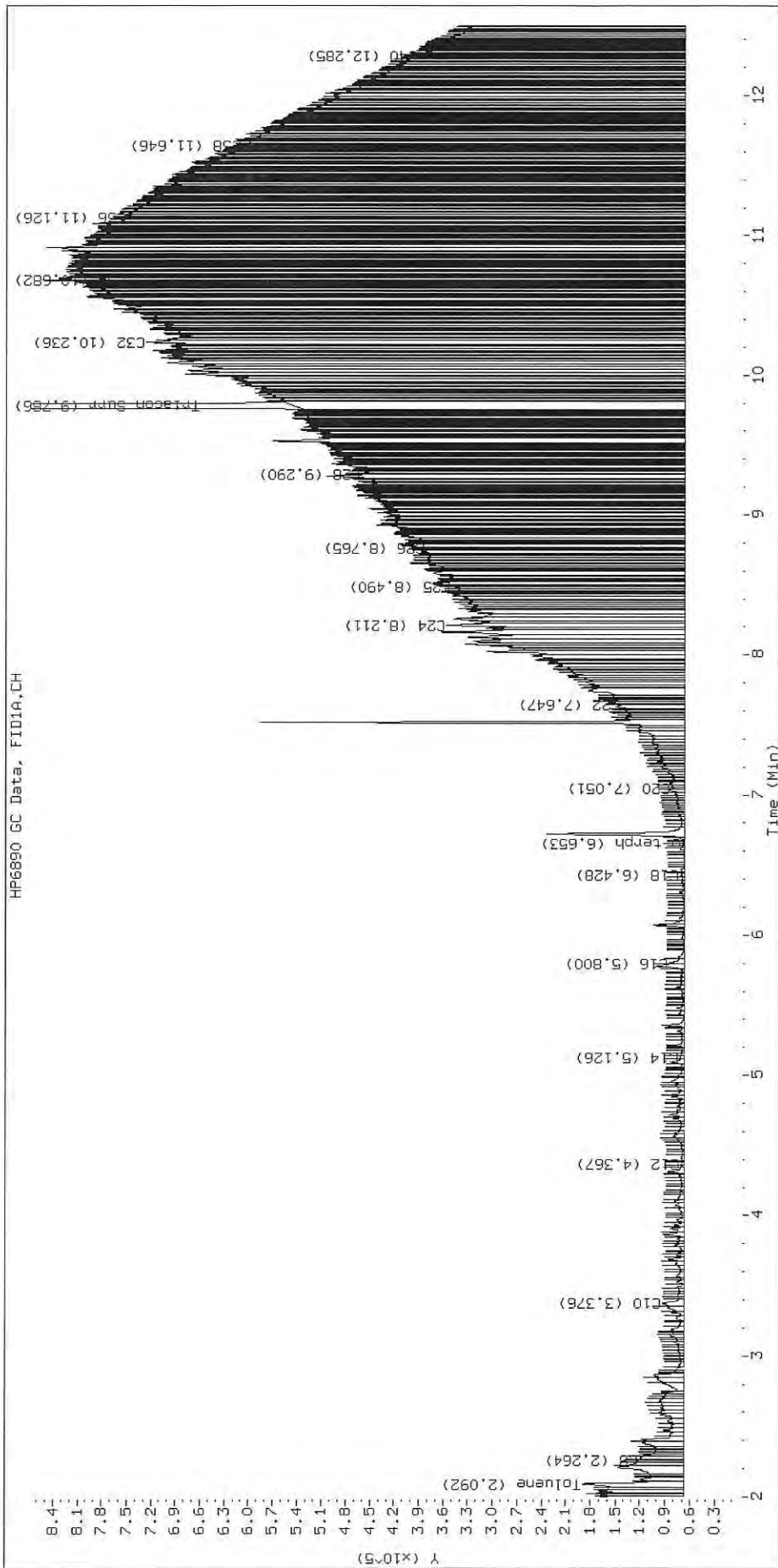
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

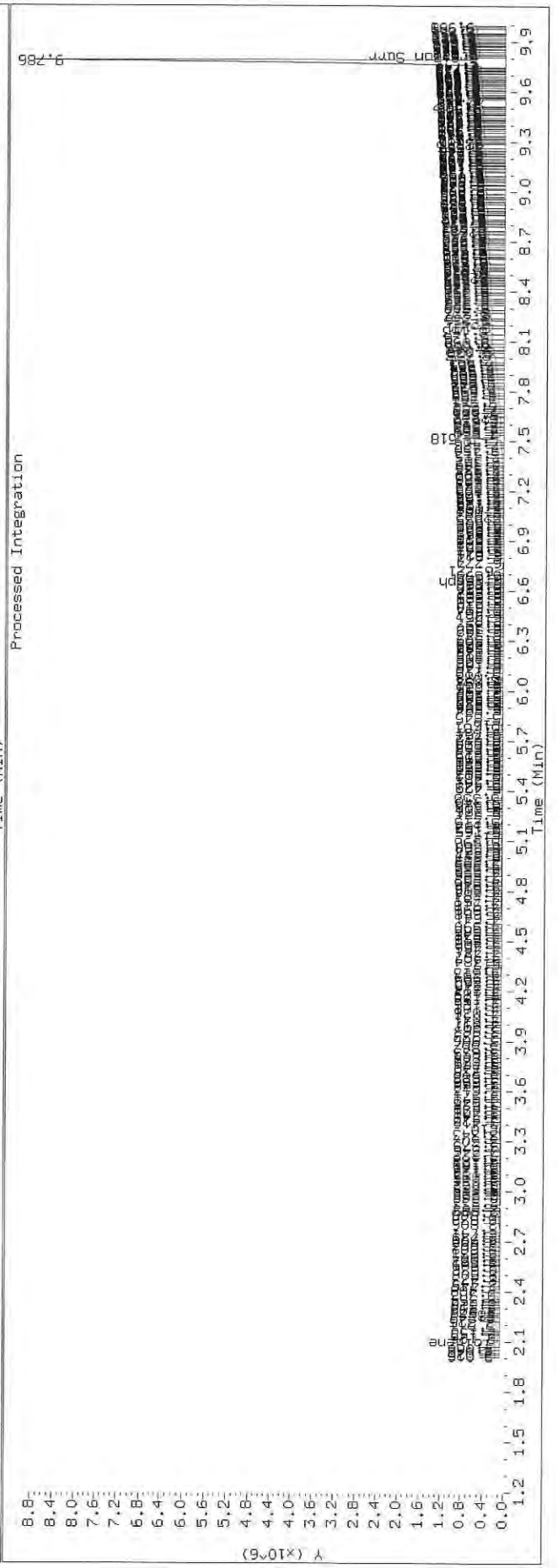
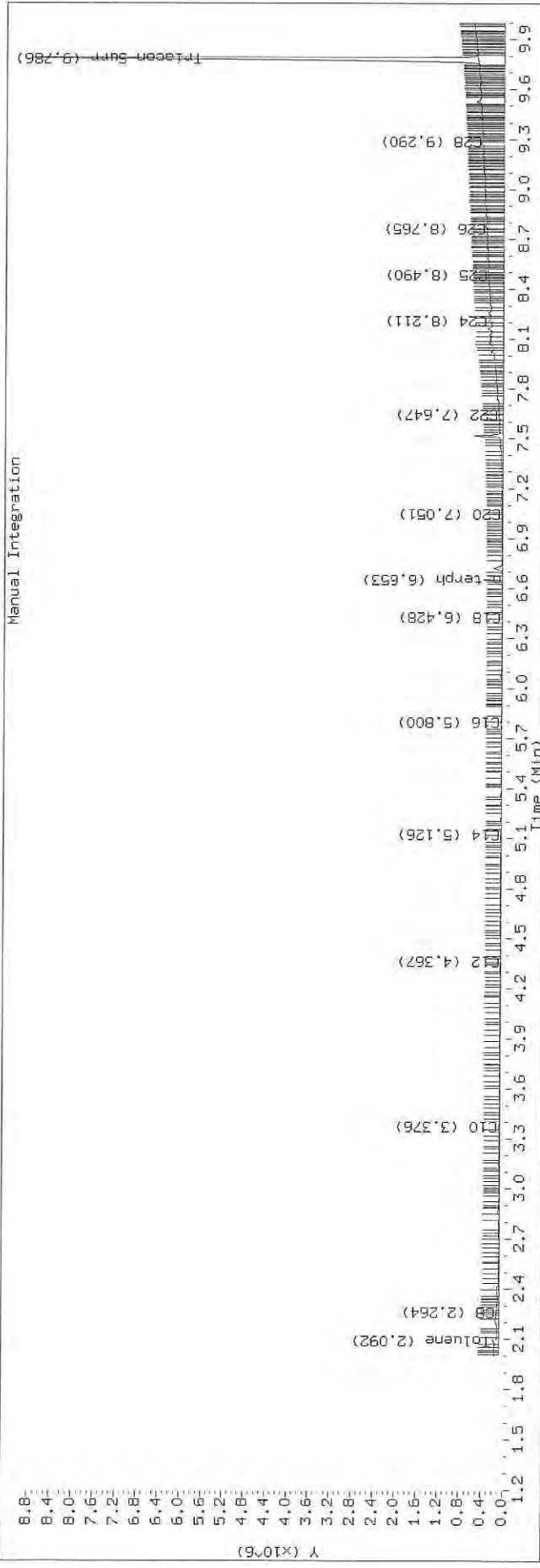
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH





Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacontane	319	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

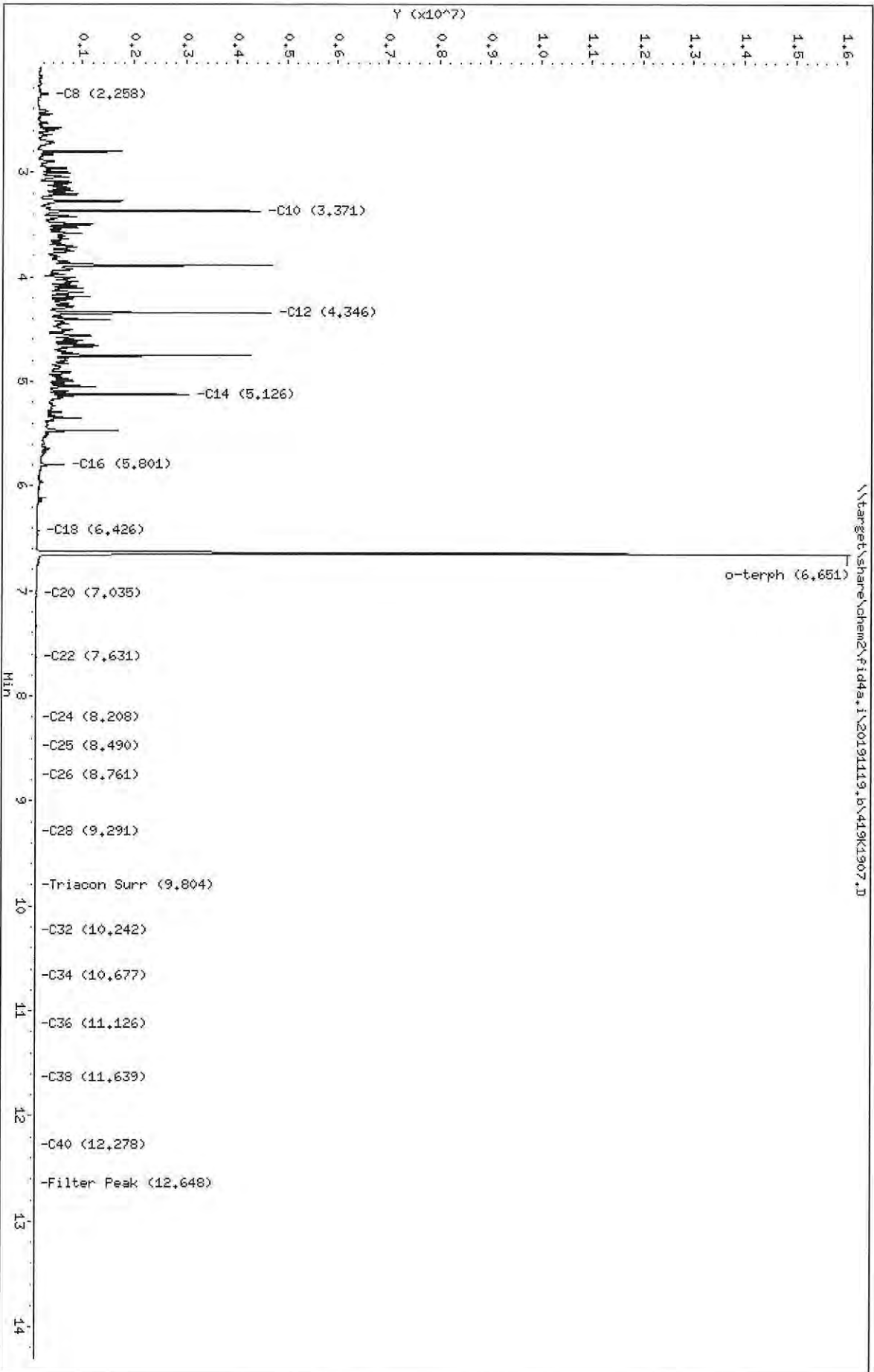
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Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

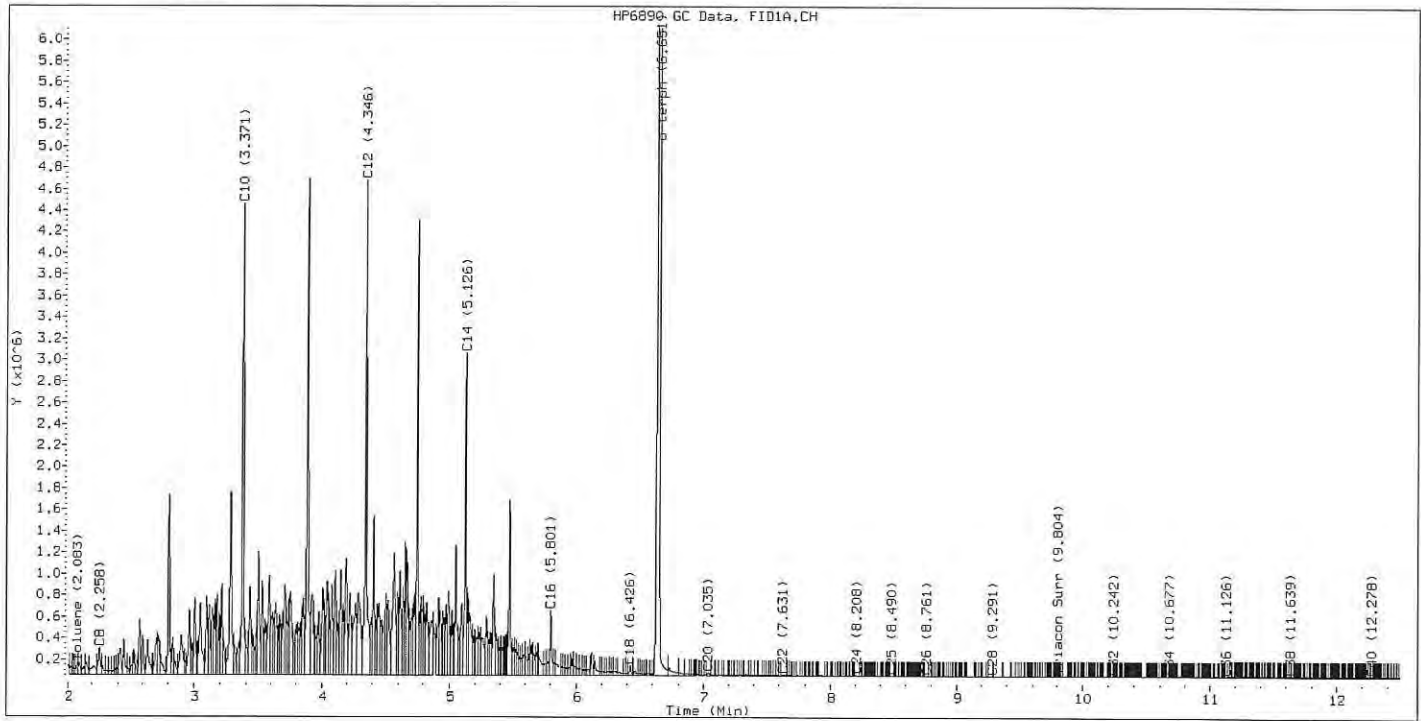
Instrument: fid4a.i

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25







INITIAL CALIBRATION DATA NWTPH-Dx

Laboratory:	Analytical Resources, Inc.	SDG:	20K0126
Client:	Dalton, Olmsted & Fuglevand, Inc	Project:	ICS-Former NW Cooperage
Calibration:	DA00022	Instrument:	FID4
Calibration Date:	10/25/2019	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Diesel Range Organics (C12-C24)	159336.7	7.4			RSD (20)	
Motor Oil Range Organics (C24-C38)	101166	4.8			RSD (20)	
o-Terphenyl	204701.9	1.9			RSD (20)	



ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

Printed: 10/30/2019 7:24:06AM

SHJ0406

Instrument: FID4 Element Column ID: G004925
Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

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1	25-OCT-2019 11:37	419J2501.D	1	RINSE	
2	25-OCT-2019 11:55	419J2502.D	1	RINSE	
3	25-OCT-2019 12:30	419J2503.D	1	RINSE	
4	25-OCT-2019 12:51	419J2504.D	1	RINSE	
5	25-OCT-2019 13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019 13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019 13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019 14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019 14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019 14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019 15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019 15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019 15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019 16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019 16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019 16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019 17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019 17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019 17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019 18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019 18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019 18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019 19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019 19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019 19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019 20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019 20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019 20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019 21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019 21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019 21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019 22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019 22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019 22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019 23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019 23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019 23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019 00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019 00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019 00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019 01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triscon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triscon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triscon Surr,
1713	419J2517.D	SHJ0406-CAL4		1	Triscon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BRJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BRJ0711-B51		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

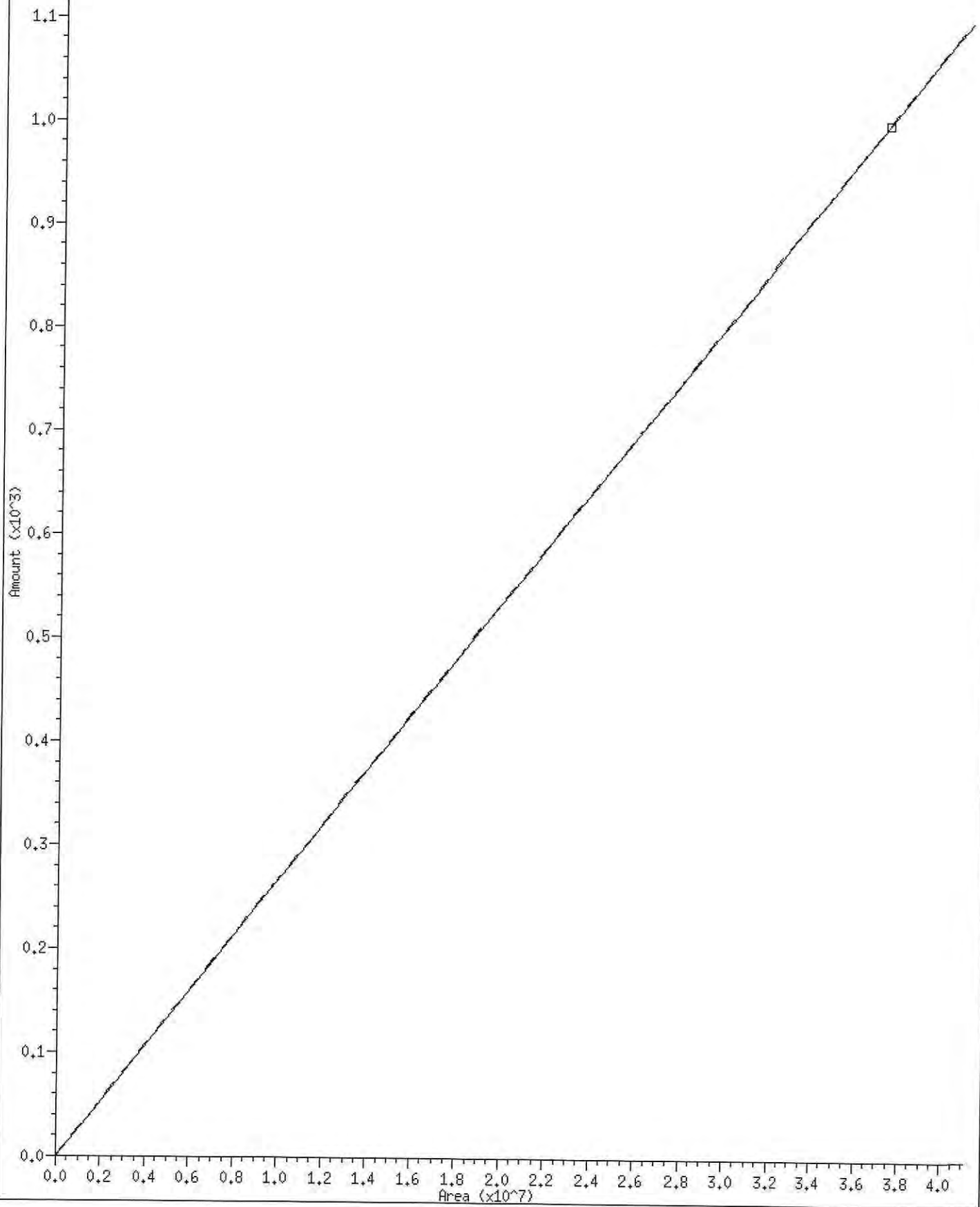
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0017	419J2538.D	19J0373-07	1	Triacon Surr,	
0037	419J2539.D	19J0373-08	1	Triacon Surr,	
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1	Triacon Surr,	

Security Status Report

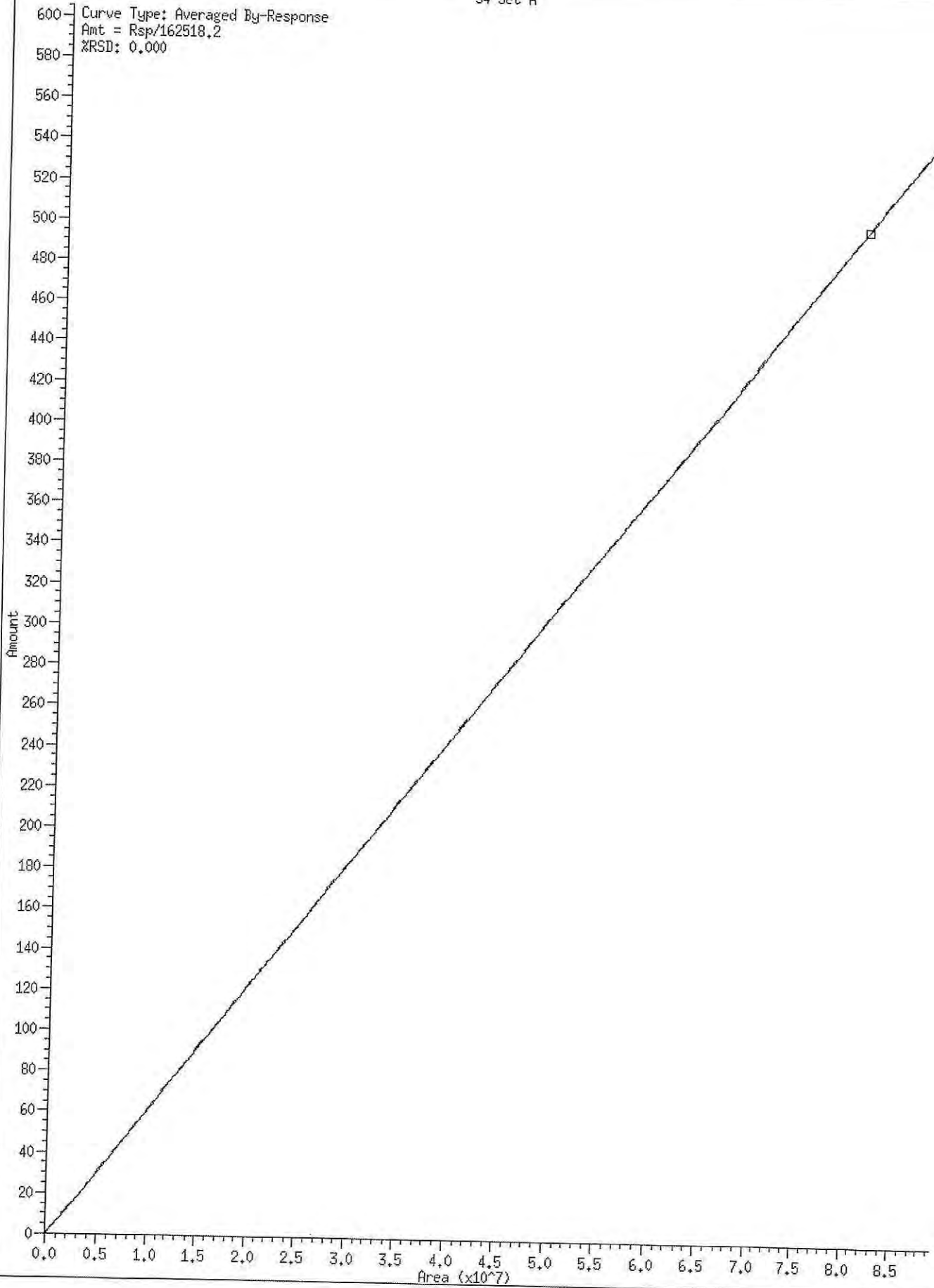
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419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
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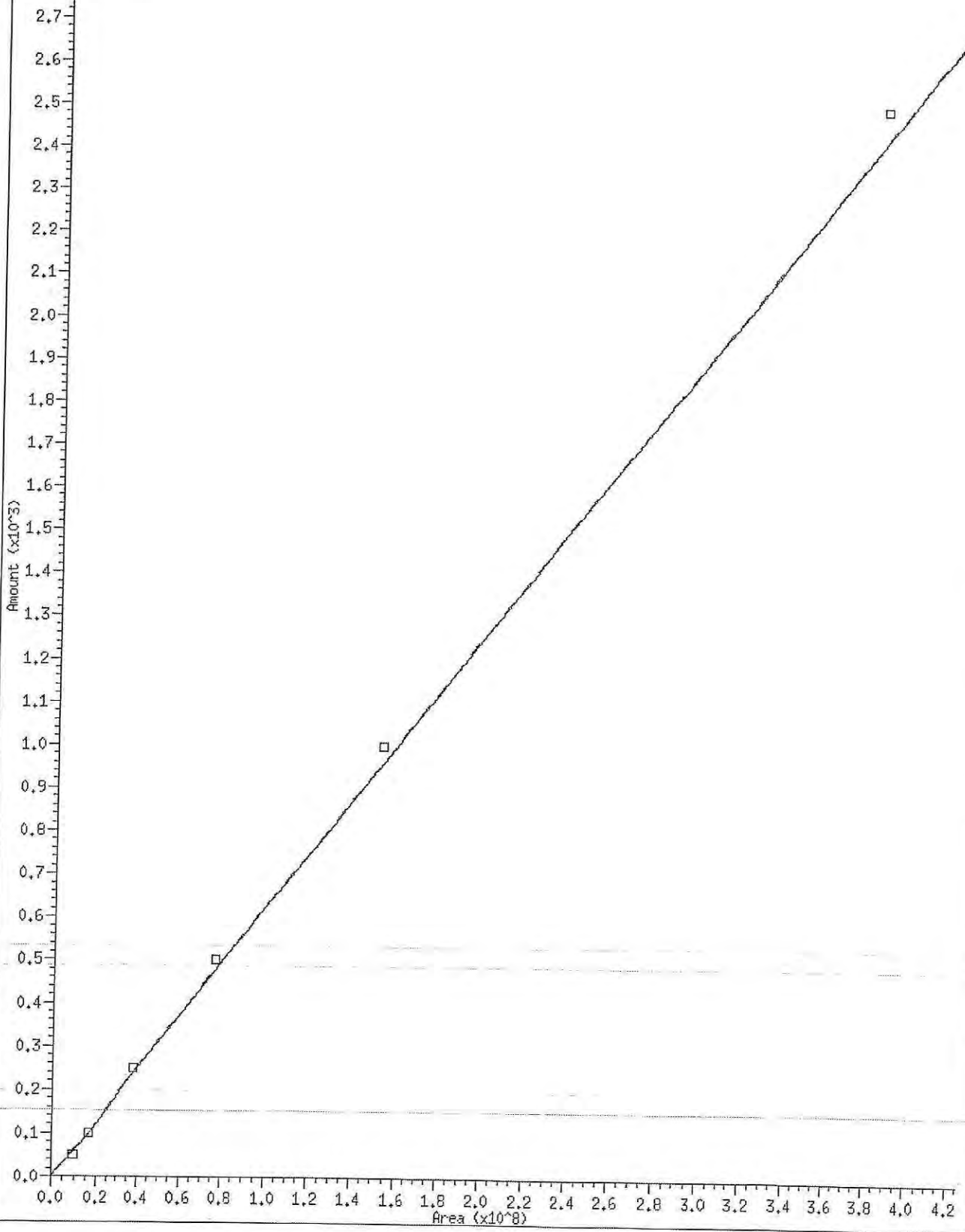
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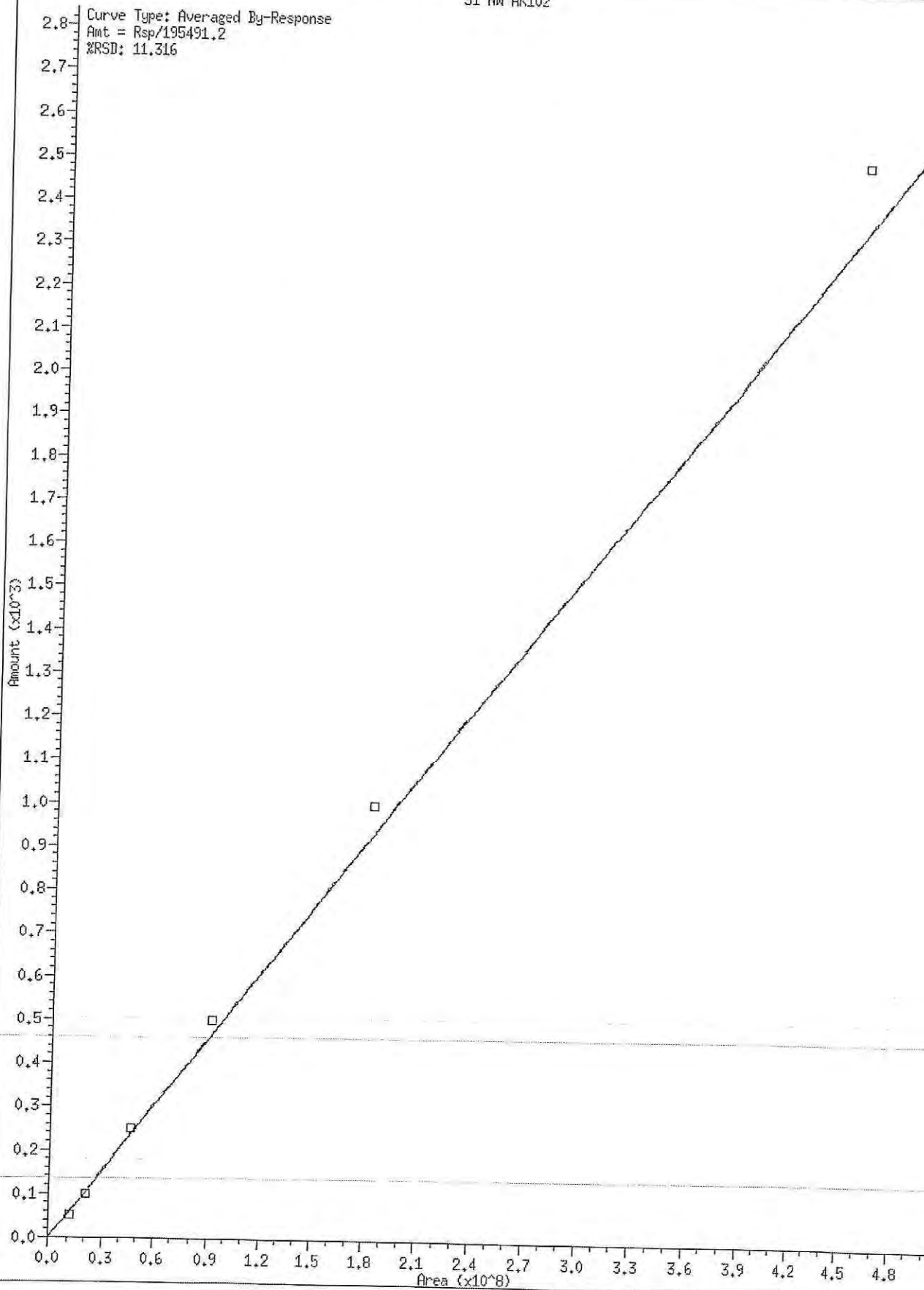
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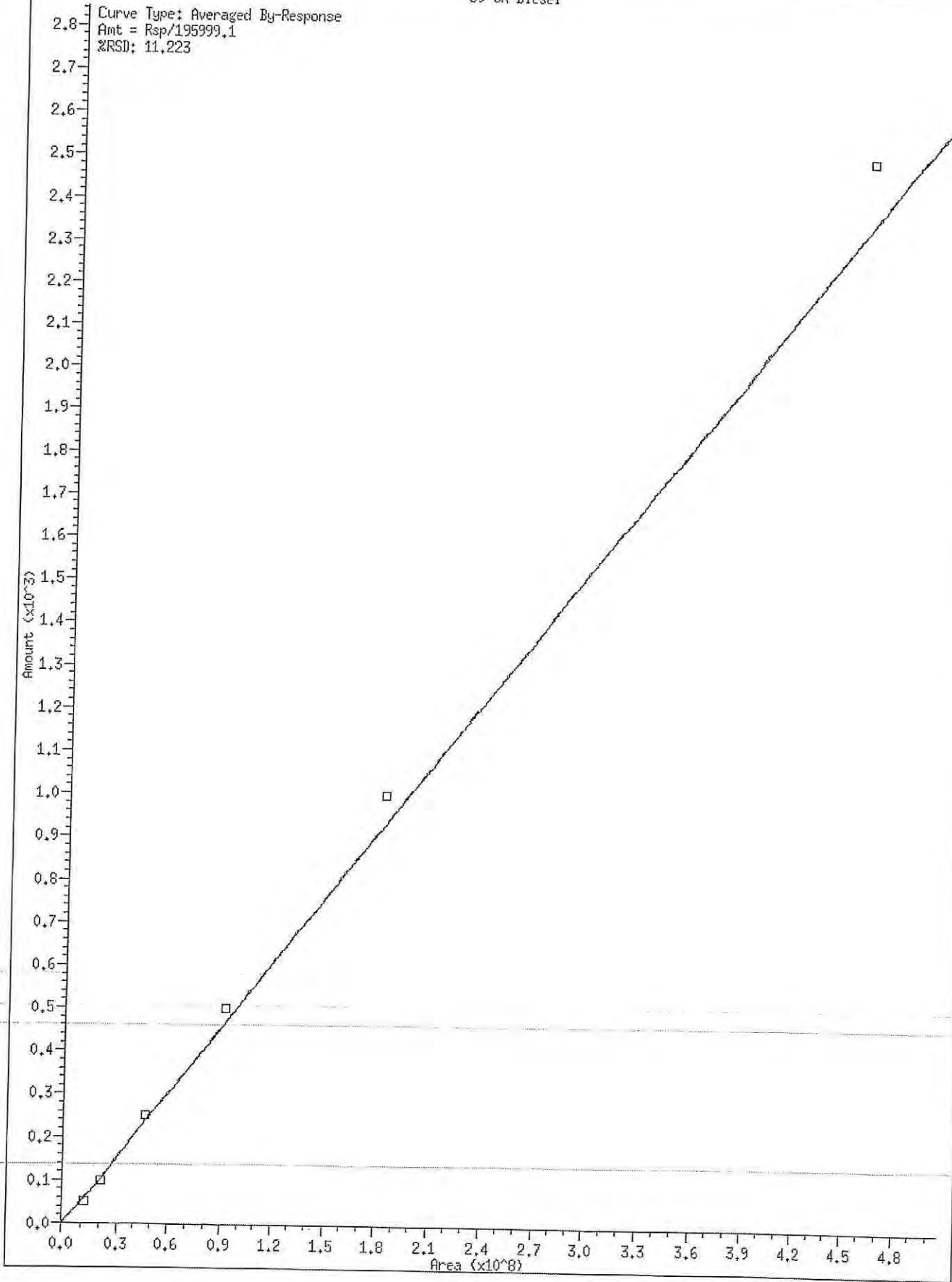


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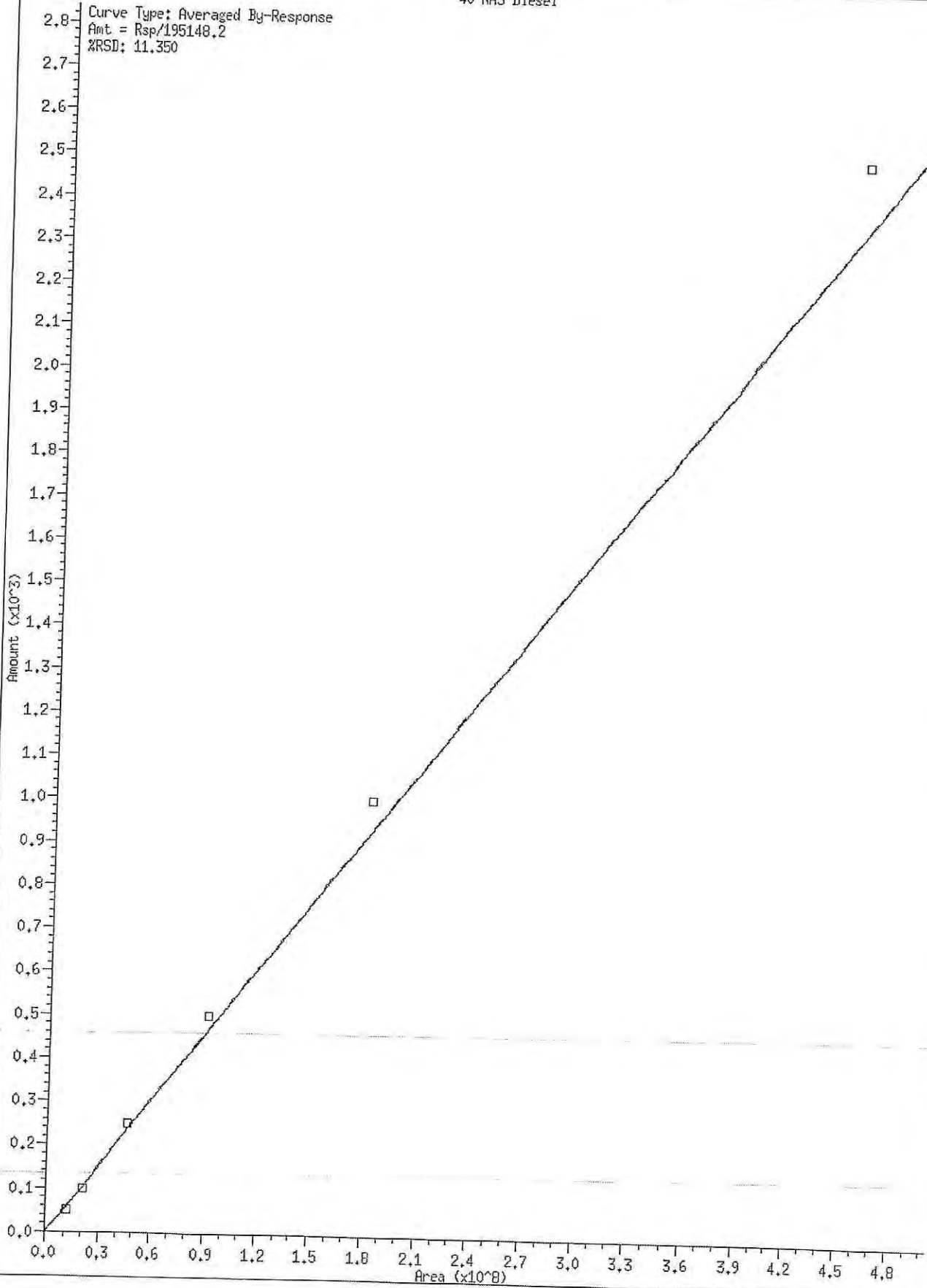
39 OR Diesel

Curve Type: Averaged By-Response
Amt = Rsp/195999,1
%RSD: 11,223



40 NAS Diesel

Curve Type: Averaged By-Response
Amt = Rsp/195148.2
%RSD: 11.350

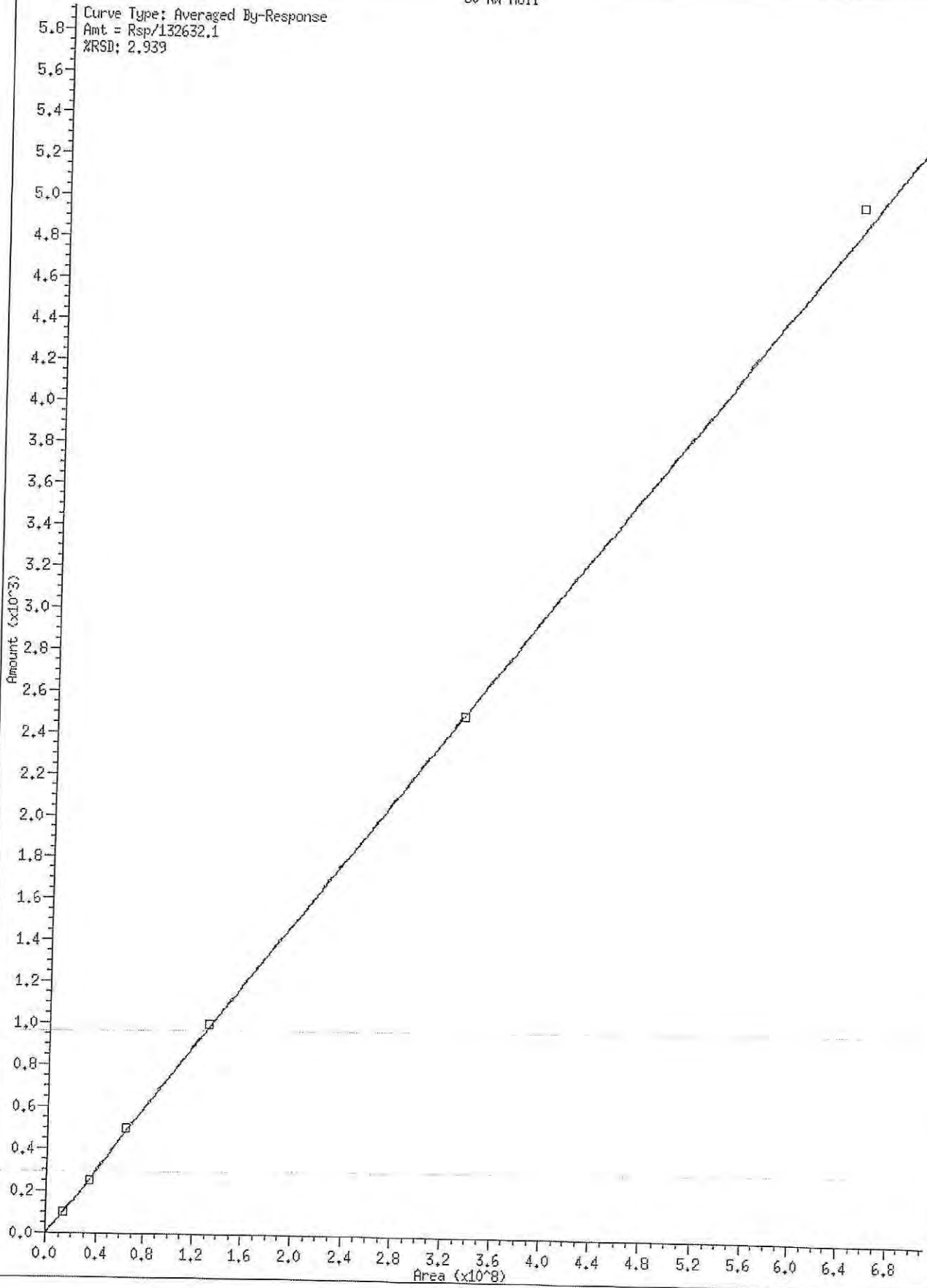


30 NM Noil

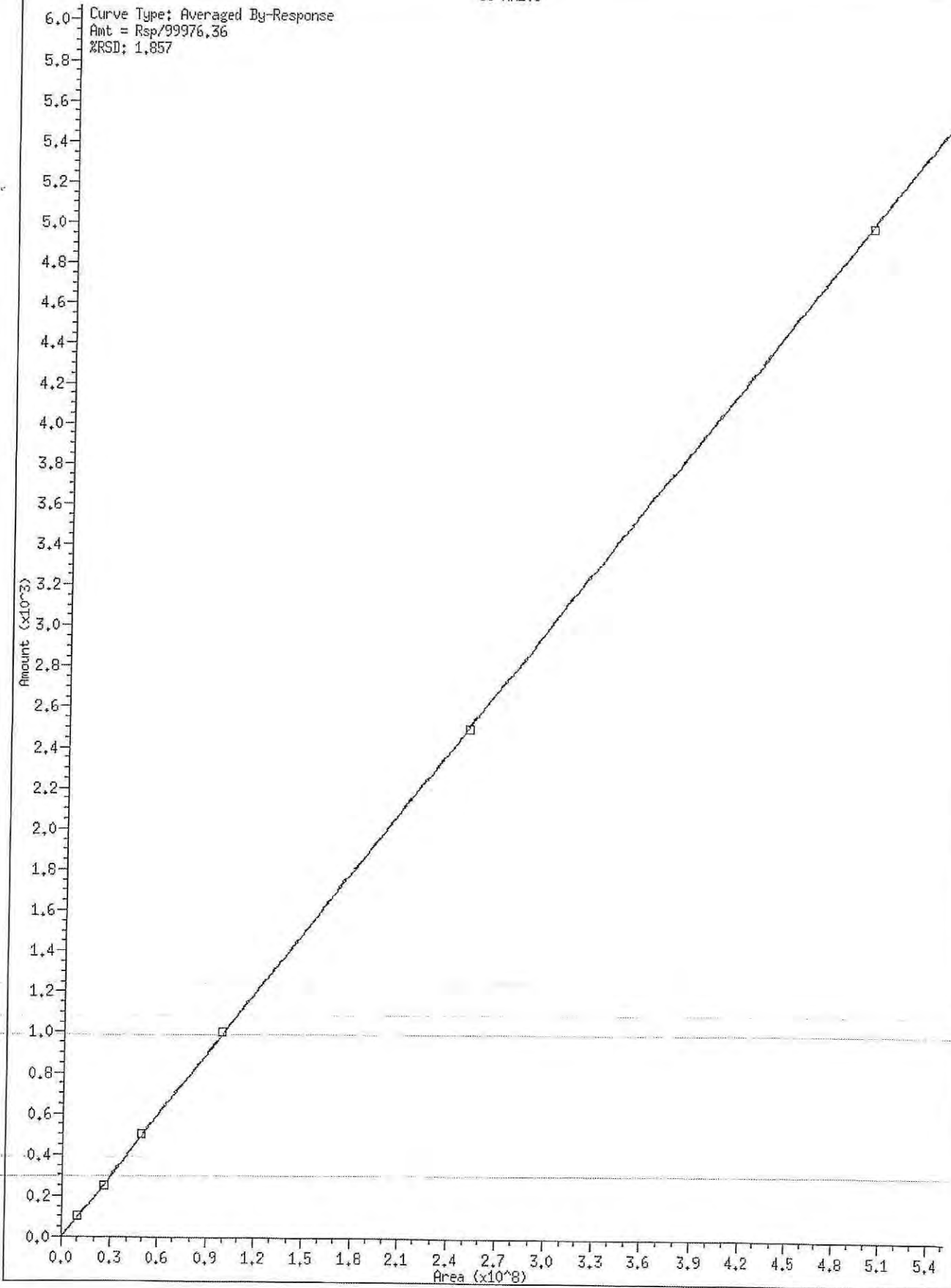
Curve Type: Averaged By-Response

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%RSD: 2.939

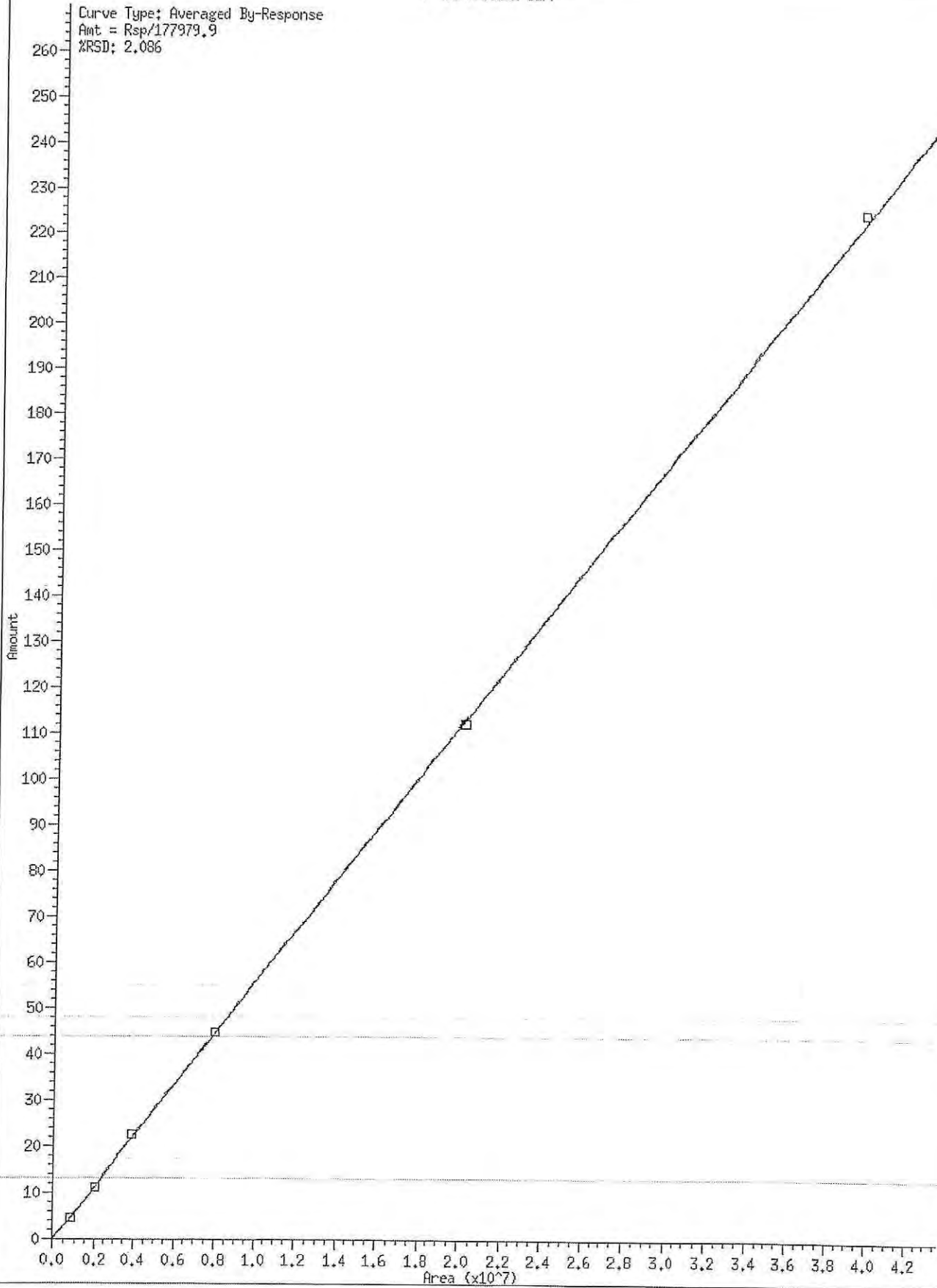


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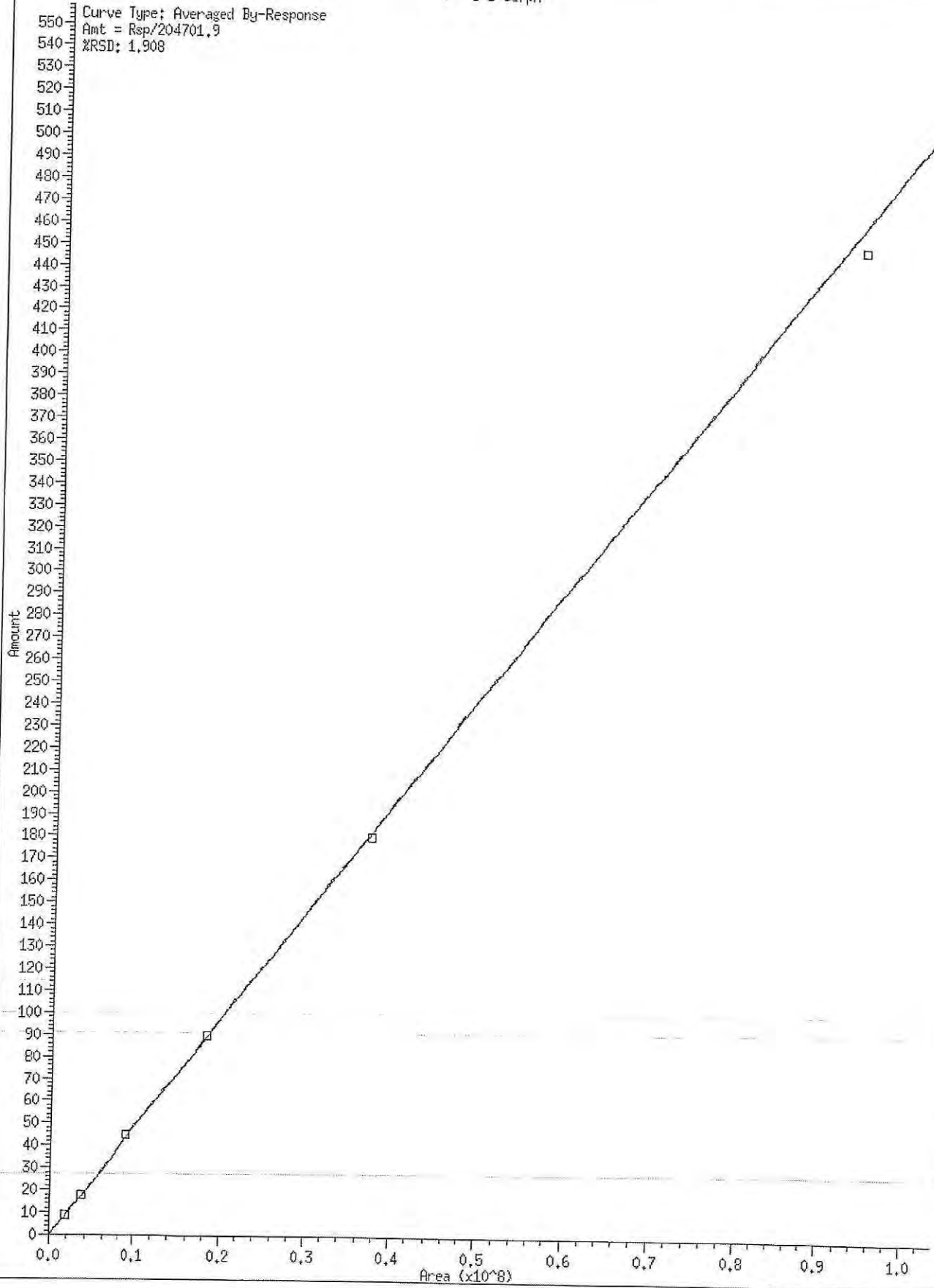
* 15 Triacon Surr

Curve Type: Averaged By-Response
Amt = Rsp/177979.9
%RSD: 2.086



* 8 o-terph

Curve Type: Averaged By-Response
Amt = Resp/204701.9
%RSD: 1.908



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	419J2507	419J2508	419J2509	419J2510	419J2511	419J2512
INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	13:52	14:12	14:32	14:53	15:13	15:32

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.086	2.091	2.092	2.094	2.095	2.093	2.089	1.989-2.189	2.089	0.004
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	+++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.252	2.253	2.254	2.254	2.254	2.262	2.162-2.362	2.255	0.004
3 C10	3.369	3.367	3.369	3.368	3.368	3.371	3.373	3.323-3.423	3.368	0.001
4 C12	4.344	4.344	4.344	4.344	4.346	4.351	4.347	4.297-4.397	4.345	0.003
5 C14	5.126	5.126	5.126	5.127	5.129	5.137	5.130	5.080-5.180	5.129	0.004
6 C16	5.803	5.802	5.803	5.805	5.809	5.818	5.807	5.757-5.857	5.807	0.006
7 C18	6.428	6.429	6.431	6.434	6.439	6.452	6.435	6.385-6.485	6.435	0.009
8 o-terph	6.636	6.640	6.646	6.655	6.669	6.696	6.656	6.606-6.706	6.657	0.023
9 C20	7.037	7.036	7.036	7.037	7.040	7.047	7.043	6.993-7.093	7.039	0.004
10 C22	7.633	7.631	7.631	7.631	7.633	7.637	7.639	7.589-7.689	7.633	0.002
11 C24	8.210	8.209	8.208	8.207	8.207	8.207	8.215	8.165-8.265	8.208	0.001
12 C25	8.494	8.489	8.488	8.485	8.486	8.485	8.493	8.443-8.543	8.488	0.003
13 C26	8.766	8.762	8.761	8.759	8.758	8.756	8.765	8.715-8.815	8.760	0.004
14 C28	9.292	9.288	9.287	9.281	9.279	9.279	9.285	9.235-9.335	9.284	0.005

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.808	9.805	9.803	9.798	9.806	9.800	9.802	9.752-9.852	9.803	0.004
16 C32	10.240	10.242	10.248	10.245	10.243	10.242	10.242	10.192-10.292	10.243	0.003
17 C34	10.682	10.676	10.683	10.680	10.687	10.677	10.681	10.631-10.731	10.682	0.004
18 Filter Peak	12.647	12.646	12.650	12.646	12.649	12.650	12.650	12.550-12.750	12.648	0.002
19 C36	11.130	11.127	11.127	11.131	11.127	11.129	11.129	11.079-11.179	11.128	0.002
20 C38	11.651	11.646	11.640	11.653	11.653	11.651	11.650	11.600-11.700	11.650	0.003
21 C40	12.289	12.291	12.292	12.287	12.283	12.288	12.289	12.239-12.339	12.288	0.003
29 NR Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACrosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NR Moll	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NR AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.812	0.762-0.862	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.965	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
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INJ. DATE:	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019	25-OCT-2019
INJ. TIME:	16:12	16:33	16:53	17:13	17:34	17:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.092	2.092	2.092	2.093	2.092	2.092	2.089	1.989-2.189	2.092	0.000
38 NewCpnd_31	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
35 Mineral Oil	++++	++++	++++	++++	++++	++++	1.015	0.965-1.065	++++	++++
41 Mineral Spirits	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
2 C8	2.263	2.262	2.263	2.263	2.250	2.251	2.262	2.162-2.362	2.258	0.007
3 C10	3.376	3.377	3.376	3.376	3.371	3.369	3.373	3.323-3.423	3.374	0.003
4 C12	4.368	4.332	4.334	4.332	4.343	4.344	4.347	4.297-4.397	4.342	0.014
5 C14	5.134	5.134	5.125	5.127	5.126	5.126	5.130	5.080-5.180	5.129	0.004
6 C16	5.805	5.808	5.805	5.803	5.802	5.802	5.807	5.757-5.857	5.804	0.002
7 C18	6.435	6.432	6.439	6.428	6.427	6.427	6.435	6.385-6.485	6.431	0.005
8 o-terph	6.651	6.657	6.659	6.633	6.655	6.656	6.656	6.606-6.706	6.652	0.009
9 C20	7.038	7.038	7.036	7.048	7.051	7.035	7.043	6.993-7.093	7.041	0.006
10 C22	7.642	7.644	7.632	7.632	7.632	7.633	7.639	7.589-7.689	7.636	0.005
11 C24	8.214	8.212	8.215	8.217	8.215	8.219	8.215	8.165-8.265	8.215	0.002
12 C25	8.500	8.497	8.500	8.495	8.491	8.490	8.493	8.443-8.543	8.495	0.004
13 C26	8.760	8.767	8.760	8.769	8.765	8.770	8.765	8.715-8.815	8.765	0.005
14 C28	9.288	9.294	9.277	9.280	9.285	9.281	9.285	9.235-9.335	9.284	0.006

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

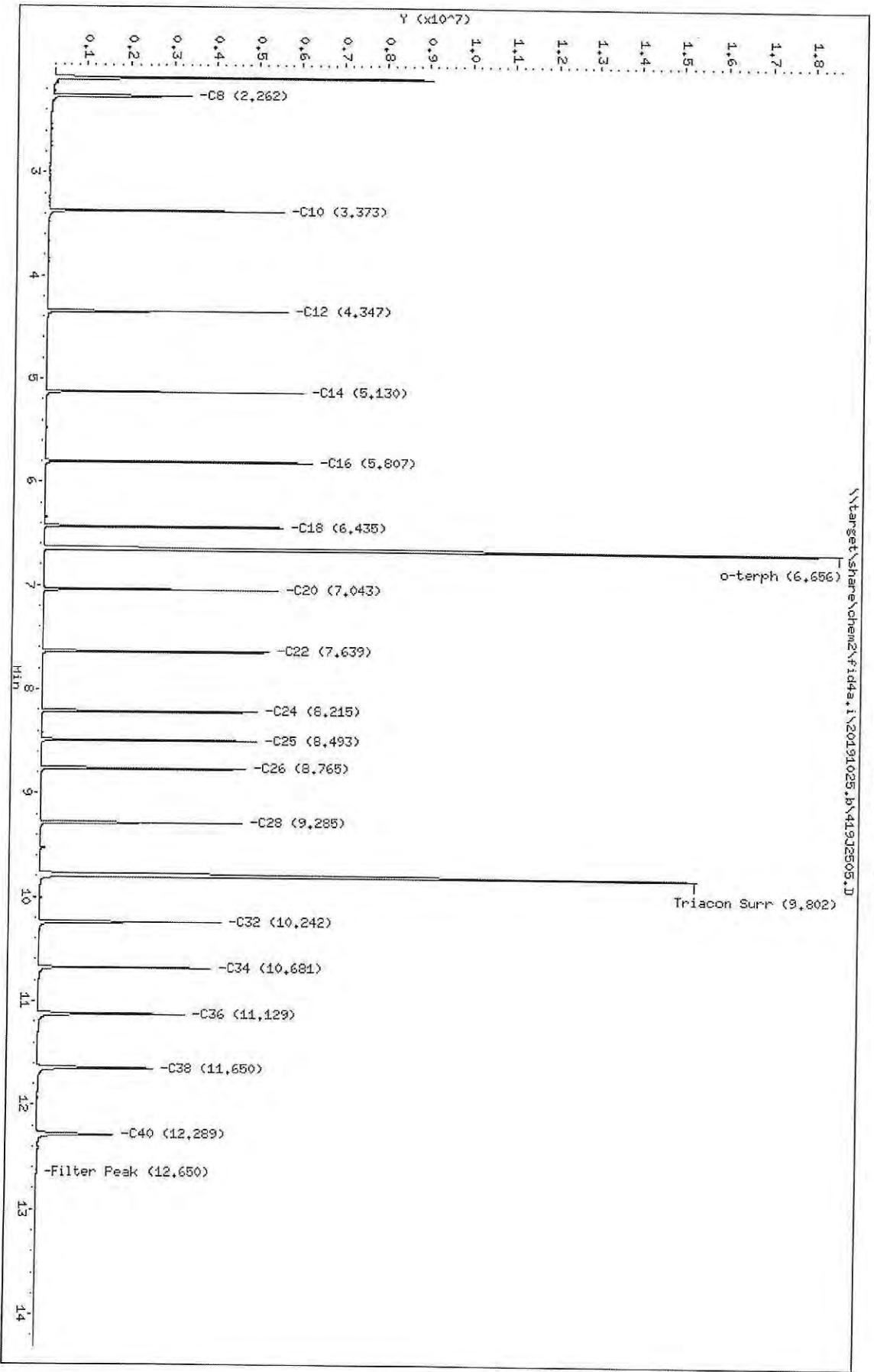
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20191025.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20191025.b
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.771	9.775	9.781	9.790	9.809	9.836	9.802	9.752-9.852	9.794	0.025
16 C32	10.243	10.233	10.235	10.238	10.249	10.237	10.242	10.192-10.292	10.239	0.006
17 C34	10.679	10.680	10.682	10.681	10.679	10.683	10.681	10.631-10.731	10.681	0.002
18 Filter Peak	12.652	12.648	12.655	12.648	12.650	12.666	12.650	12.550-12.750	12.653	0.007
19 C36	11.126	11.134	11.129	11.132	11.125	11.132	11.129	11.079-11.179	11.129	0.004
20 C38	11.652	11.650	11.655	11.651	11.649	11.647	11.650	11.600-11.700	11.651	0.002
21 C40	12.297	12.292	12.291	12.291	12.289	12.283	12.289	12.239-12.339	12.291	0.005
29 NW Diesel	++++	++++	++++	++++	++++	++++	0.899	0.849-0.949	++++	++++
37 ACresosote	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
34 Jet A	++++	++++	++++	++++	++++	++++	1.024	0.974-1.074	++++	++++
30 NW M611	++++	++++	++++	++++	++++	++++	0.885	0.835-0.935	++++	++++
31 NW AK102	++++	++++	++++	++++	++++	++++	0.803	0.753-0.853	++++	++++
32 Bunker C	++++	++++	++++	++++	++++	++++	0.912	0.762-0.962	++++	++++
33 AK103	++++	++++	++++	++++	++++	++++	1.344	1.294-1.394	++++	++++
36 ABunker C	++++	++++	++++	++++	++++	++++	0.985	0.935-1.035	++++	++++
39 DR Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++
40 NAS Diesel	++++	++++	++++	++++	++++	++++	1.000	0.950-1.050	++++	++++

Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2505.D
Date: 25-OCT-2019 13:11
Client ID:
Sample Info: SHJ0406-1BL1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2505.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL1
Client ID:
Injection: 25-OCT-2019 13:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	3356579	3932199	WATPHD	(C12-C24)	22628592	142.0
C10	3.373	0.000	5539104	3757340	WATPHM	(C24-C38)	26475519	199.6
C12	4.347	0.000	5663708	3683615	AK102	(C10-C25)	30812271	157.6
C14	5.130	0.000	6079967	3652238	AK103	(C25-C36)	22405219	224.1
C16	5.807	0.000	6277766	3707382	OR.DIES	(C10-C28)	41957167	214.1
C18	6.435	0.000	5635635	3612752				
C20	7.043	0.000	5539938	3702605				
C22	7.639	0.000	5339005	3727404				
C24	8.215	0.000	5097157	3674684				
C25	8.493	0.000	5111690	3698652				
C26	8.765	0.000	4851792	3662117				
C28	9.285	0.000	4782484	3718632				
C32	10.242	0.000	4326930	3643795				
C34	10.681	0.000	4092240	3584940				
Filter Peak	12.650	0.000	16931	63954	CREOSOT	(C12-C22)	18936204	4854.3
C36	11.129	0.000	3493562	3625484				
C38	11.650	0.000	2741525	3745220				
C40	12.289	0.000	1889635	2977724				
o-terph	6.656	0.000	18648694	20337624				
Triacon Surr	9.802	0.000	15433087	21196653	NAS DIES	(C10-C24)	30787335	157.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

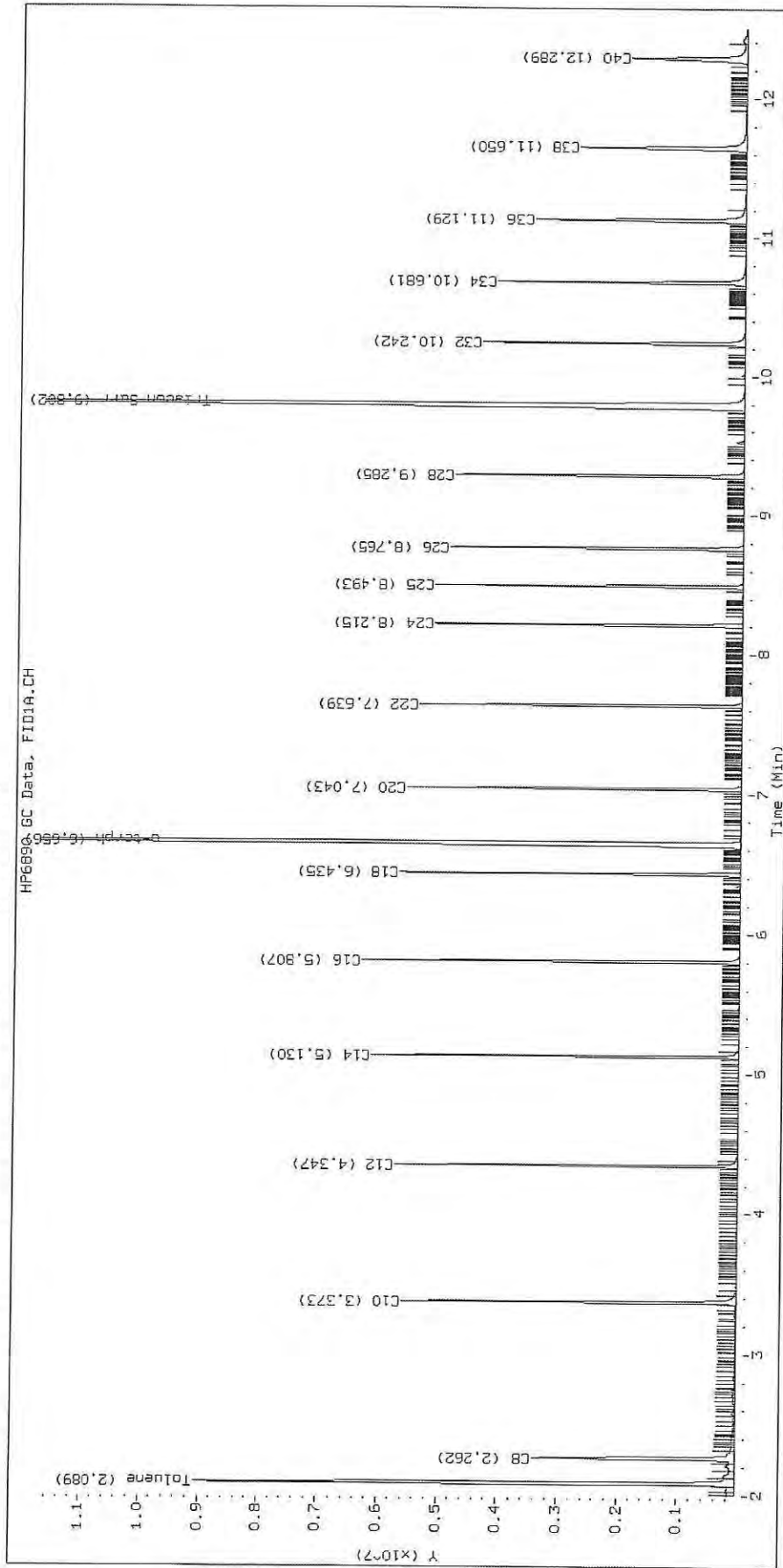
Surrogate	Area	Amount
o-Terphenyl	20337624	99.4
Triacantane	21196653	119.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

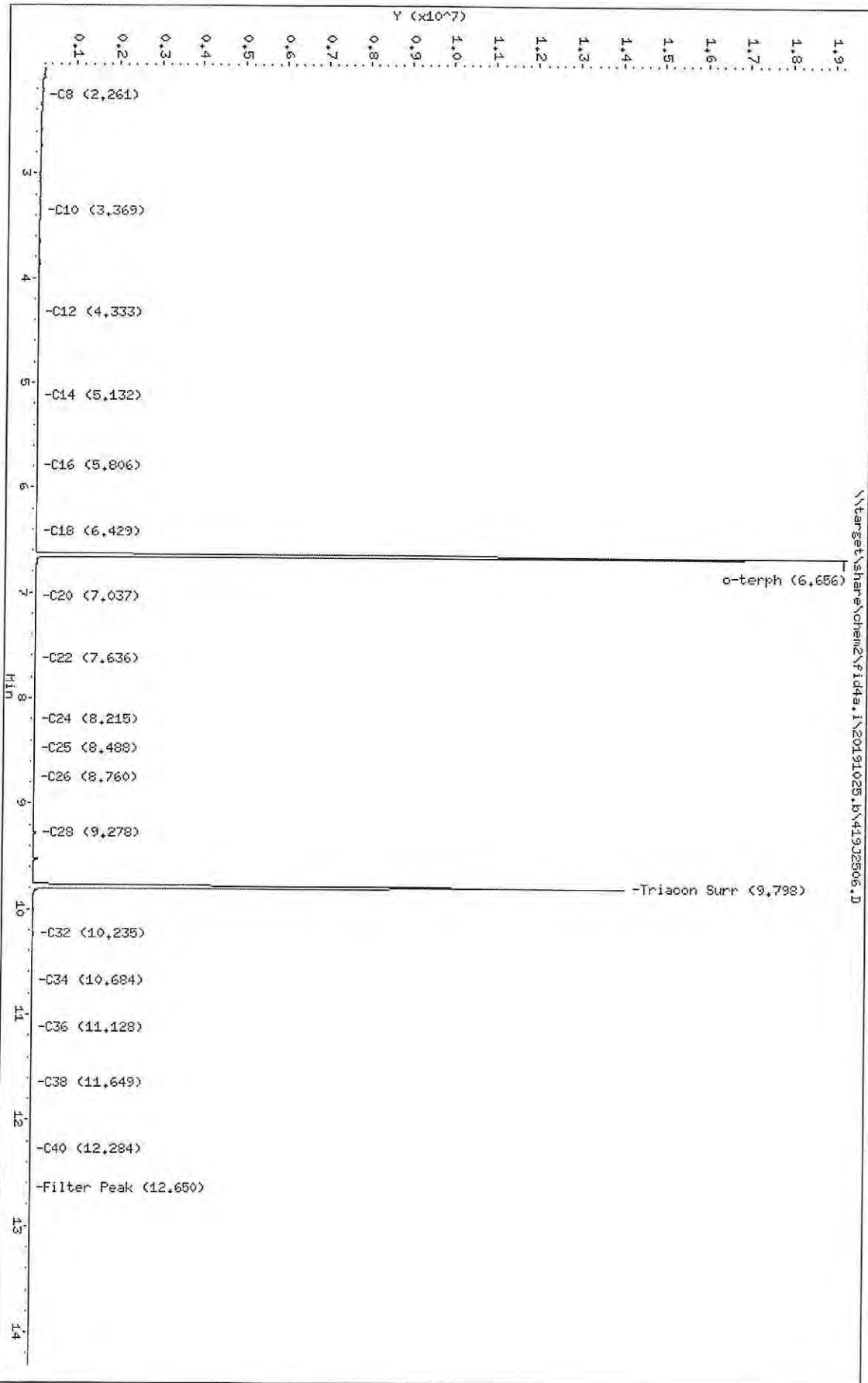
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HP6890A GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2506.D
Date : 25-OCT-2019 13:31
Client ID:
Sample Info: SHJ0406-IBL2
Column Phaset RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2506.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-IBL2
Client ID:
Injection: 25-OCT-2019 13:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.261	-0.001	72509	76139	WATPHD	(C12-C24)	658319	4.1
C10	3.369	-0.004	30567	51207	WATPHM	(C24-C38)	758430	5.7
C12	4.333	-0.014	10639	19318	AK102	(C10-C25)	1520072	7.8
C14	5.132	0.003	5359	3169	AK103	(C25-C36)	566941	5.7
C16	5.806	-0.002	4115	5242	OR.DIES	(C10-C28)	1655230	8.4
C18	6.429	-0.006	2667	2060				
C20	7.037	-0.006	2150	2136				
C22	7.636	-0.002	7003	7700				
C24	8.215	0.000	1821	532				
C25	8.488	-0.005	1855	1750				
C26	8.760	-0.005	1926	1661				
C28	9.278	-0.007	68571	64137				
C32	10.235	-0.007	43108	83259				
C34	10.684	0.003	2246	1101				
Filter Peak	12.650	-0.001	8815	2632	CREOSOT	(C12-C22)	608888	156.1
C36	11.128	-0.001	4708	2306				
C38	11.649	-0.001	6915	2738				
C40	12.284	-0.005	8323	7406				
o-terph	6.656	-0.001	19264239	20580998				
Triacon Surr	9.798	-0.004	14079902	17993211	NAS DIES	(C10-C24)	1505820	7.7

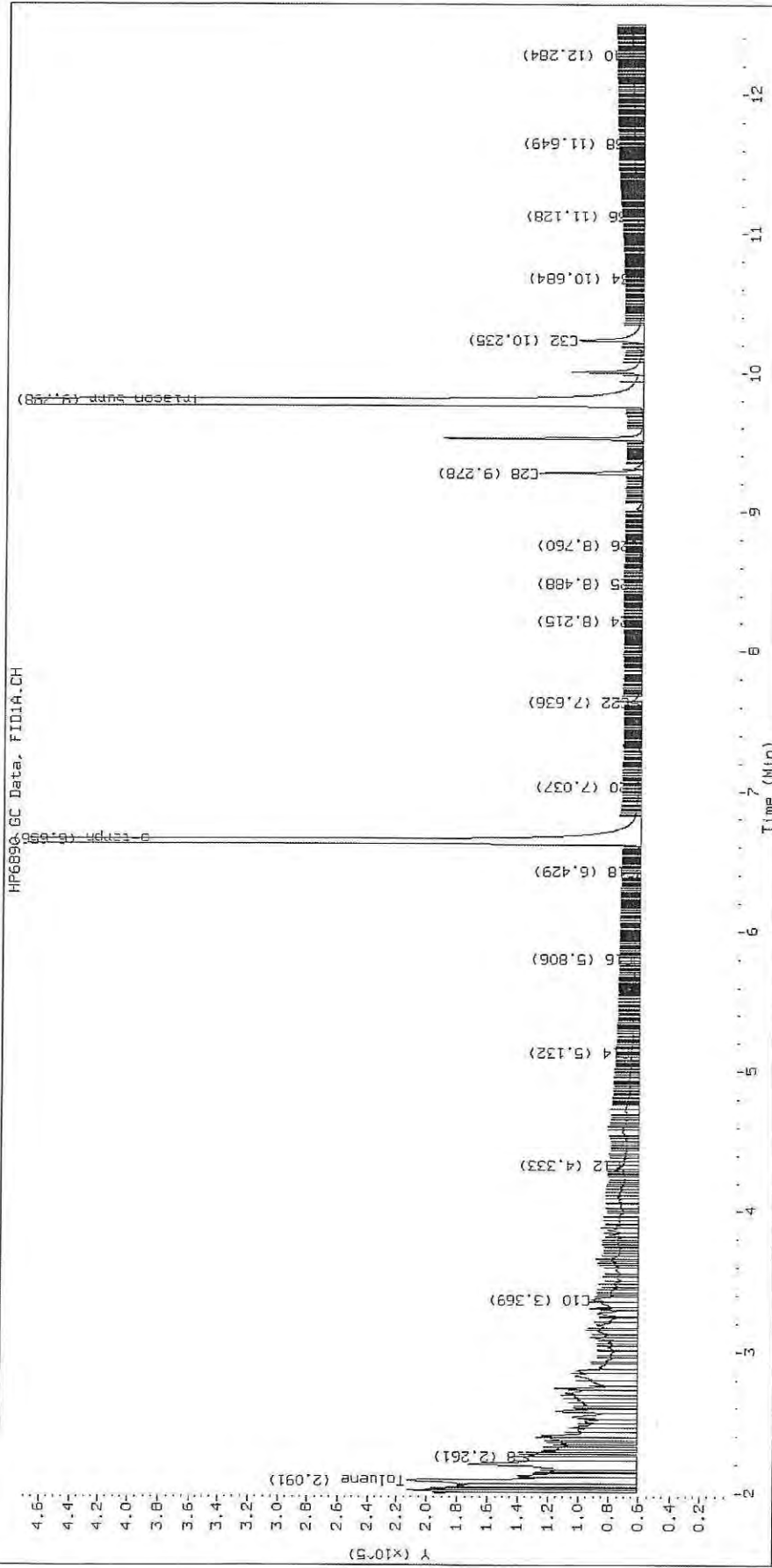
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	20580998	100.5
Triacontane	17993211	101.1

M Indicates the peak was manually integrated

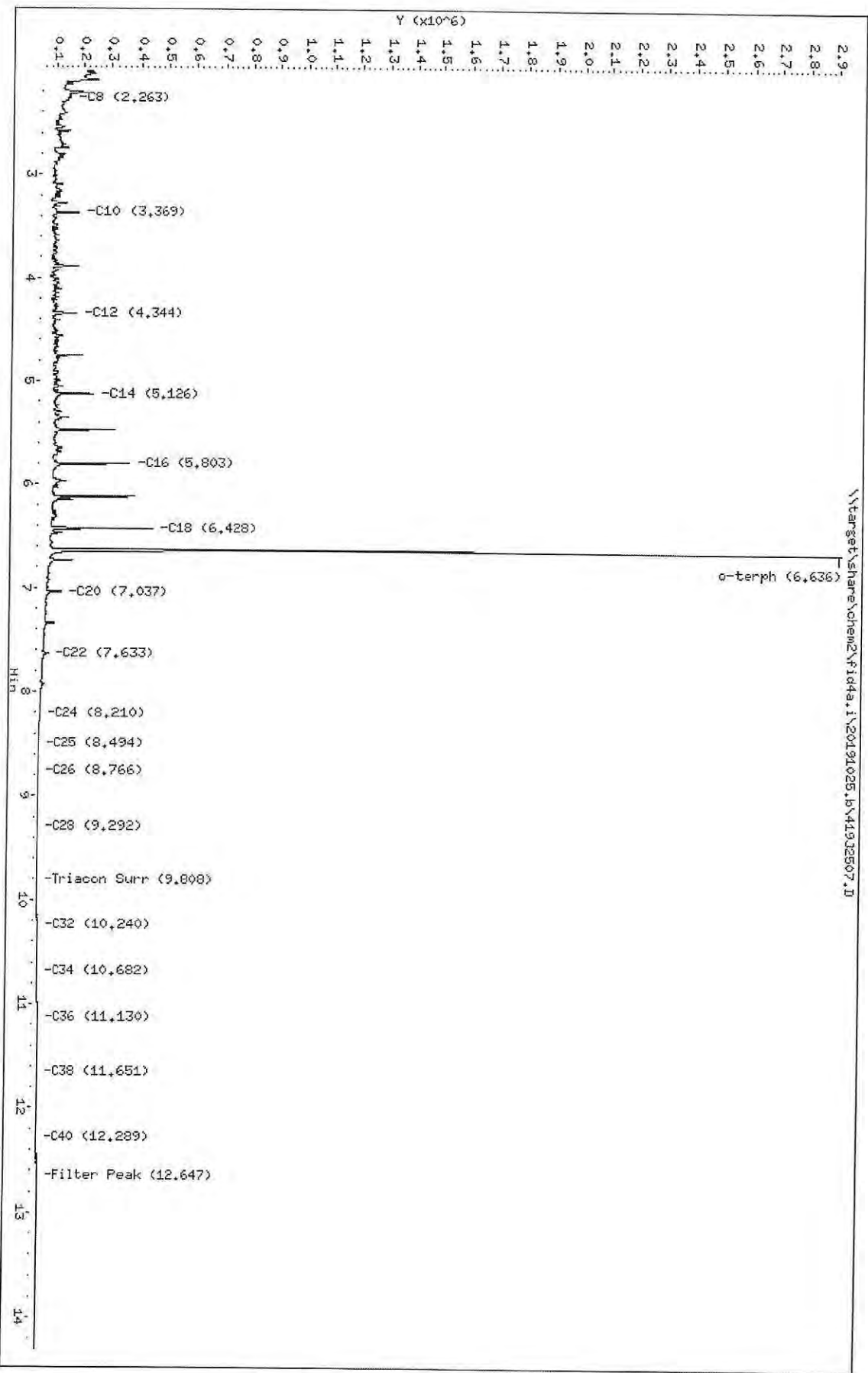
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2506.D SHJ0406-IBL2



Data File: \\farg\share\chem2\fid4a.i\20191025.b\419J2507.D
 Date: 25-OCT-2019 13:52
 Client ID:
 Sample Info: SHJ0406-CAL1
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2507.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL1
Client ID:
Injection: 25-OCT-2019 13:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	94181	68499	WATPHD	(C12-C24)	9105717	57.1
C10	3.369	-0.004	130777	159818	WATPHM	(C24-C38)	651398	4.9
C12	4.344	-0.003	124752	202412	AK102	(C10-C25)	11867629	60.7
C14	5.126	-0.003	188715	181186	AK103	(C25-C36)	363608	3.6
C16	5.803	-0.004	314329	331178	OR.DIES	(C10-C28)	11884580	60.6
C18	6.428	-0.007	400639	334718				
C20	7.037	-0.006	83282	126537				
C22	7.633	-0.006	34959	59242				
C24	8.210	-0.005	6227	12090				
C25	8.494	0.001	1850	2300				
C26	8.766	0.001	428	167				
C28	9.292	0.007	424	156				
C32	10.240	-0.002	2740	1341				
C34	10.682	0.001	5209	2827				
Filter Peak	12.647	-0.003	12268	7963	CREOSOT	(C12-C22)	8913896	2285.1
C36	11.130	0.001	8291	3309				
C38	11.651	0.001	10488	3653				
C40	12.289	0.000	11687	5838				
o-terph	6.636	-0.021	2823547	1865140				
Triacon Surr	9.808	0.006	1874	1287	NAS DIES	(C10-C24)	11851657	60.7

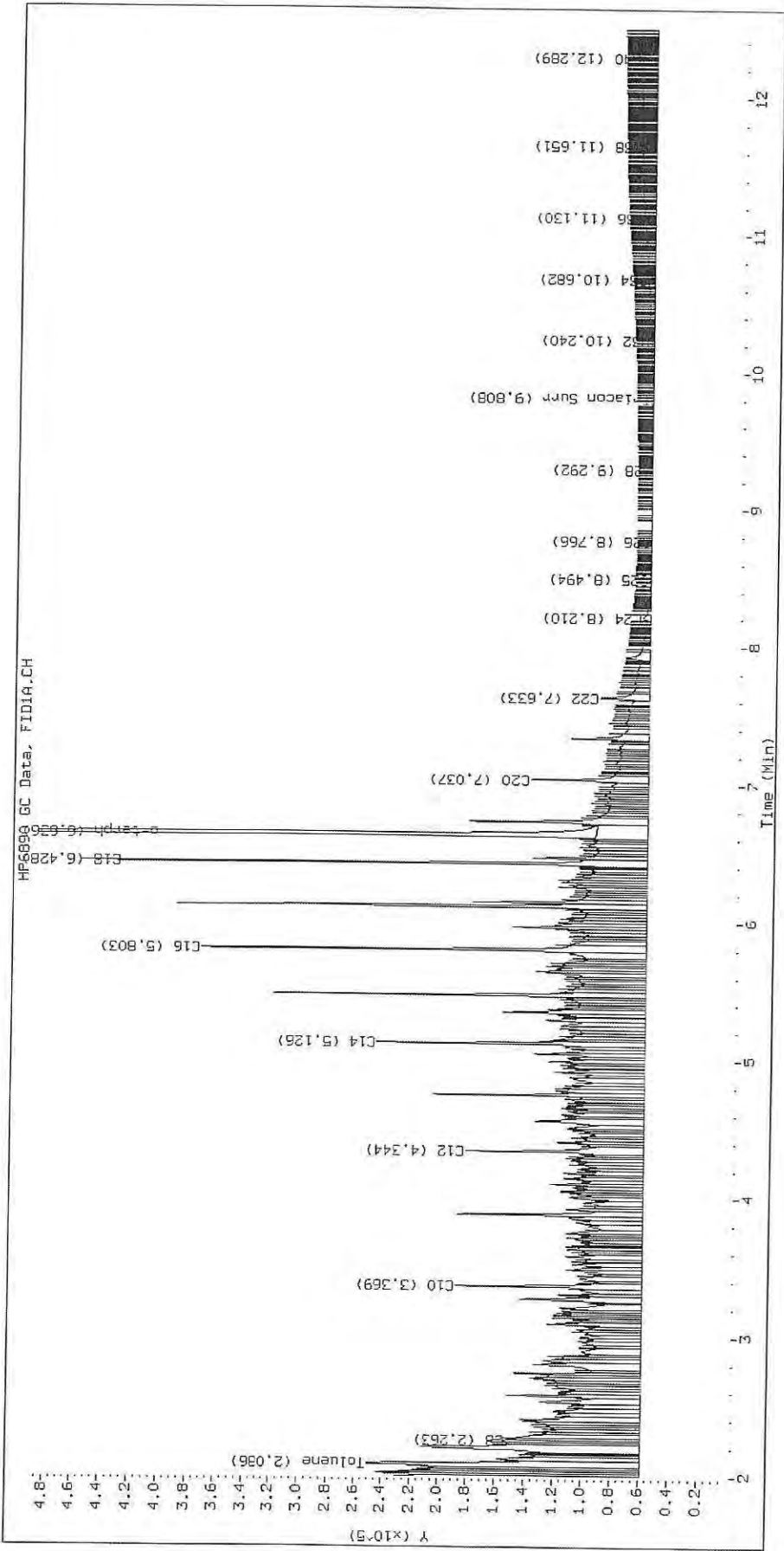
Range Times: NW Diesel (4.347 - 8.215) AK102 (3.37 - 8.49) Jet A (3.37 - 6.43)
NW M.Oil (8.21 - 11.65) AK103 (8.49 - 11.13) OR Diesel (3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1865140	9.1
Triacontane	1287	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2507.D SHJ0406-CALI



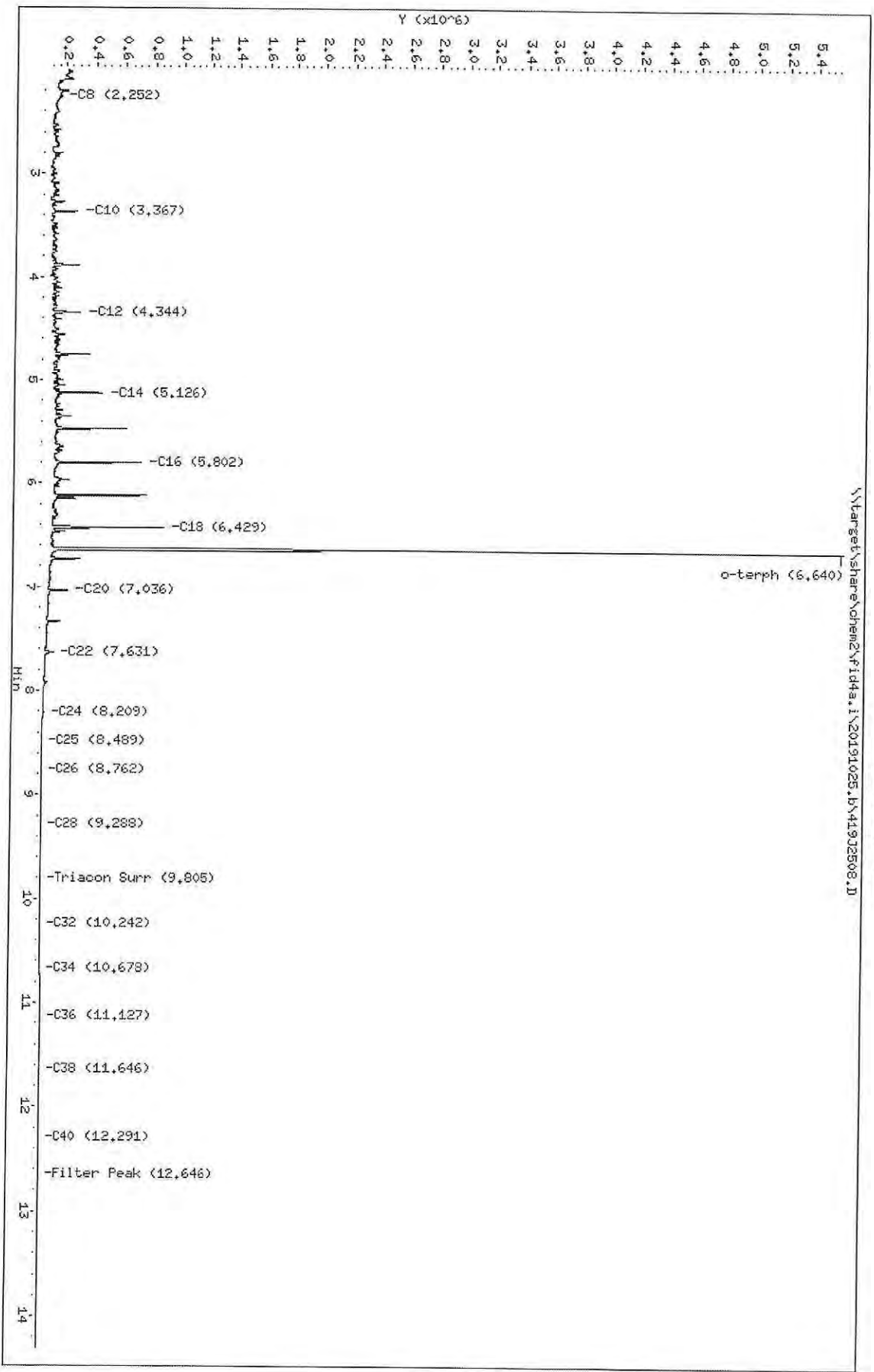
Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2508.D
Date: 25-OCT-2019 14:12

Client ID:
Sample Info: SHJ0406-CAL2

Column phase: RTX-1

Instrument: fid4a.i

Operator: CTO/SH/VTG/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2508.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL2
Client ID:
Injection: 25-OCT-2019 14:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.252	-0.010	100789	199426	WATPHD	(C12-C24)	16216844	101.8
C10	3.367	-0.006	219354	239129	WATPHM	(C24-C38)	605463	4.6
C12	4.344	-0.003	250355	355289	AK102	(C10-C25)	20356499	104.1
C14	5.126	-0.004	400436	340538	AK103	(C25-C36)	329685	3.3
C16	5.802	-0.005	670430	513156	OR.DIES	(C10-C28)	20386032	104.0
C18	6.429	-0.006	830433	585845				
C20	7.036	-0.007	189557	206229				
C22	7.631	-0.007	81567	107164				
C24	8.209	-0.006	13975	32117				
C25	8.489	-0.004	4286	7117				
C26	8.762	-0.002	1237	1115				
C28	9.288	0.003	364	105				
C32	10.242	0.000	2184	855				
C34	10.678	-0.003	4506	5051				
Filter Peak	12.646	-0.005	11019	4947	CREOSOT	(C12-C22)	15825625	4056.9
C36	11.127	-0.002	7155	1771				
C38	11.646	-0.004	9240	6899				
C40	12.291	0.002	10430	5163				
o-terph	6.640	-0.017	5468385	3642280				
Triacon Surr	9.805	0.003	1078	368	NAS DIES	(C10-C24)	20331247	104.2

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

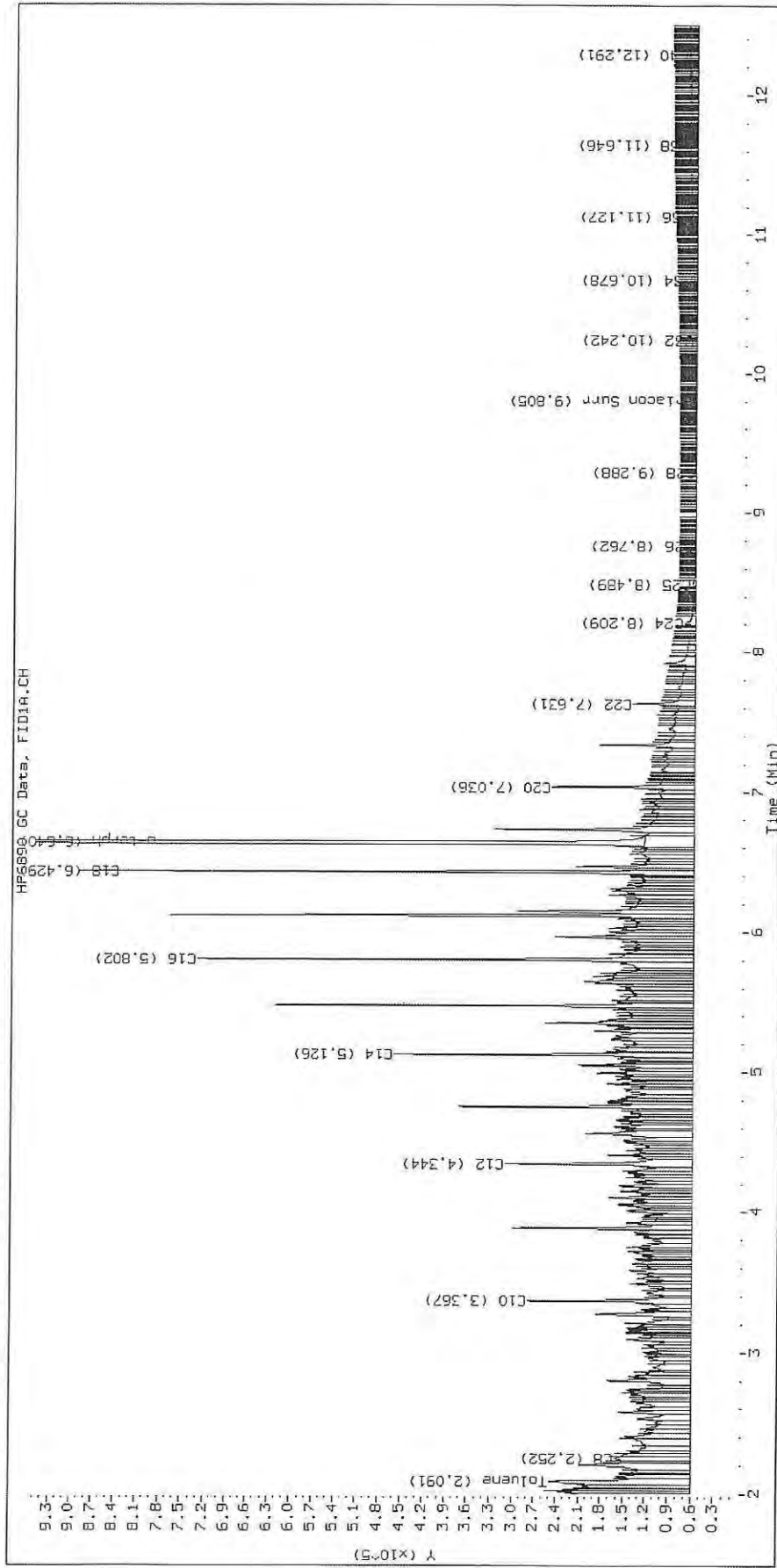
Surrogate	Area	Amount
o-Terphenyl	3642280	17.8 M
Triacotane	368	0.0

M Indicates the peak was manually integrated

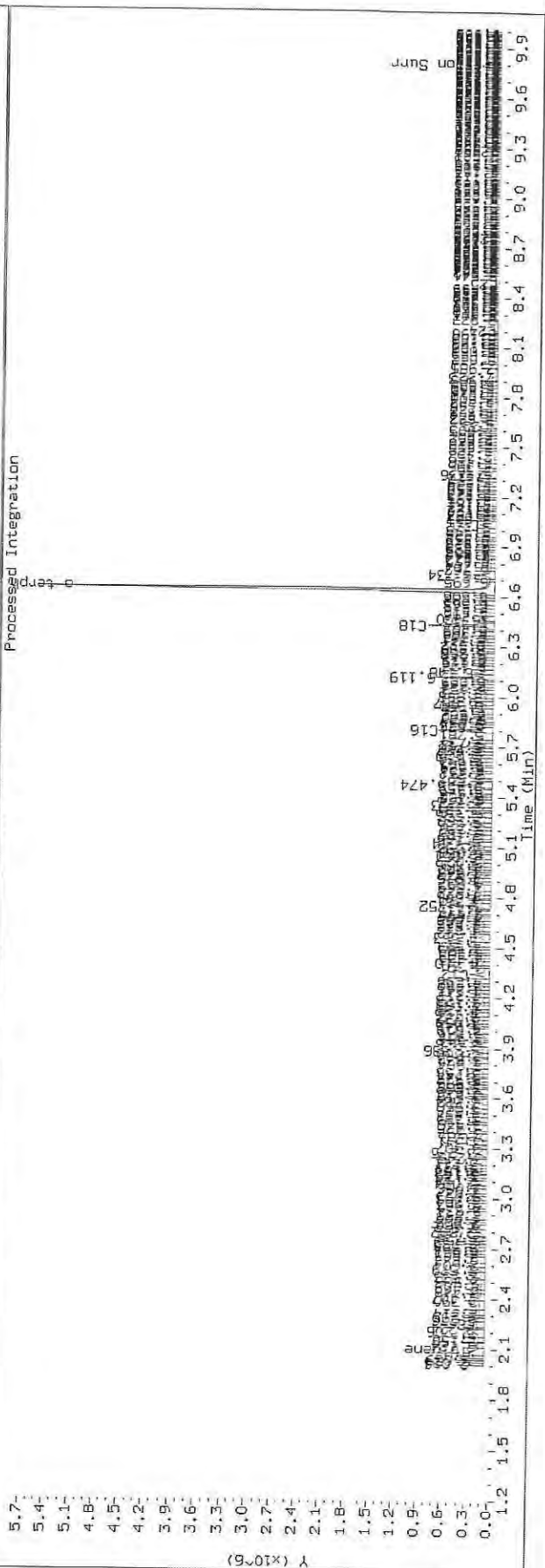
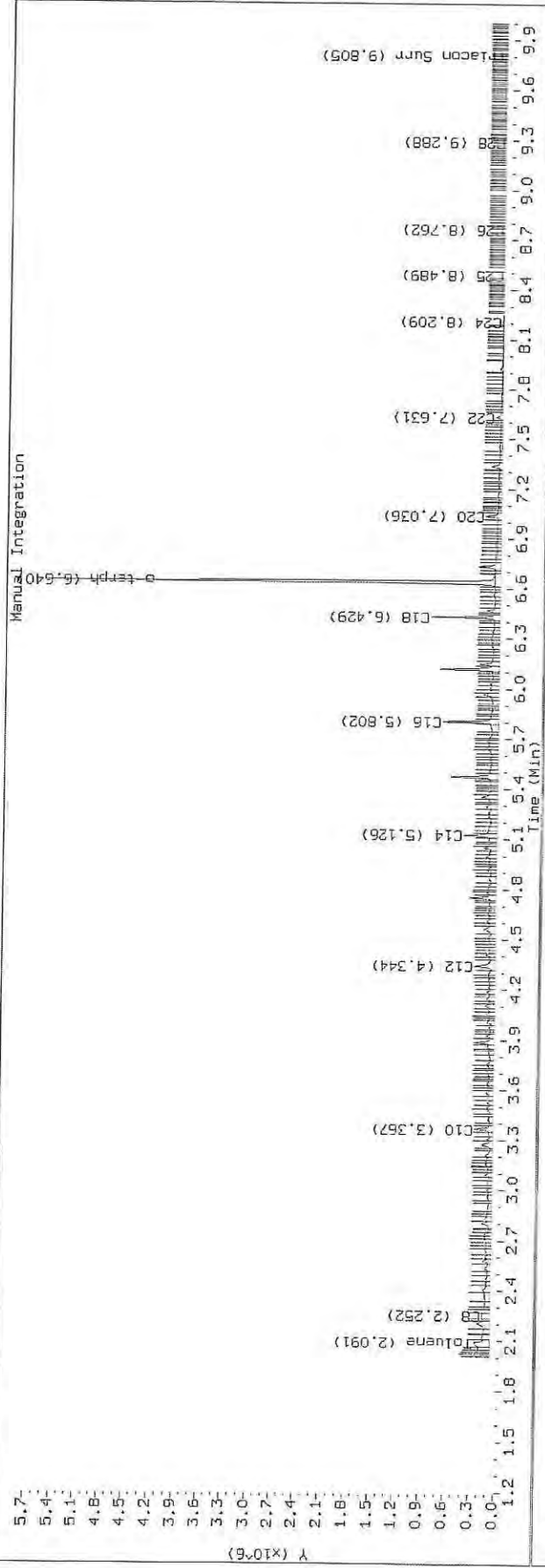
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2508.D SHJ0406-CAL2

HP6890 GC Data, FID1A.CH

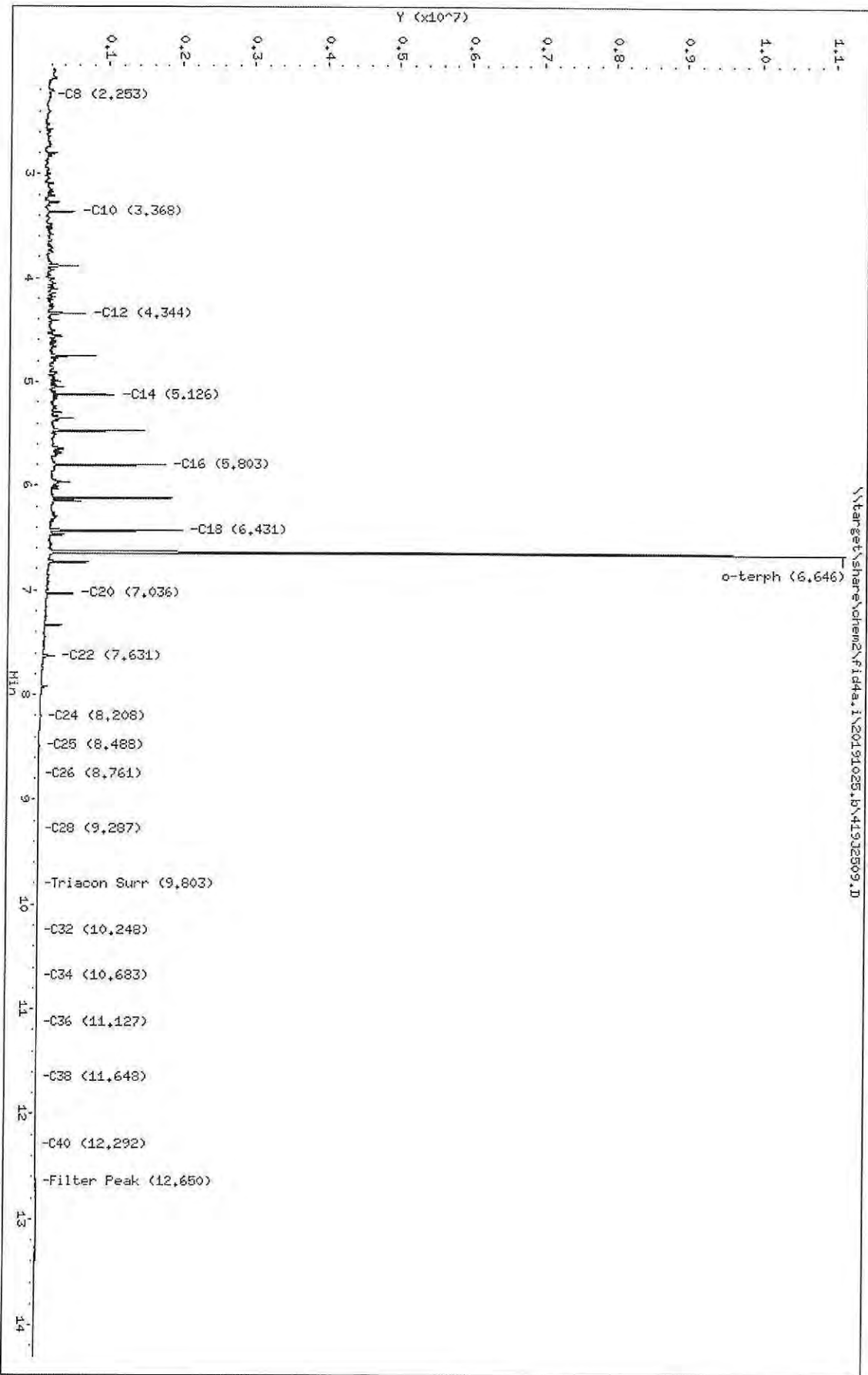


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2508.D Injection: 25-OCT-2019 14:12
 Lab ID: SHJ0406-CAL2



Data File: \\target\share\chem2\Fid4a.1\20191025.B\419J2509.D
Date: 25-OCT-2019 14:32
Client ID:
Sample Info: SHJ0406-CAL3
Column phase: RTX-1

Instrument: Fid4a.1
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2509.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL3
Client ID:
Injection: 25-OCT-2019 14:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.253	-0.009	118722	240565	WATPHD	(C12-C24)	37913827	237.9
C10	3.368	-0.005	483544	476749	WATPHM	(C24-C38)	575858	4.3
C12	4.344	-0.003	627626	779062	AK102	(C10-C25)	46188702	236.3
C14	5.126	-0.004	1022309	790022	AK103	(C25-C36)	284914	2.8
C16	5.803	-0.004	1736531	1218478	OR.DIES	(C10-C28)	46284811	236.1
C18	6.431	-0.004	1970150	1409422				
C20	7.036	-0.007	509531	494893				
C22	7.631	-0.008	243435	281583				
C24	8.208	-0.007	43836	95774				
C25	8.488	-0.005	13614	32431				
C26	8.761	-0.004	4384	8919				
C28	9.287	0.001	605	214				
C32	10.248	0.006	1381	707				
C34	10.683	0.001	3151	1389				
Filter Peak	12.650	-0.000	9358	3271	CREOSOT	(C12-C22)	36811374	9436.7
C36	11.127	-0.002	5536	1099				
C38	11.648	-0.002	7679	4193				
C40	12.292	0.003	8799	4362				
o-terph	6.646	-0.010	10937727	8968221				
Triacon Surr	9.803	0.001	295	103	NAS DIES	(C10-C24)	46106144	236.3

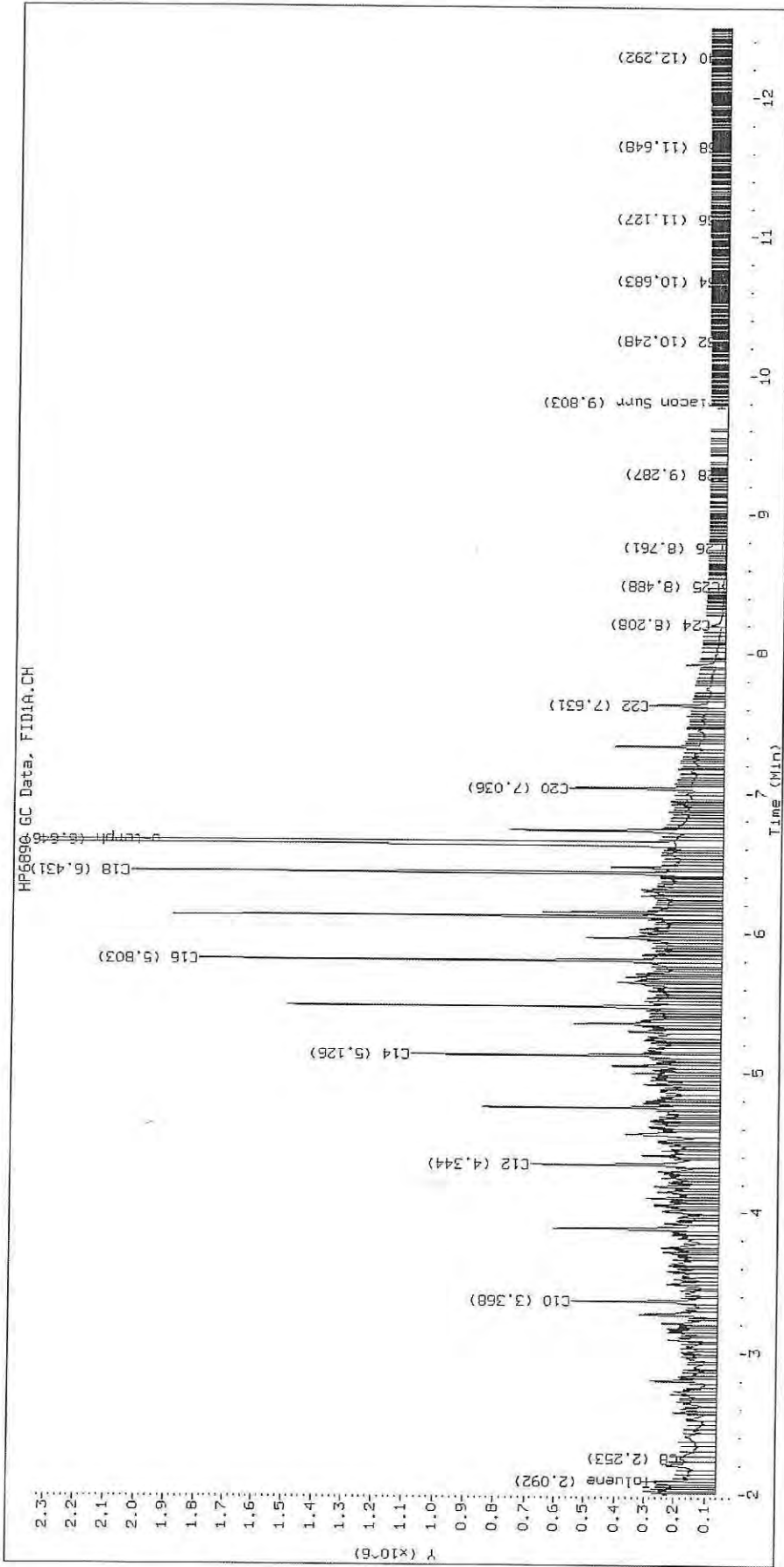
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	8968221	43.8
Triacontane	103	0.0

M Indicates the peak was manually integrated

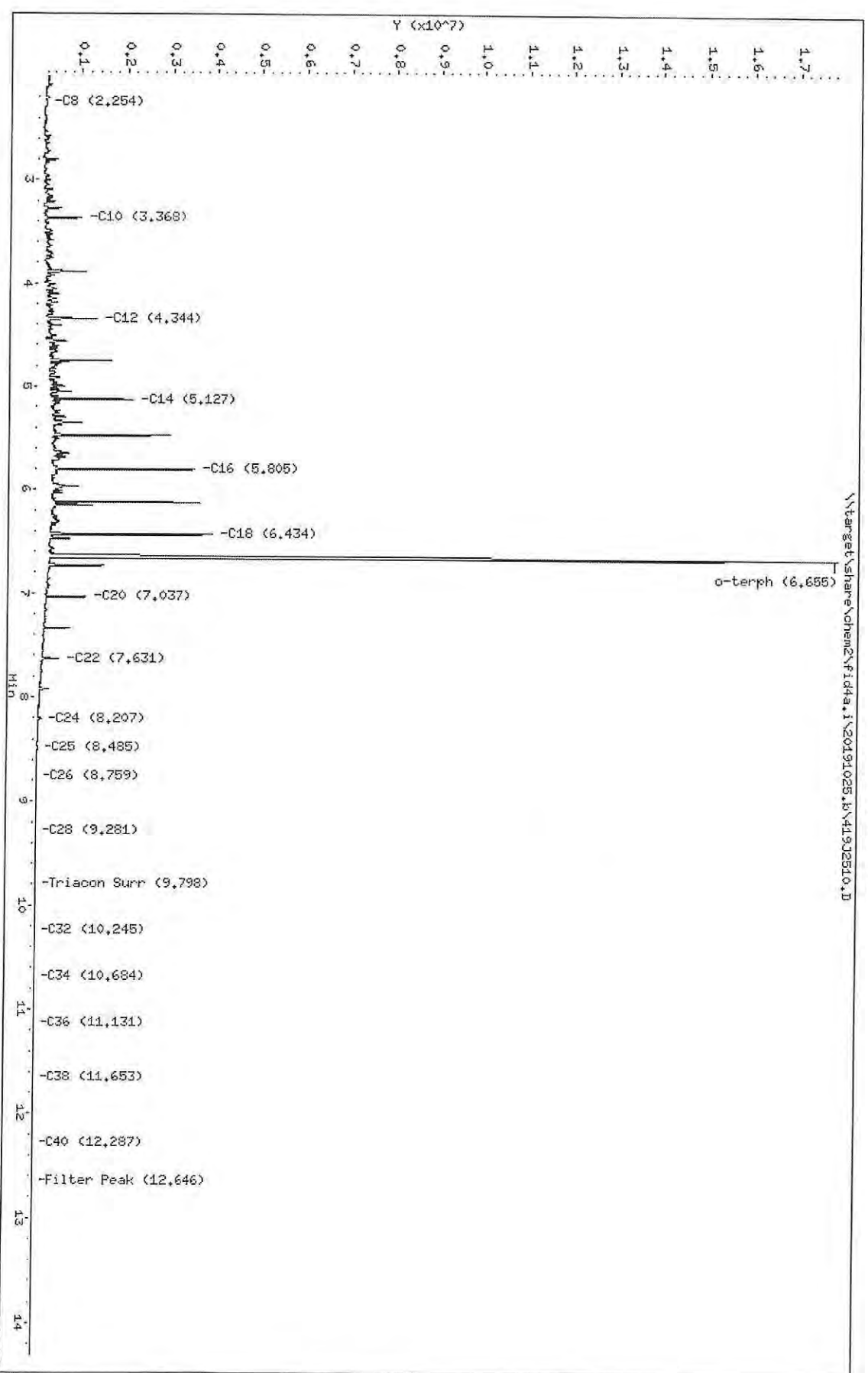
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2509.D SHJ0406-CAL3



Data File: \\target\share\chem2\fidha.i\20191025.b\419J2510.D
Date: 25-OCT-2019 14:53
Client ID:
Sample Info: SH30406-CRL4
Column phase: RTX-1

Instrument: fidha.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b\419J2510.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL4
Client ID:
Injection: 25-OCT-2019 14:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.009	133720	272365	WATPHD	(C12-C24)	76110005	477.7
C10	3.368	-0.005	913330	831182	WATPHM	(C24-C38)	747310	5.6
C12	4.344	-0.004	1278885	1502773	AK102	(C10-C25)	90903979	465.0
C14	5.127	-0.003	2082835	1580085	AK103	(C25-C36)	436439	4.4
C16	5.805	-0.002	3492654	2476612	OR.DIES	(C10-C28)	91160529	465.1
C18	6.434	-0.001	3902008	2902073				
C20	7.037	-0.006	1095165	935641				
C22	7.631	-0.008	544650	574105				
C24	8.207	-0.008	109625	202080				
C25	8.485	-0.008	35990	71794				
C26	8.759	-0.006	12661	25763				
C28	9.281	-0.004	1585	1856				
C32	10.245	0.003	1048	453				
C34	10.684	0.002	3071	1964				
Filter Peak	12.646	-0.004	3825	2093	CREOSOT	(C12-C22)	73861119	18934.4
C36	11.131	0.002	4915	3154				
C38	11.653	0.003	5457	2692				
C40	12.287	-0.002	4261	1483				
o-terph	6.655	-0.001	17508754	18236498				
Triacon Surr	9.798	-0.004	325	112	NAS DIES	(C10-C24)	90741143	465.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

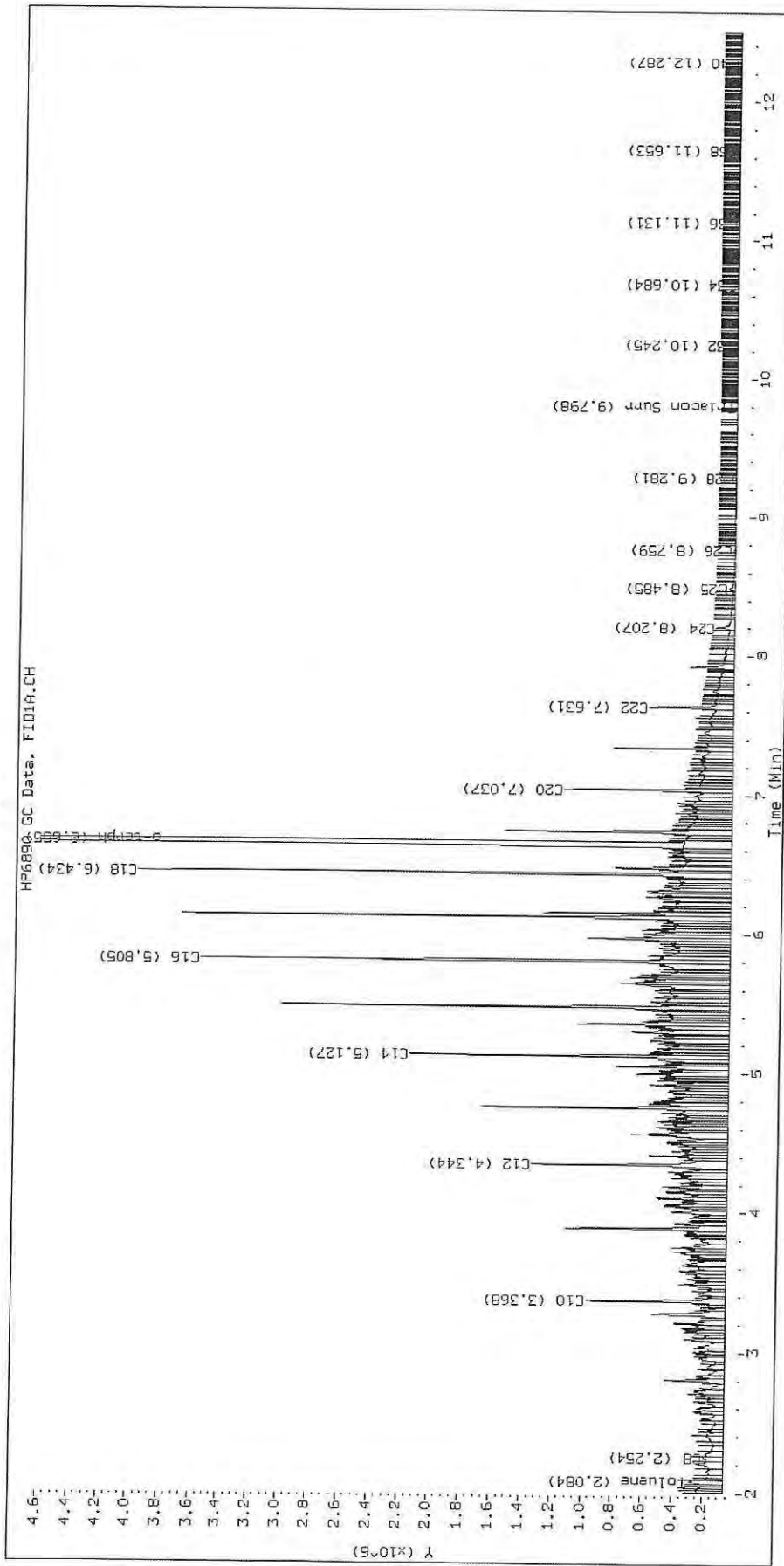
Surrogate	Area	Amount
o-Terphenyl	18236498	89.1 M
Triacotane	112	0.0

M Indicates the peak was manually integrated

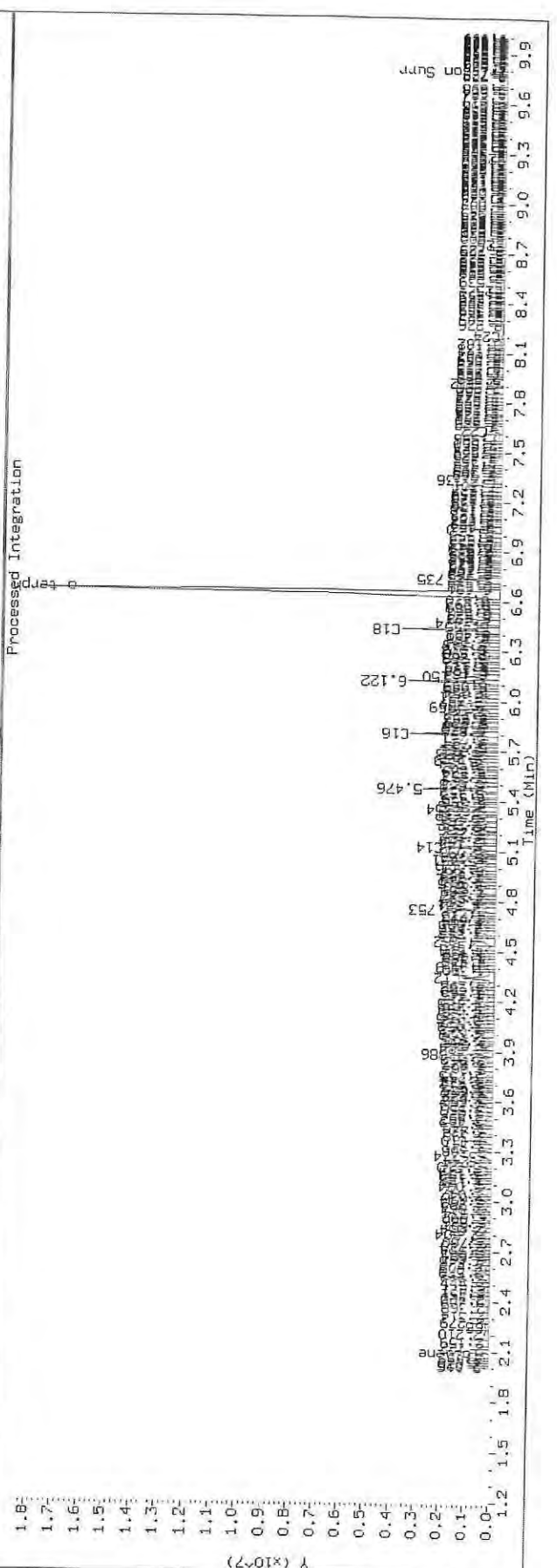
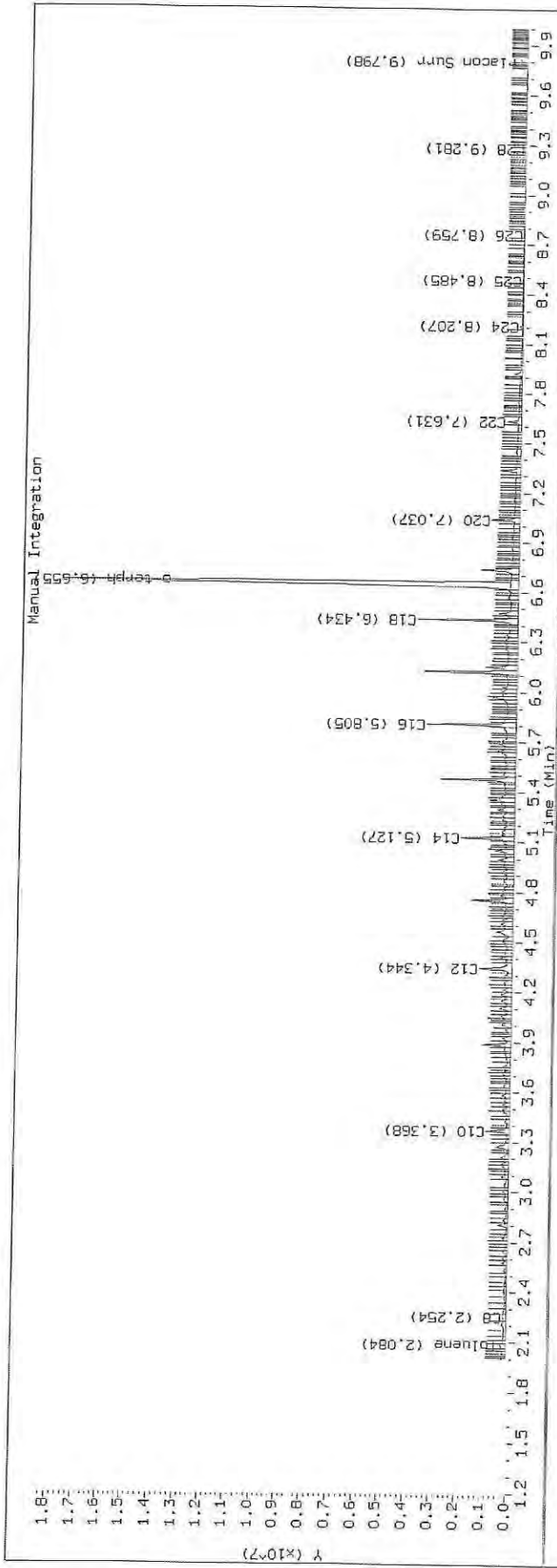
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2510.D

SHJ0406-CAL4

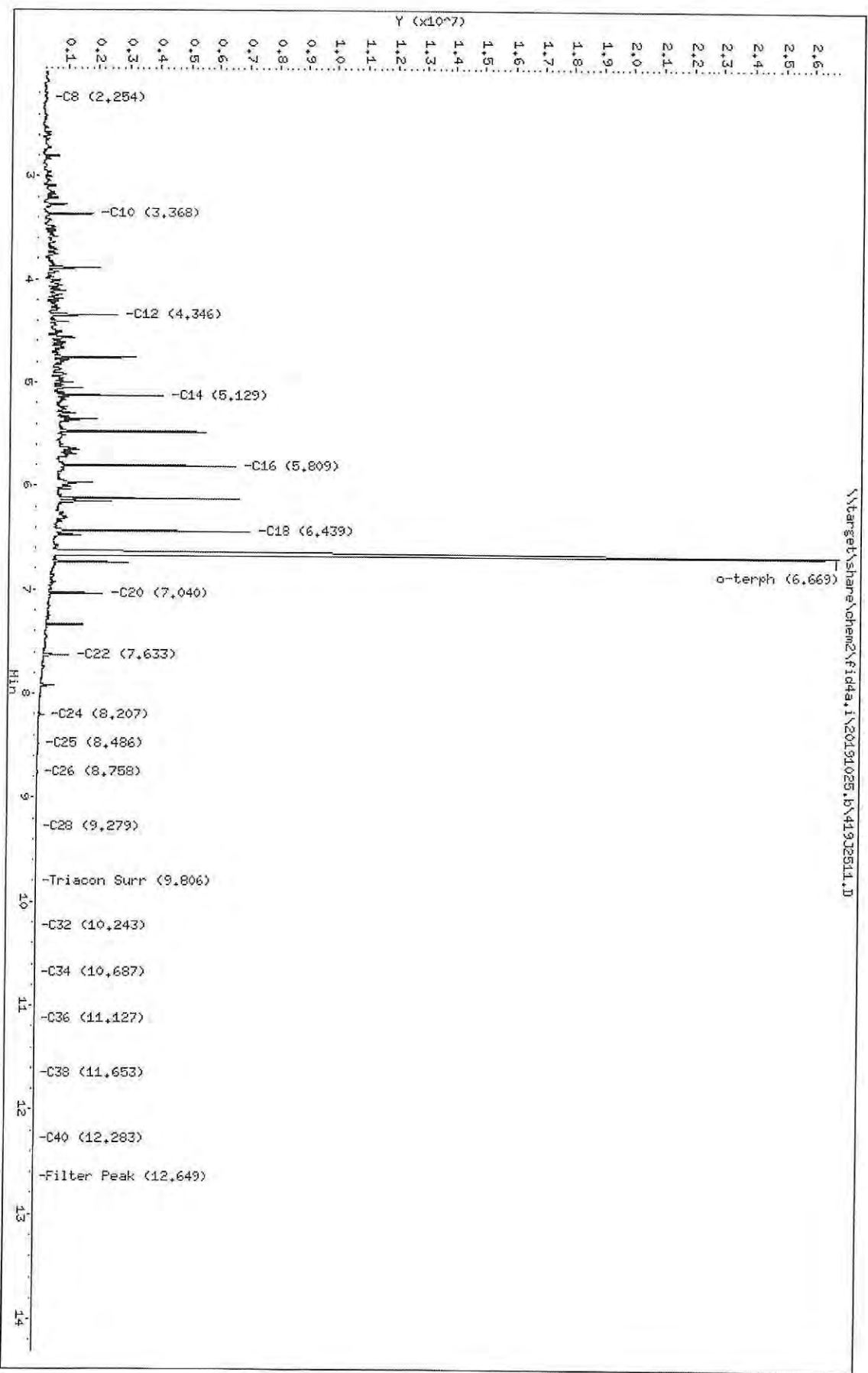


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2510.D Injection: 25-OCT-2019 14:53
 Lab ID: SH00406-CAL4



Data File: \\barger\share\chem2\fid4a.i\20191025.bv419J2511.D
 Date : 25-OCT-2019 15:13
 Client ID:
 Sample Info: SHJ0406-CALS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTU/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2511.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL5
Client ID:
Injection: 25-OCT-2019 15:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	179896	310888	WATPHD	(C12-C24)	153066747	960.6
C10	3.368	-0.005	1739085	1592987	WATPHM	(C24-C38)	1270800	9.6
C12	4.346	-0.001	2582378	2992597	AK102	(C10-C25)	181956494	930.8
C14	5.129	-0.000	4119910	3175625	AK103	(C25-C36)	821445	8.2
C16	5.809	0.002	6560457	4974499	OR.DIES	(C10-C28)	182680399	932.0
C18	6.439	0.005	7062206	6028122				
C20	7.040	-0.003	2215368	1892870				
C22	7.633	-0.006	1144174	997771				
C24	8.207	-0.008	250003	385382				
C25	8.486	-0.007	89395	162170				
C26	8.758	-0.007	33365	80915				
C28	9.279	-0.006	6648	16116				
C32	10.243	0.001	219	113				
C34	10.687	0.005	471	169				
Filter Peak	12.649	-0.001	3299	1299	CREOSOT	(C12-C22)	148274267	38010.4
C36	11.127	-0.002	1506	512				
C38	11.653	0.003	2117	932				
C40	12.283	-0.006	2712	1056				
o-terph	6.669	0.013	26284682	37244787				
Triacon Surr	9.806	0.004	1398	1069	NAS DIES	(C10-C24)	181561688	930.4

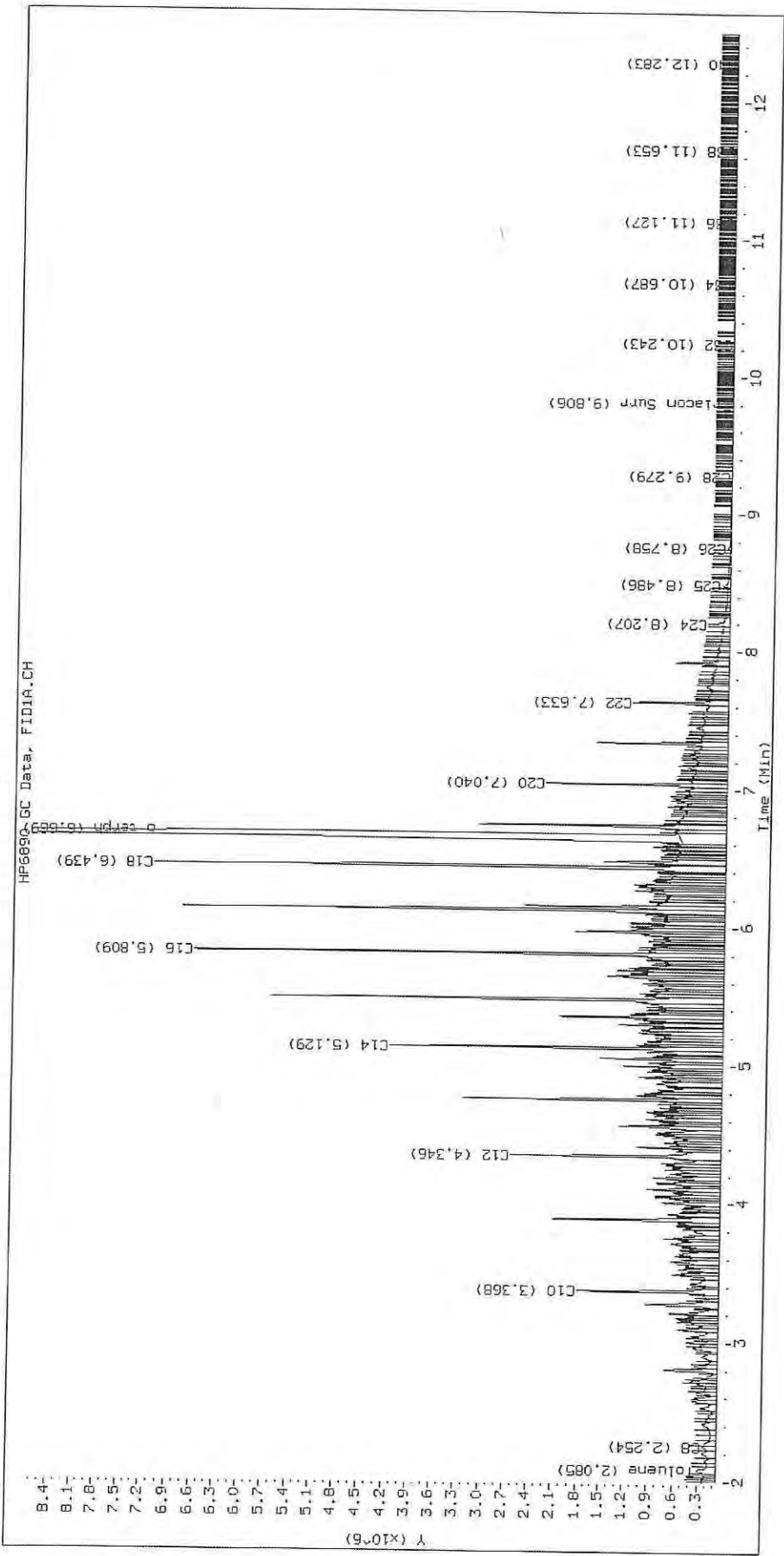
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	37244787	181.9 M
Triacotane	1069	0.0

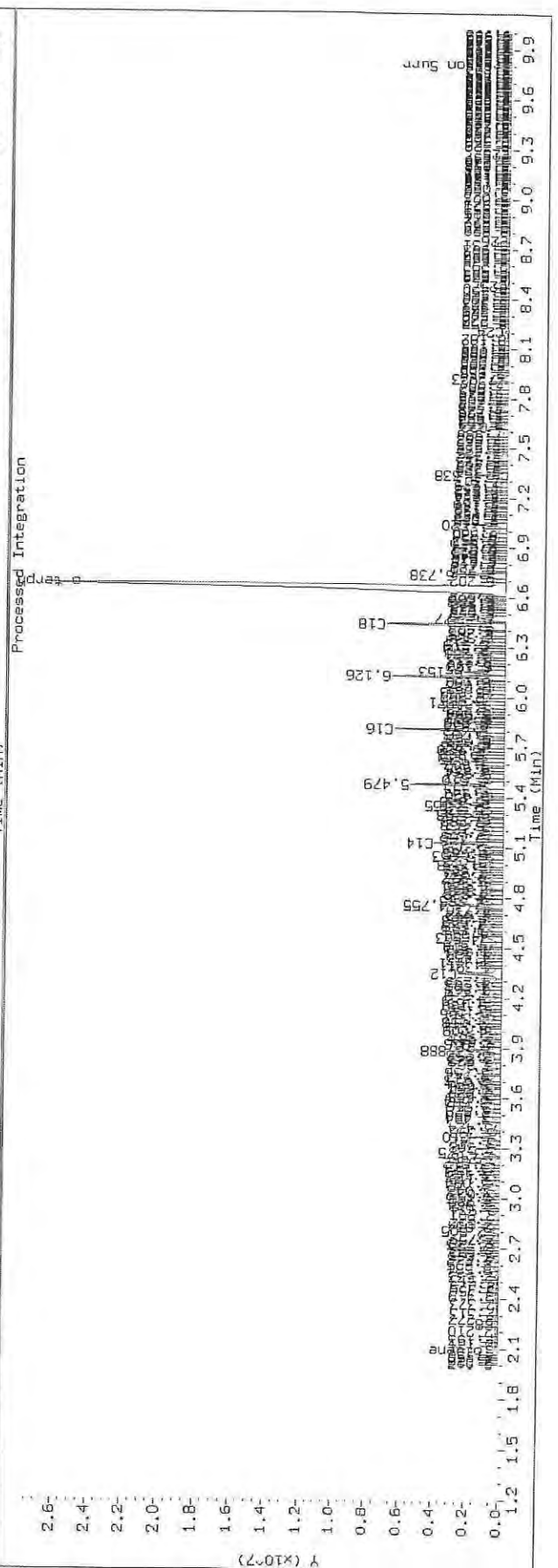
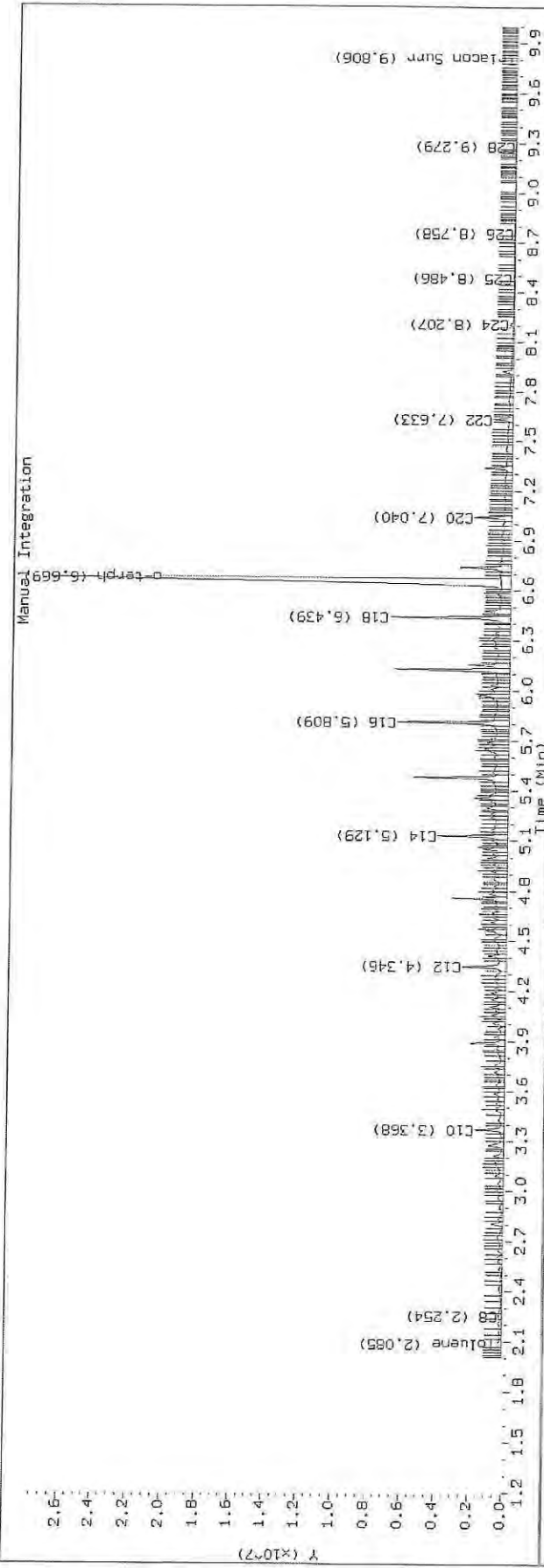
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2511.D SHJ0406-CAL5

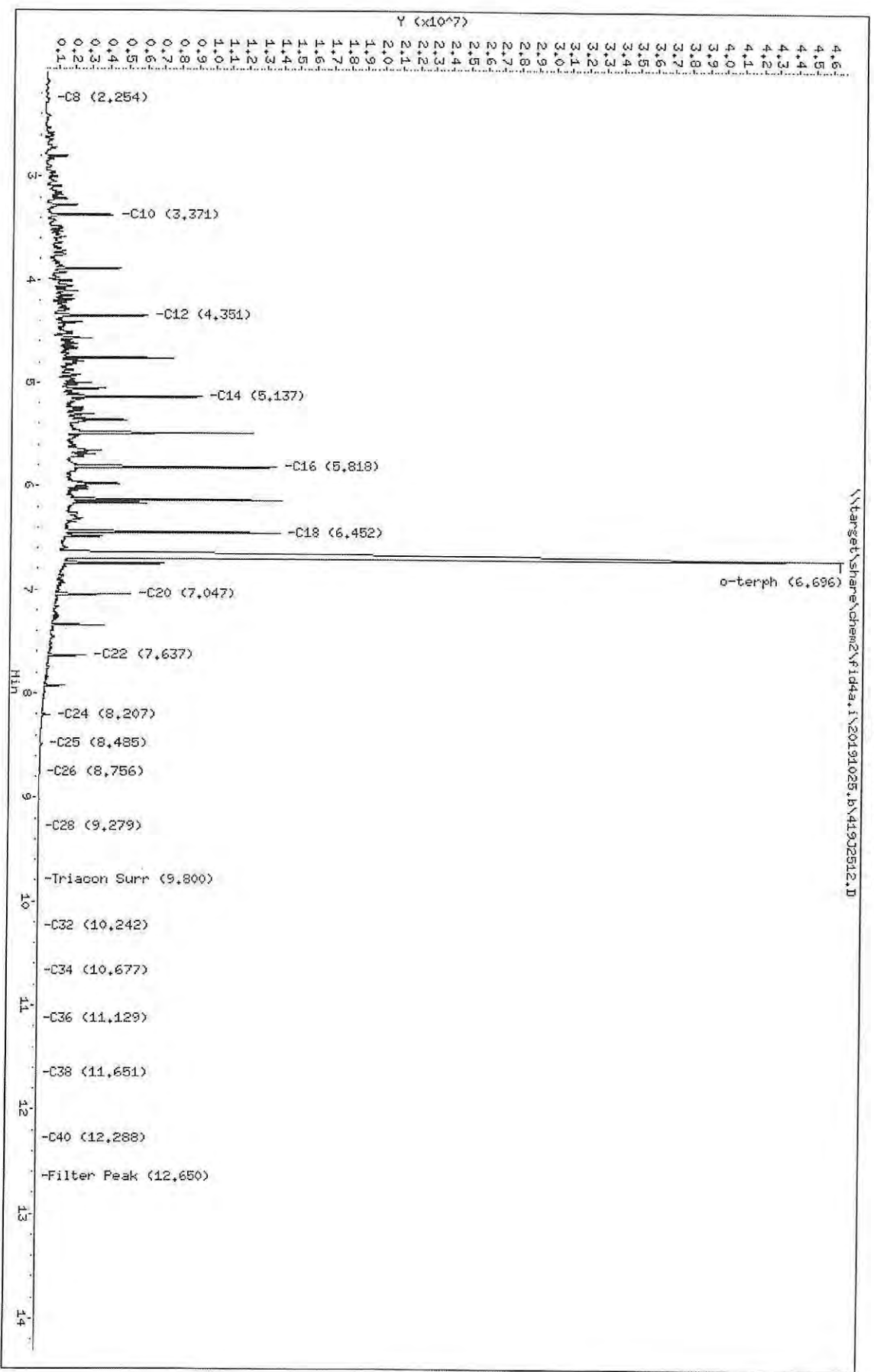


Datafile: FID4A, 20191025.b/419J2511.D Injection: 25-OCT-2019 15:13
 Lab ID: SHJ0406-CAL5



Data File: \\target\shame\chem2\fid4a.1\20191025.bv419J2512.D
 Date: 25-OCT-2019 15:32
 Client ID:
 Sample Info: SHJ0406-CHL6
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTG/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2512.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL6
Client ID:
Injection: 25-OCT-2019 15:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.254	-0.008	310597	486343	WATPHD	(C12-C24)	386988567	2428.7
C10	3.371	-0.002	4067321	3926897	WATPHM	(C24-C38)	3326156	25.1
C12	4.351	0.004	6051560	7536066	AK102	(C10-C25)	458776536	2346.8
C14	5.137	0.007	9257057	8197076	AK103	(C25-C36)	2148648	21.5
C16	5.818	0.011	13762212	12844924	OR.DIES	(C10-C28)	460755382	2350.8
C18	6.452	0.017	13977204	16316405				
C20	7.047	0.004	5292354	4776661				
C22	7.637	-0.002	2821591	2512756				
C24	8.207	-0.007	692936	731199				
C25	8.485	-0.008	261257	416815				
C26	8.756	-0.009	100686	191231				
C28	9.279	-0.006	17823	35082				
C32	10.242	-0.001	483	193				
C34	10.677	-0.004	847	428				
Filter Peak	12.650	-0.001	5215	3893	CREOSOT	(C12-C22)	374231679	95935.0
C36	11.129	0.000	2243	1721				
C38	11.651	0.001	3497	1043				
C40	12.288	-0.001	4517	2473				
o-terph	6.696	0.039	45134516	94404433				
Triacon Surr	9.800	-0.002	2320	892	NAS DIES	(C10-C24)	457687210	2345.3

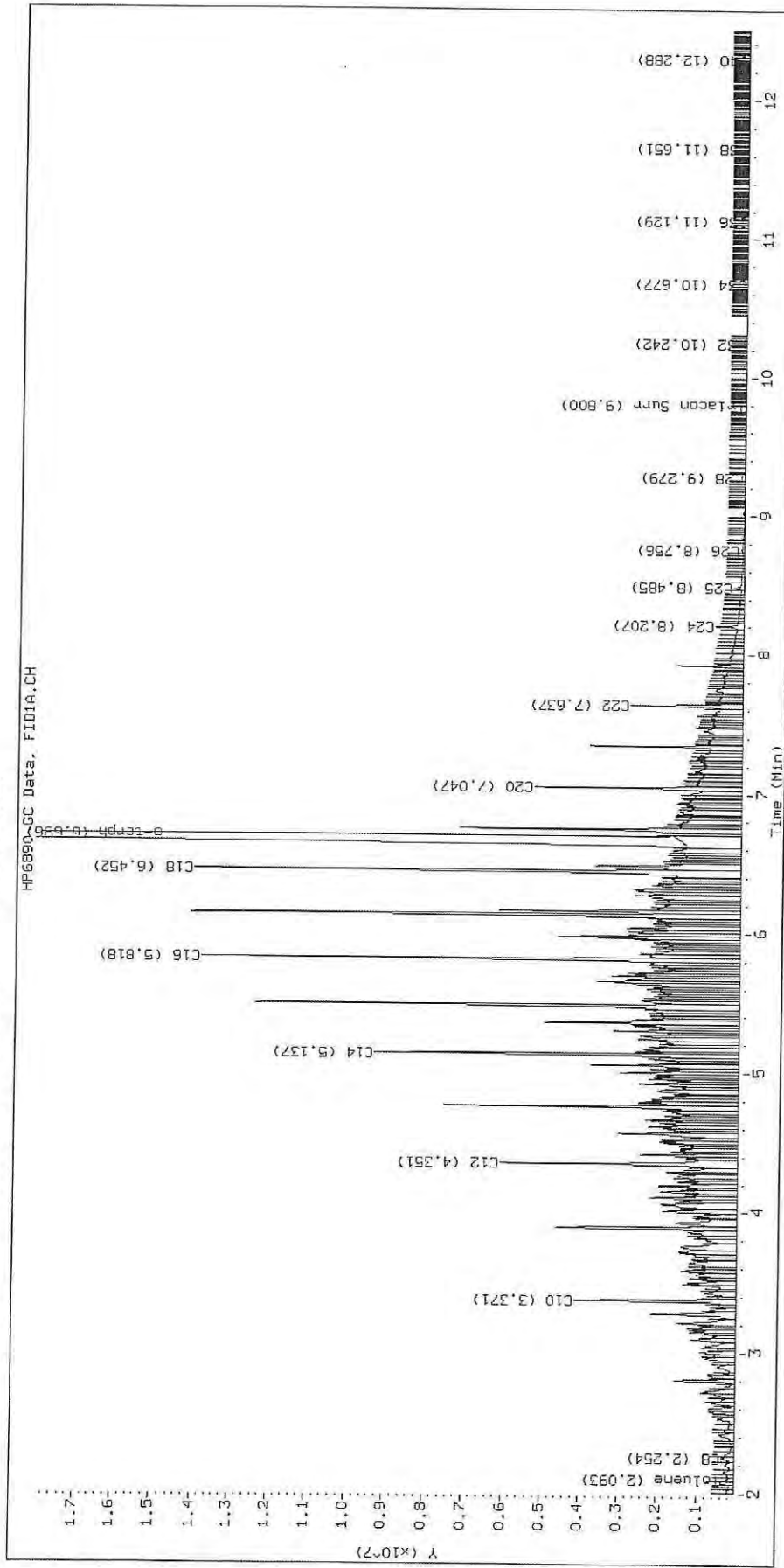
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

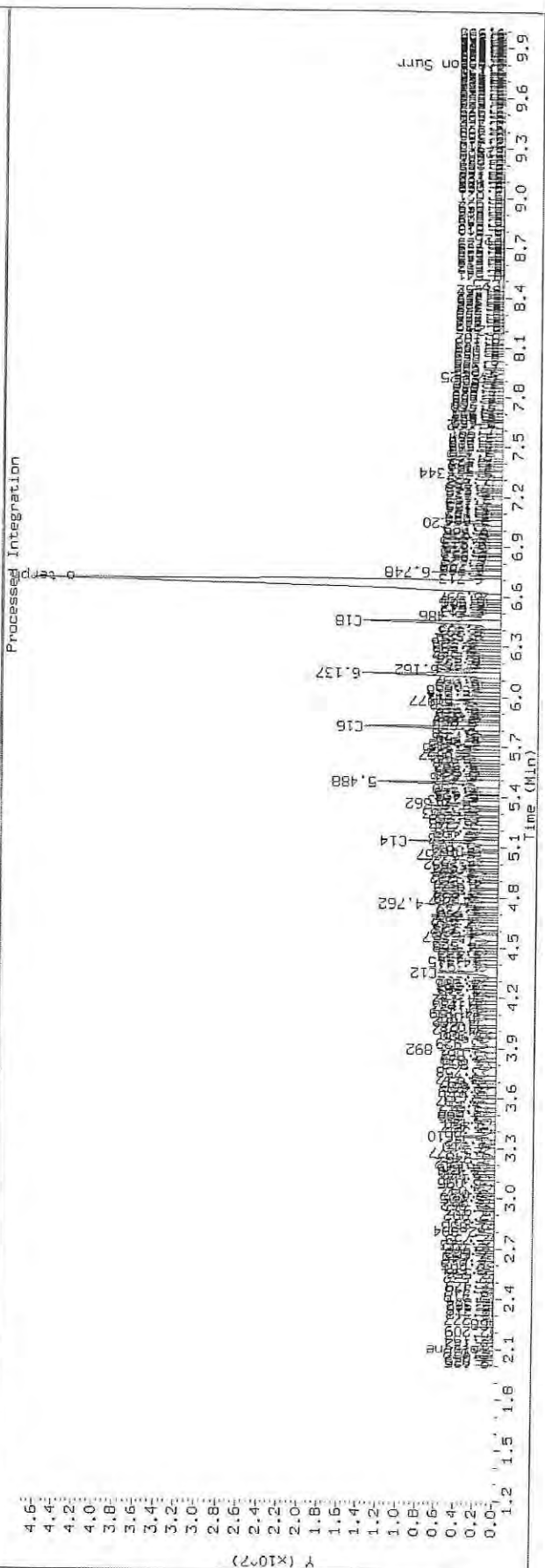
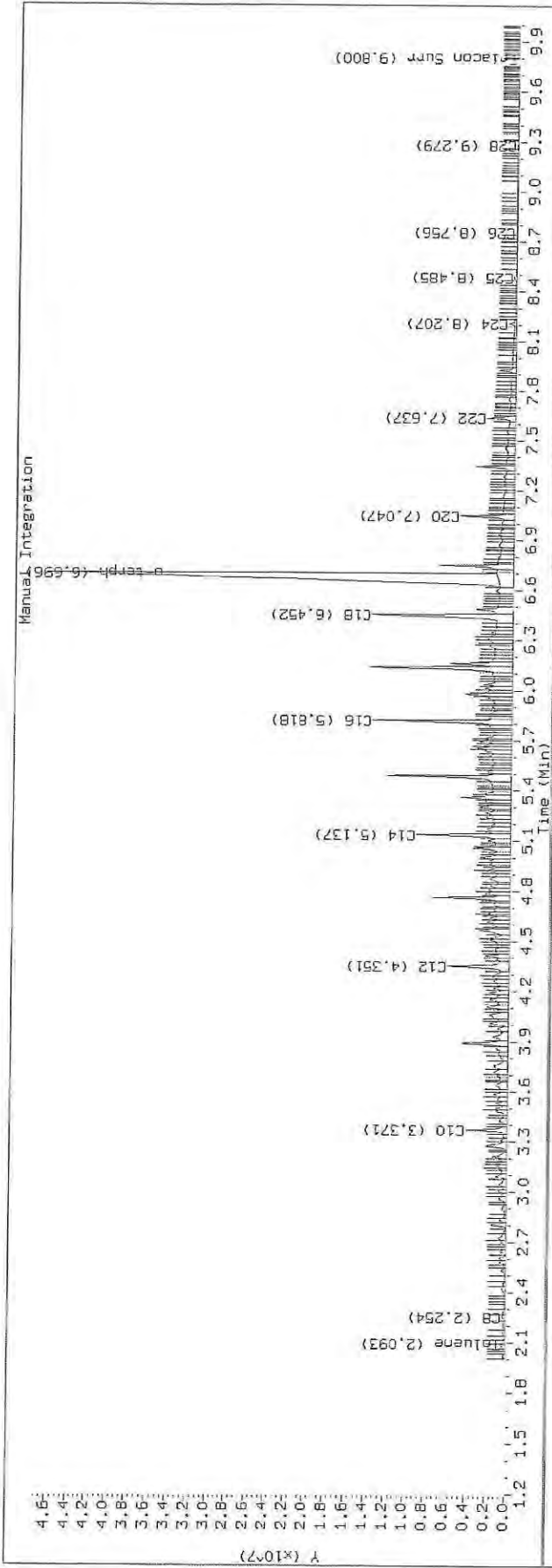
Surrogate	Area	Amount
o-Terphenyl	94404433	461.2 M
Triacontane	892	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

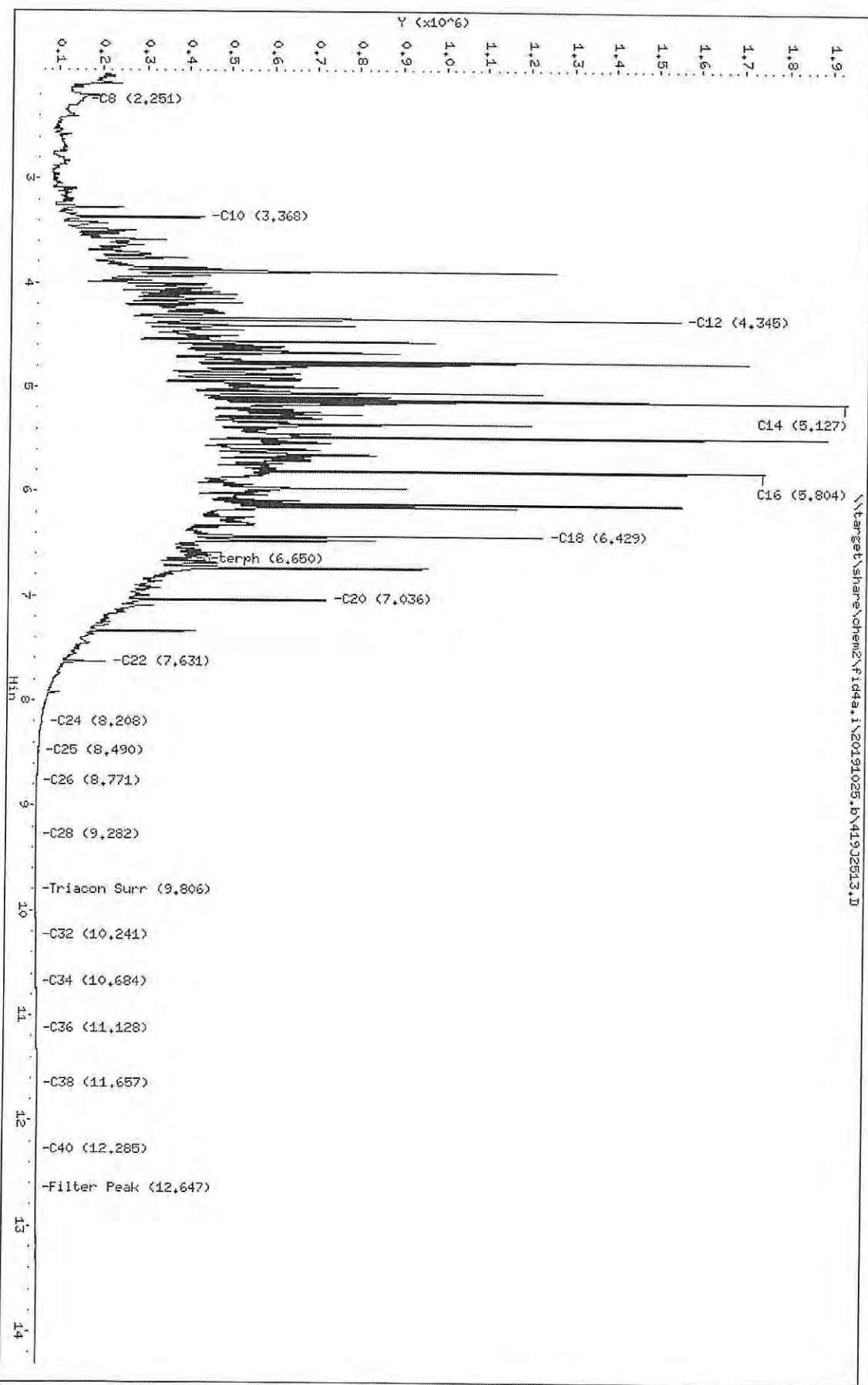
Datafile: FID4A, 20191025.b/41902512.D SHJ0406-CAL6





Data File: \\ntarget\share\chem2\fid4a.i\20191025.B\419J2513.D
Date: 25-OCT-2019 15:52
Client ID:
Sample Info: SH30406-SCW1
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV1
Client ID:
Injection: 25-OCT-2019 15:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

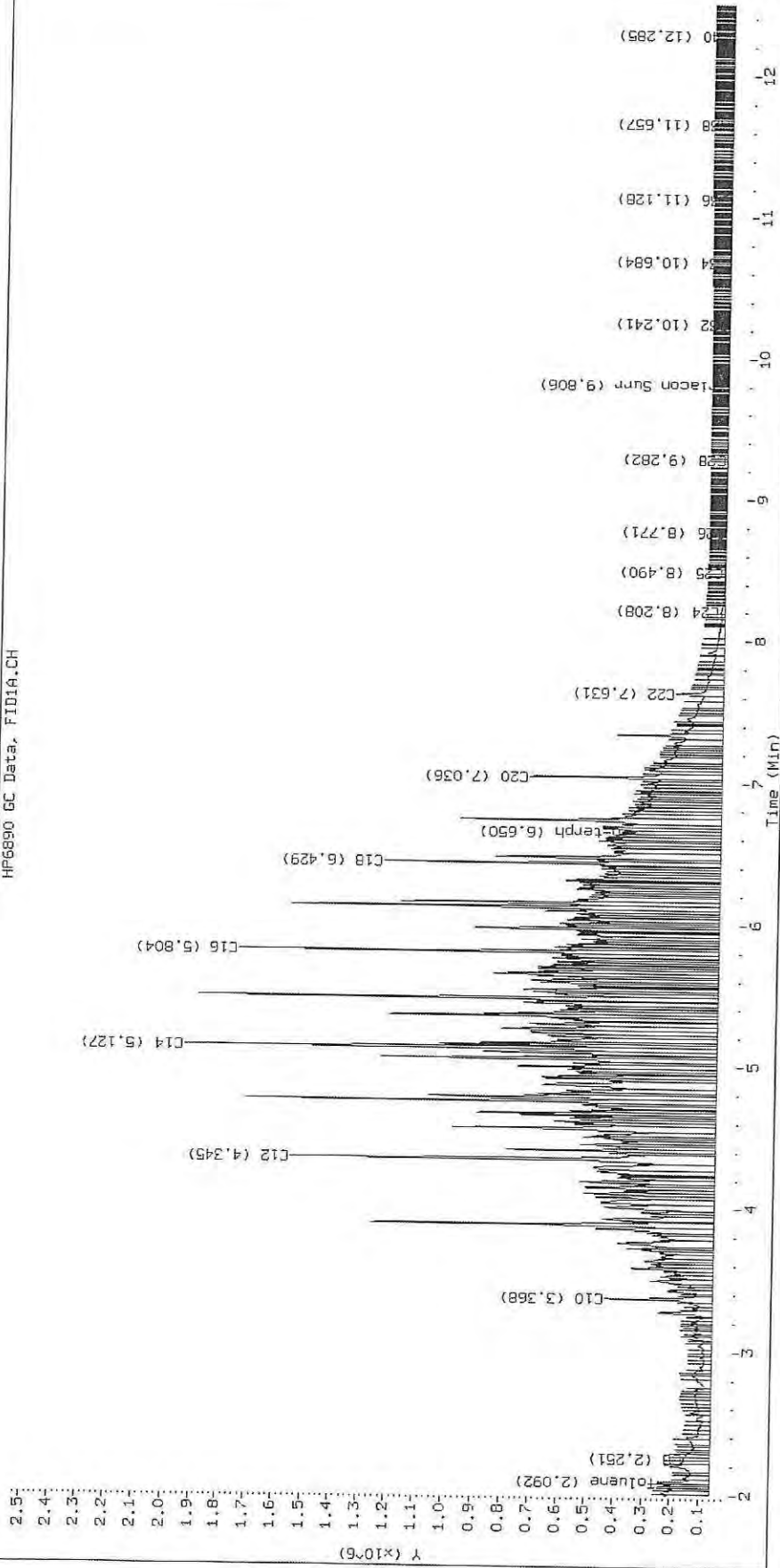
Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacontane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2513.D SHJ0406-SCVI

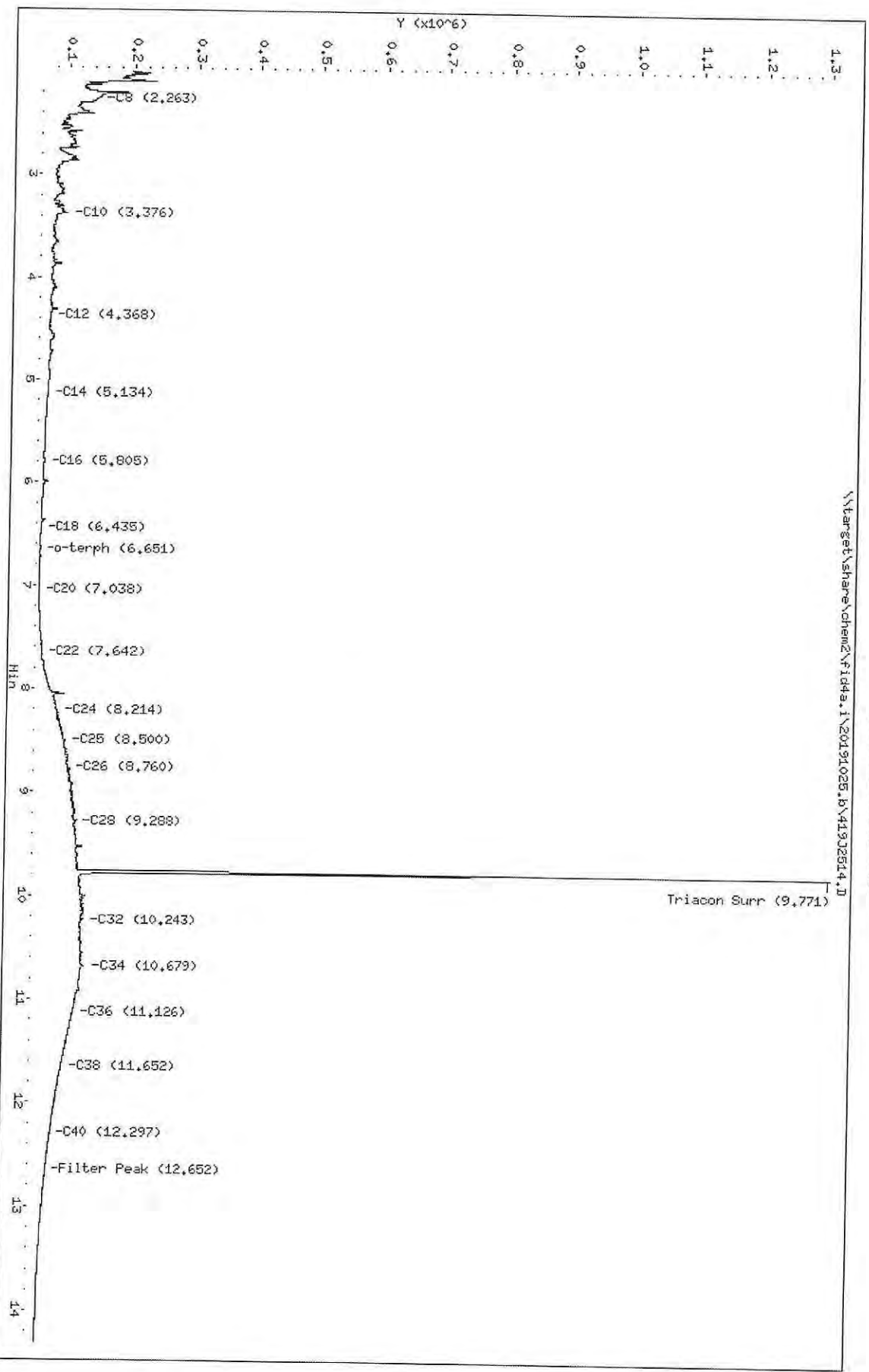
HP6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41932514.D
Date : 25-OCT-2019 16:12
Client ID:
Sample Info: SHJ0406-CAL7
Column phase: RTX-1

Instrument: fid4a.1
Operator: CTO/SH/VIS/JGR
Column diameter: 0.25

\\target\share\chem2\Fid4a.1\20191025.B\41932514.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2514.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL7
Client ID:
Injection: 25-OCT-2019 16:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.263	0.001	85024	58523	WATPHD	(C12-C24)	1690231	10.6
C10	3.376	0.003	37002	76813	WATPHM	(C24-C38)	13578464	102.4
C12	4.368	0.021	13222	16848	AK102	(C10-C25)	3173344	16.2
C14	5.134	0.004	9789	3901	AK103	(C25-C36)	11330395	113.3
C16	5.805	-0.002	5337	2891	OR.DIES	(C10-C28)	6258620	31.9
C18	6.435	0.000	1861	887				
C20	7.038	-0.005	431	243				
C22	7.642	0.003	6248	1558				
C24	8.214	-0.001	36357	52641				
C25	8.500	0.007	49017	43098				
C26	8.760	-0.005	55671	27607				
C28	9.288	0.003	67768	33791				
C32	10.243	0.001	81940	56823				
C34	10.679	-0.002	85222	51016				
Filter Peak	12.652	0.002	27566	19236	CREOSOT	(C12-C22)	959454	246.0
C36	11.126	-0.003	69343	27714				
C38	11.652	0.002	52690	33941				
C40	12.297	0.009	34497	15508				
o-terph	6.651	-0.006	941	547				
Triacon Surr	9.771	-0.031	1179904	816812	NAS DIES	(C10-C24)	2749900	14.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

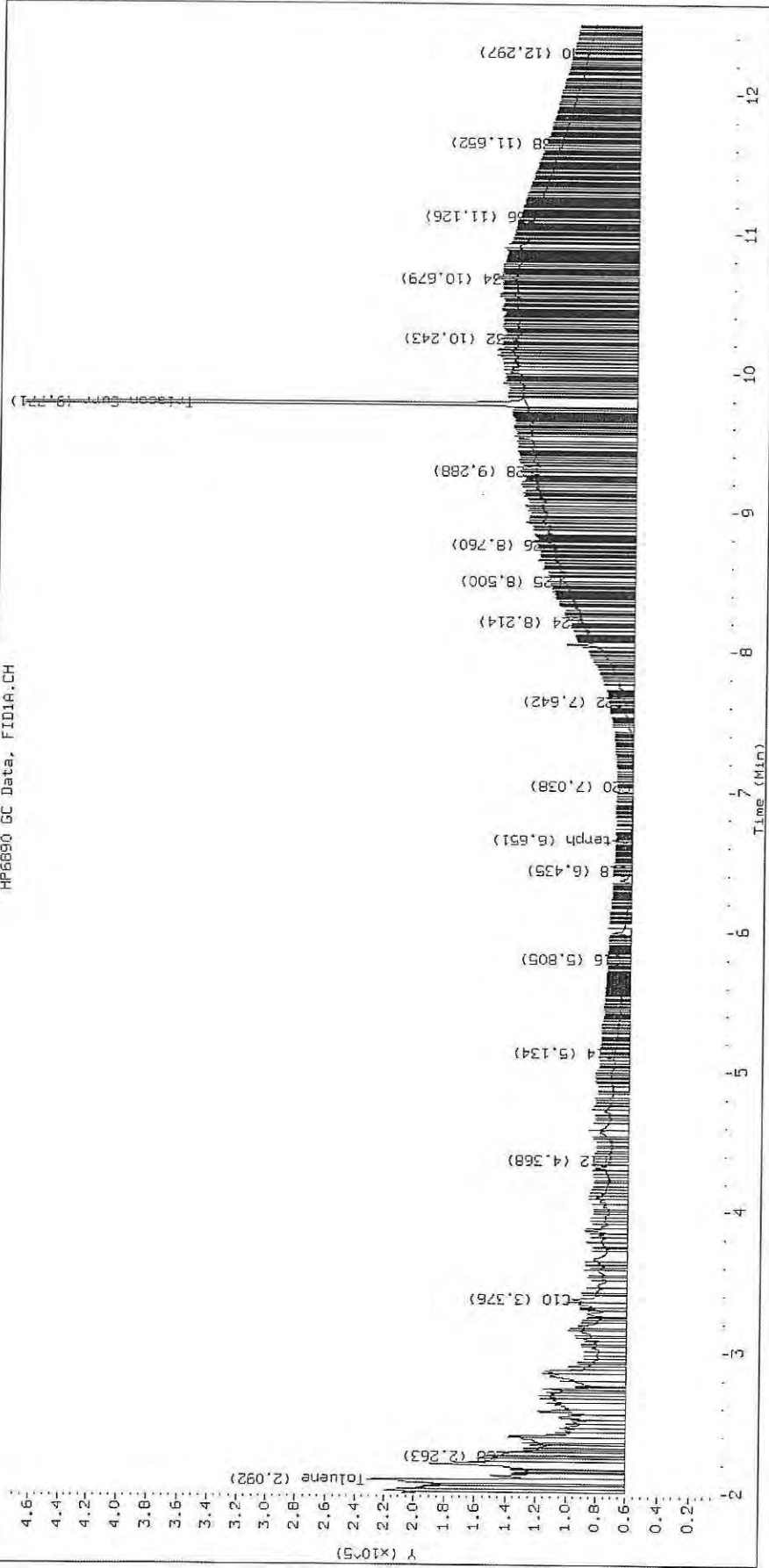
Surrogate	Area	Amount
o-Terphenyl	547	0.0
Triacotane	816812	4.6 M

M Indicates the peak was manually integrated

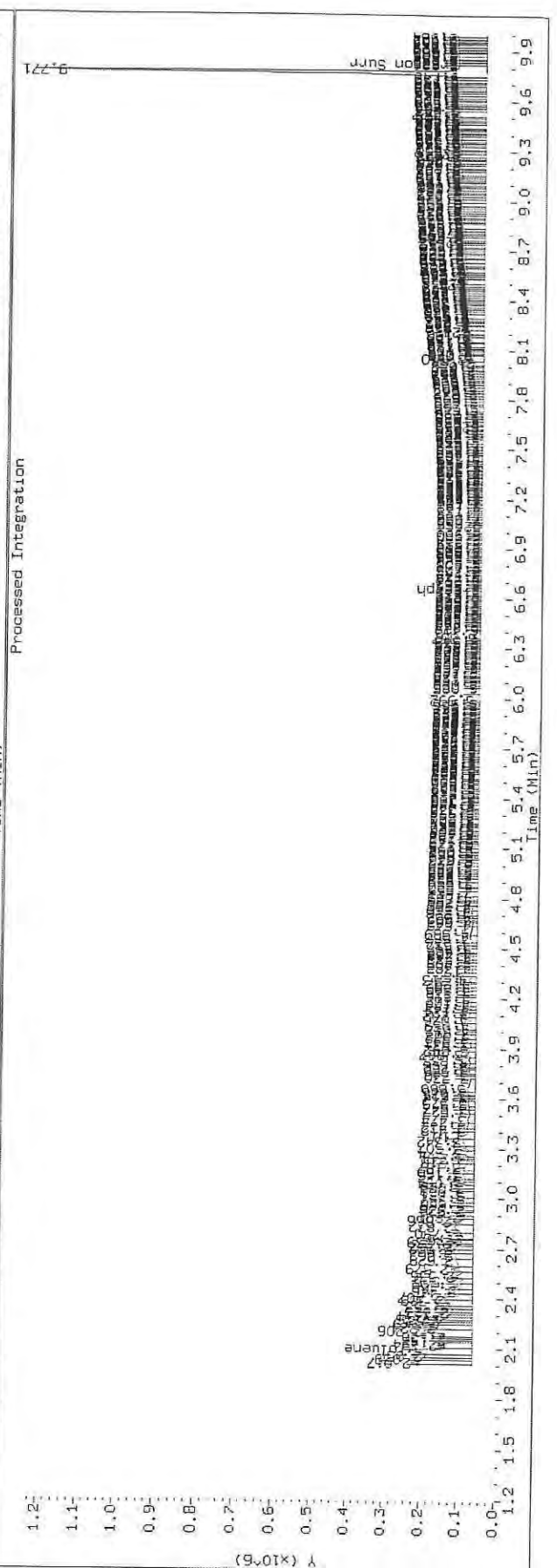
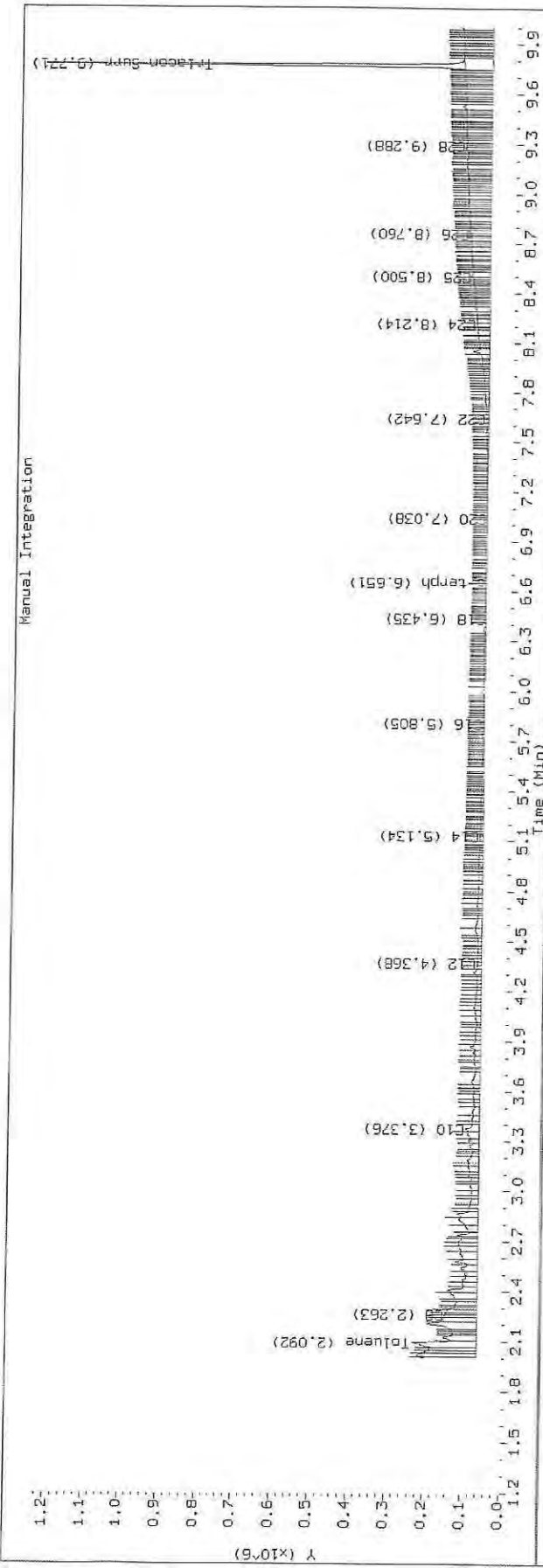
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2514.D SHJ0406-CAL7

HP6890 GC Data, FID1A.CH

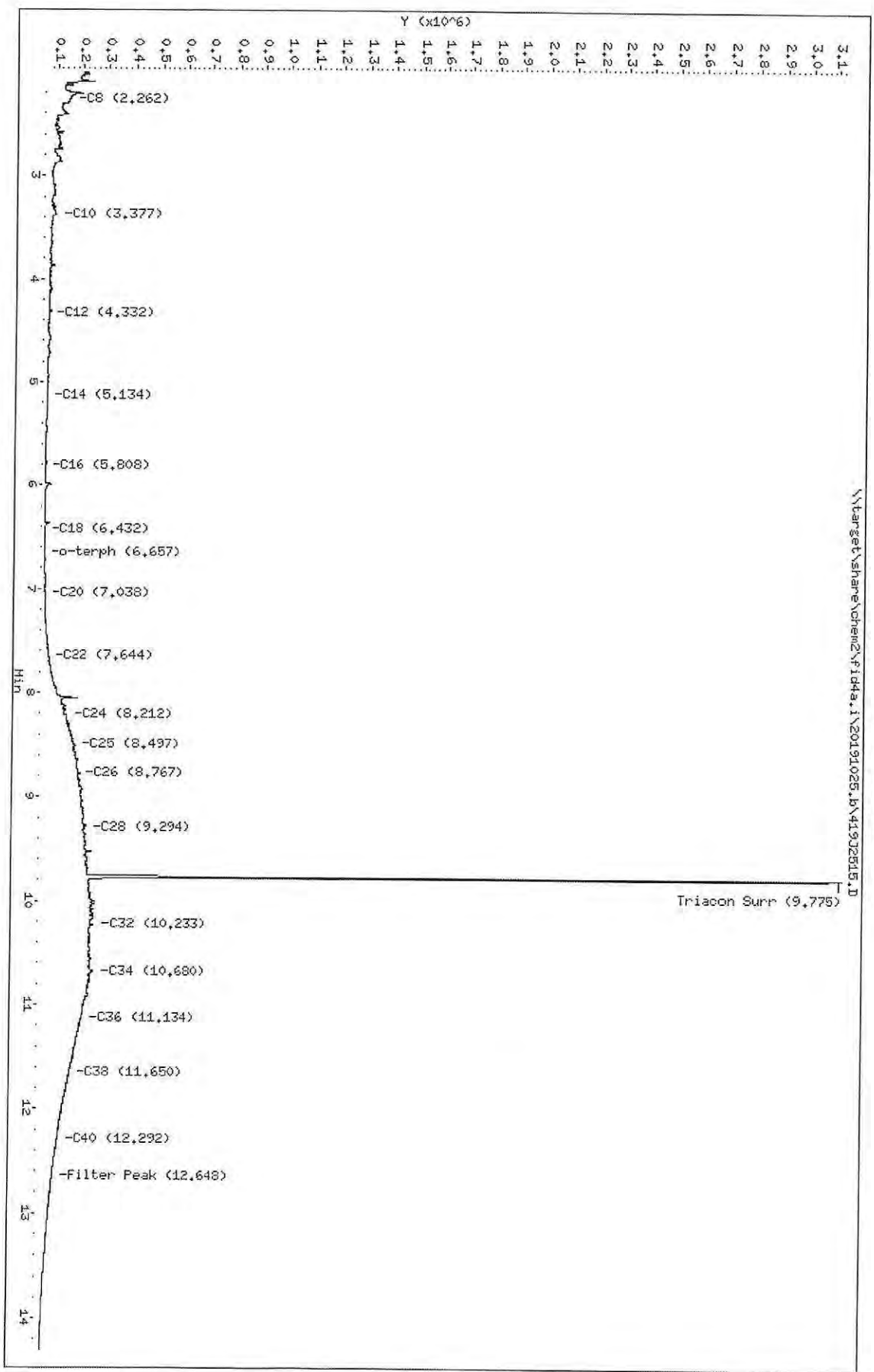


TPH Manual Integrations Report
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 Lab ID: SHJ0406-CAL7



Data File: \\target\share\chem2\fid4a.i\20191025.BV419J2515.D
Date: 25-OCT-2019 16:33
Client ID:
Sample Inlet: SHJ0406-CAL8
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTD/SH/VTS/JCR
Column Diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2515.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL8
Client ID:
Injection: 25-OCT-2019 16:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.262	0.000	86050	63363	WATPHD	(C12-C24)	2977110	18.7
C10	3.377	0.004	37018	79239	WATPHM	(C24-C38)	34653776	261.3
C12	4.332	-0.015	11427	15714	AK102	(C10-C25)	5054179	25.9
C14	5.134	0.004	5154	2057	AK103	(C25-C36)	29175058	291.8
C16	5.808	0.001	2486	1818	OR.DIES	(C10-C28)	13169508	67.2
C18	6.432	-0.002	1168	783				
C20	7.038	-0.005	3772	4551				
C22	7.644	0.005	20883	5211				
C24	8.212	-0.002	97111	92984				
C25	8.497	0.004	127743	100149				
C26	8.767	0.003	144937	36089				
C28	9.294	0.009	174099	155043				
C32	10.233	-0.009	209275	335982				
C34	10.680	-0.001	211521	464774				
Filter Peak	12.648	-0.002	60945	24237	CREOSOT	(C12-C22)	985245	252.6
C36	11.134	0.005	168788	75681				
C38	11.650	0.000	122780	30685				
C40	12.292	0.003	80017	15993				
o-terph	6.657	0.001	951	796				
Triacon Surr	9.775	-0.027	2879377	2052387	NAS DIES	(C10-C24)	3922564	20.1

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

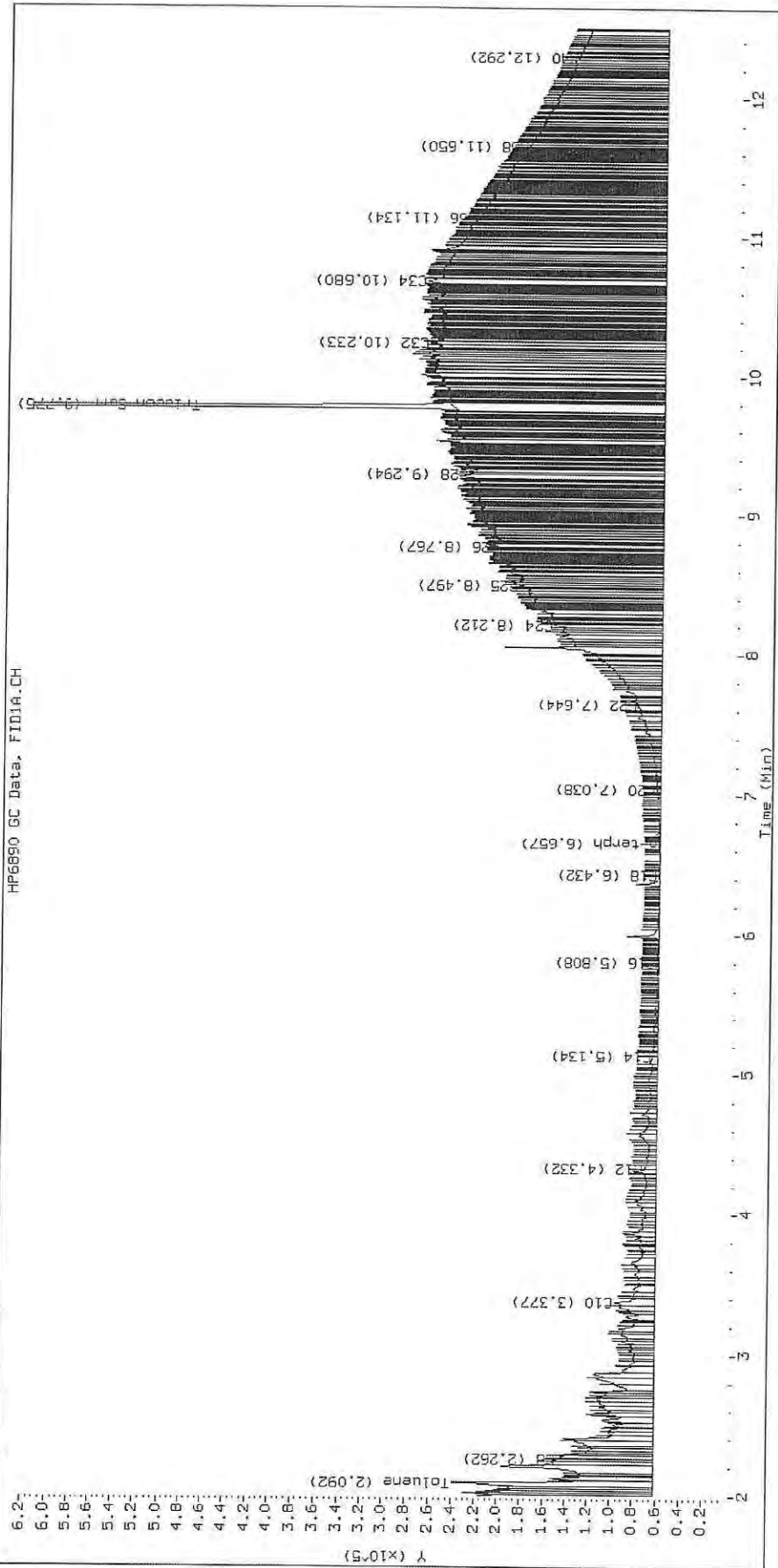
Surrogate	Area	Amount
o-Terphenyl	796	0.0
Triacotane	2052387	11.5 M

M Indicates the peak was manually integrated

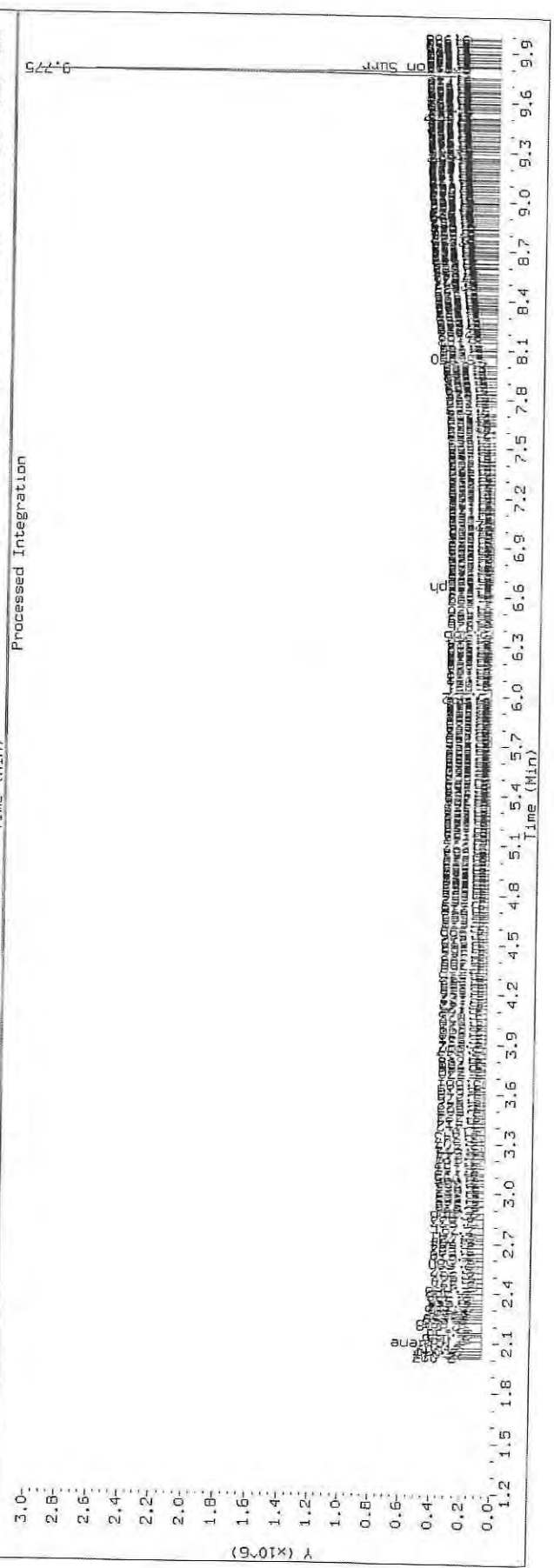
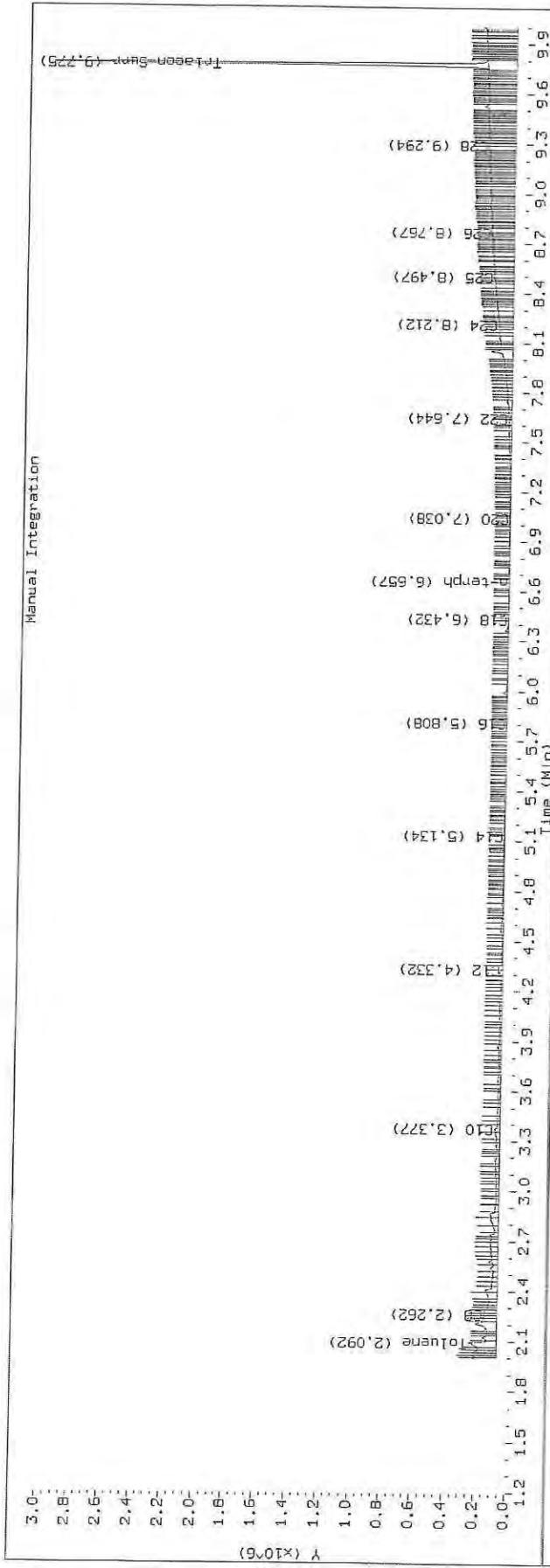
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2515.D SHJ0406-CAL8

HP6890 GC Data, FID1A.CH



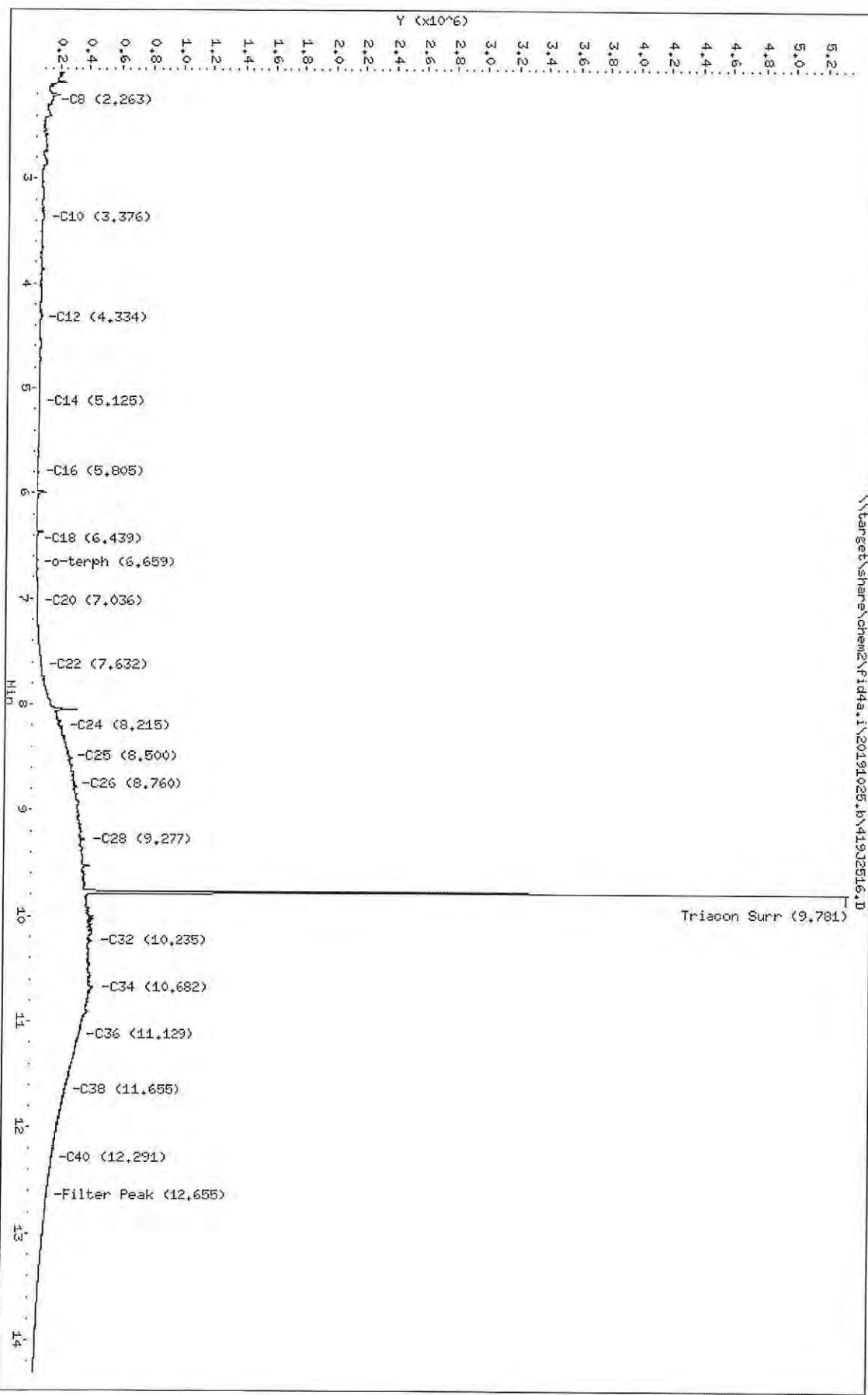
TPH Manual Integrations Report
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 Lab ID: SHJ0406-CAL8



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2516.D
 Date: 25-OCT-2019 16:53
 Client ID:
 Sample Info: SHJ0406-CAL9
 Column Phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/WTS/JGR
 Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.B\419J2516.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2516.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CAL9
Client ID:
Injection: 25-OCT-2019 16:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	85054	58529	WATPHD	(C12-C24)	5661873	35.5
C10	3.376	0.003	38337	74763	WATPHM	(C24-C38)	64308153	484.9
C12	4.334	-0.013	14490	20832	AK102	(C10-C25)	8794999	45.0
C14	5.125	-0.004	9491	6950	AK103	(C25-C36)	54037059	540.5
C16	5.805	-0.002	4594	3625	OR.DIES	(C10-C28)	23868061	121.8
C18	6.439	0.004	1696	642				
C20	7.036	-0.007	7504	9871				
C22	7.632	-0.007	42646	55918				
C24	8.215	0.001	187247	321321				
C25	8.500	0.007	242499	189952				
C26	8.760	-0.005	272862	175979				
C28	9.277	-0.008	344800	562248				
C32	10.235	-0.007	399681	717669				
C34	10.682	0.001	410565	682394				
Filter Peak	12.655	0.004	112959	178875	CREOSOT	(C12-C22)	1771420	454.1
C36	11.129	-0.000	318612	63696				
C38	11.655	0.005	227739	158292				
C40	12.291	0.002	146308	65396				
o-terph	6.659	0.002	1793	1646				
Triacon Surr	9.781	-0.021	4947832	3881047	NAS DIES	(C10-C24)	6718189	34.4

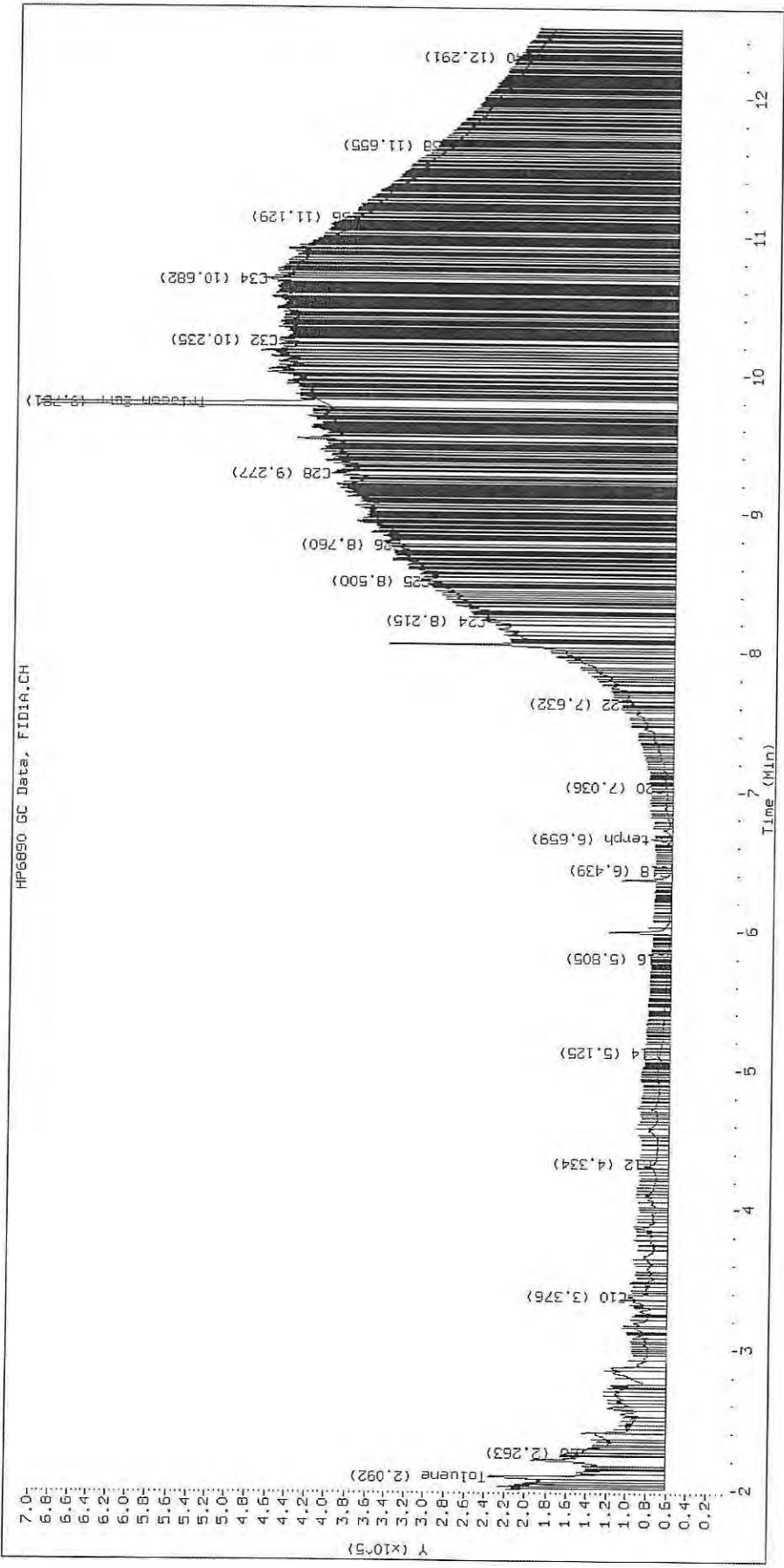
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	1646	0.0
Triacontane	3881047	21.8 M

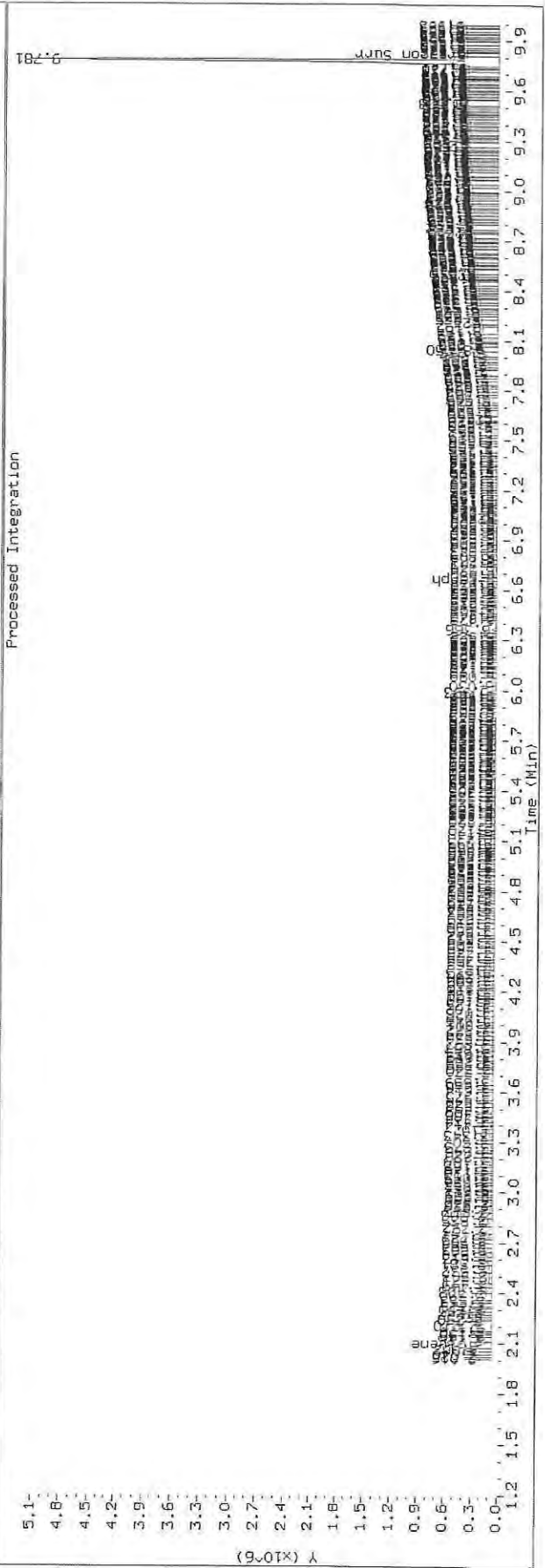
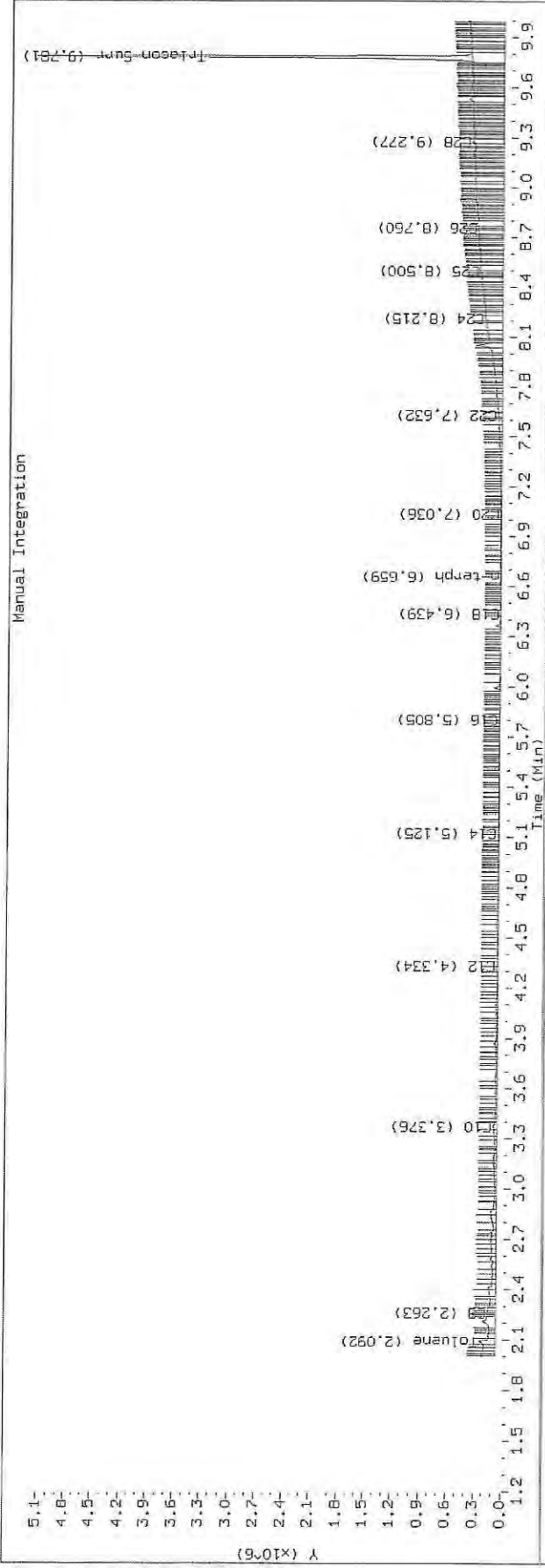
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2516.D SHJ0406-CAL9

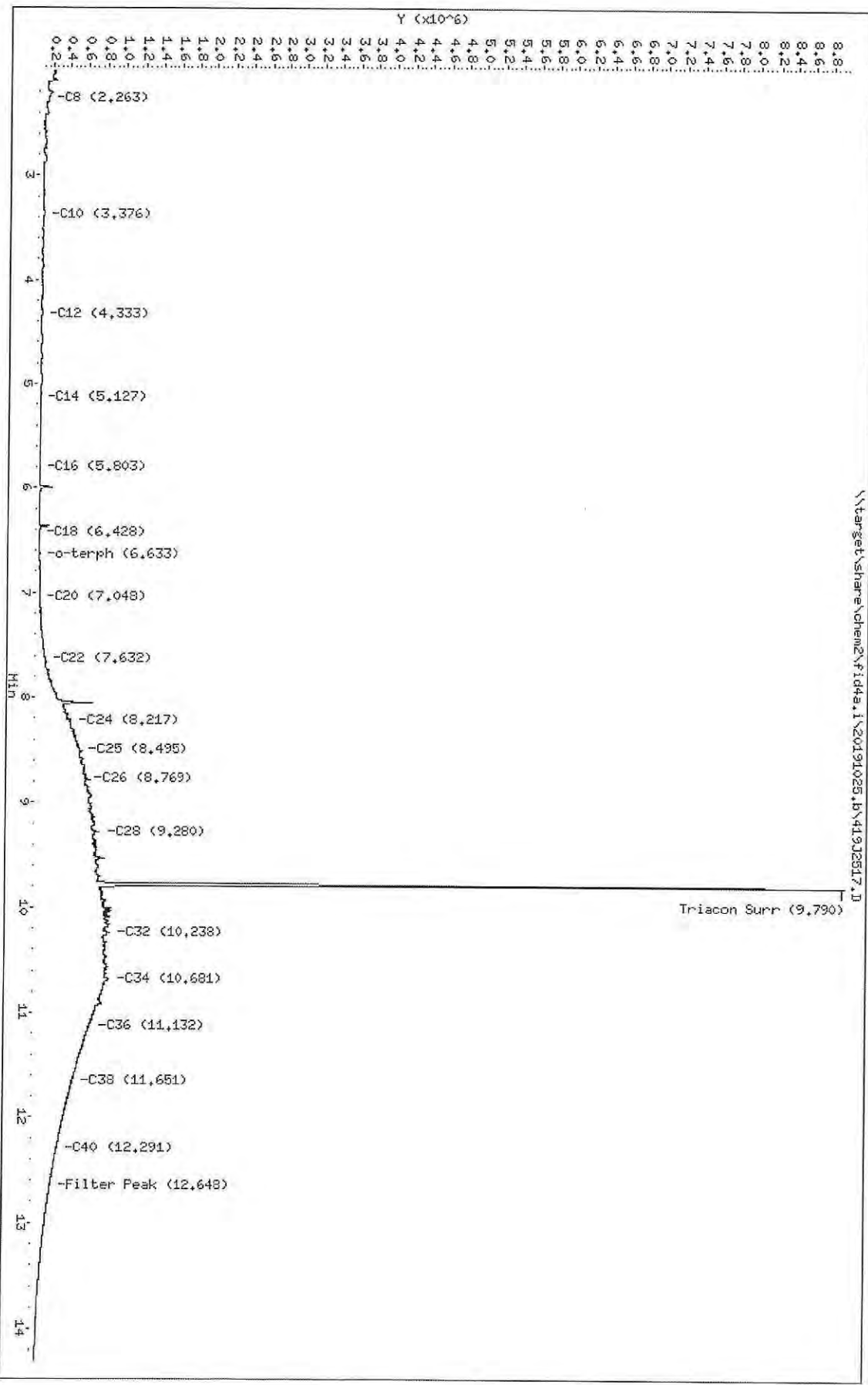


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2516.D Injection: 25-OCT-2019 16:53
 Lab ID:SHJ0406-CAL9



Data File: \\target\share\chem2\fid4a.1\20191025.b\419J2517.D
 Date : 25-OCT-2019 17:13
 Client ID:
 Sample Info: SHJ0406-CALLA
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2517.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALA
Client ID:
Injection: 25-OCT-2019 17:13
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.263	0.001	78760	49973	WATPHD	(C12-C24)	11050301	69.4
C10	3.376	0.003	33282	53155	WATPHM	(C24-C38)	130458600	983.6
C12	4.333	-0.014	8330	11675	AK102	(C10-C25)	16134883	82.5
C14	5.127	-0.003	6869	8015	AK103	(C25-C36)	110338631	1103.6
C16	5.803	-0.004	4269	6183	OR.DIES	(C10-C28)	47155868	240.6
C18	6.428	-0.006	4035	4694				
C20	7.048	0.005	16630	12336				
C22	7.632	-0.007	93050	108452				
C24	8.217	0.002	386378	321791				
C25	8.495	0.002	491396	292213				
C26	8.769	0.005	557751	166690				
C28	9.280	-0.005	695698	804868				
C32	10.238	-0.005	823126	997439				
C34	10.681	-0.000	821771	761528				
Filter Peak	12.648	-0.002	202612	170825	CREOSOT	(C12-C22)	2854310	731.7
C36	11.132	0.003	625826	249171				
C38	11.651	0.001	444433	177367				
C40	12.291	0.002	276466	164427				
o-terph	6.633	-0.023	11730	15135				
Triacon Surr	9.790	-0.012	8190520	7927188	NAS DIES	(C10-C24)	11670623	59.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	15135	0.1
Triacotane	7927188	44.5 M

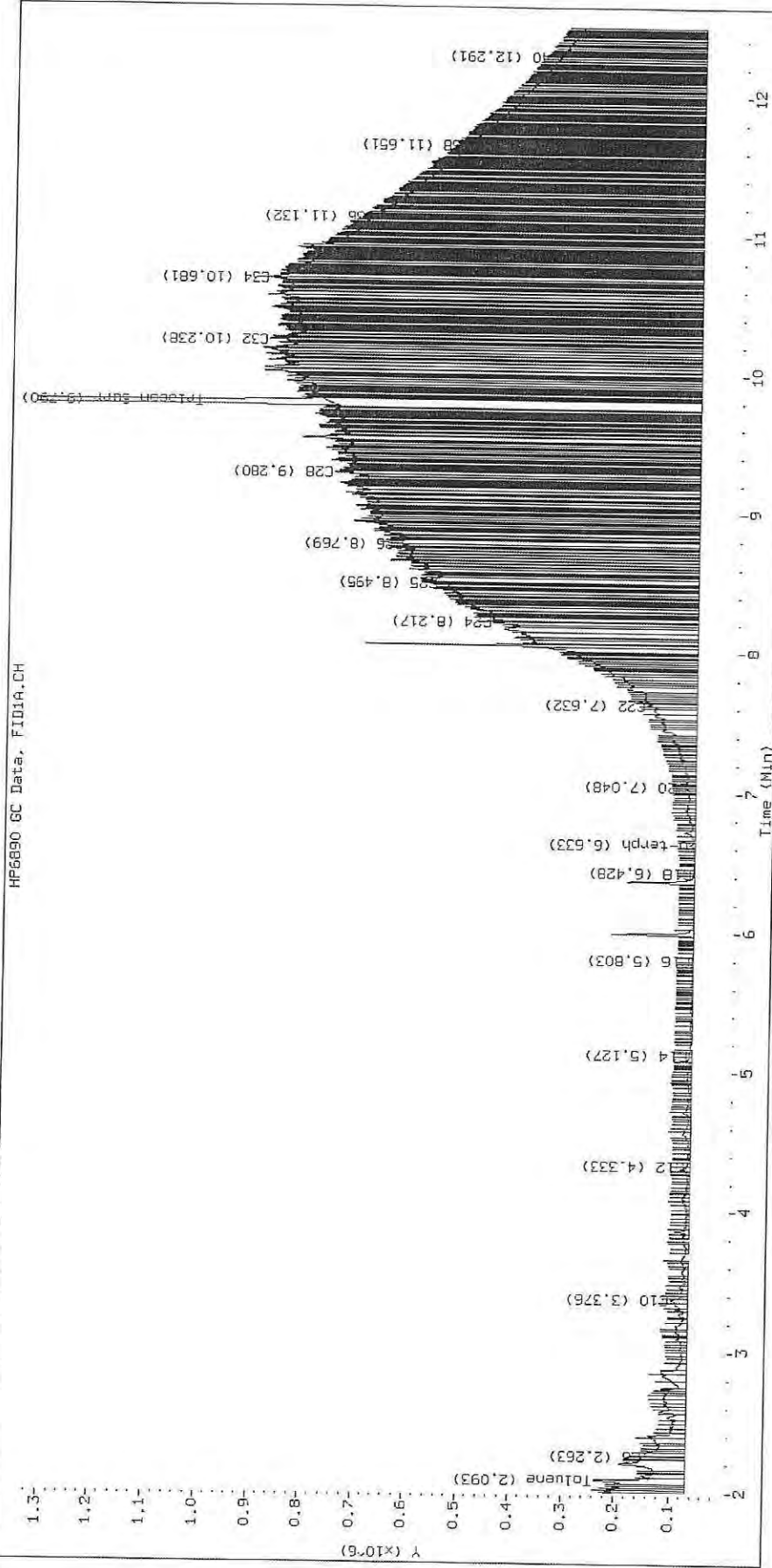
M - Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

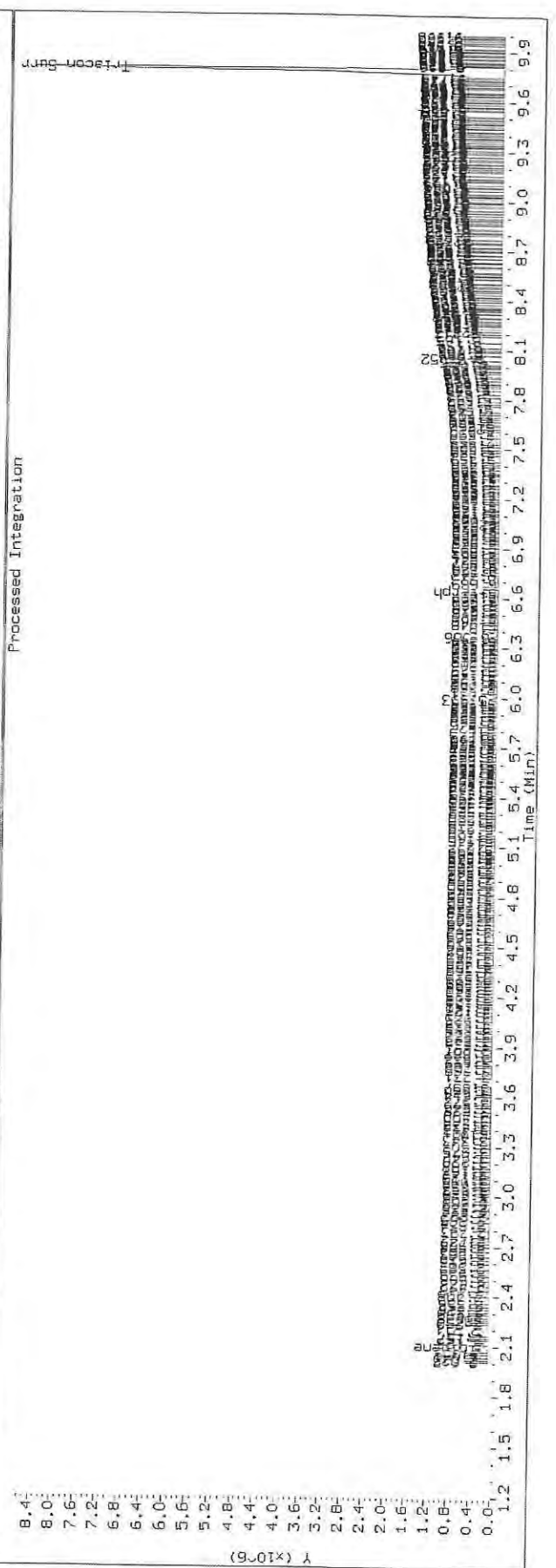
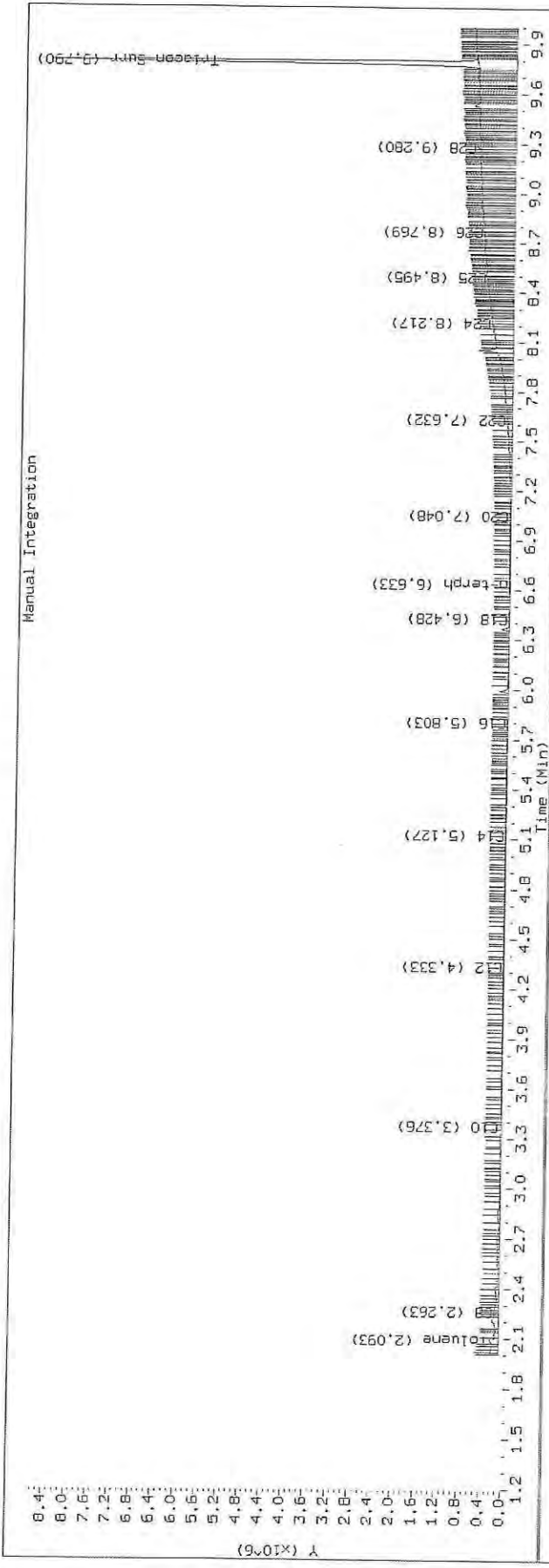
Datafile: FID4A, 20191025.b/419J2517.D

SHJ0406-CALA

HF6890 GC Data, FID1A.CH

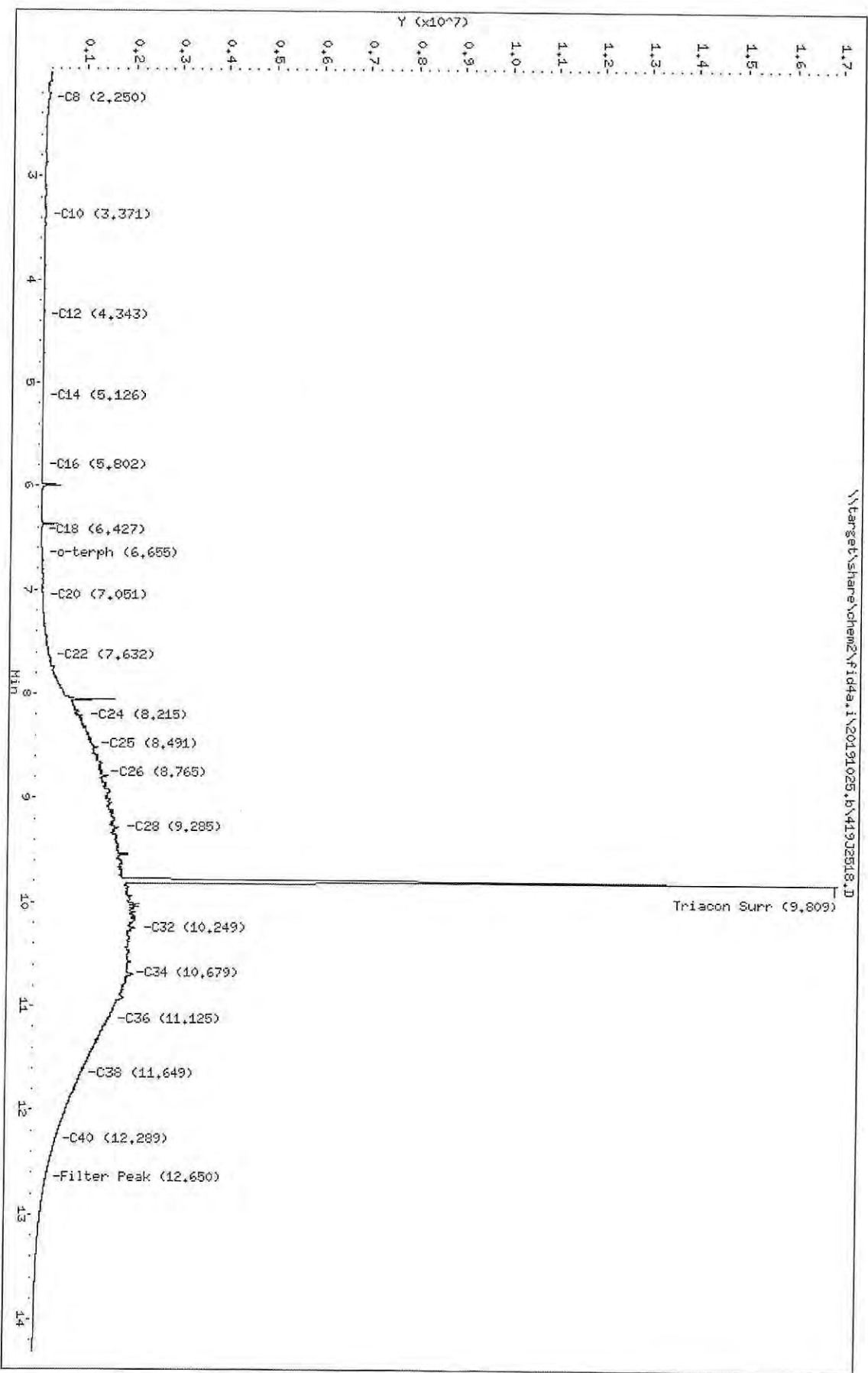


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2517.D Injection: 25-OCT-2019 17:13
 Lab ID: SHJ0406-CALA



Data File: \\target\share\chem2\fid4a.1\20191025.b\41932518.D
 Date: 25-OCT-2019 17:34
 Client ID:
 Sample Info: SHJ0406-CALB
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2518.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALB
Client ID:
Injection: 25-OCT-2019 17:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.250	-0.012	77817	116710	WATPHD	(C12-C24)	27251753	171.0
C10	3.371	-0.002	31760	39598	WATPHM	(C24-C38)	331873325	2502.2
C12	4.343	-0.004	6520	6156	AK102	(C10-C25)	38872526	198.8
C14	5.126	-0.004	7874	9340	AK103	(C25-C36)	281447225	2815.1
C16	5.802	-0.005	7984	9771	OR.DIES	(C10-C28)	115893490	591.3
C18	6.427	-0.007	14076	14289				
C20	7.051	0.008	46537	34495				
C22	7.632	-0.007	235207	295349				
C24	8.215	0.000	955047	900361				
C25	8.491	-0.002	1184503	236628				
C26	8.765	0.000	1401067	1730192				
C28	9.285	-0.001	1743563	2775911				
C32	10.249	0.007	2106415	3055227				
C34	10.679	-0.002	1974576	1267121				
Filter Peak	12.650	-0.001	278159	124338	CREOSOT	(C12-C22)	6708937	1719.8
C36	11.125	-0.004	1581807	1021345				
C38	11.649	-0.001	1027941	256759				
C40	12.289	0.000	486929	193205				
o-terph	6.655	-0.002	18811	15731				
Triacon Surr	9.809	0.007	15056726	20120024	NAS DIES	(C10-C24)	27786026	142.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

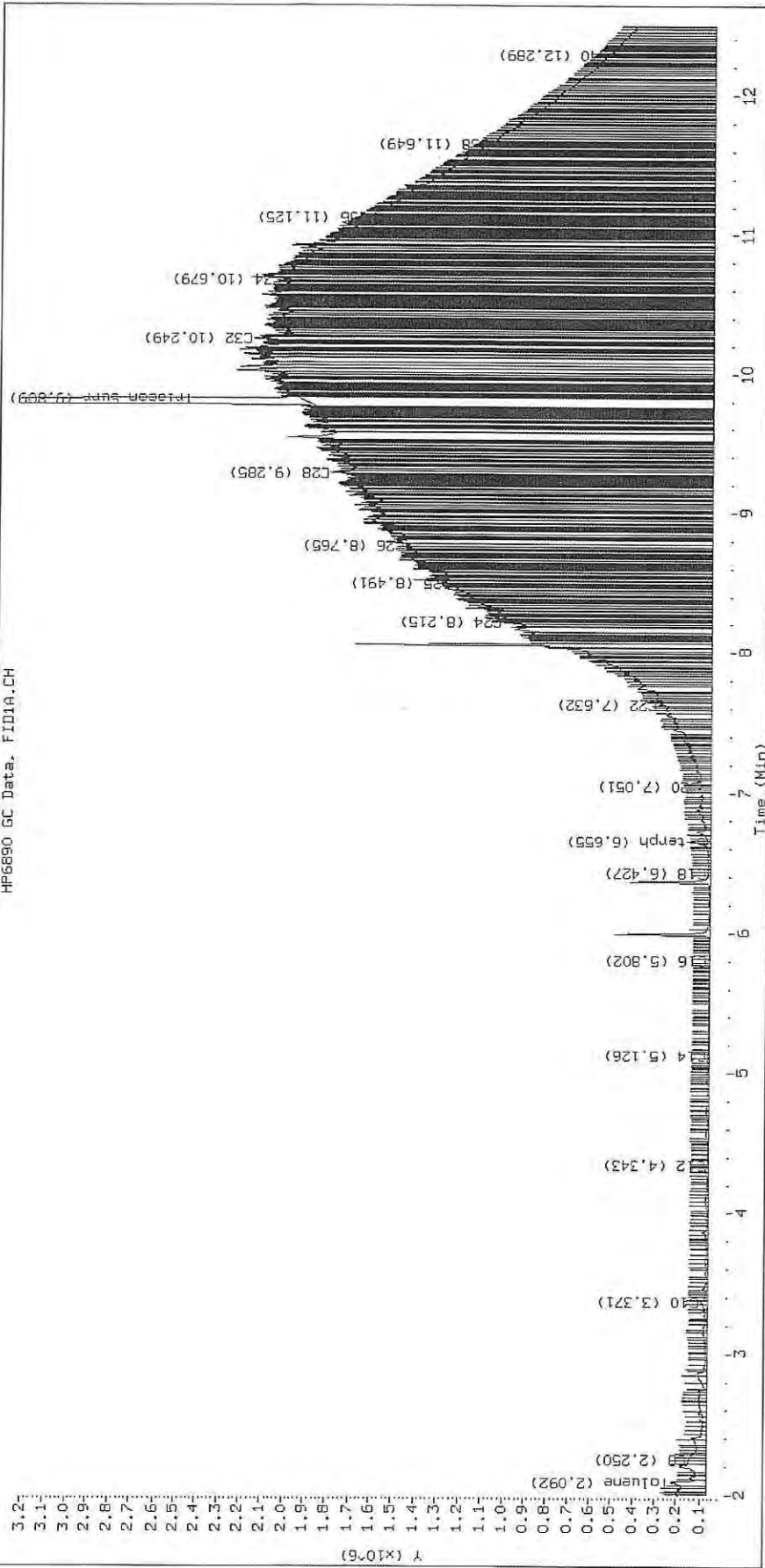
Surrogate	Area	Amount
o-Terphenyl	15731	0.1
Triacontane	20120024	113.0 M

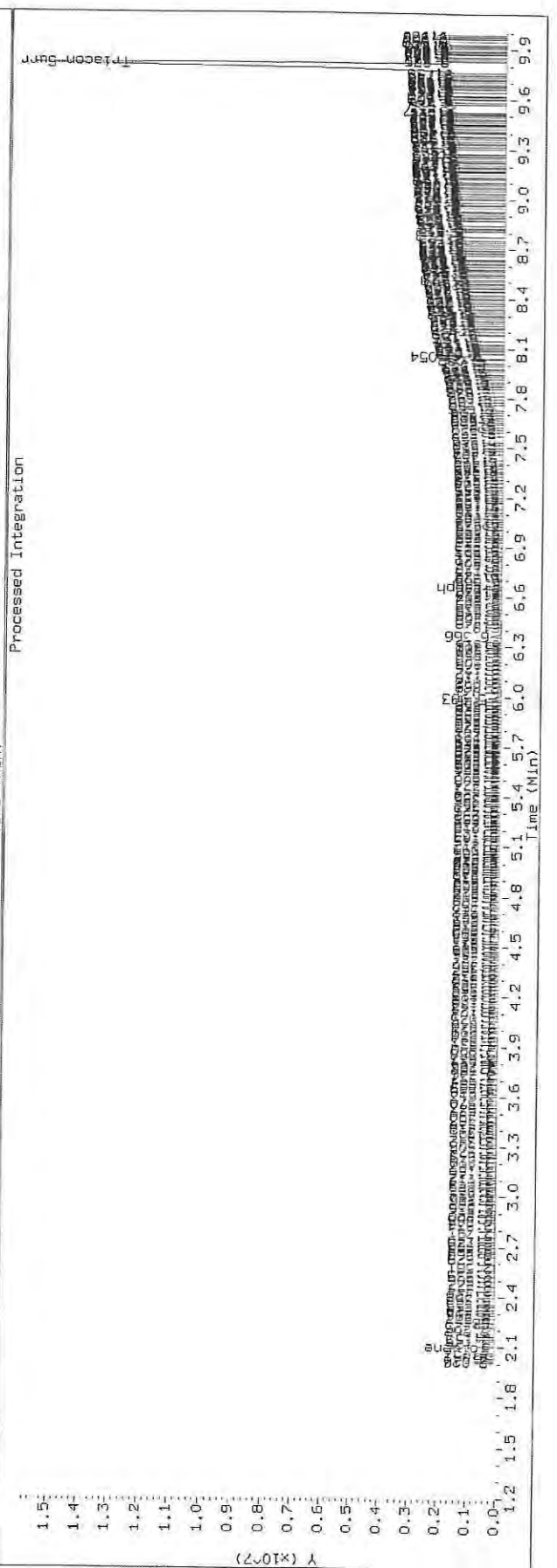
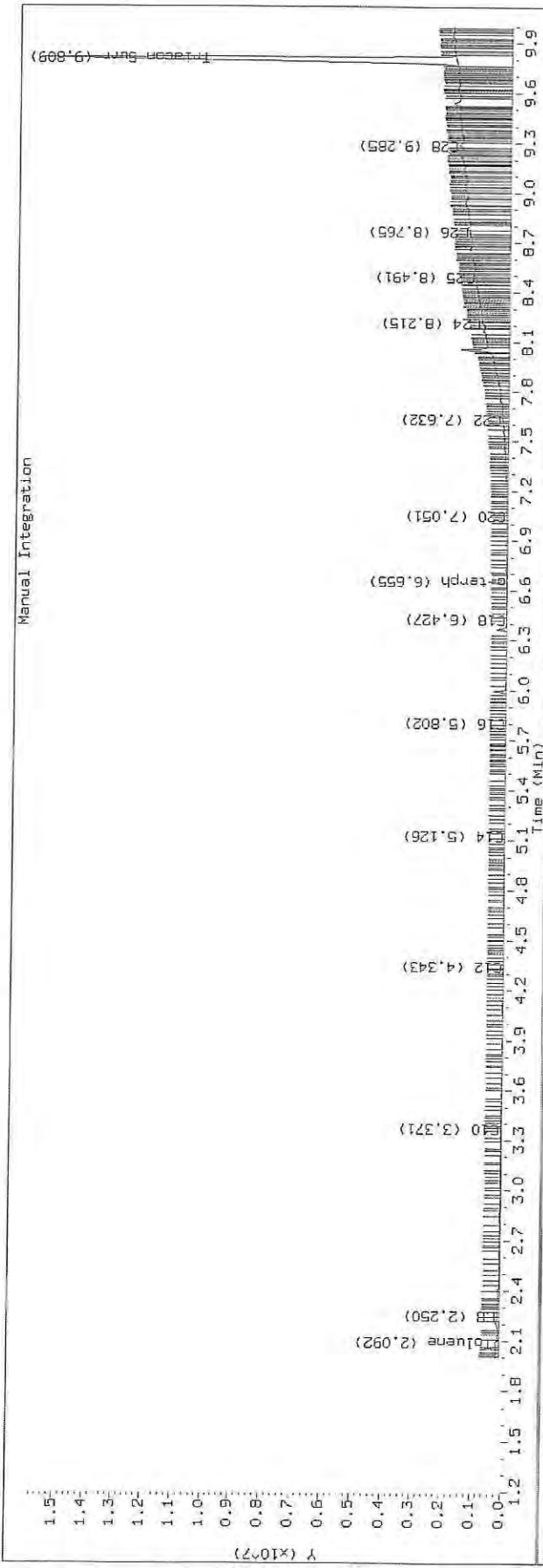
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2518.D SHJ0406-CALB

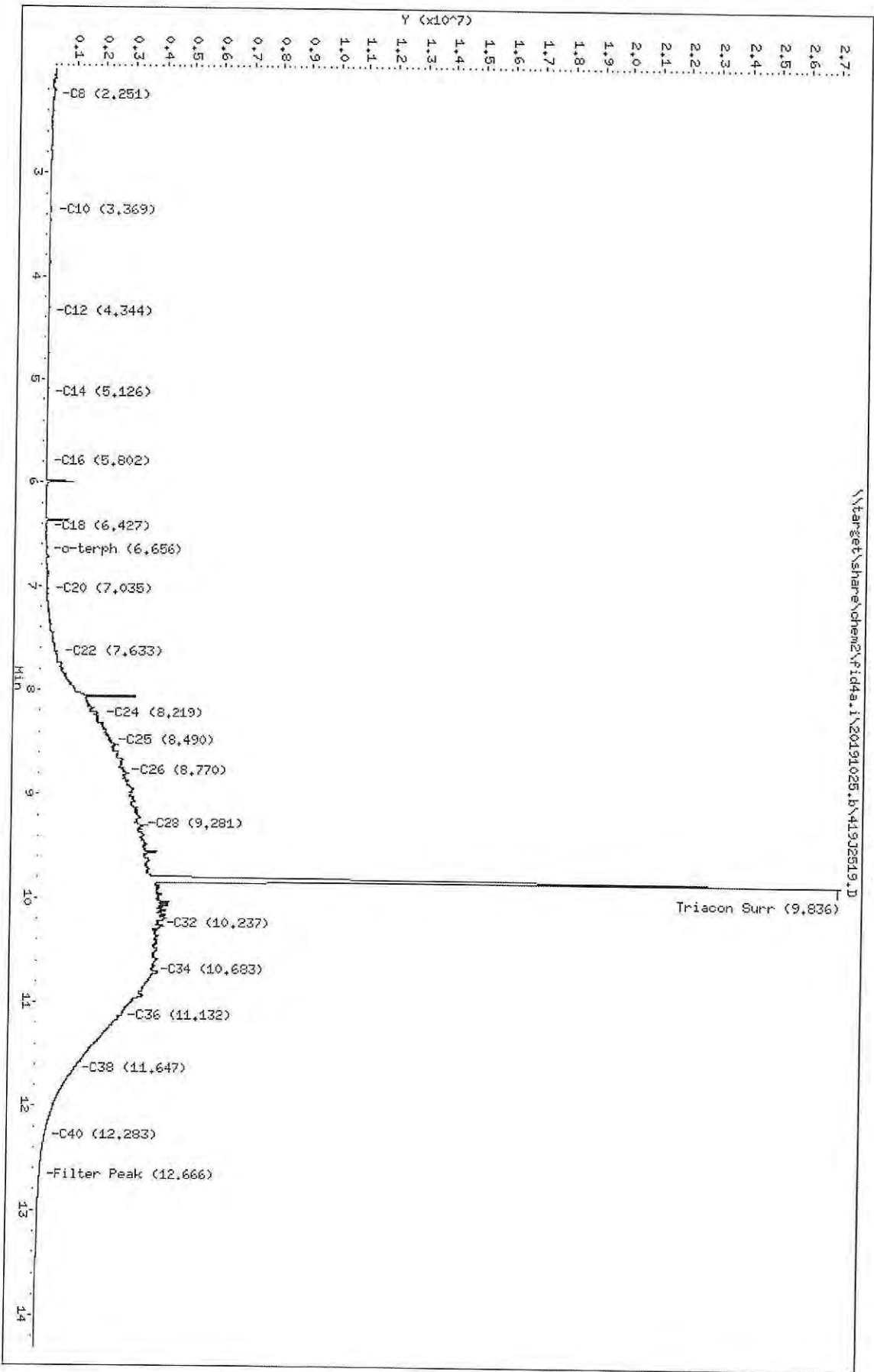
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.1\20191025.bv41932519.D
 Date: 25-OCT-2019 17:54
 Client ID:
 Sample Info: SH30406-CALC
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CT0/SH/VTS/JCR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2519.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALC
Client ID:
Injection: 25-OCT-2019 17:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS								
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.251	-0.011	83410	131526	WATPHD	(C12-C24)	54951988	344.9
C10	3.369	-0.004	40067	53627	WATPHM	(C24-C38)	647842842	4884.5
C12	4.344	-0.003	8504	8688	AK102	(C10-C25)	79702569	407.7
C14	5.126	-0.004	19567	26129	AK103	(C25-C36)	565644605	5657.8
C16	5.802	-0.006	21777	24178	OR.DIES	(C10-C28)	235116720	1199.6
C18	6.427	-0.008	35077	33036				
C20	7.035	-0.008	119620	119856				
C22	7.633	-0.006	481948	602675				
C24	8.219	0.004	1952483	1661789				
C25	8.490	-0.003	2383743	592688				
C26	8.770	0.005	2837167	1694204				
C28	9.281	-0.005	3377335	3333438				
C32	10.237	-0.006	4076731	3428537				
C34	10.683	0.002	3869795	1544856				
Filter Peak	12.666	0.015	116179	102746	CREOSOT	(C12-C22)	14260161	3655.6
C36	11.132	0.003	2846055	707761				
C38	11.647	-0.002	1313112	715795				
C40	12.283	-0.006	302346	281489				
o-terph	6.656	-0.001	43010	66343				
Triacon Surr	9.836	0.034	23293566	39698048	NAS DIES	(C10-C24)	55485985	284.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

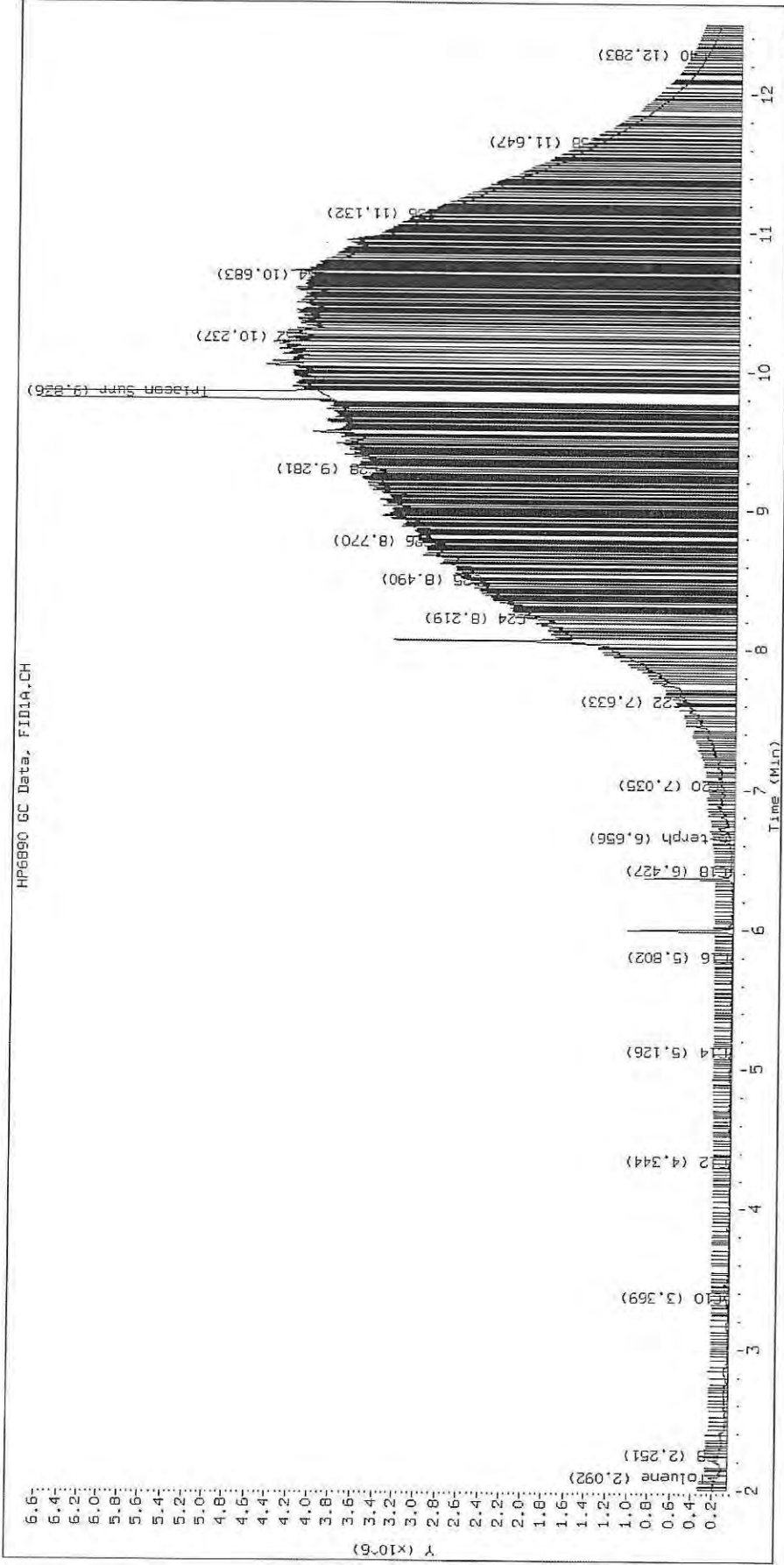
Surrogate	Area	Amount
o-Terphenyl	66343	0.3
Triacontane	39698048	223.0 M

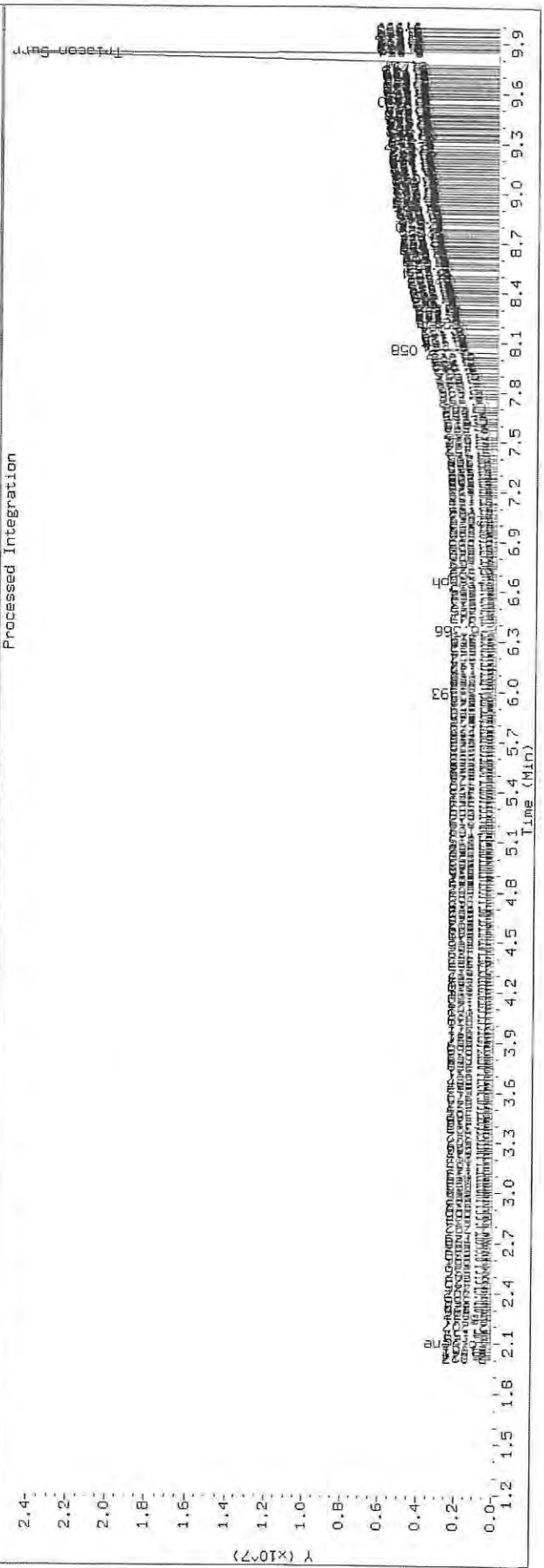
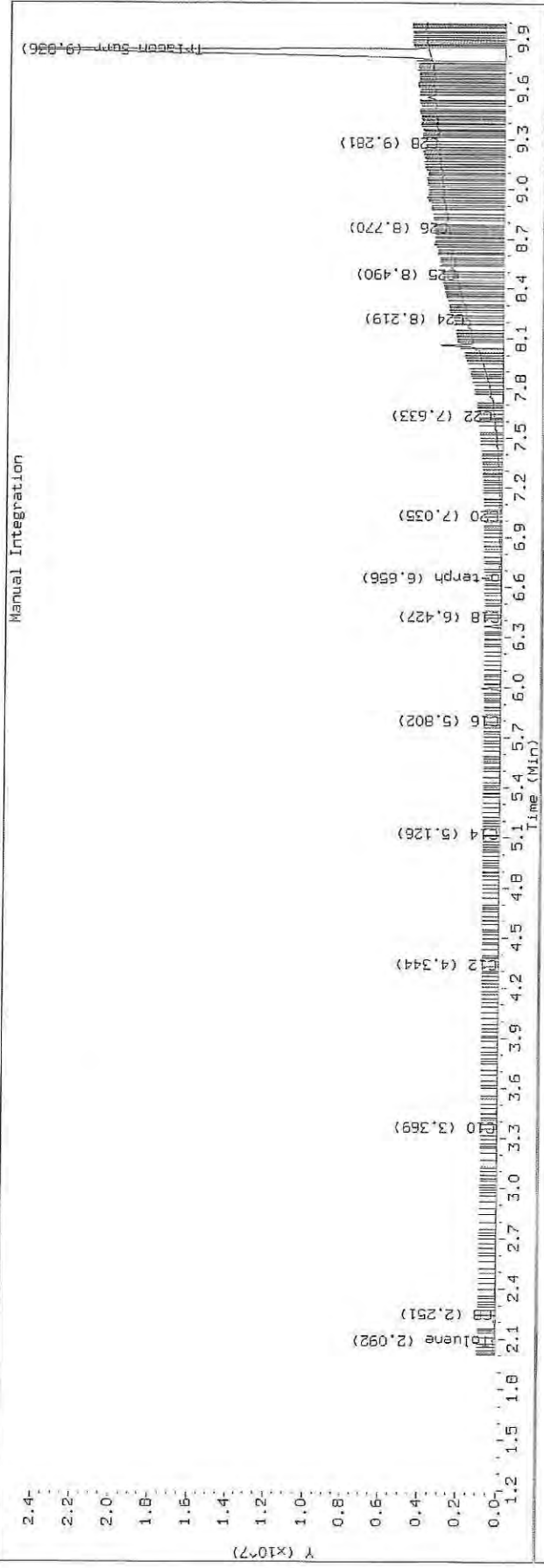
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datfile: FID4A, 20191025.b/419J2519.D SHJ0406-CALC

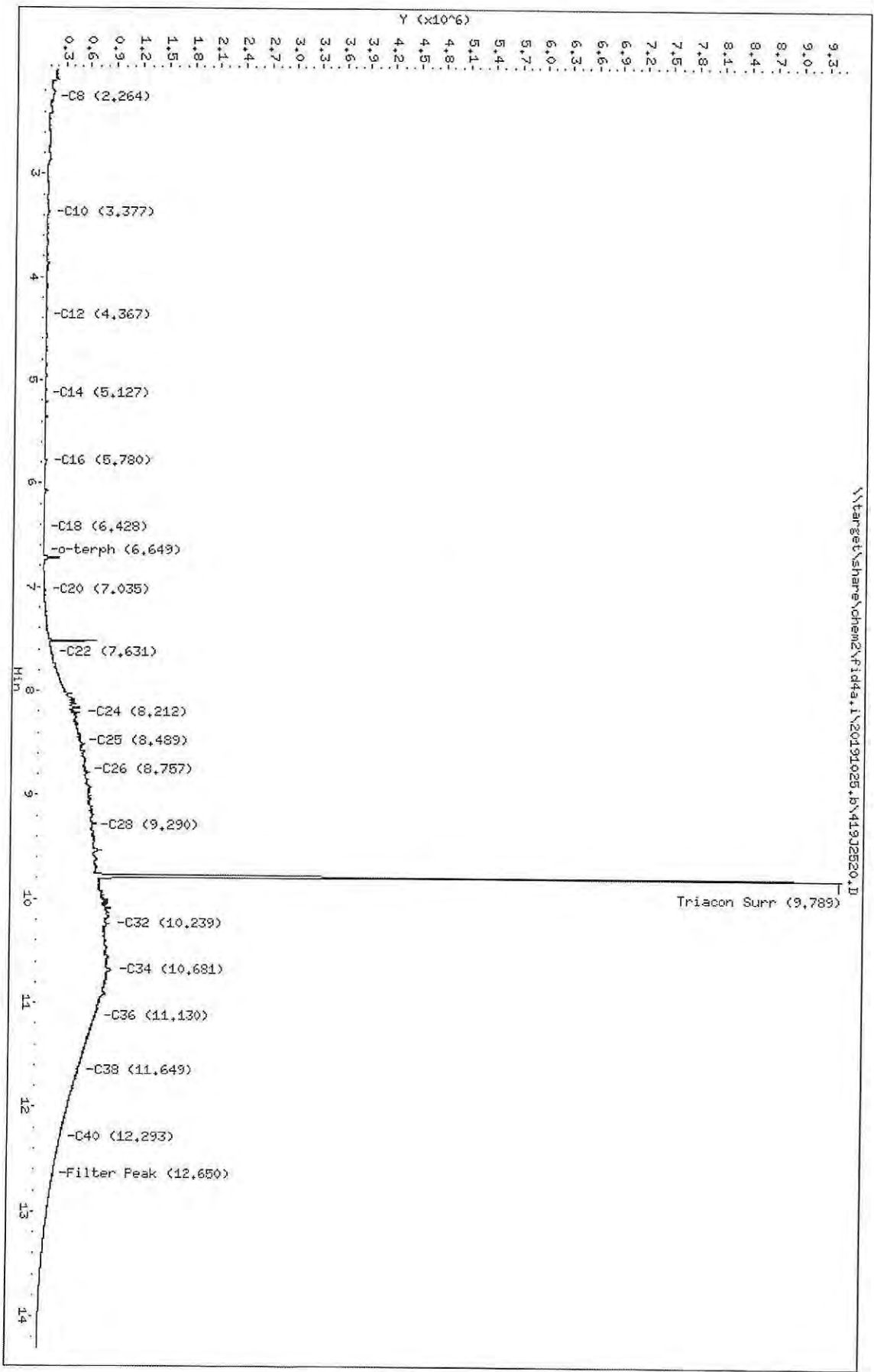
HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a.i\20191025.b\419J2520.D
 Date : 25-OCT-2019 18:14
 Client ID:
 Sample Info: SHJ0406-SCV2
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/MTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV2
Client ID:
Injection: 25-OCT-2019 18:14
Dilution Factor: 1
RT Std: 419H1603.D
M.Oil:25-OCT-2019

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

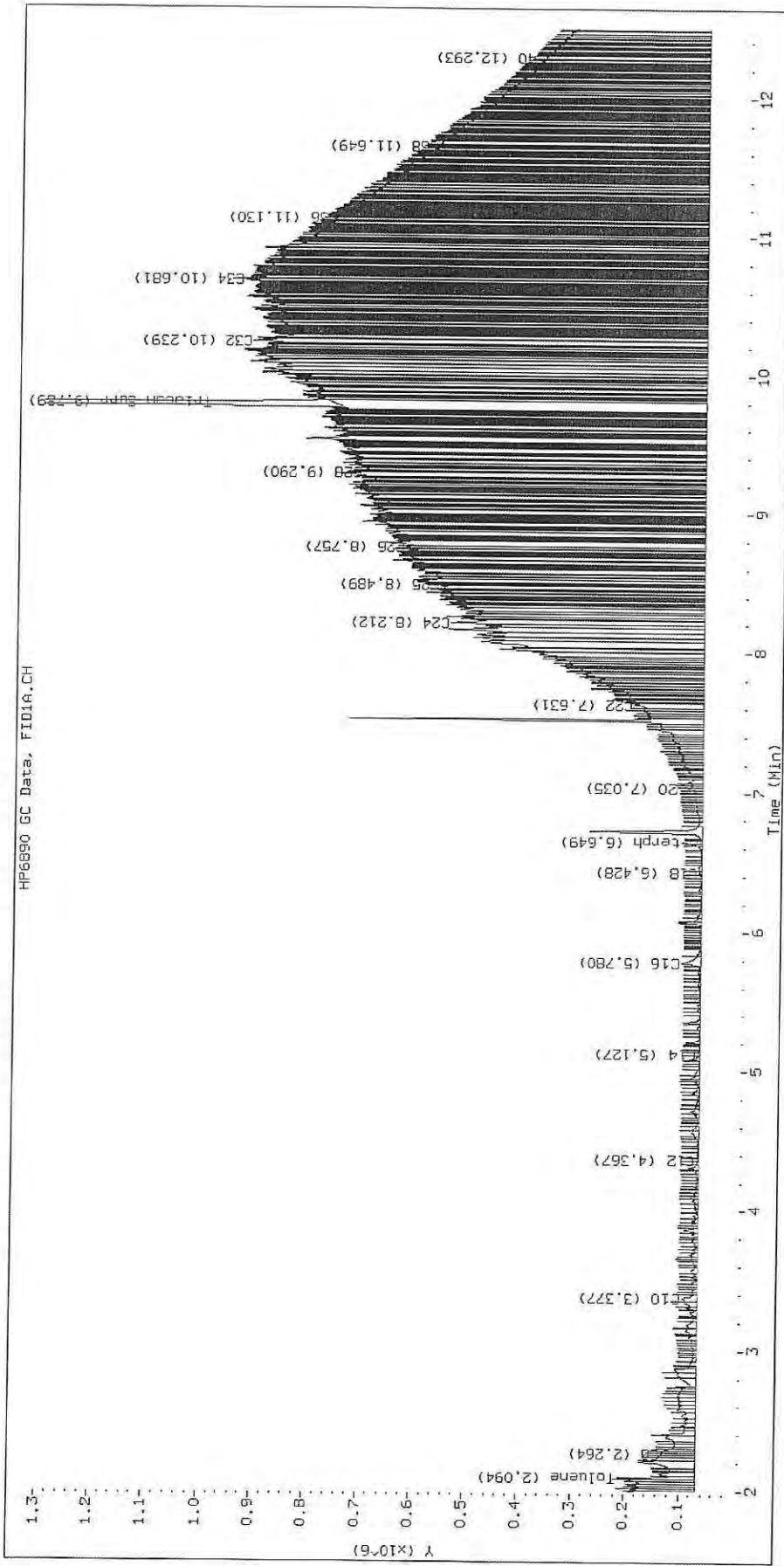
Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacotane	8519530	47.9 M

M Indicates the peak was manually integrated

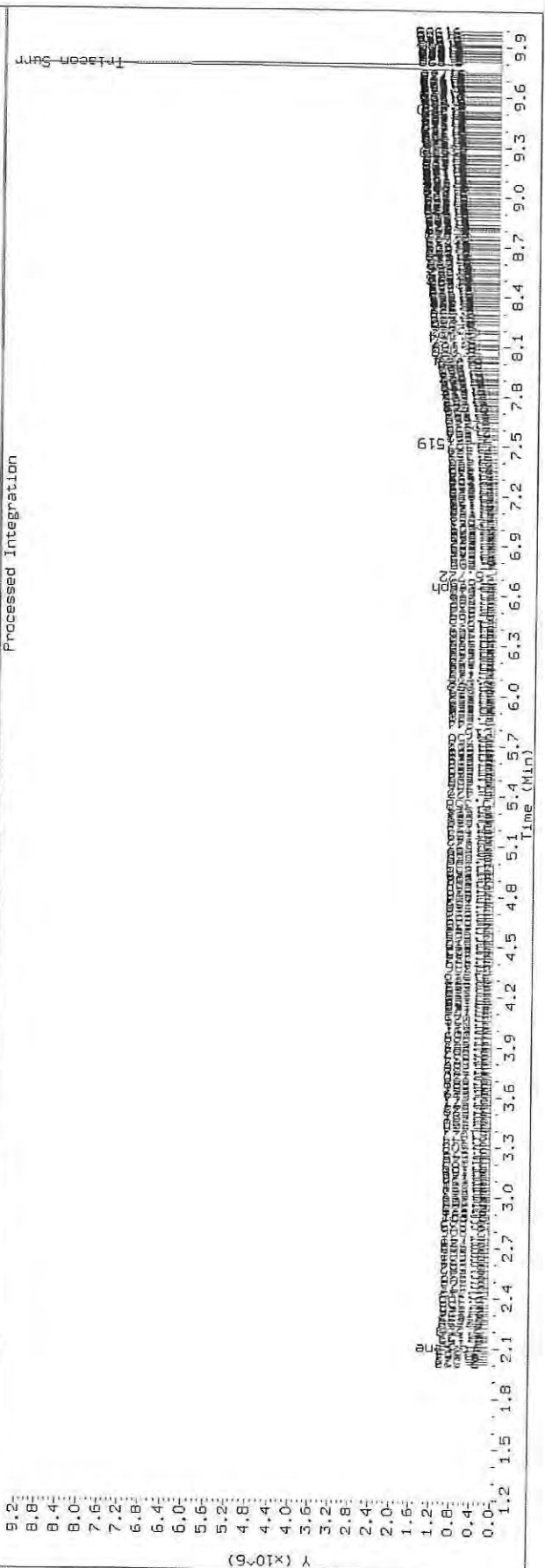
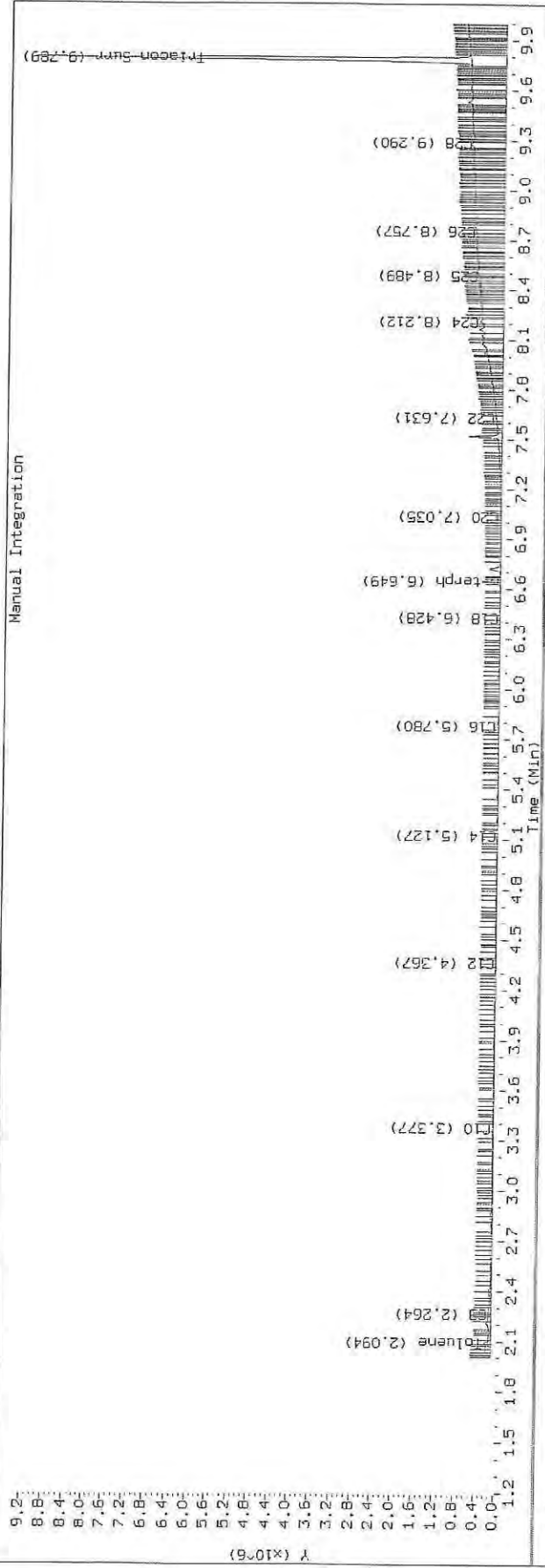
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2520.D SHJ0406-SCV2

HP6890 GC Data, FID1A.CH



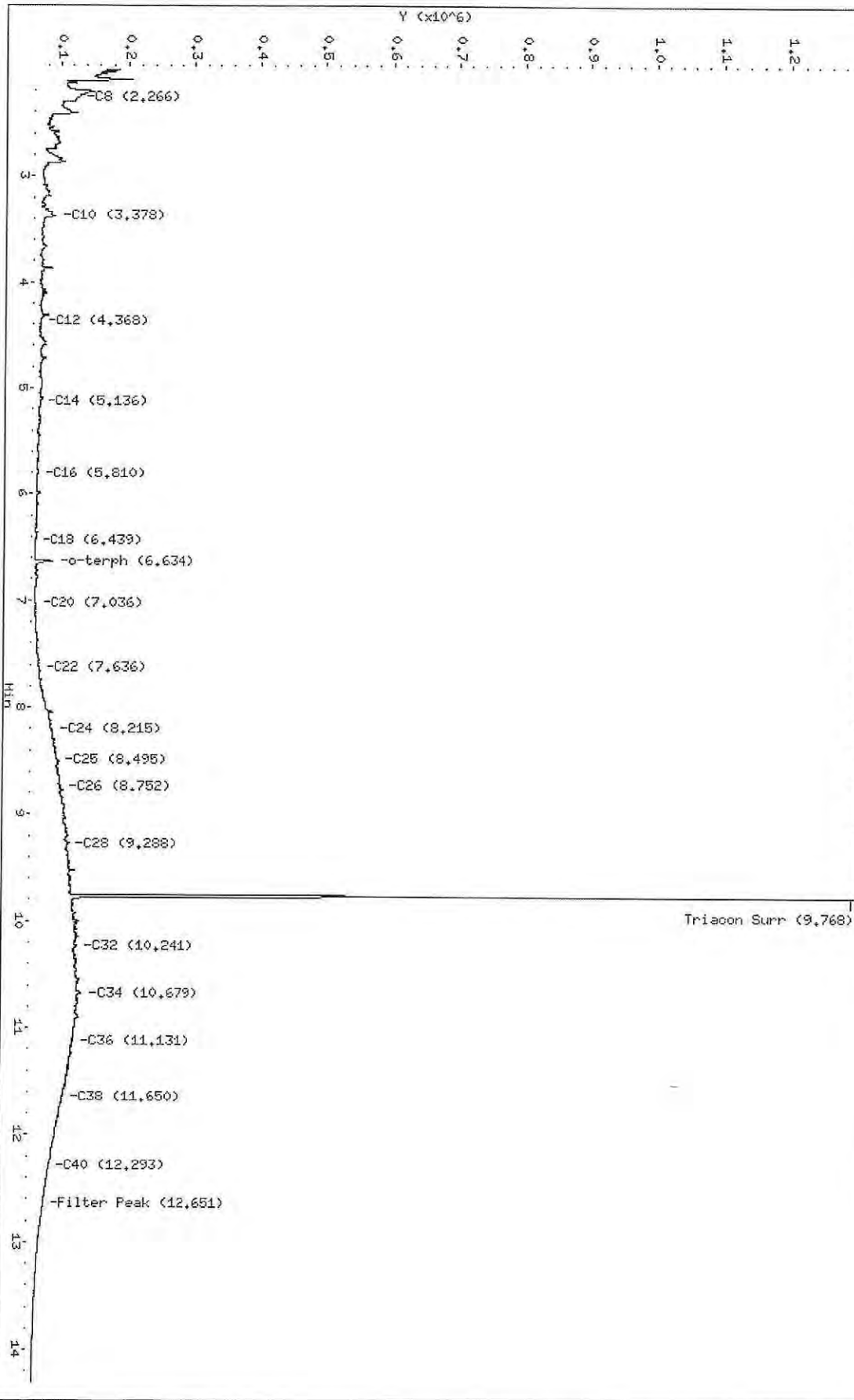
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14
 Lab ID: SHJ0406-SCV2



Data File: \\target\share\chem2\fid4a.i\20191025.b\41902521.D
Date: 25-OCT-2019 18:35
Client ID:
Sample Info: SHJ0406-CALLD
Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25

\\target\share\chem2\fid4a.i\20191025.b\41902521.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2521.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALD
Client ID:
Injection: 25-OCT-2019 18:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.266	0.003	63130	43308	WATPHD	(C12-C24)	1323968	8.3
C10	3.378	0.005	28879	54645	WATPHM	(C24-C38)	12086307	91.1
C12	4.368	0.021	6558	8293	AK102	(C10-C25)	2265512	11.6
C14	5.136	0.007	6204	3069	AK103	(C25-C36)	9919700	99.2
C16	5.810	0.003	3258	3063	OR.DIES	(C10-C28)	4756055	24.3
C18	6.439	0.004	920	449				
C20	7.036	-0.007	1277	1180				
C22	7.636	-0.003	8777	15968				
C24	8.215	0.000	31726	51380				
C25	8.495	0.002	39977	33338				
C26	8.752	-0.012	45255	53640				
C28	9.288	0.003	56620	22552				
C32	10.241	-0.002	70490	38594				
C34	10.679	-0.002	78226	83978				
Filter Peak	12.651	0.000	22108	8817	CREOSOT	(C12-C22)	689259	176.7
C36	11.131	0.002	66508	16608				
C38	11.650	0.000	52851	23597				
C40	12.293	0.004	31673	31207				
o-terph	6.634	-0.022	28829	34405				
Triacon Surr	9.768	-0.034	1173387	818277	NAS DIES	(C10-C24)	1907173	9.8

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

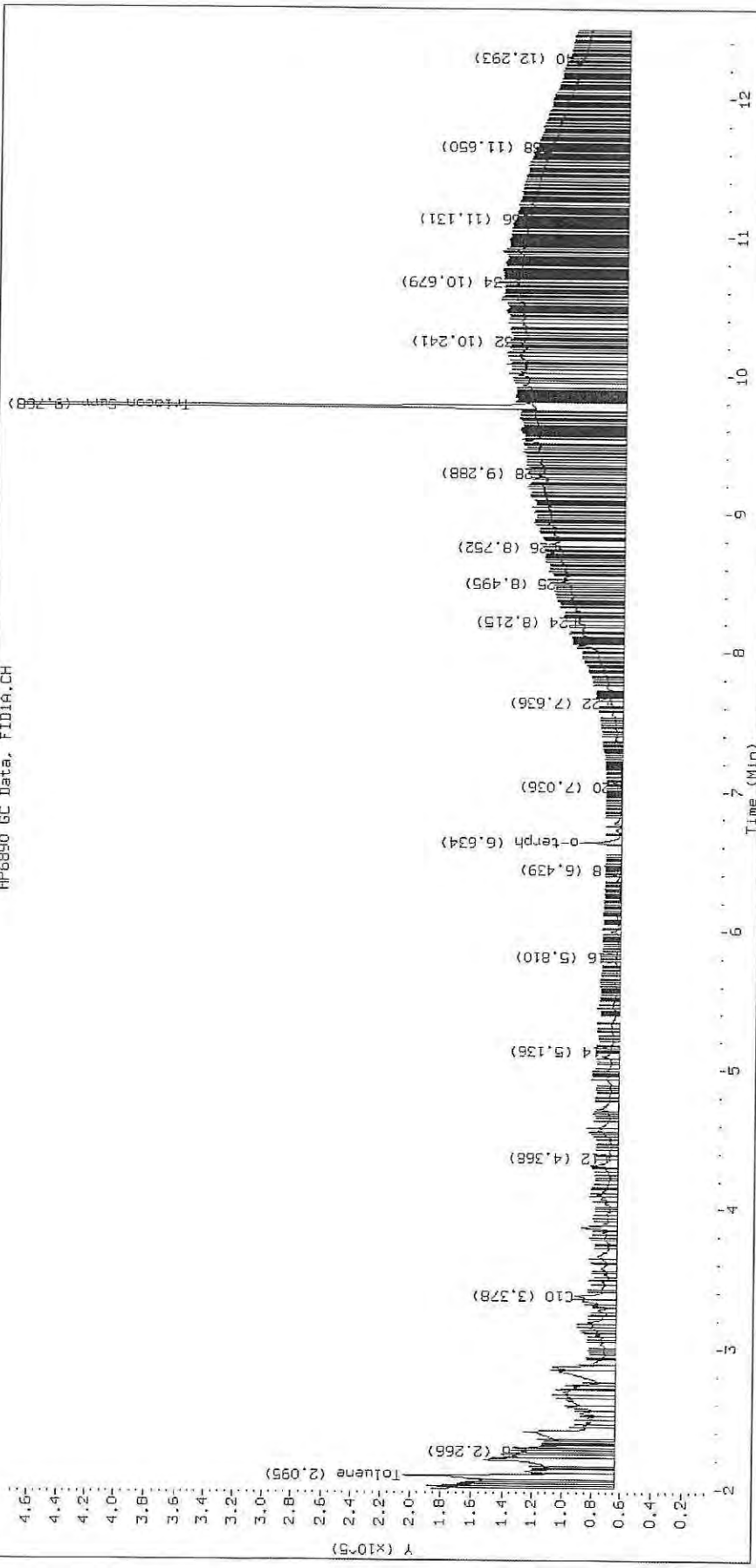
Surrogate	Area	Amount
o-Terphenyl	34405	0.2
Triacotane	818277	4.6 M

M Indicates the peak was manually integrated

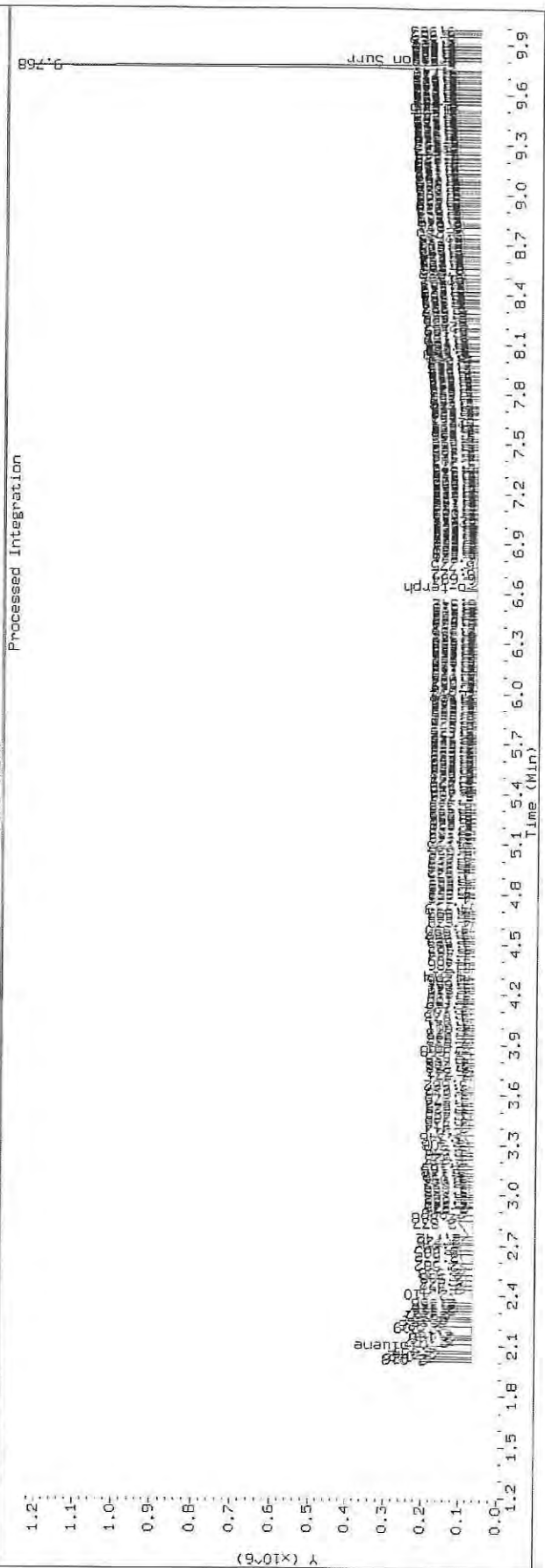
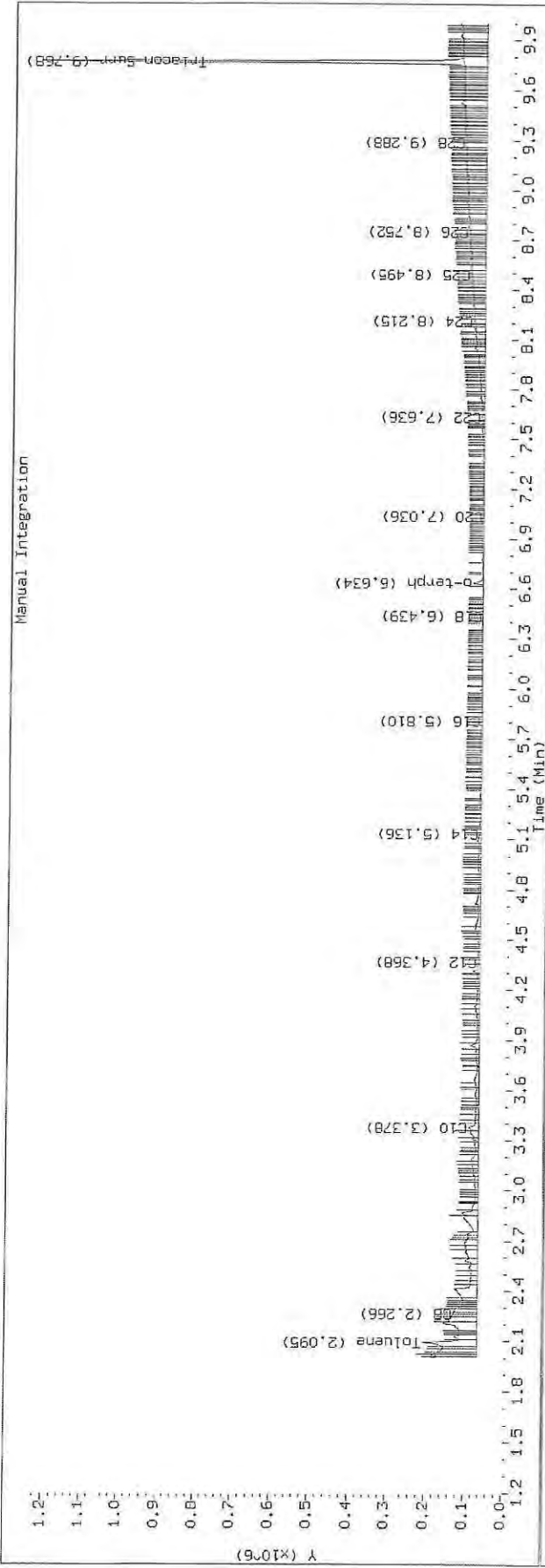
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2521.D SHJ0406-CALD

HP6890 GC Data, FID1A.CH

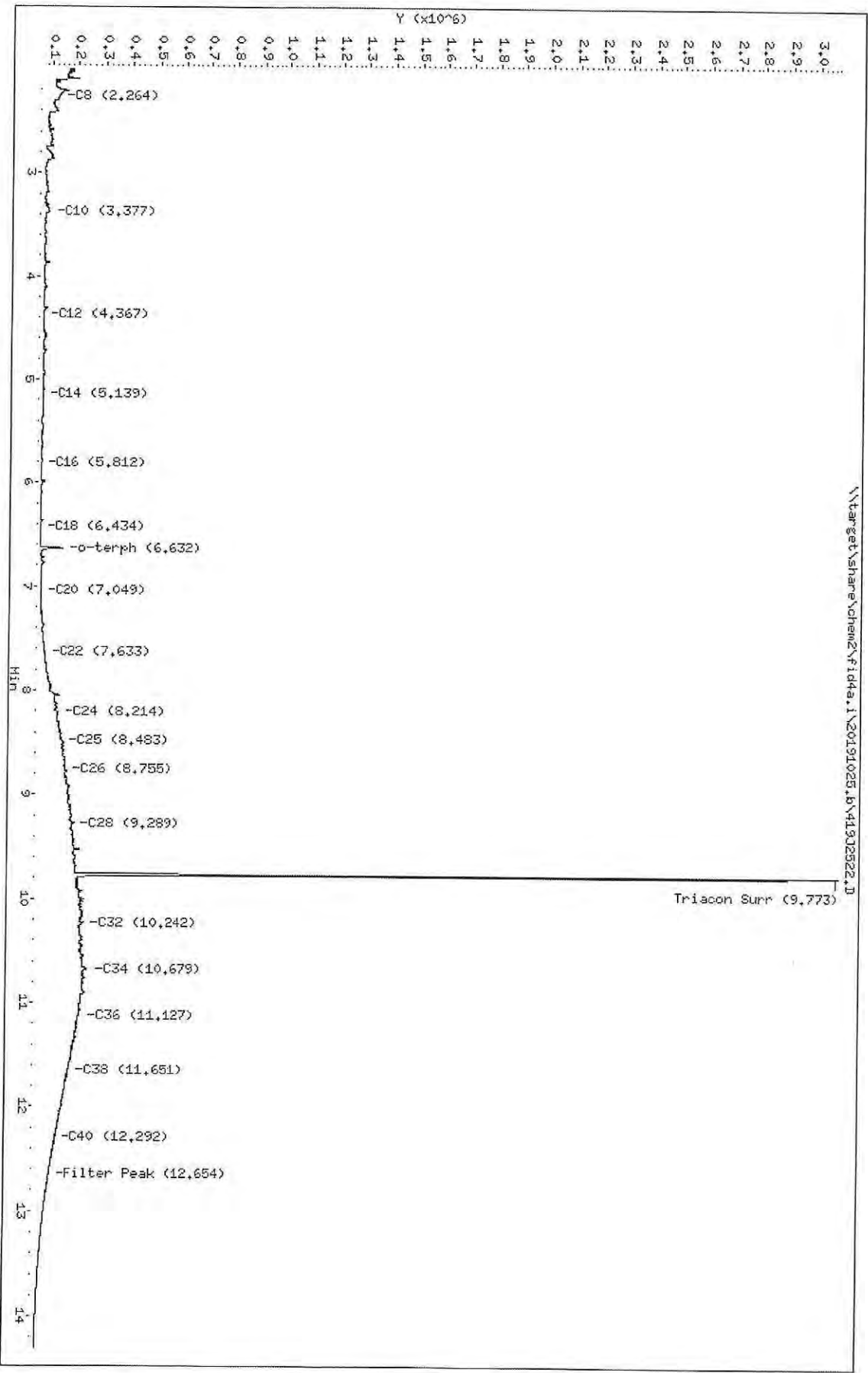


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2521.D Injection: 25-OCT-2019 18:35
 Lab ID: SHJ0406-CALD



Data File: \\target\share\chem2\Fid4a.1\20191025.B\41912522.D
 Date : 25-OCT-2019 18:55
 Client ID:
 Sample Info: SHJ0406-CRLE
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2522.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALE
Client ID:
Injection: 25-OCT-2019 18:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61078	41904	WATPHD	(C12-C24)	2795528	17.5
C10	3.377	0.004	26802	52996	WATPHM	(C24-C38)	31324226	236.2
C12	4.367	0.019	5459	4798	AK102	(C10-C25)	4178110	21.4
C14	5.139	0.010	4962	3160	AK103	(C25-C36)	25813764	258.2
C16	5.812	0.005	2520	1321	OR.DIES	(C10-C28)	10680396	54.5
C18	6.434	-0.000	1311	882				
C20	7.049	0.006	4759	2820				
C22	7.633	-0.005	24172	52812				
C24	8.214	-0.001	79717	62122				
C25	8.483	-0.010	96553	61766				
C26	8.755	-0.010	114382	67845				
C28	9.289	0.004	142997	64203				
C32	10.242	0.000	182878	81971				
C34	10.679	-0.002	200985	321864				
Filter Peak	12.654	0.004	63611	28452	CREOSOT	(C12-C22)	1041017	266.9
C36	11.127	-0.001	175707	78840				
C38	11.651	0.001	139085	55402				
C40	12.292	0.004	88908	61716				
o-terph	6.632	-0.024	91544	90689				
Triacon Surr	9.773	-0.029	2869605	2058184	NAS DIES	(C10-C24)	3295502	16.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

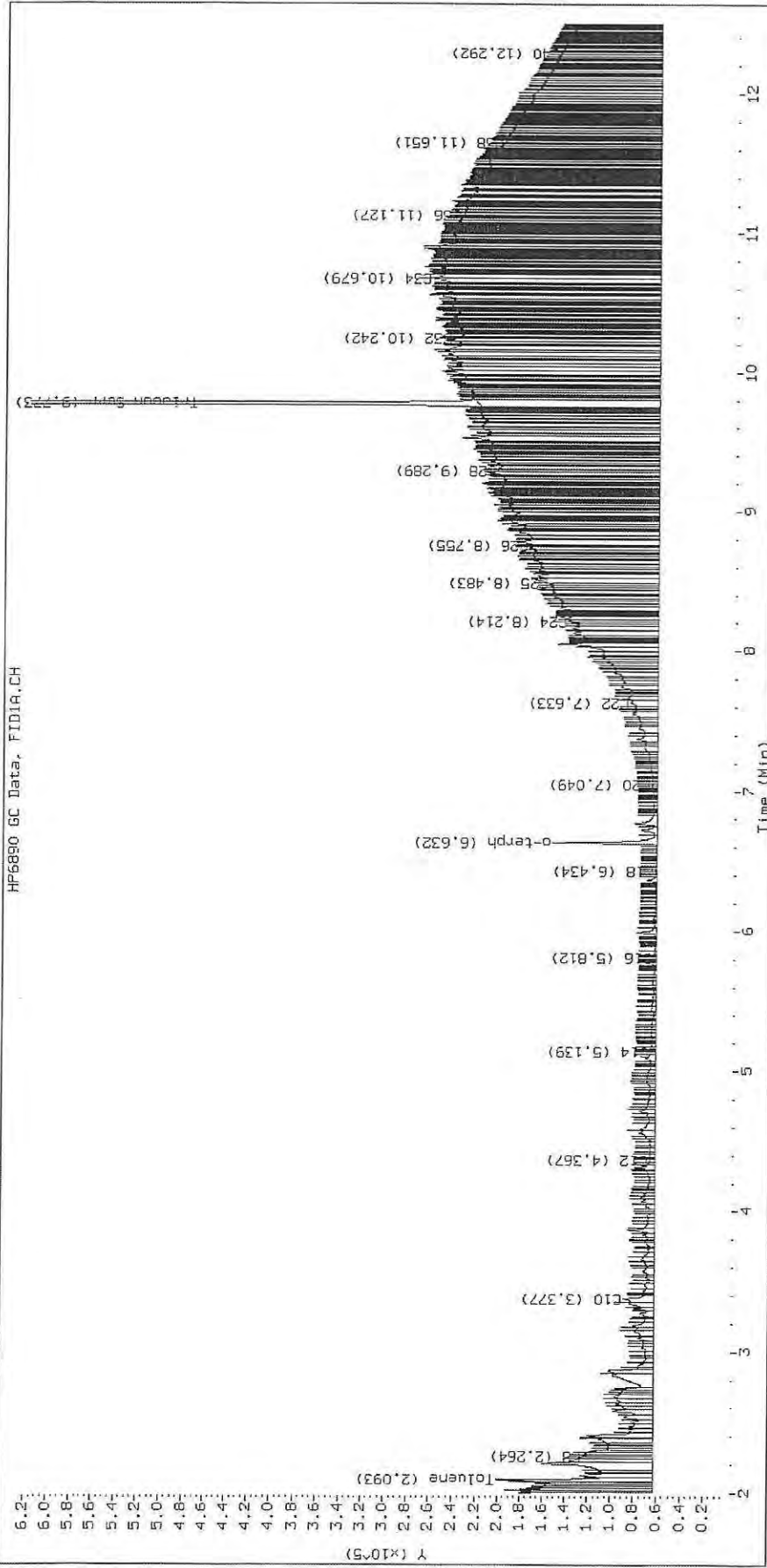
Surrogate	Area	Amount
o-Terphenyl	90689	0.4
Triacotane	2058184	11.6 M

M Indicates the peak was manually integrated

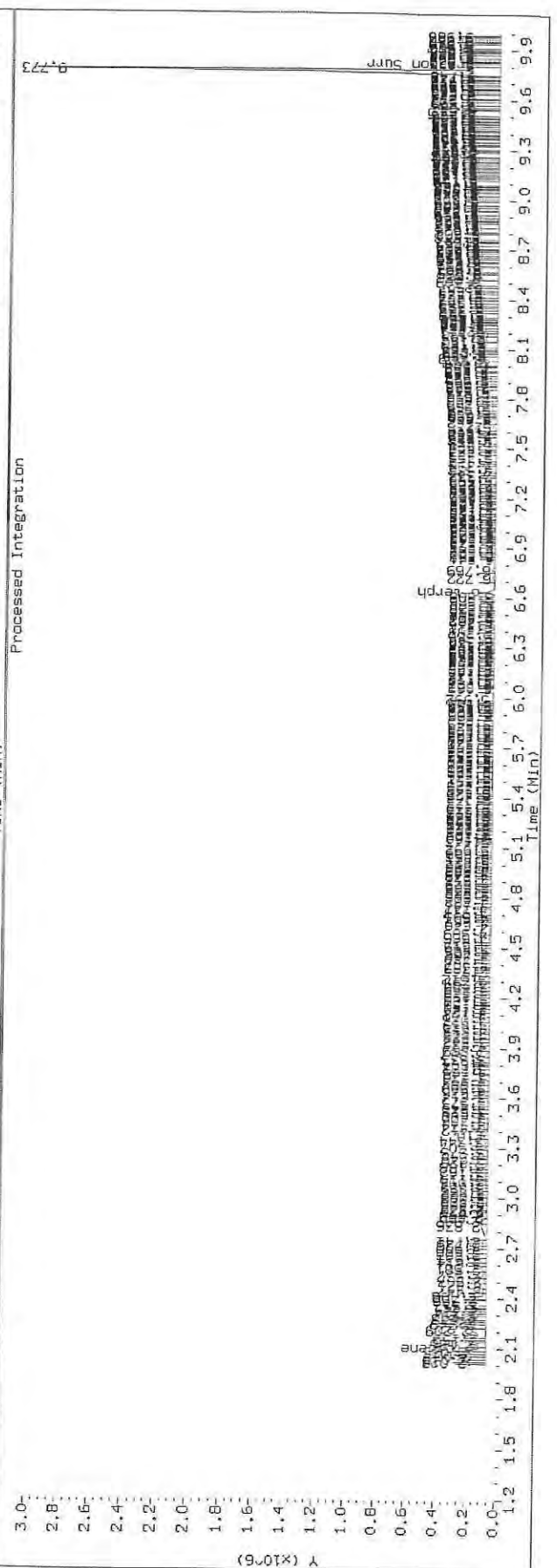
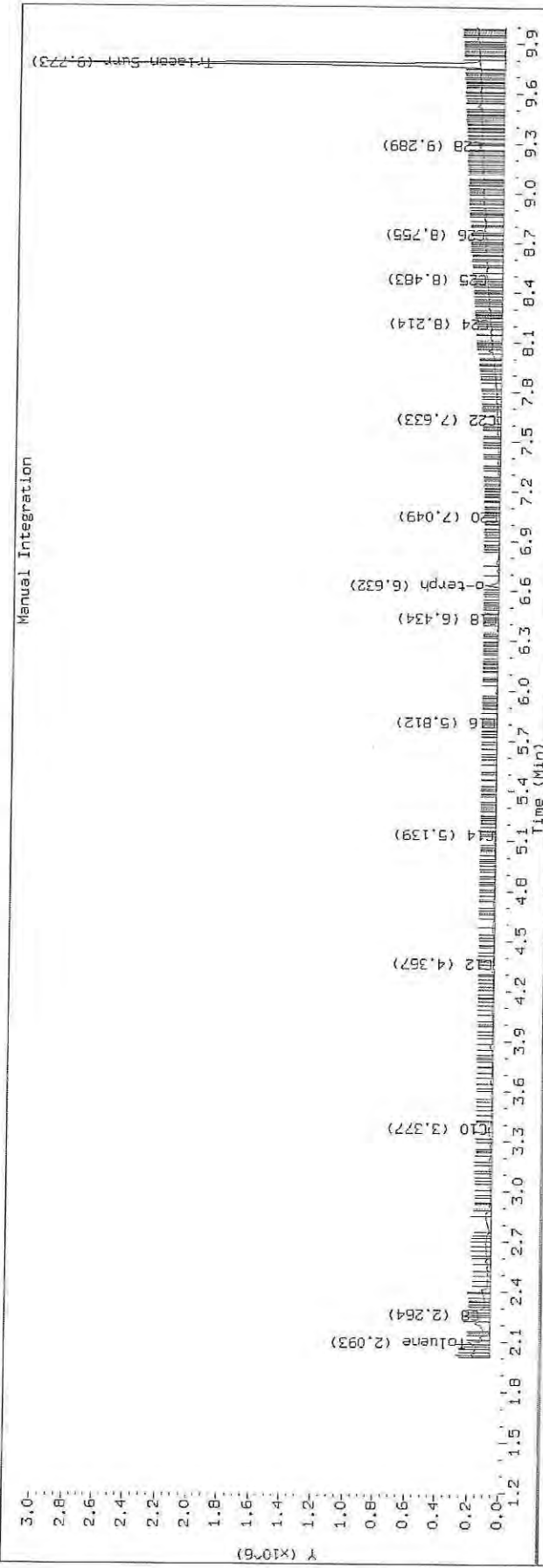
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2522.D SHJ0406-CALE

HP6890 GC Data, FID1A.CH

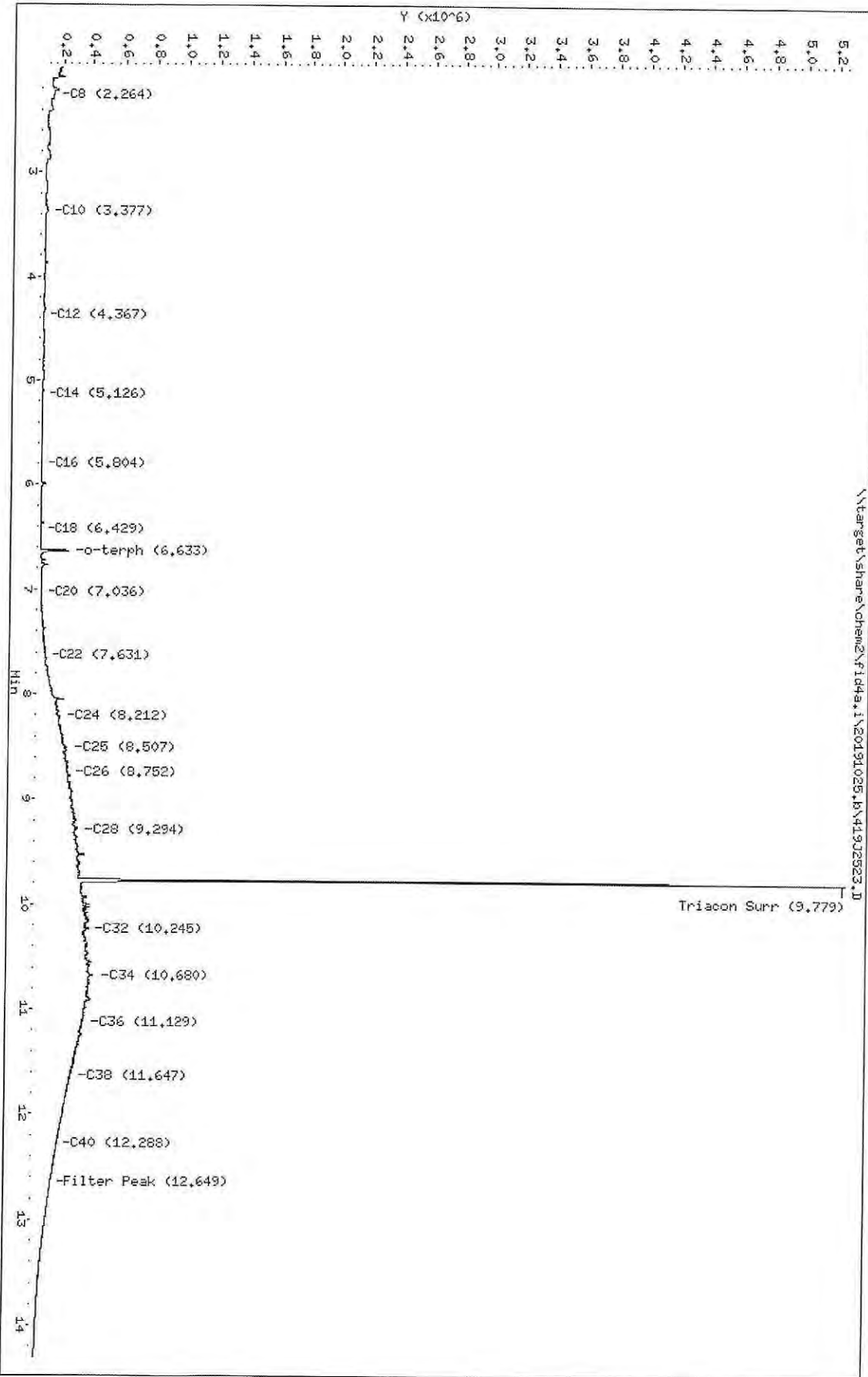


Datafile: FID4A, 20191025.b/419J2522.D Injection: 25-OCT-2019 18:55
 Lab ID: SHJ0406-CALE



Data File: \\target\share\chem2\fid4a.1\20191025.B\419J2523.D
 Date: 25-OCT-2019 19:15
 Client ID:
 Sample Info: SHJ0406-QALLF
 Column phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2523.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALF
Client ID:
Injection: 25-OCT-2019 19:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	65663	48530	WATPHD	(C12-C24)	5014916	31.5
C10	3.377	0.004	28749	58345	WATPHM	(C24-C38)	59779944	450.7
C12	4.367	0.020	3969	3466	AK102	(C10-C25)	7200245	36.8
C14	5.126	-0.004	3228	1712	AK103	(C25-C36)	49058982	490.7
C16	5.804	-0.004	2893	3236	OR.DIES	(C10-C28)	19724552	100.6
C18	6.429	-0.005	2246	2256				
C20	7.036	-0.007	10796	11147				
C22	7.631	-0.008	48129	85760				
C24	8.212	-0.003	157019	245696				
C25	8.507	0.014	210068	574409				
C26	8.752	-0.013	221185	294582				
C28	9.294	0.008	276194	178596				
C32	10.245	0.003	351165	209719				
C34	10.680	-0.001	394703	898701				
Filter Peak	12.649	-0.002	125409	50077	CREOSOT	(C12-C22)	1560946	400.2
C36	11.129	-0.000	332260	99465				
C38	11.647	-0.003	258943	64646				
C40	12.288	-0.001	170438	84522				
o-terph	6.633	-0.024	198416	176995				
Triacon Surr	9.779	-0.024	4910254	3941895	NAS DIES	(C10-C24)	5534721	28.4

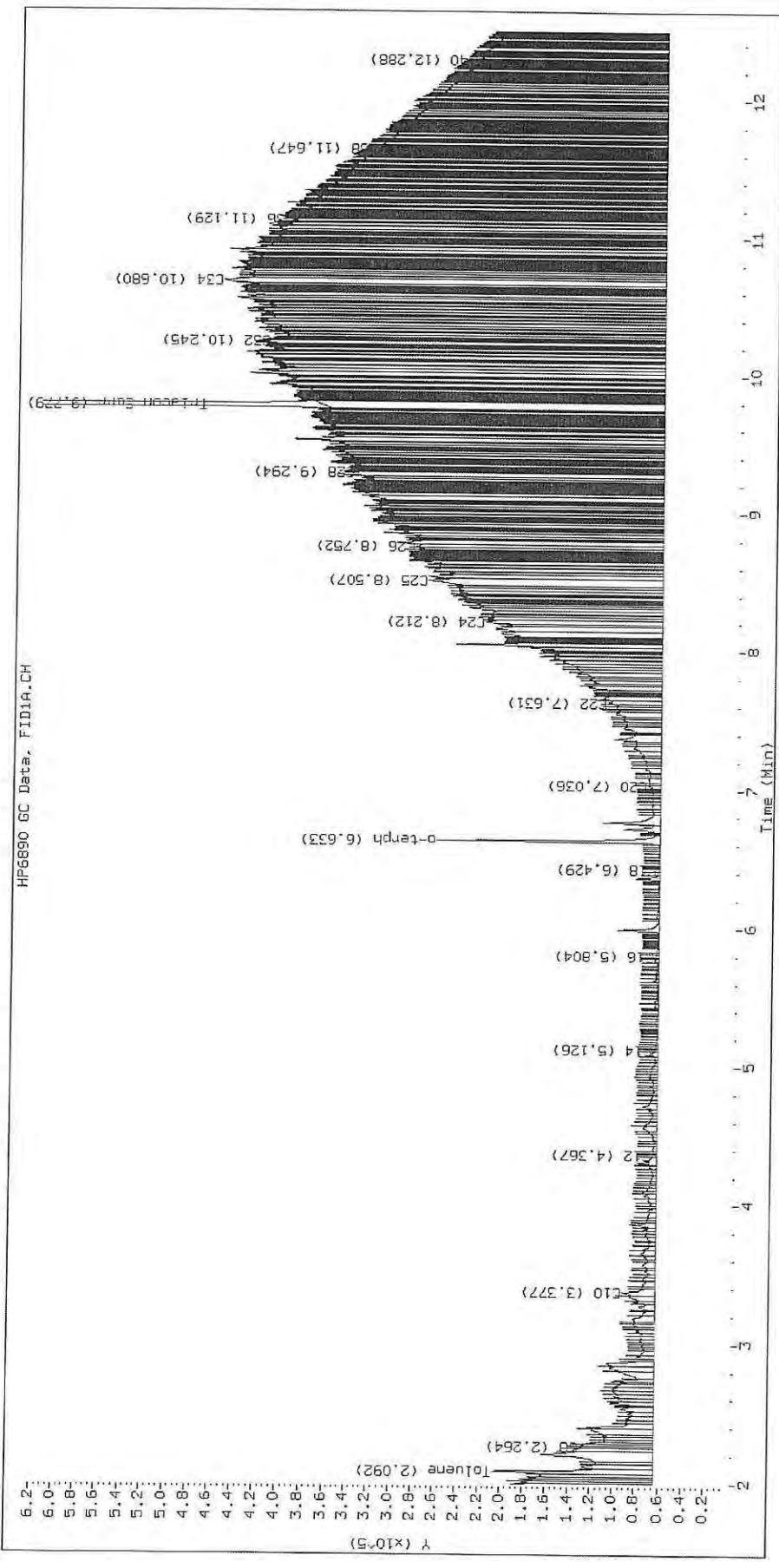
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

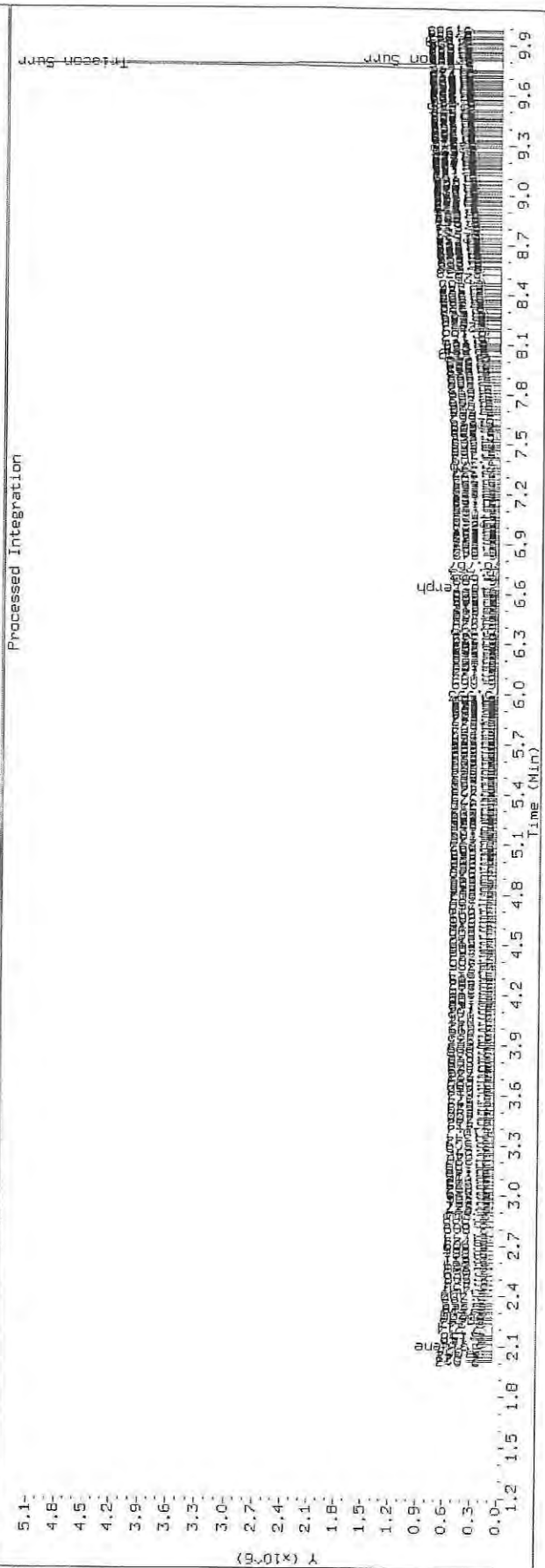
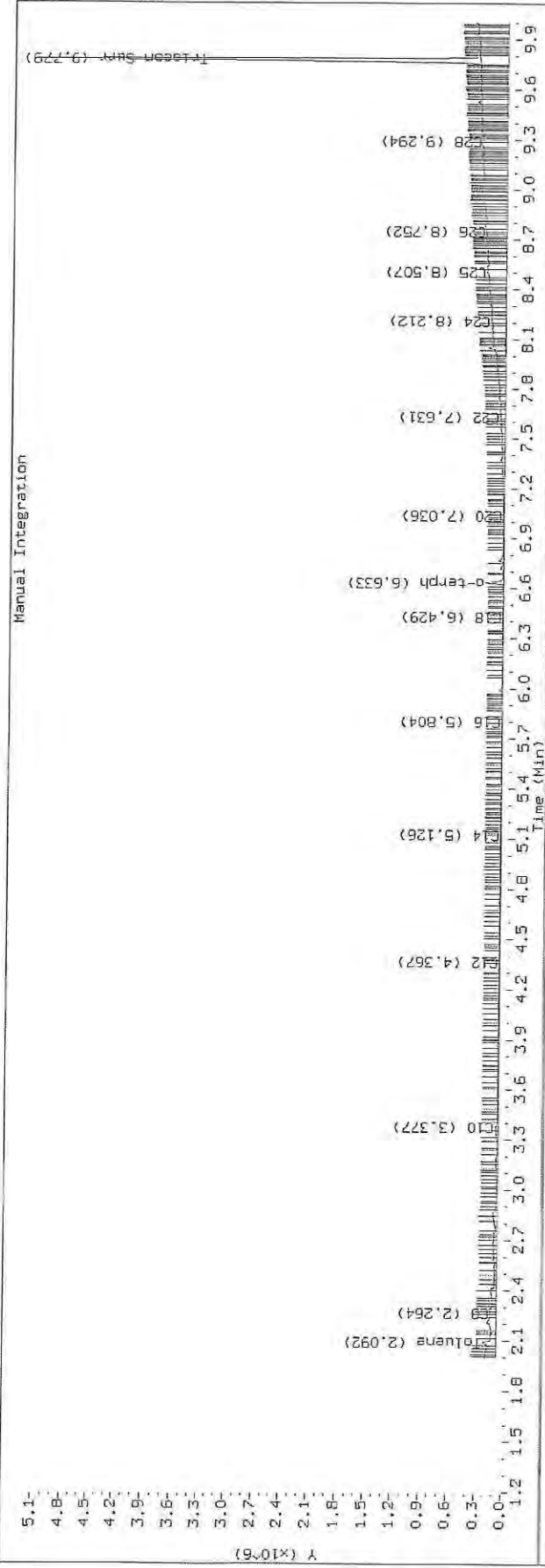
Surrogate	Area	Amount
o-Terphenyl	176995	0.9
Triacontane	3941895	22.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

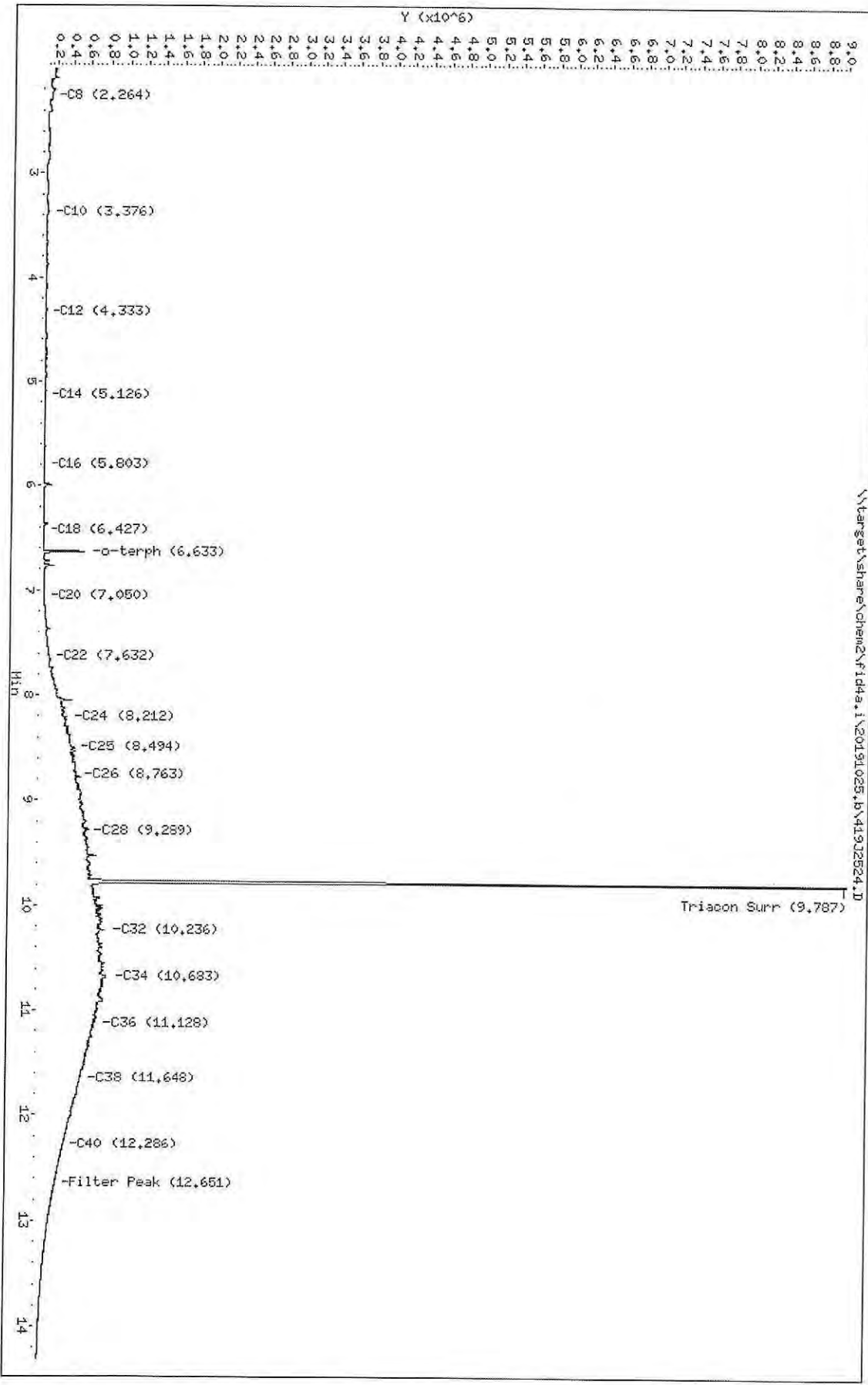
Datafile: FID4A, 20191025.b/419J2523.D SHJ0406-CALF





Data File: \\target\share\chem2\Fid4a.i\20191025_10\41932524.D
 Date : 25-OCT-2019 19:34
 Client ID:
 Sample Info: SHJ0406-CALLS
 Column phase: RTX-1

Instrument: fid4a.i
 Operator: CTD/SH/YTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2524.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALG
Client ID:
Injection: 25-OCT-2019 19:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	59182	43398	WATPHD	(C12-C24)	9693002	60.8
C10	3.376	0.003	26004	47549	WATPHM	(C24-C38)	119379277	900.1
C12	4.333	-0.015	5078	6418	AK102	(C10-C25)	13482675	69.0
C14	5.126	-0.004	4037	3451	AK103	(C25-C36)	98534931	985.6
C16	5.803	-0.004	5499	6876	OR.DIES	(C10-C28)	38197703	194.9
C18	6.427	-0.008	4829	4807				
C20	7.050	0.007	20128	16414				
C22	7.632	-0.007	95273	191460				
C24	8.212	-0.003	309198	497796				
C25	8.494	0.001	394056	249031				
C26	8.763	-0.001	429806	171737				
C28	9.289	0.004	544145	135929				
C32	10.236	-0.006	748503	1187882				
C34	10.683	0.001	785420	196129				
Filter Peak	12.651	0.000	222539	110925	CREOSOT	(C12-C22)	2913792	747.0
C36	11.128	-0.000	665475	297953				
C38	11.648	-0.001	517415	384389				
C40	12.286	-0.003	322103	175432				
o-terph	6.633	-0.024	489788	368237				
Triacon Surr	9.787	-0.015	8362676	7933666	NAS DIES	(C10-C24)	10069630	51.6

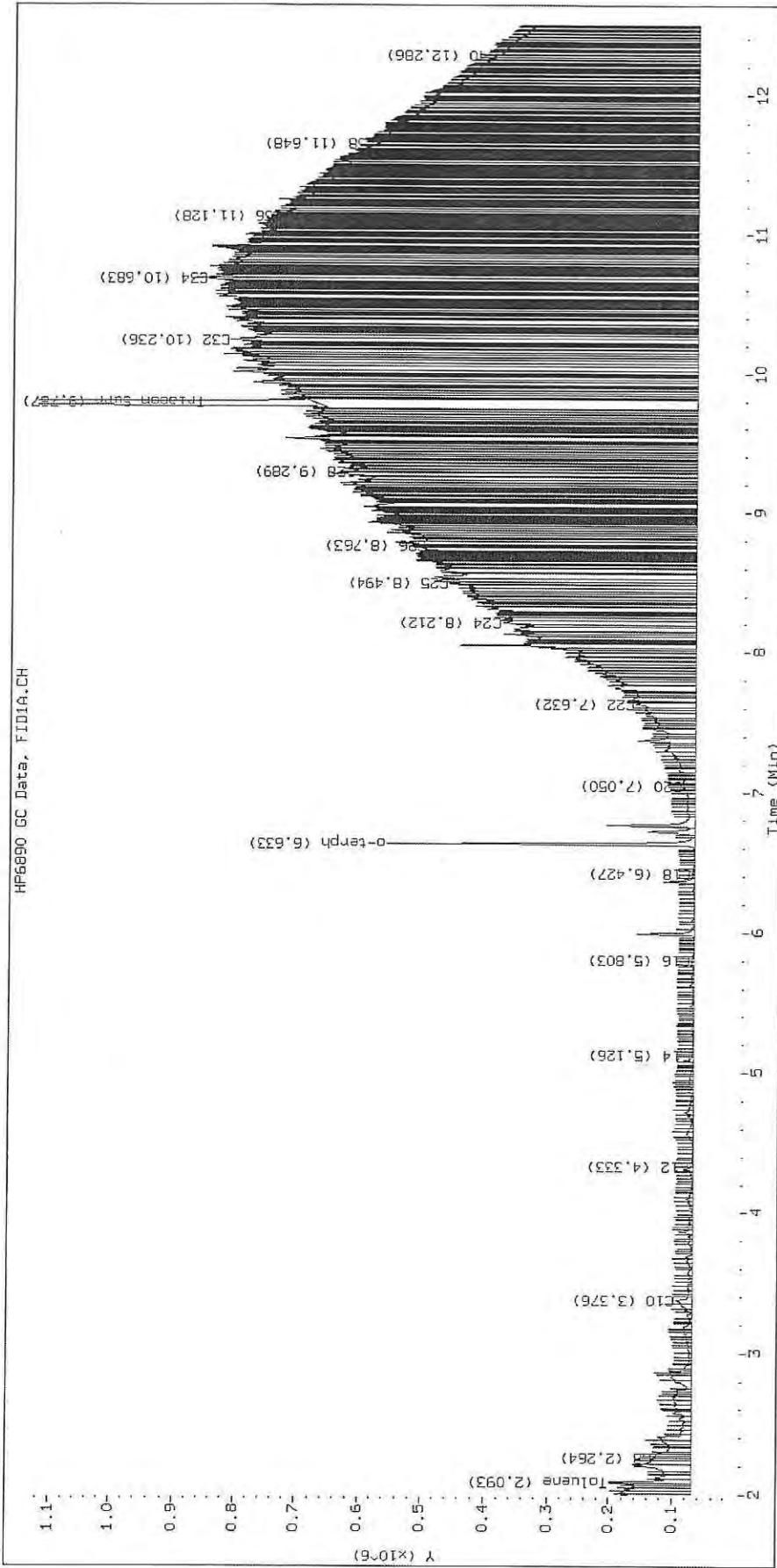
Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

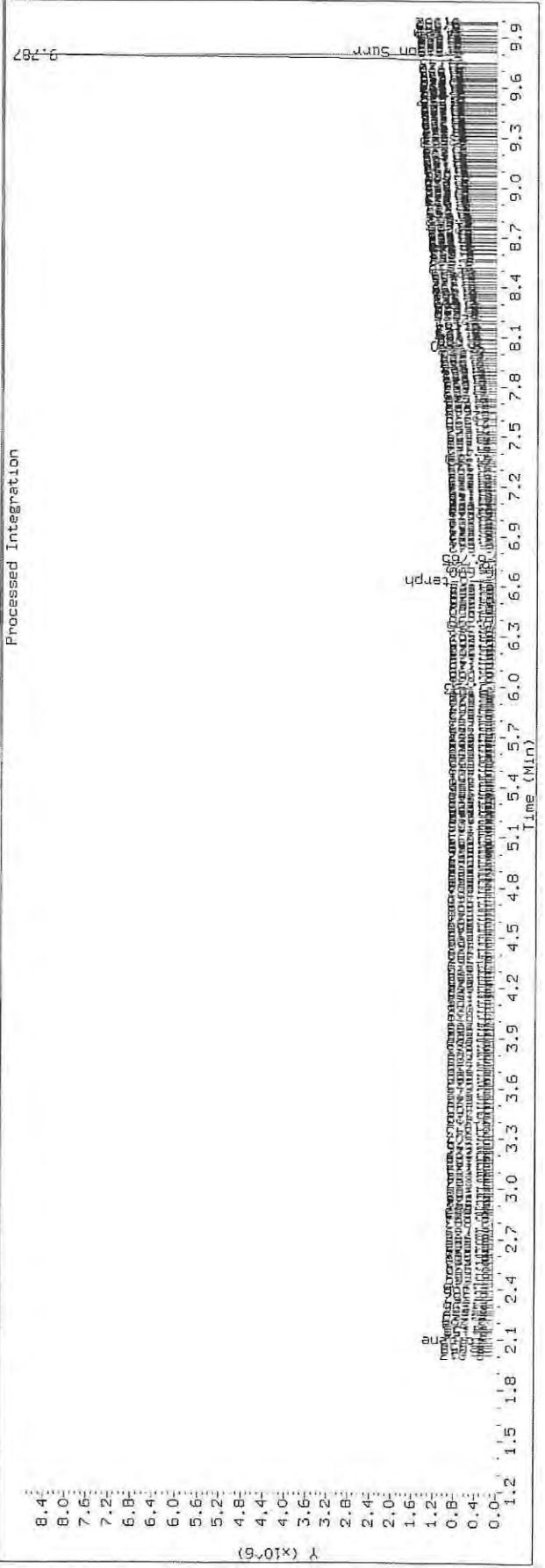
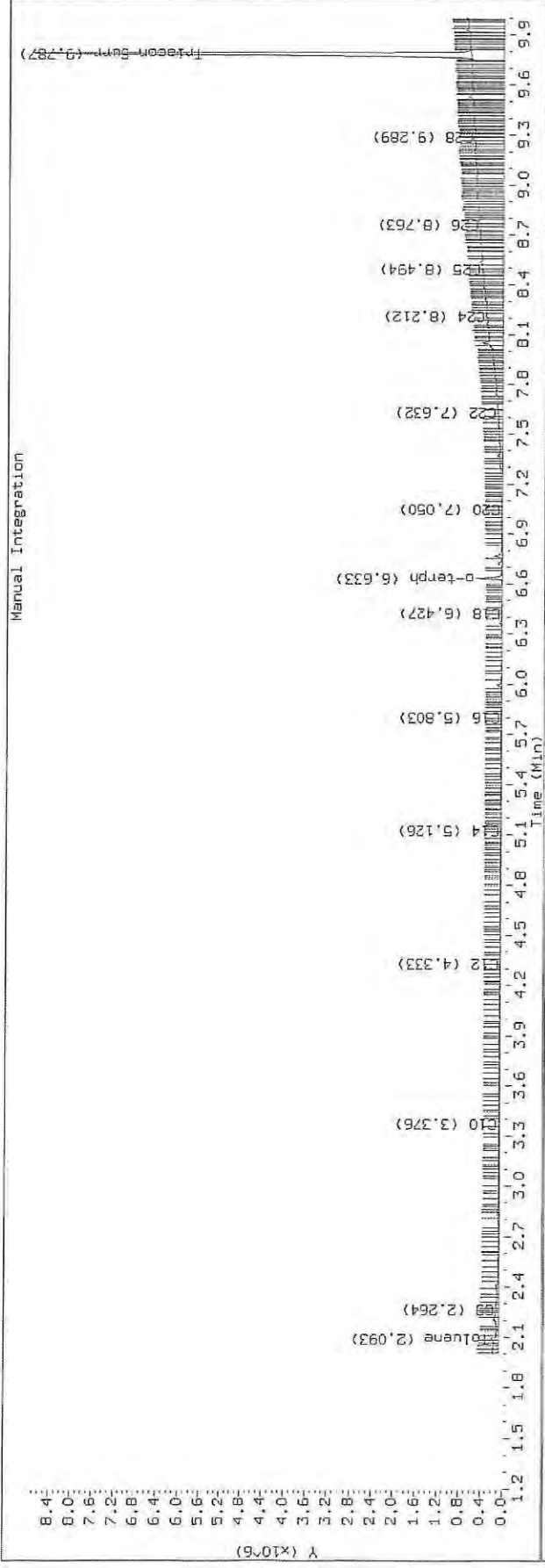
Surrogate	Area	Amount
o-Terphenyl	368237	1.8
Triacontane	7933666	44.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

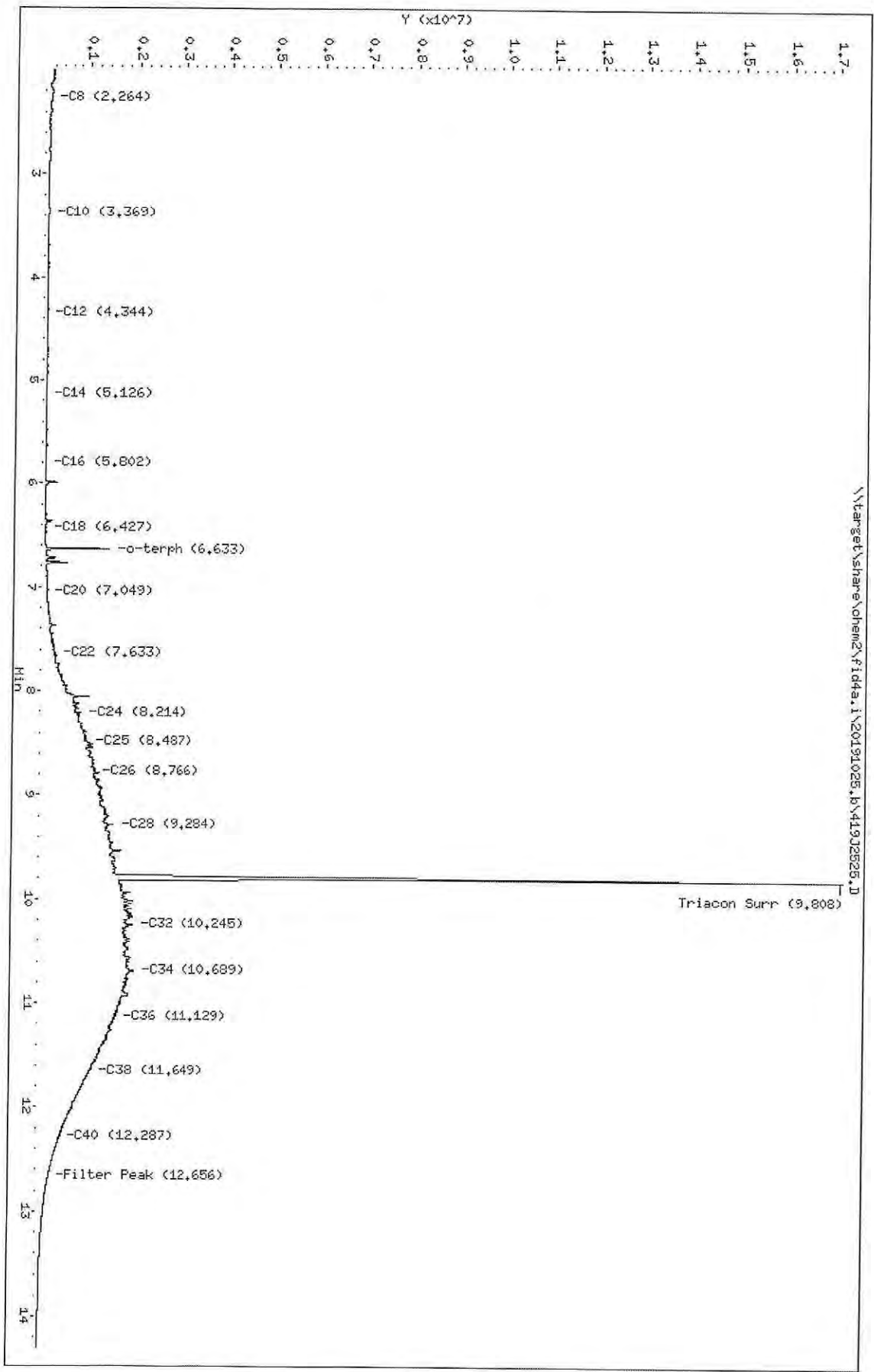
Datafile: FID4A, 20191025.b/419J2524.D SHJ0406-CALG





Data File: \\karger\share\chem2\fid4a.i\20191025.b\419J2525.D
Date: 25-OCT-2019 19:54
Client ID:
Sample Info: SHJ0406-CALH
Column Phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2525.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALH
Client ID:
Injection: 25-OCT-2019 19:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	56415	38567	WATPHD	(C12-C24)	26301815	165.1
C10	3.369	-0.003	27712	41157	WATPHM	(C24-C38)	301341214	2272.0
C12	4.344	-0.003	5882	6952	AK102	(C10-C25)	35690614	182.6
C14	5.126	-0.003	7507	9244	AK103	(C25-C36)	251232894	2512.9
C16	5.802	-0.005	13222	14374	OR.DIES	(C10-C28)	99037801	505.3
C18	6.427	-0.008	19180	20067				
C20	7.049	0.006	65385	59588				
C22	7.633	-0.006	263262	368137				
C24	8.214	-0.001	822366	1422767				
C25	8.487	-0.006	962652	426588				
C26	8.766	0.002	1133629	505360				
C28	9.284	-0.002	1509428	2436681				
C32	10.245	0.003	1957482	3059346				
C34	10.689	0.008	1976148	4422245				
Filter Peak	12.656	0.006	231984	148698	CREOSOT	(C12-C22)	8248980	2114.6
C36	11.129	-0.000	1621407	646645				
C38	11.649	-0.000	1113973	443976				
C40	12.287	-0.002	466123	386816				
o-terph	6.633	-0.024	1387955	962768				
Triacon Surr	9.808	0.006	15482951	20436973	NAS DIES	(C10-C24)	26712775	136.9

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

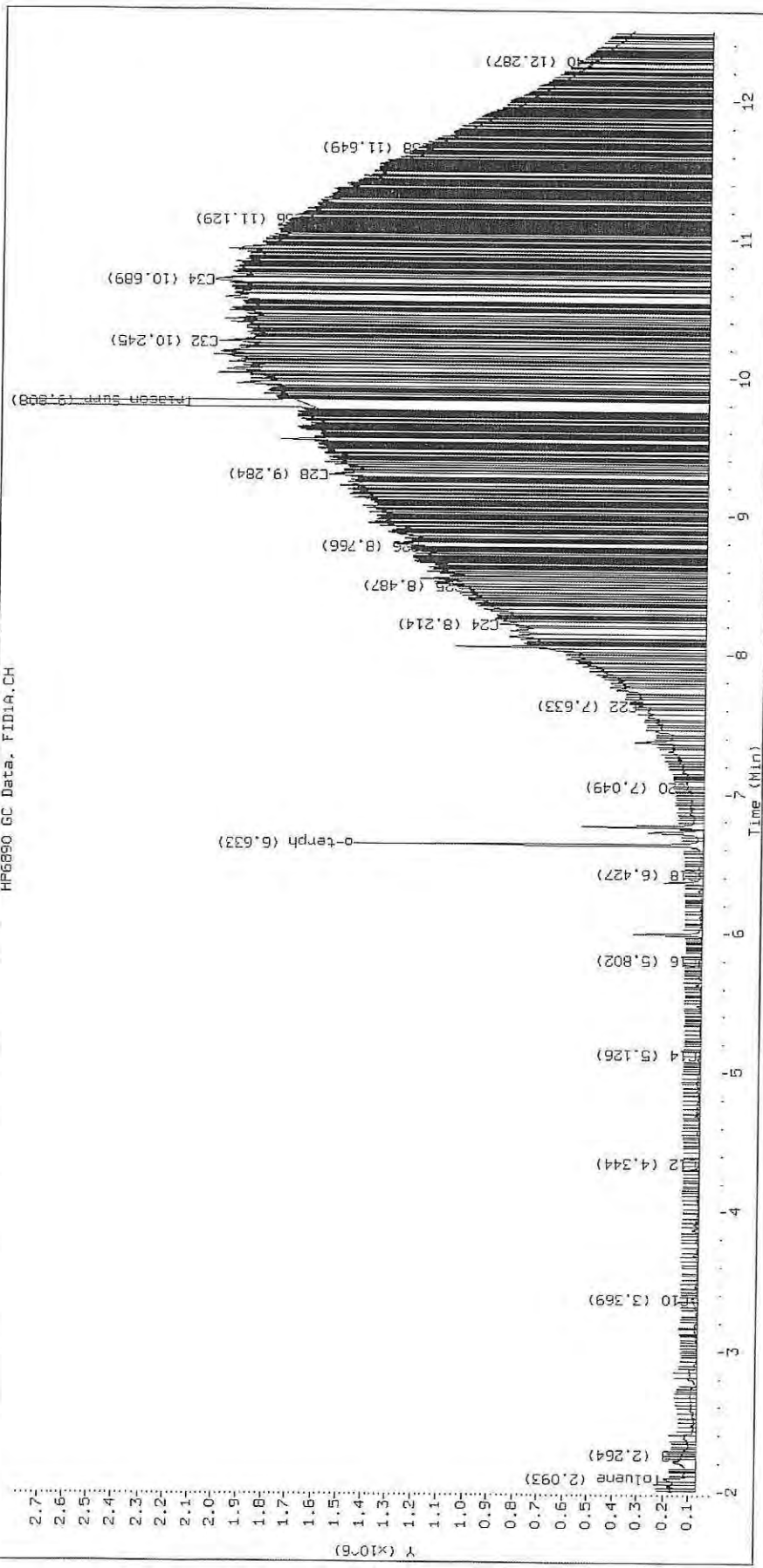
Surrogate	Area	Amount
o-Terphenyl	962768	4.7
Triacontane	20436973	114.8 M

M Indicates the peak was manually integrated

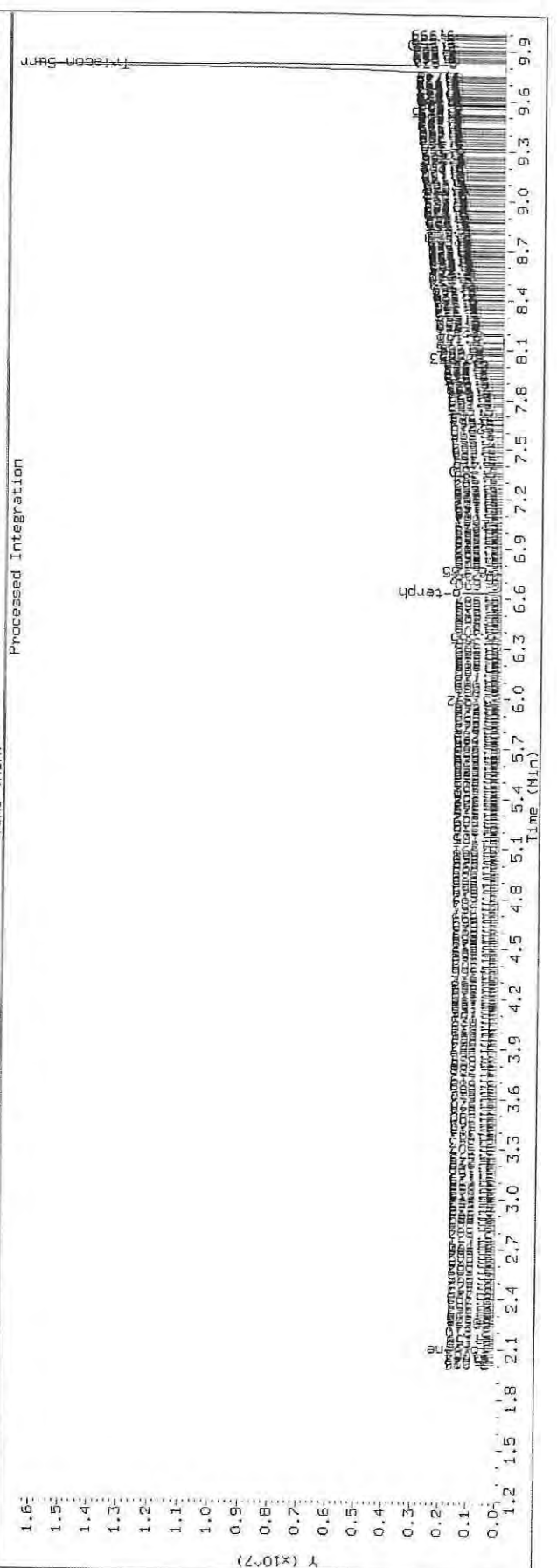
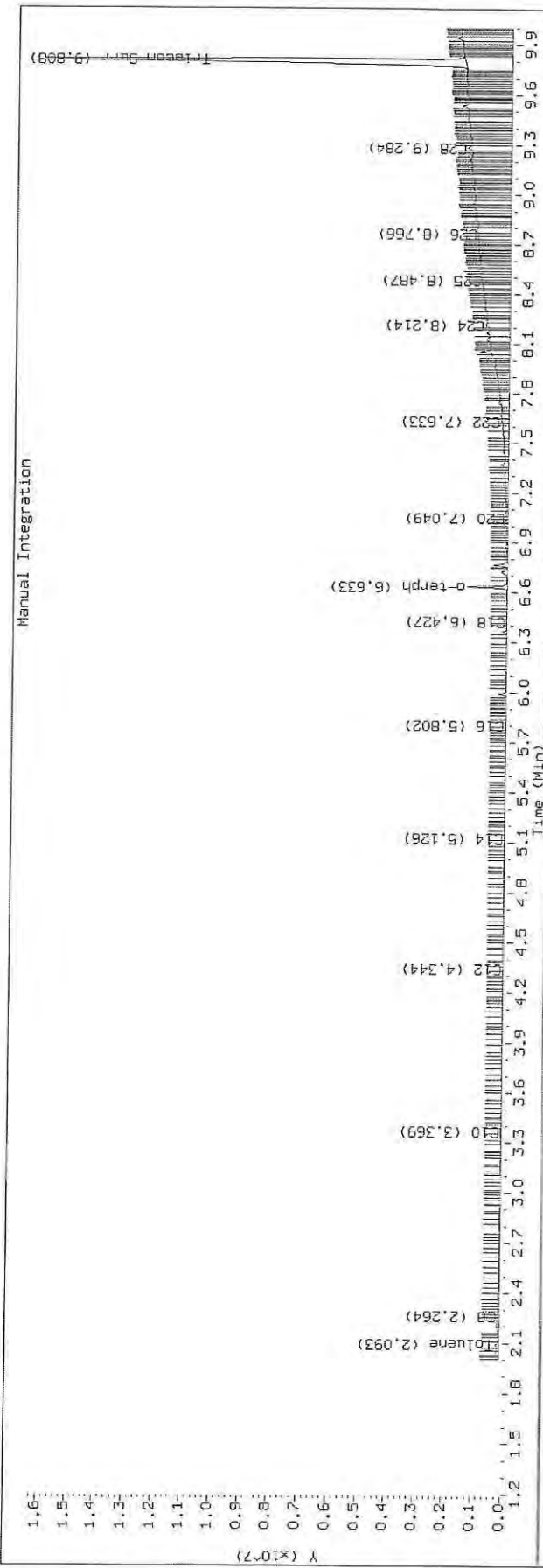
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2525.D SHJ0406-CALH

HP6890 GC Data, FID1A.CH



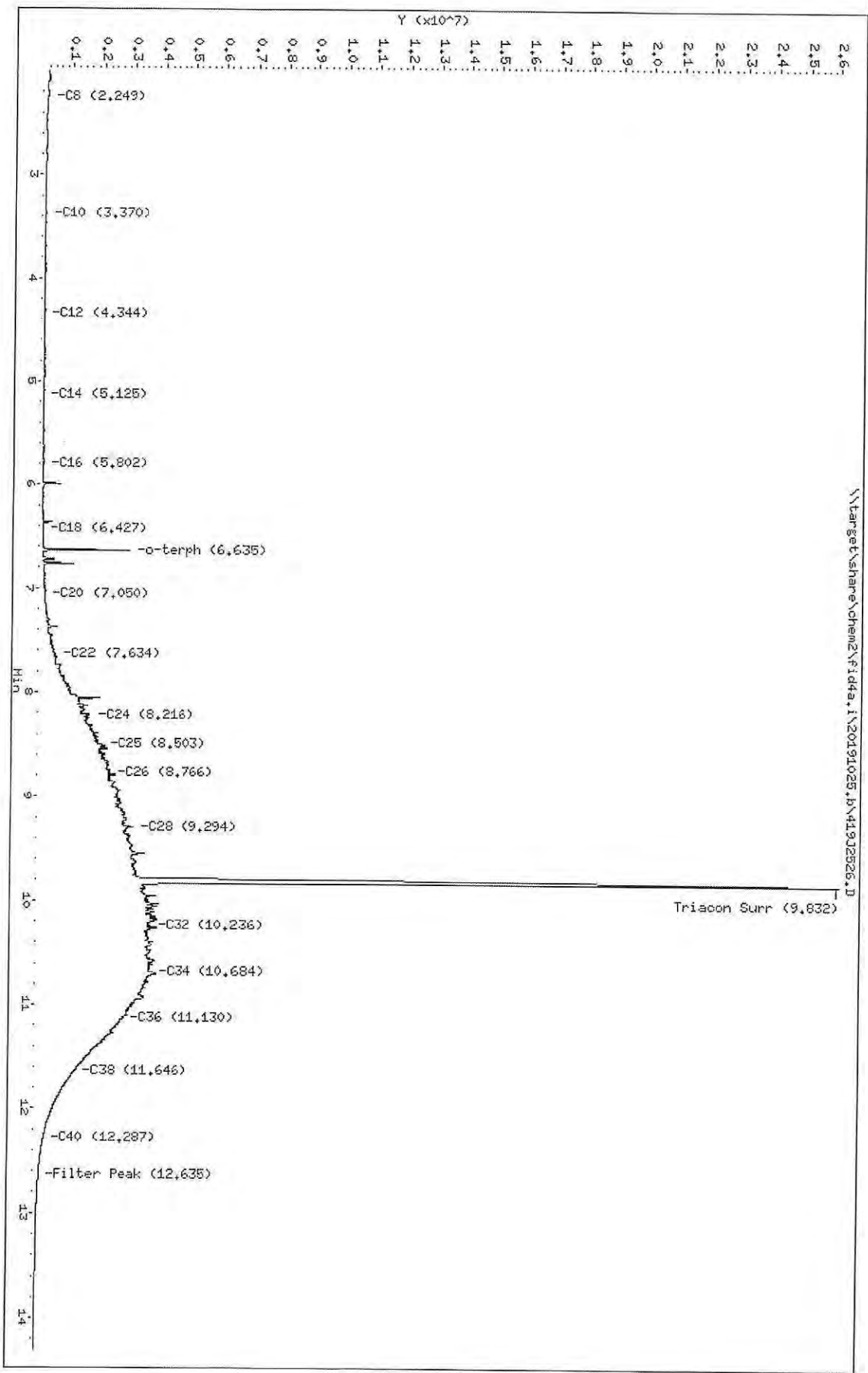
TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/41972525.D Injection: 25-OCT-2019 19:54
 Lab ID: SHJ0406-CALH



Data File: \\target\share\chem2\fid4a.i\20191025.B\419J2826.D
Date: 25-OCT-2019 20:15
Client ID:
Sample Info: SHJ0406-CALI

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTO/SH/VTS/JDR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2526.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-CALI
Client ID:
Injection: 25-OCT-2019 20:15
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.249	-0.013	68157	97437	WATPHD	(C12-C24)	53373864	335.0
C10	3.370	-0.003	37579	47410	WATPHM	(C24-C38)	579217404	4367.1
C12	4.344	-0.003	10600	10459	AK102	(C10-C25)	72516526	370.9
C14	5.125	-0.004	18160	20643	AK103	(C25-C36)	501300122	5014.2
C16	5.802	-0.005	31467	33333	OR.DIES	(C10-C28)	201523108	1028.2
C18	6.427	-0.008	46016	47297				
C20	7.050	0.007	139853	120986				
C22	7.634	-0.005	536997	729929				
C24	8.216	0.002	1657695	1800915				
C25	8.503	0.010	2055767	2566063				
C26	8.766	0.002	2309434	1601749				
C28	9.294	0.008	3108955	5845567				
C32	10.236	-0.006	3694253	3475497				
C34	10.684	0.002	3746349	1670889				
Filter Peak	12.635	-0.015	125409	273331	CREOSOT	(C12-C22)	16636154	4264.7
C36	11.130	0.002	2854299	995118				
C38	11.646	-0.003	1329722	1616024				
C40	12.287	-0.002	293577	286952				
o-terph	6.635	-0.022	2904255	1975795				
Triacon Surr	9.832	0.030	22638379	40251878	NAS DIES	(C10-C24)	53915002	276.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

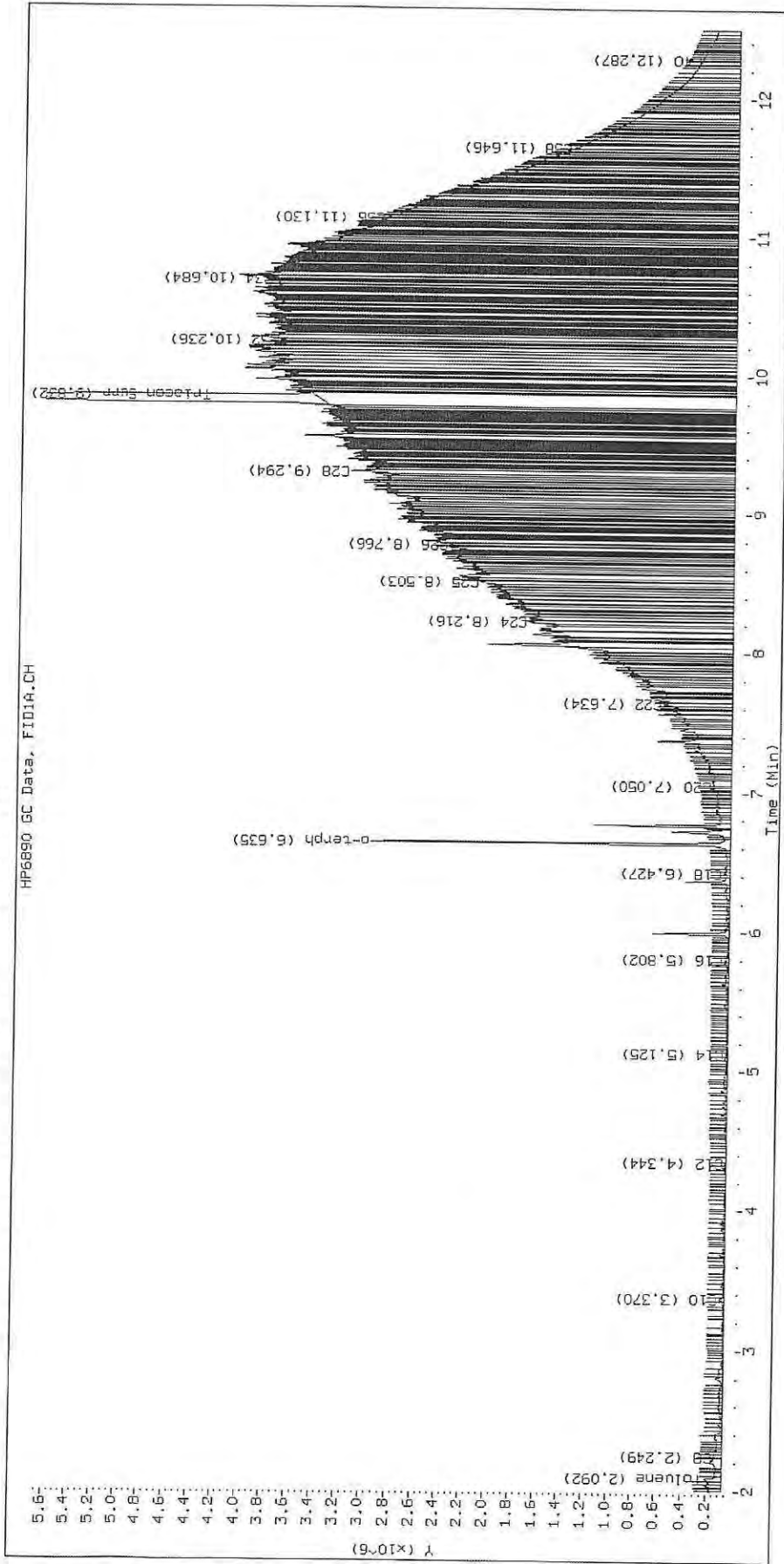
Surrogate	Area	Amount
o-Terphenyl	1975795	9.7
Triacontane	40251878	226.2 M

M Indicates the peak was manually integrated

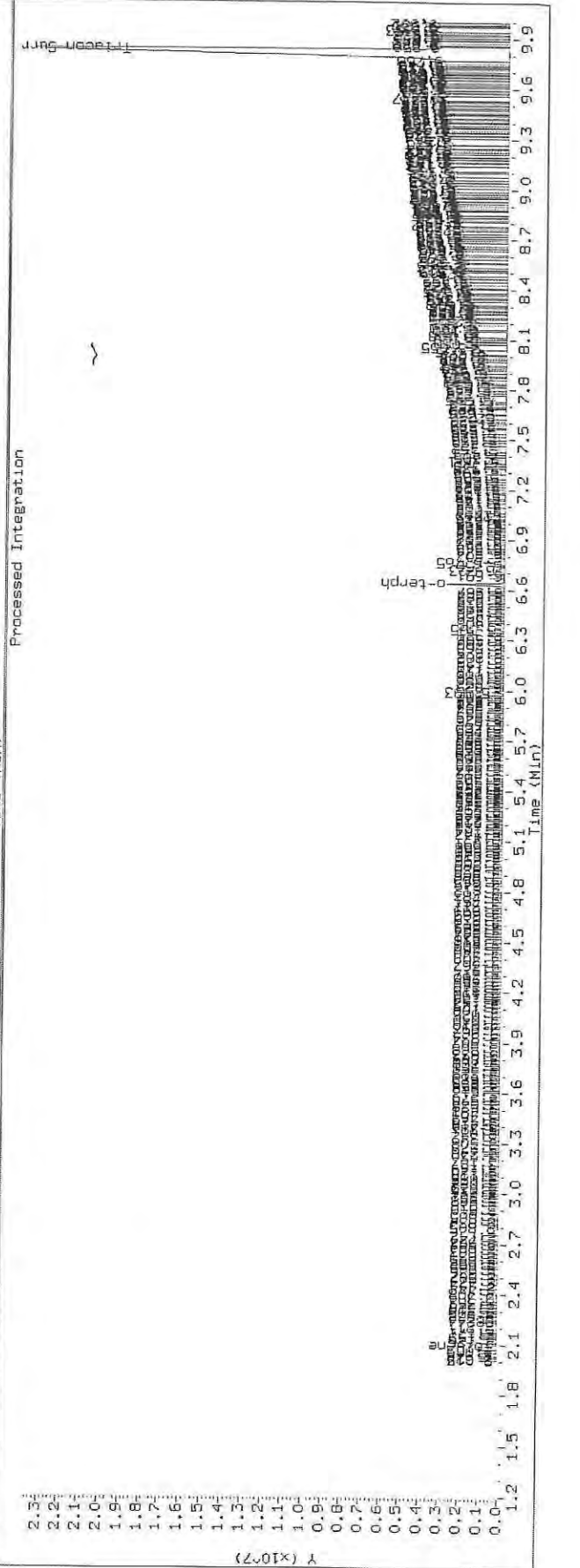
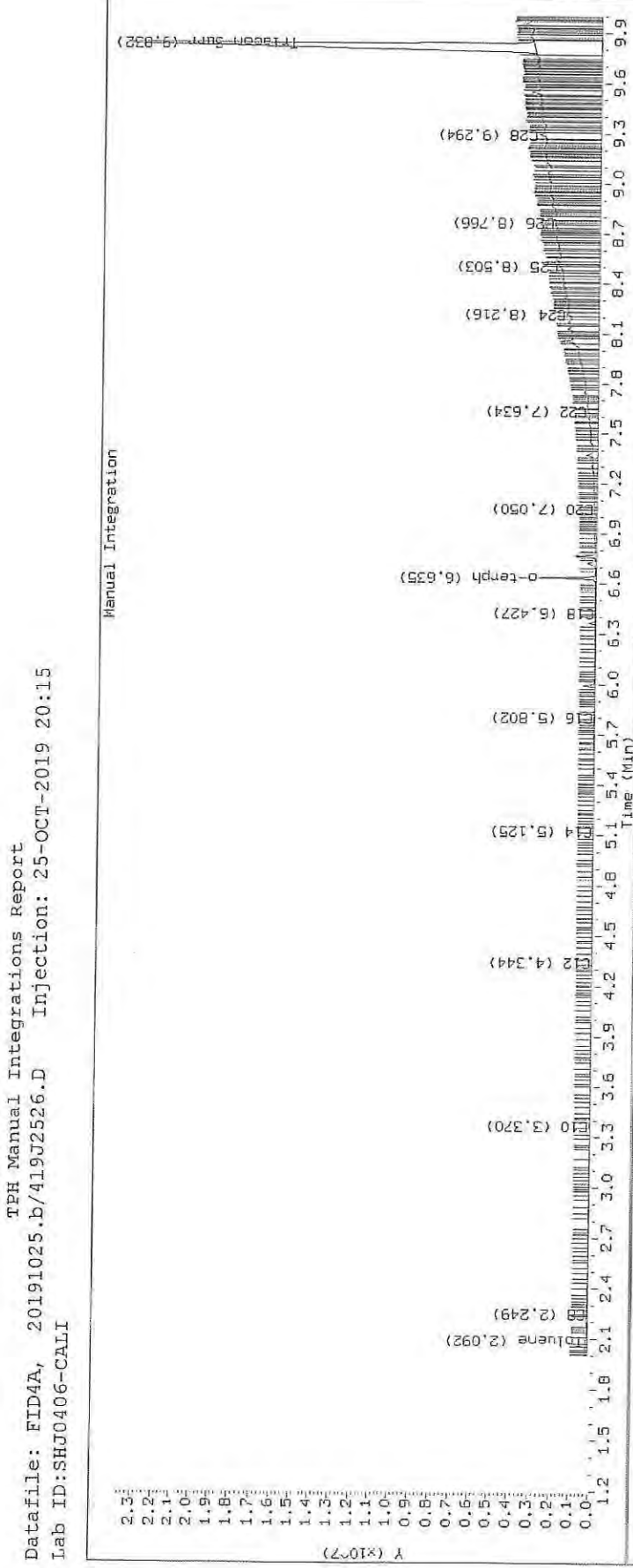
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

Datafile: FID4A, 20191025.b/419J2526.D SHJ0406-CALI

HP6890 GC Data, FID1A.CH

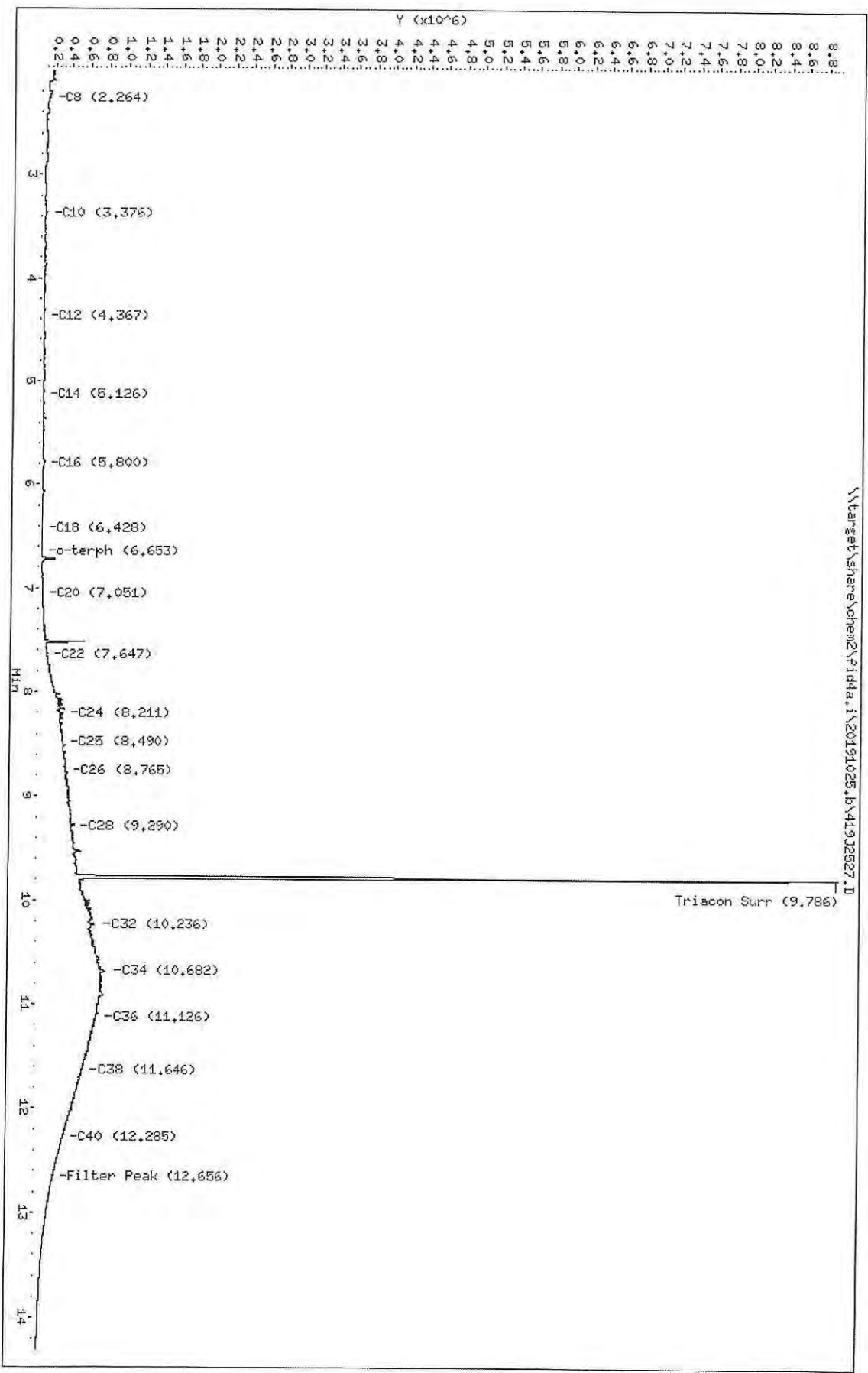


Datafile: FID4A, 20191025.b/419J2526.D Injection: 25-OCT-2019 20:15
 Lab ID: SHJ0406-CALI



Data File: \\farset\share\chem2\Fid4a.1\20191025.B\419J2527.D
 Date: 25-OCT-2019 20:35
 Client ID:
 Sample Info: SHJ0406-SCV3
 Column Phase: RTX-1

Instrument: fid4a.1
 Operator: CTO/SH/VTS/JGR
 Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2527.D
Method: 20191025.b\FID4TPH.m
Instrument: fid4a.i, CTO/SH/VTS/JGR
Report Date: 10/30/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHJ0406-SCV3
Client ID:
Injection: 25-OCT-2019 20:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg/L)
C8	2.264	0.002	53471	36749	WATPHD	(C12-C24)	9151453	57.4
C10	3.376	0.003	25610	47191	WATPHM	(C24-C38)	105205257	793.2
C12	4.367	0.020	4177	4443	AK102	(C10-C25)	12217213	62.5
C14	5.126	-0.003	5782	7745	AK103	(C25-C36)	83900022	839.2
C16	5.800	-0.007	18027	25221	OR.DIES	(C10-C28)	30254236	154.4
C18	6.428	-0.007	5074	5462				
C20	7.051	0.008	15134	10036				
C22	7.647	0.008	76708	26745				
C24	8.211	-0.004	290822	446061				
C25	8.490	-0.003	283476	98752				
C26	8.765	0.000	315420	126036				
C28	9.290	0.004	395912	118500				
C32	10.236	-0.006	661365	1079458				
C34	10.682	0.001	769683	230477				
Filter Peak	12.656	0.006	214849	128159	CREOSOT	(C12-C22)	2946608	755.4
C36	11.126	-0.002	688686	308098				
C38	11.646	-0.004	543124	322331				
C40	12.285	-0.004	325522	178450				
o-terph	6.653	-0.003	2619	2570				
Triacon Surr	9.786	-0.016	8421327	7592281	NAS DIES	(C10-C24)	9621264	49.3

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

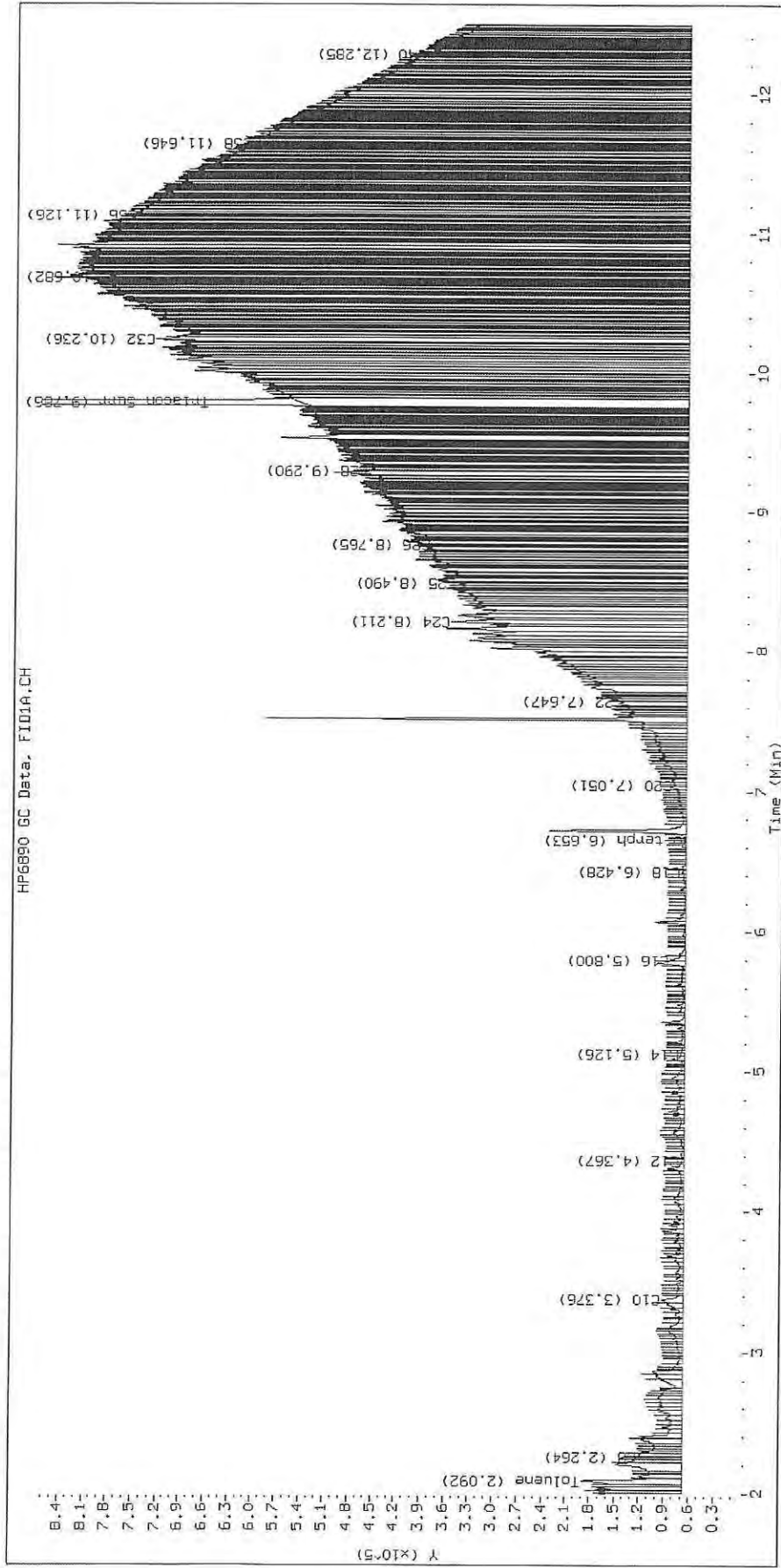
Surrogate	Area	Amount
o-Terphenyl	2570	0.0
Triacotane	7592281	42.7 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019

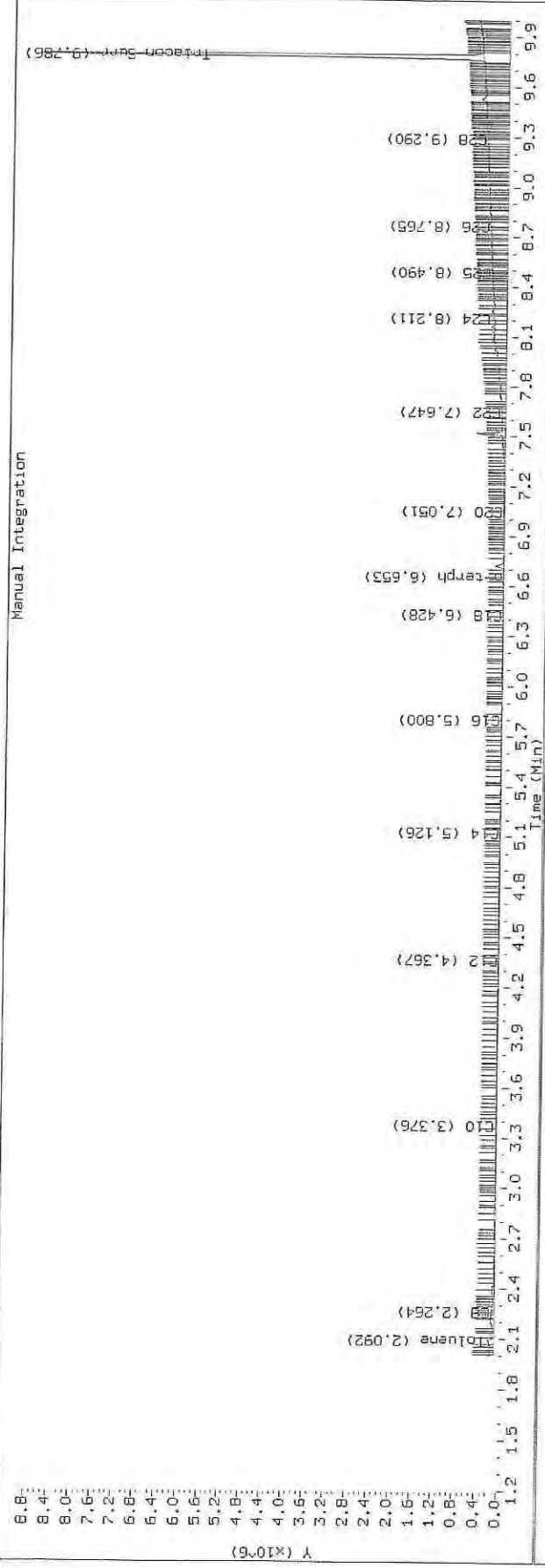
Datafile: FID4A, 20191025.b/41902527.D SHJ0406-SCV3

HP6890 GC Data, FID1A.CH

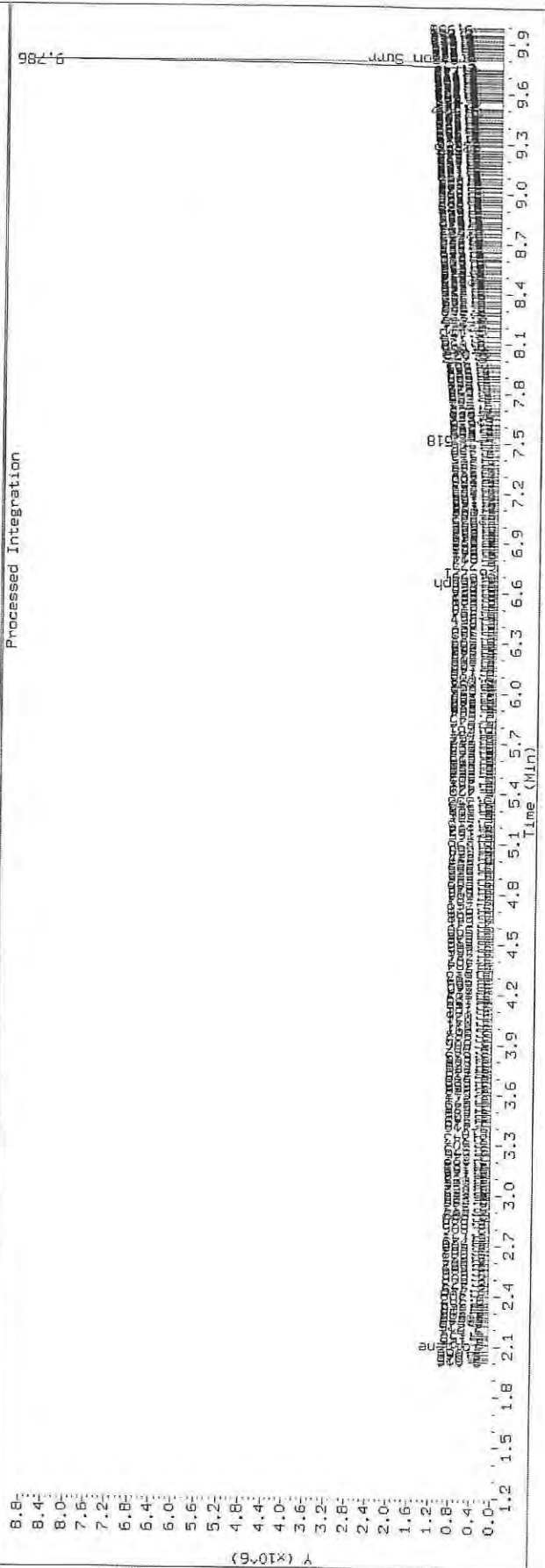


TPH Manual Integrations Report
 Datafile: FID4A, 20191025.b/419J2527.D Injection: 25-OCT-2019 20:35
 Lab ID: SH00406-SCV3

Manual Integration



Processed Integration



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191119.b/419K1907.D
Method: 20191119.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/20/2019
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SHK0260-ICV3
Client ID:
Injection: 19-NOV-2019 15:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.258	-0.008	251291	294712	WATPHD	(C12-C24)	42051010	263.9
C10	3.371	-0.003	4406335	3424876	WATPHM	(C24-C38)	496216	3.7
C12	4.346	-0.001	4634910	4478760	AK102	(C10-C25)	82254431	420.8
C14	5.126	-0.002	3015617	2044036	AK103	(C25-C36)	286196	2.9
C16	5.801	-0.005	604553	490104	OR.DIES	(C10-C28)	82288476	419.8
C18	6.426	-0.007	88855	83248				
C20	7.035	-0.006	27599	35934	JET-A	(C10-C18)	81259124	500.0
C22	7.631	-0.006	14833	25191				
C24	8.208	-0.005	6203	10027				
C25	8.490	-0.002	3298	4254				
C26	8.761	-0.002	1681	2107				
C28	9.291	0.006	225	122				
C32	10.242	0.000	1787	779				
C34	10.677	-0.003	4152	2235				
Filter Peak	12.648	0.002	7181	4285	CREOSOT	(C12-C22)	41927190	817.4
C36	11.126	0.000	5955	3830				
C38	11.639	-0.004	6373	4434				
C40	12.278	0.002	7499	4100				
o-terph	6.651	-0.002	16020002	16763037				
Triacon Surr	9.804	0.002	747	319	NAS DIES	(C10-C24)	82236143	421.4

Range Times: NW Diesel(4.346 - 8.213) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
NW M.Oil(8.21 - 11.64) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	16763037	81.9
Triacotane	319	0.0

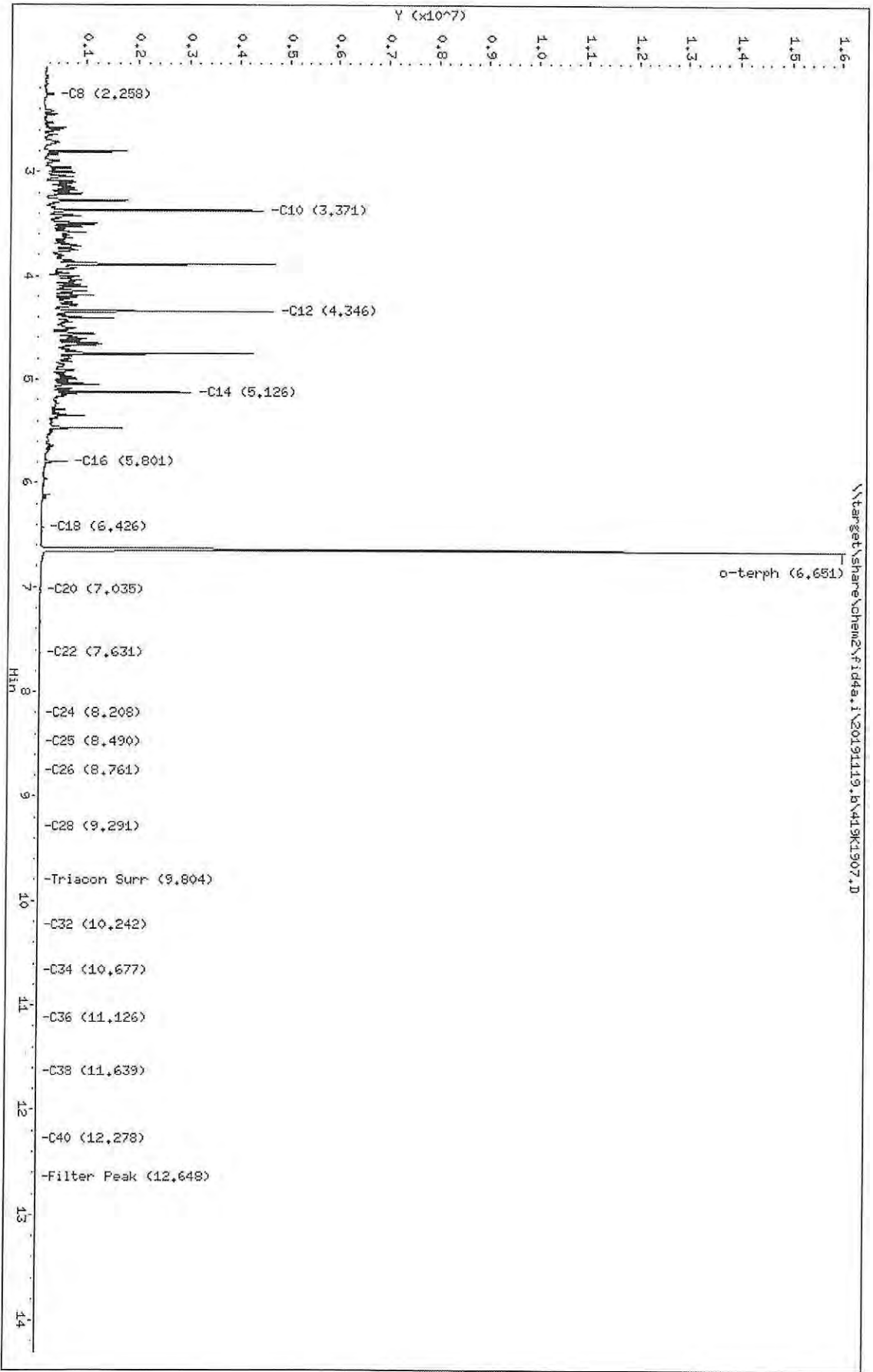
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	51292.5	15-NOV-2019

Data File: \\target\share\chem2\fid4a.i\20191119.B\419K1907.D
Date: 19-NOV-2019 15:10
Client ID:
Sample Info: SHK0260-ICV3

Column phase: RTX-1

Instrument: fid4a.i
Operator: CTD
Column diameter: 0.26



Data File: \\target\share\chem2\fid4a,1\20200107_b\42040707.D

Date: 07-JAN-2020 10:42

Client ID:

Sample Info: SIR0065-ICV3

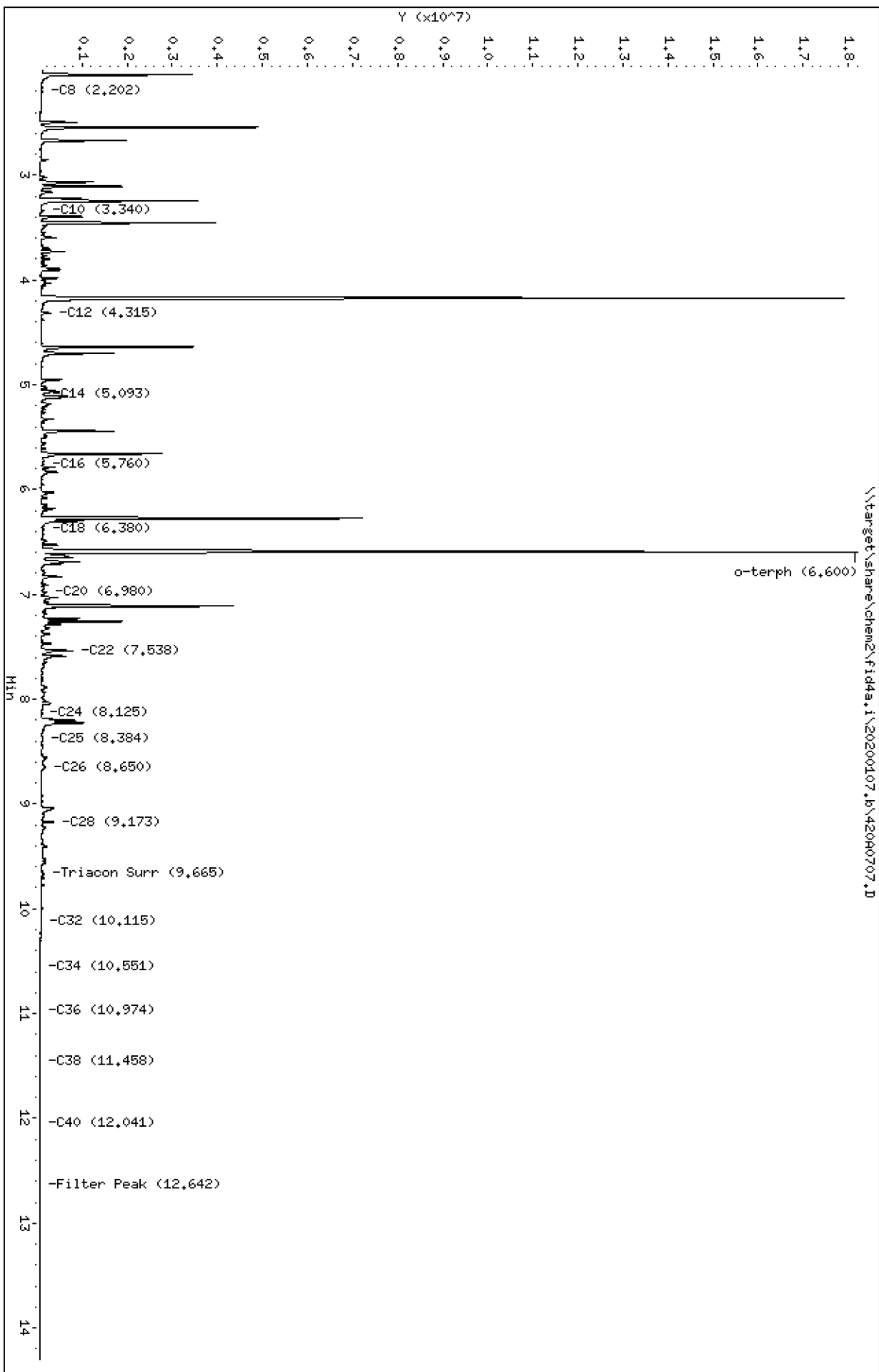
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200107.b/420A0707.D
Method: 20200107.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 01/08/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIA0065-ICV3
Client ID:
Injection: 07-JAN-2020 10:42
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

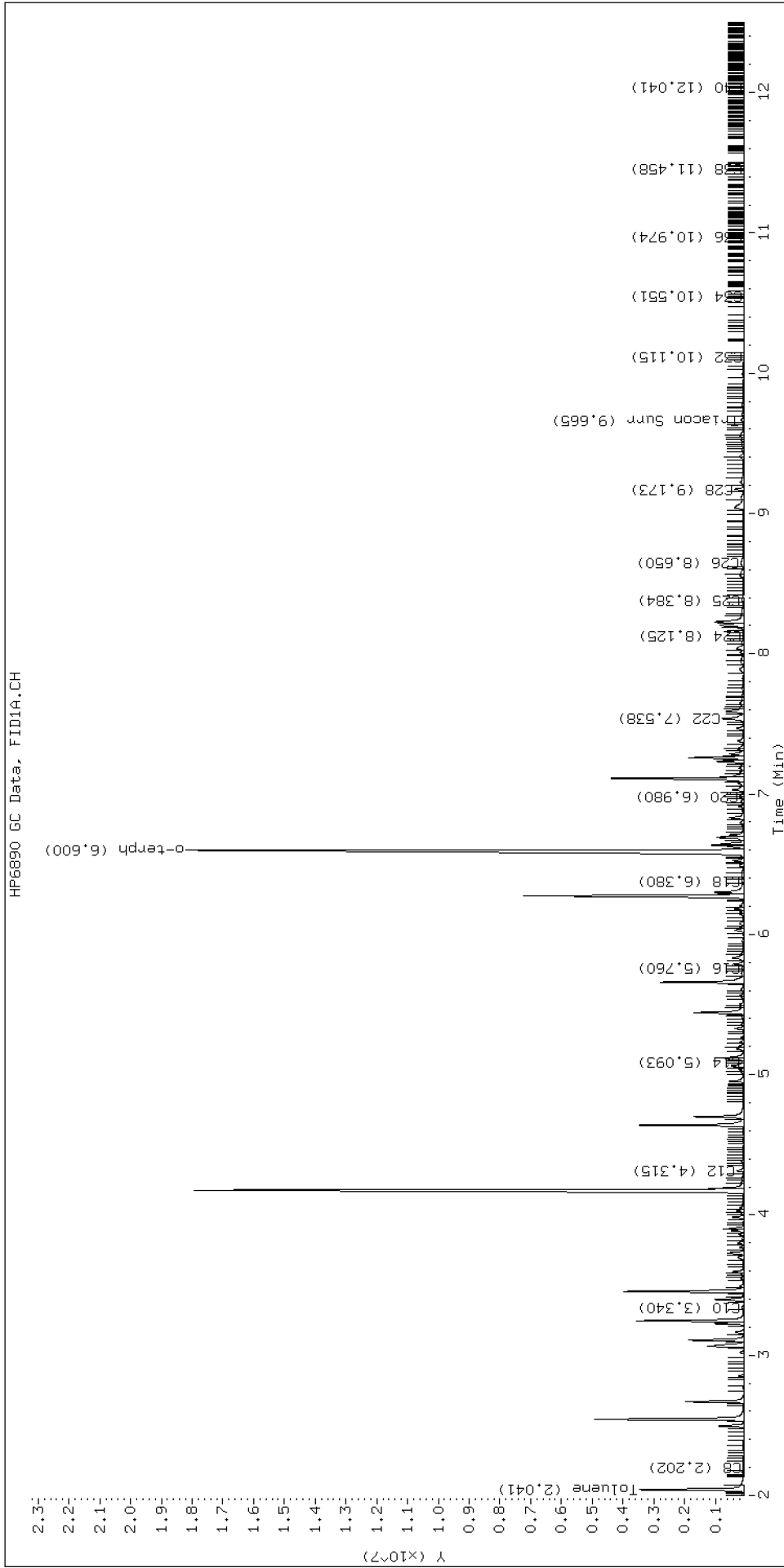
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.202	-0.016	48618	163148	WATPHD	(C12-C24)	39749068	249.5
C10	3.340	-0.003	90097	100393	WATPHM	(C24-C38)	8921905	67.3
C12	4.315	-0.003	247325	289347	AK102	(C10-C25)	67305313	344.3
C14	5.093	-0.003	88277	57691	AK103	(C25-C36)	6259973	62.6
C16	5.760	-0.005	76989	75637	OR.DIES	(C10-C28)	70713708	360.8
C18	6.380	-0.002	84390	113269				
C20	6.980	0.003	144985	120115	JET-A	(C10-C18)	47725210	293.7
C22	7.538	-0.024	728303	910269				
C24	8.125	-0.002	43865	44718				
C25	8.384	-0.017	65153	88015				
C26	8.650	-0.017	124266	355575				
C28	9.173	-0.007	310713	322767				
C32	10.115	-0.005	18488	10140				
C34	10.551	-0.003	12121	8350				
Filter Peak	12.642	-0.014	5310	3162	CREOSOT	(C12-C22)	37368560	1000.0
C36	10.974	-0.004	10765	7465				
C38	11.458	0.001	10672	2663				
C40	12.041	-0.000	6716	3626				
o-terph	6.600	0.002	18150486	20216219				
Triacon Surr	9.665	-0.021	100173	177367	NAS DIES	(C10-C24)	64884221	332.5

Range Times: NW Diesel(4.318 - 8.127) AK102(3.34 - 8.40) Jet A(3.34 - 6.38)
NW M.Oil(8.13 - 11.46) AK103(8.40 - 10.98) OR Diesel(3.34 - 9.18)

Surrogate	Area	Amount
o-Terphenyl	20216219	98.8
Triacontane	177367	1.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	37368.6	15-NOV-2019



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

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2	13-MAR-2020	13:38	420C1311.D	1	RINSE	
3	13-MAR-2020	13:58	420C1312.D	1	SEQ-IBL1	
4	13-MAR-2020	14:17	420C1313.D	1	SEQ-IBL2	
5	13-MAR-2020	14:37	420C1314.D	1	SEQ-CAL1	
6	13-MAR-2020	14:56	420C1315.D	1	SEQ-CAL2	
7	13-MAR-2020	15:15	420C1316.D	1	SEQ-CAL3	
8	13-MAR-2020	15:35	420C1317.D	1	SEQ-CAL4	
9	13-MAR-2020	15:54	420C1318.D	1	SEQ-CAL5	
10	13-MAR-2020	16:13	420C1319.D	1	SEQ-CAL6	
11	13-MAR-2020	16:33	420C1320.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200313b.b

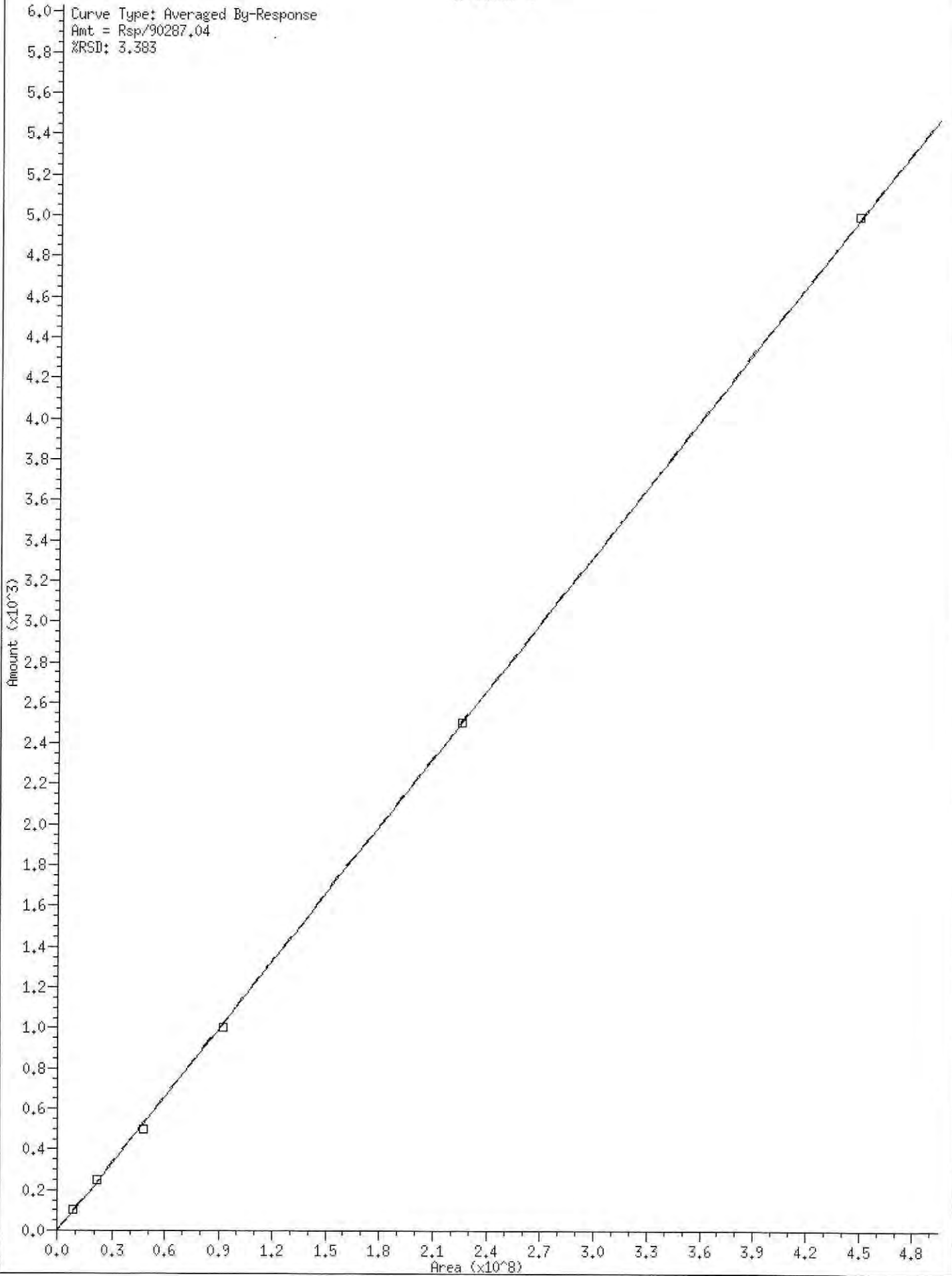
ARI Job No.: RINS Method: b\FID4TPH.m Instrument: fid4a.i Date: 13-MAR-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1319	420C1310.D	RINSE		1	NO MANUAL INTEGRATION
1338	420C1311.D	RINSE		1	NO MANUAL INTEGRATION
1358	420C1312.D	SEQ-IBL1		1	C14, C16, C40,
1417	420C1313.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1437	420C1314.D	SEQ-CAL1		1	C20, o-terph,
1456	420C1315.D	SEQ-CAL2		1	o-terph,
1515	420C1316.D	SEQ-CAL3		1	o-terph,
1535	420C1317.D	SEQ-CAL4		1	o-terph,
1554	420C1318.D	SEQ-CAL5		1	o-terph,
1613	420C1319.D	SEQ-CAL6		1	o-terph,
1633	420C1320.D	SEQ-SCV1		1	o-terph,

Security Status Report

Date: 16-Mar-2020 10:37

420C1310.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1311.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1312.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1313.D	Data Locked	christopher, 16-Mar-2020 10:37
420C1314.D	Data Locked	christopher, 16-Mar-2020 10:37
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420C1317.D	Data Locked	christopher, 16-Mar-2020 10:37
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Date: 13-MAR-2020 13:58

Client ID:

Sample Info: SEQ-IBL1

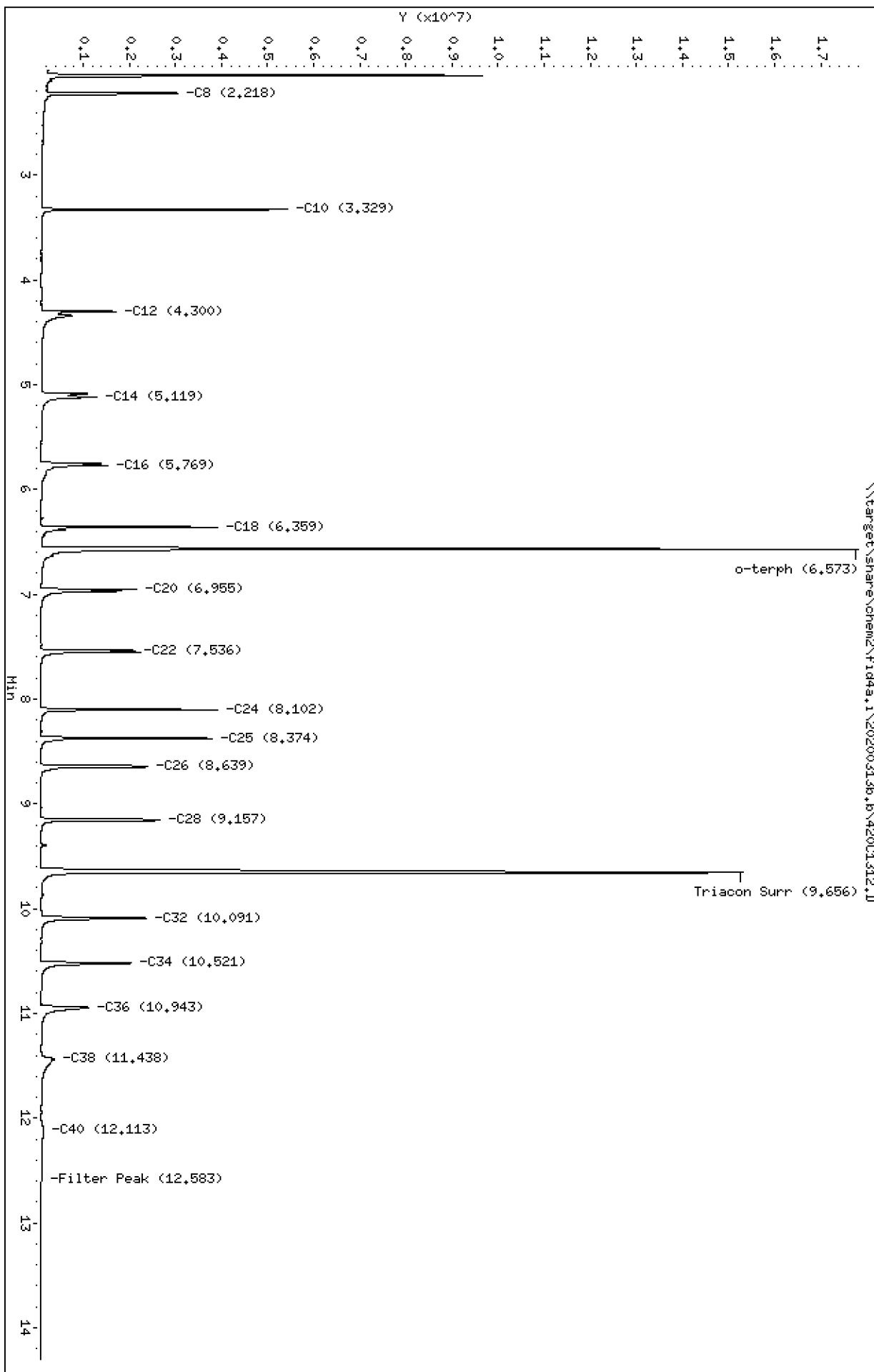
Column phase: RTX-1

Instrument: fid4a,i

Operator: JGR/CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1312.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 13-MAR-2020 13:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

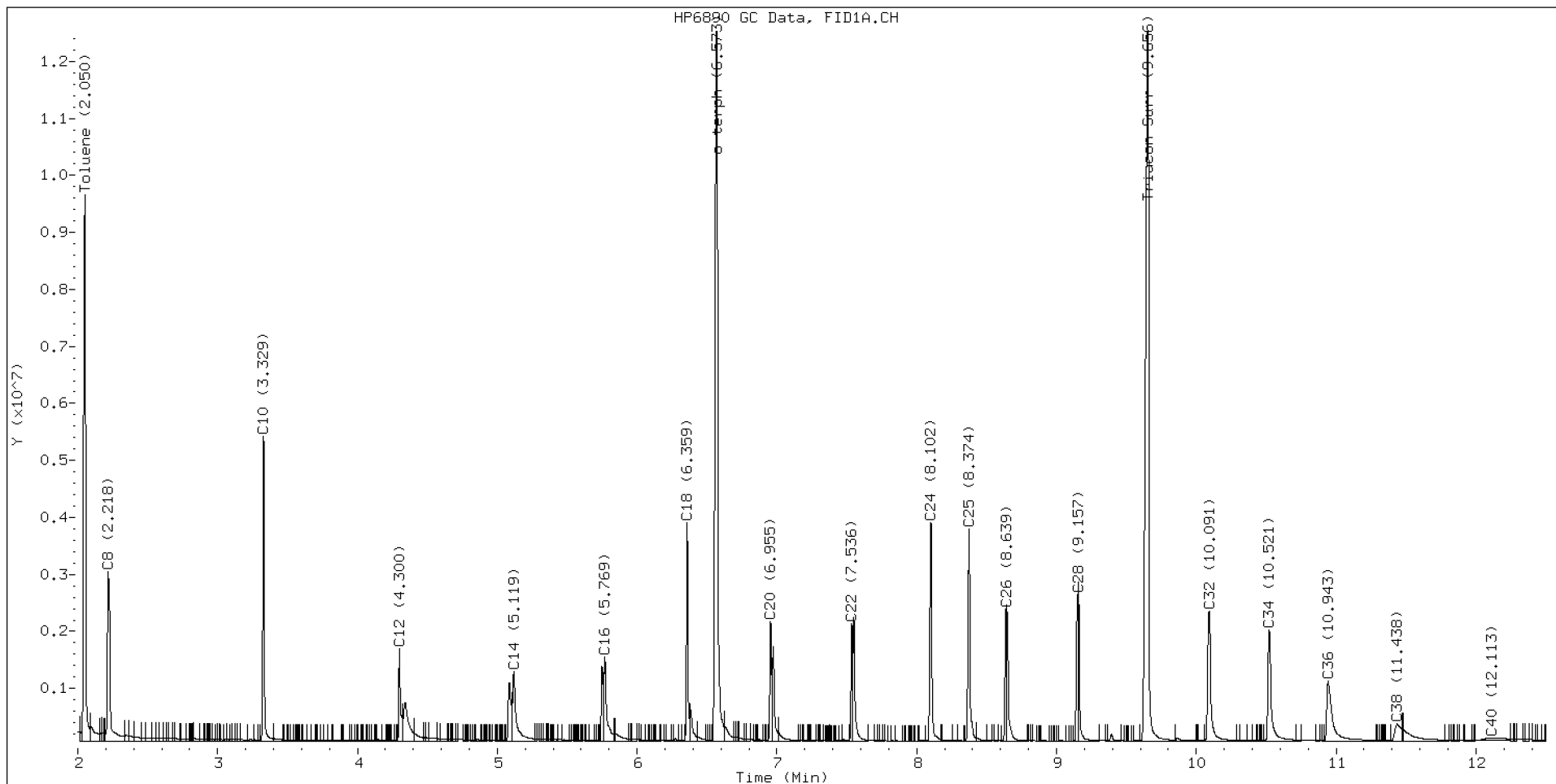
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.218	0.000	2976230	4258439	WATPHD	(C12-C24)	25653686	161.0
C10	3.329	0.000	5344126	3820334	WATPHM	(C24-C38)	24648964	185.8
C12	4.300	0.000	1627839	1465465	AK102	(C10-C25)	33671106	172.2
C14	5.119	0.000	1211179	2316863	AK103	(C25-C36)	22381765	223.9
C16	5.769	0.000	1467779	2055226	OR.DIES	(C10-C28)	45134921	230.3
C18	6.359	0.000	3826171	2734269				
C20	6.955	0.000	2088529	1719914	JET-A	(C10-C18)	20940040	128.8
C22	7.536	0.000	2056324	1623779				
C24	8.102	0.000	3838521	3671153				
C25	8.374	0.000	3714467	3687728				
C26	8.639	0.000	2319360	1780980				
C28	9.157	0.000	2575228	1984332				
C32	10.091	0.000	2278132	3706147				
C34	10.521	0.000	1957102	3424532				
Filter Peak	12.583	0.000	15498	11459	BUNKERC	(C10-C38)	58214945	644.8
C36	10.943	0.000	1054808	3160882				
C38	11.438	0.000	297596	868760				
C40	12.113	0.000	42933	427810				
o-terph	6.573	0.000	17734649	19762248				
Triacon Surr	9.656	0.000	15228657	21480068	NAS DIES	(C10-C24)	33565981	172.0

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	19762248	96.5
Triacontane	21480068	120.7

M Indicates the peak was manually integrated

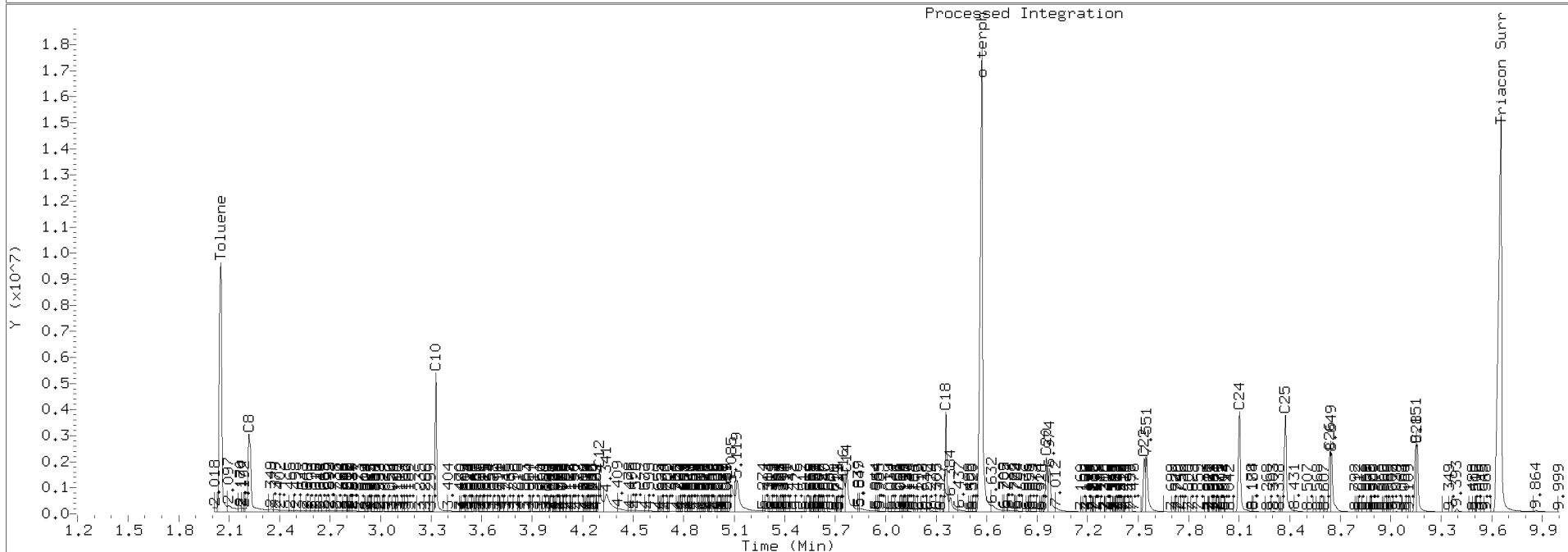
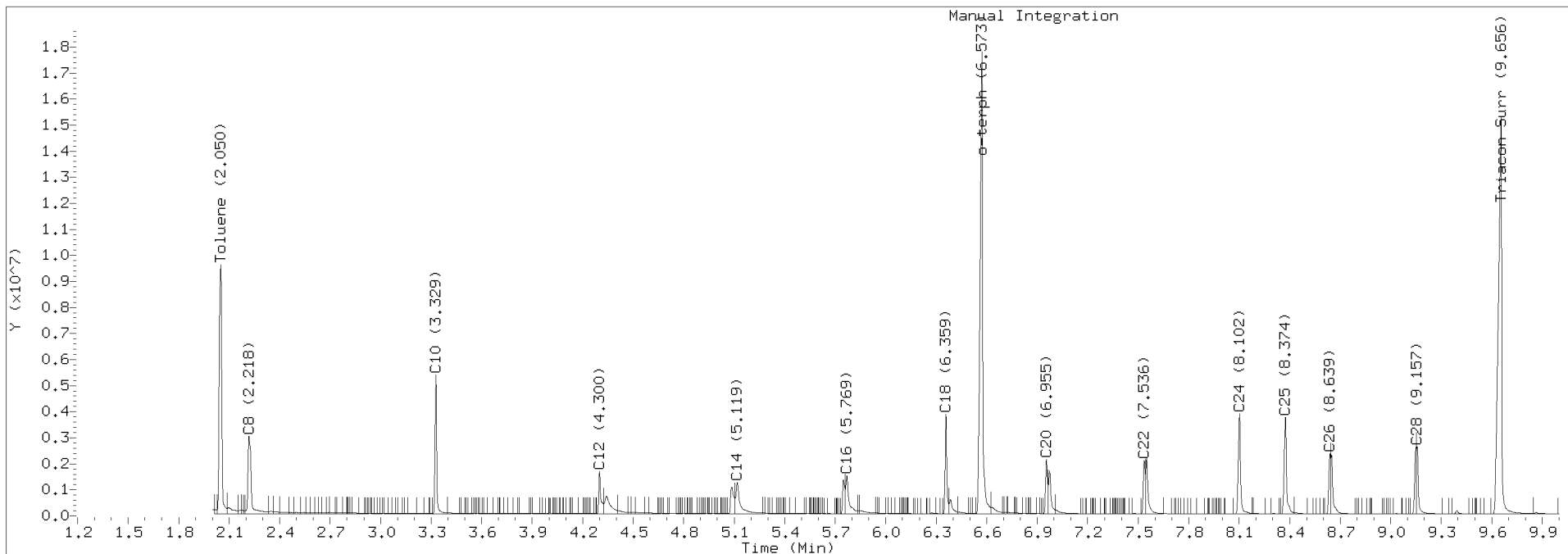
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200313b.b/420C1312.D Injection: 13-MAR-2020 13:58

Lab ID:SEQ-IBL1



Data File: \\target\share\chem2\fid4a,i\20200313b,b\420C1313.D
Date: 13-MAR-2020 14:17

Client ID:

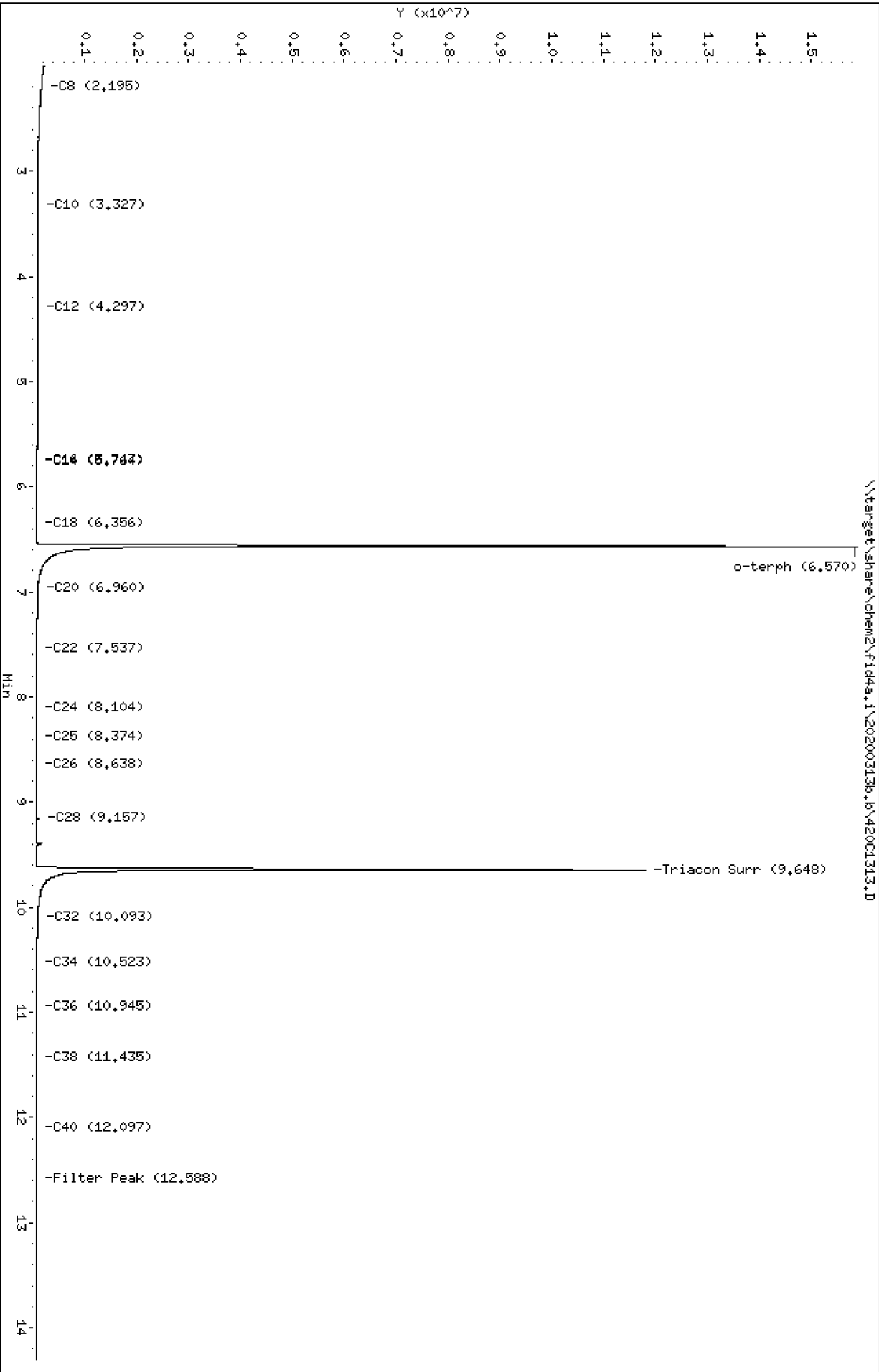
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,i

Operator: JGR/CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200313b.b/420C1313.D
Method: 20200313b.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO
Report Date: 03/16/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 13-MAR-2020 14:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

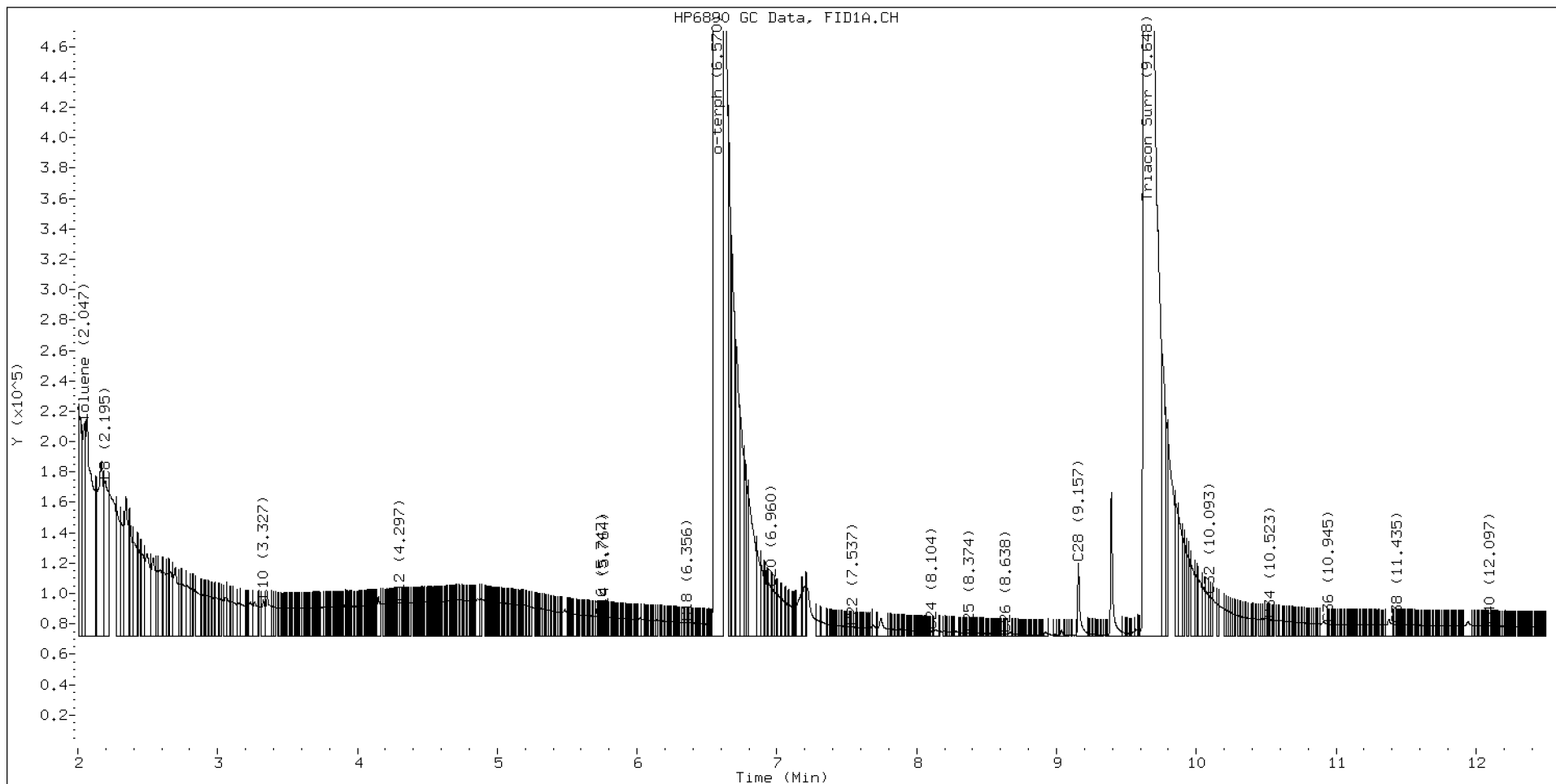
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.195	-0.023	101964	220885	WATPHD	(C12-C24)	4394210	27.6
C10	3.327	-0.002	23471	39087	WATPHM	(C24-C38)	1967673	14.8
C12	4.297	-0.003	21590	18255	AK102	(C10-C25)	5527366	28.3
C14	5.764	0.646	12422	5561	AK103	(C25-C36)	1745508	17.5
C16	5.747	-0.023	12369	2467	OR.DIES	(C10-C28)	5623934	28.7
C18	6.356	-0.003	8501	4208				
C20	6.960	0.005	31175	16901	JET-A	(C10-C18)	2939860	18.1
C22	7.537	0.001	5711	4529				
C24	8.104	0.002	2800	1652				
C25	8.374	-0.000	1751	510				
C26	8.638	-0.001	937	696				
C28	9.157	-0.000	47642	54613				
C32	10.093	0.002	26114	21739				
C34	10.523	0.002	10438	2073				
Filter Peak	12.588	0.006	5962	3842	BUNKERC	(C10-C38)	7477104	82.8
C36	10.945	0.002	7658	3422				
C38	11.435	-0.003	7168	3926				
C40	12.097	-0.015	6296	3463				
o-terph	6.570	-0.003	15826099	17209481				
Triacon Surr	9.648	-0.008	11725247	15722765	NAS DIES	(C10-C24)	5509432	28.2

Range Times: NW Diesel(4.300 - 8.102) AK102(3.33 - 8.37) Jet A(3.33 - 6.36)
NW M.Oil(8.10 - 11.44) AK103(8.37 - 10.94) OR Diesel(3.33 - 9.16)

Surrogate	Area	Amount
o-Terphenyl	17209481	84.1
Triacontane	15722765	88.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	90287.0	13-MAR-2020





ANALYSIS SEQUENCE

SID0108

Instrument: FID4
Calibration ID: DA00022

Printed: 4/20/2020 7:51:03AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SID0108-IBL1	QC		1		H010802			
SID0108-IBL2	QC		2		I000651			
SID0108-CAL1	QC		3		I003251			
SID0108-CAL2	QC		4		I003252			
SID0108-CAL3	QC		5		I003253			
SID0108-CAL4	QC		6		I003254			
SID0108-CAL5	QC		7		I003255			
SID0108-CAL6	QC		8		I003037			
SID0108-SCV1	QC		9		I003274			

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
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2	08-APR-2020	08:37	420D0802.D	1	RINSE	
3	08-APR-2020	08:56	420D0803.D	1	RINSE	
4	08-APR-2020	09:16	420D0804.D	1	RINSE	
5	08-APR-2020	09:35	420D0805.D	1	SEQ-IBL1	
6	08-APR-2020	09:54	420D0806.D	1	SEQ-IBL2	
7	08-APR-2020	10:14	420D0807.D	1	SEQ-CAL1	
8	08-APR-2020	10:33	420D0808.D	1	SEQ-CAL2	
9	08-APR-2020	10:53	420D0809.D	1	SEQ-CAL3	
10	08-APR-2020	11:12	420D0810.D	1	SEQ-CAL4	
11	08-APR-2020	11:32	420D0811.D	1	SEQ-CAL5	
12	08-APR-2020	11:51	420D0812.D	1	SEQ-CAL6	
13	08-APR-2020	12:11	420D0813.D	1	SEQ-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200408.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 08-APR-2020

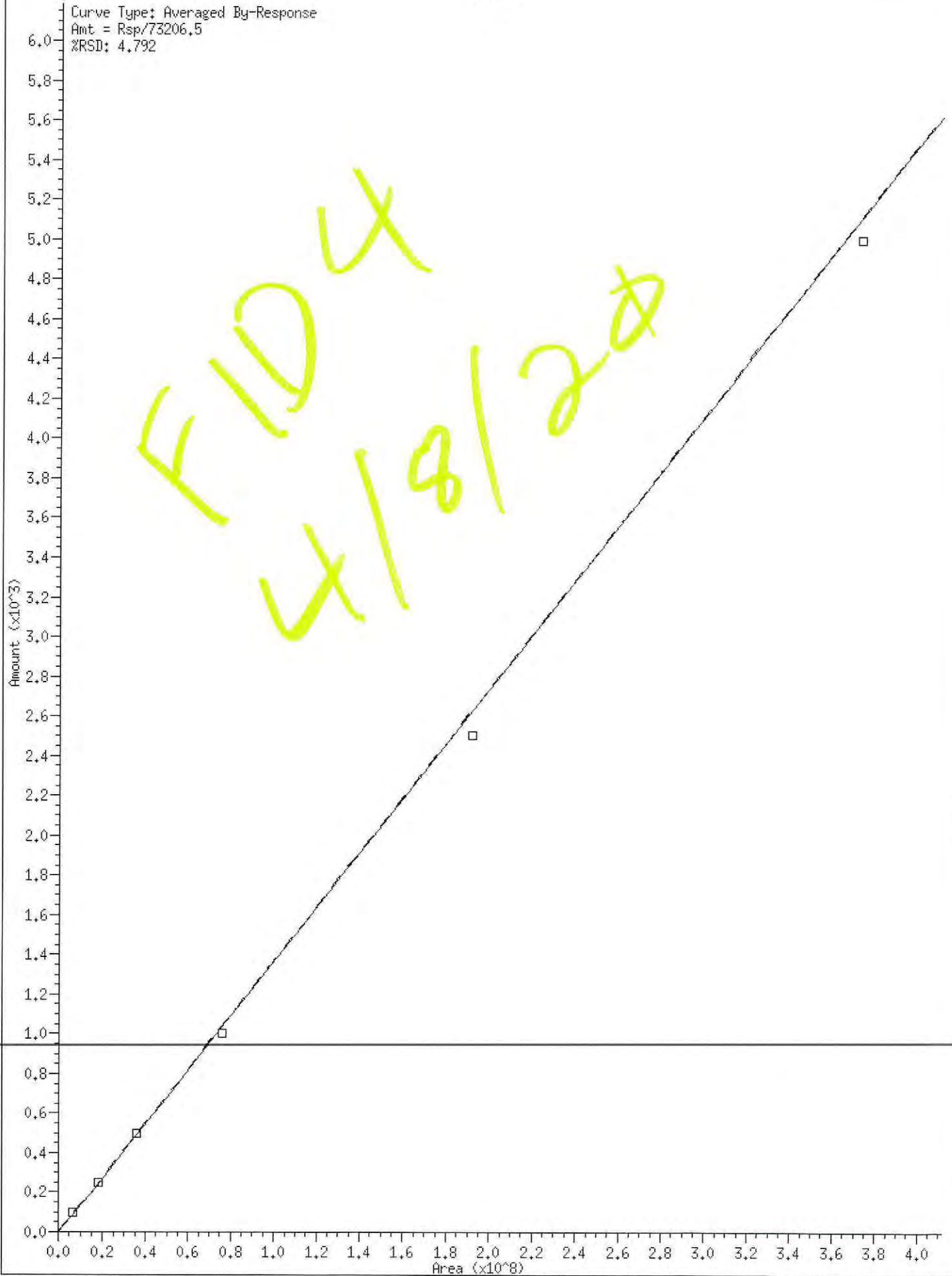
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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0837	420D0802.D	RINSE		1	NO MANUAL INTEGRATION
0856	420D0803.D	RINSE		1	NO MANUAL INTEGRATION
0916	420D0804.D	RINSE		1	NO MANUAL INTEGRATION
0935	420D0805.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0954	420D0806.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1014	420D0807.D	SEQ-CAL1		1	Triacon Surr,
1033	420D0808.D	SEQ-CAL2		1	Triacon Surr,
1053	420D0809.D	SEQ-CAL3		1	Triacon Surr,
1112	420D0810.D	SEQ-CAL4		1	Triacon Surr,
1132	420D0811.D	SEQ-CAL5		1	Triacon Surr,
1151	420D0812.D	SEQ-CAL6		1	Triacon Surr,
1211	420D0813.D	SEQ-SCV1		1	Triacon Surr,

Security Status Report

Date: 20-Apr-2020 07:47

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420D0812.D	Data Locked	christopher, 20-Apr-2020 07:45
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Curve Type: Averaged By-Response
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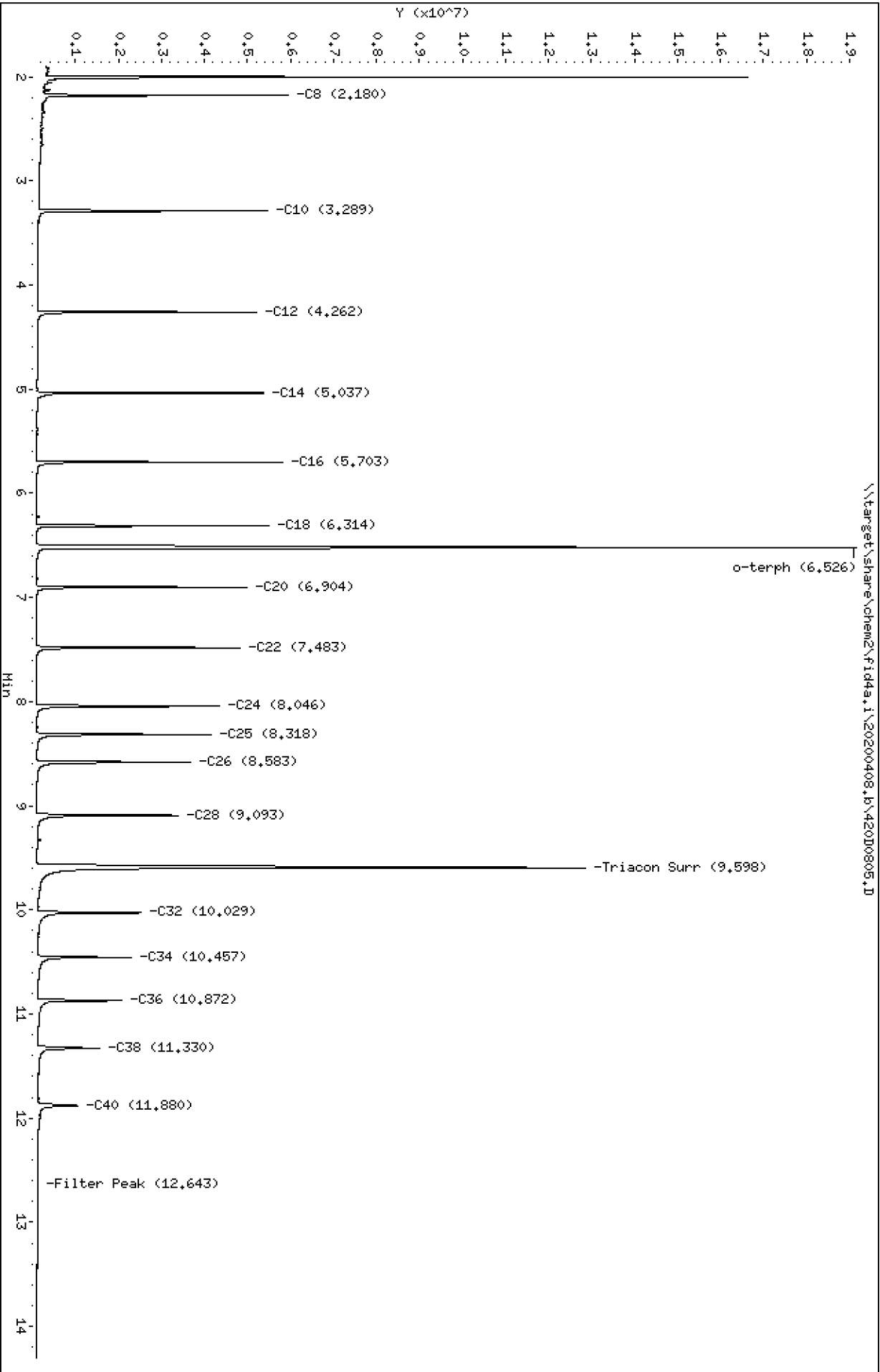


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Date: 08-APR-2020 09:35
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0805.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 08-APR-2020 09:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

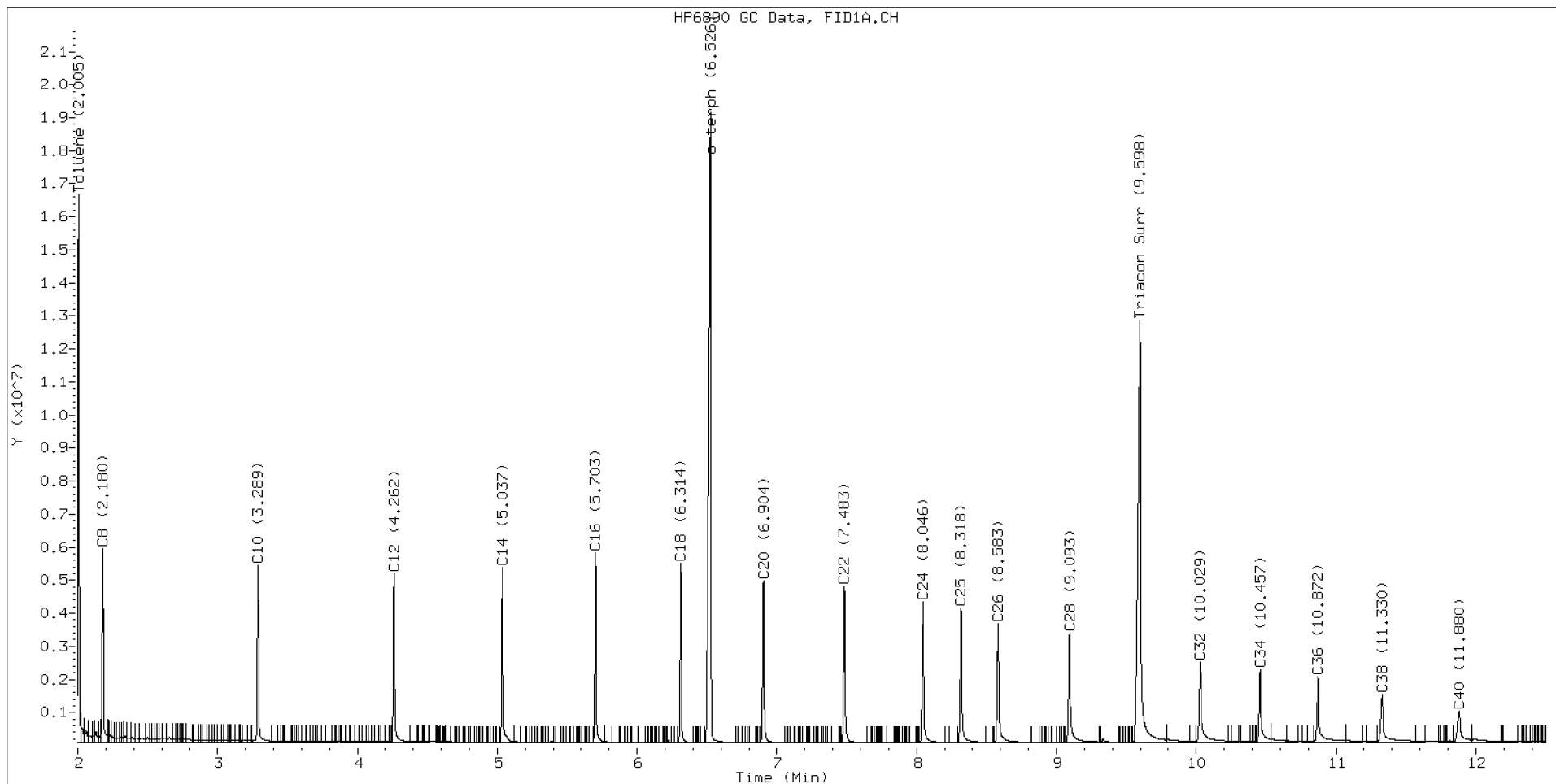
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.180	0.000	5854578	3880900	WATPHD	(C12-C24)	23844320	149.6
C10	3.289	0.000	5366559	4126403	WATPHM	(C24-C38)	25592918	193.0
C12	4.262	0.000	5124561	3862358	AK102	(C10-C25)	33609761	171.9
C14	5.037	0.000	5288886	3763422	AK103	(C25-C36)	22232777	303.7
C16	5.703	0.000	5732523	3728447	OR.DIES	(C10-C28)	44736298	228.2
C18	6.314	0.000	5411782	3657526				
C20	6.904	0.000	4900797	3740470	JET-A	(C10-C18)	22288154	137.1
C22	7.483	0.000	4744655	3709257				
C24	8.046	0.000	4260497	3629044				
C25	8.318	0.000	4069494	3709557				
C26	8.583	0.000	3584730	3671884				
C28	9.093	0.000	3305135	3592573				
C32	10.029	0.000	2427612	3418058				
C34	10.457	0.000	2206236	2535109				
Filter Peak	12.643	0.000	24370	14568	CREOSOT	(C12-C22)	20184280	489.5
C36	10.872	0.000	1991705	2941804				
C38	11.330	0.000	1466266	2825666				
C40	11.880	0.000	962855	1921380				
o-terph	6.526	0.000	19078927	20504006				
Triacon Surr	9.598	0.000	12764177	20099945	NAS DIES	(C10-C24)	33554764	171.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20504006	100.2
Triacontane	20099945	112.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0806.D

Date: 08-APR-2020 09:54

Client ID:

Sample Info: SEQ-IBL2

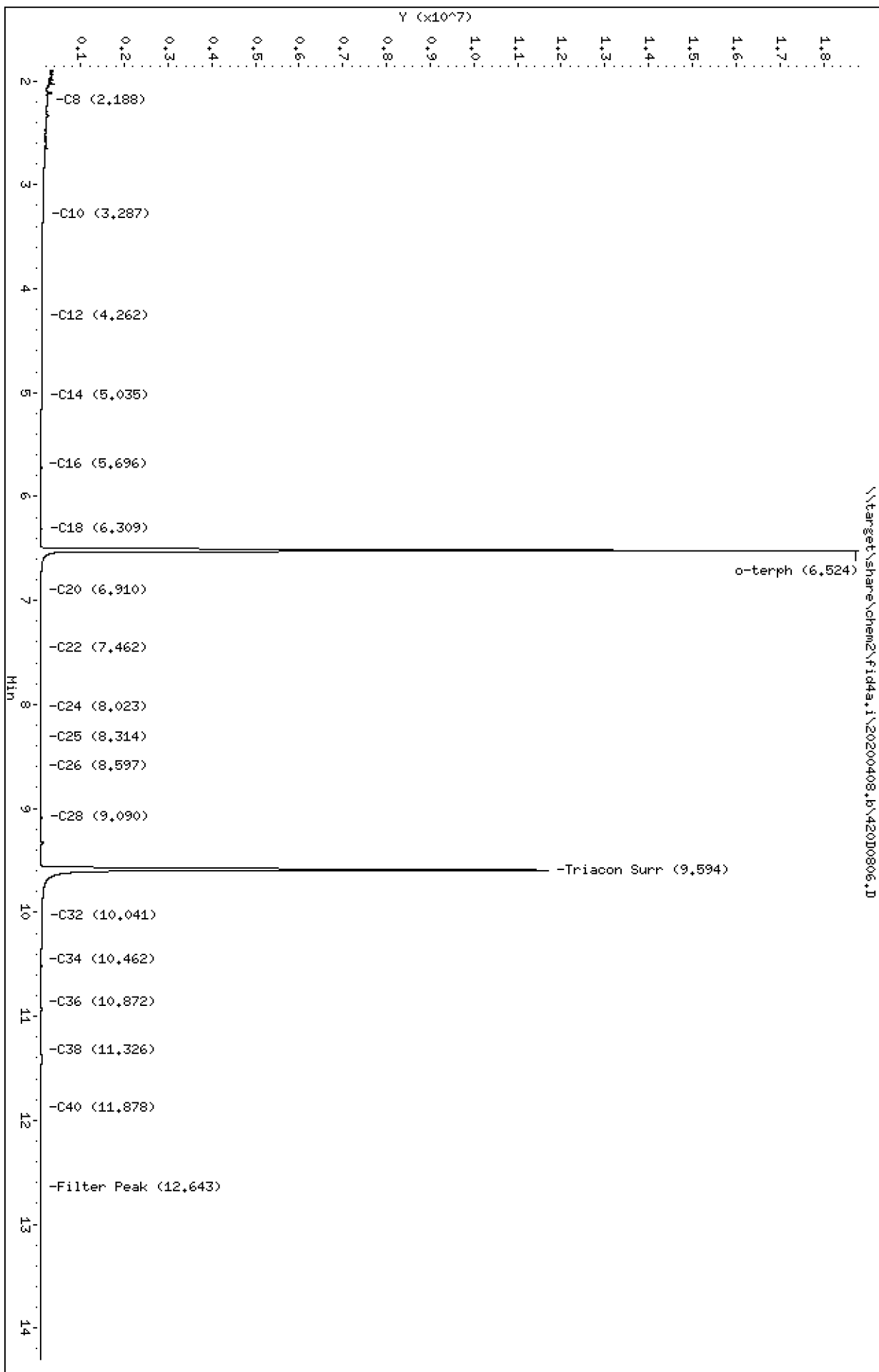
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0806.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 08-APR-2020 09:54
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

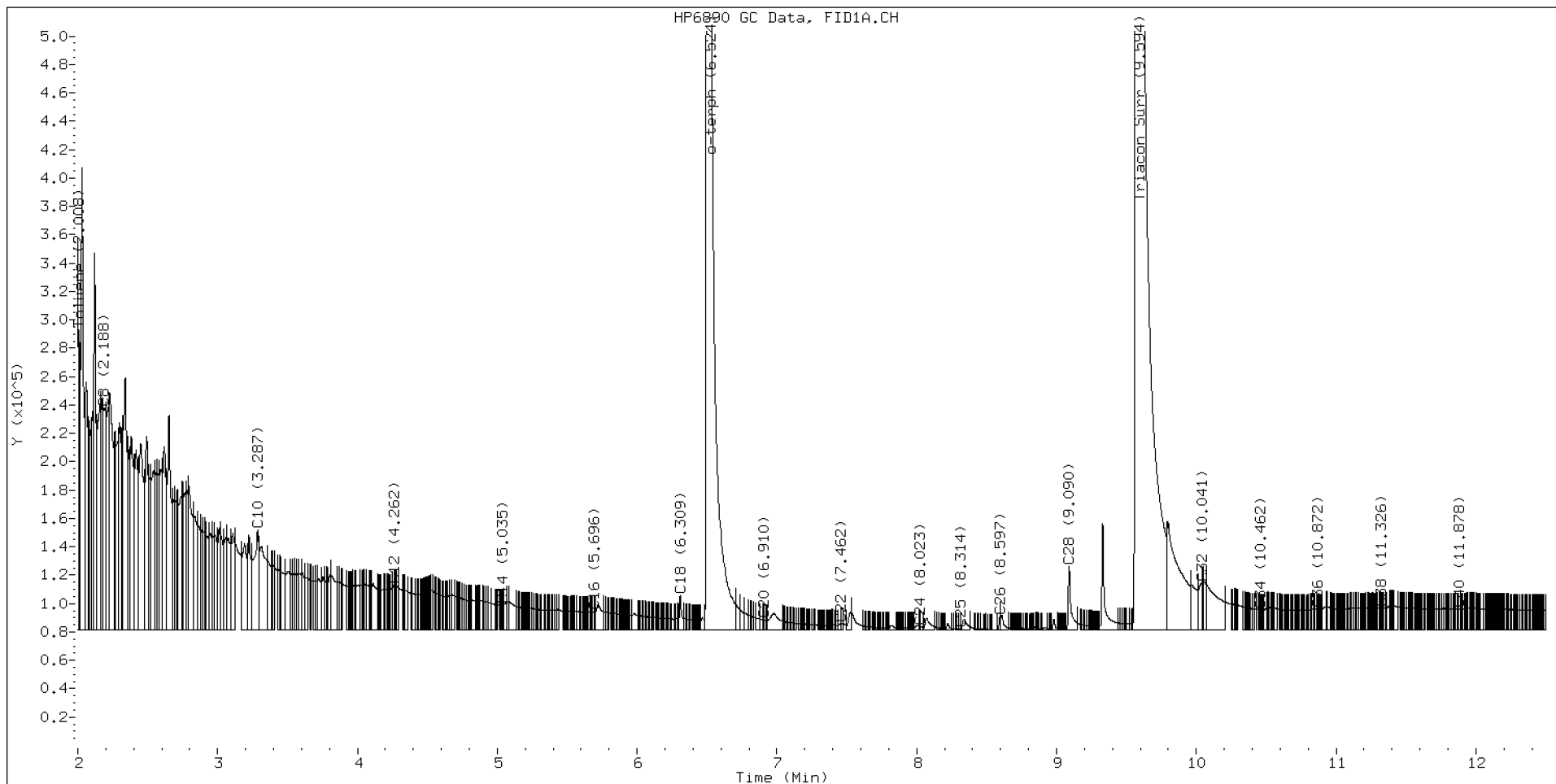
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.188	0.008	156546	216359	WATPHD	(C12-C24)	2059708	12.9
C10	3.287	-0.002	70586	177016	WATPHM	(C24-C38)	2023092	15.3
C12	4.262	-0.001	31694	27721	AK102	(C10-C25)	4136621	21.2
C14	5.035	-0.002	17658	7042	AK103	(C25-C36)	1615485	22.1
C16	5.696	-0.007	12809	8245	OR.DIES	(C10-C28)	4264948	21.8
C18	6.309	-0.005	24517	27940				
C20	6.910	0.006	6999	5164	JET-A	(C10-C18)	3753376	23.1
C22	7.462	-0.022	4699	4900				
C24	8.023	-0.022	2331	3320				
C25	8.314	-0.004	531	126				
C26	8.597	0.013	9349	6545				
C28	9.090	-0.003	44536	62849				
C32	10.041	0.012	33011	55502				
C34	10.462	0.005	14086	9836				
Filter Peak	12.643	0.000	14153	3524	CREOSOT	(C12-C22)	1999313	48.5
C36	10.872	0.000	14385	7864				
C38	11.326	-0.004	15213	8324				
C40	11.878	-0.002	14557	10126				
o-terph	6.524	-0.002	18718308	20250783				
Triacon Surr	9.594	-0.004	11617864	16294307	NAS DIES	(C10-C24)	4126955	21.1

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	20250783	98.9
Triacontane	16294307	91.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010807.D
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Client ID:
Sample Info: SEQ-CALL

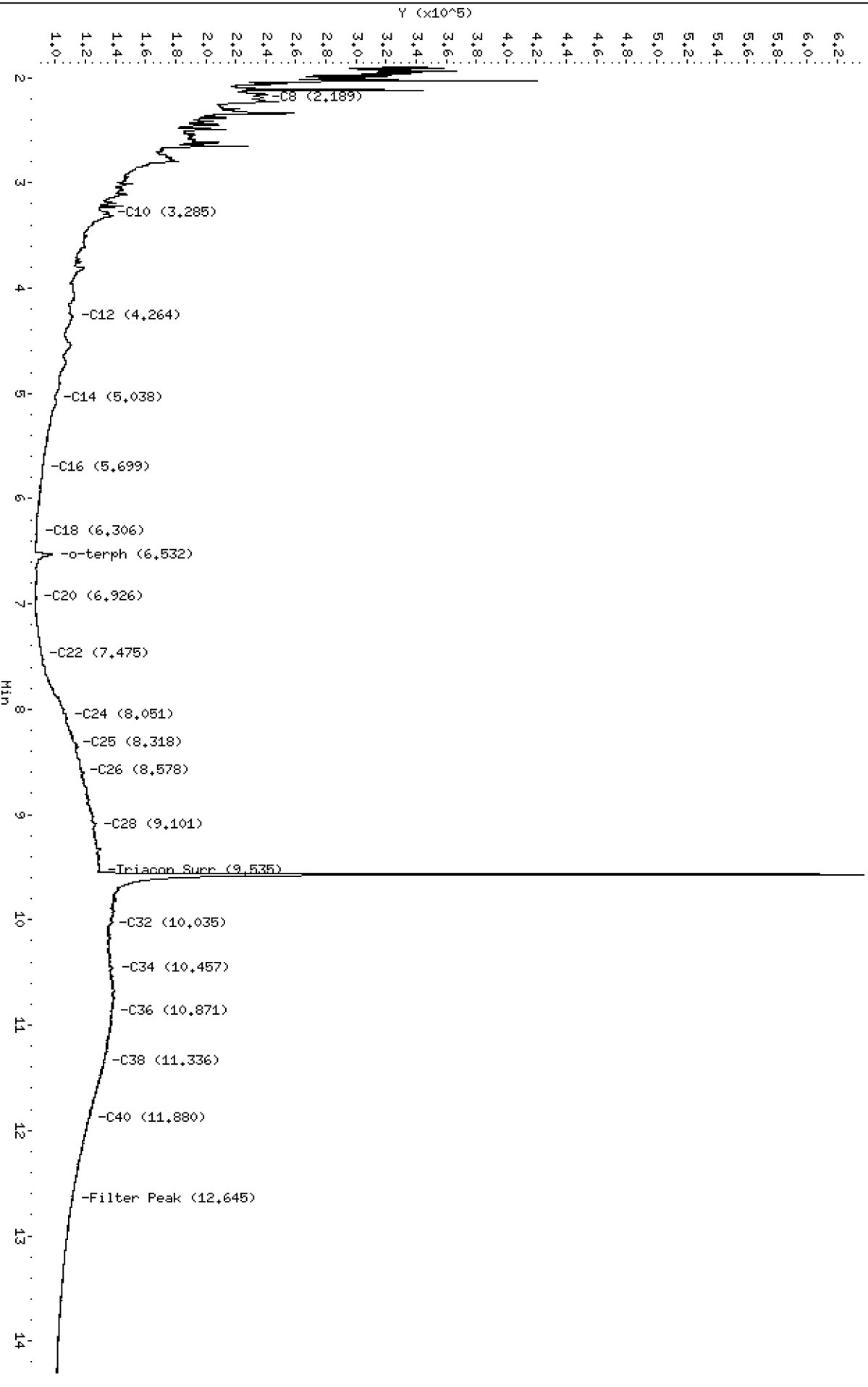
Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010807.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0807.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 08-APR-2020 10:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

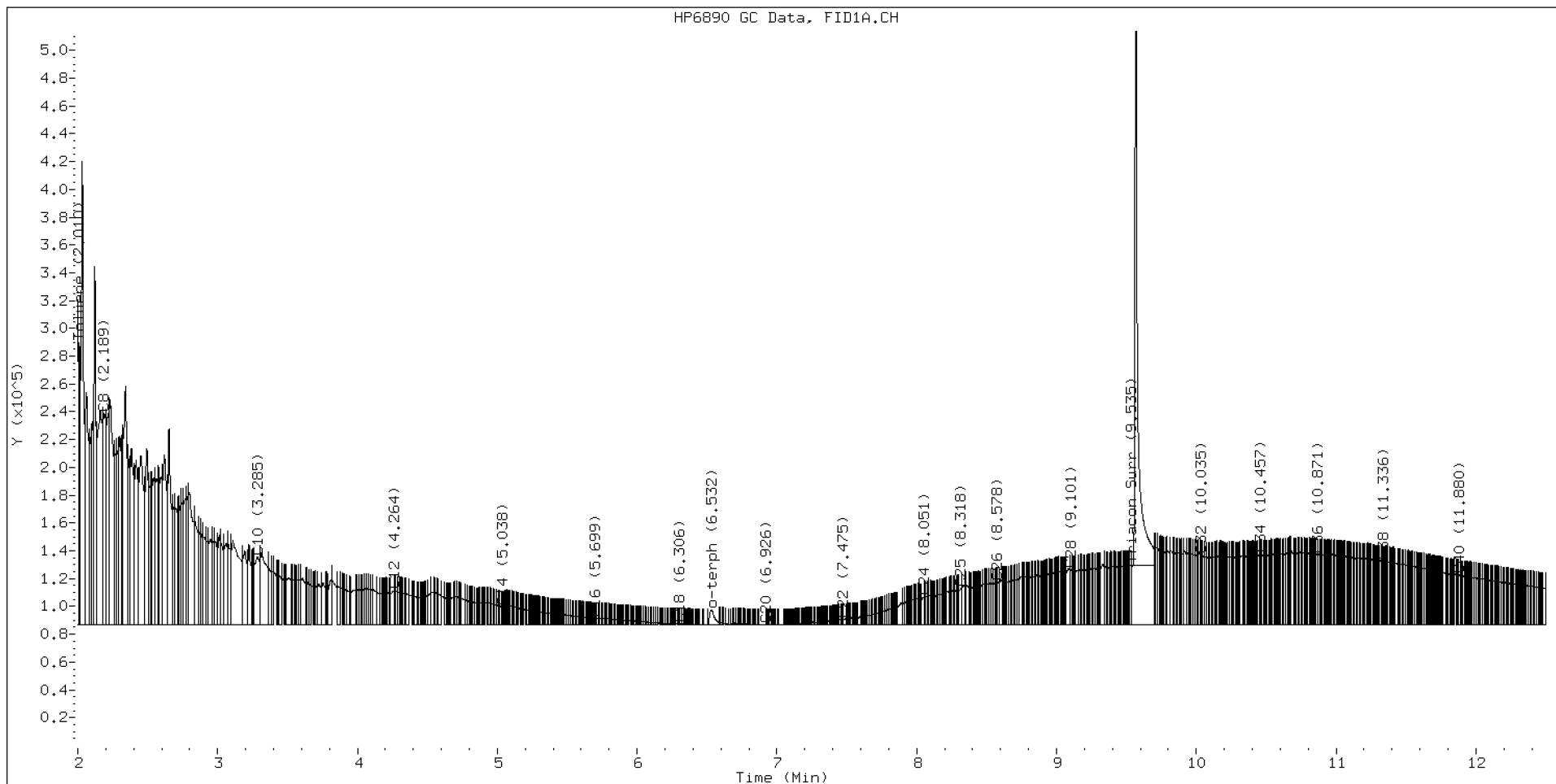
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.189	0.009	152083	238009	WATPHD	(C12-C24)	1535455	9.6
C10	3.285	-0.004	49113	104559	WATPHM	(C24-C38)	8187148	61.7
C12	4.264	0.002	24631	8600	AK102	(C10-C25)	3445901	17.6
C14	5.038	0.001	13117	3929	AK103	(C25-C36)	6705828	91.6
C16	5.699	-0.004	4845	2404	OR.DIES	(C10-C28)	5120557	26.1
C18	6.306	-0.008	853	562				
C20	6.926	0.022	403	144	JET-A	(C10-C18)	2755712	17.0
C22	7.475	-0.008	3796	753				
C24	8.051	0.006	20077	24027				
C25	8.318	-0.000	26103	25417				
C26	8.578	-0.005	30795	28994				
C28	9.101	0.007	39800	29577				
C32	10.035	0.006	50014	24947				
C34	10.457	-0.000	51363	30680				
Filter Peak	12.645	0.002	24706	12307	CREOSOT	(C12-C22)	1140595	27.7
C36	10.871	-0.000	50437	10078				
C38	11.336	0.007	45528	18190				
C40	11.880	-0.000	36310	26801				
o-terph	6.532	0.007	11031	27133				
Triacon Surr	9.568	-0.030	508463	647323	NAS DIES	(C10-C24)	3228669	16.5

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	27133	0.1
Triacontane	647323	3.6 M

M Indicates the peak was manually integrated

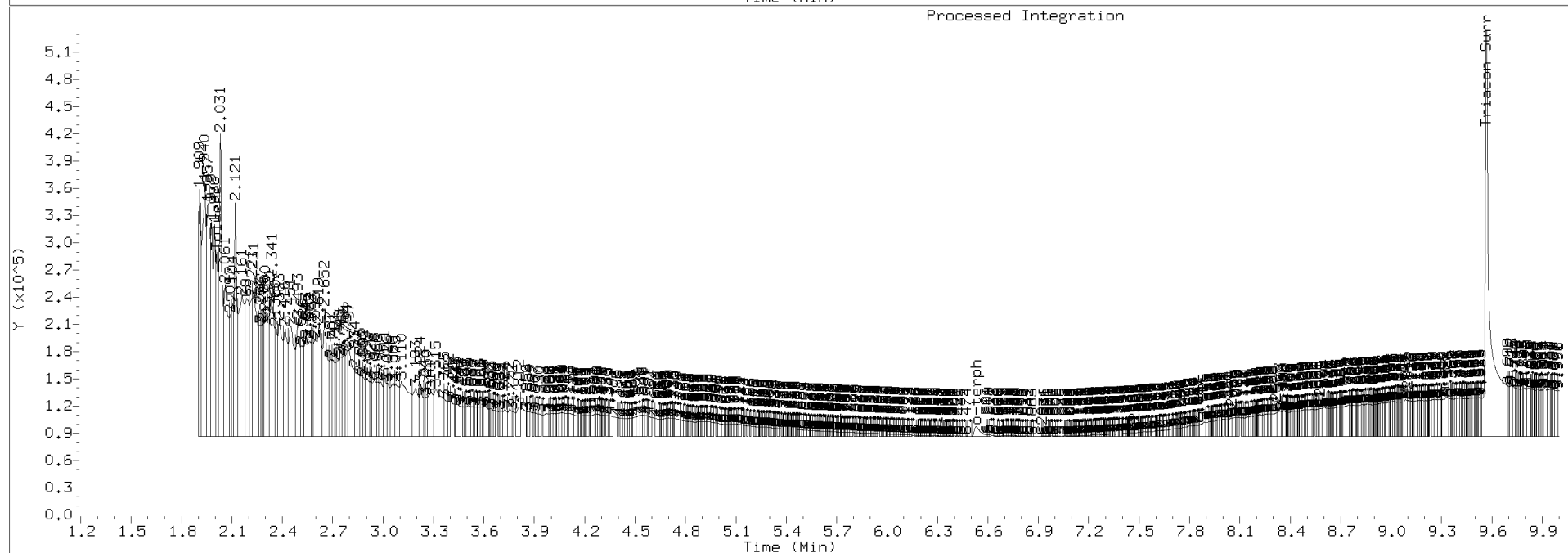
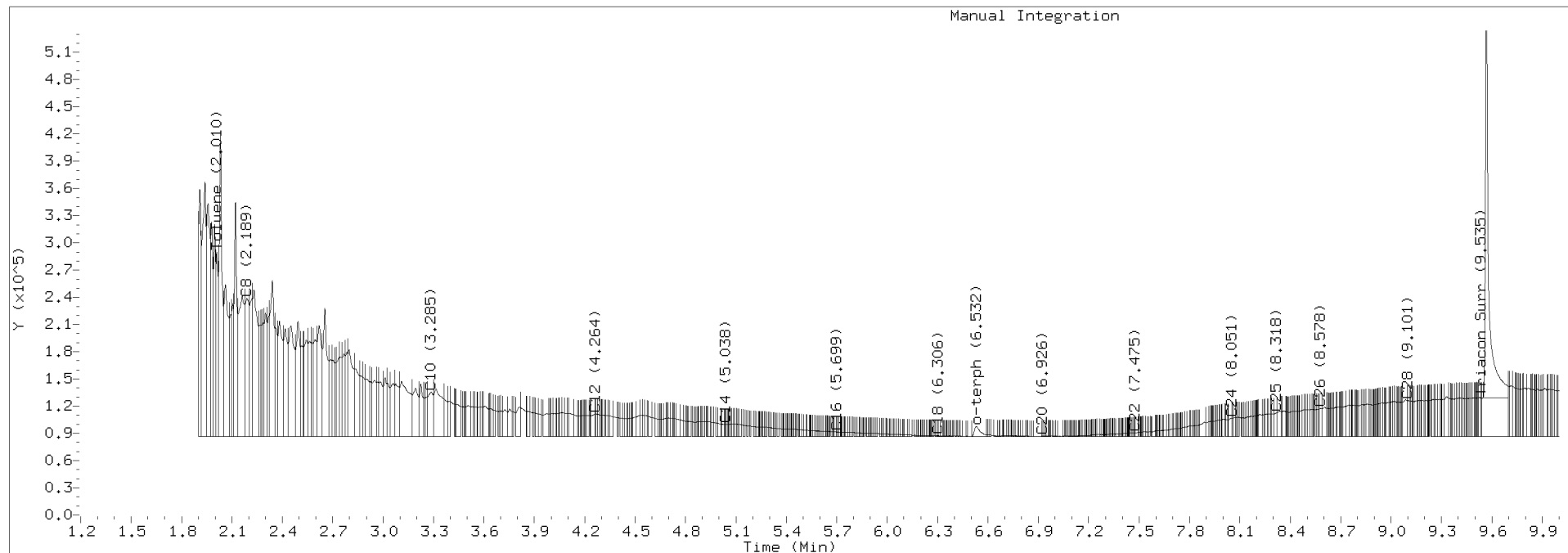
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0807.D Injection: 08-APR-2020 10:14

Lab ID:SEQ-CAL1



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010808.D
Date : 08-APR-2020 10:33

Client ID:

Sample Info: SEQ-CAL2

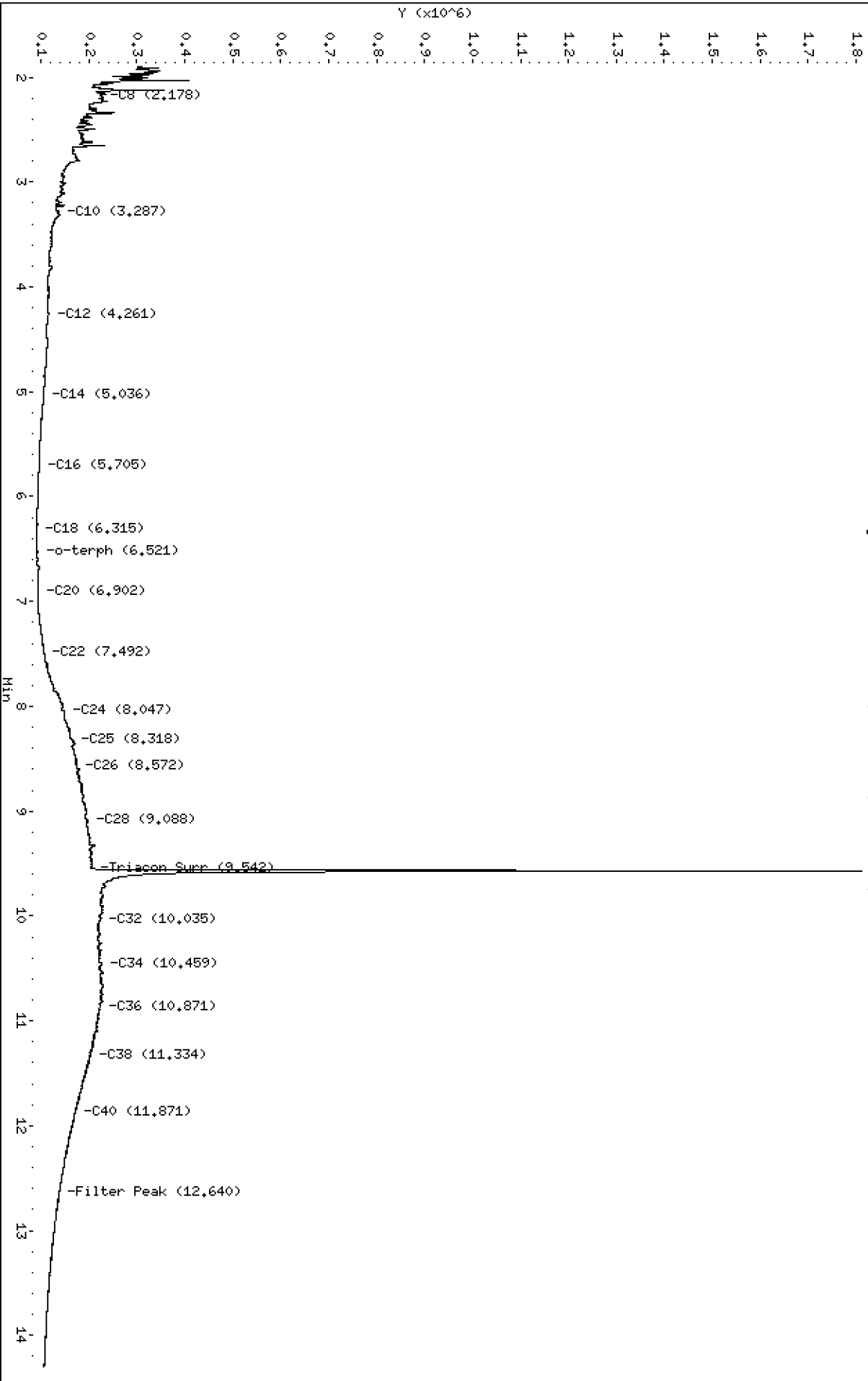
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010808.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0808.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 08-APR-2020 10:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

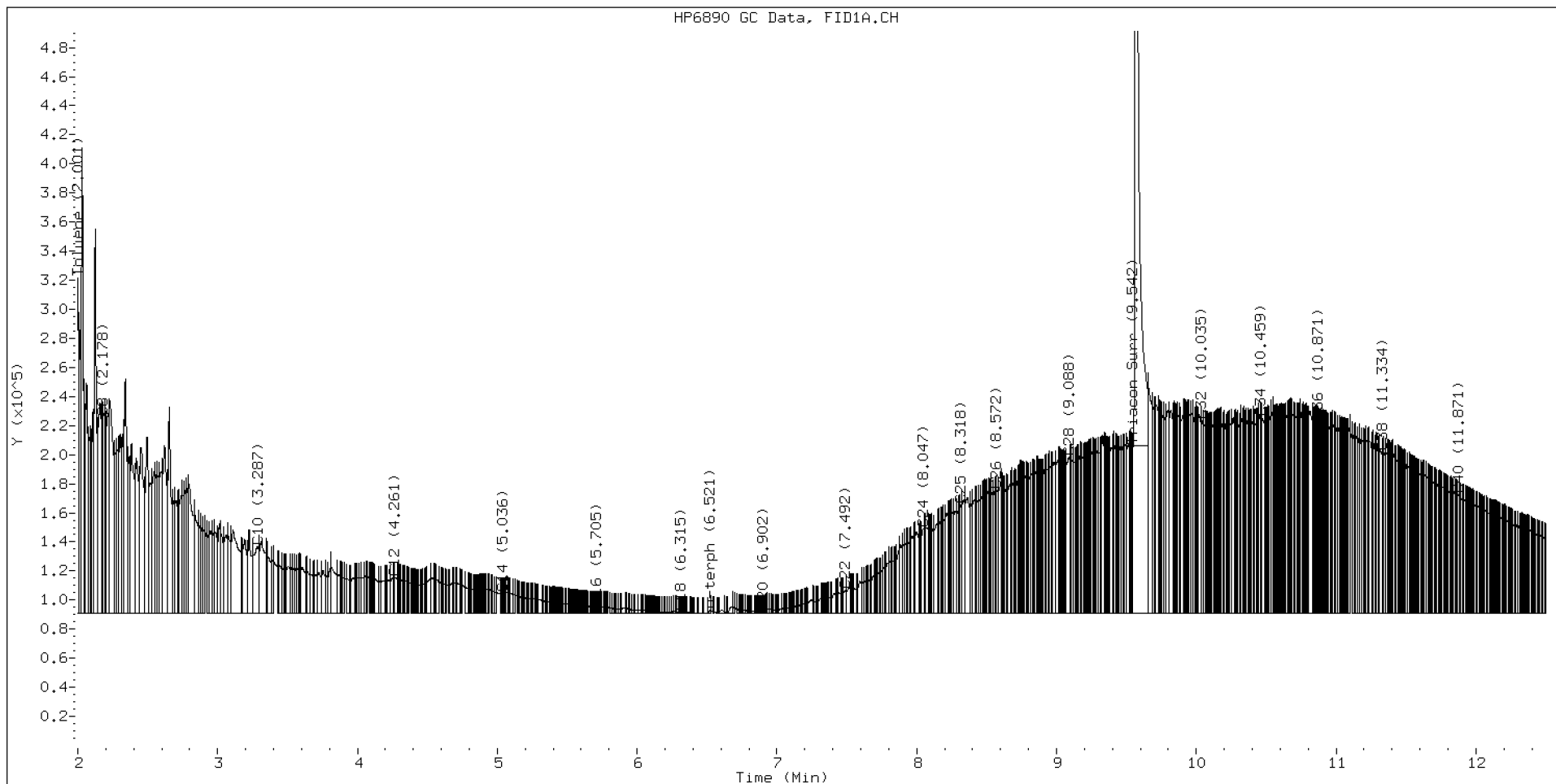
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.178	-0.002	134647	73580	WATPHD	(C12-C24)	2623184	16.5
C10	3.287	-0.002	46105	122146	WATPHM	(C24-C38)	21976708	165.7
C12	4.261	-0.002	24803	7411	AK102	(C10-C25)	4928461	25.2
C14	5.036	-0.002	13595	4064	AK103	(C25-C36)	18150509	247.9
C16	5.705	0.002	4392	1091	OR.DIES	(C10-C28)	9615128	49.1
C18	6.315	0.001	704	324				
C20	6.902	-0.002	1947	564	JET-A	(C10-C18)	2725859	16.8
C22	7.492	0.008	15580	19522				
C24	8.047	0.001	58155	84697				
C25	8.318	-0.001	74518	58671				
C26	8.572	-0.012	84650	75814				
C28	9.088	-0.006	107472	173683				
C32	10.035	0.006	132361	33044				
C34	10.459	0.002	134858	26944				
Filter Peak	12.640	-0.003	47344	30546	CREOSOT	(C12-C22)	1399069	33.9
C36	10.871	-0.001	131911	72256				
C38	11.334	0.004	111289	44355				
C40	11.871	-0.009	81830	69040				
o-terph	6.521	-0.005	2000	1847				
Triacon Surr	9.571	-0.027	1605783	1635426	NAS DIES	(C10-C24)	4280523	21.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1847	0.0
Triacontane	1635426	9.2 M

M Indicates the peak was manually integrated

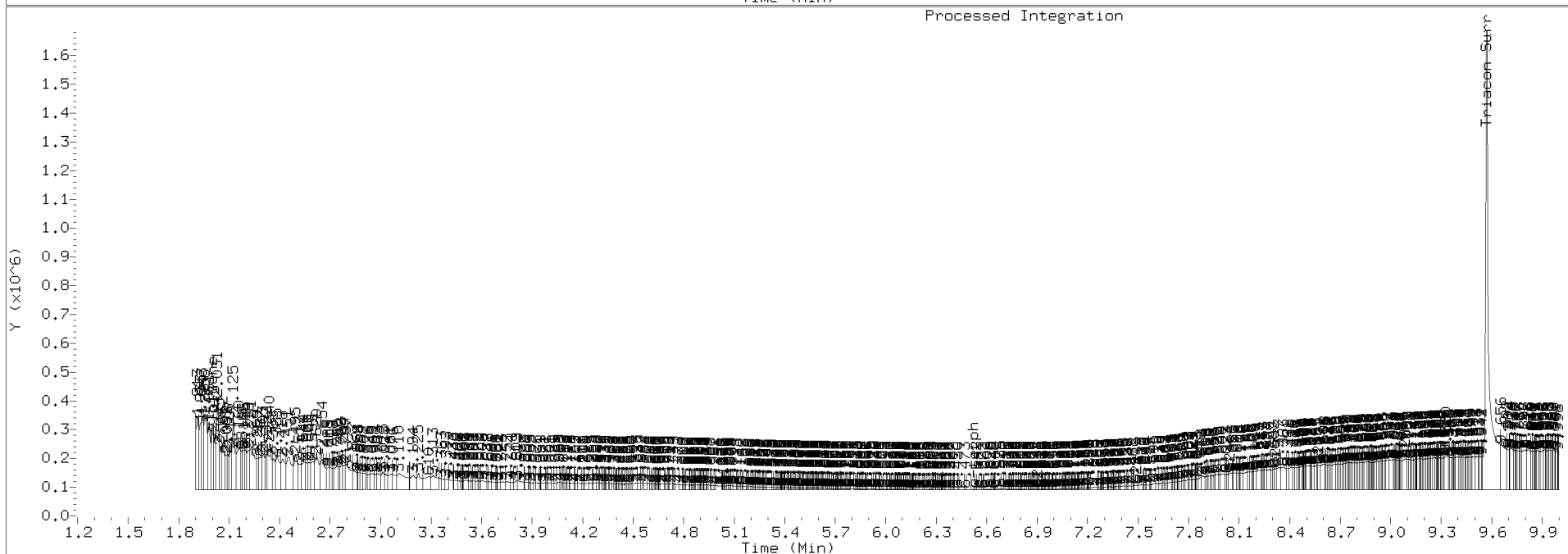
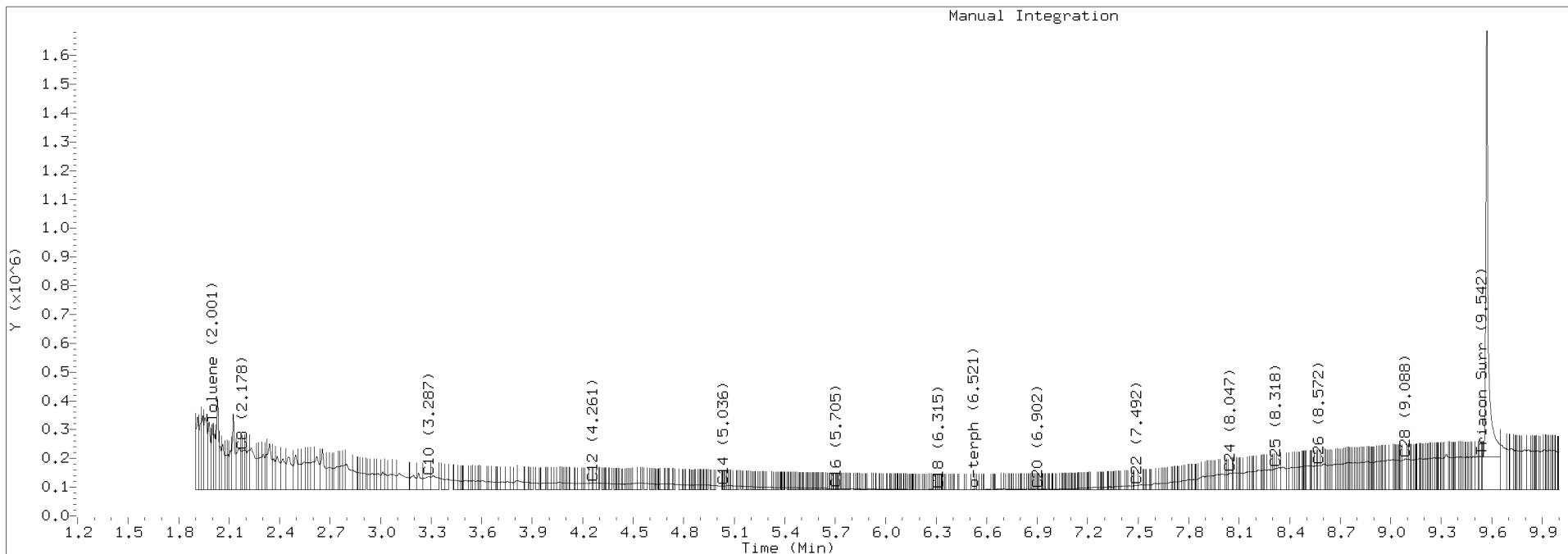
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0808.D Injection: 08-APR-2020 10:33

Lab ID:SEQ-CAL2



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0809.D

Date: 08-APR-2020 10:53

Client ID:

Sample Info: SEQ-CAL3

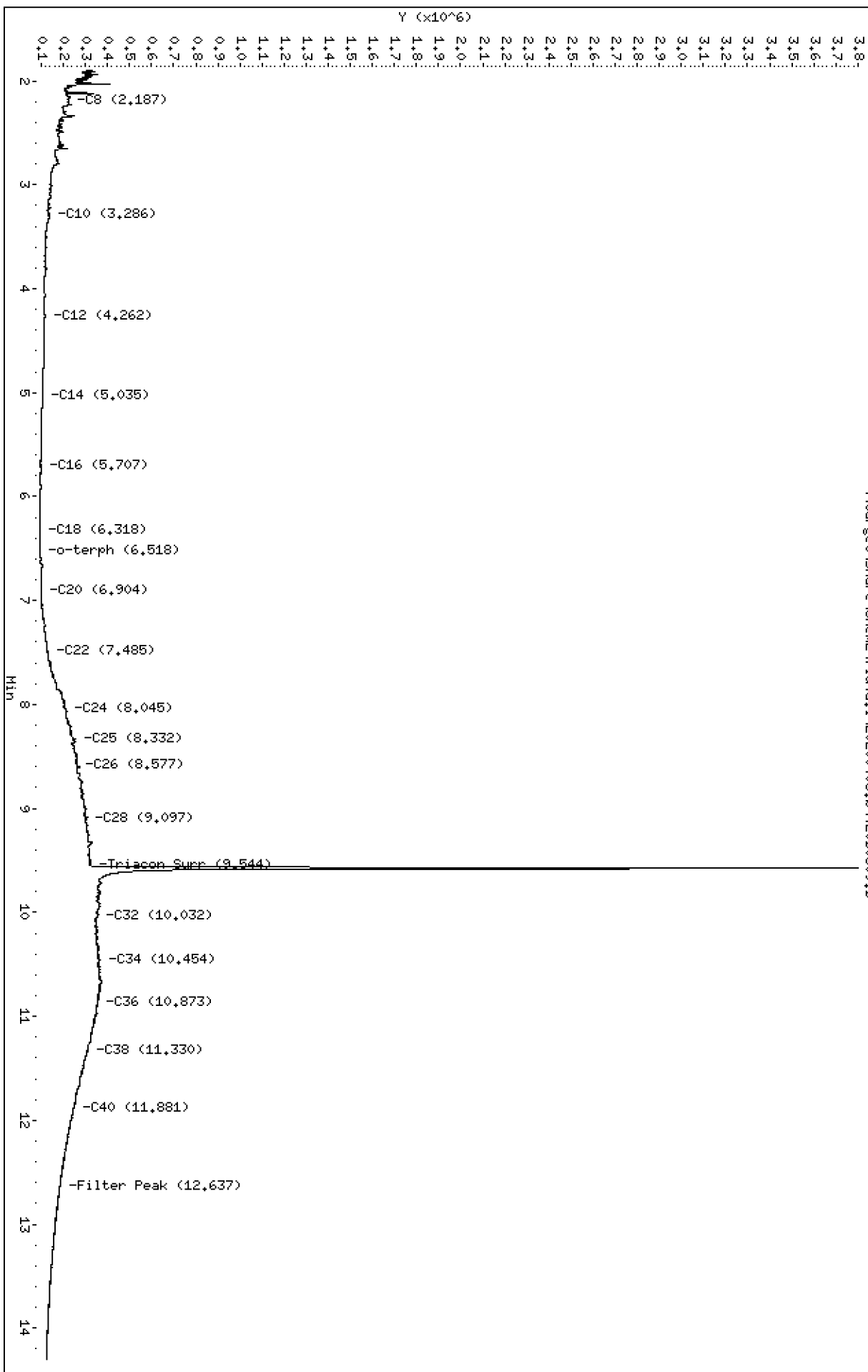
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\420D0809.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0809.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 08-APR-2020 10:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

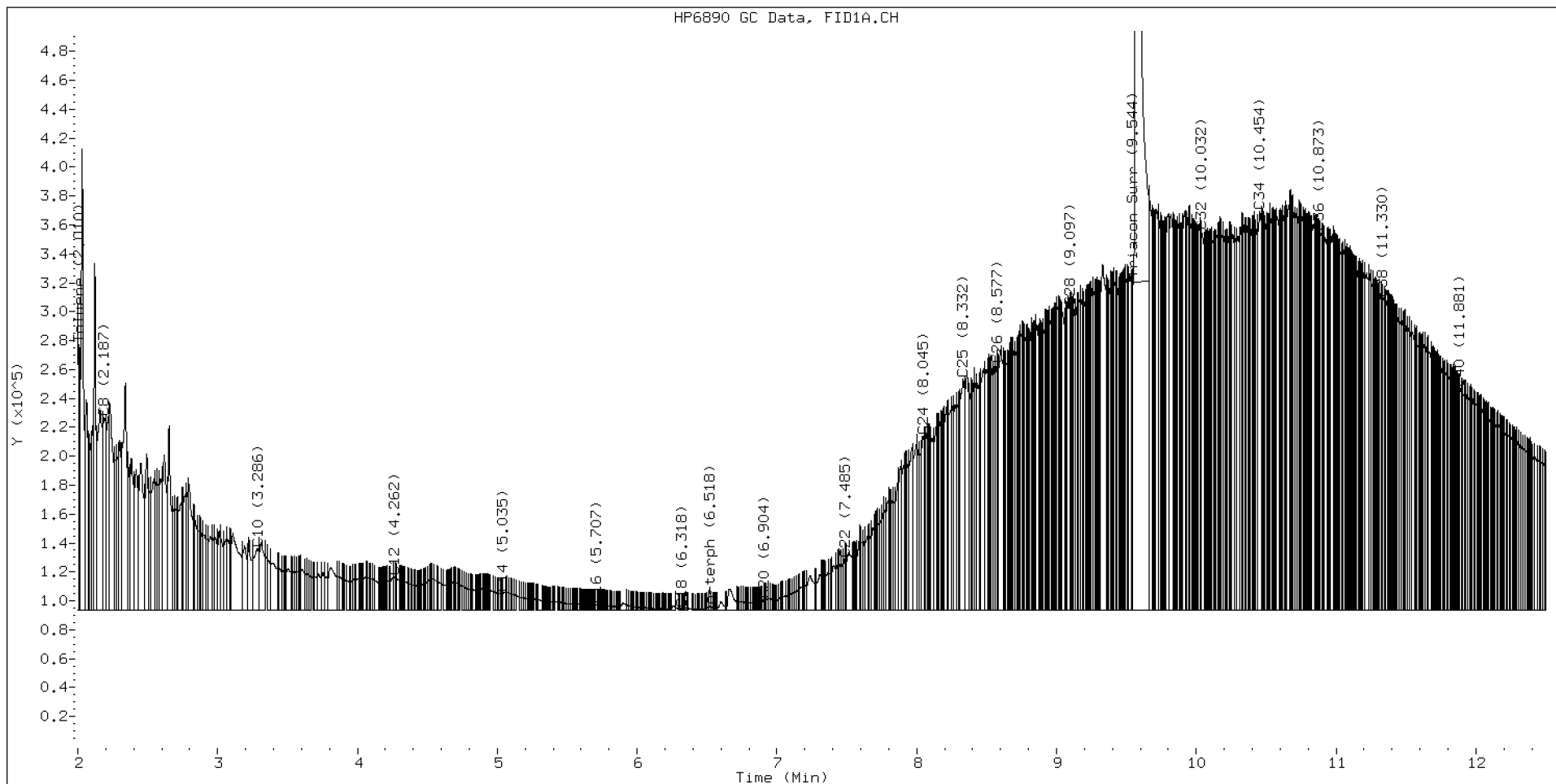
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.187	0.008	132882	207304	WATPHD	(C12-C24)	4342009	27.3
C10	3.286	-0.003	42399	113652	WATPHM	(C24-C38)	43844245	330.6
C12	4.262	-0.001	22449	12283	AK102	(C10-C25)	7087402	36.3
C14	5.035	-0.002	11190	3340	AK103	(C25-C36)	36073165	492.8
C16	5.707	0.004	3267	2527	OR.DIES	(C10-C28)	16362271	83.5
C18	6.318	0.004	681	133				
C20	6.904	0.000	6652	3976	JET-A	(C10-C18)	2369101	14.6
C22	7.485	0.002	34909	34936				
C24	8.045	-0.001	120276	161719				
C25	8.332	0.013	159437	386100				
C26	8.577	-0.007	169330	100501				
C28	9.097	0.003	209523	62632				
C32	10.032	0.003	261757	91098				
C34	10.454	-0.003	275210	390226				
Filter Peak	12.637	-0.006	90381	62764	CREOSOT	(C12-C22)	1706405	41.4
C36	10.873	0.002	261055	143153				
C38	11.330	0.000	214958	53639				
C40	11.881	0.001	152861	45740				
o-terph	6.518	-0.007	2459	1835				
Triacon Surr	9.577	-0.022	3480038	3443389	NAS DIES	(C10-C24)	5836700	29.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1835	0.0
Triacontane	3443389	19.3 M

M Indicates the peak was manually integrated

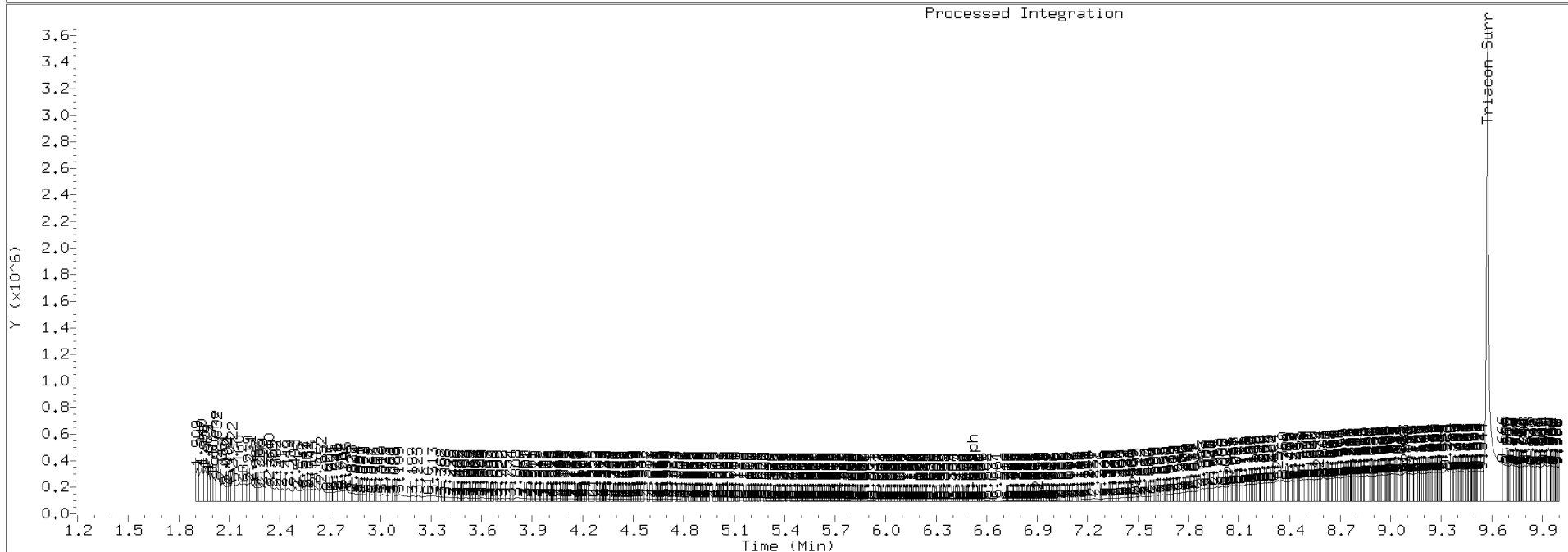
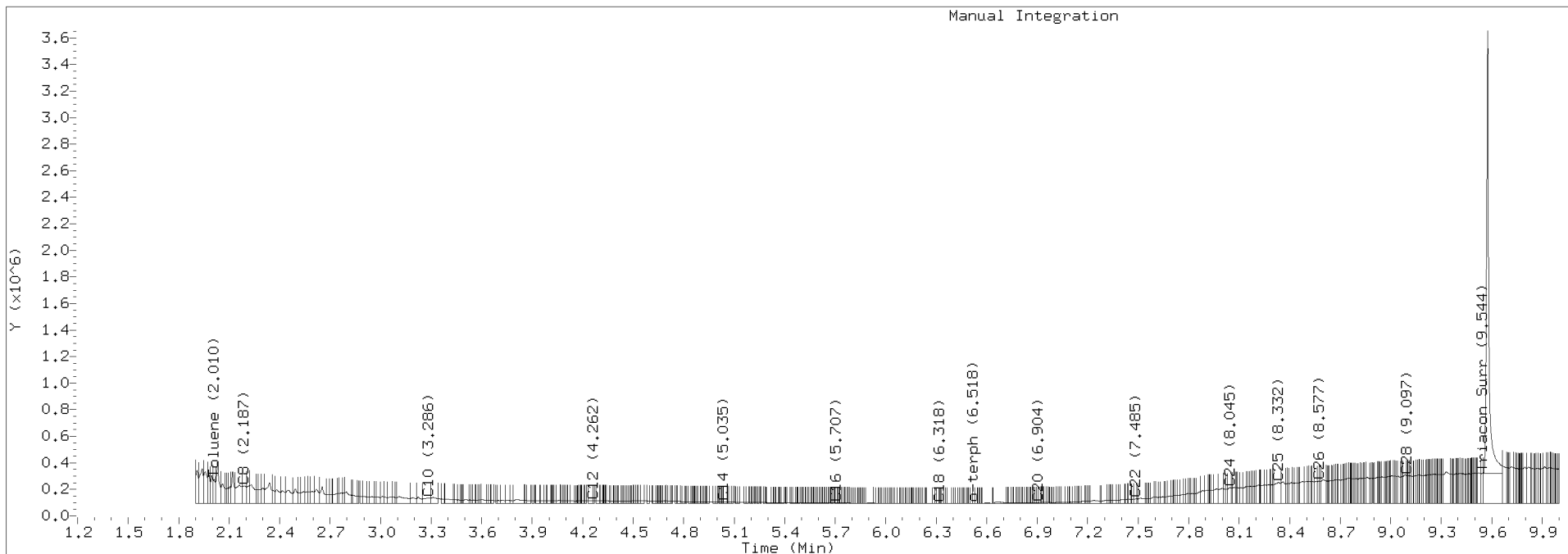
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0809.D Injection: 08-APR-2020 10:53

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010810.D
Date : 08-APR-2020 11:12

Client ID:

Sample Info: SEQ-CAL4

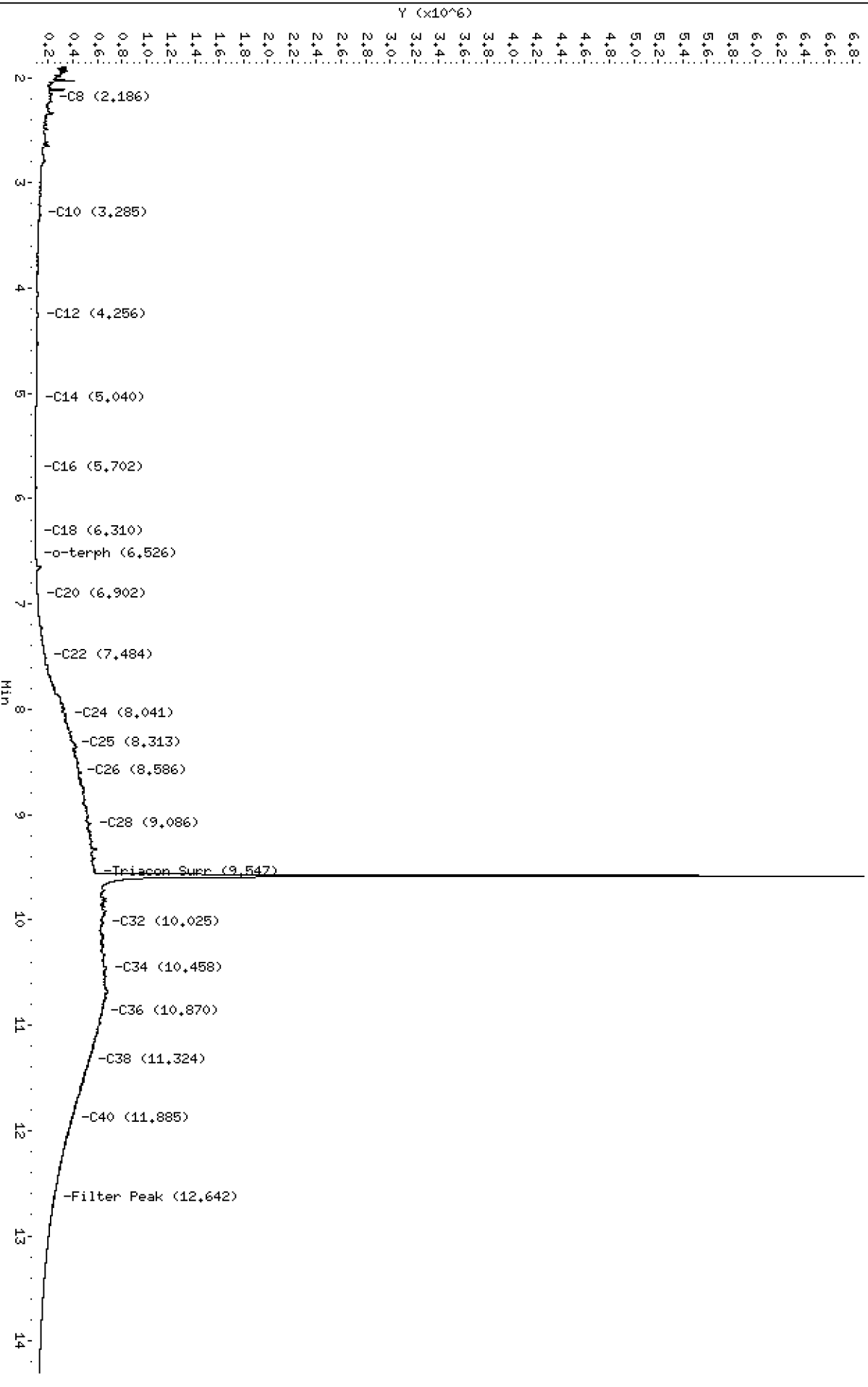
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\42010810.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0810.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 08-APR-2020 11:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

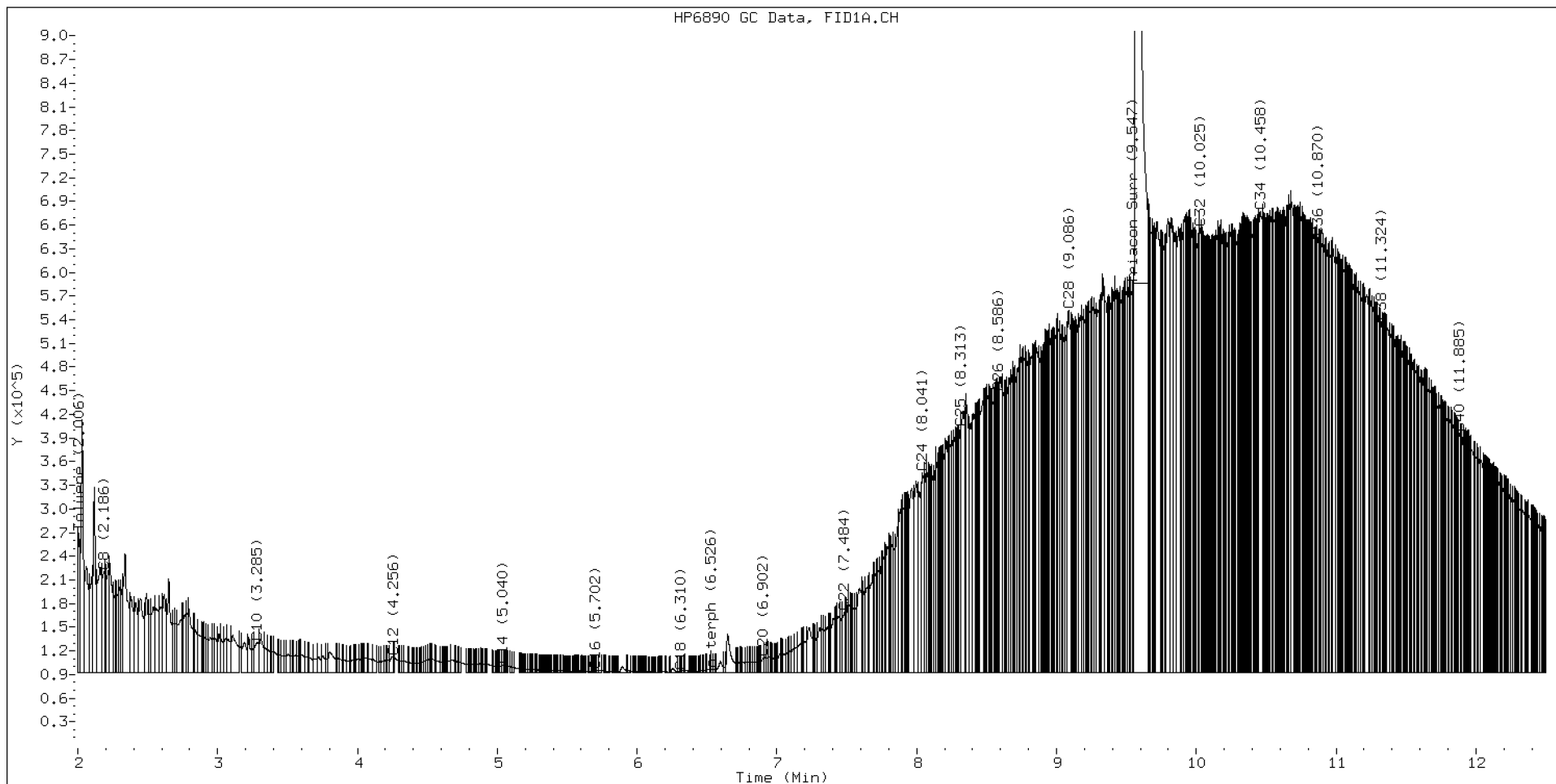
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	128234	148626	WATPHD	(C12-C24)	7988871	50.1
C10	3.285	-0.004	38172	74427	WATPHM	(C24-C38)	91762086	691.9
C12	4.256	-0.006	19290	11388	AK102	(C10-C25)	11765512	60.2
C14	5.040	0.003	8973	3968	AK103	(C25-C36)	75818758	1035.7
C16	5.702	-0.001	2111	1115	OR.DIES	(C10-C28)	31382092	160.1
C18	6.310	-0.004	1425	541				
C20	6.902	-0.002	17908	16066	JET-A	(C10-C18)	1797246	11.1
C22	7.484	0.001	76596	83679				
C24	8.041	-0.004	252638	326752				
C25	8.313	-0.005	310545	242222				
C26	8.586	0.003	355023	176377				
C28	9.086	-0.007	458742	774018				
C32	10.025	-0.004	563176	363288				
C34	10.458	0.001	584411	838839				
Filter Peak	12.642	-0.001	154787	92080	CREOSOT	(C12-C22)	2517795	61.1
C36	10.870	-0.001	551148	355915				
C38	11.324	-0.006	444543	374976				
C40	11.885	0.005	302889	255171				
o-terph	6.526	0.001	3457	1149				
Triacon Surr	9.585	-0.014	6299099	7009097	NAS DIES	(C10-C24)	9175138	47.0

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	1149	0.0
Triacontane	7009097	39.4 M

M Indicates the peak was manually integrated

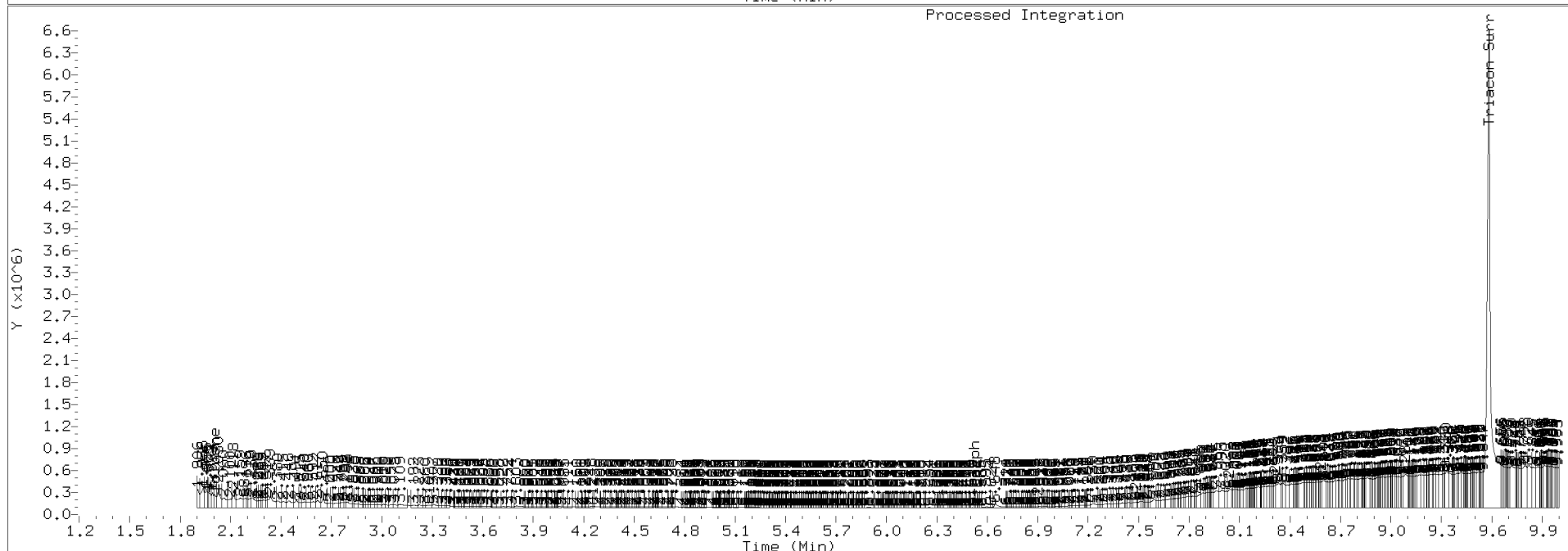
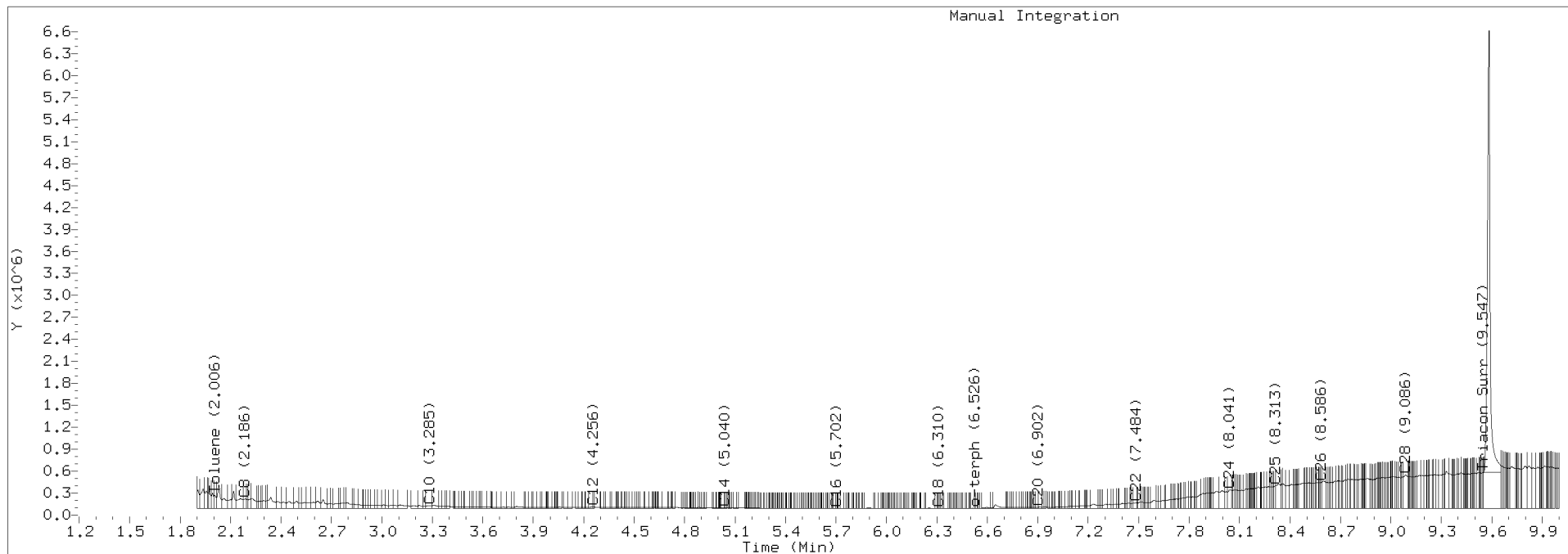
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0810.D Injection: 08-APR-2020 11:12

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200408_b\420D0811.D

Date : 08-APR-2020 11:32

Client ID:

Sample Info: SEQ-CALS

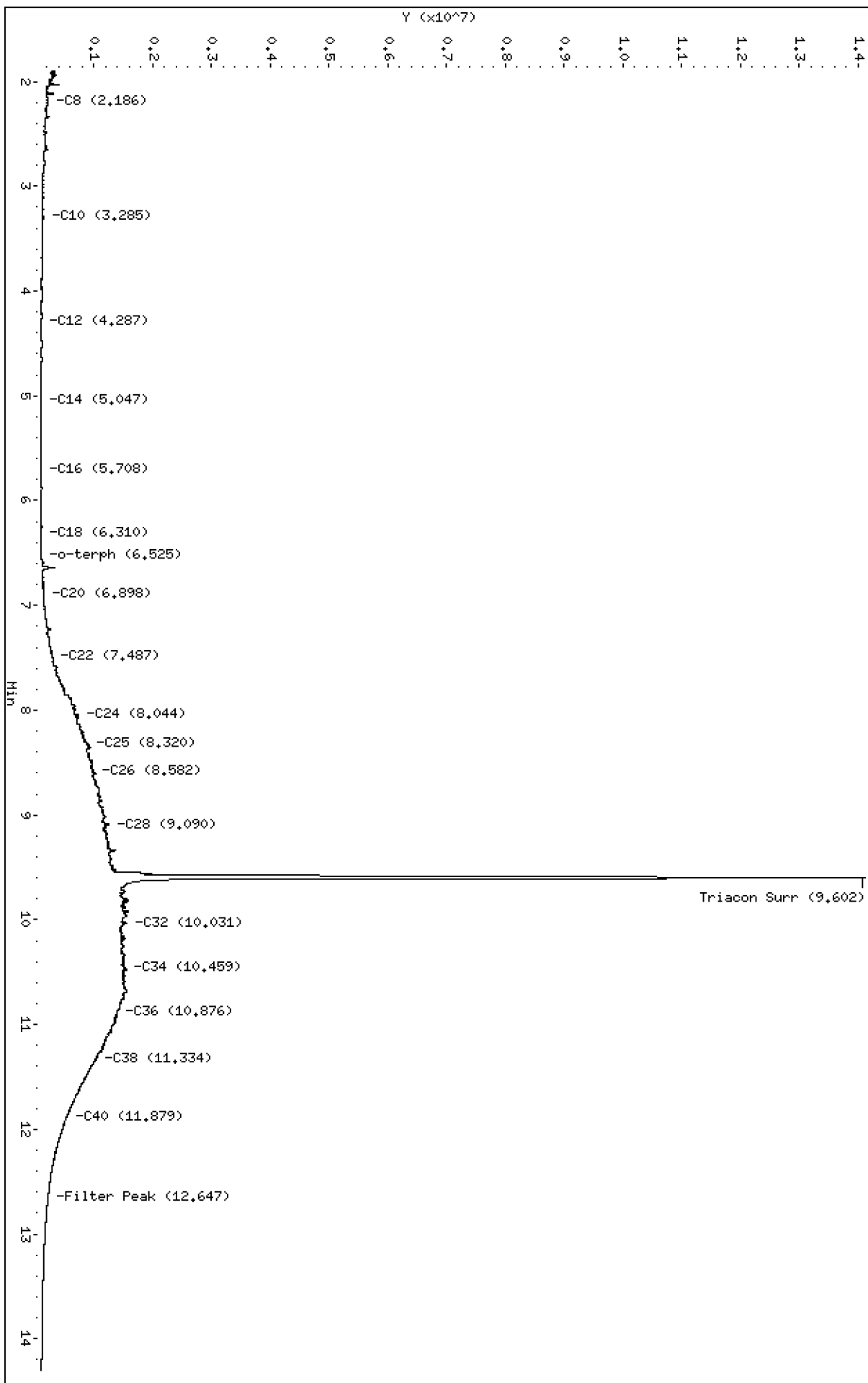
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200408_b\420D0811.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0811.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 08-APR-2020 11:32
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

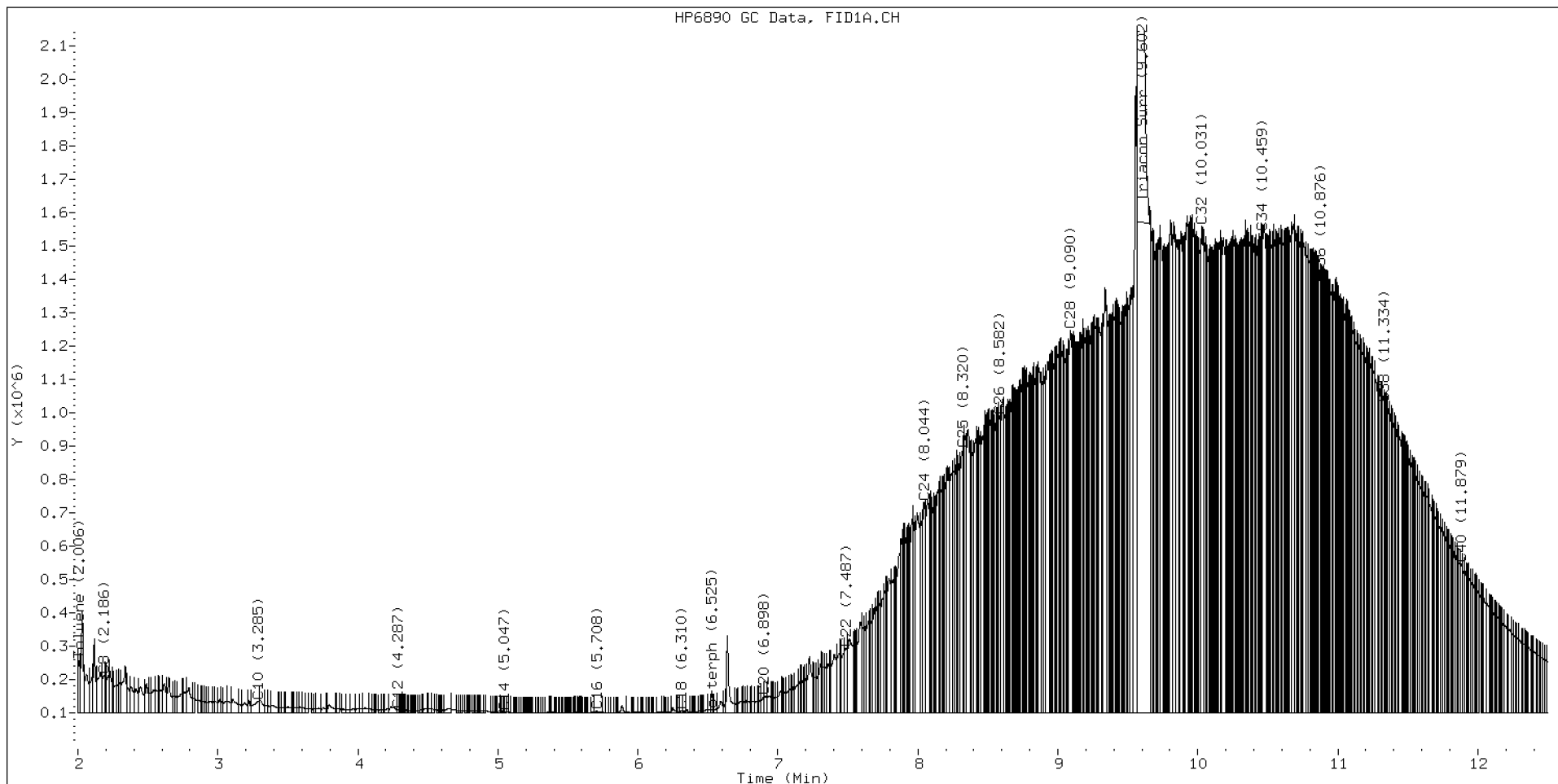
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	113560	125040	WATPHD	(C12-C24)	19771771	124.1
C10	3.285	-0.004	36541	95337	WATPHM	(C24-C38)	227849225	1717.9
C12	4.287	0.024	10394	7178	AK102	(C10-C25)	27372288	140.0
C14	5.047	0.009	4777	3830	AK103	(C25-C36)	191958289	2622.1
C16	5.708	0.004	6173	14774	OR.DIES	(C10-C28)	76383536	389.7
C18	6.310	-0.004	7574	8190				
C20	6.898	-0.006	50377	68943	JET-A	(C10-C18)	1465725	9.0
C22	7.487	0.004	195618	285006				
C24	8.044	-0.002	633495	967446				
C25	8.320	0.002	789714	921627				
C26	8.582	-0.001	892143	574635				
C28	9.090	-0.003	1146036	1667580				
C32	10.031	0.002	1460342	1849029				
C34	10.459	0.001	1442041	715490				
Filter Peak	12.647	0.004	121440	172075	CREOSOT	(C12-C22)	5678297	137.7
C36	10.876	0.004	1305970	520950				
C38	11.334	0.004	930225	554909				
C40	11.879	-0.001	446132	330870				
o-terph	6.525	-0.001	10861	10718				
Triacon Surr	9.602	0.004	12555669	16658090	NAS DIES	(C10-C24)	20733131	106.2

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	10718	0.1
Triacontane	16658090	93.6 M

M Indicates the peak was manually integrated

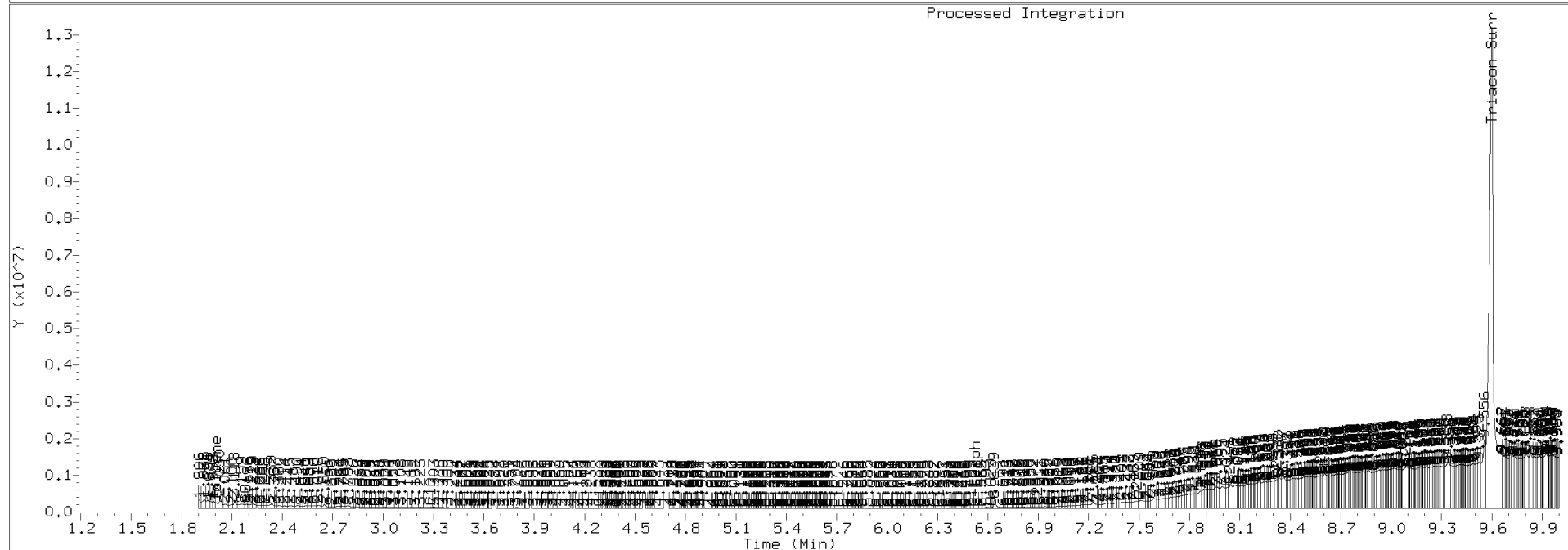
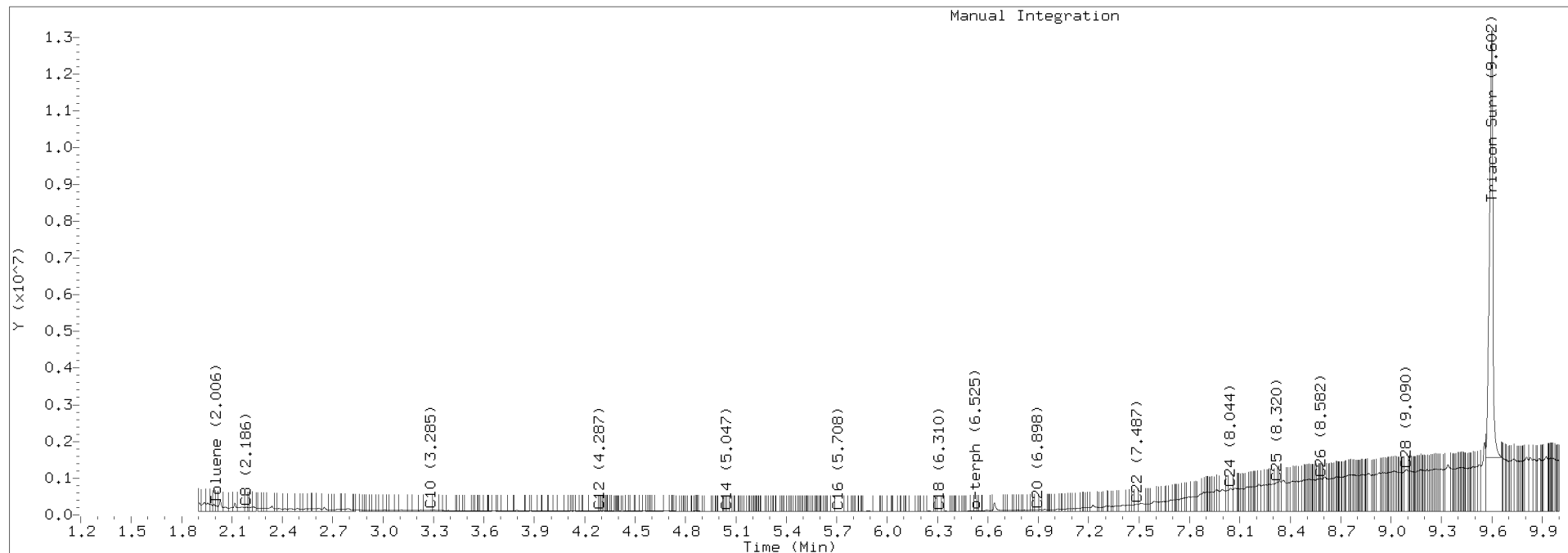
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0811.D Injection: 08-APR-2020 11:32

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200408_b\42010812.D

Date : 08-APR-2020 11:51

Client ID:

Sample Info: SED-CAL6

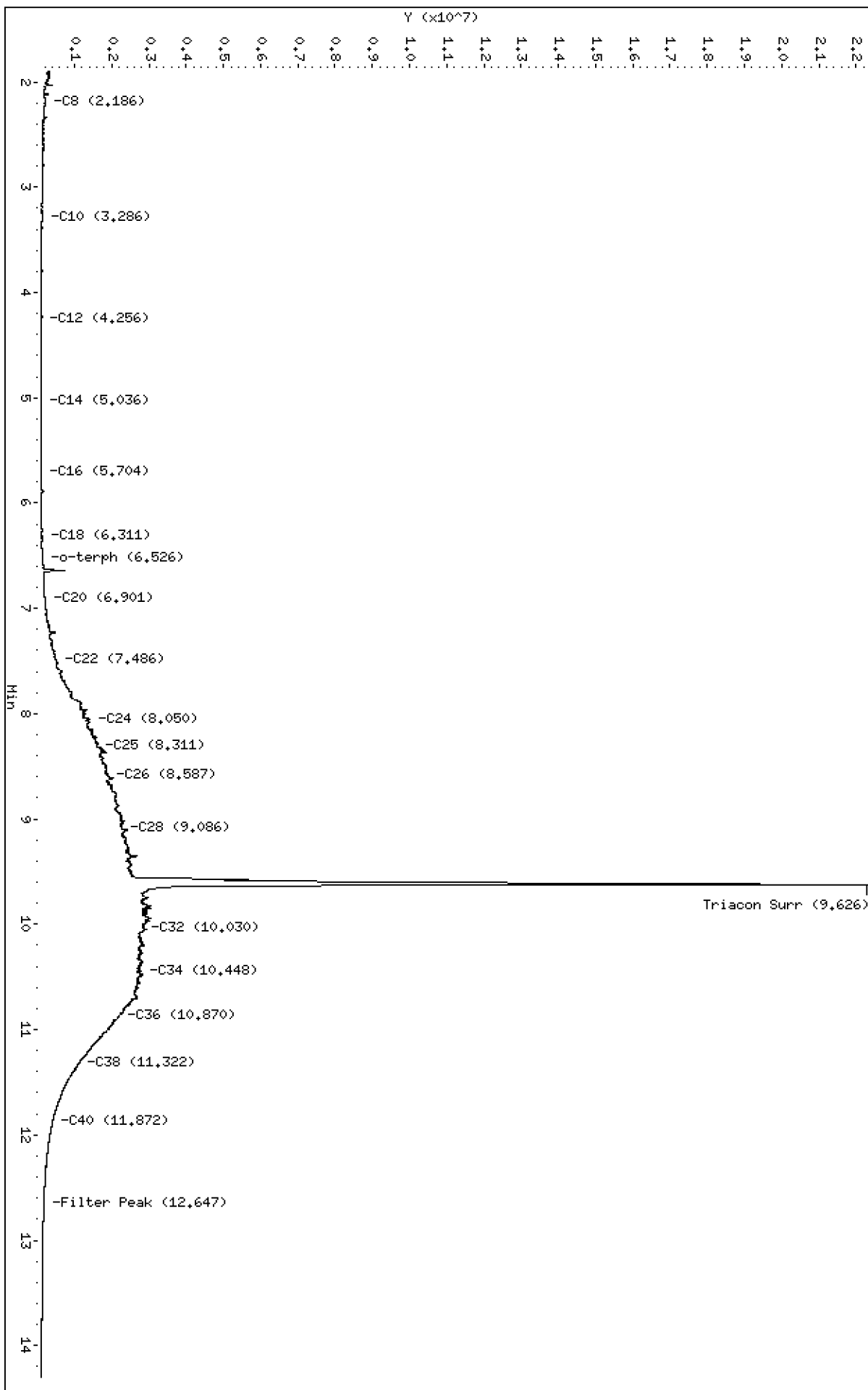
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200408.b/420D0812.D
Method: 20200408.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 04/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 08-APR-2020 11:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

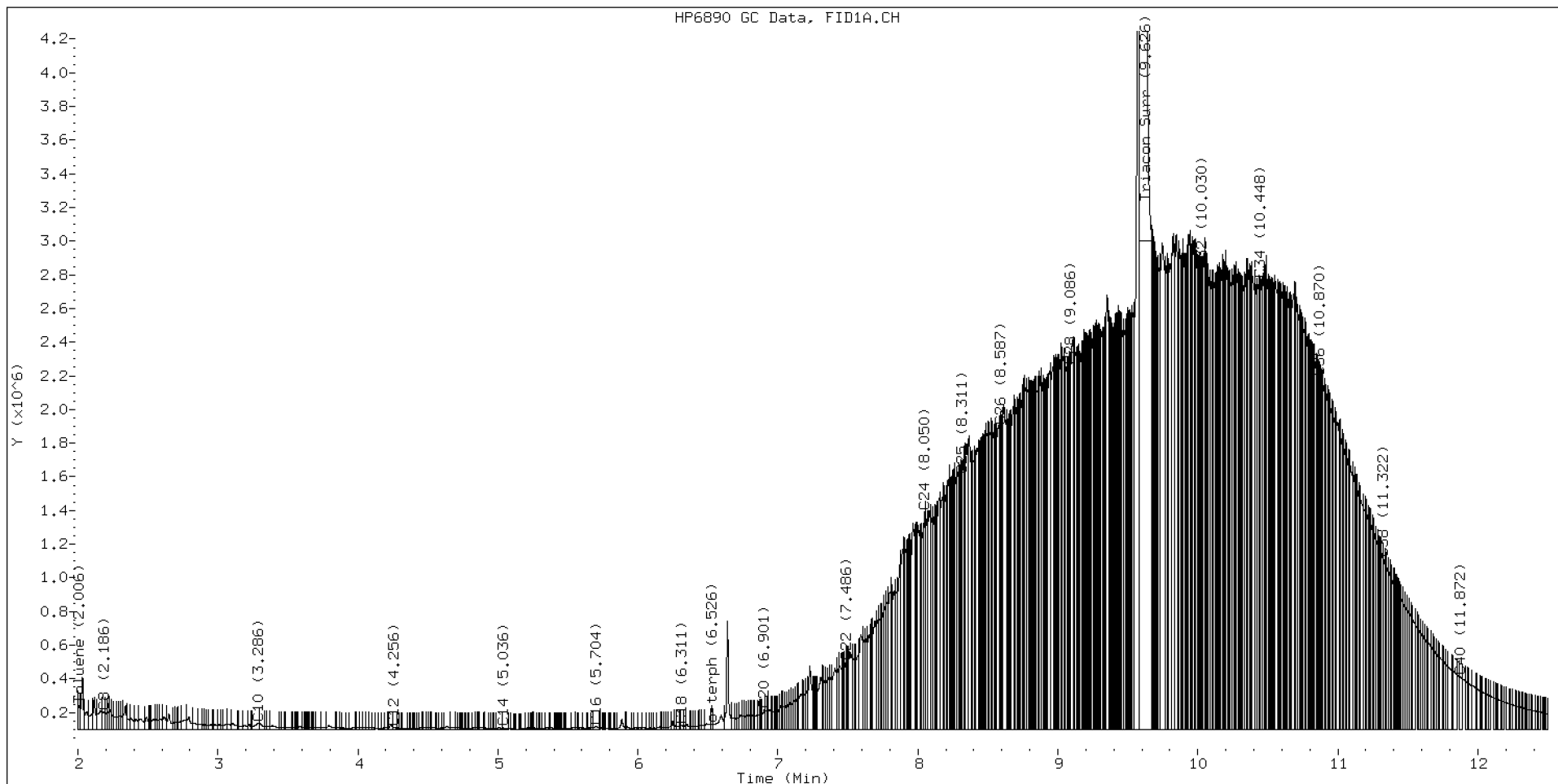
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.186	0.006	104064	109223	WATPHD	(C12-C24)	40416857	253.7
C10	3.286	-0.003	36956	80325	WATPHM	(C24-C38)	424850865	3203.2
C12	4.256	-0.007	12507	16346	AK102	(C10-C25)	54410917	278.3
C14	5.036	-0.001	8003	15931	AK103	(C25-C36)	374151503	5110.9
C16	5.704	0.001	16810	29811	OR.DIES	(C10-C28)	152172505	776.4
C18	6.311	-0.003	24372	26022				
C20	6.901	-0.003	112613	157357	JET-A	(C10-C18)	1722106	10.6
C22	7.486	0.002	399638	286806				
C24	8.050	0.004	1290743	1158755				
C25	8.311	-0.007	1510553	527958				
C26	8.587	0.004	1796919	714430				
C28	9.086	-0.007	2157837	862033				
C32	10.030	0.001	2725510	951638				
C34	10.448	-0.009	2673996	2899255				
Filter Peak	12.647	0.004	73309	79546	CREOSOT	(C12-C22)	11787364	285.8
C36	10.870	-0.002	2091703	1355589				
C38	11.322	-0.008	1014606	947975				
C40	11.872	-0.008	311238	395324				
o-terph	6.526	0.001	31009	30512				
Triacon Surr	9.626	0.028	19358318	32512150	NAS DIES	(C10-C24)	41151308	210.9

Range Times: NW Diesel(4.262 - 8.046) AK102(3.29 - 8.32) Jet A(3.29 - 6.31)
NW M.Oil(8.05 - 11.33) AK103(8.32 - 10.87) OR Diesel(3.29 - 9.09)

Surrogate	Area	Amount
o-Terphenyl	30512	0.1
Triacontane	32512150	182.7 M

M Indicates the peak was manually integrated

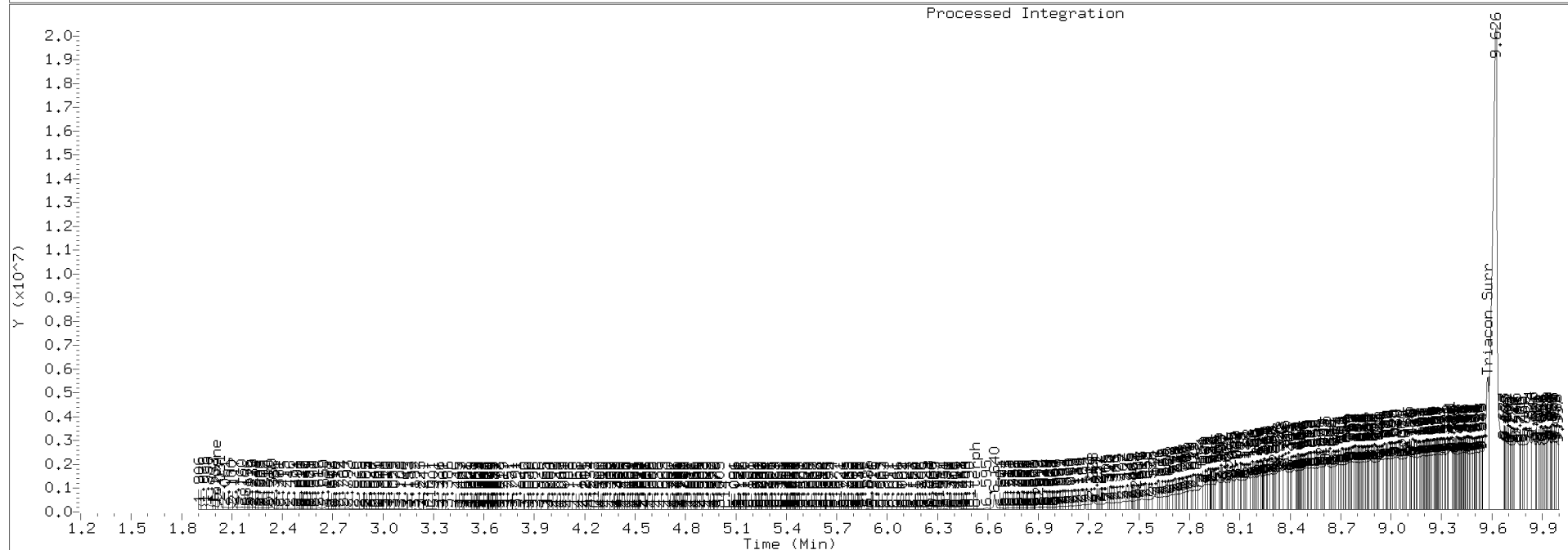
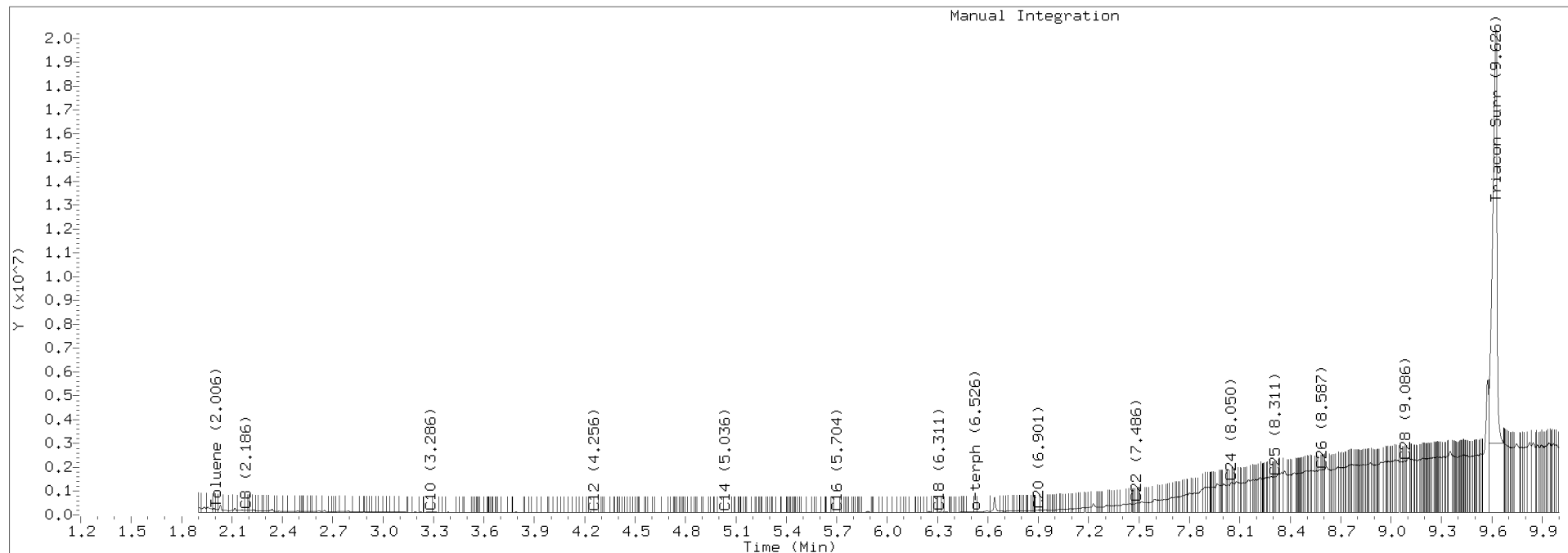
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	162518.2	20-NOV-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200408.b/420D0812.D Injection: 08-APR-2020 11:51

Lab ID:SEQ-CAL6





ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SIE0162-IBL1	QC		1		H010802			
SIE0162-IBL2	QC		2		I000651			
SIE0162-ICV1	QC		3		I002687			
SIE0162-ICV2	QC		4		H010706			
BIE0305-BLK1	QC		5					
BIE0305-BS1	QC		6					
BIE0305-BSD1	QC		7					
20E0185-01	PH NW (Extractables) low lev	A 02	8				The Boeing Company [Auburn]	
SIE0162-CCV1	QC		9		I002687			
SIE0162-CCV2	QC		10		H010706			
SIE0162-CAL1	QC		11		H011231			
BIE0254-BLK1	QC		12					
BIE0254-BS1	QC		13					
BIE0254-BSD1	QC		14					
20E0096-02	PH NW (Extractables) low lev	A 01	15				The Boeing Company	
20E0096-04	PH NW (Extractables) low lev	A 01	16				The Boeing Company	
20E0096-06	PH NW (Extractables) low lev	A 01	17				The Boeing Company	
20E0096-08	PH NW (Extractables) low lev	A 01	18				The Boeing Company	
20E0096-10	PH NW (Extractables) low lev	A 01	19				The Boeing Company	
20E0096-12	PH NW (Extractables) low lev	A 01	20				The Boeing Company	
20E0096-14	PH NW (Extractables) low lev	A 01	21				The Boeing Company	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20E0096-16	PH NW (Extractables) low lev	A 01	22				The Boeing Company	
BIE0254-MS1	QC		23					
BIE0254-MSD1	QC		24					
SIE0162-CCV3	QC		25		I002687			
SIE0162-CCV4	QC		26		H010706			
SIE0162-CCV5	QC		27		H011231			
20E0096-18	PH NW (Extractables) low lev	A 01	28				The Boeing Company	
20E0096-20	PH NW (Extractables) low lev	A 01	29				The Boeing Company	
20E0096-22	PH NW (Extractables) low lev	A 01	30				The Boeing Company	
BIE0248-BLK1	QC		31					
BIE0248-BS1	QC		32					
BIE0248-BSD1	QC		33					
20E0096-01	PH NW (Extractables) low lev	A 01	34				The Boeing Company	
20E0096-03	PH NW (Extractables) low lev	A 01	35				The Boeing Company	
20E0096-05	PH NW (Extractables) low lev	A 01	36				The Boeing Company	
20E0096-07	PH NW (Extractables) low lev	A 01	37				The Boeing Company	
20E0096-09	PH NW (Extractables) low lev	A 01	38				The Boeing Company	
SIE0162-CCV6	QC		39		I002687			
SIE0162-CCV7	QC		40		H010706			
SIE0162-CCV8	QC		41		H011231			
20E0096-11	PH NW (Extractables) low lev	A 01	42				The Boeing Company	

Samples Loaded By

Date

Data Processed By

Date



ANALYSIS SEQUENCE

SIE0162

Instrument: FID4
Calibration ID: DA00022

Printed: 5/20/2020 8:39:25AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
20E0096-13	PH NW (Extractables) low lev	A 01	43				The Boeing Company	
20E0096-15	PH NW (Extractables) low lev	A 01	44				The Boeing Company	
BIE0248-MS1	QC		45					
BIE0248-MSD1	QC		46					
20E0096-17	PH NW (Extractables) low lev	B 01	47				The Boeing Company	
20E0096-19	PH NW (Extractables) low lev	A 01	48				The Boeing Company	
20E0096-21	PH NW (Extractables) low lev	A 01	49				The Boeing Company	
BIE0282-BLK1	QC		50					
BIE0282-BS1	QC		51					
BIE0282-BSD1	QC		52					
20E0151-01	PH NW (Extractables) low lev	F 01	53				The Boeing Company [North Boeing Field]	
20E0160-01	PH NW (Extractables) low lev	C 01	54				Davis Wire Corporation	
SIE0162-CCV9	QC		55		I002687			
SIE0162-CCVA	QC		56		H010706			
SIE0162-CCVB	QC		57		H011231			

Samples Loaded By

Date

Data Processed By

Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
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2	19-MAY-2020	07:03	420E1902.D	1	RINSE	
3	19-MAY-2020	07:23	420E1903.D	1	SIE0162-IBL1	
4	19-MAY-2020	07:42	420E1904.D	1	SIE0162-IBL2	
5	19-MAY-2020	08:02	420E1905.D	1	SIE0162-ICV1	
6	19-MAY-2020	08:21	420E1906.D	1	SIE0162-ICV2	
7	19-MAY-2020	08:41	420E1907.D	1	BIE0305-BLK1	
8	19-MAY-2020	09:00	420E1908.D	1	BIE0305-BS1	
9	19-MAY-2020	09:20	420E1909.D	1	BIE0305-BSD1	
10	19-MAY-2020	09:39	420E1910.D	1	20E0185-01	
11	19-MAY-2020	09:59	420E1911.D	1	SIE0162-CCV1	
12	19-MAY-2020	10:19	420E1912.D	1	SIE0162-CCV2	
13	19-MAY-2020	11:05	420E1913.D	1	SIE0162-CAL1	
14	19-MAY-2020	11:24	420E1914.D	1	BIE0254-BLK1	
15	19-MAY-2020	11:44	420E1915.D	1	BIE0254-BS1	
16	19-MAY-2020	12:03	420E1916.D	1	BIE0254-BSD1	
17	19-MAY-2020	12:23	420E1917.D	1	20E0096-02	
18	19-MAY-2020	12:43	420E1918.D	1	20E0096-04	
19	19-MAY-2020	13:02	420E1919.D	1	20E0096-06	
20	19-MAY-2020	13:22	420E1920.D	1	20E0096-08	
21	19-MAY-2020	13:42	420E1921.D	1	20E0096-10	
22	19-MAY-2020	14:01	420E1922.D	1	20E0096-12	
23	19-MAY-2020	14:21	420E1923.D	1	20E0096-14	
24	19-MAY-2020	14:41	420E1924.D	1	20E0096-16	
25	19-MAY-2020	15:00	420E1925.D	1	BIE0254-MS1	
26	19-MAY-2020	15:20	420E1926.D	1	BIE0254-MSD1	
27	19-MAY-2020	15:40	420E1927.D	1	SIE0162-CCV3	
28	19-MAY-2020	15:59	420E1928.D	1	SIE0162-CCV4	
29	19-MAY-2020	16:19	420E1929.D	1	SIE0162-CCV5	
30	19-MAY-2020	16:39	420E1930.D	1	20E0096-18	
31	19-MAY-2020	16:58	420E1931.D	1	20E0096-20	
32	19-MAY-2020	17:18	420E1932.D	1	20E0096-22	
33	19-MAY-2020	17:37	420E1933.D	1	BIE0248-BLK1	
34	19-MAY-2020	17:57	420E1934.D	1	BIE0248-BS1	
35	19-MAY-2020	18:16	420E1935.D	1	BIE0248-BSD1	
36	19-MAY-2020	18:36	420E1936.D	1	20E0096-01	
37	19-MAY-2020	18:55	420E1937.D	1	20E0096-03	
38	19-MAY-2020	19:15	420E1938.D	1	20E0096-05	
39	19-MAY-2020	19:34	420E1939.D	1	20E0096-07	
40	19-MAY-2020	19:54	420E1940.D	1	20E0096-09	
41	19-MAY-2020	20:13	420E1941.D	1	SIE0162-CCV6	
42	19-MAY-2020	20:33	420E1942.D	1	SIE0162-CCV7	
43	19-MAY-2020	20:52	420E1943.D	1	SIE0162-CCV8	
44	19-MAY-2020	21:12	420E1944.D	1	20E0096-11	
45	19-MAY-2020	21:31	420E1945.D	1	20E0096-13	
46	19-MAY-2020	21:50	420E1946.D	1	20E0096-15	
47	19-MAY-2020	22:10	420E1947.D	1	BIE0248-MS1	
48	19-MAY-2020	22:29	420E1948.D	1	BIE0248-MSD1	
49	19-MAY-2020	22:49	420E1949.D	1	20E0096-17	
50	20-MAY-2020	23:08	420E1950.D	1	20E0096-19	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	20-MAY-2020	23:28	420E1951.D	1	20E0096-21	
52	20-MAY-2020	23:47	420E1952.D	1	BIE0282-BLK1	
53	20-MAY-2020	00:07	420E1953.D	1	BIE0282-BS1	
54	20-MAY-2020	00:26	420E1954.D	1	BIE0282-BSD1	
55	20-MAY-2020	00:46	420E1955.D	1	20E0151-01	
56	20-MAY-2020	01:05	420E1956.D	1	20E0160-01	
57	20-MAY-2020	01:25	420E1957.D	1	SIE0162-CCV9	
58	20-MAY-2020	01:44	420E1958.D	1	SIE0162-CCVA	
59	20-MAY-2020	02:03	420E1959.D	1	SIE0162-CCVB	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 19-MAY-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0644	420E1901.D	RINSE		1	o-terph,
0703	420E1902.D	RINSE		1	Triacon Surr,
0723	420E1903.D	SIE0162-IBL1		1	NO MANUAL INTEGRATION
0742	420E1904.D	SIE0162-IBL2		1	NO MANUAL INTEGRATION
0802	420E1905.D	SIE0162-ICV1		1	o-terph,
0821	420E1906.D	SIE0162-ICV2		1	Triacon Surr,
0841	420E1907.D	BIE0305-BLK1		1	NO MANUAL INTEGRATION
0900	420E1908.D	BIE0305-BS1		1	o-terph,
0920	420E1909.D	BIE0305-BSD1		1	o-terph,
0939	420E1910.D	20E0185-01		1	NO MANUAL INTEGRATION
0959	420E1911.D	SIE0162-CCV1		1	o-terph,
1019	420E1912.D	SIE0162-CCV2		1	Triacon Surr,
1105	420E1913.D	SIE0162-CAL1		1	NO MANUAL INTEGRATION
1124	420E1914.D	BIE0254-BLK1		1	NO MANUAL INTEGRATION
1144	420E1915.D	BIE0254-BS1		1	o-terph,
1203	420E1916.D	BIE0254-BSD1		1	o-terph,
1223	420E1917.D	20E0096-02		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1243	420E1918.D	20E0096-04	1		NO MANUAL INTEGRATION
1302	420E1919.D	20E0096-06	1		NO MANUAL INTEGRATION
1322	420E1920.D	20E0096-08	1		NO MANUAL INTEGRATION
1342	420E1921.D	20E0096-10	1		NO MANUAL INTEGRATION
1401	420E1922.D	20E0096-12	1		o-terph,
1421	420E1923.D	20E0096-14	1		NO MANUAL INTEGRATION
1441	420E1924.D	20E0096-16	1		NO MANUAL INTEGRATION
1500	420E1925.D	BIE0254-MS1	1		o-terph,
1520	420E1926.D	BIE0254-MSD1	1		o-terph,
1540	420E1927.D	SIE0162-CCV3	1		o-terph,
1559	420E1928.D	SIE0162-CCV4	1		Triacon Surr,
1619	420E1929.D	SIE0162-CCV5	1		NO MANUAL INTEGRATION
1639	420E1930.D	20E0096-18	1		NO MANUAL INTEGRATION
1658	420E1931.D	20E0096-20	1		NO MANUAL INTEGRATION
1718	420E1932.D	20E0096-22	1		NO MANUAL INTEGRATION
1737	420E1933.D	BIE0248-BLK1	1		NO MANUAL INTEGRATION
1757	420E1934.D	BIE0248-BS1	1		o-terph,
1816	420E1935.D	BIE0248-BSD1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1836	420E1936.D	20E0096-01	1		NO MANUAL INTEGRATION
1855	420E1937.D	20E0096-03	1		NO MANUAL INTEGRATION
1915	420E1938.D	20E0096-05	1		o-terph,
1934	420E1939.D	20E0096-07	1		NO MANUAL INTEGRATION
1954	420E1940.D	20E0096-09	1		NO MANUAL INTEGRATION
2013	420E1941.D	SIE0162-CCV6	1		o-terph,
2033	420E1942.D	SIE0162-CCV7	1		Triacon Surr,
2052	420E1943.D	SIE0162-CCV8	1		NO MANUAL INTEGRATION
2112	420E1944.D	20E0096-11	1		o-terph,
2131	420E1945.D	20E0096-13	1		NO MANUAL INTEGRATION
2150	420E1946.D	20E0096-15	1		NO MANUAL INTEGRATION
2210	420E1947.D	BIE0248-MS1	1		o-terph,
2229	420E1948.D	BIE0248-MSD1	1		o-terph,
2249	420E1949.D	20E0096-17	1		NO MANUAL INTEGRATION
2308	420E1950.D	20E0096-19	1		o-terph,
2328	420E1951.D	20E0096-21	1		NO MANUAL INTEGRATION
2347	420E1952.D	BIE0282-BLK1	1		NO MANUAL INTEGRATION
0007	420E1953.D	BIE0282-BS1	1		o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200519.b

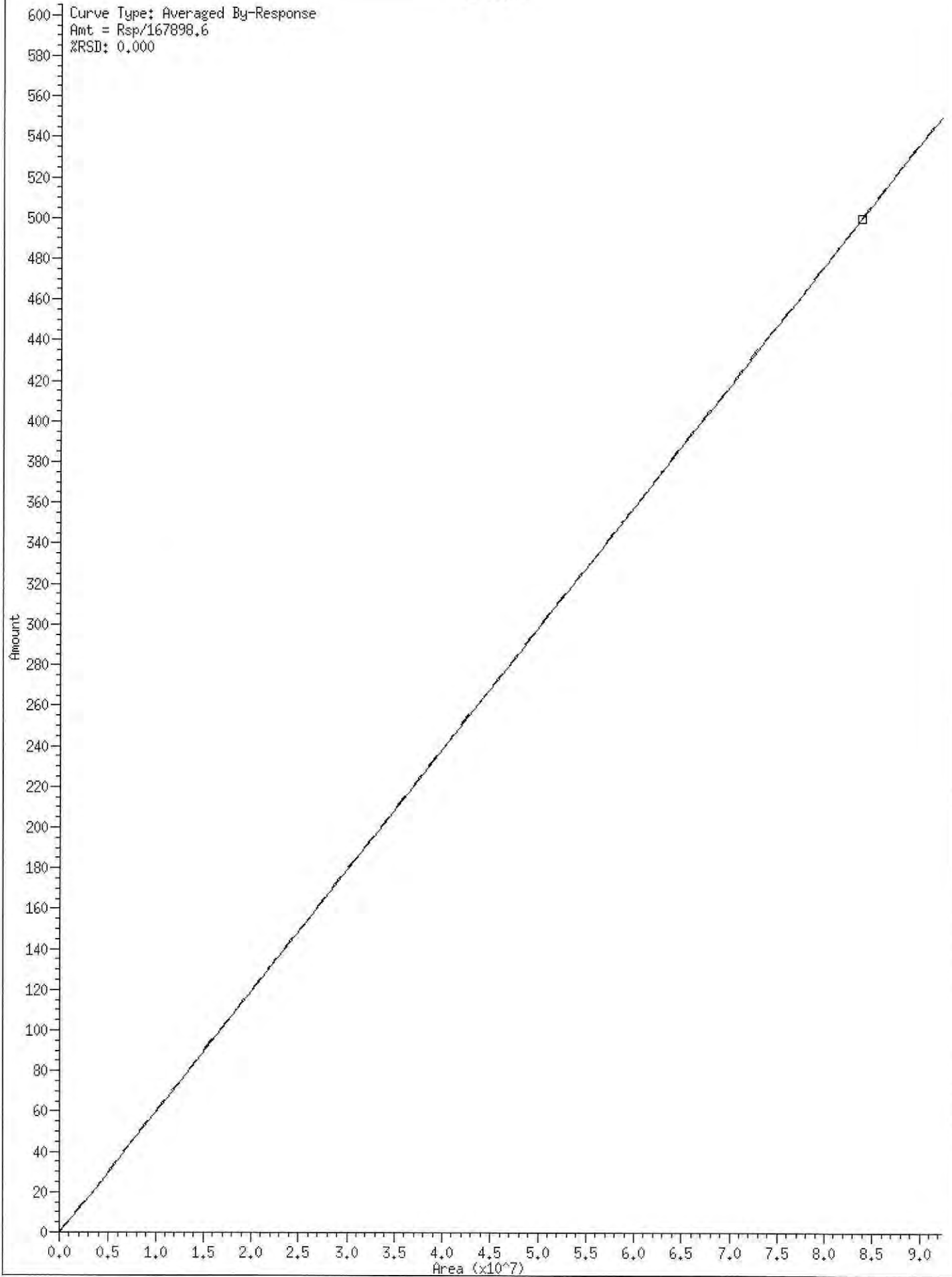
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0026	420E1954.D	BIE0282-BSD1		1	o-terph,
0046	420E1955.D	20E0151-01		1	NO MANUAL INTEGRATION
0105	420E1956.D	20E0160-01		1	o-terph,
0125	420E1957.D	SIE0162-CCV9		1	o-terph,
0144	420E1958.D	SIE0162-CCVA		1	Triacon Surr,
0203	420E1959.D	SIE0162-CCVB		1	NO MANUAL INTEGRATION

Security Status Report

Date: 20-May-2020 08:42

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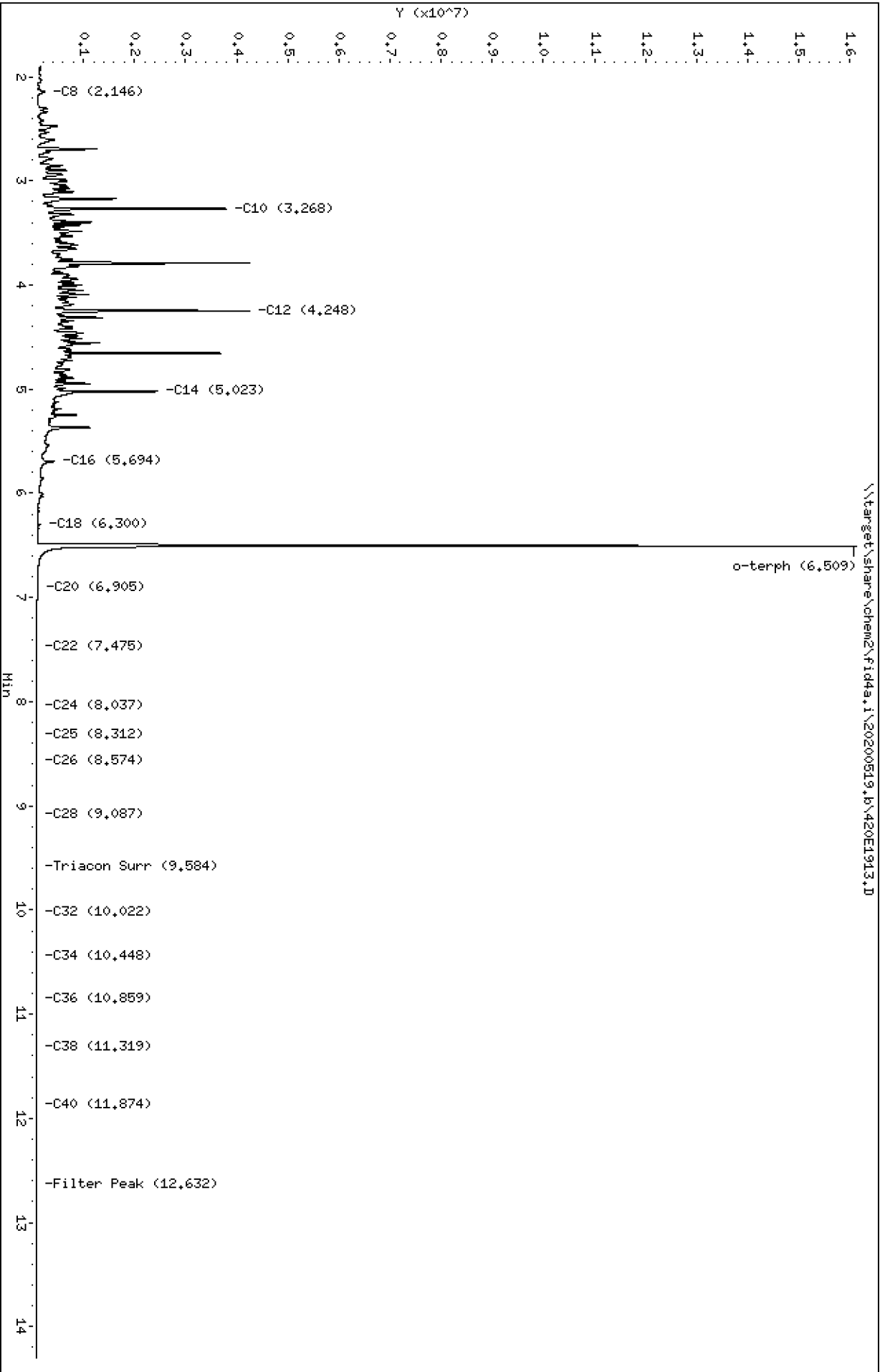
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Data File: \\target\share\chem2\fid4a,1\20200519_b\420E1913.D
Date: 19-May-2020 11:05
Client ID:
Sample Info: SIE0162-CAL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200519.b/420E1913.D
Method: 20200519.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 05/20/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIE0162-CAL1
Client ID:
Injection: 19-MAY-2020 11:05
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

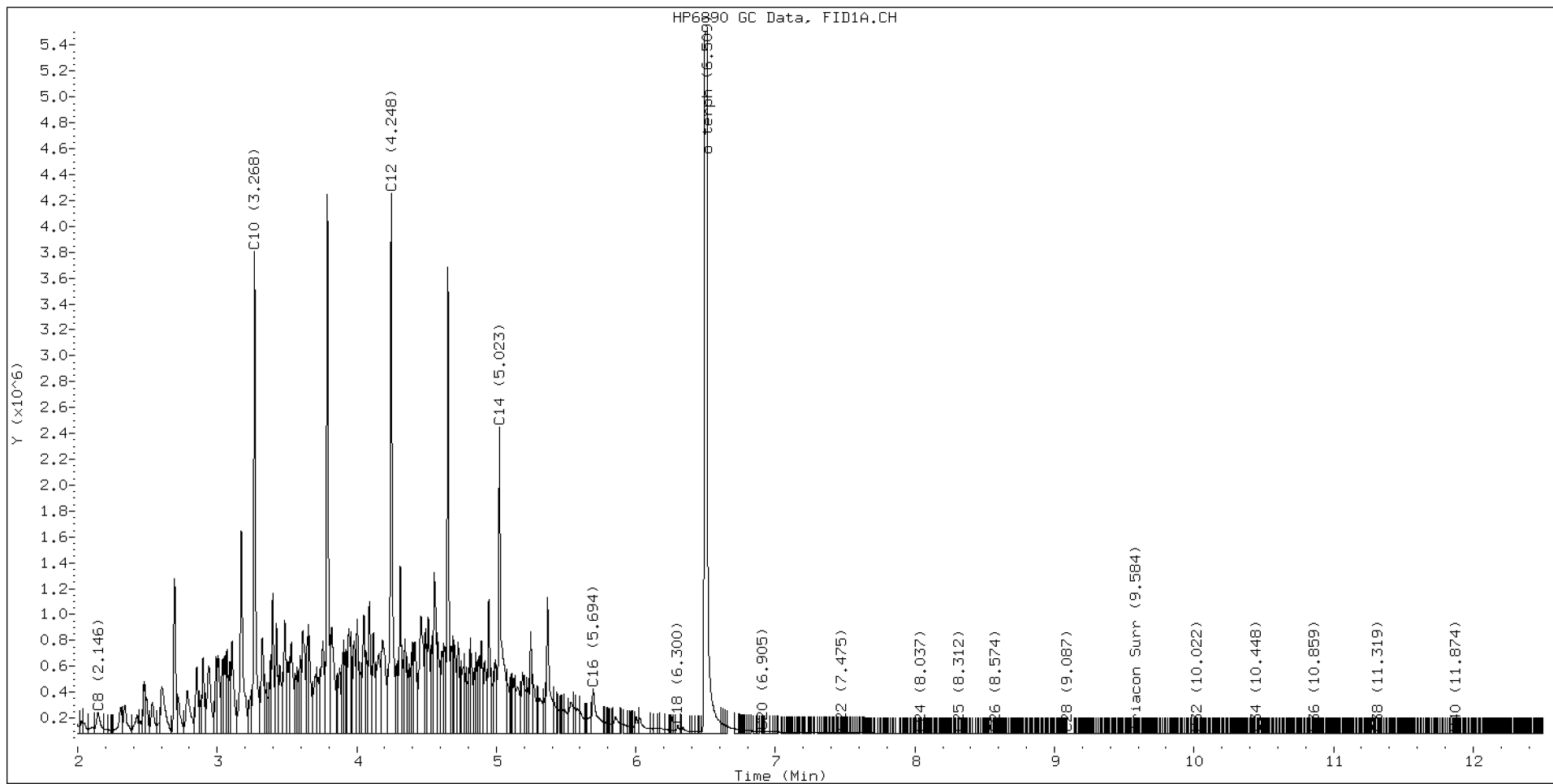
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.146	-0.014	162537	351667	WATPHD	(C12-C24)	43793314	274.8
C10	3.268	-0.006	3727060	3670074	WATPHM	(C24-C38)	298844	2.3
C12	4.248	-0.001	4175422	4596909	AK102	(C10-C25)	84977552	434.7
C14	5.023	-0.002	2366943	3478731	AK103	(C25-C36)	181563	2.5
C16	5.694	0.002	346661	872220	OR.DIES	(C10-C28)	85015601	433.8
C18	6.300	-0.002	67502	81701				
C20	6.905	0.012	18076	12457	JET-A	(C10-C18)	83949325	500.0
C22	7.475	0.003	7015	3124				
C24	8.037	0.002	2567	632				
C25	8.312	0.005	1720	641				
C26	8.574	0.002	577	179				
C28	9.087	0.004	278	137				
C32	10.022	0.002	985	413				
C34	10.448	-0.000	2249	1187				
Filter Peak	12.632	0.002	3646	2855	CREOSOT	(C12-C22)	43649163	1058.5
C36	10.859	-0.001	3434	1815				
C38	11.319	0.004	4203	2291				
C40	11.874	0.007	4118	1219				
o-terph	6.509	-0.003	16049011	17223619				
Triacon Surr	9.584	-0.003	924	375	NAS DIES	(C10-C24)	84956580	435.3

Range Times: NW Diesel(4.249 - 8.035) AK102(3.27 - 8.31) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.32) AK103(8.31 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17223619	84.1
Triacontane	375	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

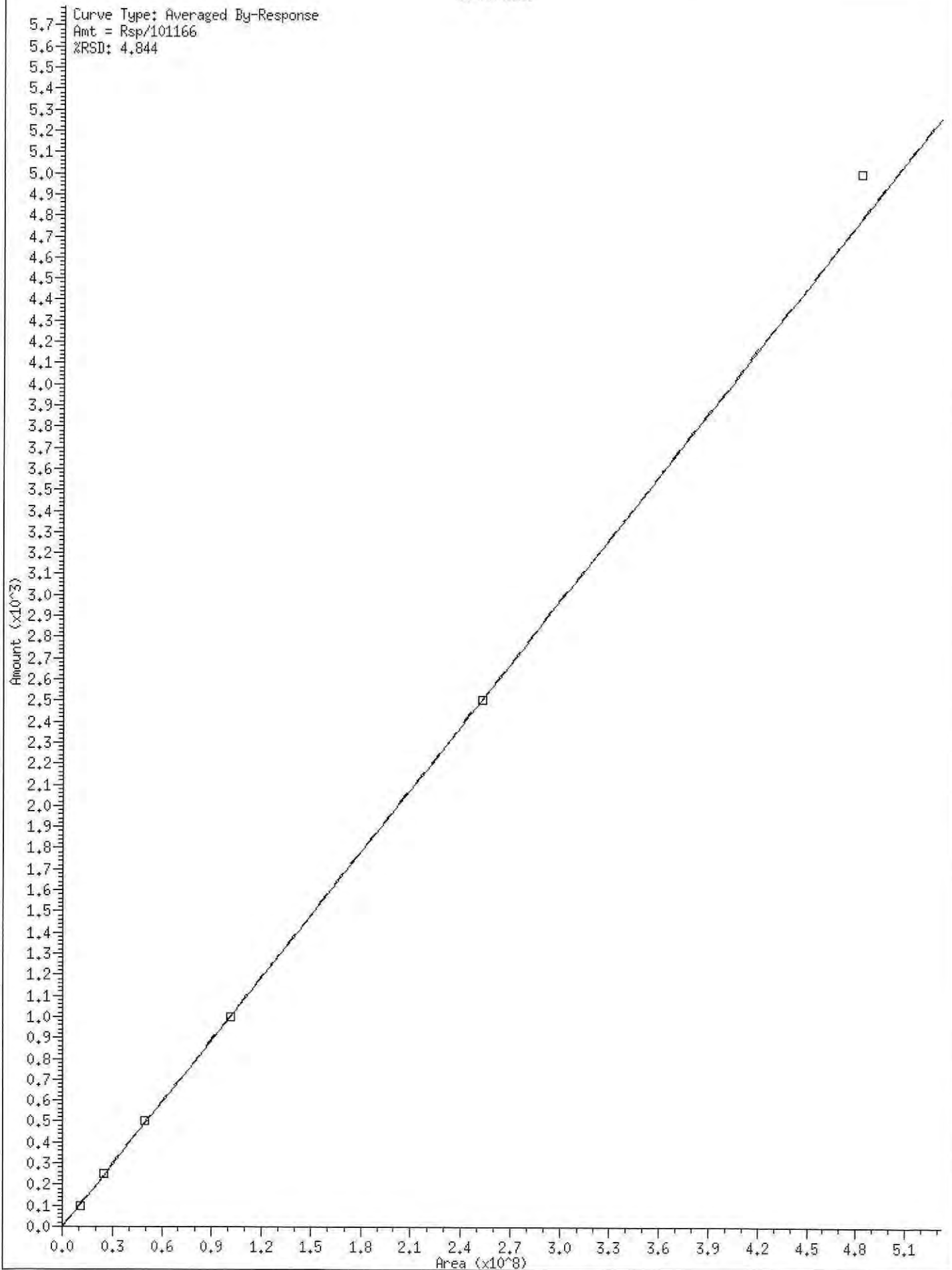
ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0740	420F0201.D	RINSE		1	NO MANUAL INTEGRATION
0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

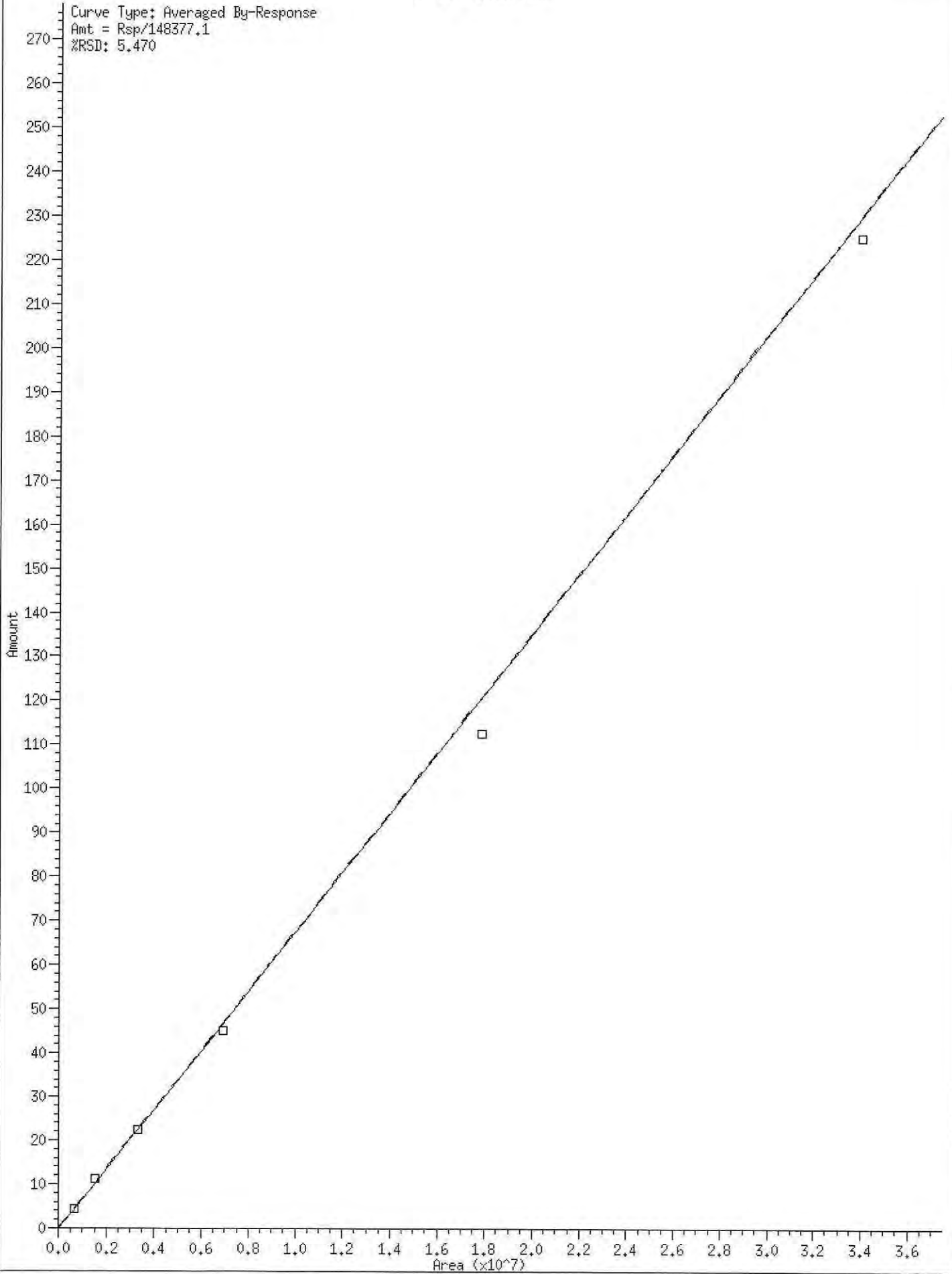
Date: 02-Jun-2020 12:52

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420F0203.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0204.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0205.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0206.D	Data Locked	christopher, 02-Jun-2020 12:51
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420F0208.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0209.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51



* 15 Triacon Surr

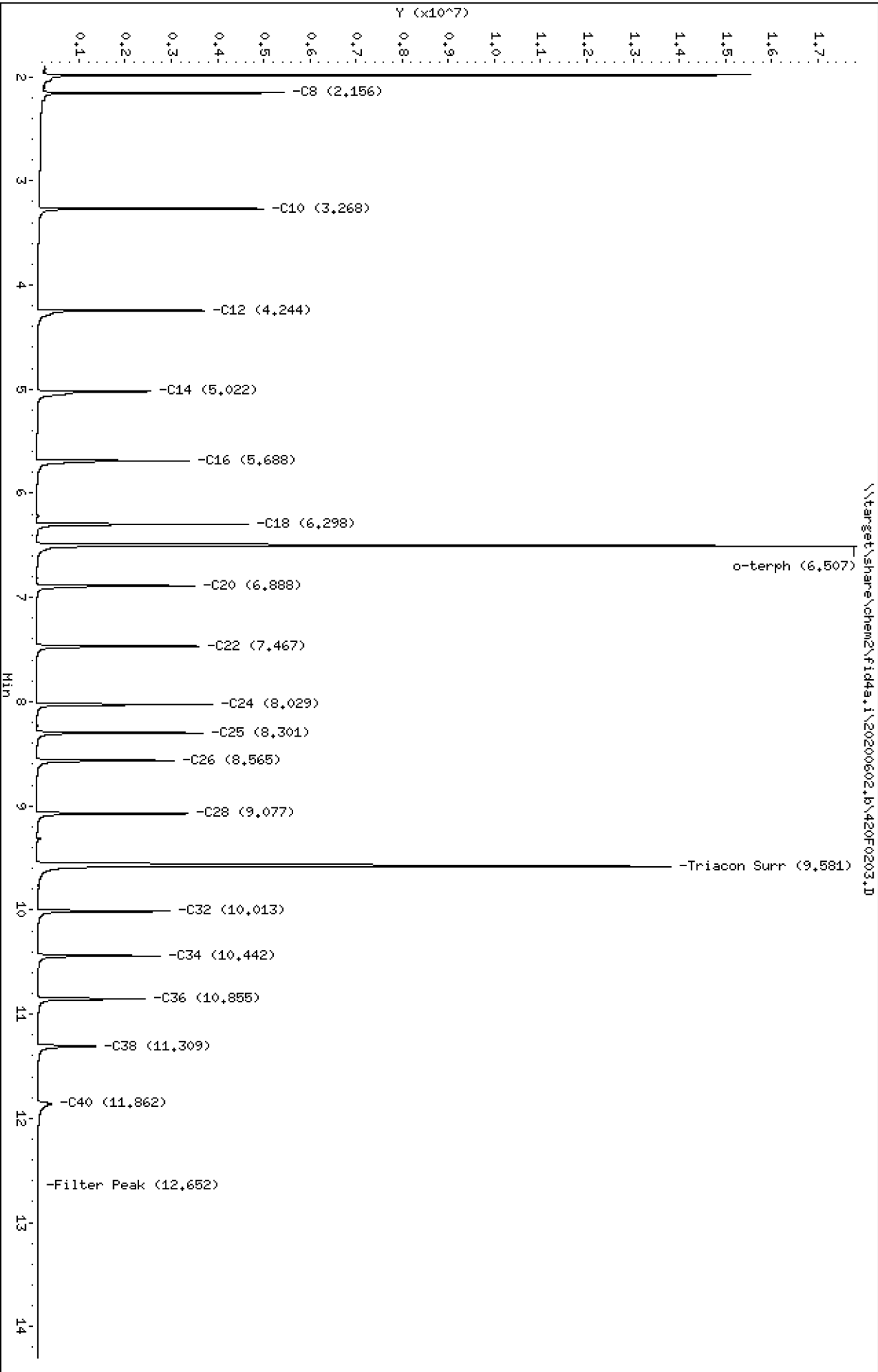
Curve Type: Averaged By-Response
Amt = Rsp/148377,1
%RSD: 5,470



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0203.D
Date : 02-JUN-2020 08:19
Client ID:
Sample Info: SIF0018-IBL1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0203.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL1
Client ID:
Injection: 02-JUN-2020 08:19
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

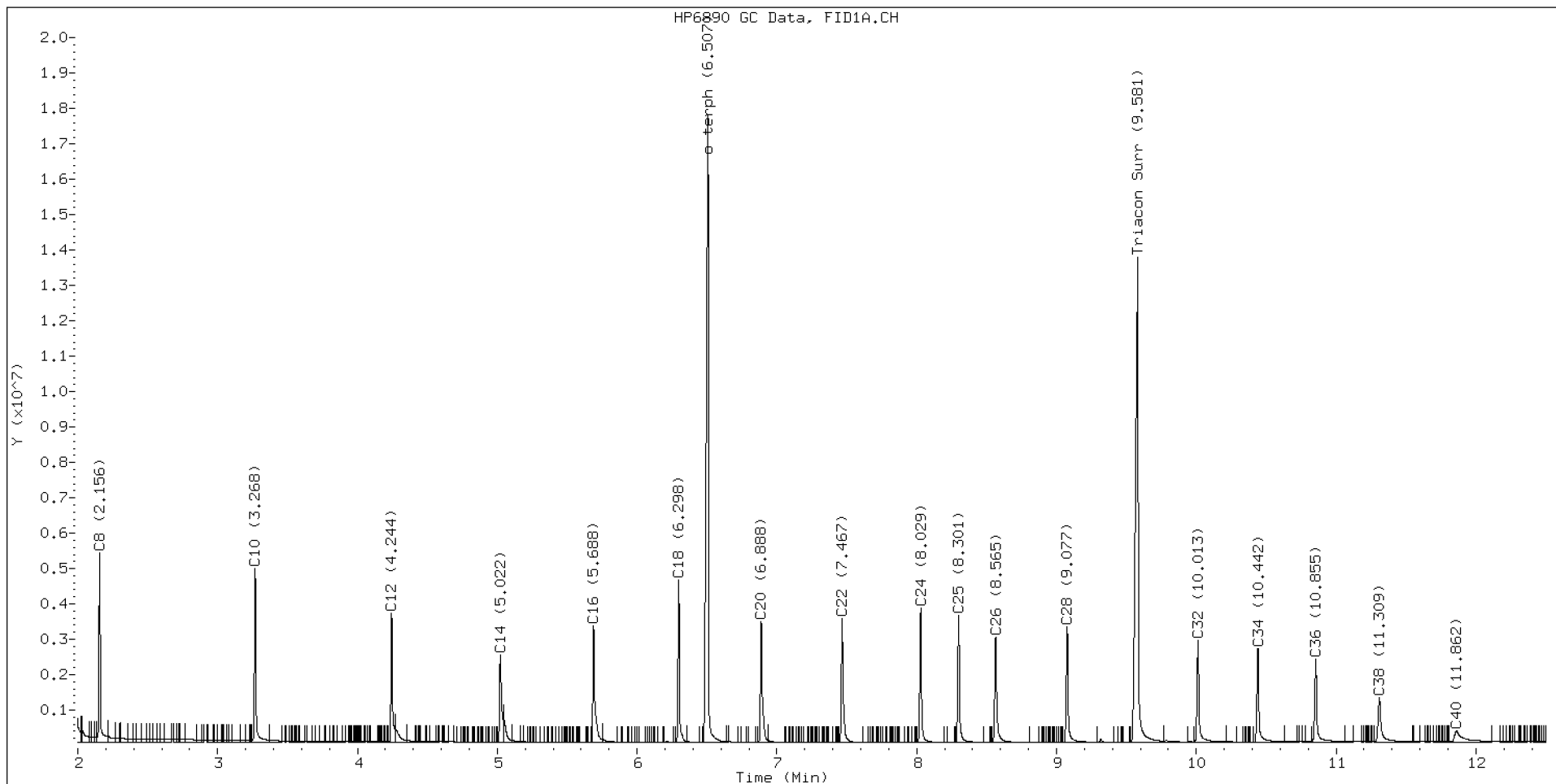
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.156	0.000	5355192	4028421	WATPHD	(C12-C24)	22818714	143.2
C10	3.268	0.000	4929332	4012342	WATPHM	(C24-C38)	23499770	232.3
C12	4.244	0.000	3648375	2898492	AK102	(C10-C25)	32299571	165.2
C14	5.022	0.000	2469047	2611753	AK103	(C25-C36)	20714599	283.0
C16	5.688	0.000	3293885	3376329	OR.DIES	(C10-C28)	42576768	217.2
C18	6.298	0.000	4585796	3403299				
C20	6.888	0.000	3419868	3390012	JET-A	(C10-C18)	21587777	128.6
C22	7.467	0.000	3501351	3461600				
C24	8.029	0.000	3816488	3373518				
C25	8.301	0.000	3598800	3438765				
C26	8.565	0.000	2983968	3399421				
C28	9.077	0.000	3266476	3362299				
C32	10.013	0.000	2880768	3301828				
C34	10.442	0.000	2669792	3096709				
Filter Peak	12.652	0.000	21186	7385	CREOSOT	(C12-C22)	19416290	470.8
C36	10.855	0.000	2366492	3017794				
C38	11.309	0.000	1282280	2537029				
C40	11.862	0.000	332084	1739109				
o-terph	6.507	0.000	17759087	19250772				
Triacon Surr	9.581	0.000	13722128	19528338	NAS DIES	(C10-C24)	32267307	165.3

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	19250772	94.0
Triacontane	19528338	131.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602,b\420F0204.D

Date : 02-JUN-2020 08:38

Client ID:

Sample Info: SIF0018-IBL2

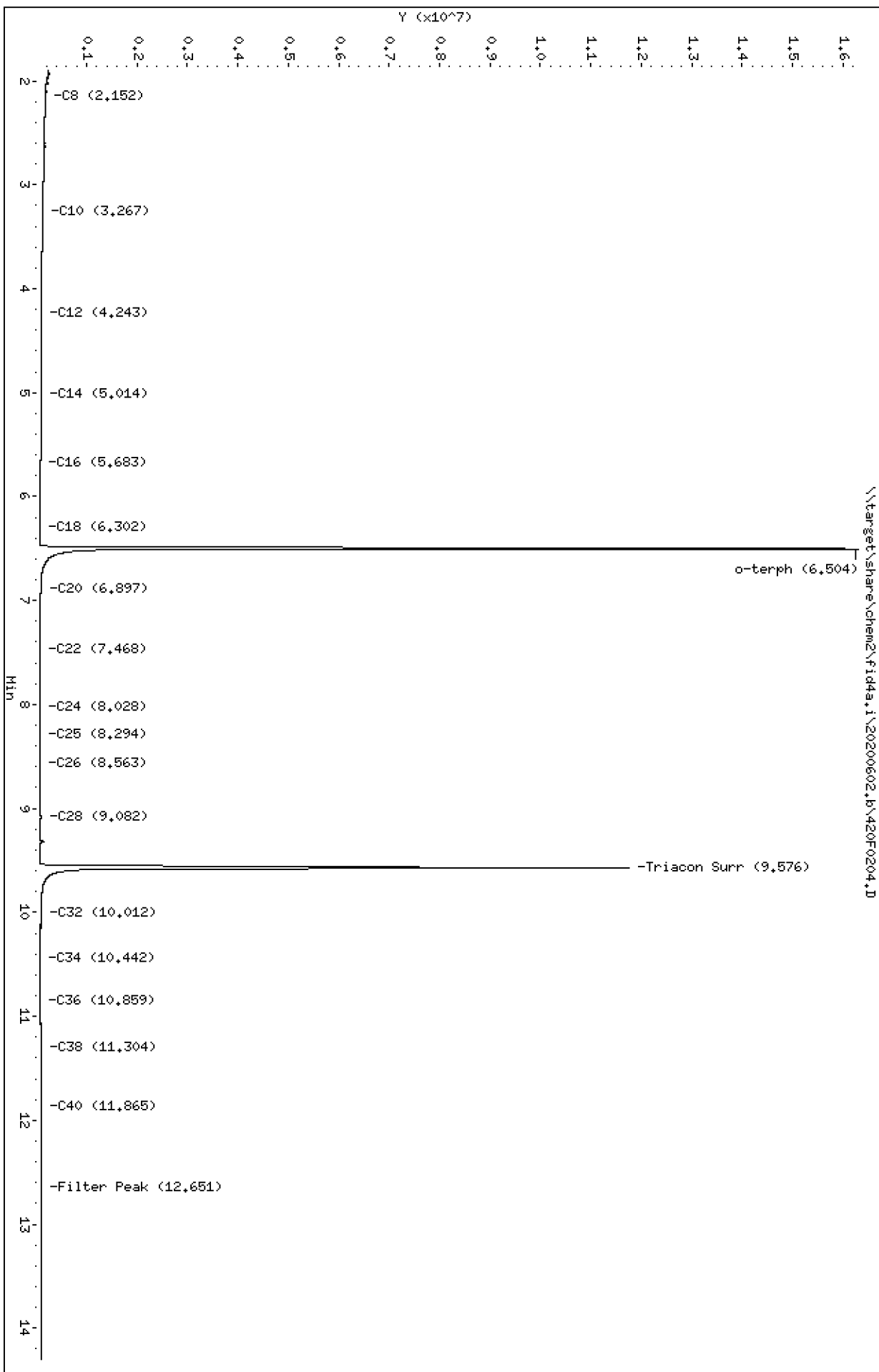
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0204.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-IBL2
Client ID:
Injection: 02-JUN-2020 08:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

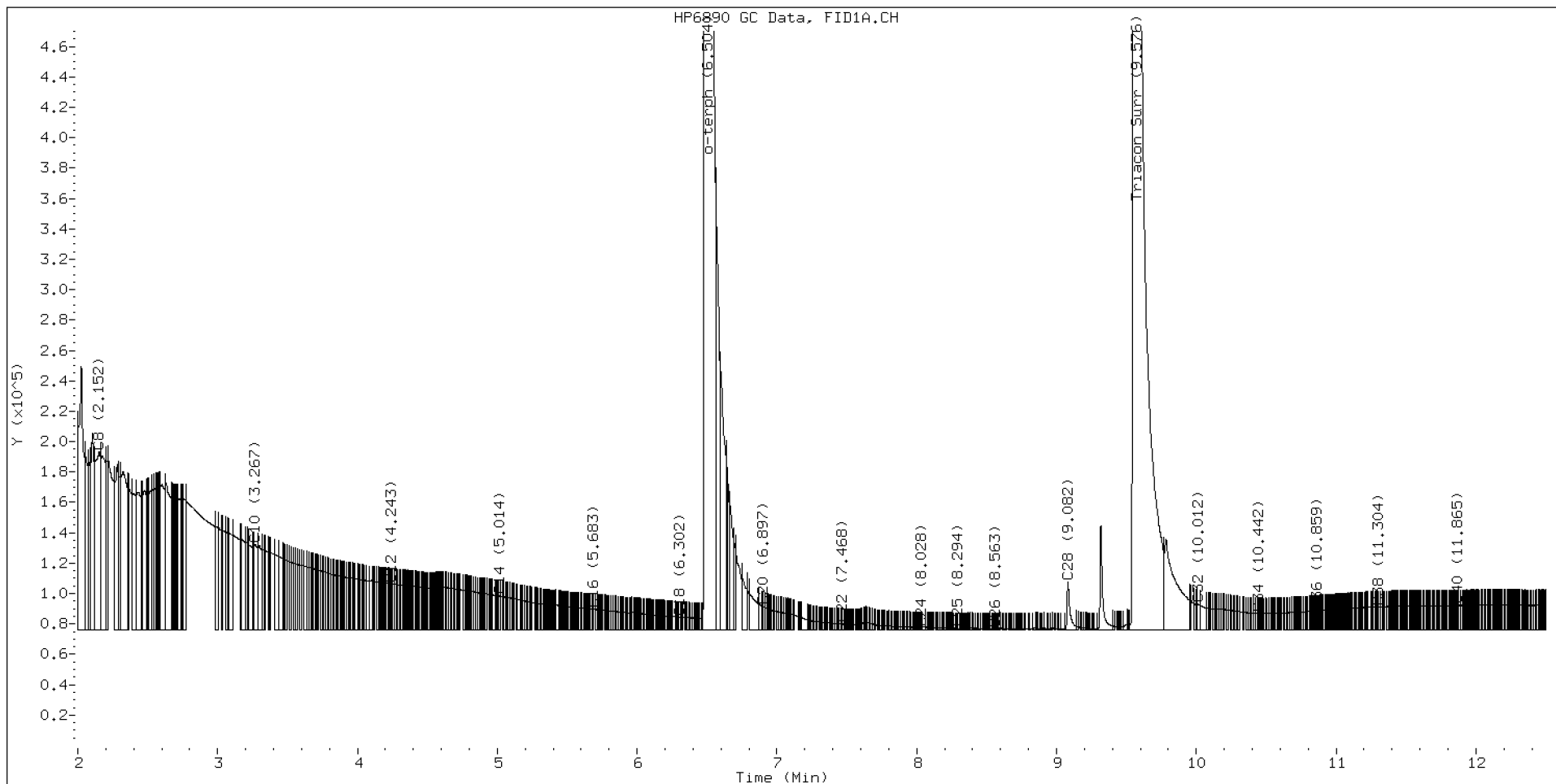
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.003	116720	322381	WATPHD	(C12-C24)	3533716	22.2
C10	3.267	-0.001	56124	109426	WATPHM	(C24-C38)	1474603	14.6
C12	4.243	-0.001	30150	13517	AK102	(C10-C25)	5497571	28.1
C14	5.014	-0.008	22108	20838	AK103	(C25-C36)	1111901	15.2
C16	5.683	-0.005	13417	7376	OR.DIES	(C10-C28)	5561088	28.4
C18	6.302	0.004	8282	6554				
C20	6.897	0.008	15268	9037	JET-A	(C10-C18)	3852356	22.9
C22	7.468	0.002	3677	2659				
C24	8.028	-0.001	1288	376				
C25	8.294	-0.007	805	727				
C26	8.563	-0.002	378	139				
C28	9.082	0.005	31186	44237				
C32	10.012	-0.001	16600	15536				
C34	10.442	-0.000	10597	4224				
Filter Peak	12.651	-0.001	16079	8841	CREOSOT	(C12-C22)	3469521	84.1
C36	10.859	0.004	12136	4837				
C38	11.304	-0.005	14999	9721				
C40	11.865	0.003	15845	9483				
o-terph	6.504	-0.003	16231603	17734069				
Triacon Surr	9.576	-0.005	11669958	15560412	NAS DIES	(C10-C24)	5488260	28.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	17734069	86.6
Triacontane	15560412	104.9

M Indicates the peak was manually integrated

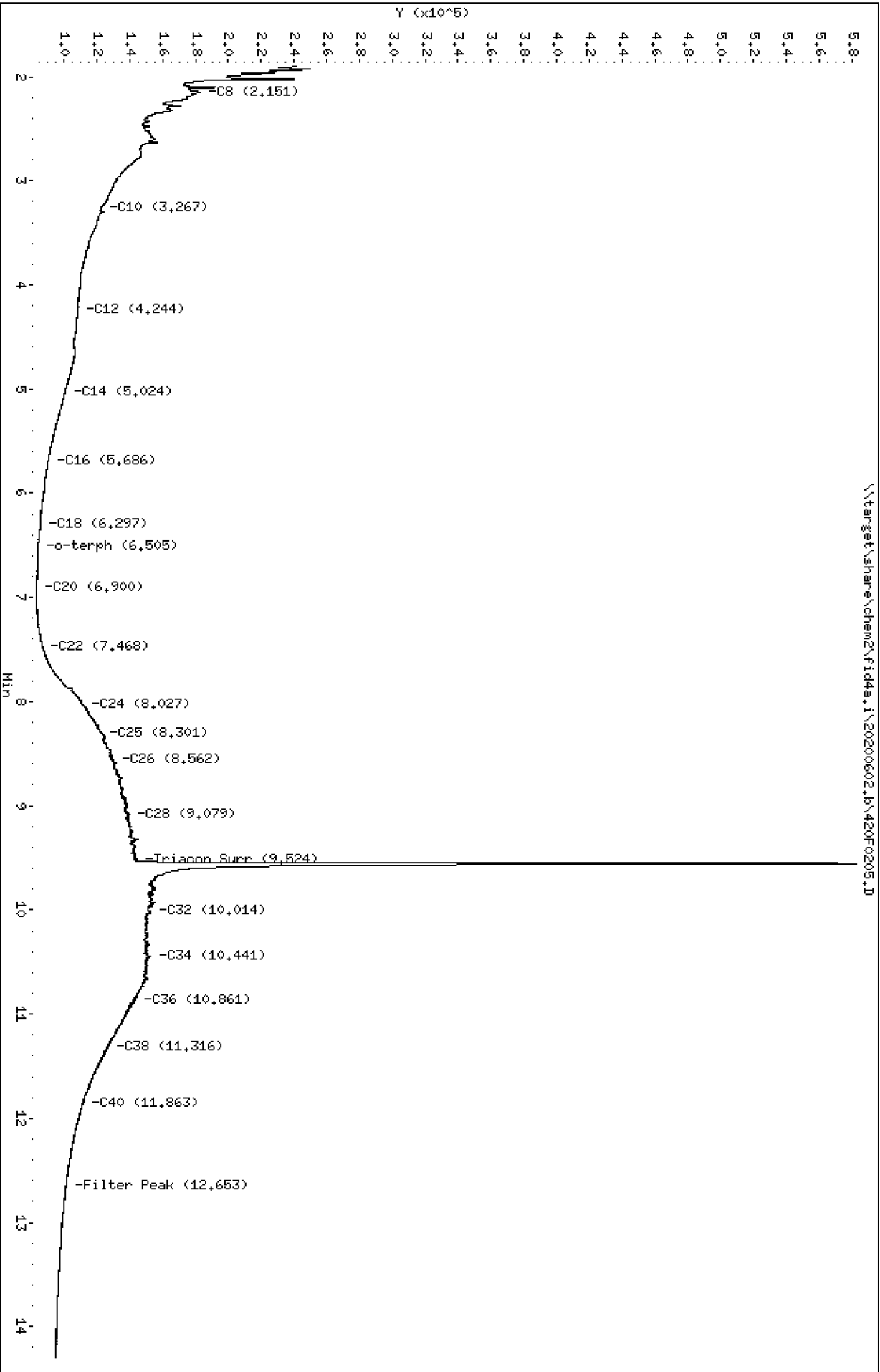
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0205.D
Date: 02-JUN-2020 08:58
Client ID:
Sample Info: SIF0018-CALL

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0205.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL1
Client ID:
Injection: 02-JUN-2020 08:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

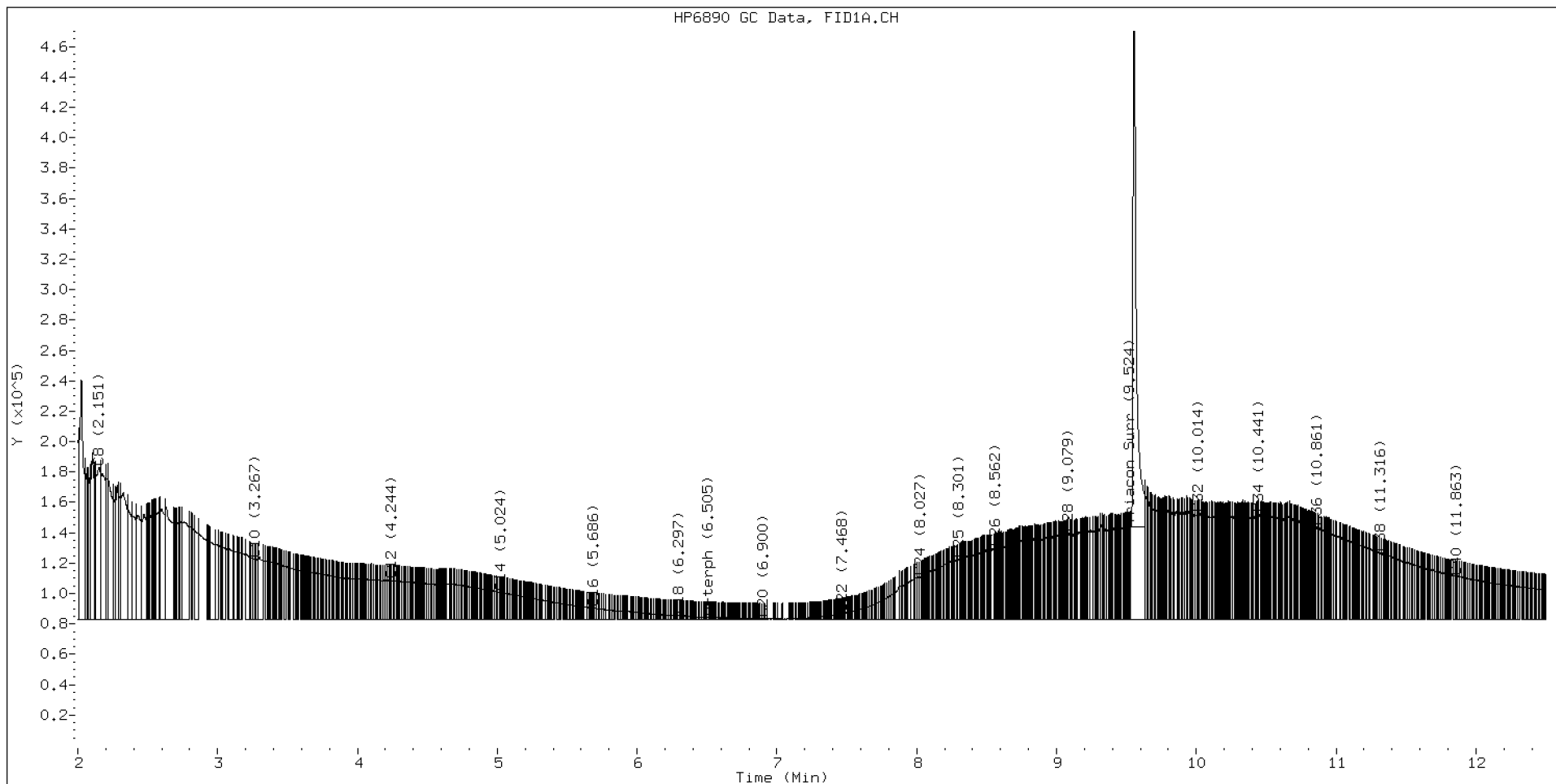
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	99980	217759	WATPHD	(C12-C24)	2058424	12.9
C10	3.267	-0.001	39589	29601	WATPHM	(C24-C38)	11047515	109.2
C12	4.244	-0.001	25508	17793	AK102	(C10-C25)	4072327	20.8
C14	5.024	0.003	17563	10459	AK103	(C25-C36)	9356465	127.8
C16	5.686	-0.002	7220	3247	OR.DIES	(C10-C28)	6554980	33.4
C18	6.297	-0.001	2600	2106				
C20	6.900	0.012	302	196	JET-A	(C10-C18)	3118295	18.6
C22	7.468	0.001	3759	1459				
C24	8.027	-0.002	28105	24801				
C25	8.301	0.000	39391	25449				
C26	8.562	-0.003	47032	11725				
C28	9.079	0.003	56481	28105				
C32	10.014	0.002	69879	38102				
C34	10.441	-0.001	69476	34247				
Filter Peak	12.653	0.001	18229	12666	CREOSOT	(C12-C22)	1520804	36.9
C36	10.861	0.006	60542	41919				
C38	11.316	0.007	43480	28015				
C40	11.863	0.001	28191	8434				
o-terph	6.505	-0.001	1238	750				
Triacon Surr	9.554	-0.026	438731	632528	NAS DIES	(C10-C24)	3725496	19.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	750	0.0
Triacontane	632528	4.3 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020

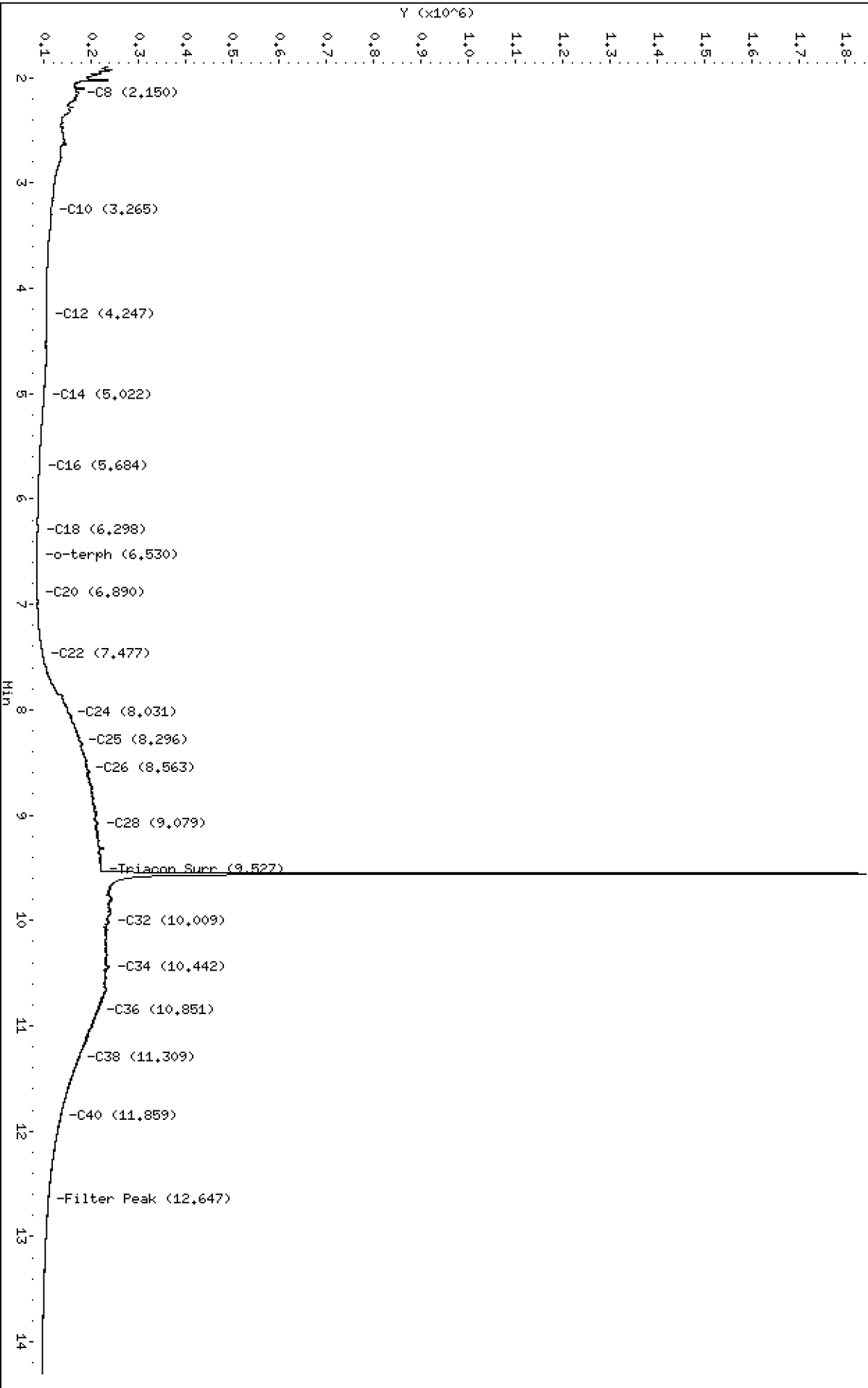


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Date : 02-JUN-2020 09:17
Client ID:
Sample Info: SIF0018-CAL2

Column phase: RTX-1

\\target\share\chem2\fid4a,1\20200602_b\420F0206.D

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0206.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL2
Client ID:
Injection: 02-JUN-2020 09:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

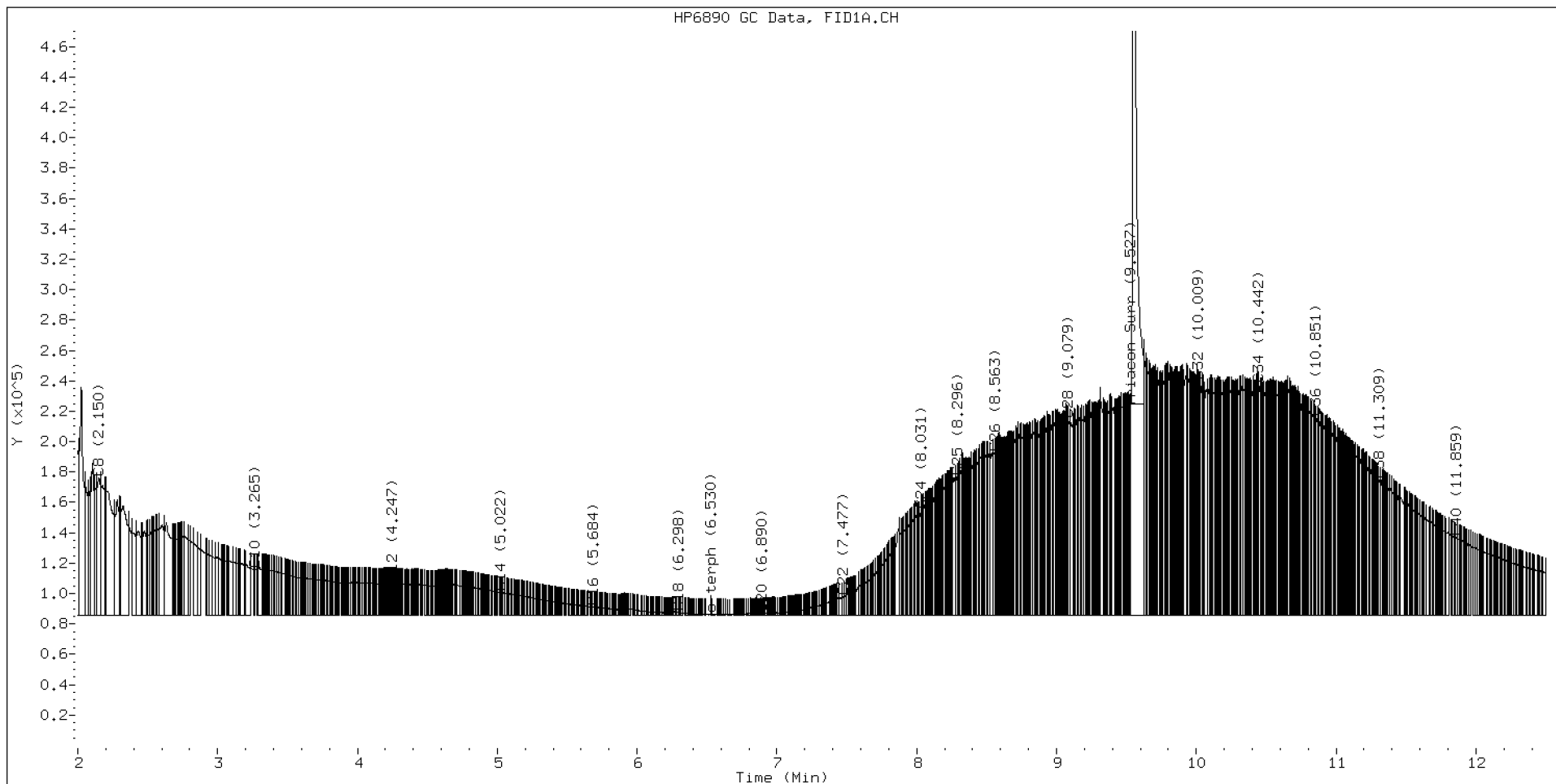
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	89858	185422	WATPHD	(C12-C24)	2712070	17.0
C10	3.265	-0.003	30146	13534	WATPHM	(C24-C38)	24525710	242.4
C12	4.247	0.002	20913	5217	AK102	(C10-C25)	4830477	24.7
C14	5.022	0.000	14927	5202	AK103	(C25-C36)	21012310	287.0
C16	5.684	-0.004	5316	3160	OR.DIES	(C10-C28)	10587317	54.0
C18	6.298	-0.001	1804	867				
C20	6.890	0.002	868	325	JET-A	(C10-C18)	2431354	14.5
C22	7.477	0.010	11963	10299				
C24	8.031	0.002	68912	56553				
C25	8.296	-0.005	90908	49681				
C26	8.563	-0.002	106529	37089				
C28	9.079	0.002	128296	51107				
C32	10.009	-0.003	153736	84024				
C34	10.442	0.000	152153	67959				
Filter Peak	12.647	-0.005	24724	15926	CREOSOT	(C12-C22)	1339051	32.5
C36	10.851	-0.004	129949	77218				
C38	11.309	0.000	88878	57220				
C40	11.859	-0.002	51003	42869				
o-terph	6.530	0.023	286	110				
Triacon Surr	9.553	-0.027	1618248	1548362	NAS DIES	(C10-C24)	4003518	20.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	110	0.0
Triacontane	1548362	10.4 M

M Indicates the peak was manually integrated

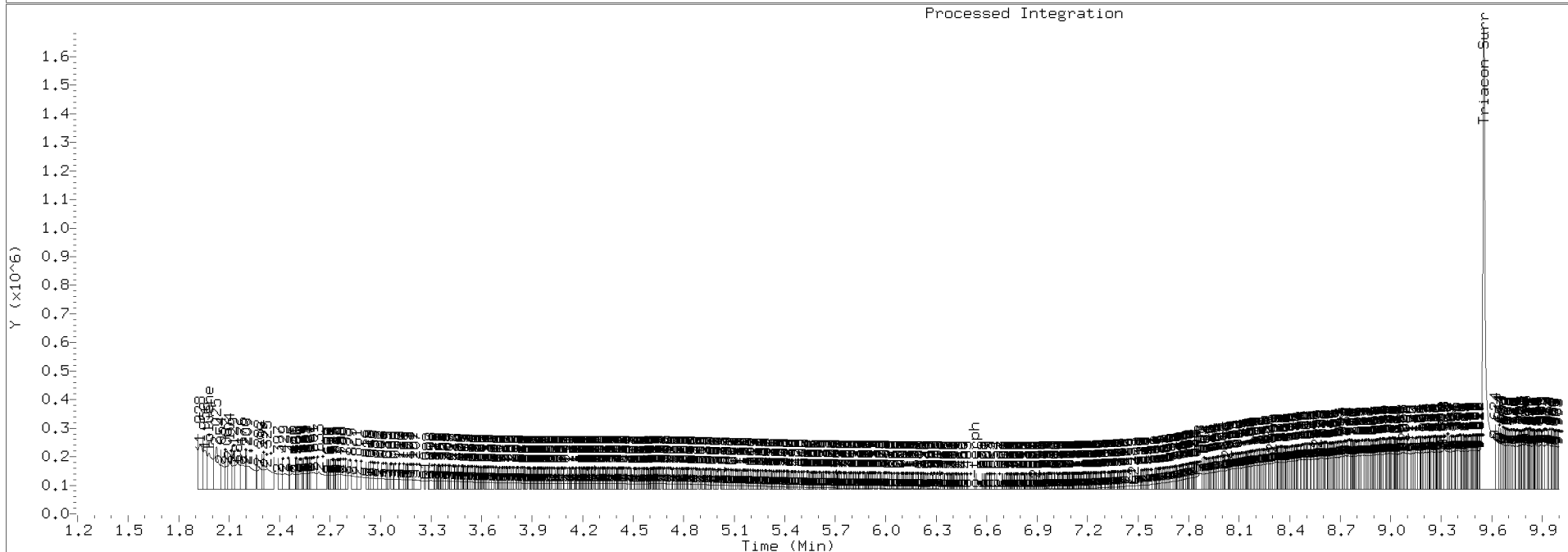
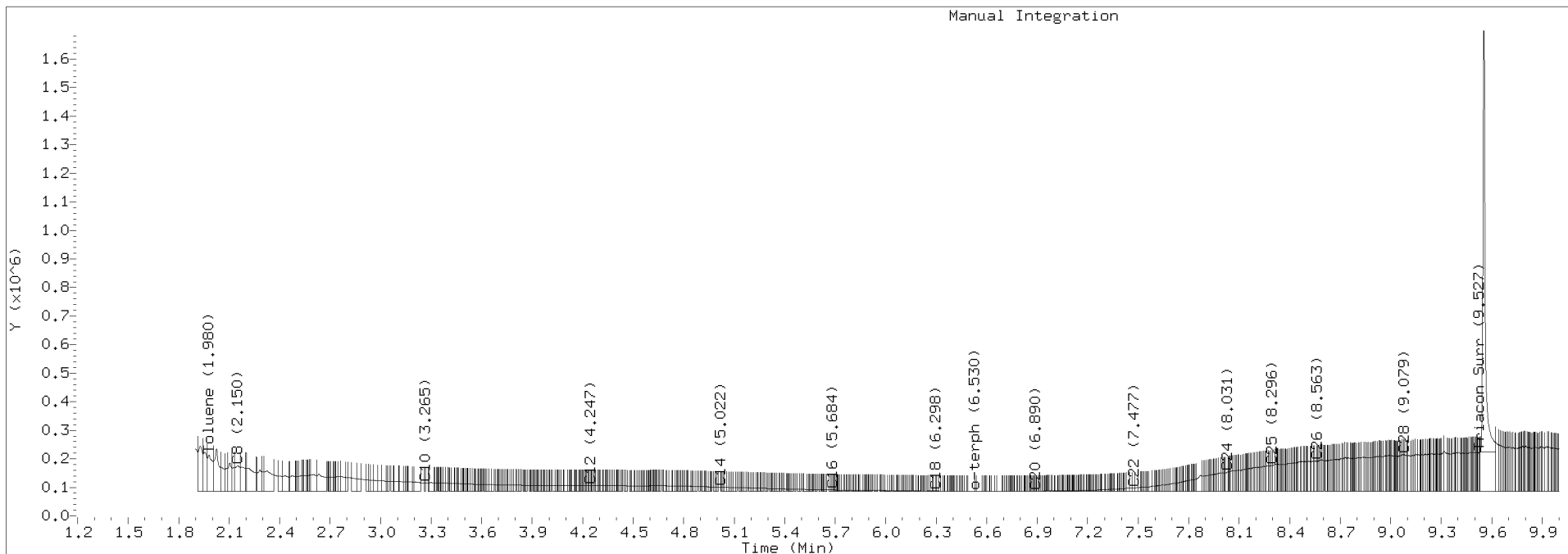
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0206.D Injection: 02-JUN-2020 09:17

Lab ID:SIF0018-CAL2



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0207.D

Date : 02-JUN-2020 09:37

Client ID:

Sample Info: SIF0018-CAL3

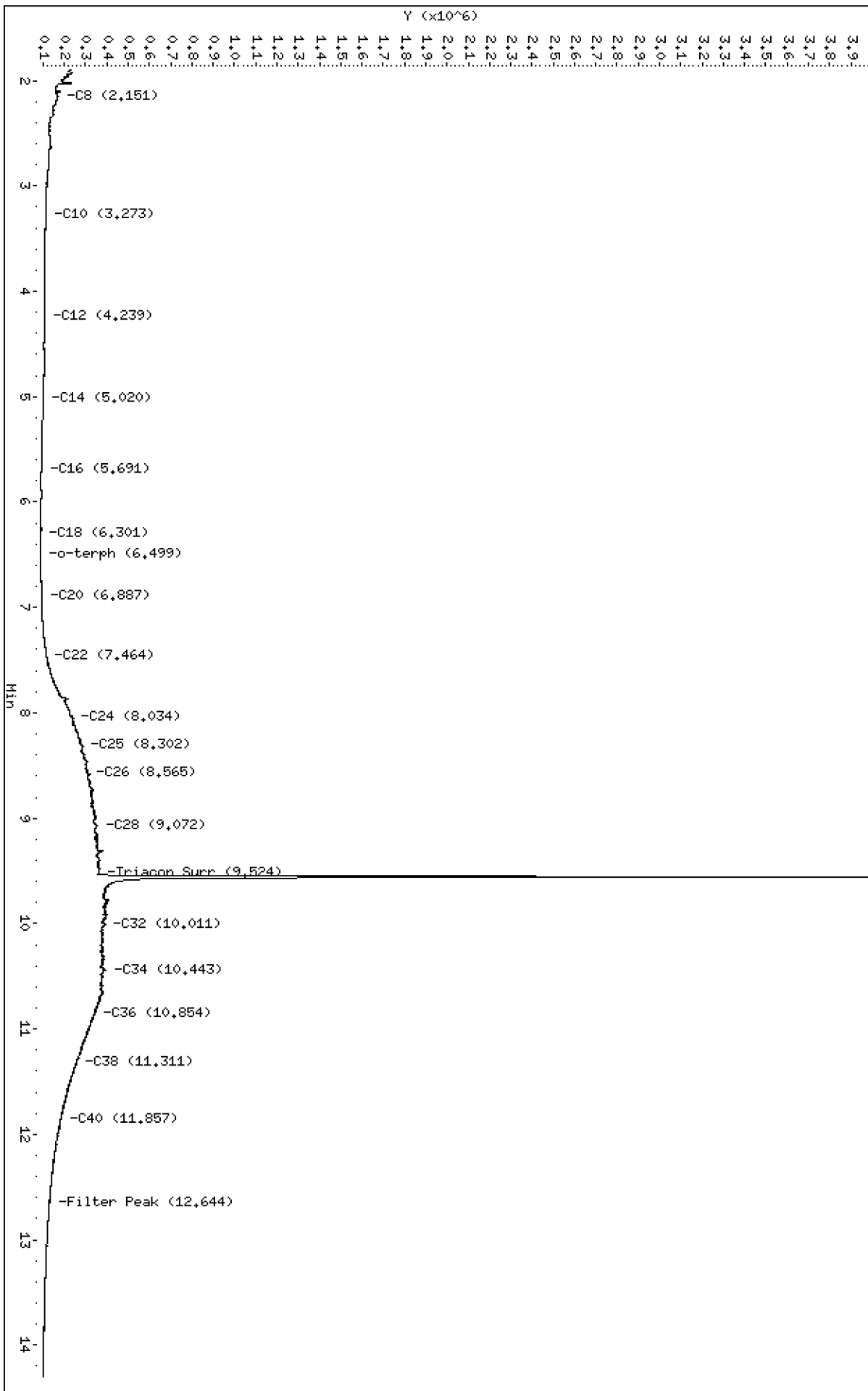
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0207.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0207.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL3
Client ID:
Injection: 02-JUN-2020 09:37
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

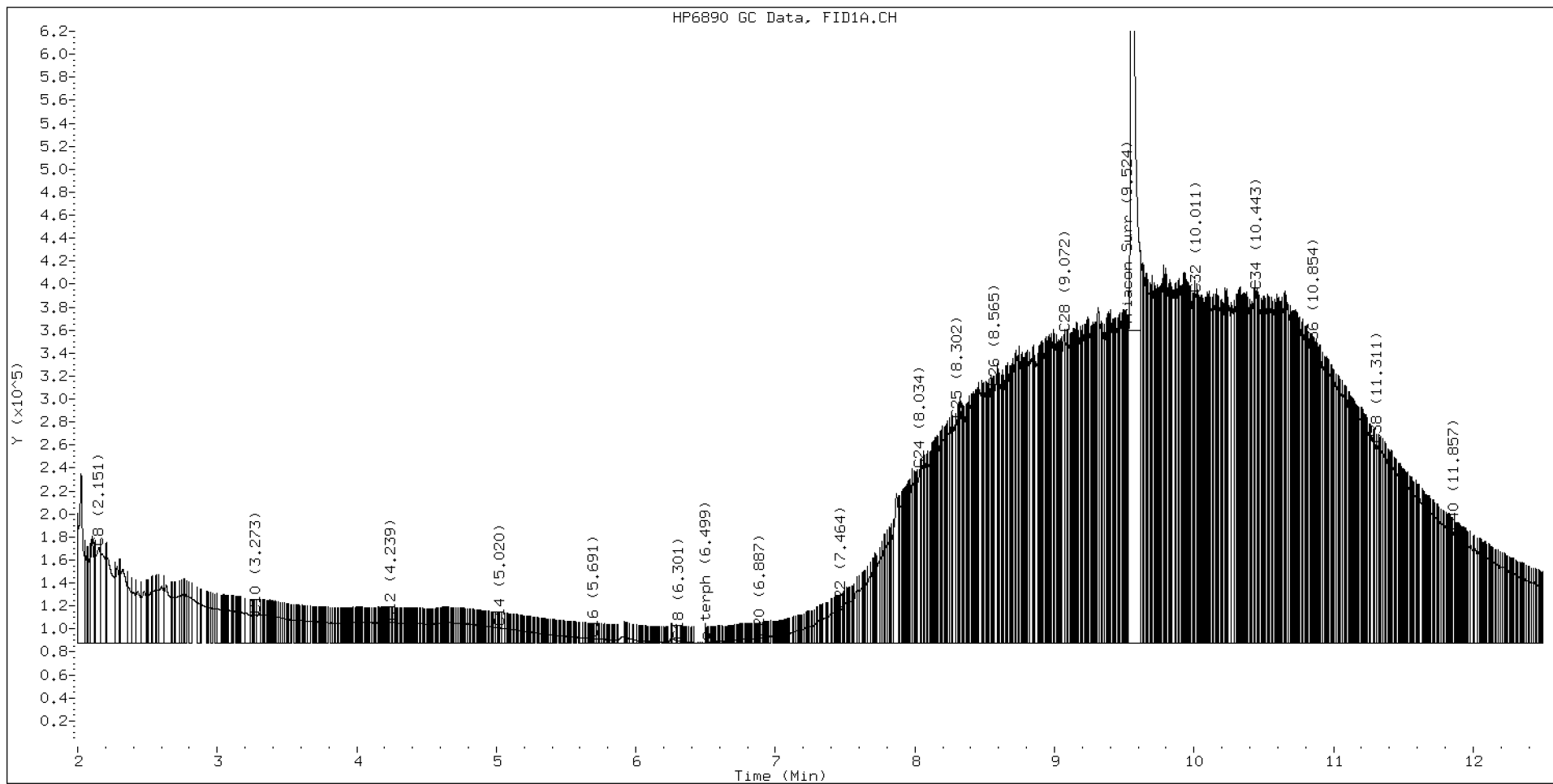
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.151	-0.005	83340	181737	WATPHD	(C12-C24)	4669475	29.3
C10	3.273	0.004	24124	29803	WATPHM	(C24-C38)	49486995	489.2
C12	4.239	-0.005	17851	9766	AK102	(C10-C25)	7430681	38.0
C14	5.020	-0.001	13143	9087	AK103	(C25-C36)	42295515	577.8
C16	5.691	0.003	3577	1419	OR.DIES	(C10-C28)	19434570	99.2
C18	6.301	0.003	1747	1733				
C20	6.887	-0.001	3928	772	JET-A	(C10-C18)	2089833	12.4
C22	7.464	-0.003	28742	14145				
C24	8.034	0.005	150683	195060				
C25	8.302	0.001	193725	142733				
C26	8.565	0.000	222104	154233				
C28	9.072	-0.005	269216	379539				
C32	10.011	-0.001	303243	166080				
C34	10.443	0.001	305814	210777				
Filter Peak	12.644	-0.008	43077	59185	CREOSOT	(C12-C22)	1595428	38.7
C36	10.854	-0.001	253799	113868				
C38	11.311	0.002	172045	186385				
C40	11.857	-0.005	96077	71008				
o-terph	6.499	-0.008	250	102				
Triacon Surr	9.559	-0.022	3627992	3323417	NAS DIES	(C10-C24)	5759449	29.5

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	102	0.0
Triacontane	3323417	22.4 M

M Indicates the peak was manually integrated

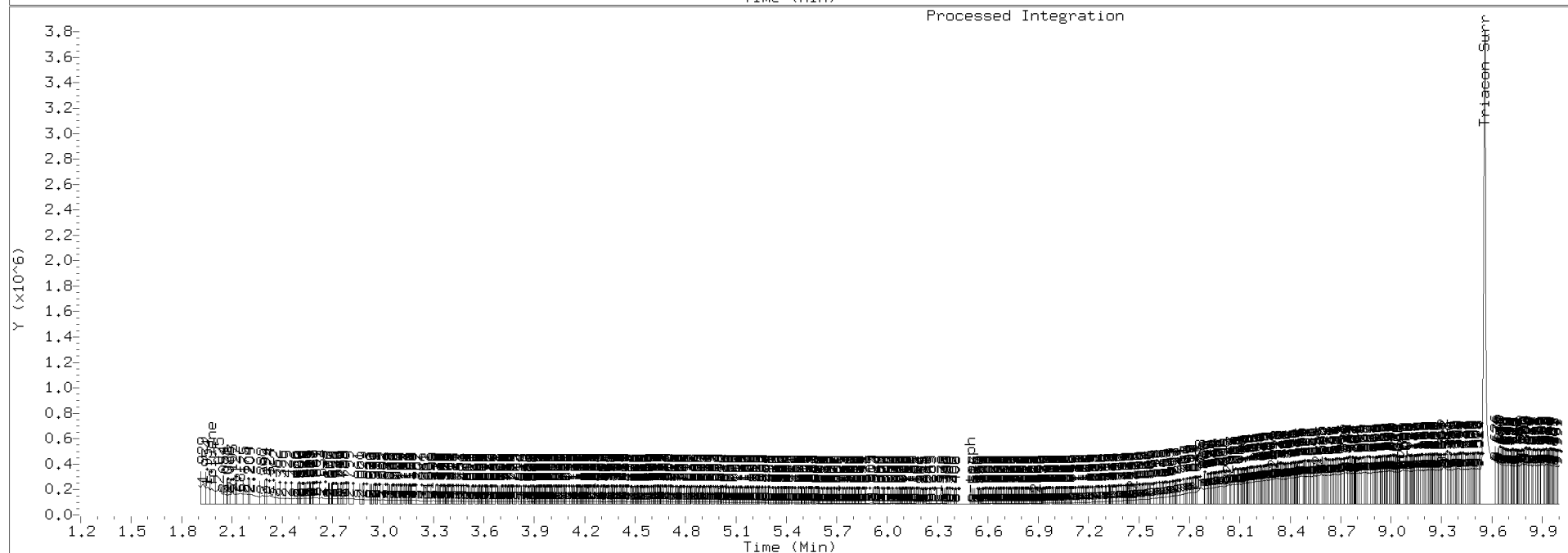
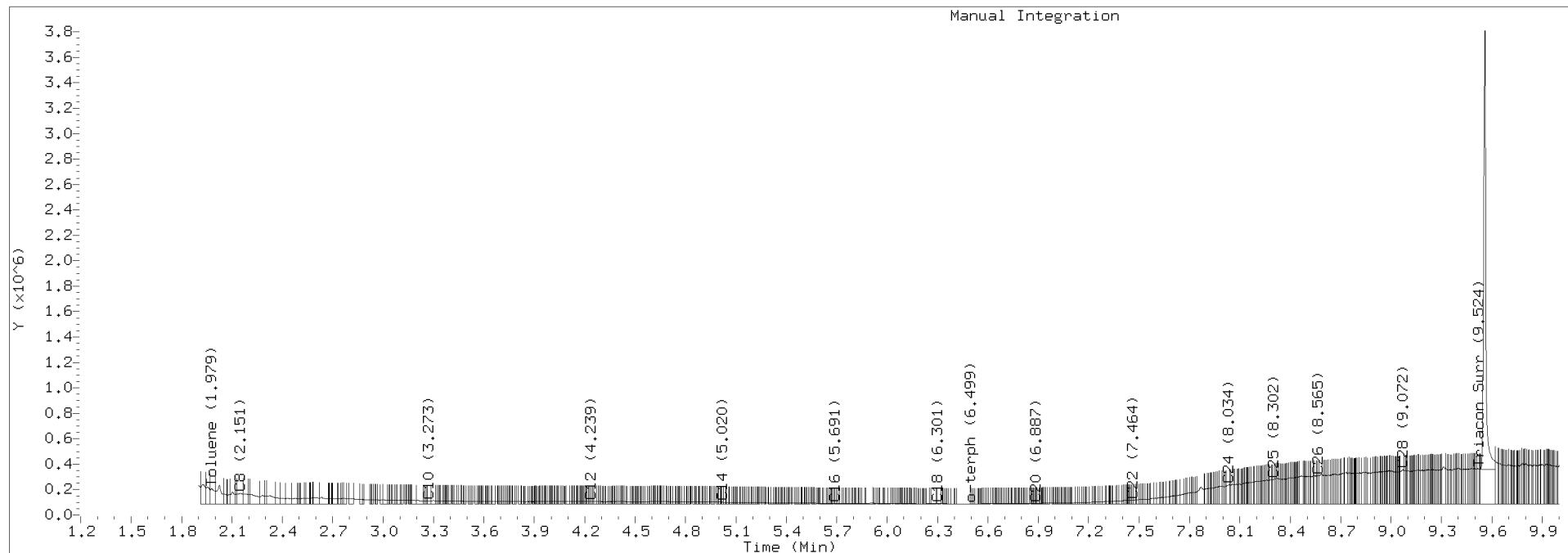
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0207.D Injection: 02-JUN-2020 09:37

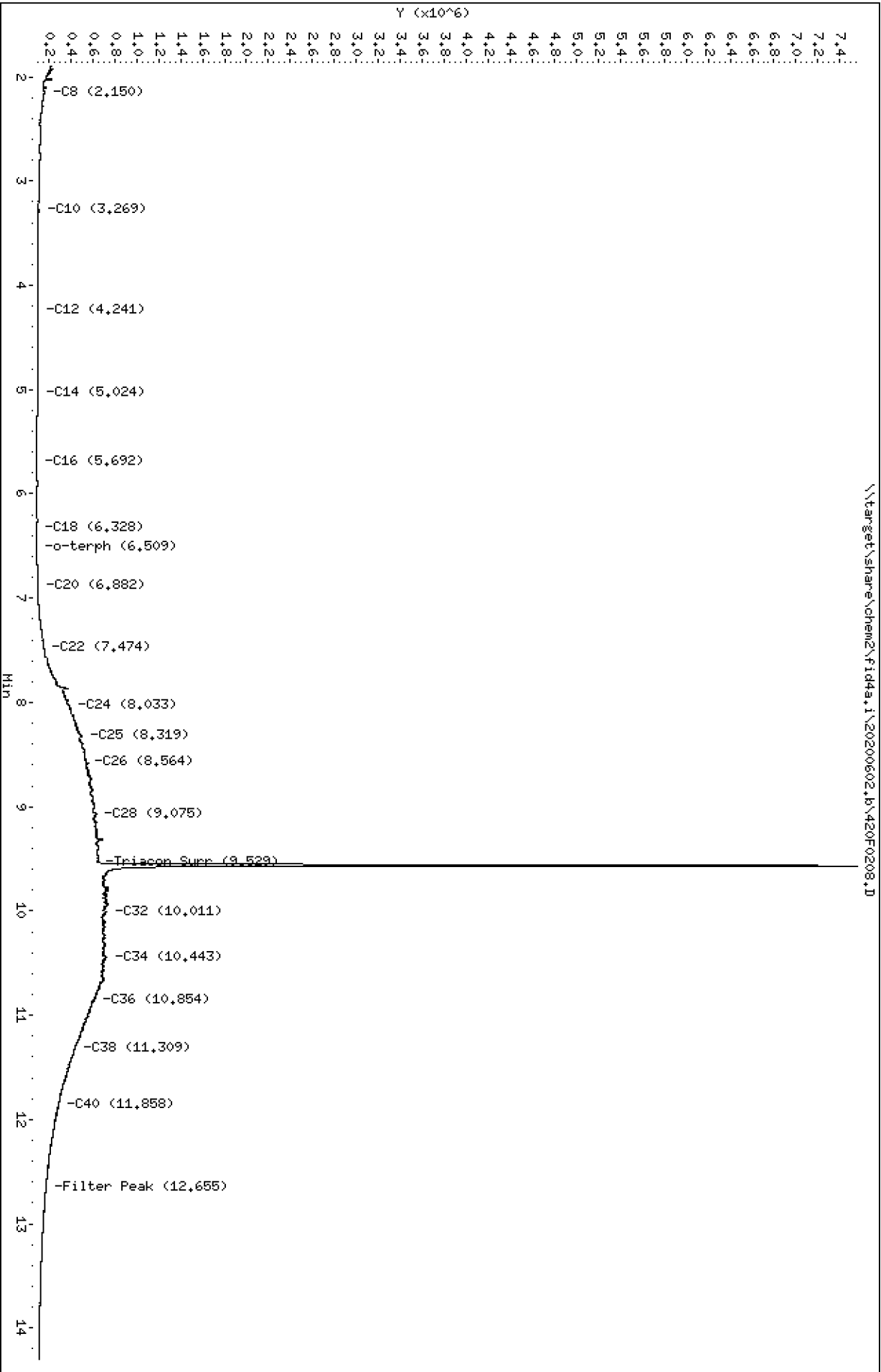
Lab ID:SIF0018-CAL3



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0208.D
Date : 02-JUN-2020 09:56
Client ID:
Sample Info: SIF0018-CAL4

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0208.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL4
Client ID:
Injection: 02-JUN-2020 09:56
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

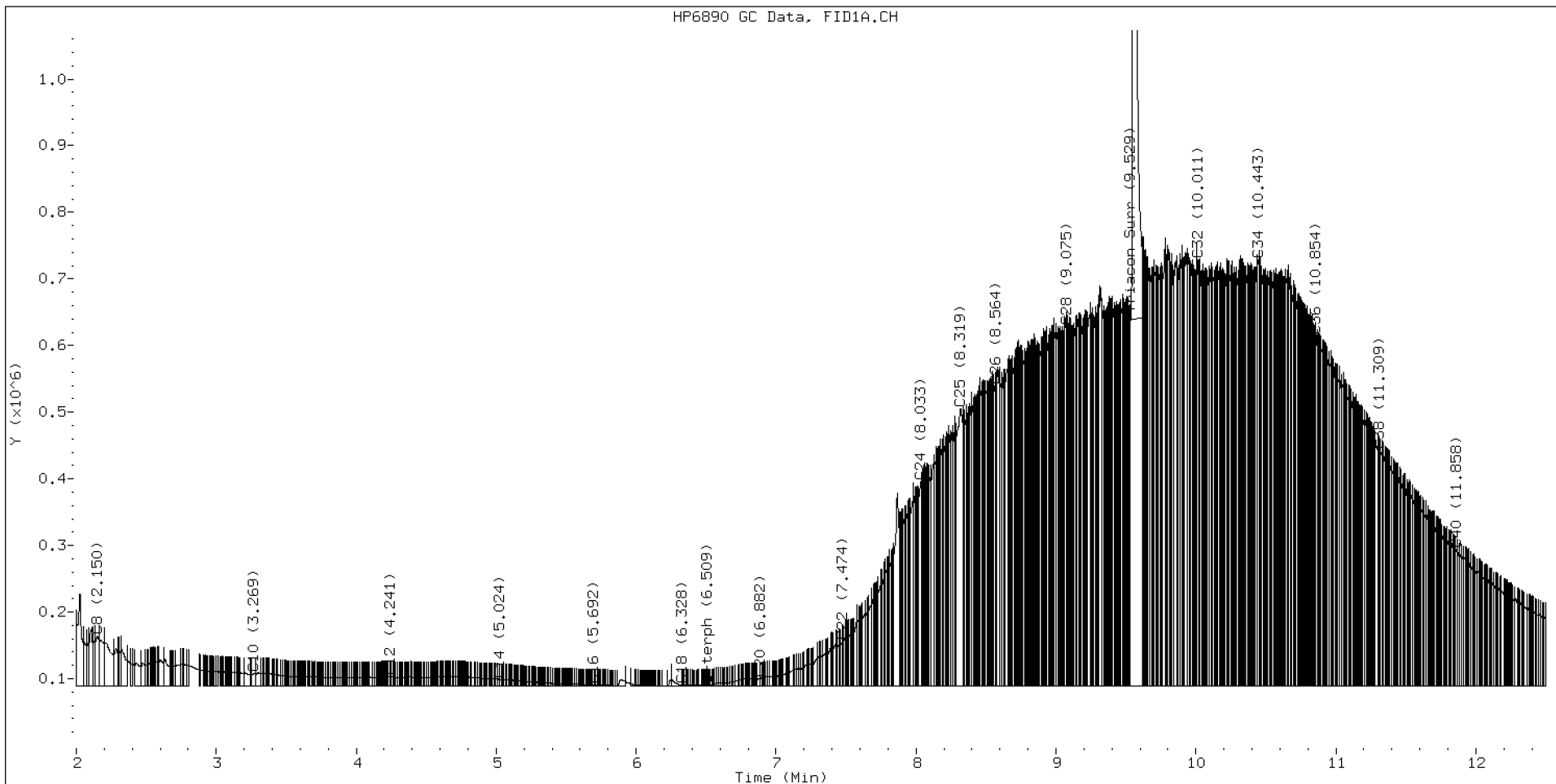
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.150	-0.006	74771	134338	WATPHD	(C12-C24)	8555448	53.7
C10	3.269	0.001	18936	30862	WATPHM	(C24-C38)	101521093	1003.5
C12	4.241	-0.003	13823	8198	AK102	(C10-C25)	12841862	65.7
C14	5.024	0.002	10299	9083	AK103	(C25-C36)	86804393	1185.7
C16	5.692	0.004	1790	930	OR.DIES	(C10-C28)	37125765	189.4
C18	6.328	0.029	1582	935				
C20	6.882	-0.006	11147	11817	JET-A	(C10-C18)	1615268	9.6
C22	7.474	0.008	67672	77092				
C24	8.033	0.004	306185	439125				
C25	8.319	0.018	416111	1127058				
C26	8.564	-0.001	451269	313667				
C28	9.075	-0.001	539909	295930				
C32	10.011	-0.001	639854	440607				
C34	10.443	0.001	639844	540147				
Filter Peak	12.655	0.004	86624	68681	CREOSOT	(C12-C22)	2251661	54.6
C36	10.854	-0.001	524868	130805				
C38	11.309	-0.001	353422	105615				
C40	11.858	-0.004	204852	161643				
o-terph	6.509	0.002	1937	664				
Triacon Surr	9.567	-0.014	6918042	6925867	NAS DIES	(C10-C24)	9387862	48.1

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	664	0.0
Triacontane	6925867	46.7 M

M Indicates the peak was manually integrated

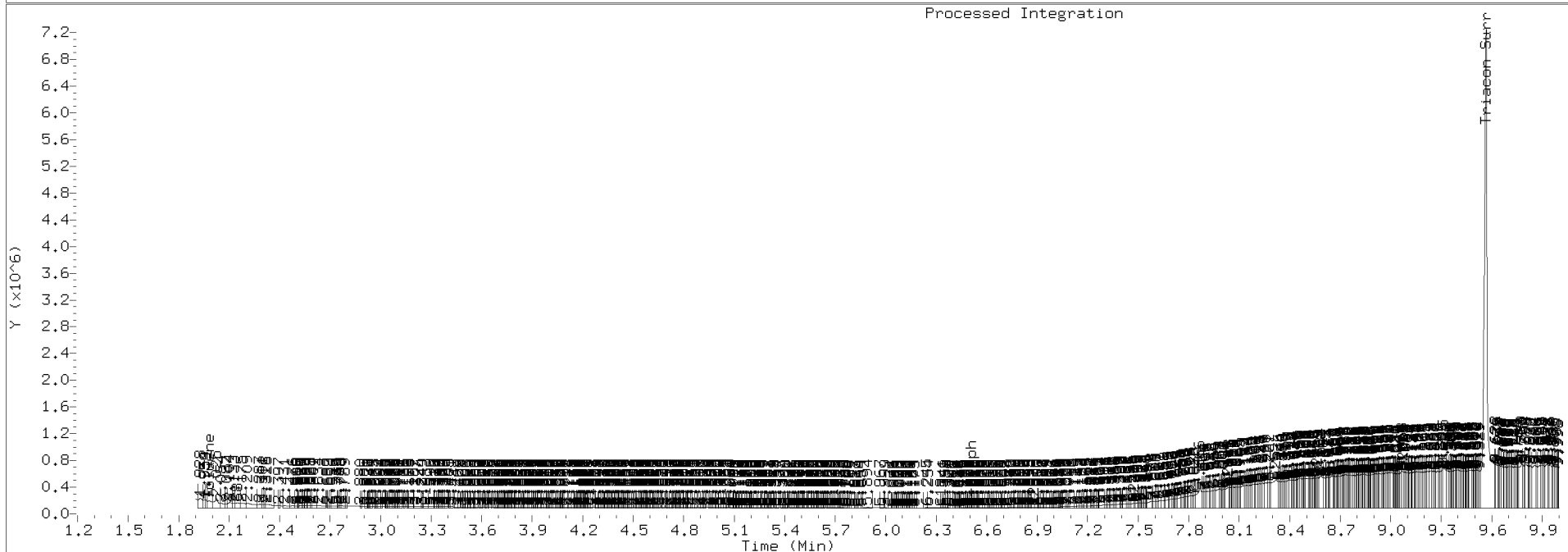
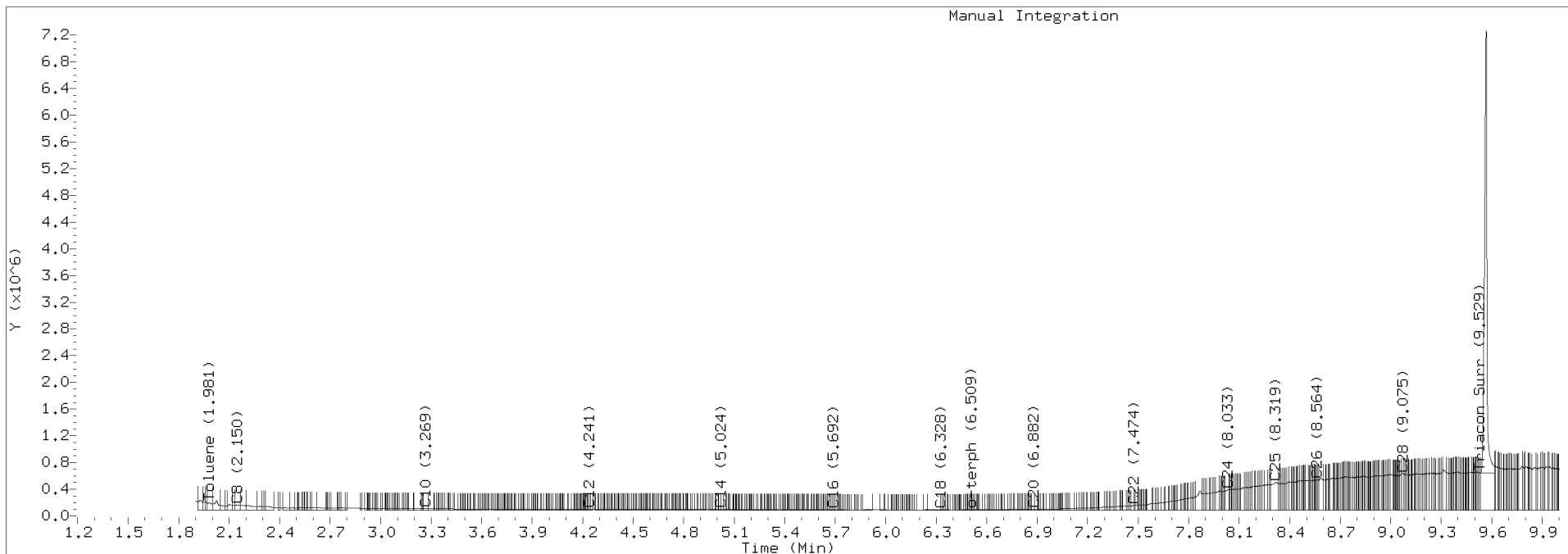
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0208.D Injection: 02-JUN-2020 09:56

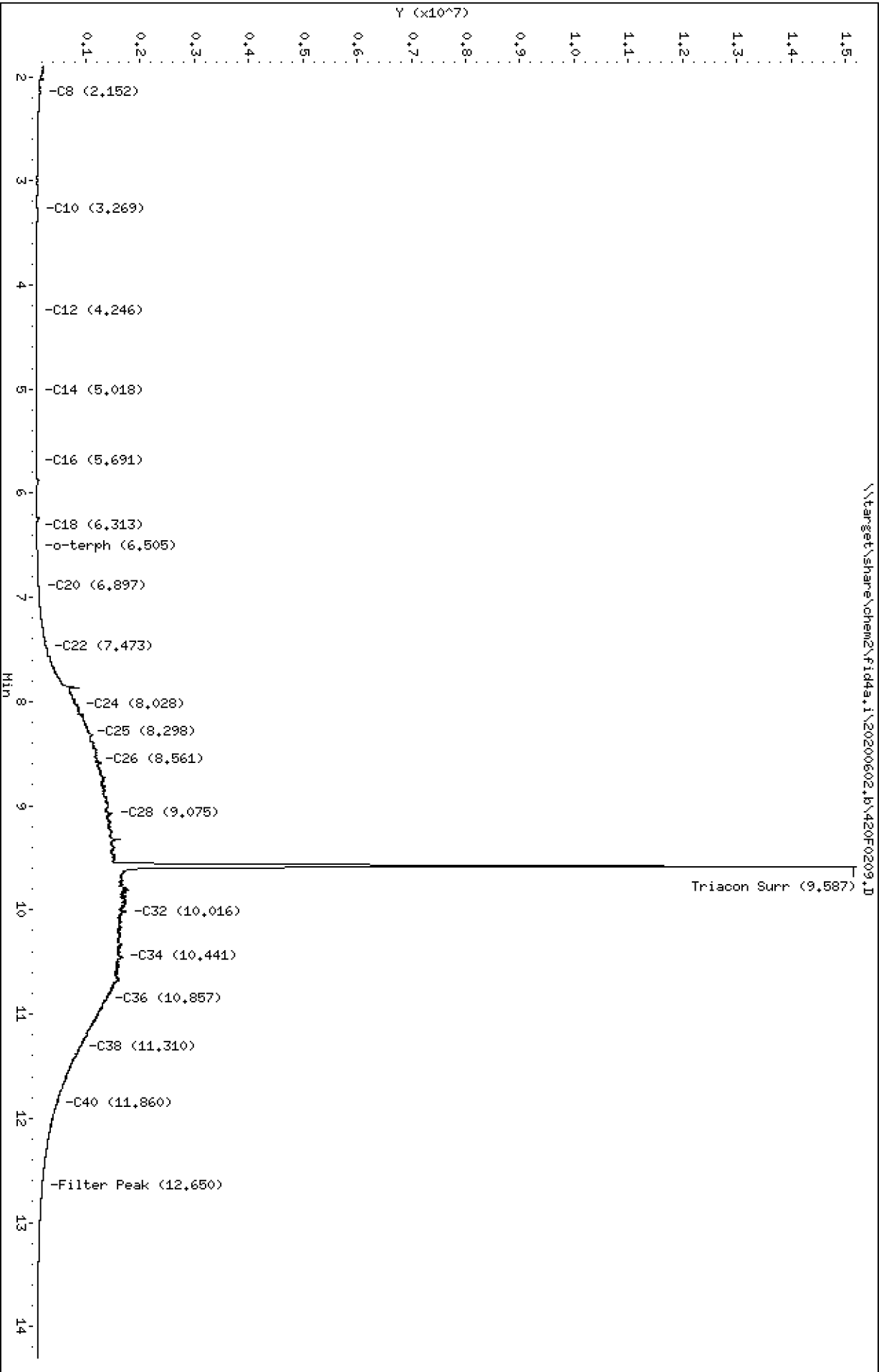
Lab ID:SIF0018-CAL4



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0209.D
Date: 02-JUN-2020 10:16
Client ID:
Sample Info: SIF0018-CAL5

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0209.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL5
Client ID:
Injection: 02-JUN-2020 10:16
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

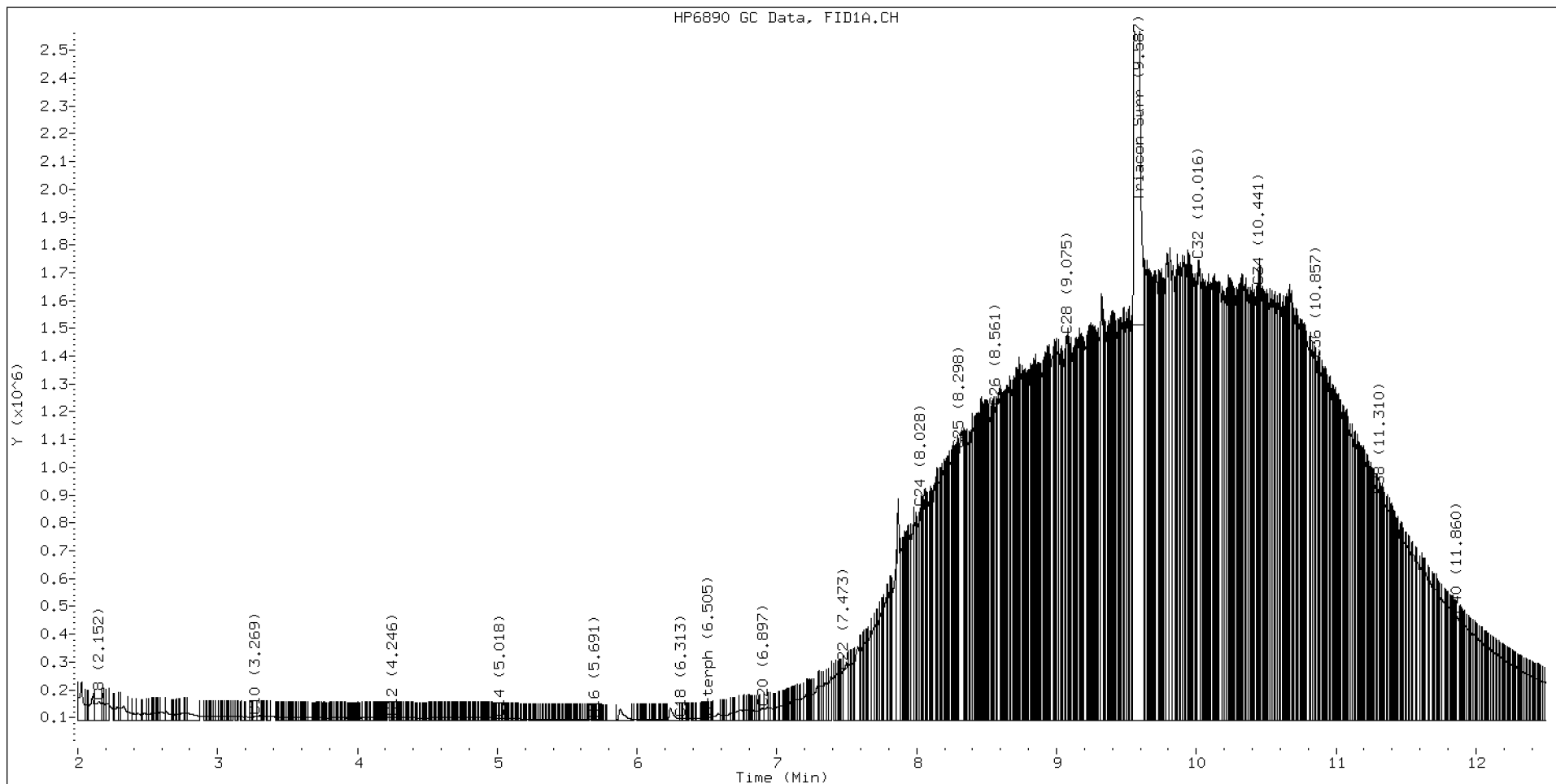
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	67731	187221	WATPHD	(C12-C24)	20822485	130.7
C10	3.269	0.000	15304	22992	WATPHM	(C24-C38)	252817754	2499.0
C12	4.246	0.002	8746	2596	AK102	(C10-C25)	30167989	154.3
C14	5.018	-0.004	7386	6763	AK103	(C25-C36)	216864710	2962.4
C16	5.691	0.003	1016	400	OR.DIES	(C10-C28)	91347766	466.1
C18	6.313	0.015	5888	3404				
C20	6.897	0.009	42706	72168	JET-A	(C10-C18)	1226841	7.3
C22	7.473	0.006	175100	153872				
C24	8.028	-0.001	763007	660412				
C25	8.298	-0.003	971912	386849				
C26	8.561	-0.004	1127303	613889				
C28	9.075	-0.002	1382437	951882				
C32	10.016	0.004	1653735	2165722				
C34	10.441	-0.000	1559614	615531				
Filter Peak	12.650	-0.001	105709	42002	CREOSOT	(C12-C22)	4802696	116.5
C36	10.857	0.002	1298073	1024006				
C38	11.310	0.001	808749	281747				
C40	11.860	-0.001	376098	494366				
o-terph	6.505	-0.001	10128	3504				
Triacon Surr	9.587	0.006	13686611	17883640	NAS DIES	(C10-C24)	21349343	109.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	3504	0.0
Triacontane	17883640	120.5 M

M Indicates the peak was manually integrated

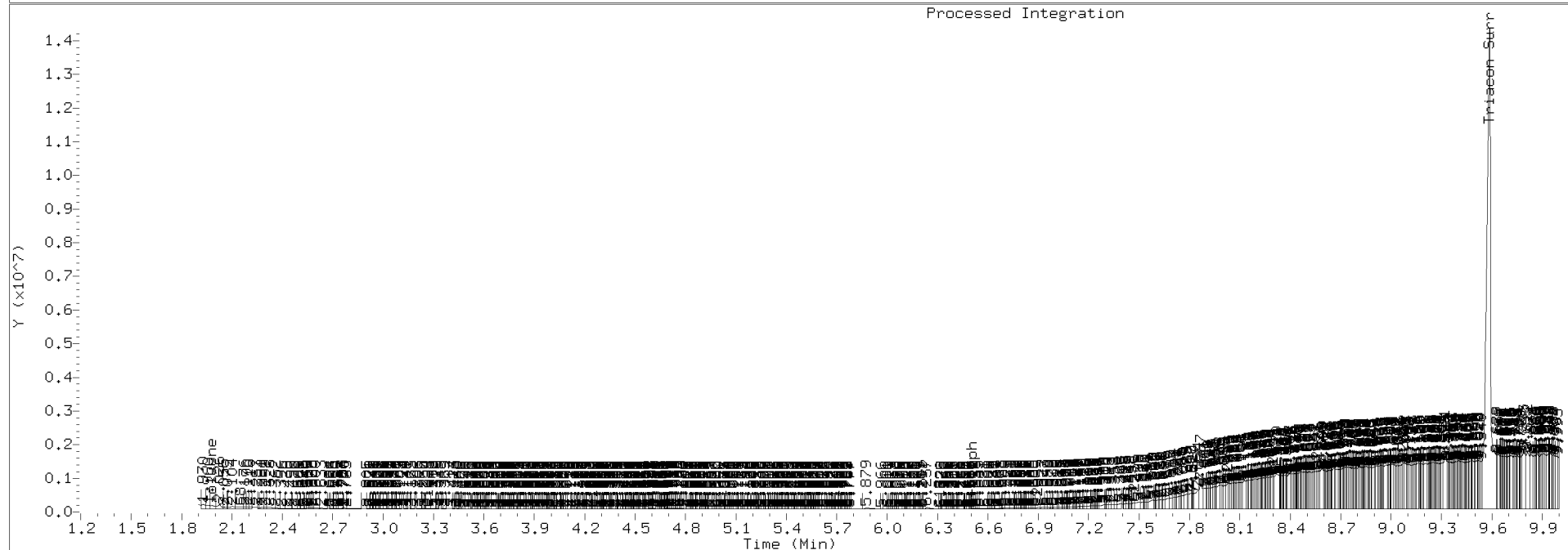
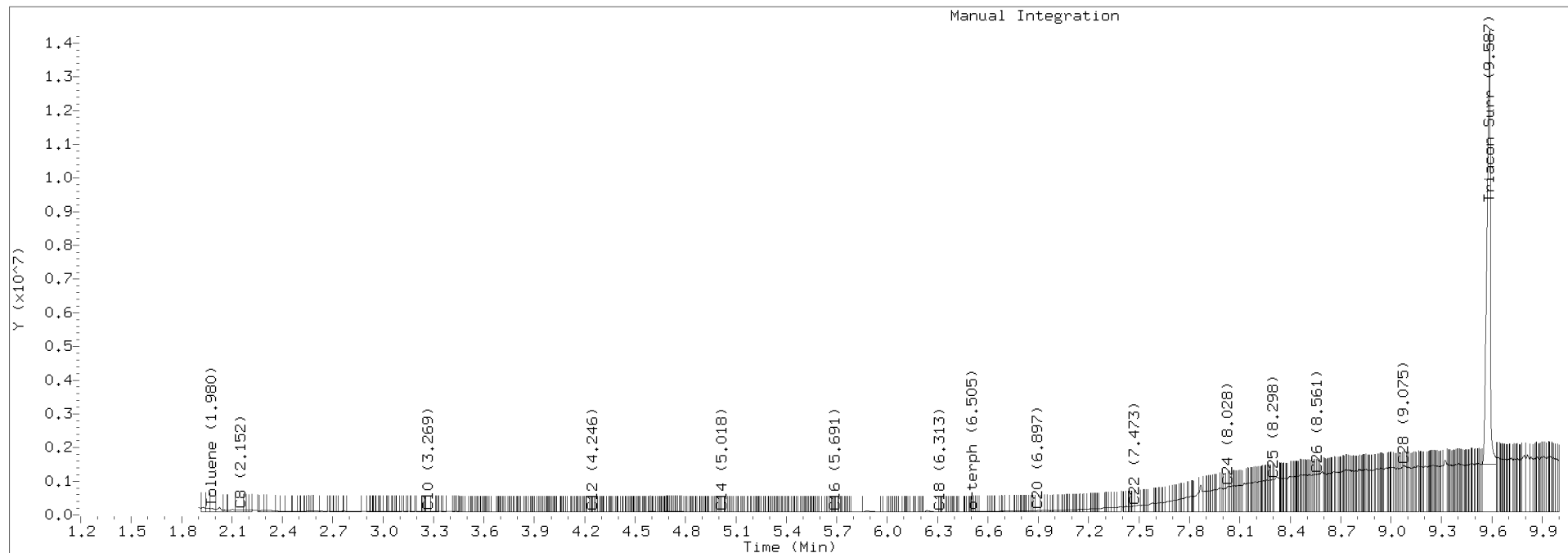
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0209.D Injection: 02-JUN-2020 10:16

Lab ID:SIF0018-CAL5



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0210.D

Date : 02-JUN-2020 10:36

Client ID:

Sample Info: SIF0018-CAL6

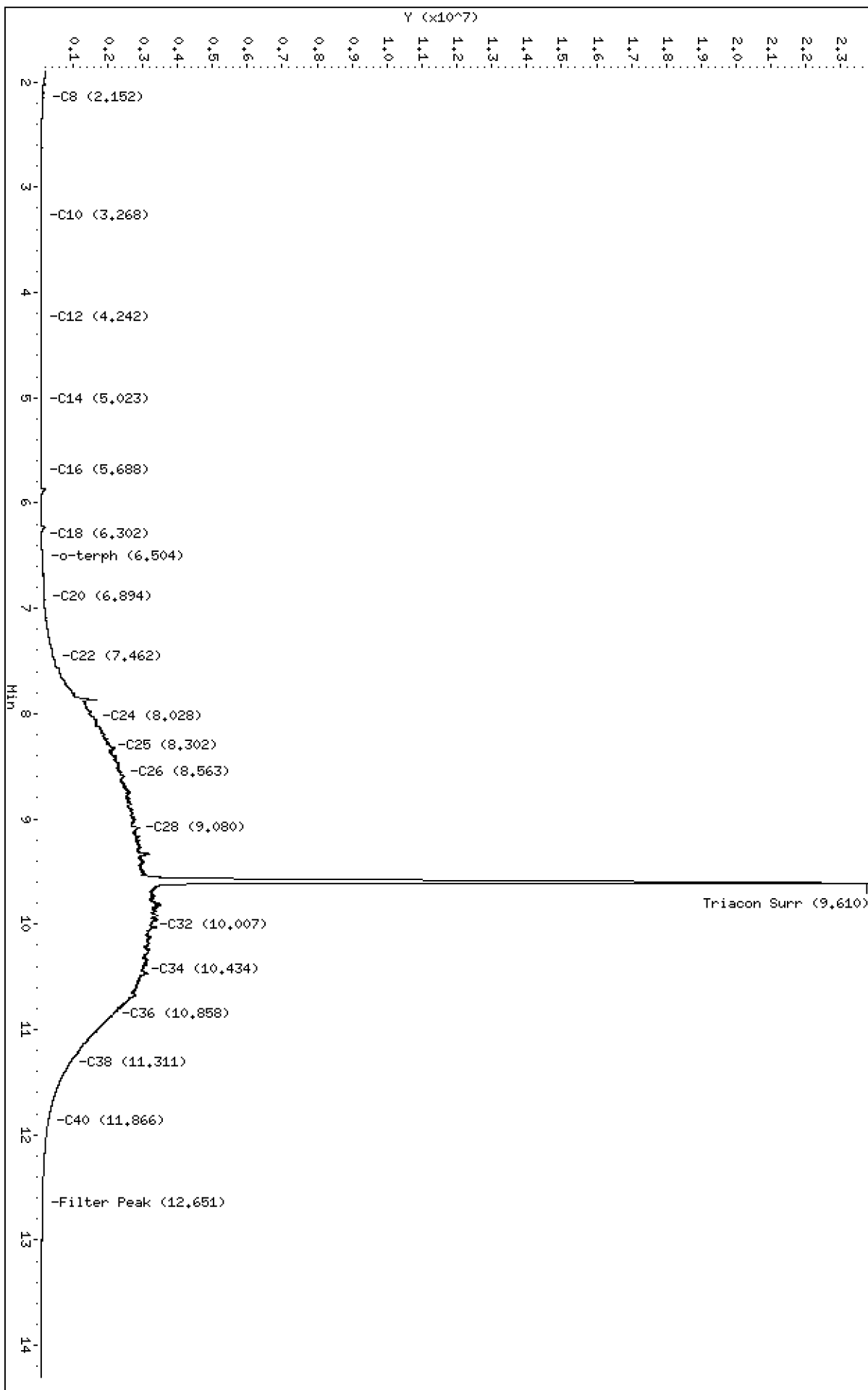
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0210.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0210.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-CAL6
Client ID:
Injection: 02-JUN-2020 10:36
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

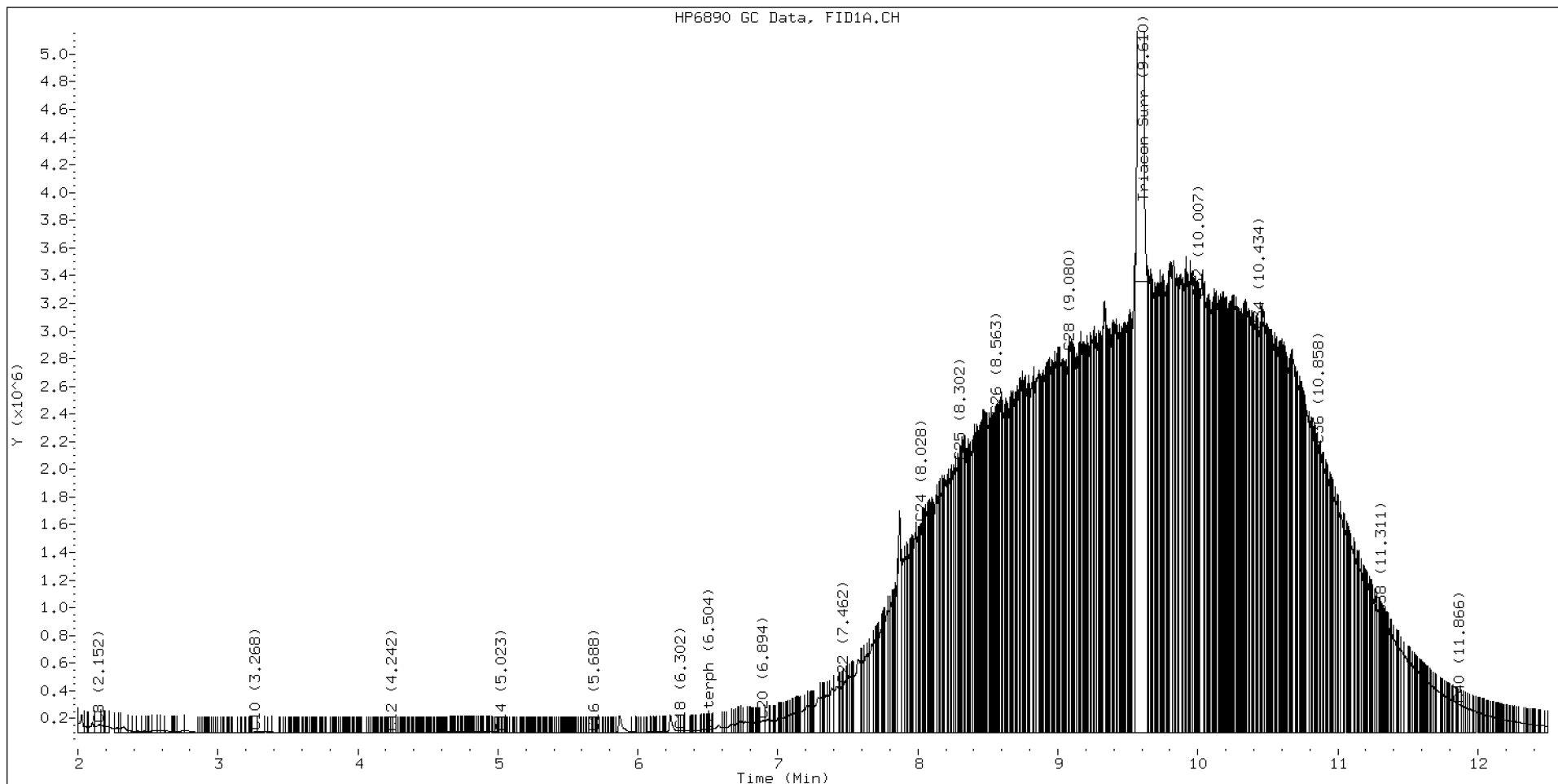
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.152	-0.004	59759	152130	WATPHD	(C12-C24)	42097067	264.2
C10	3.268	-0.000	10906	13309	WATPHM	(C24-C38)	483979490	4784.0
C12	4.242	-0.002	3837	2144	AK102	(C10-C25)	60128324	307.6
C14	5.023	0.001	5263	2575	AK103	(C25-C36)	432878704	5913.1
C16	5.688	-0.000	5016	3894	OR.DIES	(C10-C28)	184154148	939.6
C18	6.302	0.004	14889	15133				
C20	6.894	0.006	90358	170510	JET-A	(C10-C18)	1118951	6.7
C22	7.462	-0.004	348837	170286				
C24	8.028	-0.001	1514675	949832				
C25	8.302	0.001	1962082	1344009				
C26	8.563	-0.002	2289043	1251416				
C28	9.080	0.003	2750480	953261				
C32	10.007	-0.005	3143736	1251600				
C34	10.434	-0.008	2911308	1732712				
Filter Peak	12.651	-0.000	36927	34124	CREOSOT	(C12-C22)	10157950	246.3
C36	10.858	0.003	2076086	2039708				
C38	11.311	0.001	852892	501049				
C40	11.866	0.004	208322	233733				
o-terph	6.504	-0.003	25014	7430				
Triacon Surr	9.610	0.029	20463550	34084629	NAS DIES	(C10-C24)	42231077	216.4

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	7430	0.0
Triacontane	34084629	229.7 M

M Indicates the peak was manually integrated

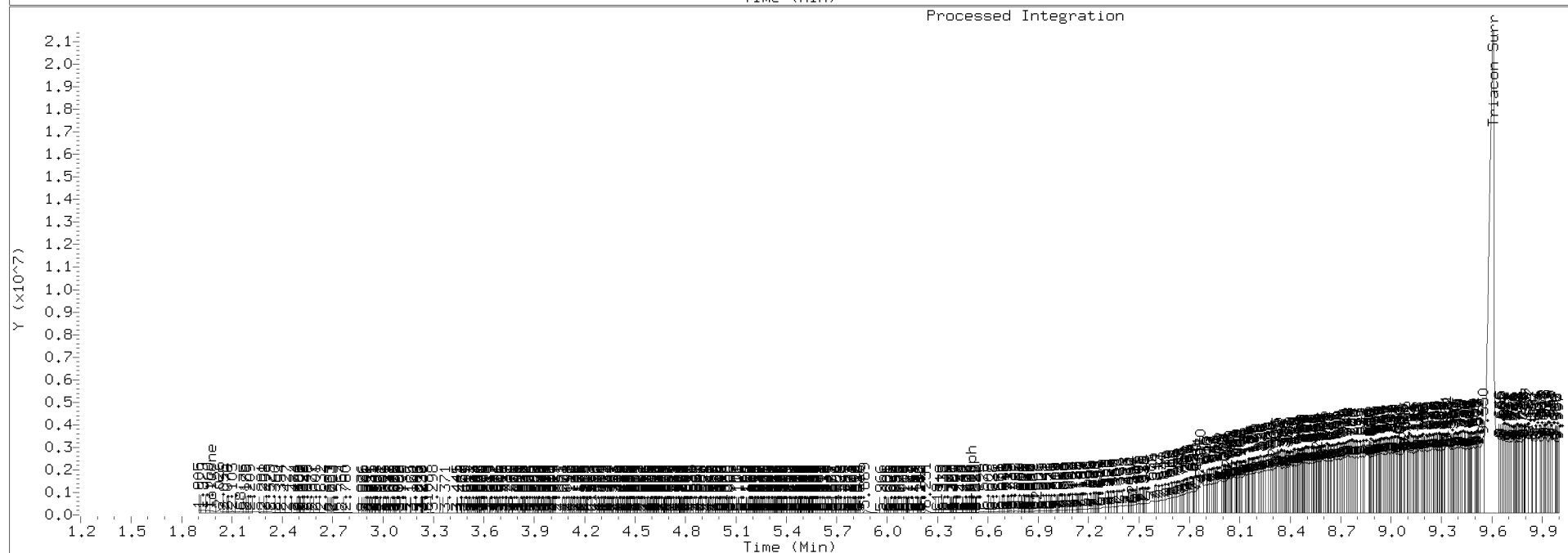
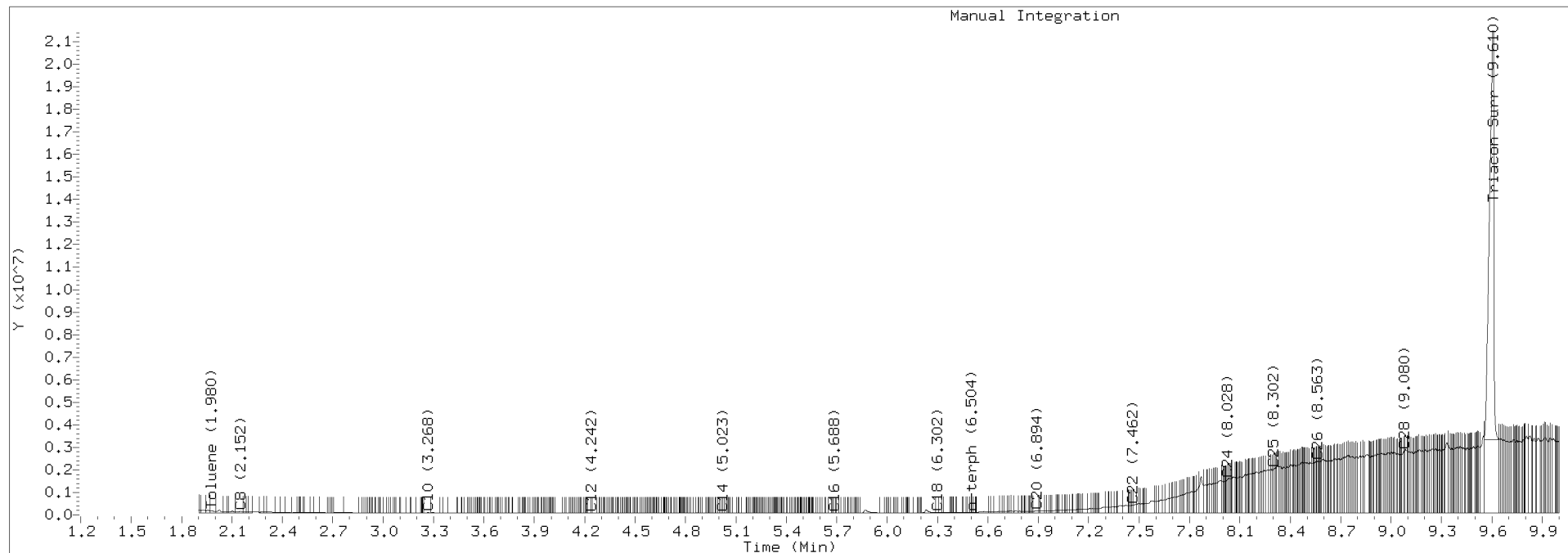
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0210.D Injection: 02-JUN-2020 10:36

Lab ID:SIF0018-CAL6



Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

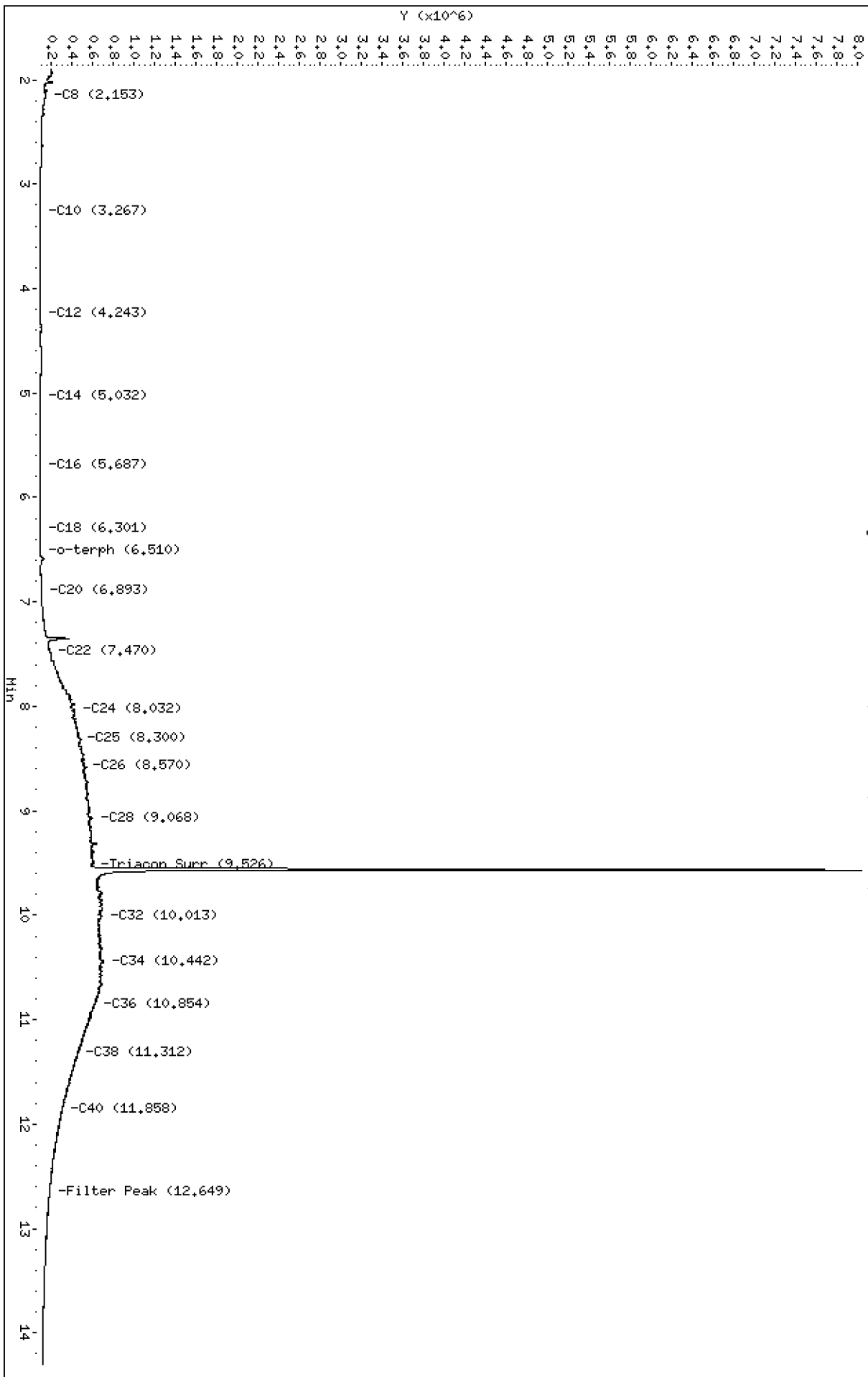
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

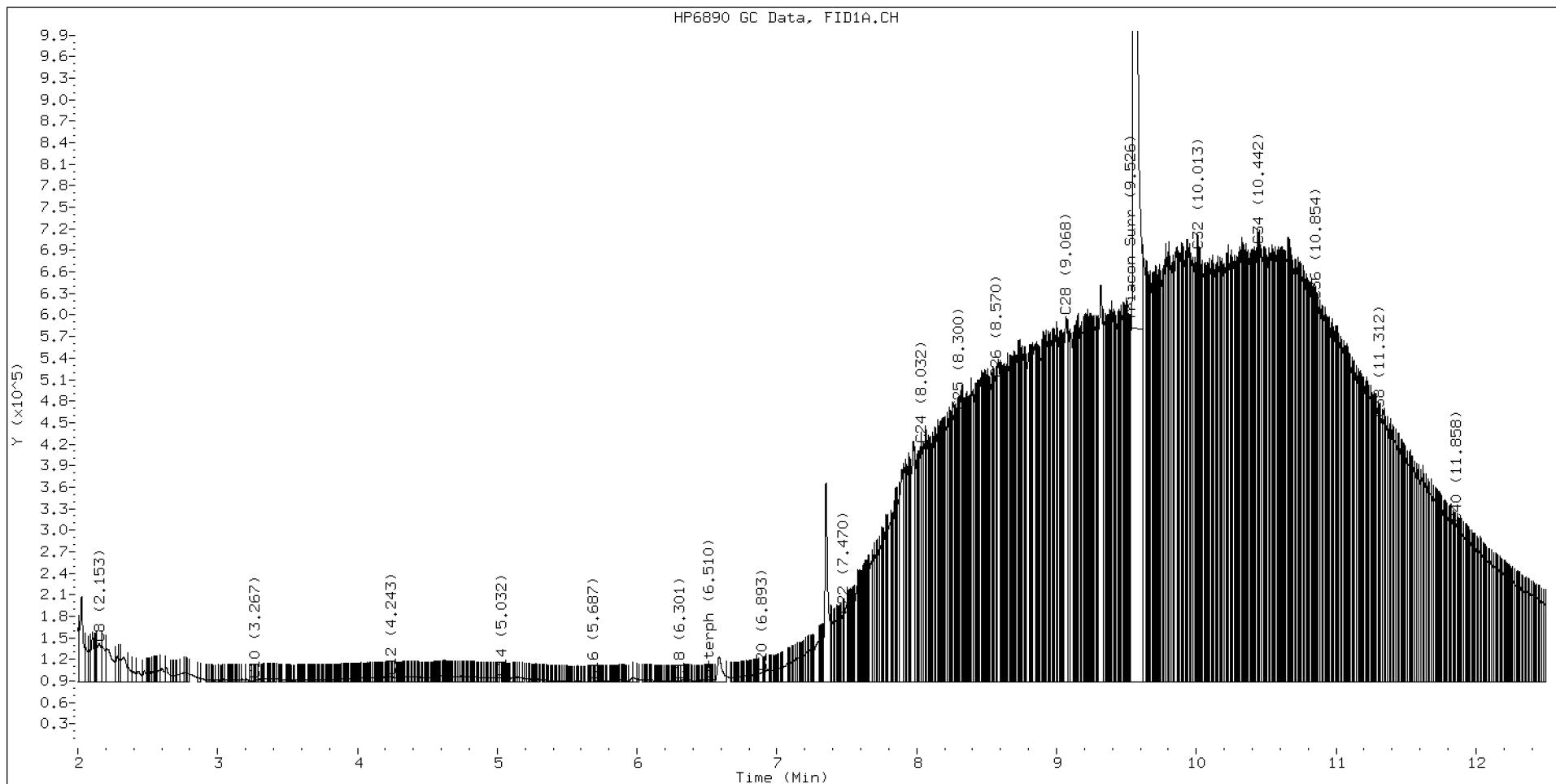
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

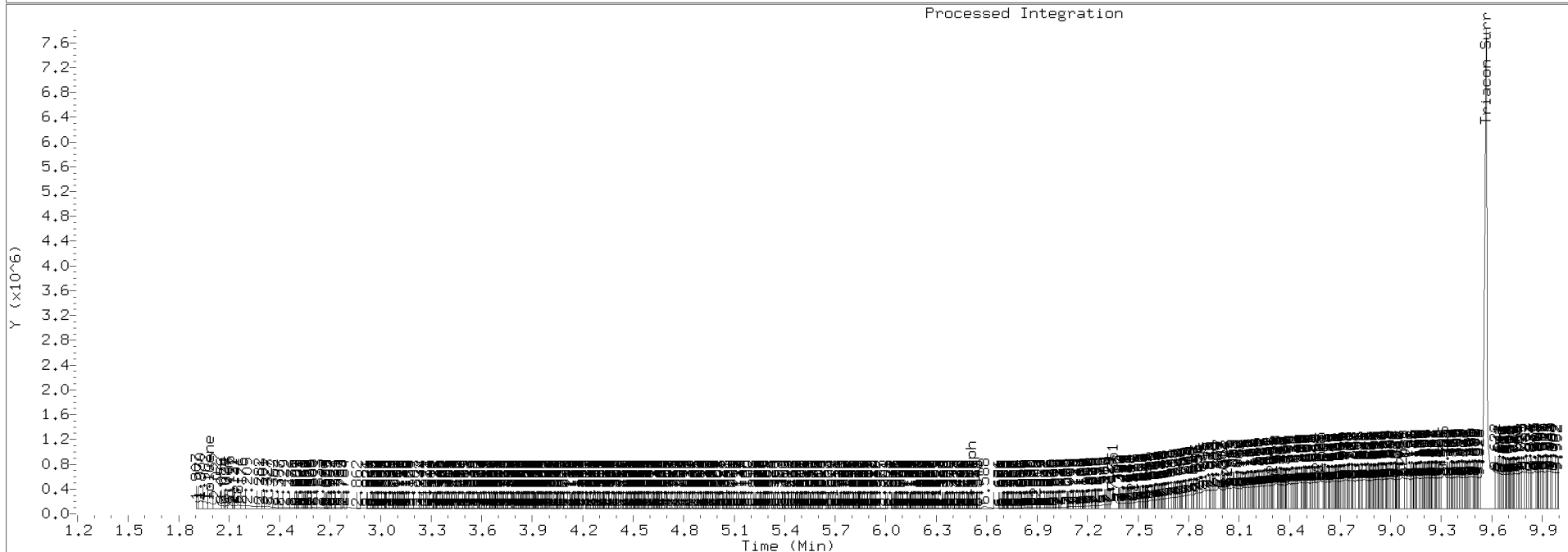
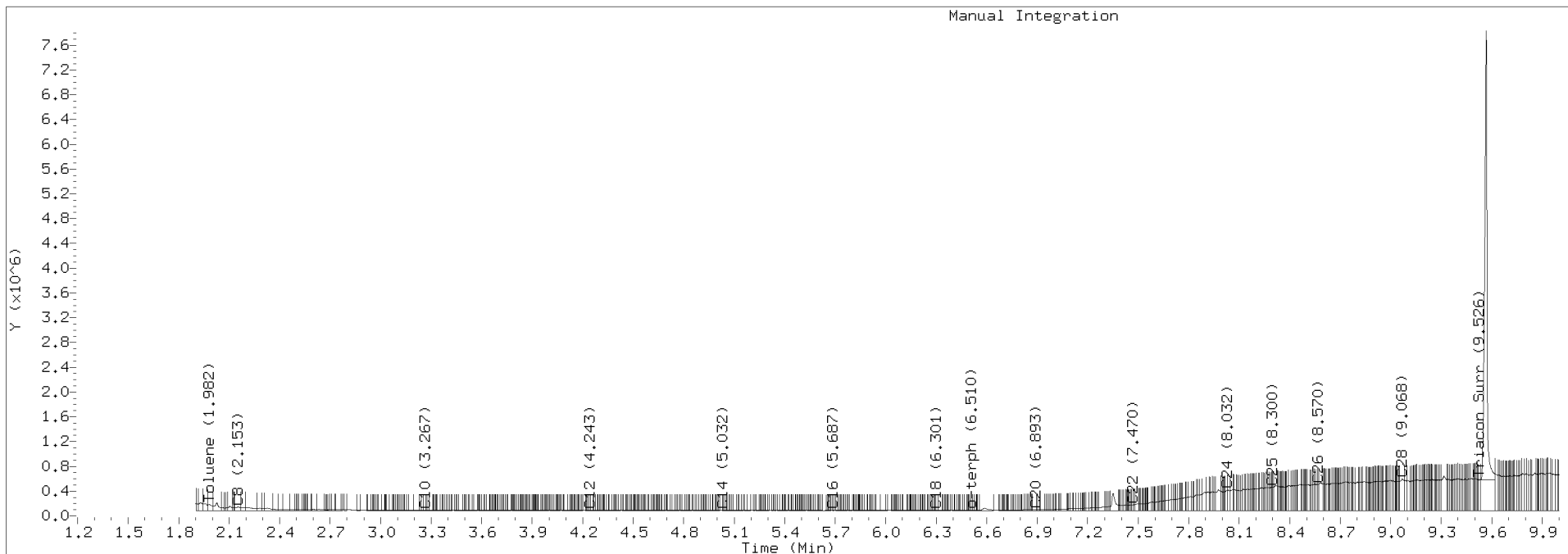
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

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1	10-AUG-2020	08:11	420H1001.D	1	RINSE	
2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
46	11-AUG-2020	01:44	420H1046.D	1	BIH0166-BS1	
47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
50	11-AUG-2020	03:03	420H1050.D	1	BIH0166-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	11-AUG-2020	03:22	420H1051.D	1	20H0082-02	
52	11-AUG-2020	03:42	420H1052.D	1	20H0082-03	
53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

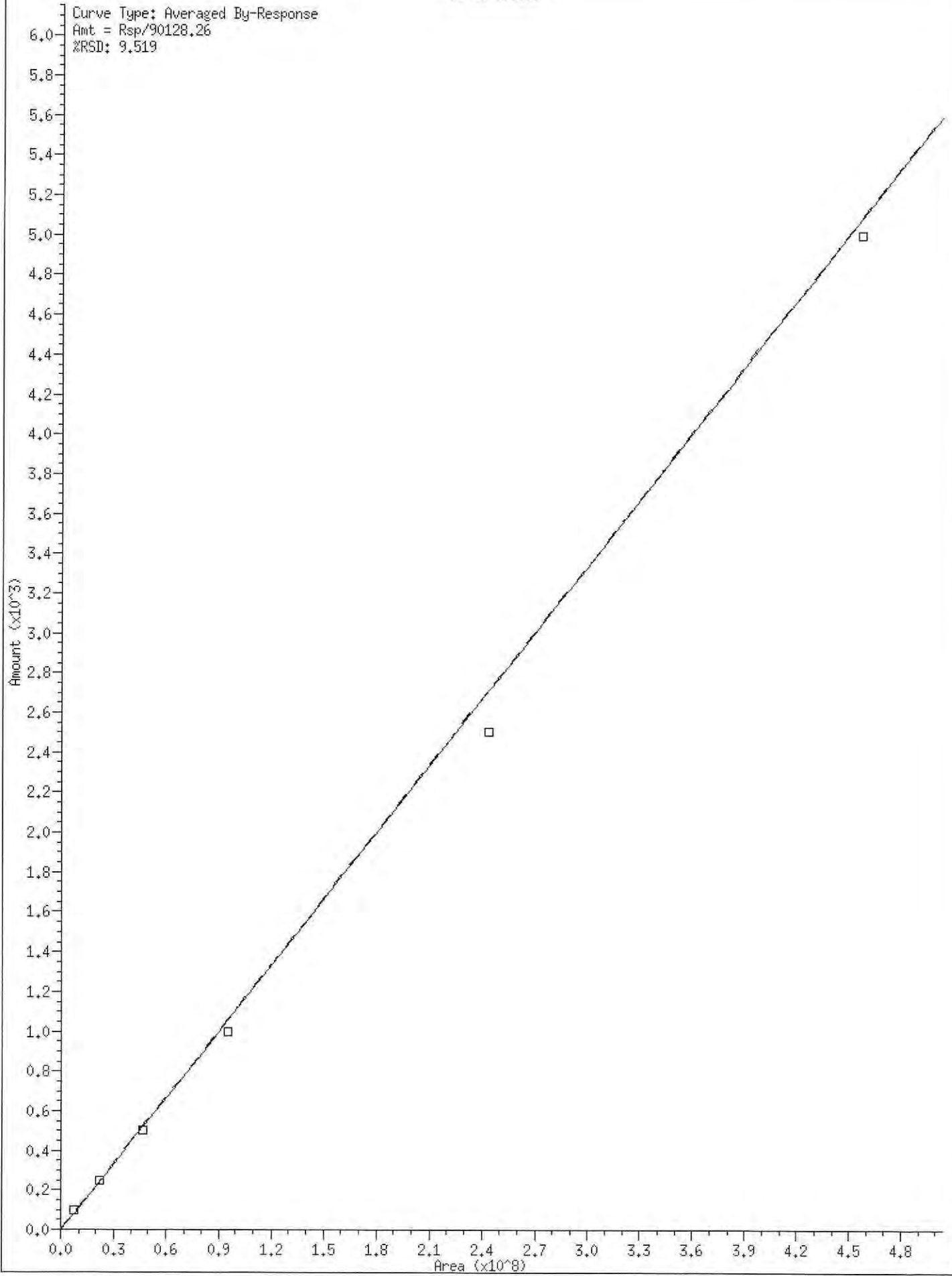
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0811	420H1001.D	RINSE		1	NO MANUAL INTEGRATION
0830	420H1002.D	RINSE		1	NO MANUAL INTEGRATION
0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
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420H1004.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1006.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38

Curve Type: Averaged By-Response
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%RSD: 9.519

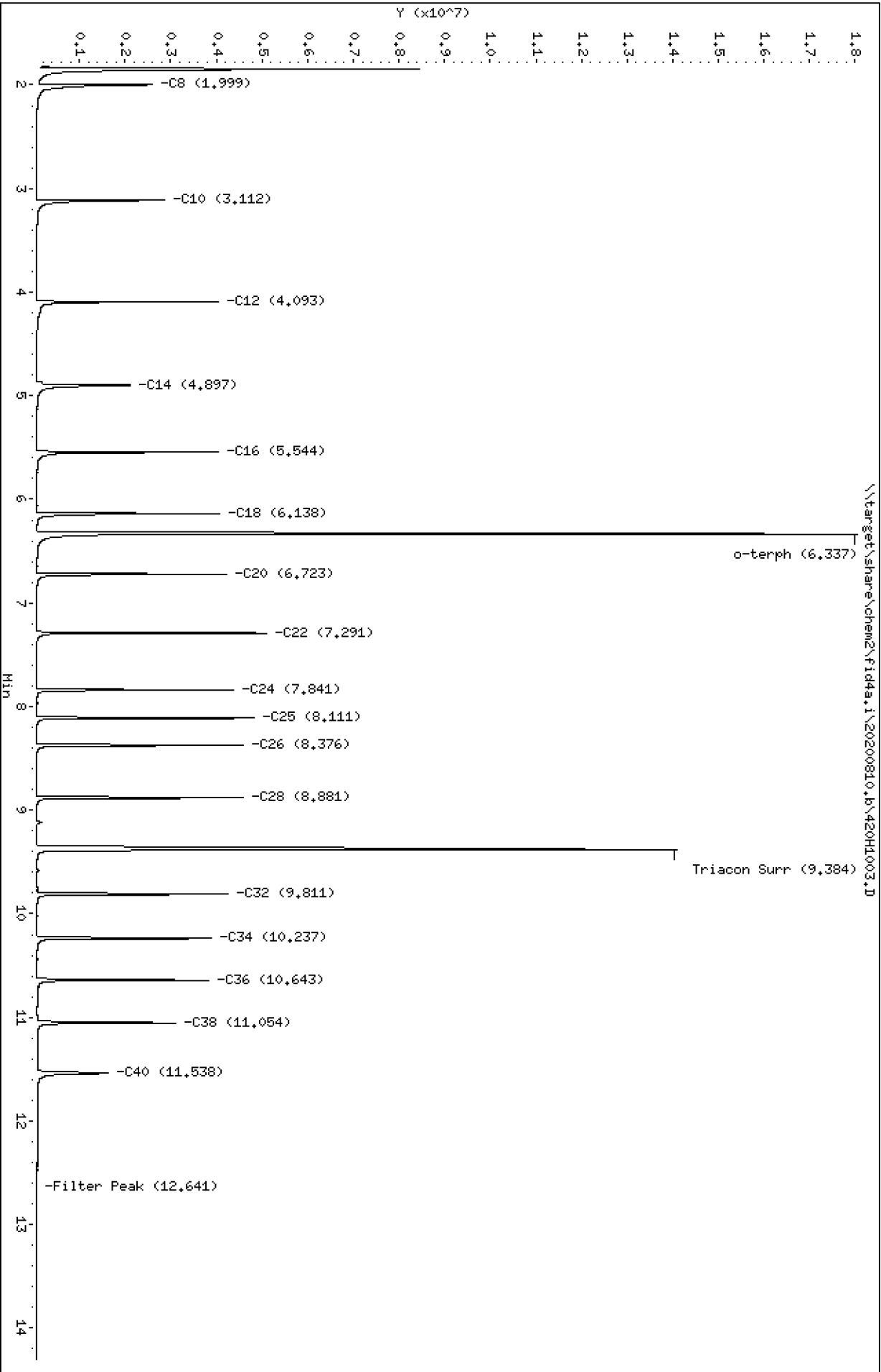


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Date: 10-AUG-2020 08:50
Client ID:
Sample Info: SEQ-IBL1

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1003.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL1
Client ID:
Injection: 10-AUG-2020 08:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

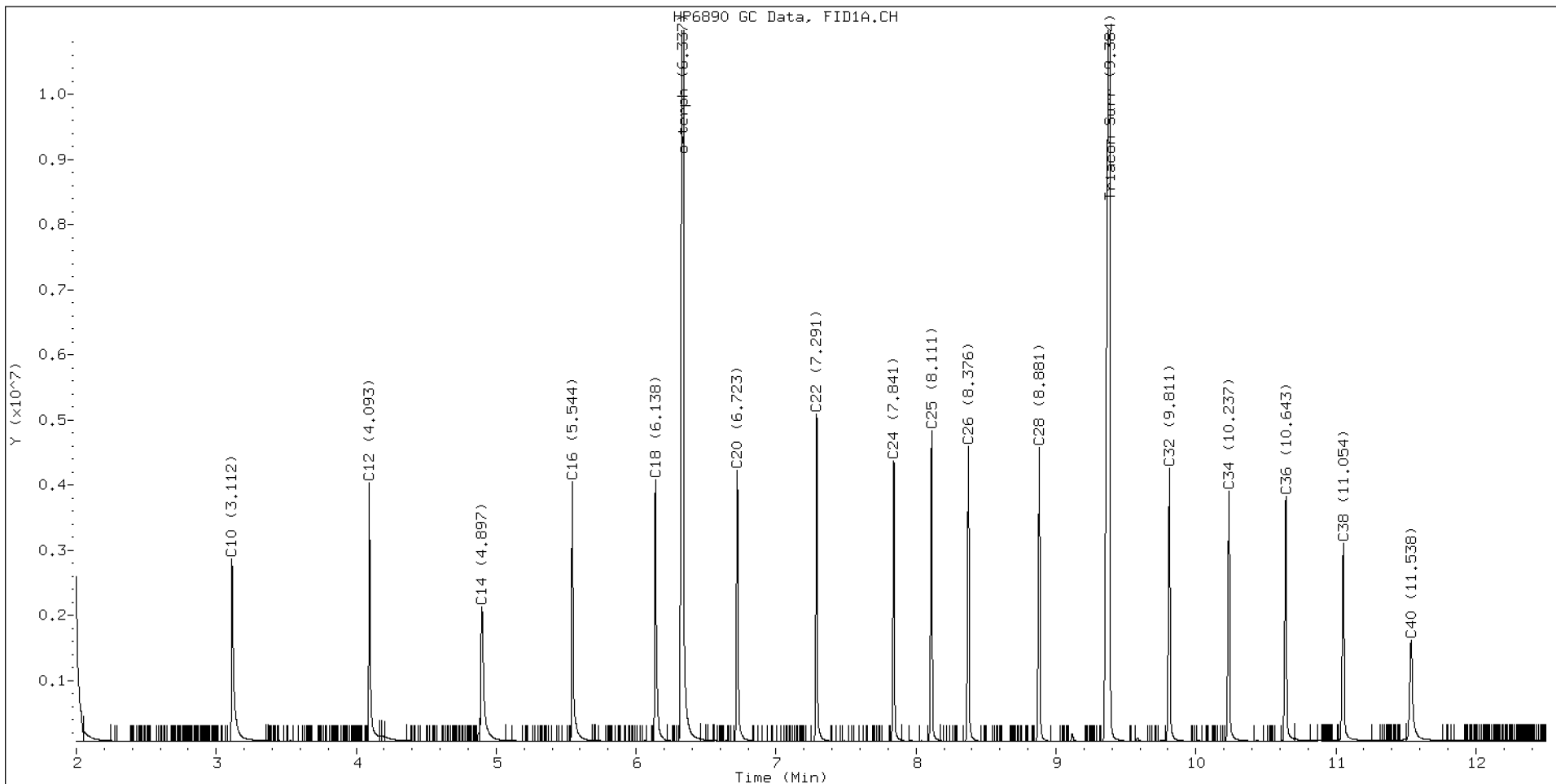
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.999	0.000	2540721	3264726	WATPHD	(C12-C24)	22306304	140.0
C10	3.112	0.000	2810194	3442755	WATPHM	(C24-C38)	26298631	260.0
C12	4.093	0.000	3978222	2976186	AK102	(C10-C25)	29087658	148.8
C14	4.897	0.000	2063035	3357028	AK103	(C25-C36)	22563075	308.2
C16	5.544	0.000	3983822	3466435	OR.DIES	(C10-C28)	40321674	205.7
C18	6.138	0.000	4016286	3502383				
C20	6.723	0.000	4164481	3619197	JET-A	(C10-C18)	18085569	107.7
C22	7.291	0.000	5031917	3645250				
C24	7.841	0.000	4315294	3204971				
C25	8.111	0.000	4771856	3679162				
C26	8.376	0.000	4526404	3716371				
C28	8.881	0.000	4514102	3764243				
C32	9.811	0.000	4195592	3775835				
C34	10.237	0.000	3847931	3544071				
Filter Peak	12.641	0.000	14794	6644	CREOSOT	(C12-C22)	19024422	211.1
C36	10.643	0.000	3772310	3456667				
C38	11.054	0.000	3044407	3312686				
C40	11.538	0.000	1563052	2782086				
o-terph	6.337	0.000	17989088	19759793				
Triacon Surr	9.384	0.000	14032526	21215524	NAS DIES	(C10-C24)	28998485	148.6

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	19759793	96.5
Triacontane	21215524	143.0

M Indicates the peak was manually integrated

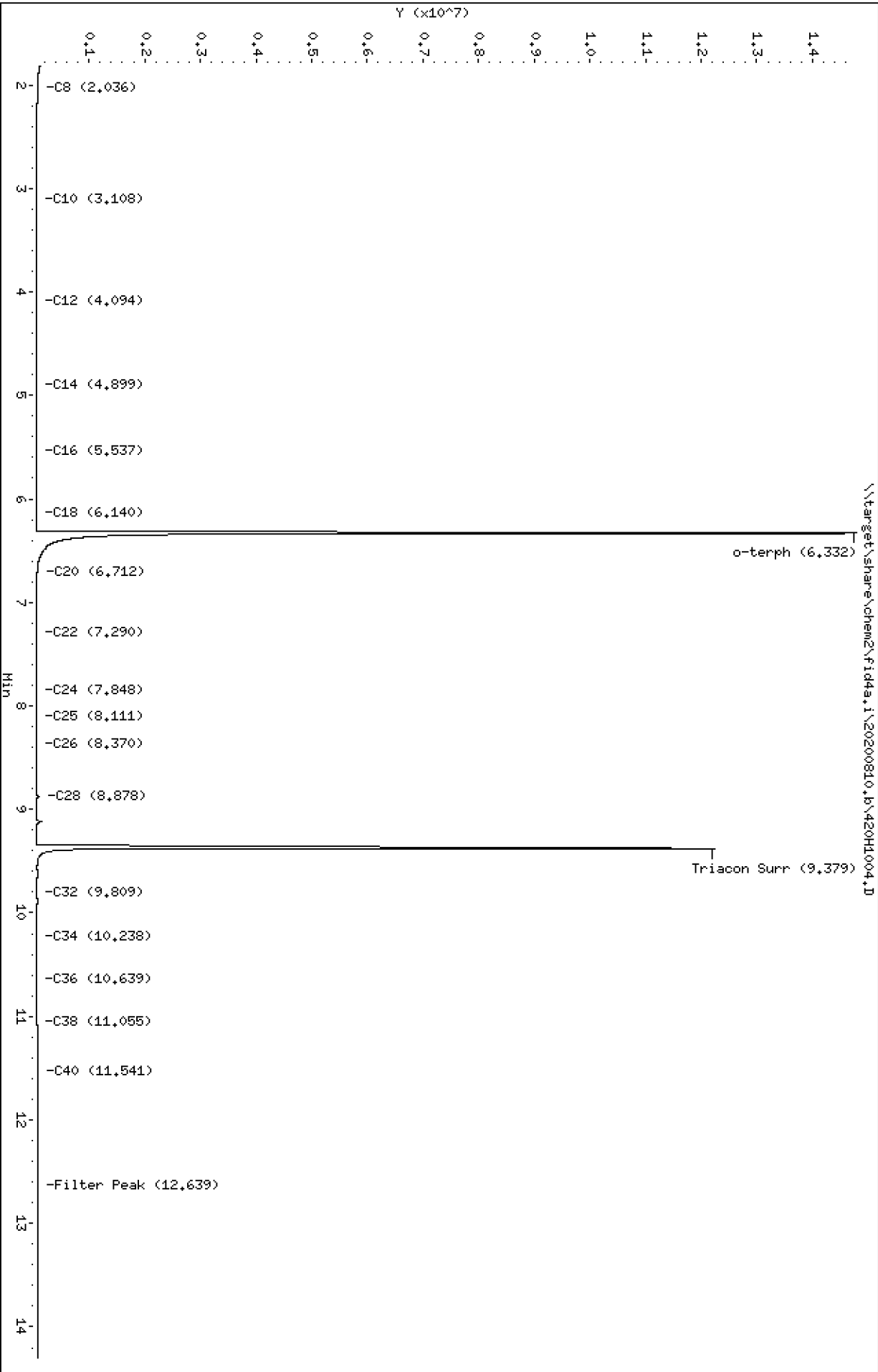
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1004.D
Date: 10-AUG-2020 09:10
Client ID:
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1004.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-IBL2
Client ID:
Injection: 10-AUG-2020 09:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

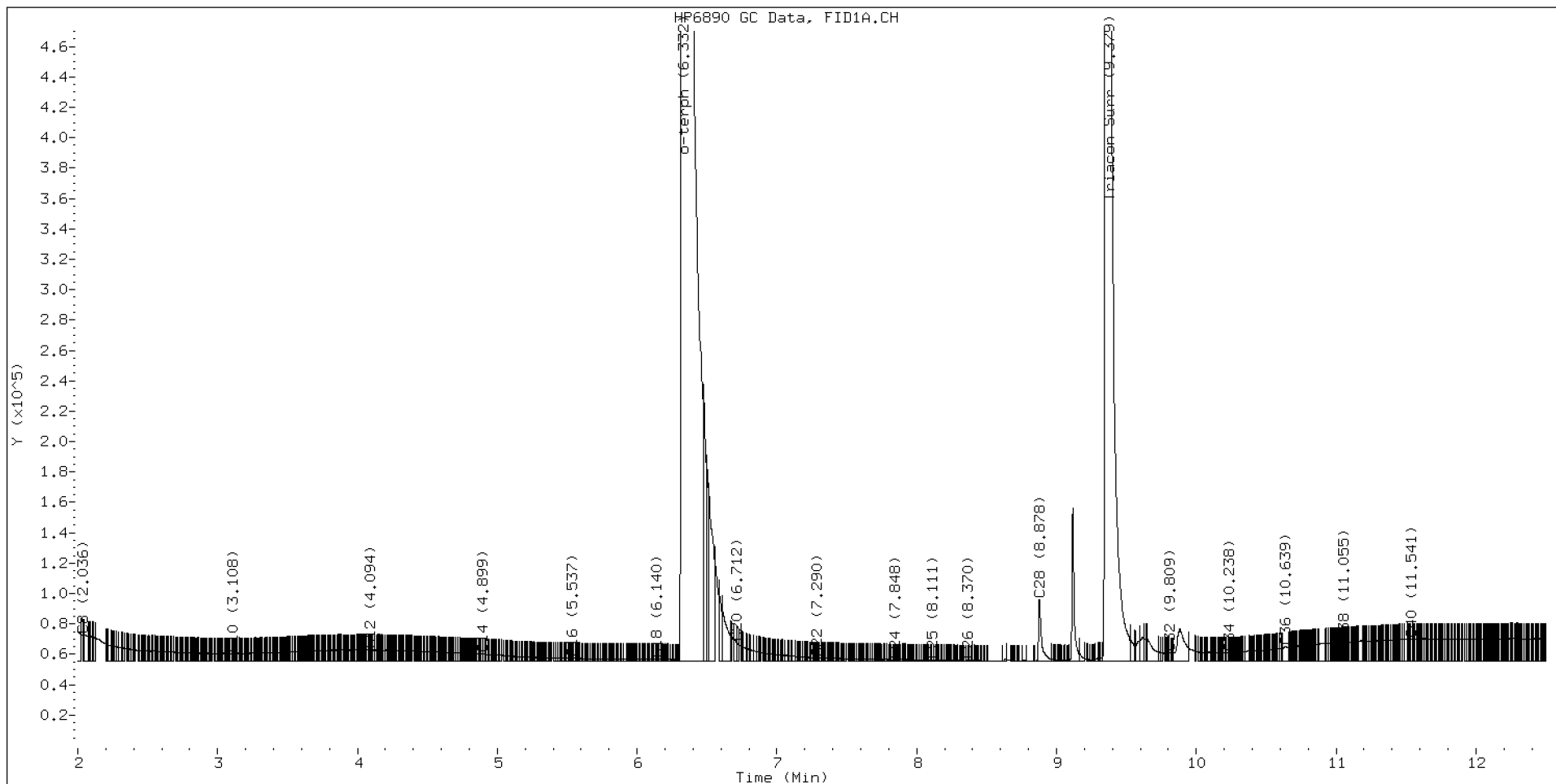
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.036	0.037	17008	10175	WATPHD	(C12-C24)	1331558	8.4
C10	3.108	-0.005	5021	2233	WATPHM	(C24-C38)	996053	9.8
C12	4.094	0.001	7426	3680	AK102	(C10-C25)	1724501	8.8
C14	4.899	0.001	4565	910	AK103	(C25-C36)	714743	9.8
C16	5.537	-0.007	2052	1468	OR.DIES	(C10-C28)	1799717	9.2
C18	6.140	0.002	1105	606				
C20	6.712	-0.011	12436	11107	JET-A	(C10-C18)	777990	4.6
C22	7.290	-0.000	2229	1416				
C24	7.848	0.006	1012	430				
C25	8.111	-0.000	658	573				
C26	8.370	-0.005	358	107				
C28	8.878	-0.004	40640	60459				
C32	9.809	-0.001	5465	5260				
C34	10.238	0.000	5599	2503				
Filter Peak	12.639	-0.001	14778	9572	CREOSOT	(C12-C22)	1289747	14.3
C36	10.639	-0.005	9656	22858				
C38	11.055	0.001	12241	5462				
C40	11.541	0.003	14617	10157				
o-terph	6.332	-0.005	14738078	18875440				
Triacon Surr	9.379	-0.005	12182512	16667134	NAS DIES	(C10-C24)	1715942	8.8

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18875440	92.2
Triacontane	16667134	112.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810,b\420H1008.D
Date: 10-AUG-2020 11:44

Client ID:

Sample Info: SEQ-CALL

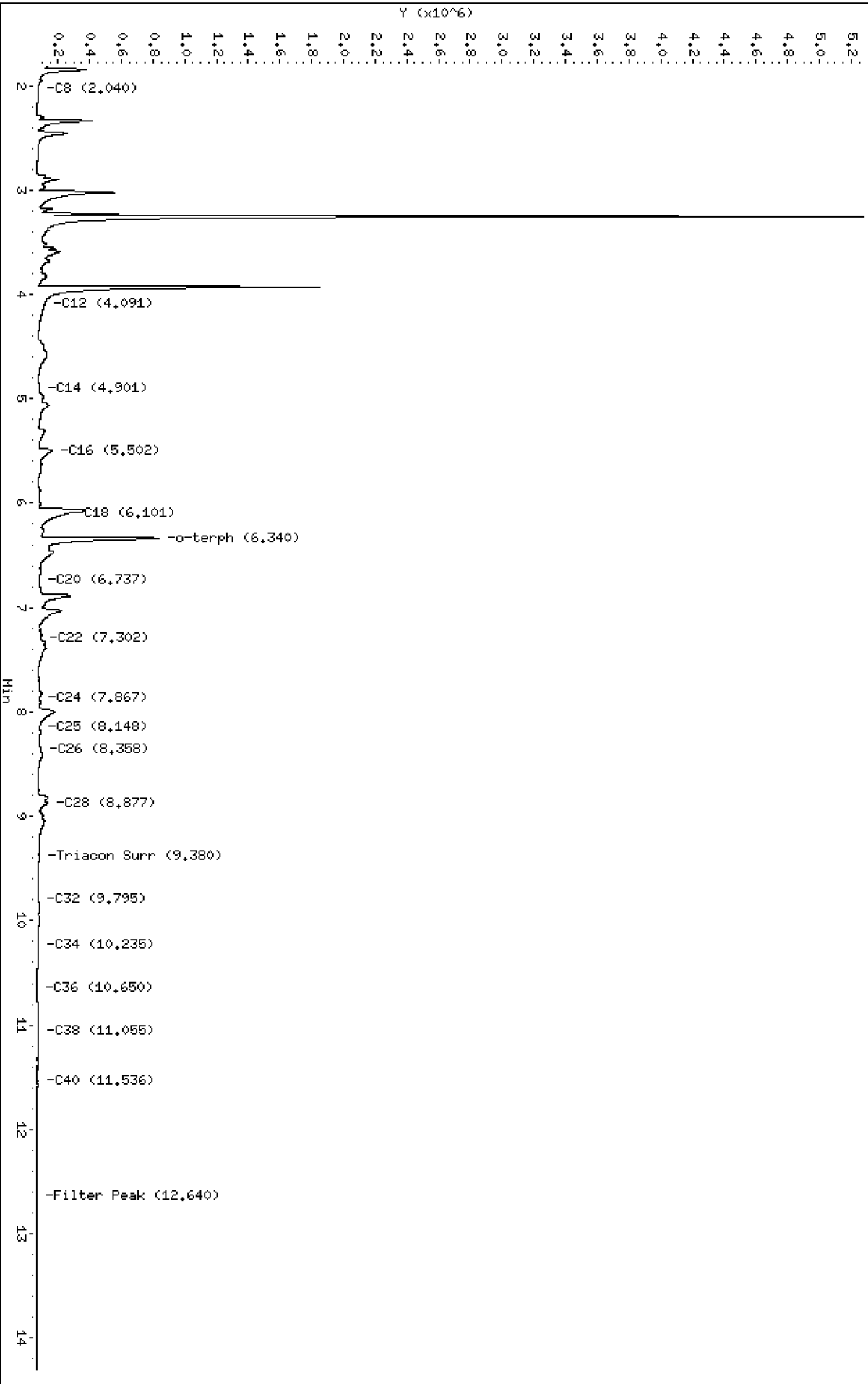
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1008.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL1
Client ID:
Injection: 10-AUG-2020 11:44
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

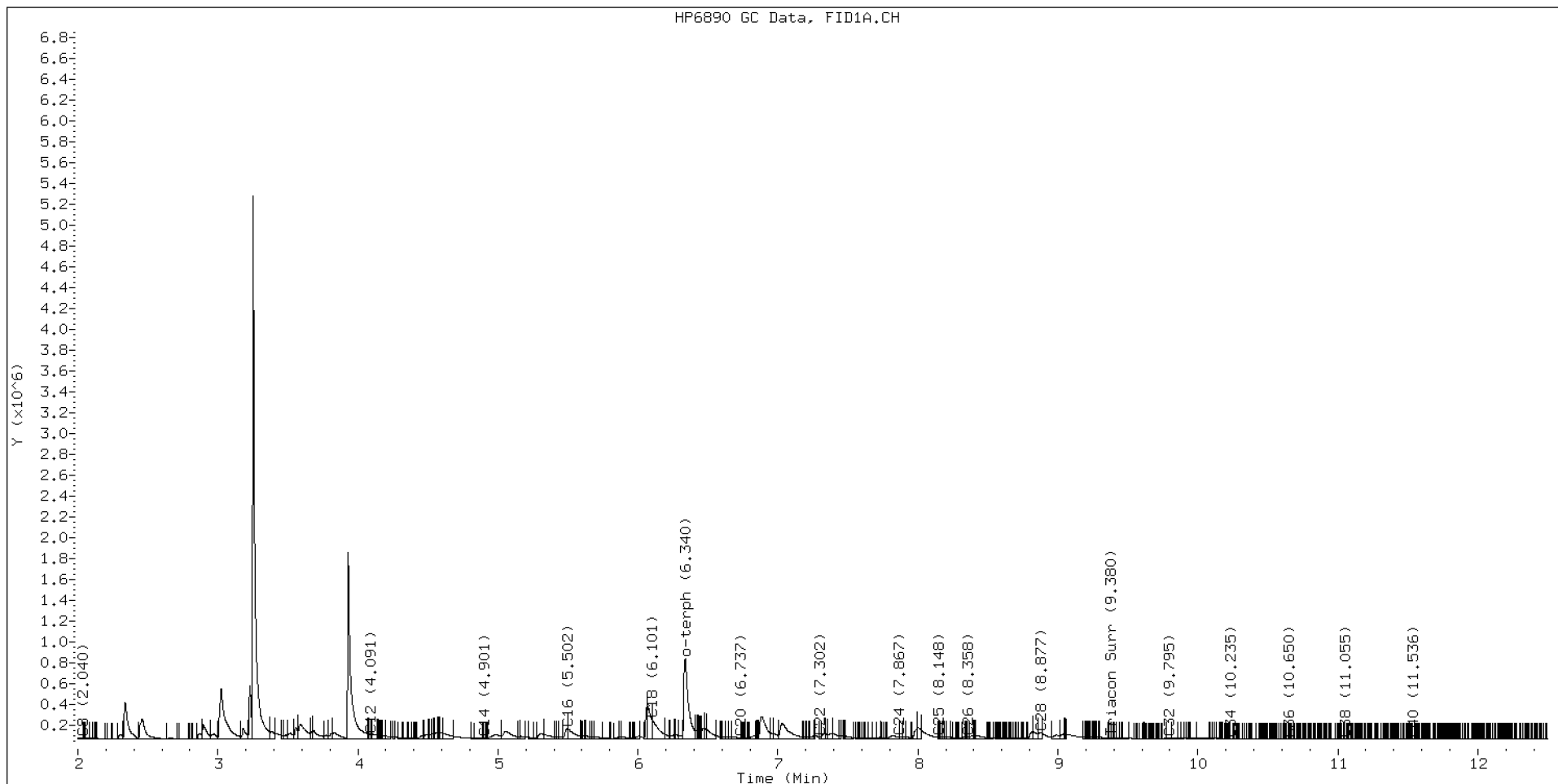
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.040	0.041	9503	2838	WATPHD	(C12-C24)	8080791	50.7
C10	----				WATPHM	(C24-C38)	2579077	25.5
C12	4.091	-0.003	48194	23669	AK102	(C10-C25)	19525938	99.9
C14	4.901	0.004	17148	14774	AK103	(C25-C36)	2056688	28.1
C16	5.502	-0.042	98467	314876	OR.DIES	(C10-C28)	20511038	104.6
C18	6.101	-0.037	189826	593277				
C20	6.737	0.014	14982	5936	JET-A	(C10-C18)	15329343	91.3
C22	7.302	0.012	27302	26565				
C24	7.867	0.026	21147	7324				
C25	8.148	0.037	19796	7876				
C26	8.358	-0.018	27281	17420				
C28	8.877	-0.004	67902	107454				
C32	9.795	-0.016	12040	22767				
C34	10.235	-0.003	7524	8634				
Filter Peak	12.640	-0.001	3106	1077	CREOSOT	(C12-C22)	7382186	81.9
C36	10.650	0.007	3324	1958				
C38	11.055	0.001	5084	2761				
C40	11.536	-0.002	4406	4074				
o-terph	6.340	0.002	772053	1761409				
Triacon Surr	9.380	-0.004	14077	10247	NAS DIES	(C10-C24)	19109345	97.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	1761409	8.6
Triacontane	10247	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1009.D
Date: 10-AUG-2020 12:03

Client ID:

Sample Info: SEQ-CAL2

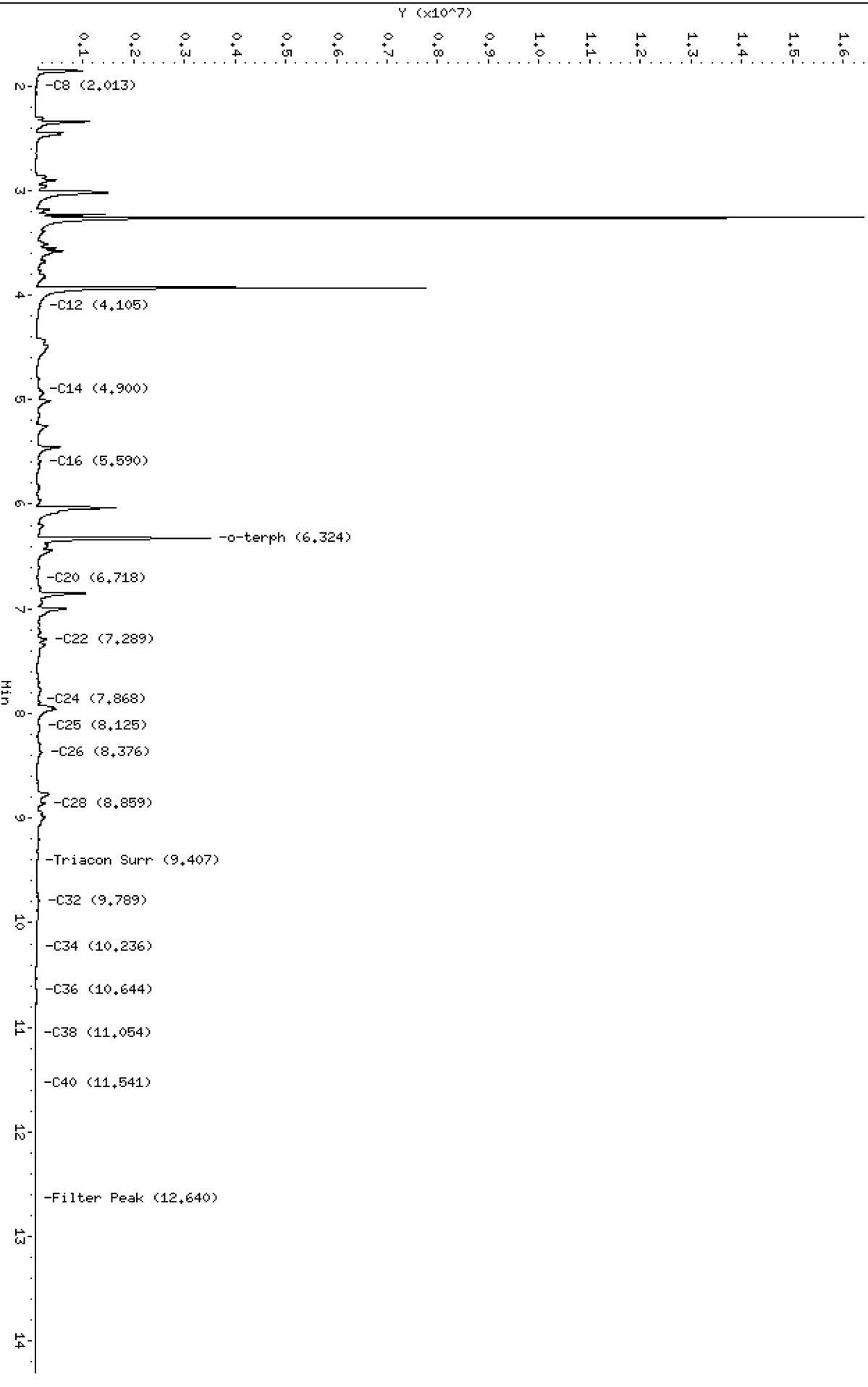
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1009.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL2
Client ID:
Injection: 10-AUG-2020 12:03
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

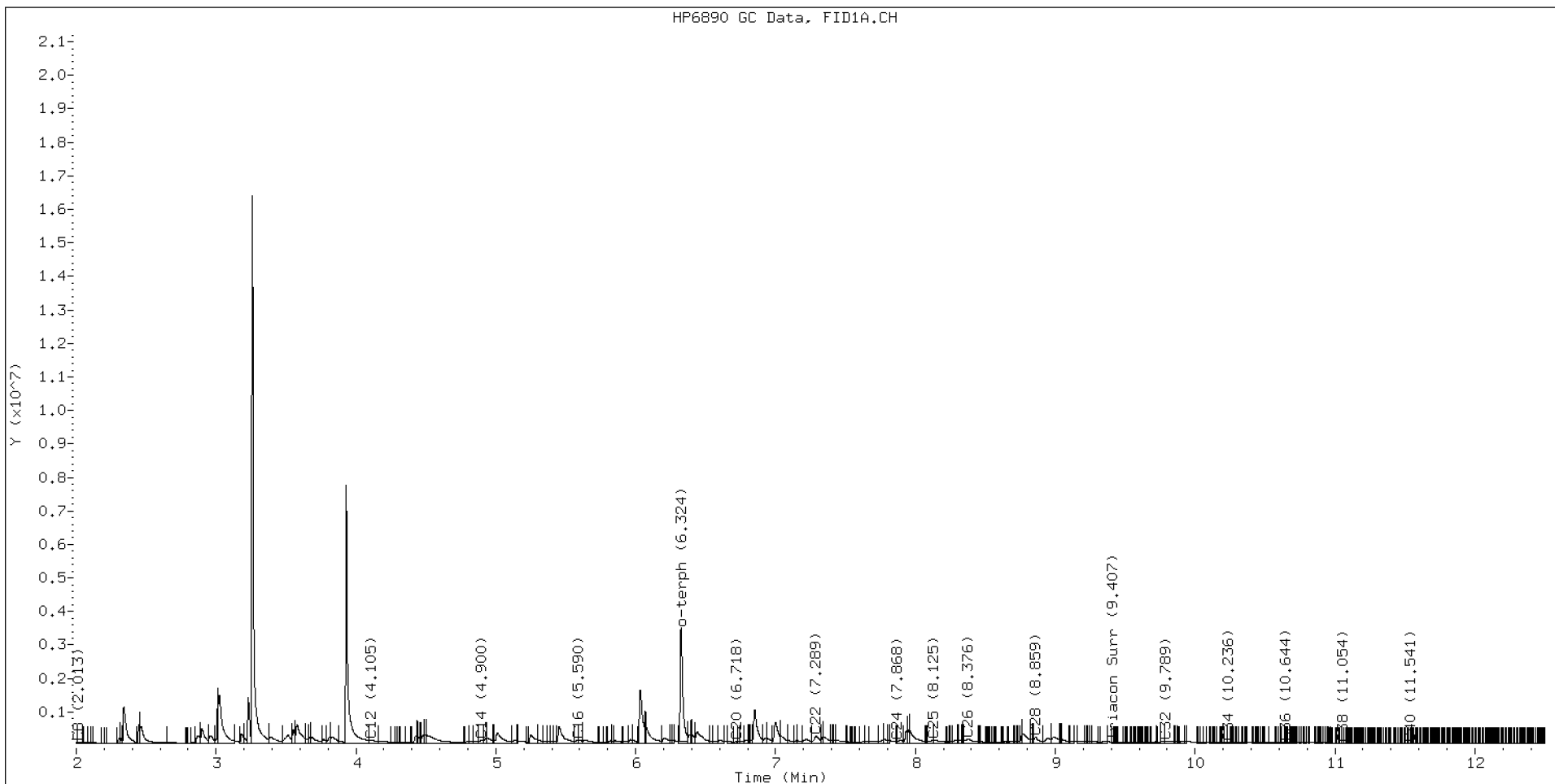
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.013	0.014	13752	23396	WATPHD	(C12-C24)	24094230	151.2
C10	----				WATPHM	(C24-C38)	9822291	97.1
C12	4.105	0.012	97213	295971	AK102	(C10-C25)	55662092	284.7
C14	4.900	0.003	96654	172578	AK103	(C25-C36)	7689863	105.0
C16	5.590	0.046	100512	127761	OR.DIES	(C10-C28)	59384249	303.0
C18	----							
C20	6.718	-0.005	43007	69493	JET-A	(C10-C18)	42803912	254.9
C22	7.289	-0.001	213953	504363				
C24	7.868	0.026	51518	25580				
C25	8.125	0.014	87057	179953				
C26	8.376	0.000	125029	524631				
C28	8.859	-0.023	181002	435693				
C32	9.789	-0.022	68586	223761				
C34	10.236	-0.001	21356	24080				
Filter Peak	12.640	-0.000	3549	1227	CREOSOT	(C12-C22)	22100398	245.2
C36	10.644	0.001	13989	3478				
C38	11.054	-0.000	9429	6073				
C40	11.541	0.003	5623	1672				
o-terph	6.324	-0.013	3394533	4330623				
Triacon Surr	9.407	0.023	36620	30128	NAS DIES	(C10-C24)	53743053	275.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	4330623	21.2 M
Triacontane	30128	0.2

M Indicates the peak was manually integrated

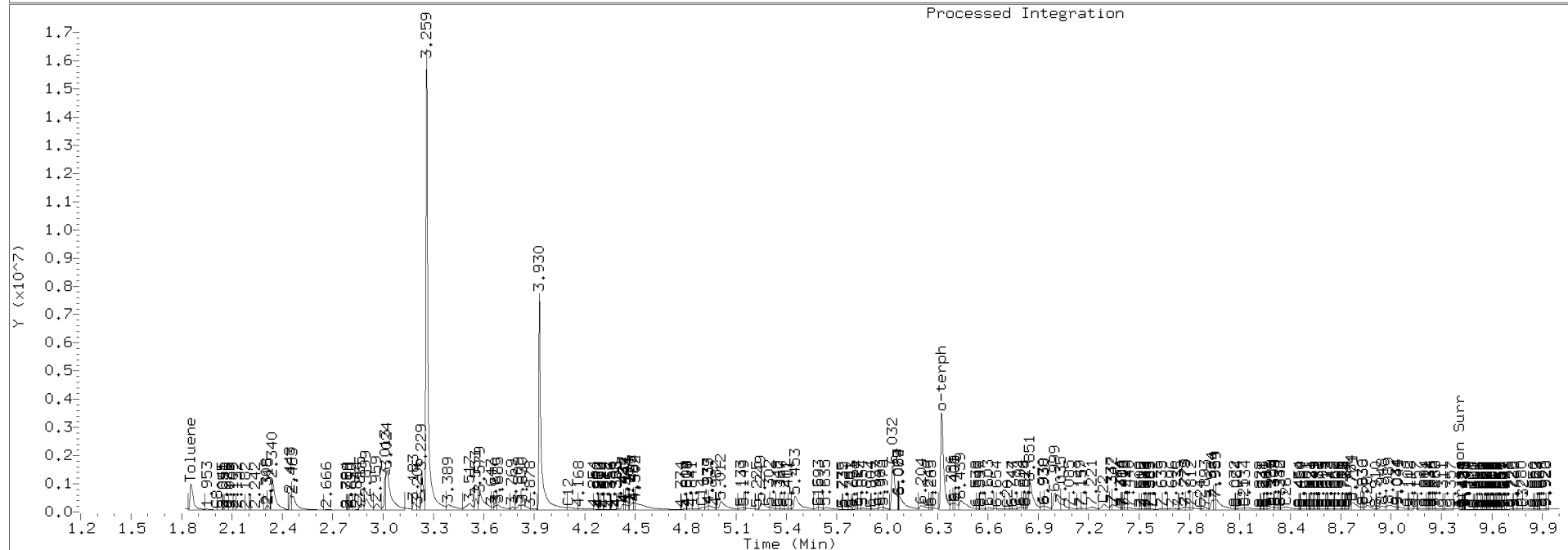
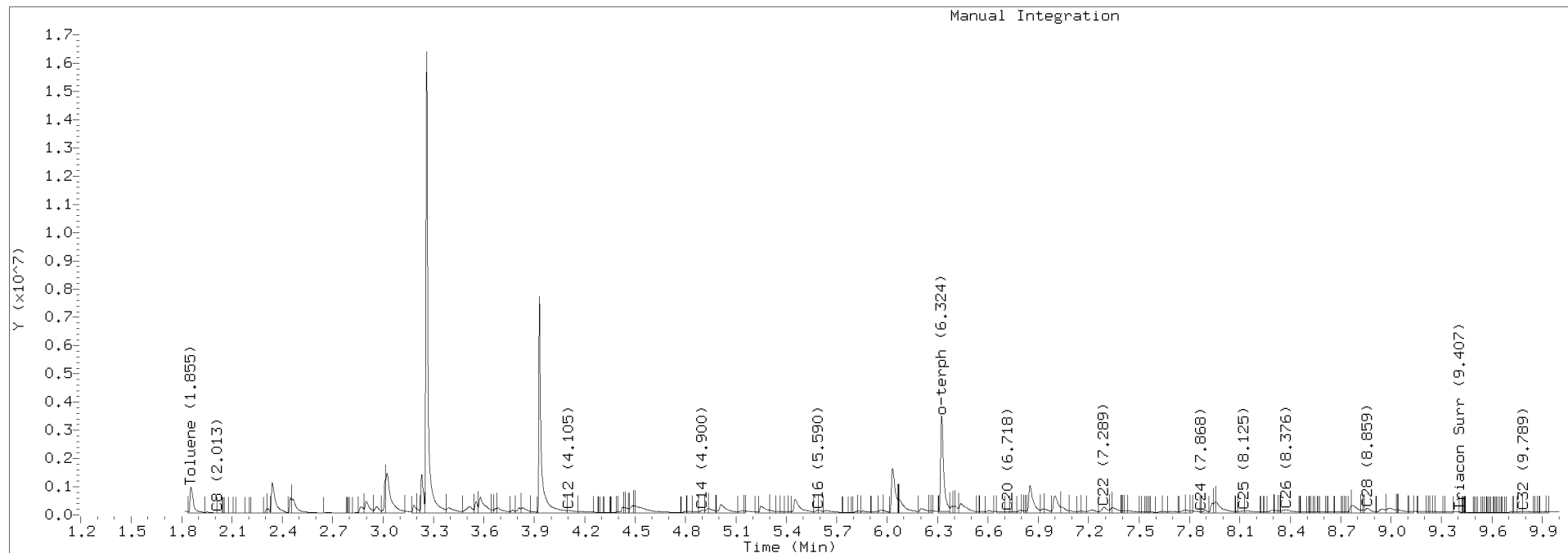
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1009.D Injection: 10-AUG-2020 12:03

Lab ID:SEQ-CAL2



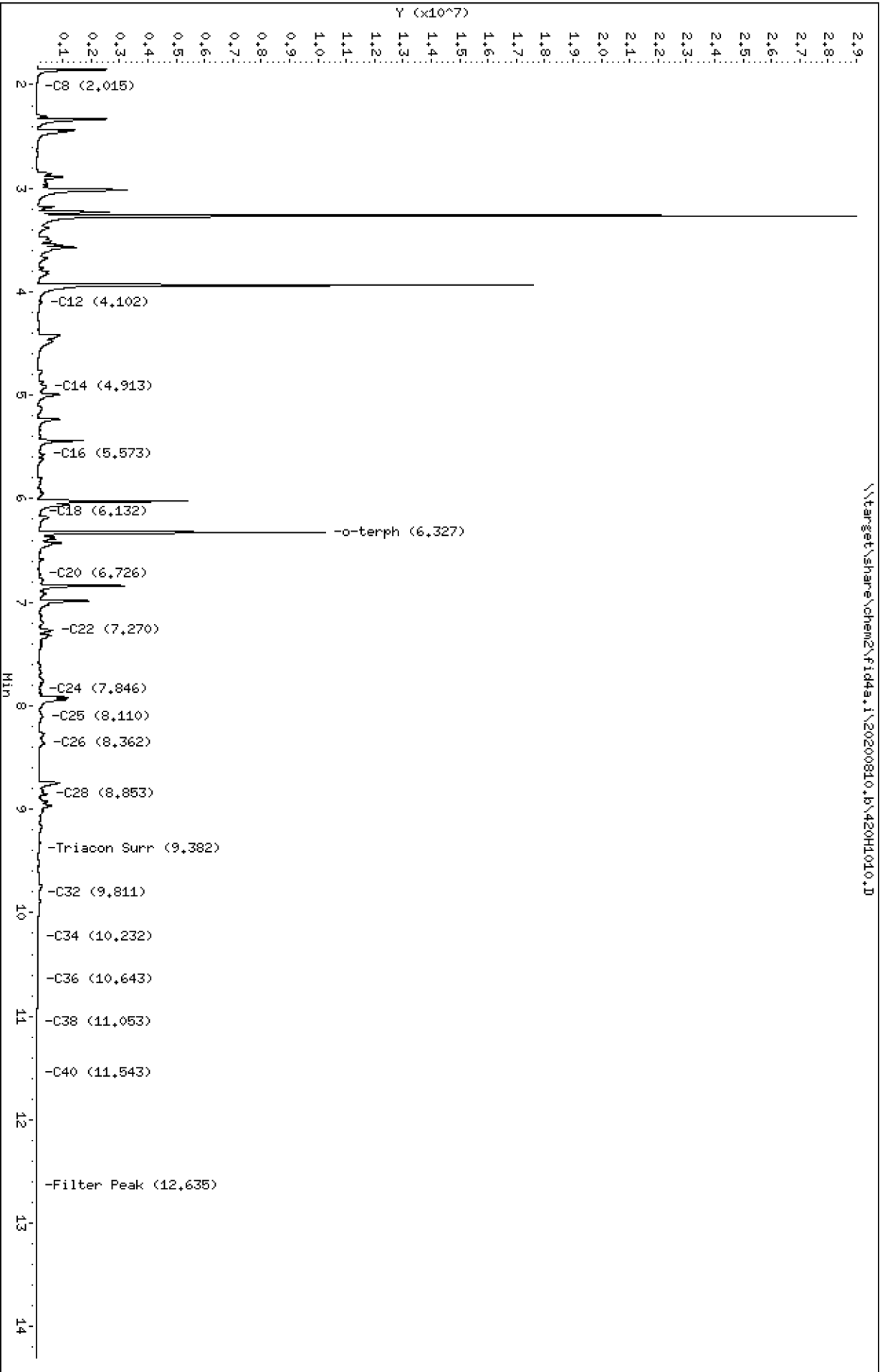
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Date: 10-AUG-2020 12:23
Client ID:
Sample Info: SEQ-CAL3

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1010.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL3
Client ID:
Injection: 10-AUG-2020 12:23
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

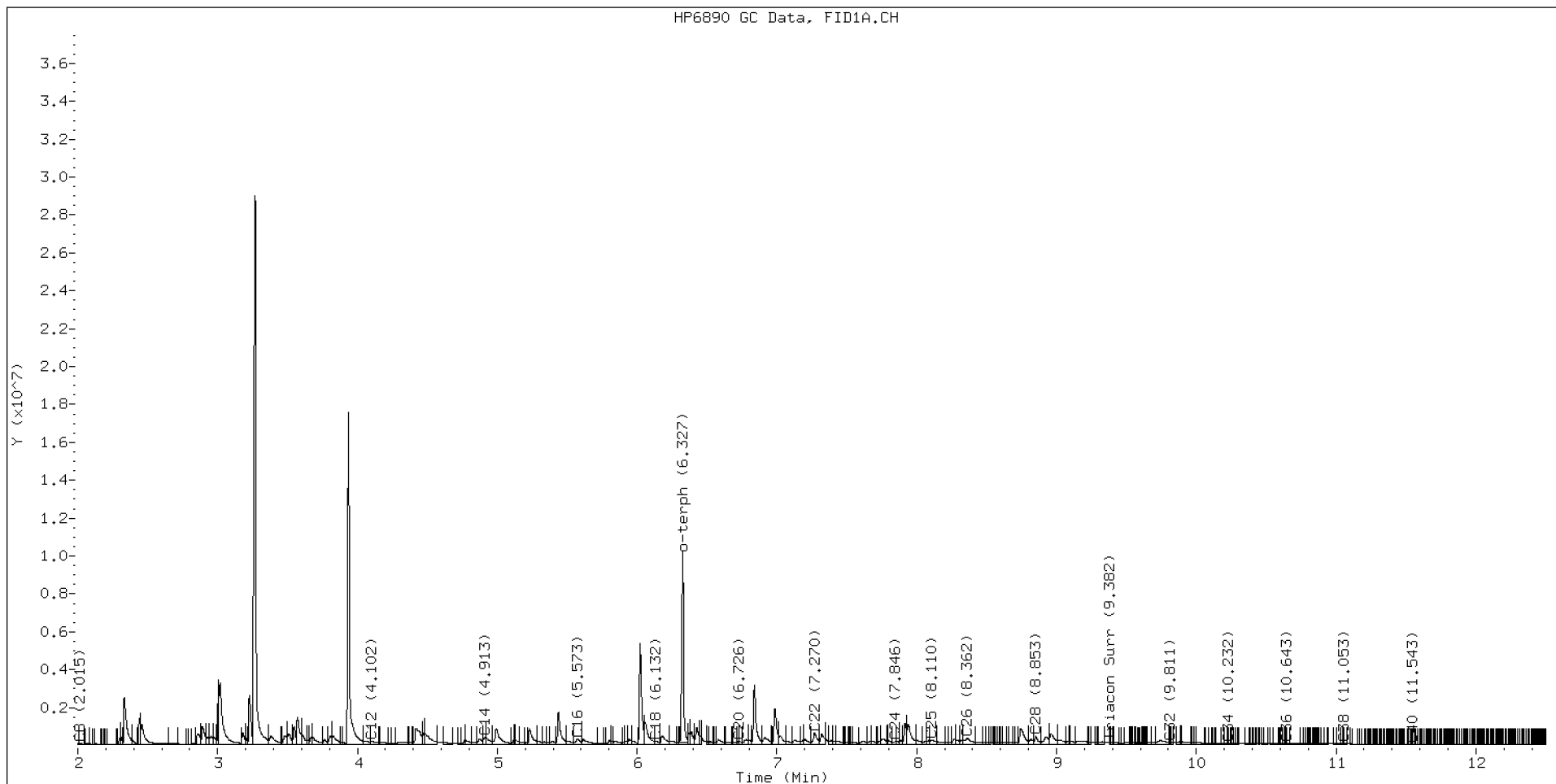
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.015	0.016	17846	36273	WATPHD	(C12-C24)	51259340	321.7
C10	----				WATPHM	(C24-C38)	22066522	218.1
C12	4.102	0.009	179685	448519	AK102	(C10-C25)	116587134	596.4
C14	4.913	0.016	356259	456272	AK103	(C25-C36)	17746552	242.4
C16	5.573	0.029	271020	584987	OR.DIES	(C10-C28)	125538937	640.5
C18	6.132	-0.006	140882	269530				
C20	6.726	0.003	136775	134046	JET-A	(C10-C18)	90127540	536.8
C22	7.270	-0.021	606173	1140185				
C24	7.846	0.004	128041	176452				
C25	8.110	-0.001	221035	545483				
C26	8.362	-0.014	297442	1027684				
C28	8.853	-0.028	403064	641655				
C32	9.811	0.000	99788	29846				
C34	10.232	-0.006	46152	43534				
Filter Peak	12.635	-0.006	3882	1909	CREOSOT	(C12-C22)	47014203	521.6
C36	10.643	0.000	38763	9675				
C38	11.053	-0.001	17467	8707				
C40	11.543	0.005	8291	3696				
o-terph	6.327	-0.010	10095175	9317090				
Triacon Surr	9.382	-0.002	75592	22548	NAS DIES	(C10-C24)	112694191	577.5

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	9317090	45.5 M
Triacontane	22548	0.2

M Indicates the peak was manually integrated

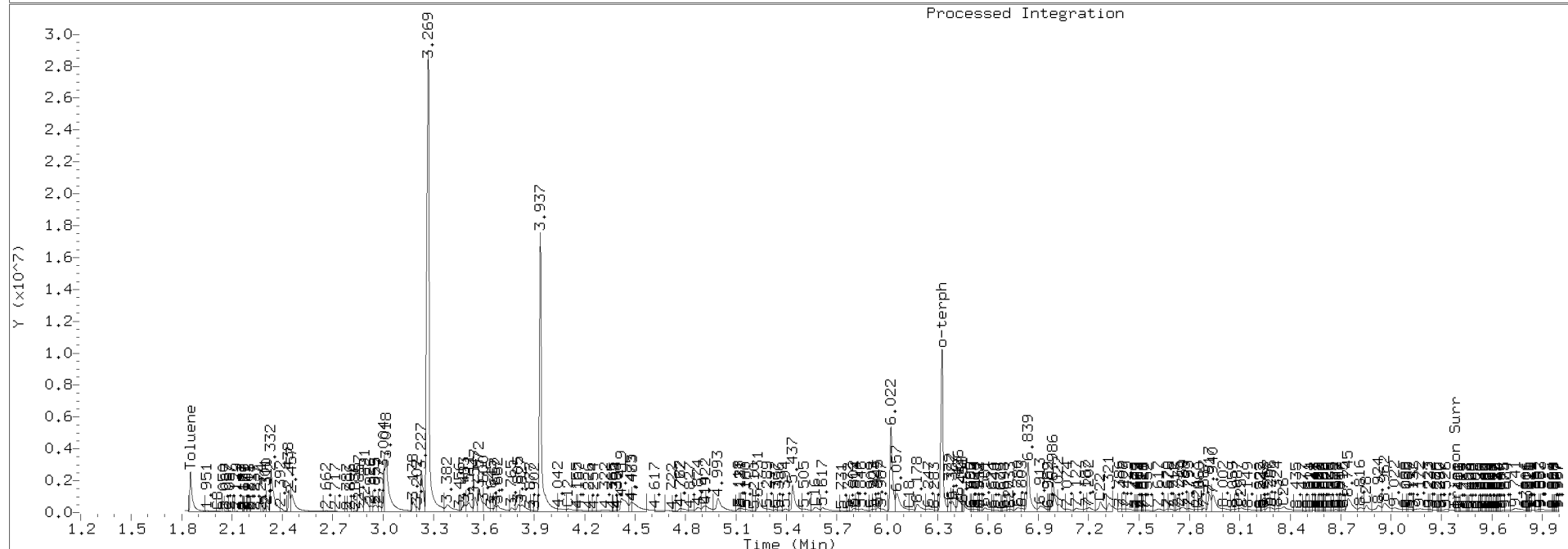
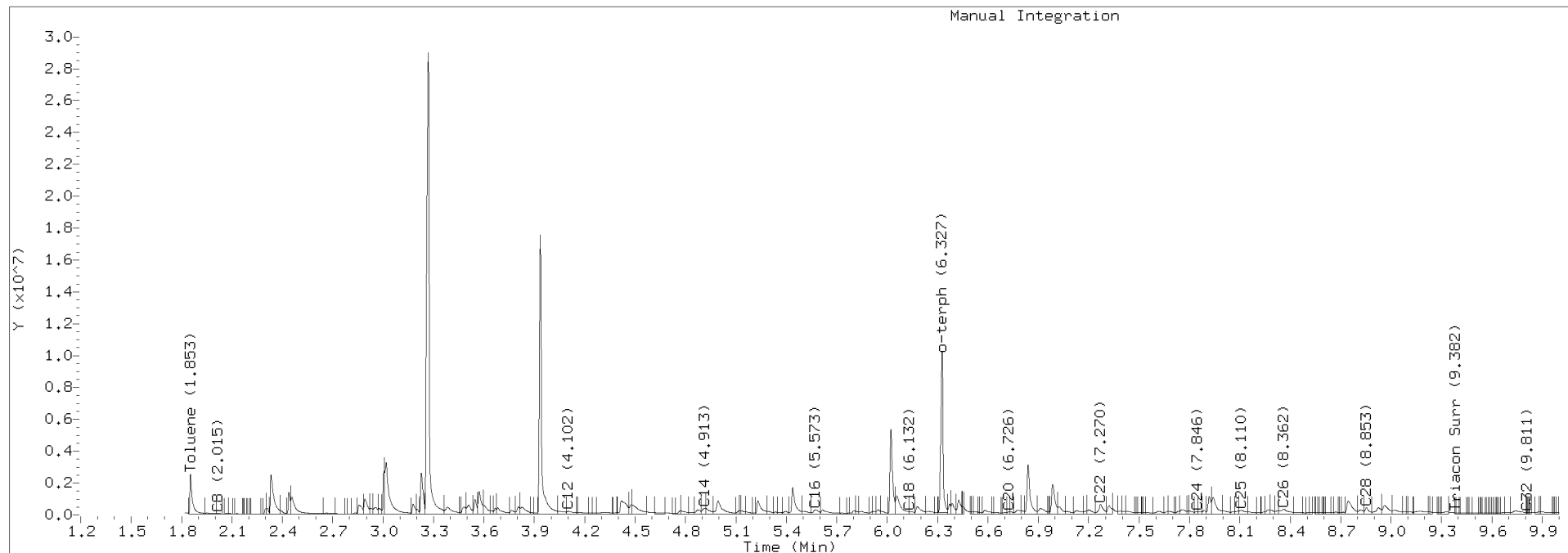
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1010.D Injection: 10-AUG-2020 12:23

Lab ID:SEQ-CAL3



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1011.D
Date: 10-AUG-2020 12:43

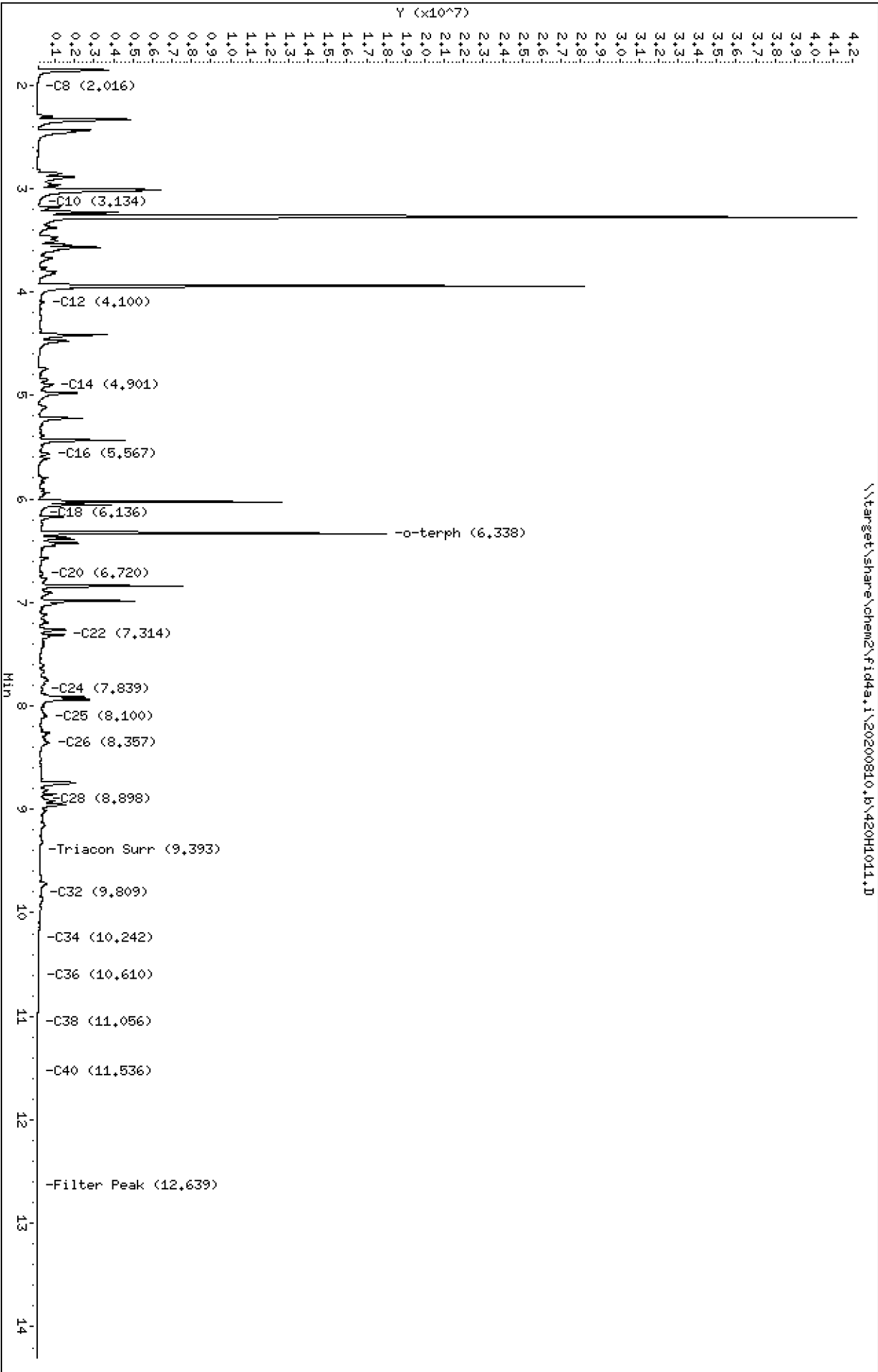
Client ID:
Sample Info: SEQ-CAL4

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1011.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL4
Client ID:
Injection: 10-AUG-2020 12:43
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

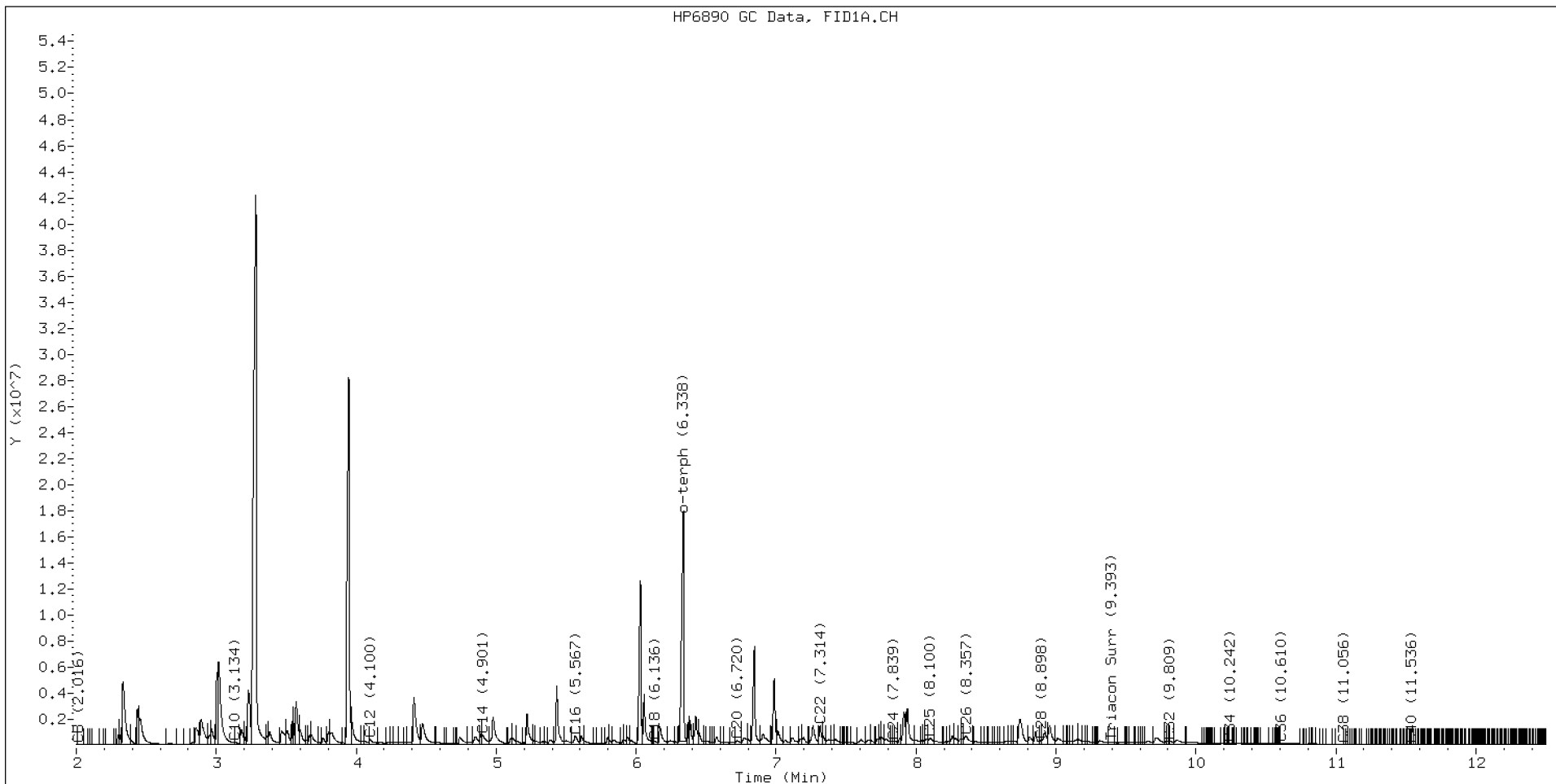
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.016	0.017	24926	59167	WATPHD	(C12-C24)	103926698	652.2
C10	3.134	0.022	150444	235035	WATPHM	(C24-C38)	45820283	452.9
C12	4.100	0.007	374328	737397	AK102	(C10-C25)	235546622	1204.9
C14	4.901	0.004	751227	1307415	AK103	(C25-C36)	37291444	509.4
C16	5.567	0.023	643749	1189010	OR.DIES	(C10-C28)	254051179	1296.2
C18	6.136	-0.002	231616	350832				
C20	6.720	-0.003	299567	566605	JET-A	(C10-C18)	181572311	1081.4
C22	7.314	0.023	1420953	1498483				
C24	7.839	-0.003	259197	166369				
C25	8.100	-0.011	495518	989810				
C26	8.357	-0.019	638808	1623602				
C28	8.898	0.016	333560	331673				
C32	9.809	-0.002	229023	124533				
C34	10.242	0.005	88773	91037				
Filter Peak	12.639	-0.001	2788	1651	CREOSOT	(C12-C22)	95404139	1058.5
C36	10.610	-0.033	86162	550400				
C38	11.056	0.002	27157	25166				
C40	11.536	-0.002	10651	4226				
o-terph	6.338	0.001	17707002	18789469				
Triacon Surr	9.393	0.009	169162	447494	NAS DIES	(C10-C24)	227630229	1166.4

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	18789469	91.8 M
Triacontane	447494	3.0

M Indicates the peak was manually integrated

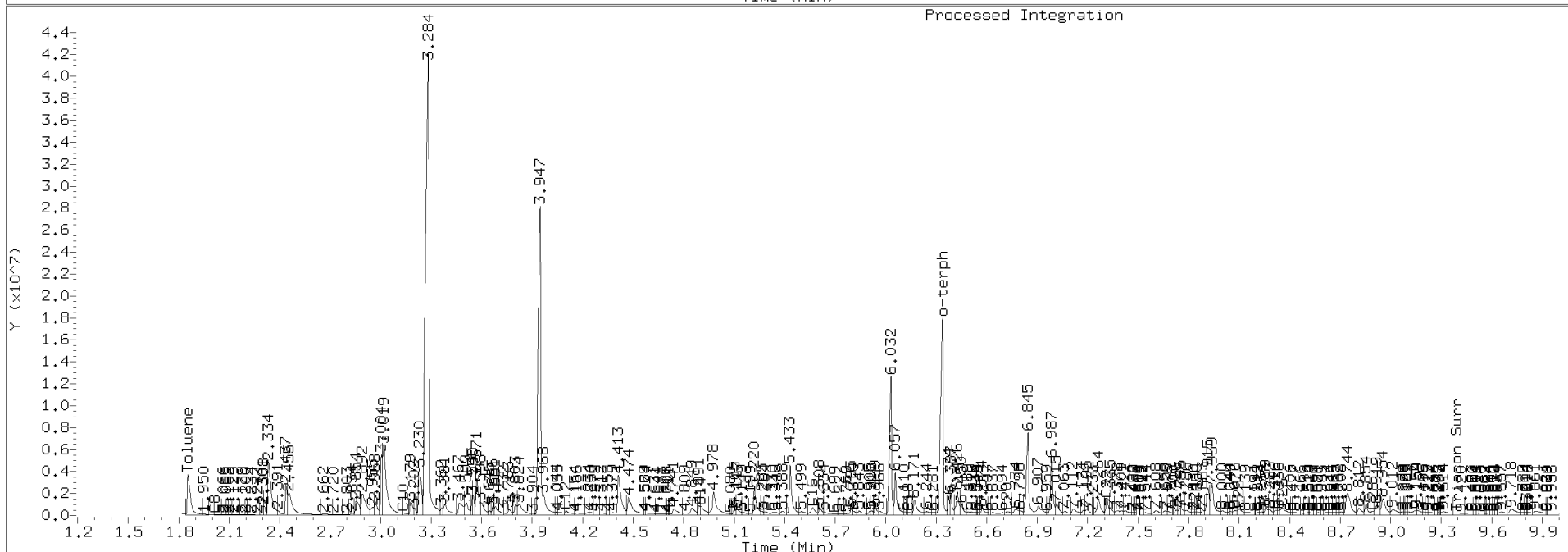
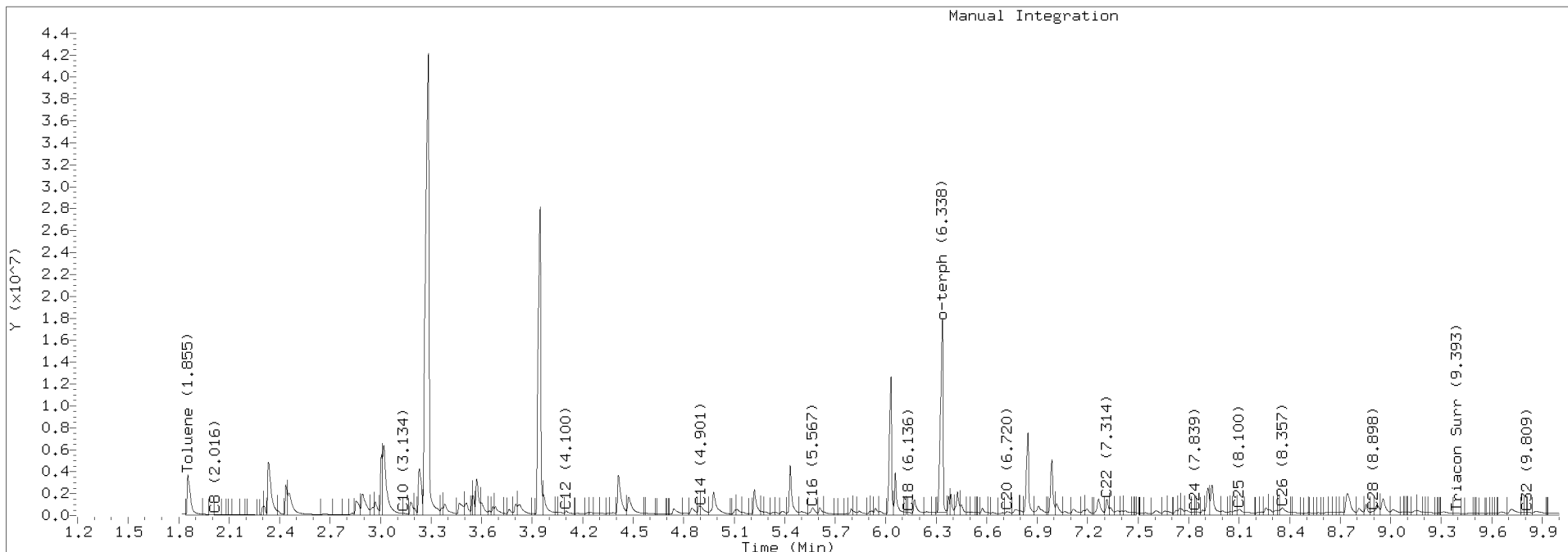
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1011.D Injection: 10-AUG-2020 12:43

Lab ID:SEQ-CAL4



Data File: \\target\share\chem2\fid4a,1\20200810_b\420H1012.D
Date: 10-AUG-2020 13:02

Client ID:

Sample Info: SEQ-CALS

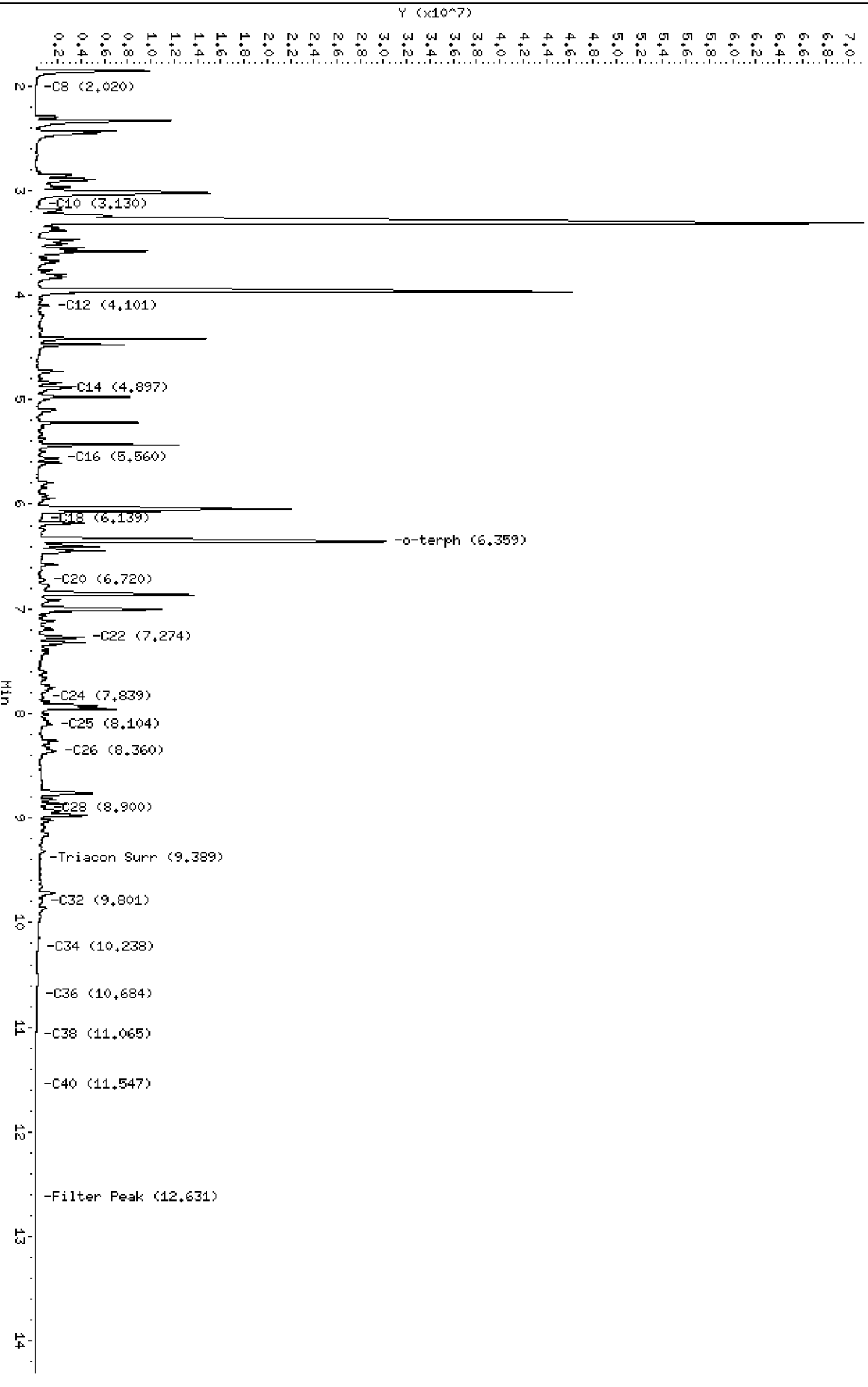
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810_b\420H1012.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1012.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL5
Client ID:
Injection: 10-AUG-2020 13:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

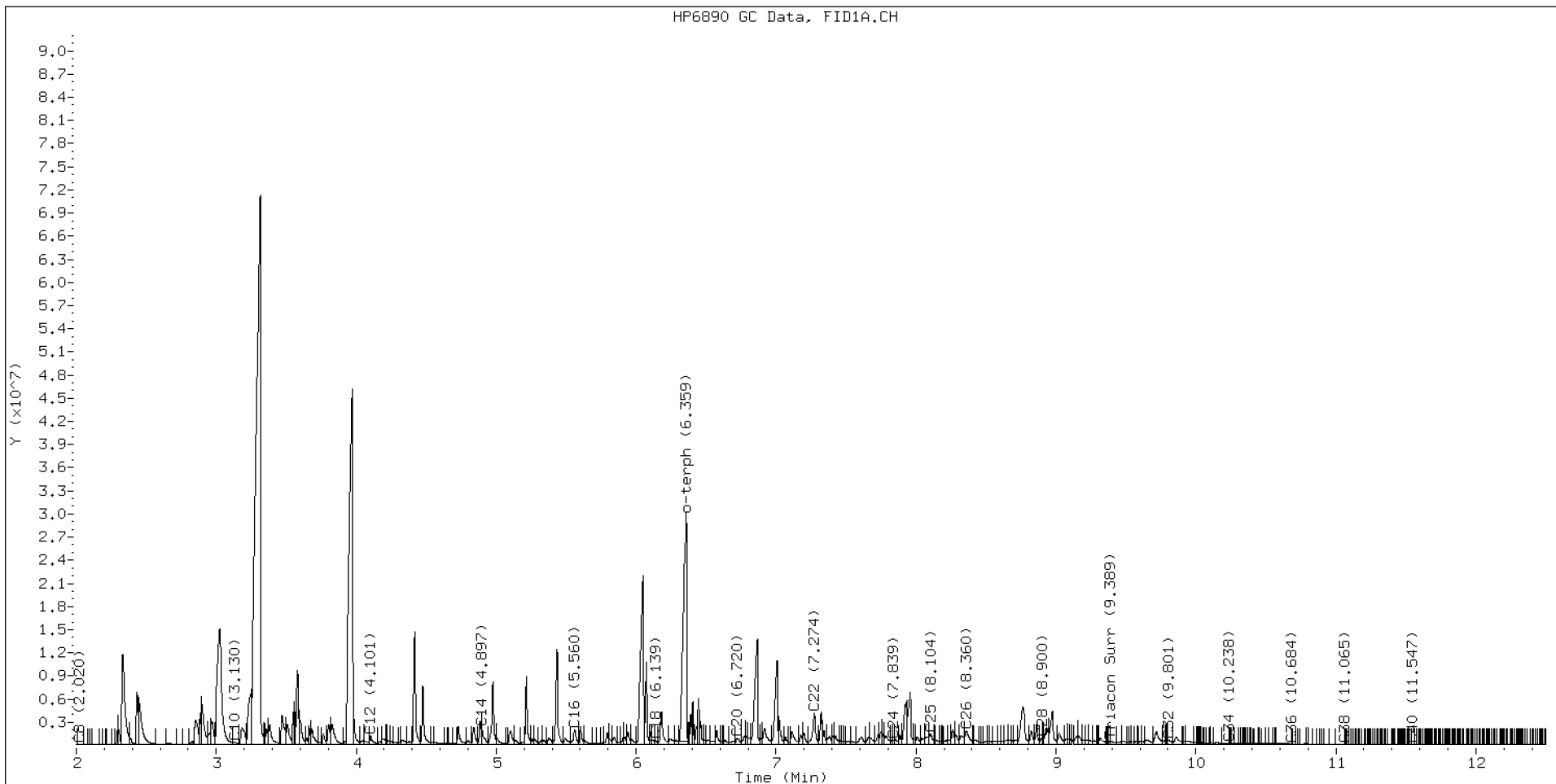
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.020	0.021	52370	125836	WATPHD	(C12-C24)	268023483	1682.1
C10	3.130	0.018	317129	695453	WATPHM	(C24-C38)	117269407	1159.2
C12	4.101	0.008	1186747	1663447	AK102	(C10-C25)	600790147	3073.2
C14	4.897	-0.000	2168738	2784429	AK103	(C25-C36)	95264608	1301.3
C16	5.560	0.016	1984017	3122013	OR.DIES	(C10-C28)	644811716	3289.9
C18	6.139	0.001	562391	706347				
C20	6.720	-0.003	826278	1411340	JET-A	(C10-C18)	461462580	2748.5
C22	7.274	-0.017	4123124	6213742				
C24	7.839	-0.003	669495	624603				
C25	8.104	-0.008	1393399	2367433				
C26	8.360	-0.016	1824142	4074782				
C28	8.900	0.018	833163	754960				
C32	9.801	-0.009	606450	1103529				
C34	10.238	0.001	193616	76806				
Filter Peak	12.631	-0.009	7657	6760	CREOSOT	(C12-C22)	243658159	2703.5
C36	10.684	0.041	121011	48208				
C38	11.065	0.011	57098	25623				
C40	11.547	0.009	26888	36992				
o-terph	6.359	0.021	29618277	48519579				
Triacon Surr	9.389	0.005	451742	414470	NAS DIES	(C10-C24)	580343650	2973.9

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	48519579	237.0 M
Triacontane	414470	2.8

M Indicates the peak was manually integrated

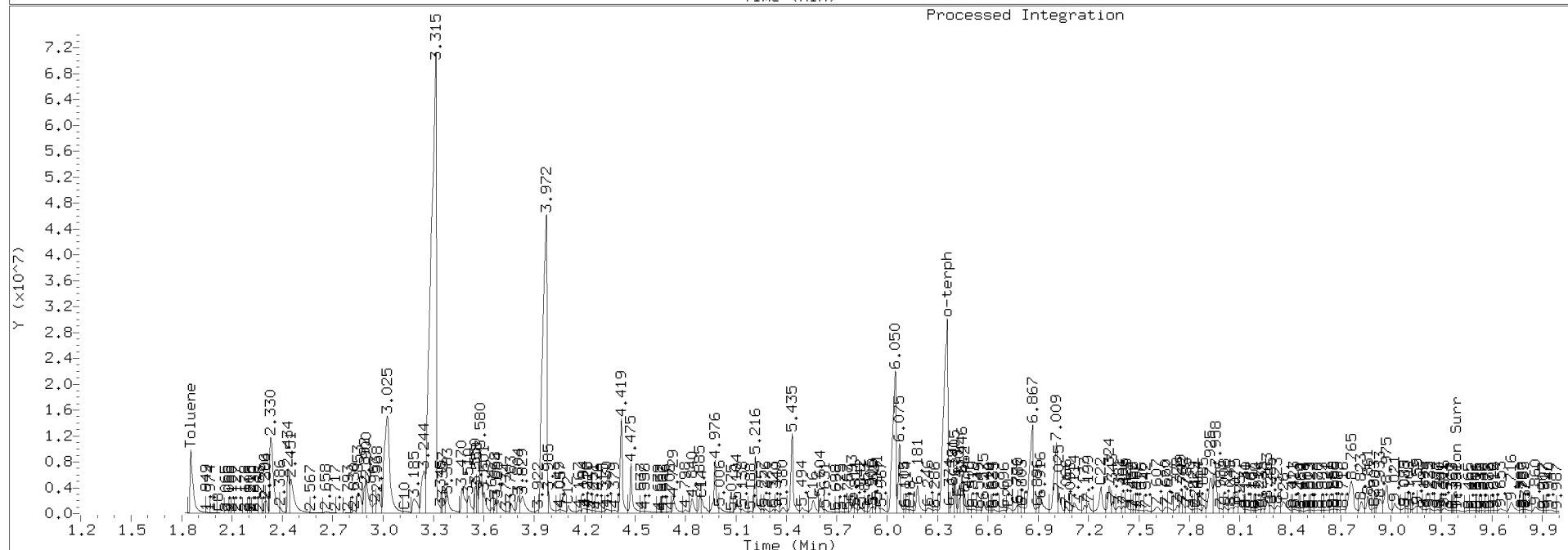
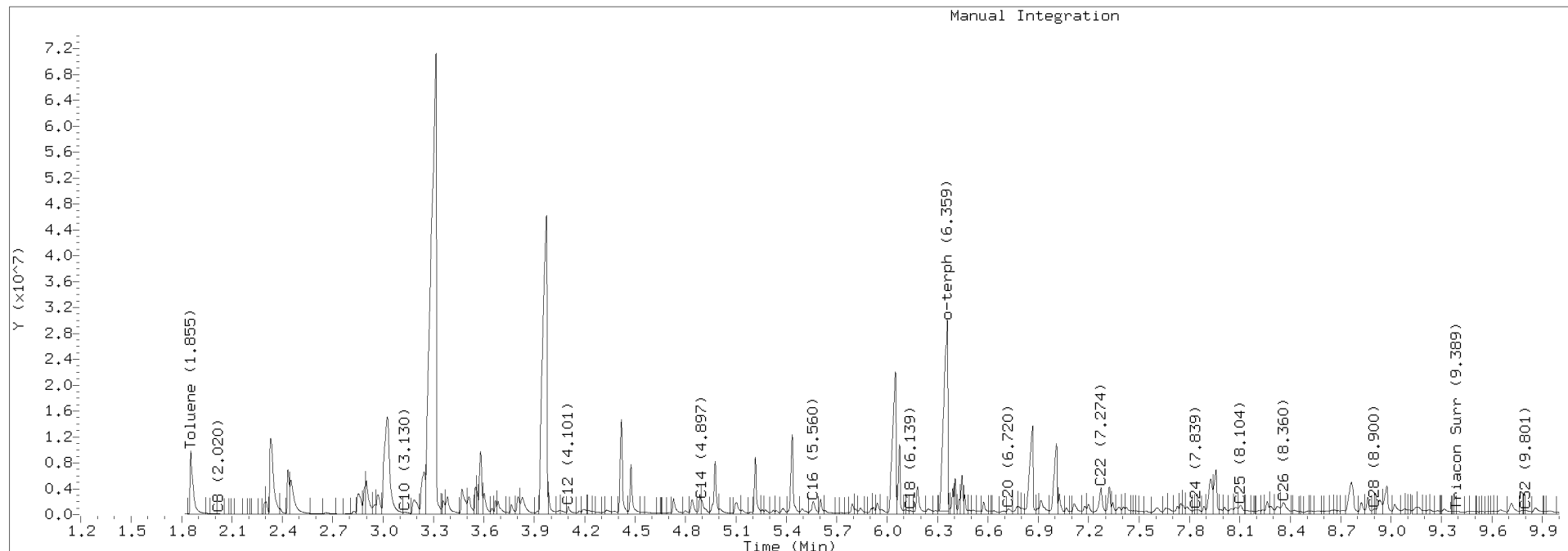
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1012.D Injection: 10-AUG-2020 13:02

Lab ID:SEQ-CAL5



Data File: \\target\share\chem2\fid4a,1\20200810,b\420H1013.D
Date: 10-AUG-2020 13:22

Client ID:

Sample Info: SEQ-CAL6

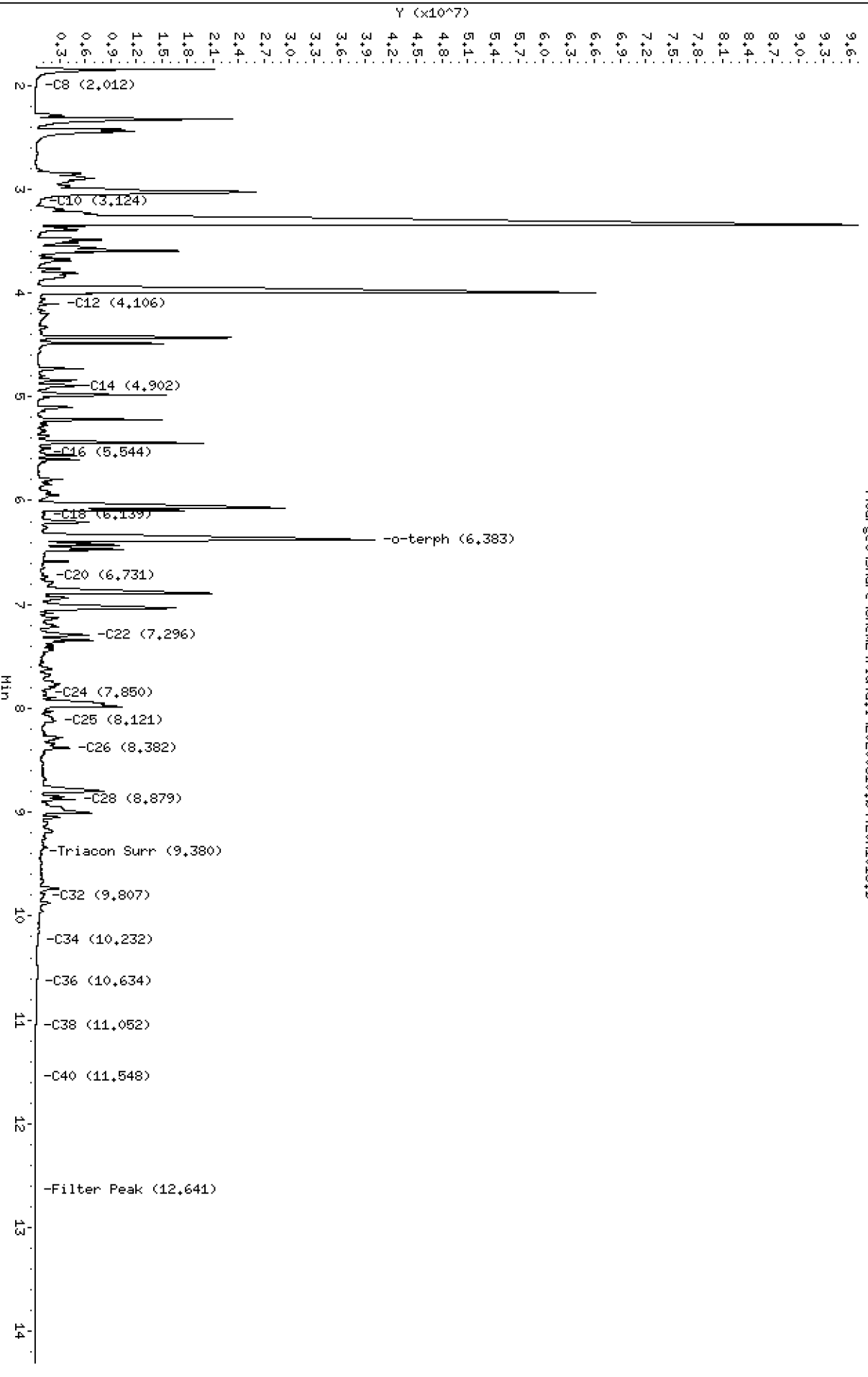
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200810,b\420H1013.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200810.b/420H1013.D
Method: 20200810.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/10/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CAL6
Client ID:
Injection: 10-AUG-2020 13:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

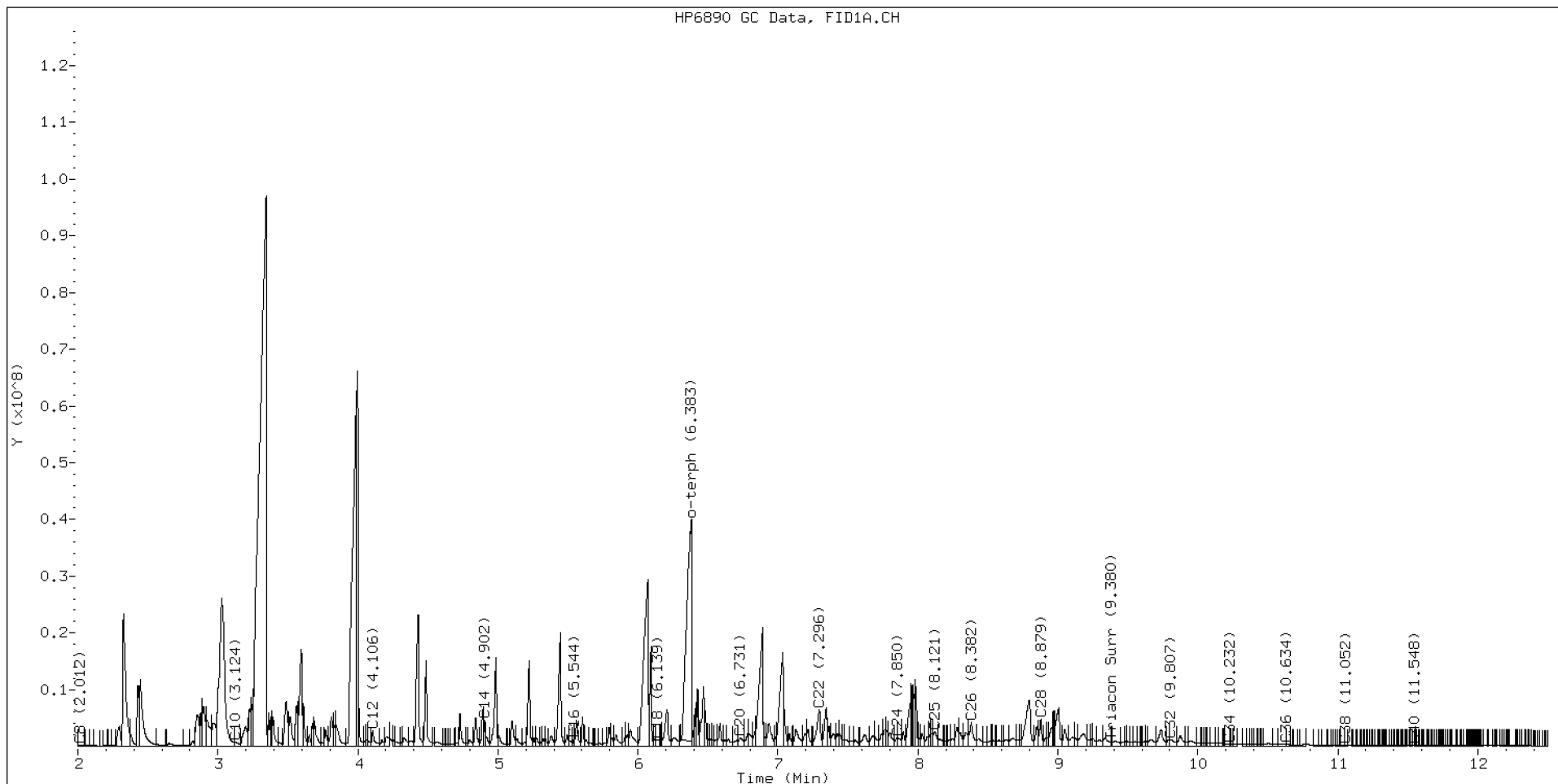
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.012	0.013	95463	213698	WATPHD	(C12-C24)	510718478	3205.3
C10	3.124	0.012	658048	1310273	WATPHM	(C24-C38)	217018558	2145.2
C12	4.106	0.013	2689100	3210487	AK102	(C10-C25)	1154977604	5908.1
C14	4.902	0.005	4529096	3169210	AK103	(C25-C36)	174815307	2388.0
C16	5.544	0.000	1186254	882489	OR.DIES	(C10-C28)	1241149517	6332.4
C18	6.139	0.000	1097209	1614733				
C20	6.731	0.008	1395502	2758564	JET-A	(C10-C18)	878617104	5233.0
C22	7.296	0.005	6358775	11740148				
C24	7.850	0.009	1319296	1273820				
C25	8.121	0.010	2507724	4067646				
C26	8.382	0.006	4064229	7597038				
C28	8.879	-0.003	4657449	5361411				
C32	9.807	-0.004	1046694	2394813				
C34	10.232	-0.005	290793	72598				
Filter Peak	12.641	0.000	7890	3140	CREOSOT	(C12-C22)	458251561	5084.4
C36	10.634	-0.009	213530	321534				
C38	11.052	-0.002	80686	94358				
C40	11.548	0.010	35419	22895				
o-terph	6.383	0.045	38995622	94112864				
Triacon Surr	9.380	-0.004	670067	426371	NAS DIES	(C10-C24)	1115021496	5713.7

Range Times: NW Diesel(4.093 - 7.841) AK102(3.11 - 8.11) Jet A(3.11 - 6.14)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	94112864	459.8 M
Triacontane	426371	2.9

M Indicates the peak was manually integrated

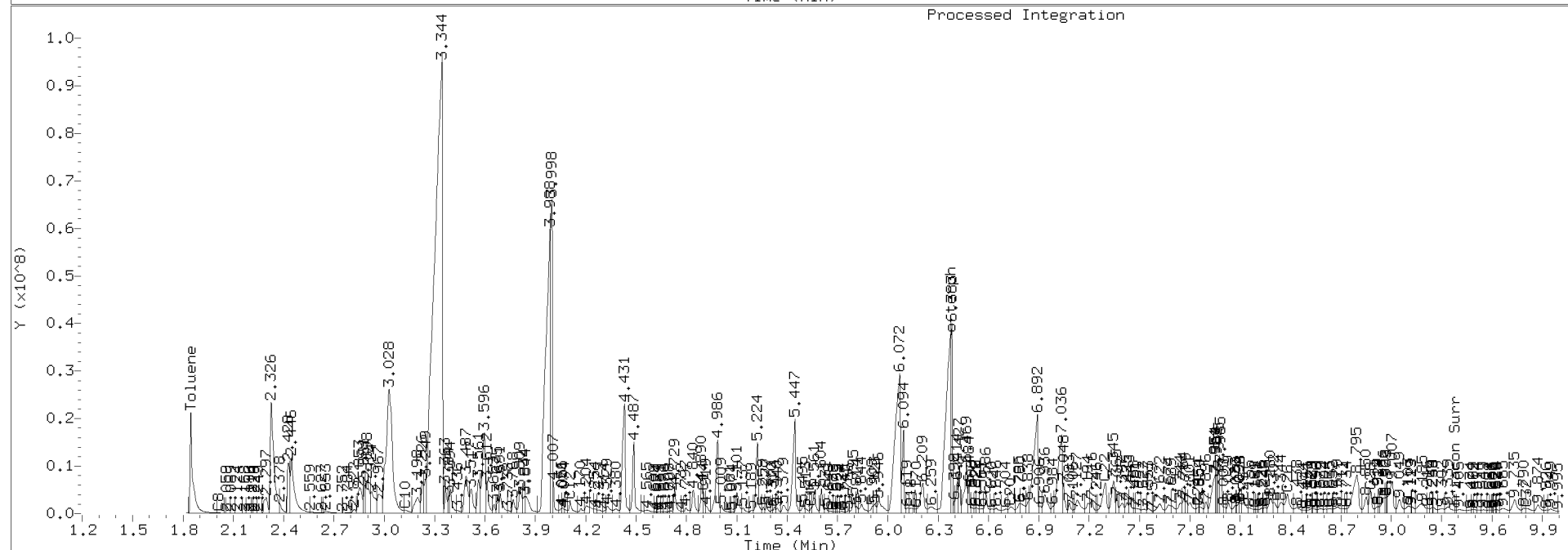
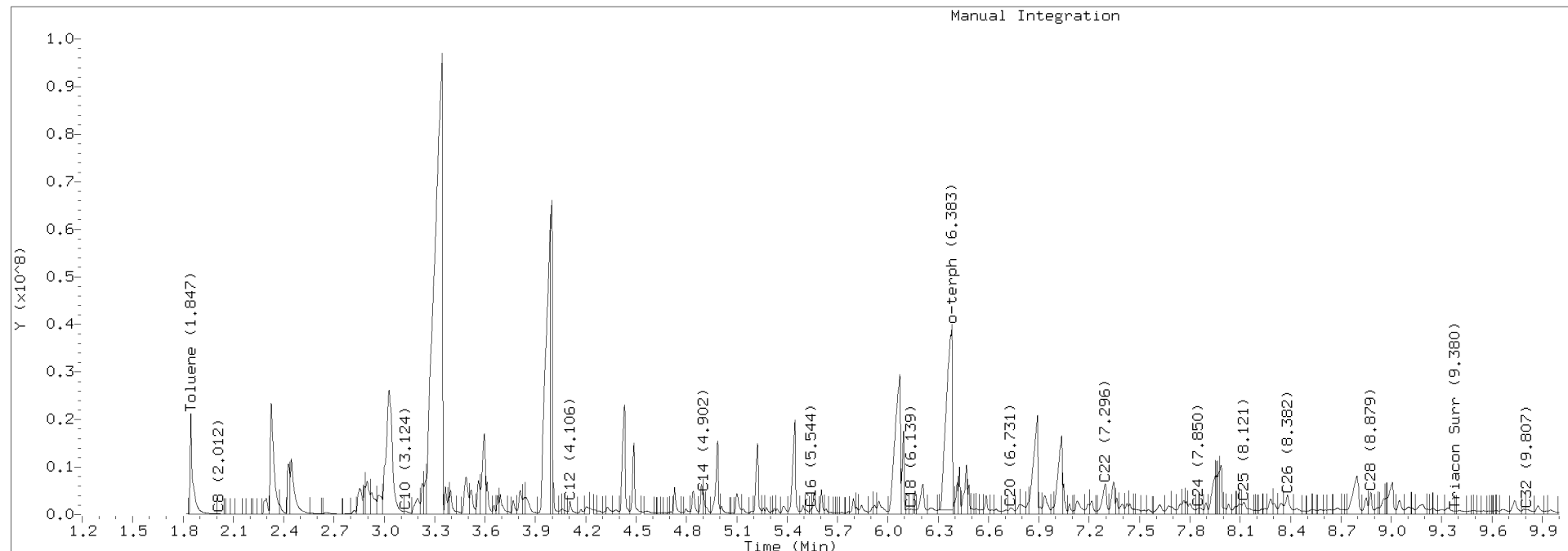
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



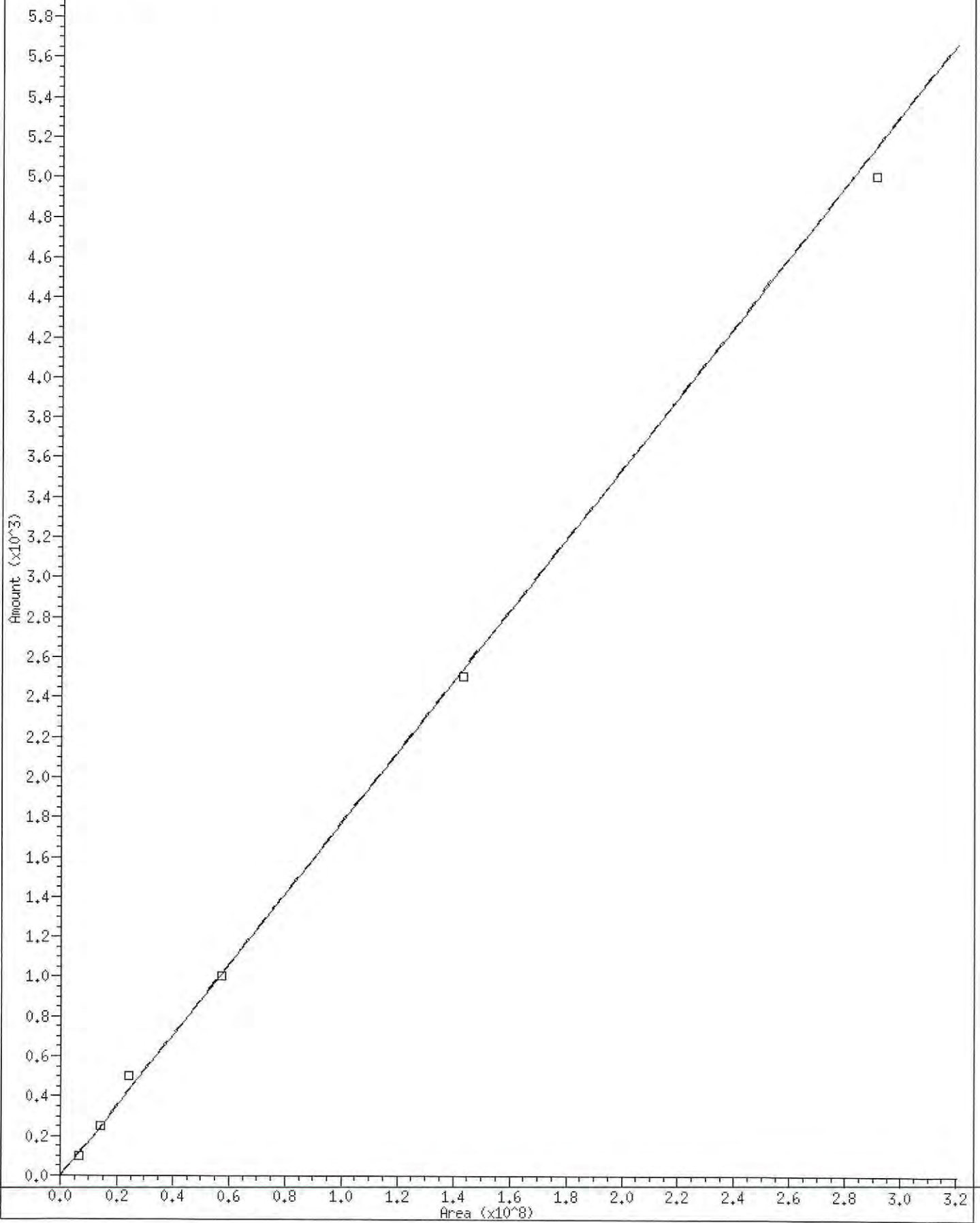
TPH Manual Integrations Report

Datafile: FID4A, 20200810.b/420H1013.D Injection: 10-AUG-2020 13:22

Lab ID:SEQ-CAL6



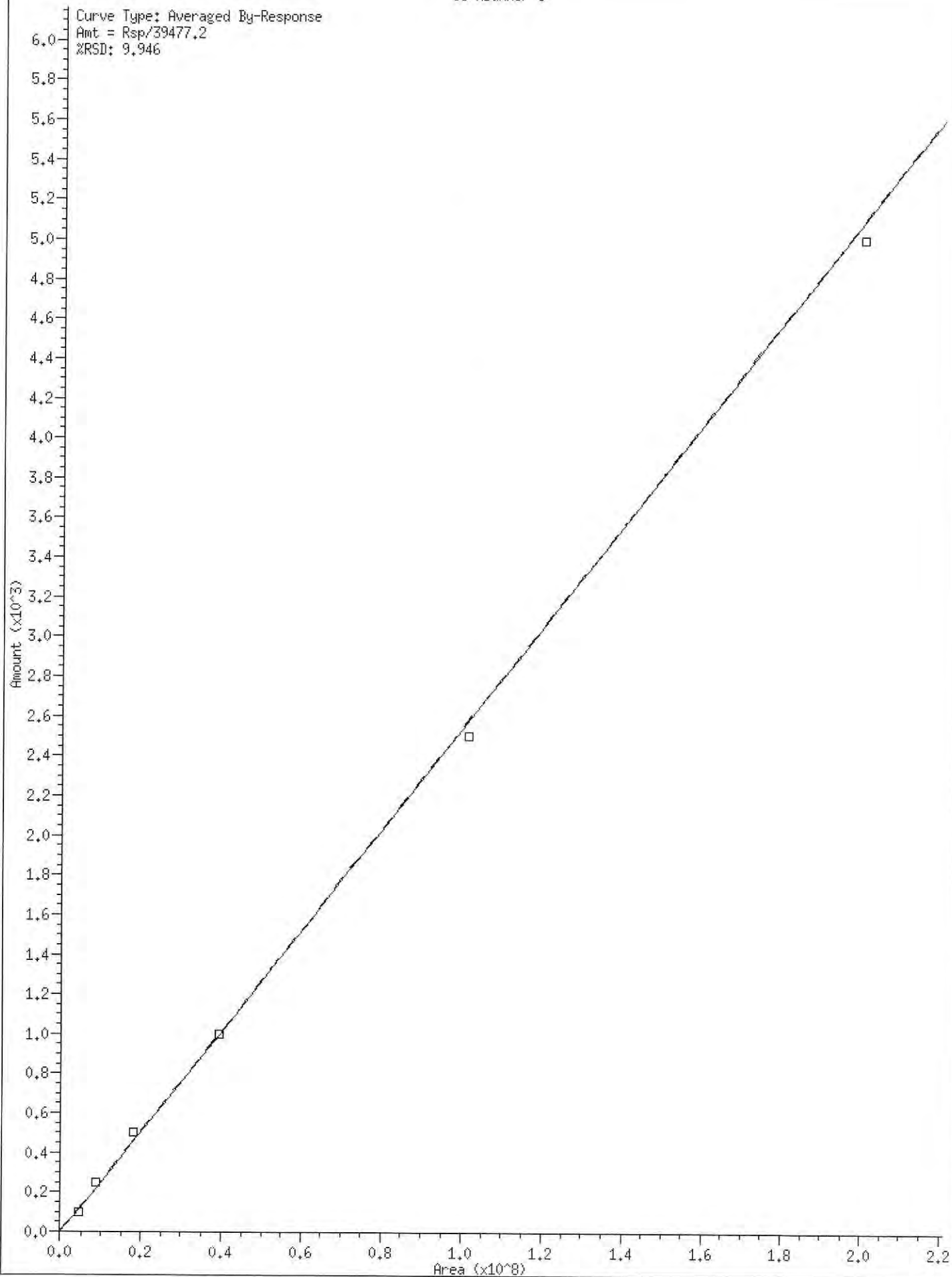
Curve Type: Averaged By-Response
Amt = Rsp/56572.1
%RSD: 8.647



Curve Type: Averaged By-Response

Amt = Rsp/39477.2

%RSD: 9.946





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0126

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV1

Sequence: SHJ0406

Sequence Name: DIESEL SCV

Standard ID: H008294

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	511	2.2	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025_b\419J2513.D

Date: 25-OCT-2019 15:52

Client ID:

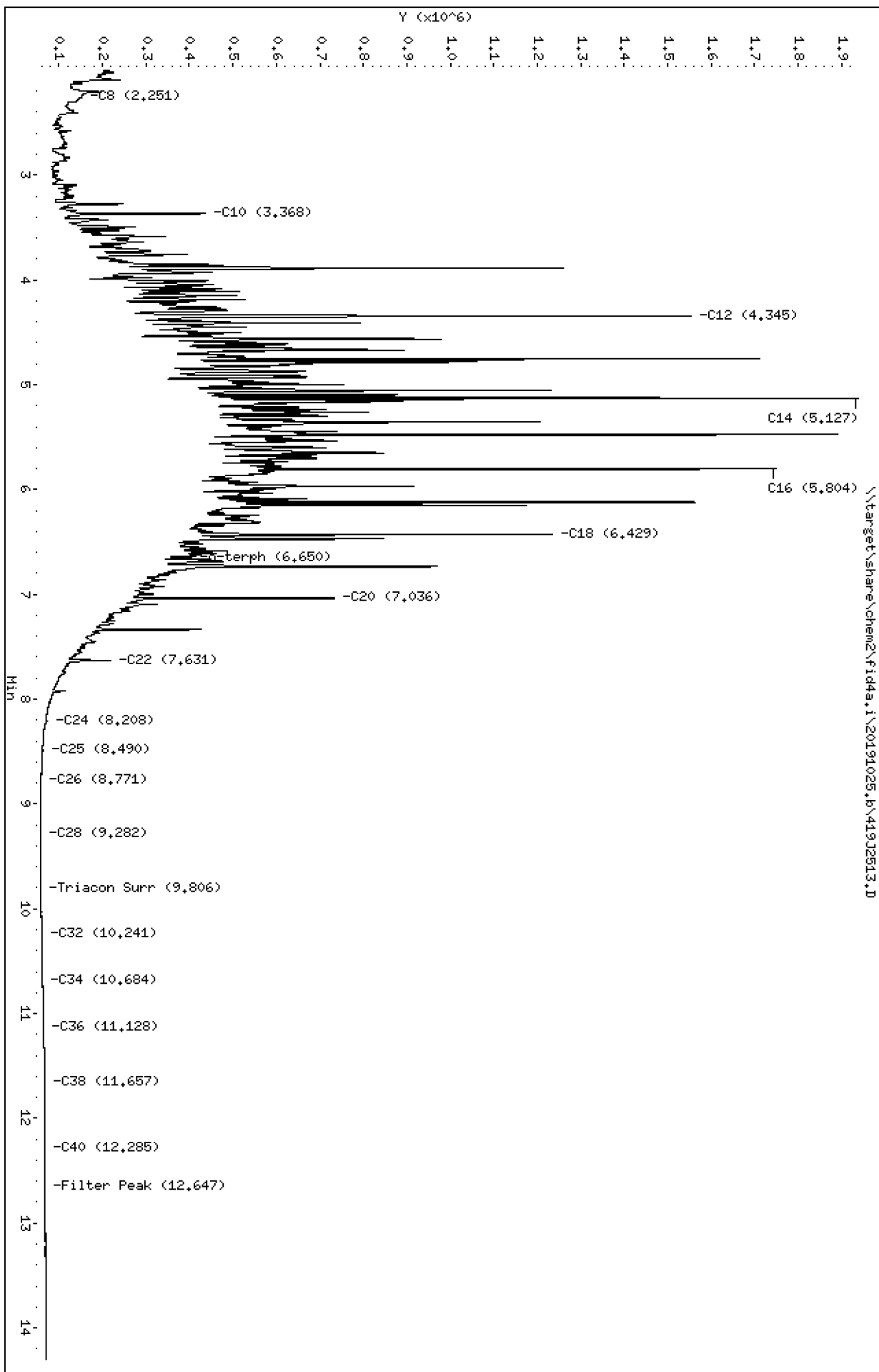
Sample Info: SHJ0406-SCW1

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2513.D

ARI ID: SHJ0406-SCV1

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 15:52

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

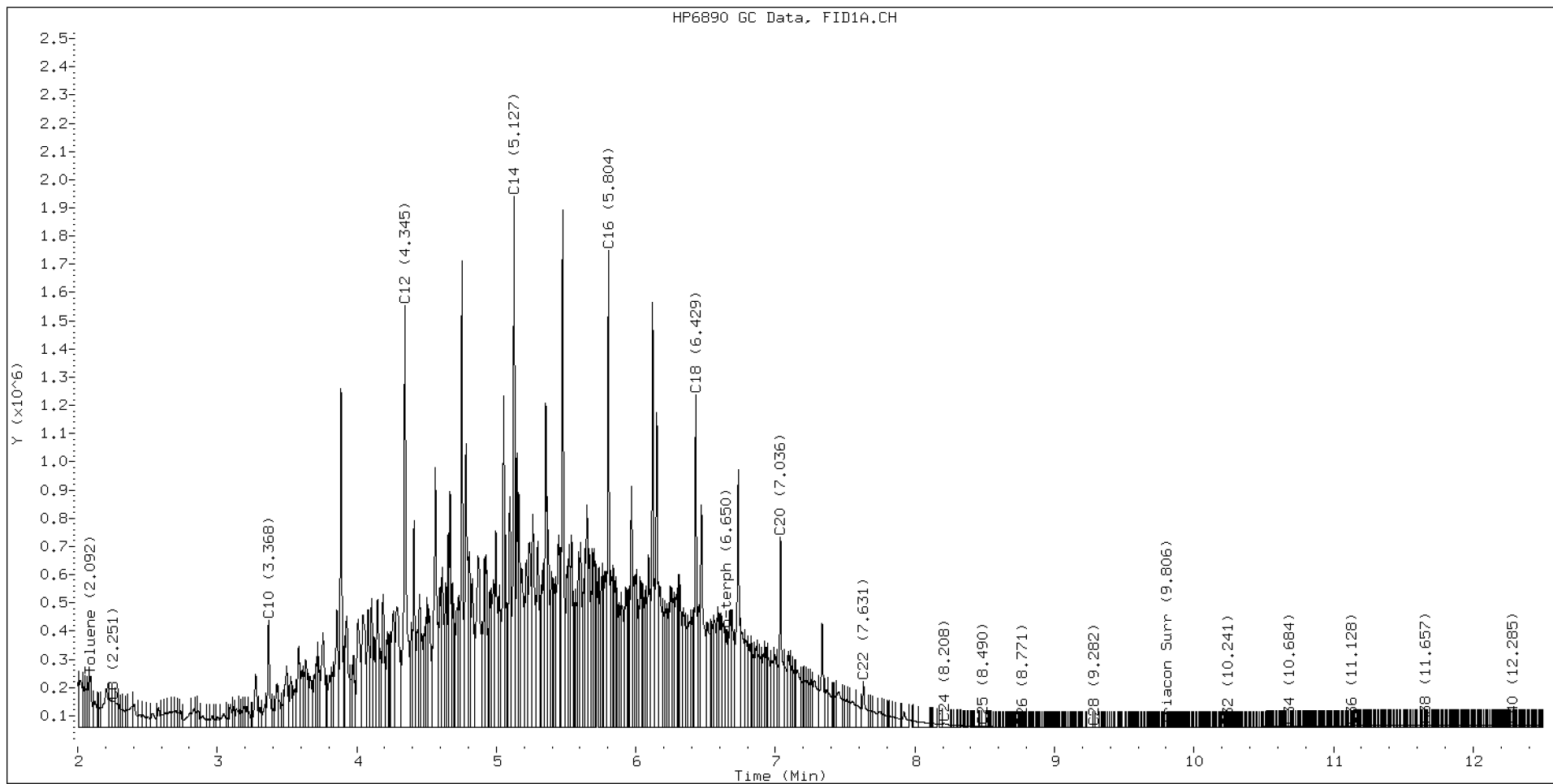
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.251	-0.011	94961	147864	WATPHD	(C12-C24)	81454017	511.2
C10	3.368	-0.005	379319	401979	WATPHM	(C24-C38)	639731	4.8
C12	4.345	-0.002	1496096	1990616	AK102	(C10-C25)	97704414	499.8
C14	5.127	-0.002	1881566	1510979	AK103	(C25-C36)	332991	3.3
C16	5.804	-0.003	1693335	1468242	OR.DIES	(C10-C28)	97755450	498.8
C18	6.429	-0.006	1178327	1173671				
C20	7.036	-0.007	676475	771884				
C22	7.631	-0.008	162529	245982				
C24	8.208	-0.007	16269	46701				
C25	8.490	-0.003	4835	8168				
C26	8.771	0.006	1378	465				
C28	9.282	-0.003	218	122				
C32	10.241	-0.001	2076	410				
C34	10.684	0.003	4334	2137				
Filter Peak	12.647	-0.003	10515	4189	CREOSOT	(C12-C22)	80554511	20650.3
C36	11.128	-0.001	6869	2744				
C38	11.657	0.008	8764	3056				
C40	12.285	-0.004	9988	4995				
o-terph	6.650	-0.007	347314	350999				
Triacon Surr	9.806	0.003	1146	388	NAS DIES	(C10-C24)	97645351	500.4

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	350999	1.7
Triacontane	388	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0126

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: CJ00089

Laboratory ID: SHJ0406-SCV2

Sequence: SHJ0406

Sequence Name: MOIL SCV

Standard ID: H008399

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	1020	1.9	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20191025 JB\419J2520.D

Date: 25-OCT-2019 18:14

Client ID:

Sample Info: SHJ0406-SCV2

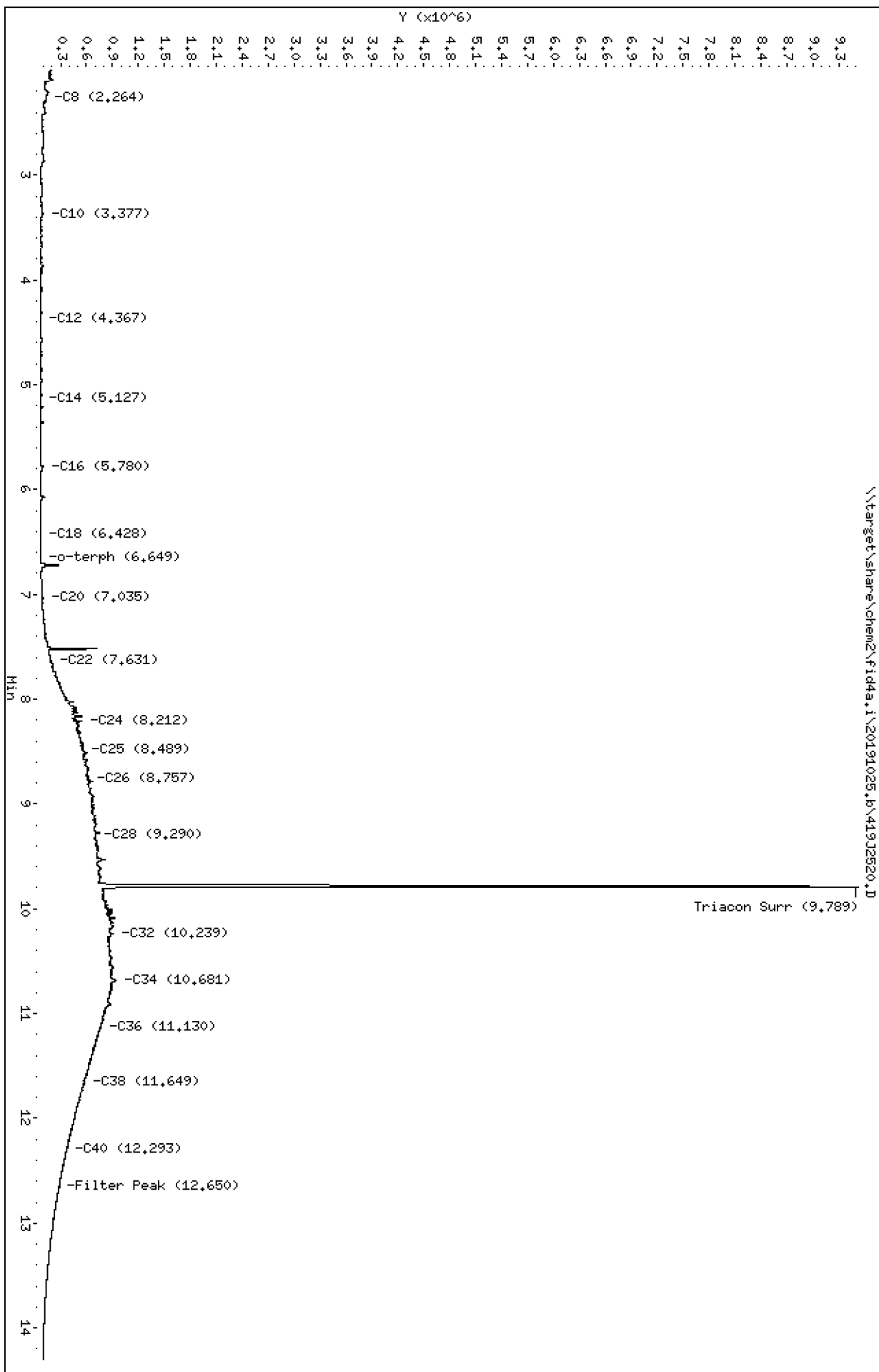
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO/SH/VTS/JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20191025.b/419J2520.D

ARI ID: SHJ0406-SCV2

Method: 20191025.b\FID4TPH.m

Client ID:

Instrument: fid4a.i, CTO/SH/VTS/JGR

Injection: 25-OCT-2019 18:14

Report Date: 10/30/2019

Dilution Factor: 1

Macro: 09-SEP-2019

RT Std: 419H1603.D

Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

FID:4A RESULTS

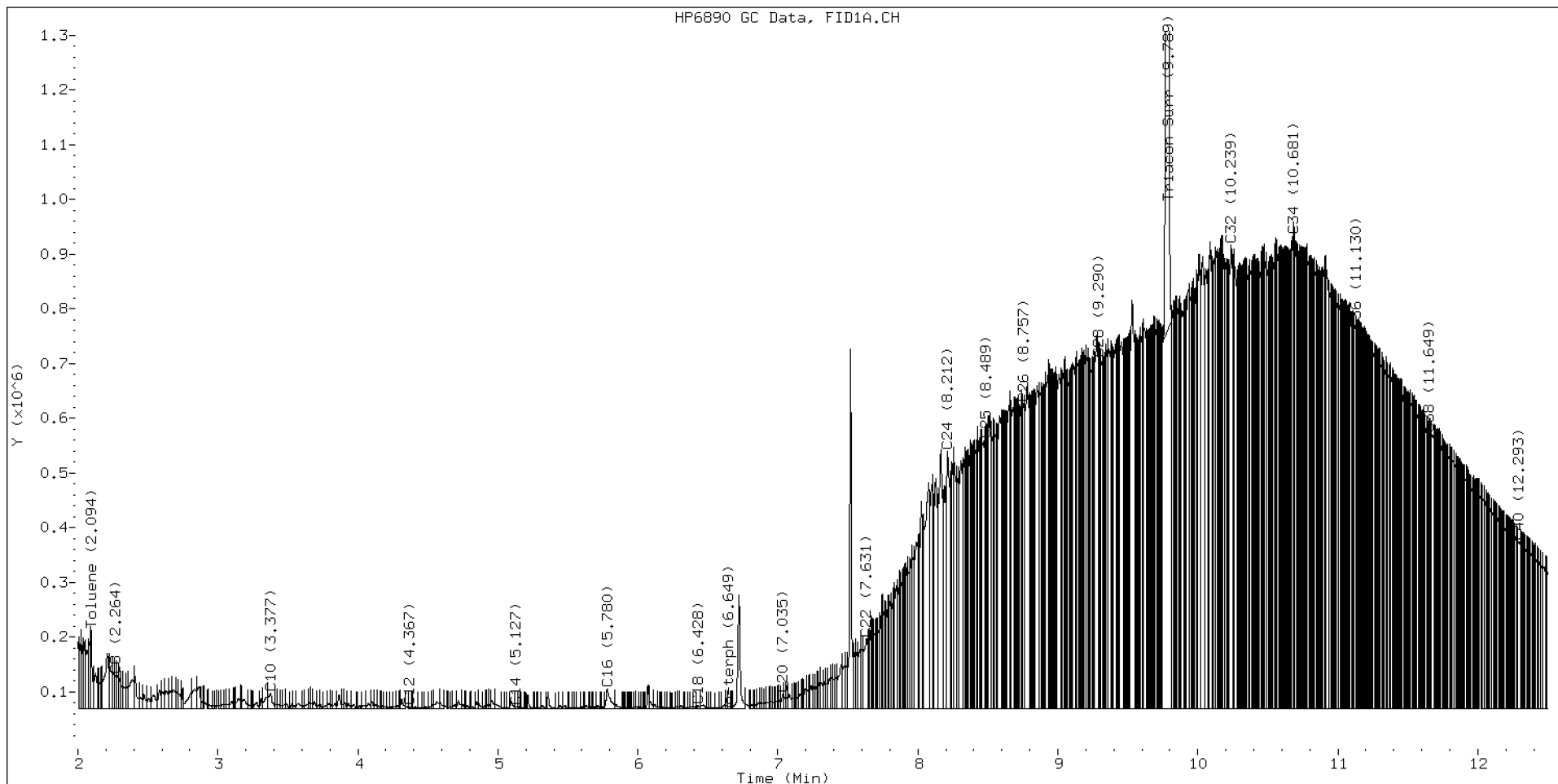
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.264	0.002	61386	42202	WATPHD	(C12-C24)	14006466	87.9
C10	3.377	0.004	28038	52387	WATPHM	(C24-C38)	135195593	1019.3
C12	4.367	0.020	3146	3151	AK102	(C10-C25)	18822986	96.3
C14	5.127	-0.003	4143	4458	AK103	(C25-C36)	113030798	1130.6
C16	5.780	-0.027	35494	74348	OR.DIES	(C10-C28)	49340102	251.7
C18	6.428	-0.007	6156	6874				
C20	7.035	-0.008	26093	30304				
C22	7.631	-0.008	127794	247657				
C24	8.212	-0.003	471017	746279				
C25	8.489	-0.004	491516	98217				
C26	8.757	-0.008	557900	550938				
C28	9.290	0.005	640615	223711				
C32	10.239	-0.004	847729	1306304				
C34	10.681	-0.000	865603	764427				
Filter Peak	12.650	-0.000	213232	84835	CREOSOT	(C12-C22)	3605357	924.2
C36	11.130	0.001	692159	413129				
C38	11.649	-0.001	503231	200454				
C40	12.293	0.004	305287	287895				
o-terph	6.649	-0.008	4022	3699				
Triacon Surr	9.789	-0.013	8762887	8519530	NAS DIES	(C10-C24)	14444503	74.0

Range Times: NW Diesel(4.347 - 8.215) AK102(3.37 - 8.49) Jet A(3.37 - 6.43)
 NW M.Oil(8.21 - 11.65) AK103(8.49 - 11.13) OR Diesel(3.37 - 9.29)

Surrogate	Area	Amount
o-Terphenyl	3699	0.0
Triacontane	8519530	47.9 M

M Indicates the peak was manually integrated

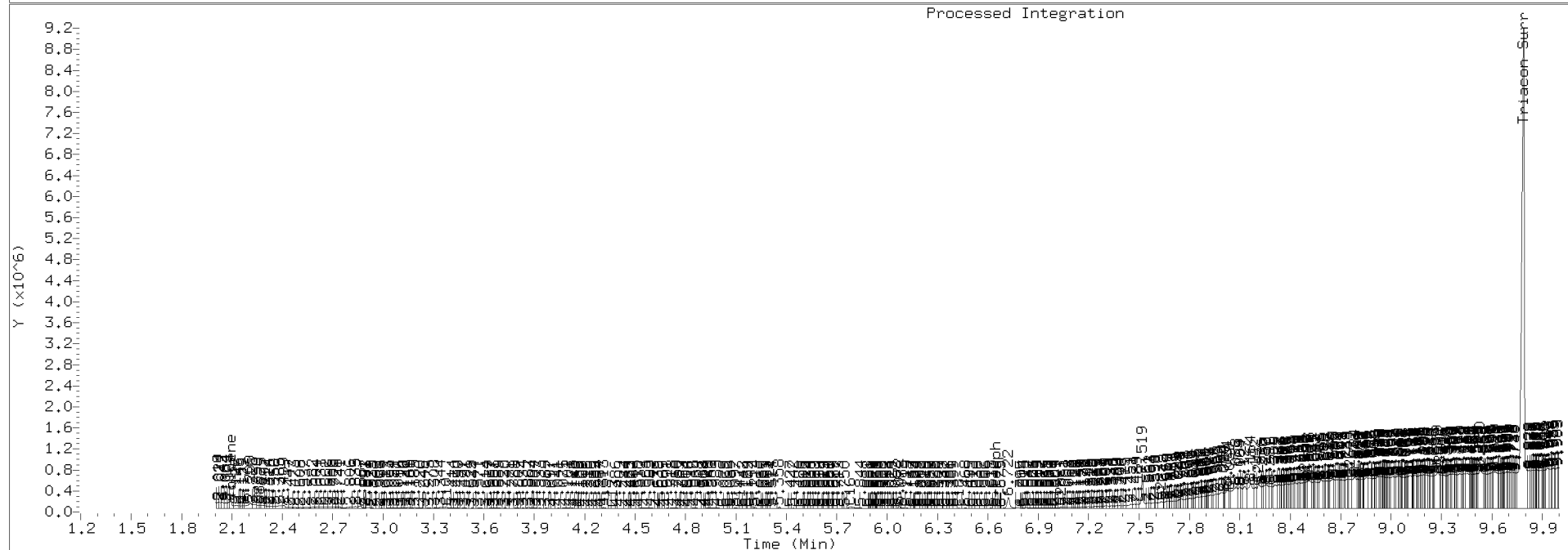
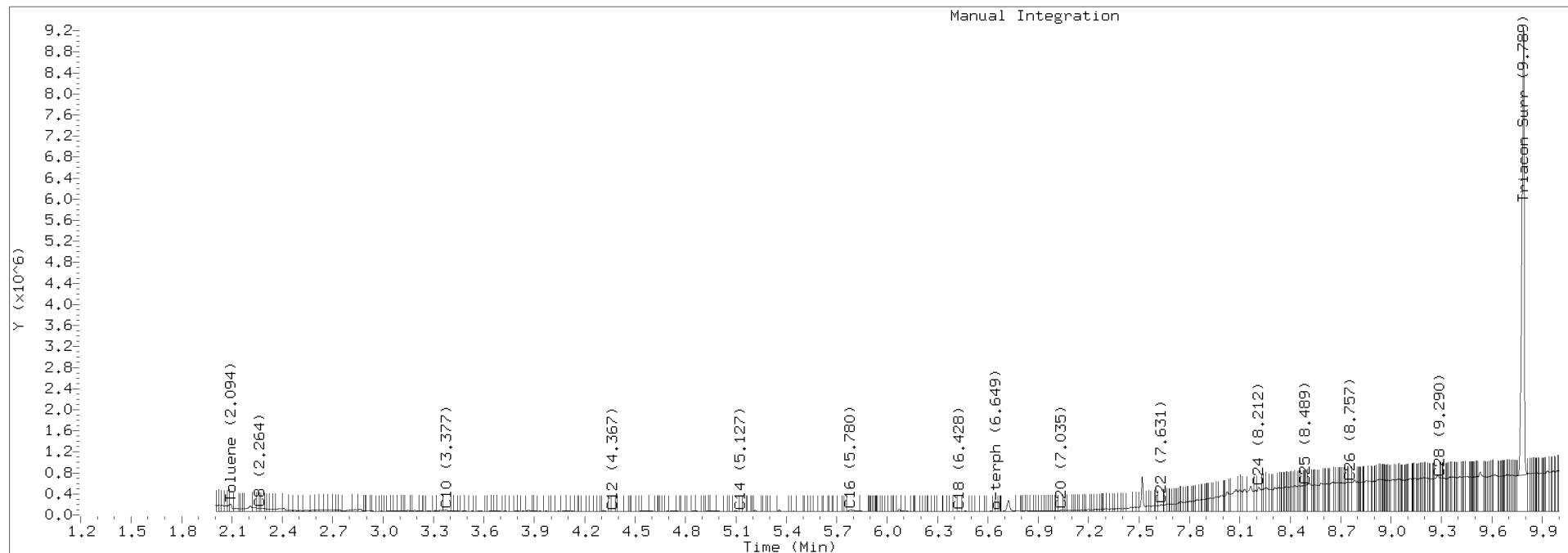
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	177979.9	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	132632.1	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	99976.4	25-OCT-2019
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	6149.8	07-OCT-2019
Creosote	3900.9	08-OCT-2019



TPH Manual Integrations Report

Datafile: FID4A, 20191025.b/419J2520.D Injection: 25-OCT-2019 18:14

Lab ID:SHJ0406-SCV2





SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0126

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperage

Calibration: DA00022

Laboratory ID: SIF0018-SCV1

Sequence: SIF0018

Sequence Name: MOIL SCV

Standard ID: I004757

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Motor Oil Range Organics (C24-C38)	1000.0	952	-4.8	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20200602_b\420F0211.D

Date : 02-JUN-2020 10:55

Client ID:

Sample Info: SIF0018-SCV1

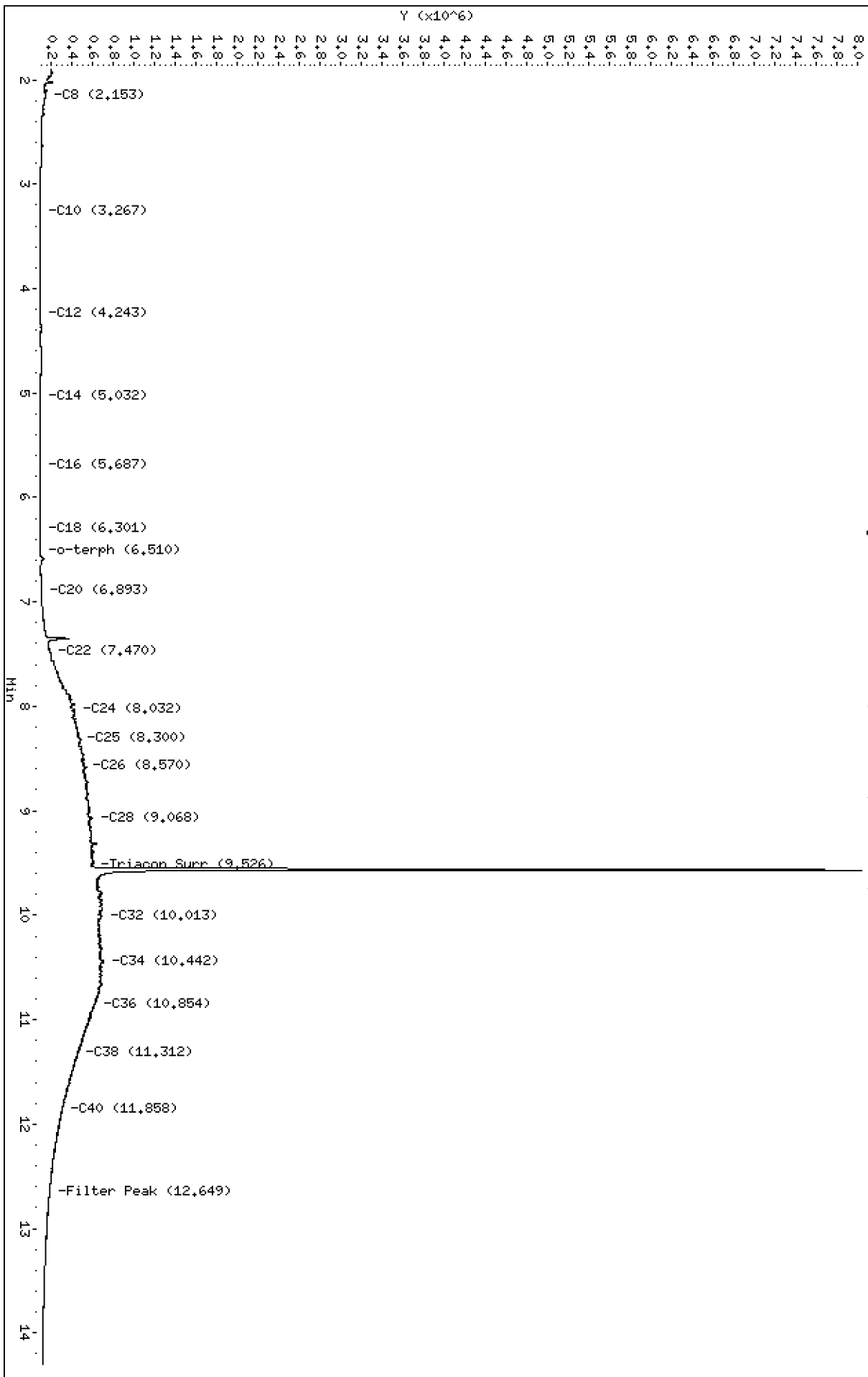
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20200602_b\420F0211.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200602.b/420F0211.D
Method: 20200602.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 06/02/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIF0018-SCV1
Client ID:
Injection: 02-JUN-2020 10:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

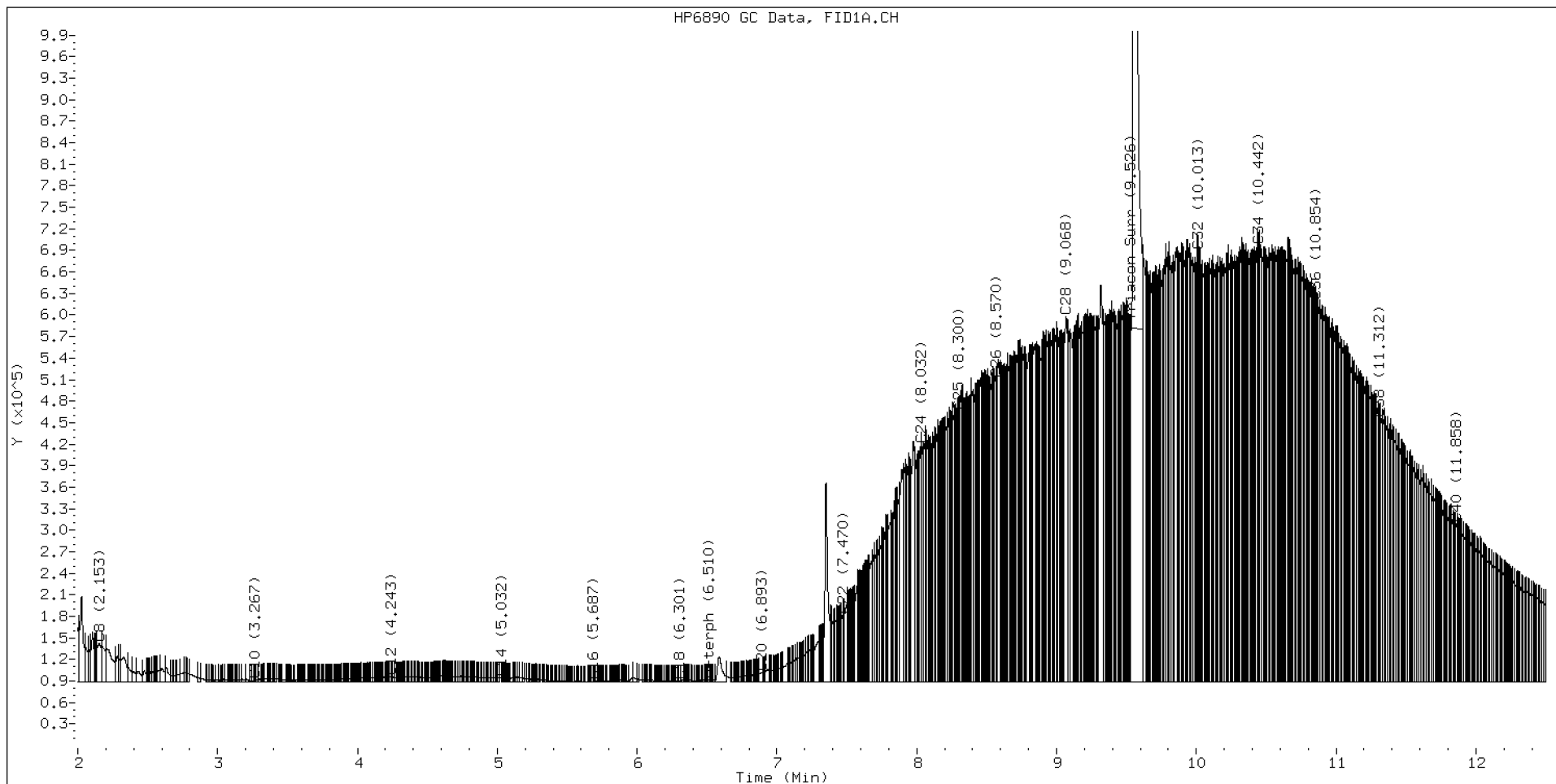
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.153	-0.003	53793	112352	WATPHD	(C12-C24)	10130617	63.6
C10	3.267	-0.001	3184	1798	WATPHM	(C24-C38)	96339891	952.3
C12	4.243	-0.001	6309	3433	AK102	(C10-C25)	13696411	70.1
C14	5.032	0.010	5041	1965	AK103	(C25-C36)	81704578	1116.1
C16	5.687	-0.002	418	225	OR.DIES	(C10-C28)	36730595	187.4
C18	6.301	0.002	1584	1331				
C20	6.893	0.005	13152	18749	JET-A	(C10-C18)	637720	3.8
C22	7.470	0.003	92369	58795				
C24	8.032	0.002	330875	354349				
C25	8.300	-0.001	376891	169098				
C26	8.570	0.005	421264	147085				
C28	9.068	-0.008	508527	807405				
C32	10.013	0.001	600890	237363				
C34	10.442	0.001	608272	242751				
Filter Peak	12.649	-0.003	94447	119849	CREOSOT	(C12-C22)	2566539	62.2
C36	10.854	-0.001	530087	263622				
C38	11.312	0.002	366594	183102				
C40	11.858	-0.003	220172	173259				
o-terph	6.510	0.003	2949	1966				
Triacon Surr	9.567	-0.013	7460477	7161172	NAS DIES	(C10-C24)	10346316	53.0

Range Times: NW Diesel(4.244 - 8.029) AK102(3.27 - 8.30) Jet A(3.27 - 6.30)
NW M.Oil(8.03 - 11.31) AK103(8.30 - 10.86) OR Diesel(3.27 - 9.08)

Surrogate	Area	Amount
o-Terphenyl	1966	0.0
Triacontane	7161172	48.3 M

M Indicates the peak was manually integrated

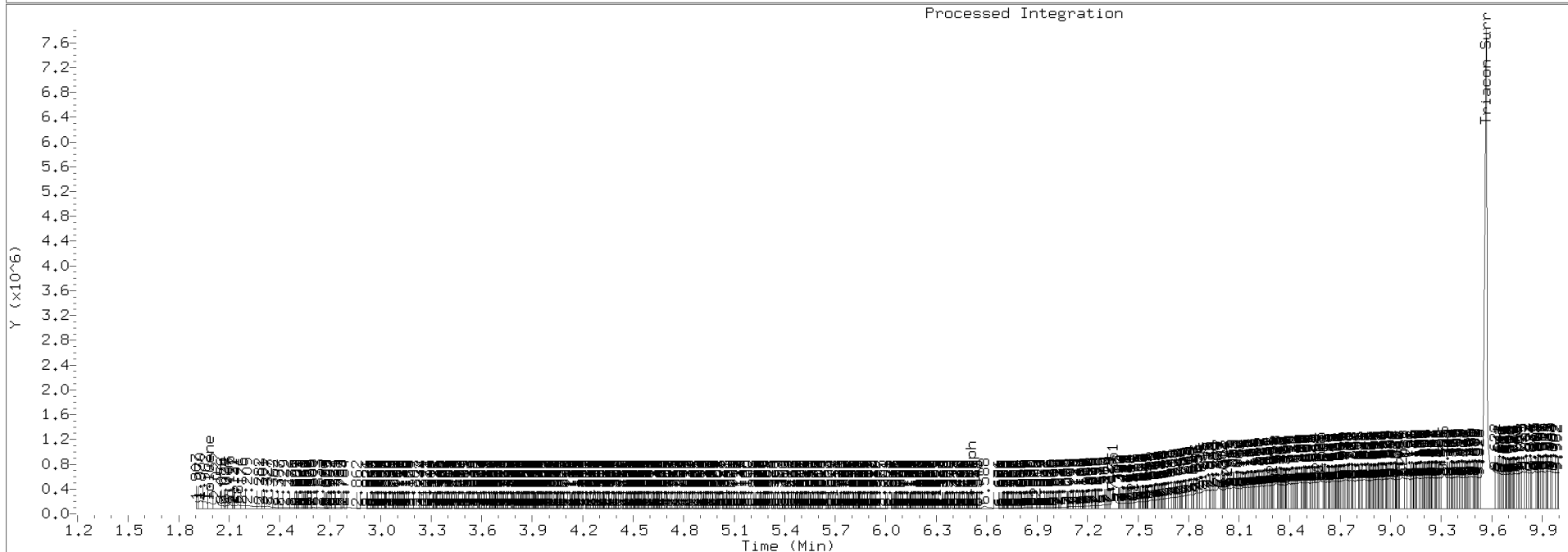
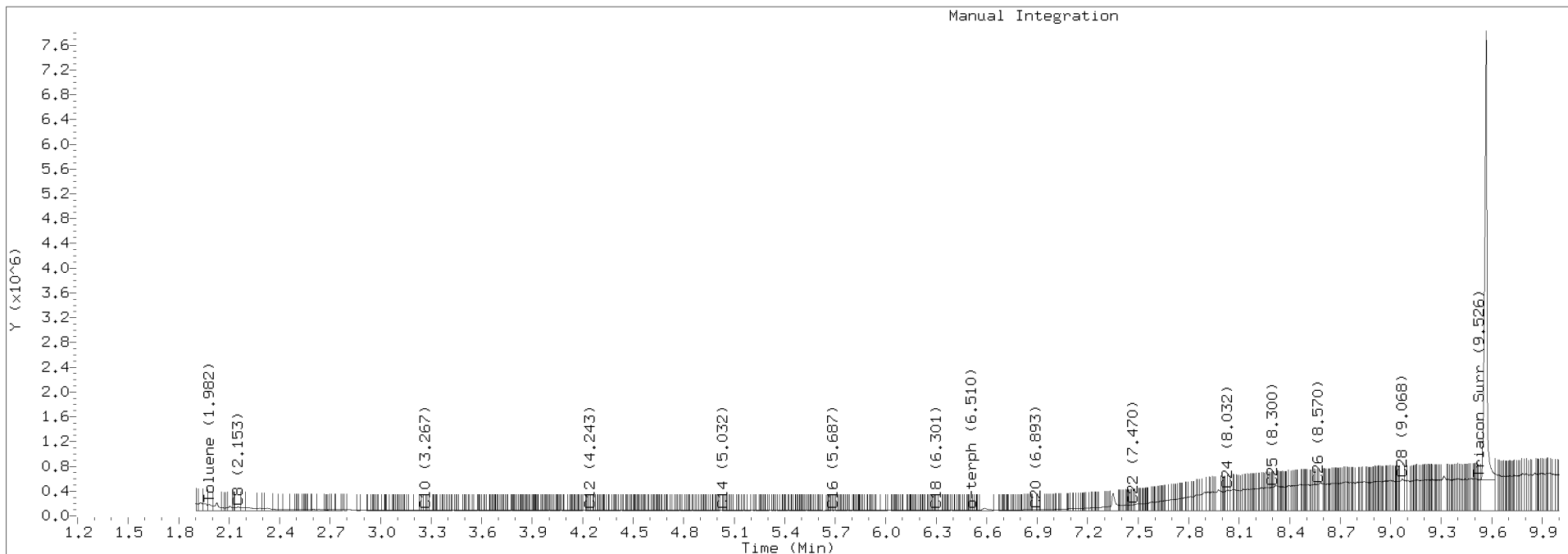
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	167898.6	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	41237.8	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200602.b/420F0211.D Injection: 02-JUN-2020 10:55

Lab ID:SIF0018-SCV1



Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0205.D
Date : 02-OCT-2020 10:02

Client ID:

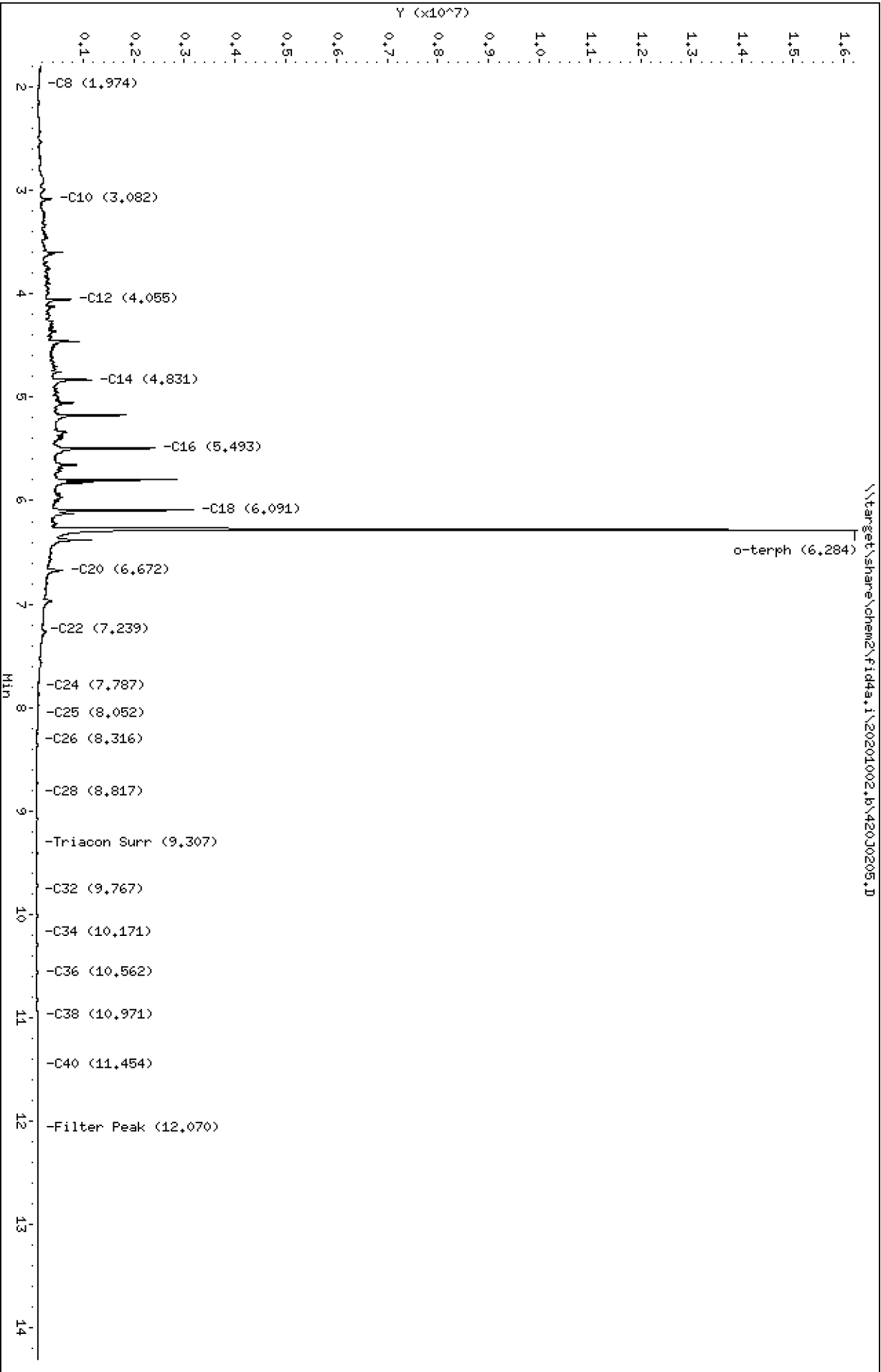
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0205.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-OCT-2020 10:02
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

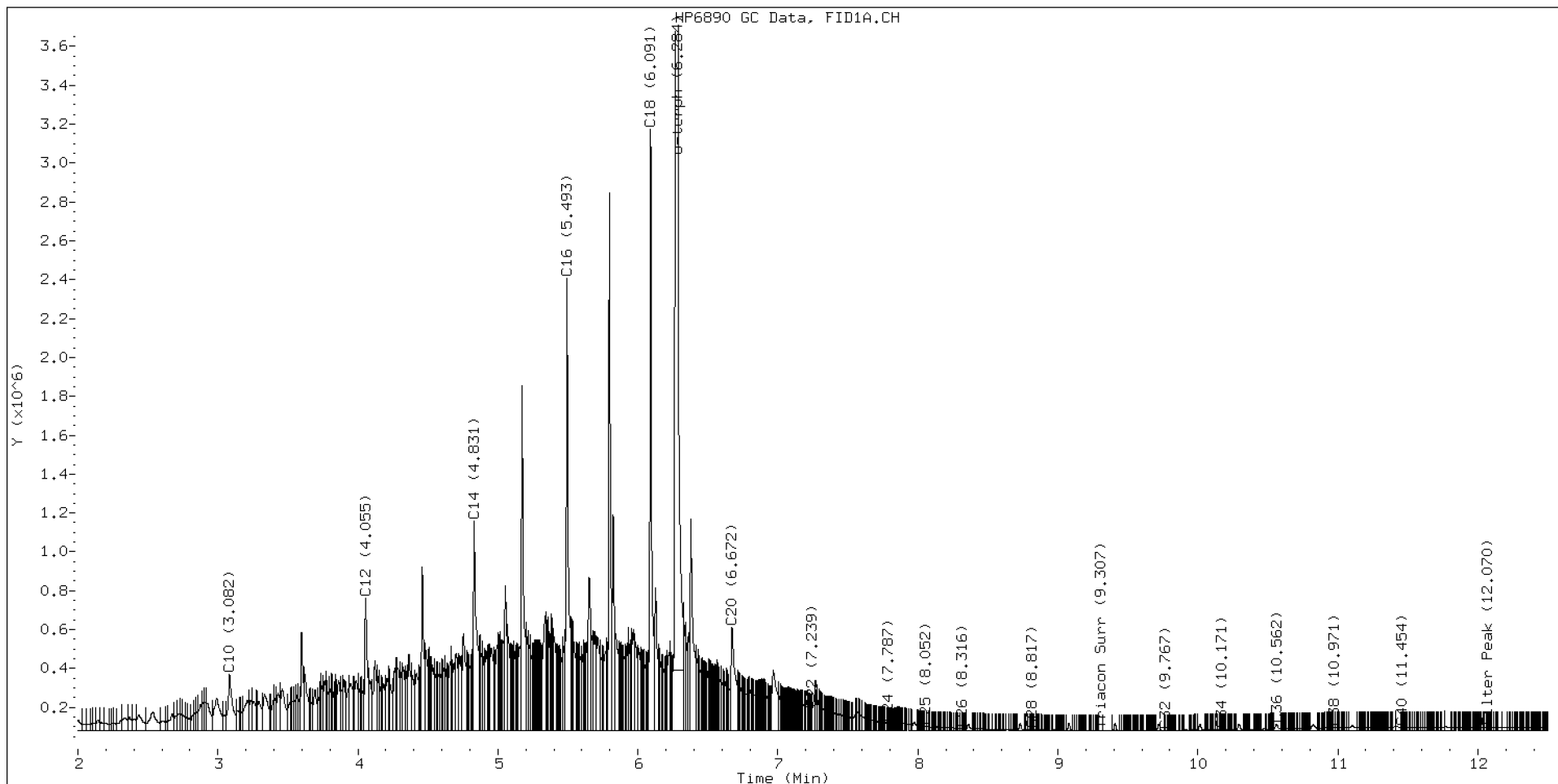
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.974	-0.011	44420	46374	WATPHD	(C12-C24)	72069347	452.3
C10	3.082	0.011	287360	631242	WATPHM	(C24-C38)	1617994	16.0
C12	4.055	0.003	678900	874723	AK102	(C10-C25)	83740998	428.4
C14	4.831	-0.020	1078112	1629048	AK103	(C25-C36)	975808	13.3
C16	5.493	-0.006	2325149	2519576	OR.DIES	(C10-C28)	84261604	429.9
C18	6.091	-0.001	3094596	2776409				
C20	6.672	-0.001	528691	1137793	JET-A	(C10-C18)	64134578	386.7
C22	7.239	0.003	112746	27707				
C24	7.787	0.003	38433	13199				
C25	8.052	-0.003	20425	12966				
C26	8.316	-0.001	10545	4130				
C28	8.817	-0.003	2938	1249				
C32	9.767	0.014	1384	800				
C34	10.171	-0.006	4006	1588				
Filter Peak	12.070	0.001	15527	5422	CREOSOT	(C12-C22)	69884769	1235.9
C36	10.562	-0.015	33354	51203				
C38	10.971	-0.009	14233	16927				
C40	11.454	-0.001	16193	4850				
o-terph	6.284	-0.001	15887466	16497934				
Triacon Surr	9.307	-0.012	1737	1458	NAS DIES	(C10-C24)	83398872	427.4

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16497934	80.6 M
Triacontane	1458	0.0

M Indicates the peak was manually integrated

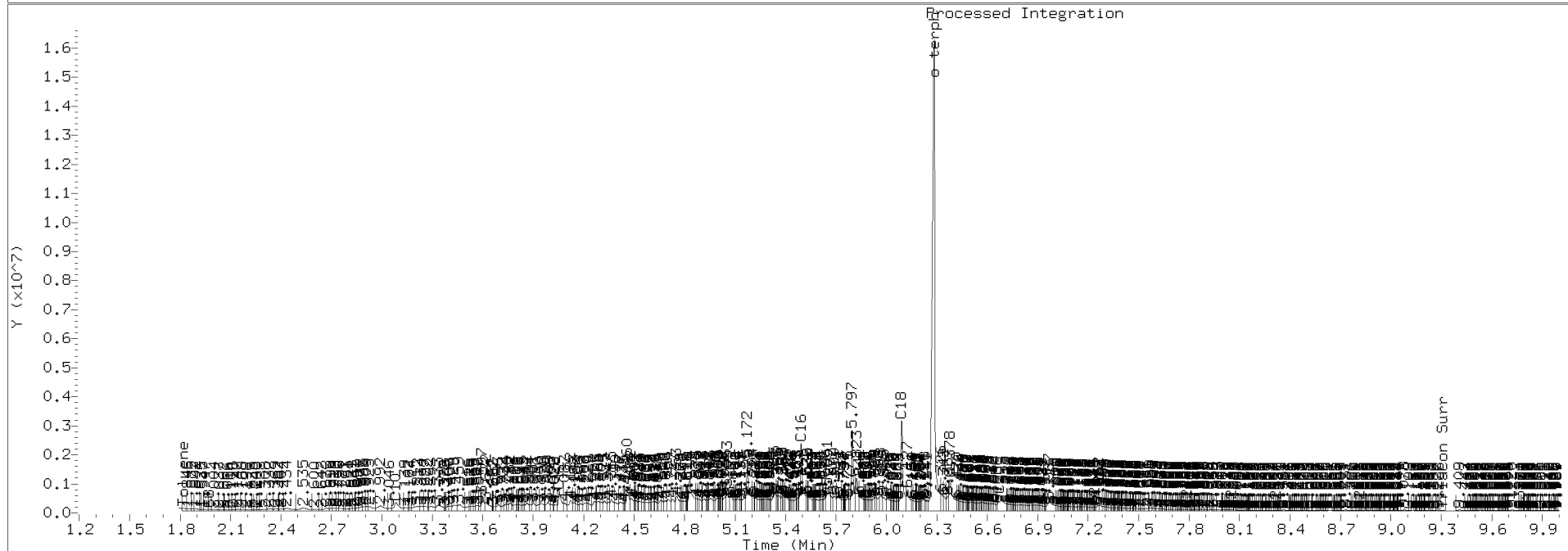
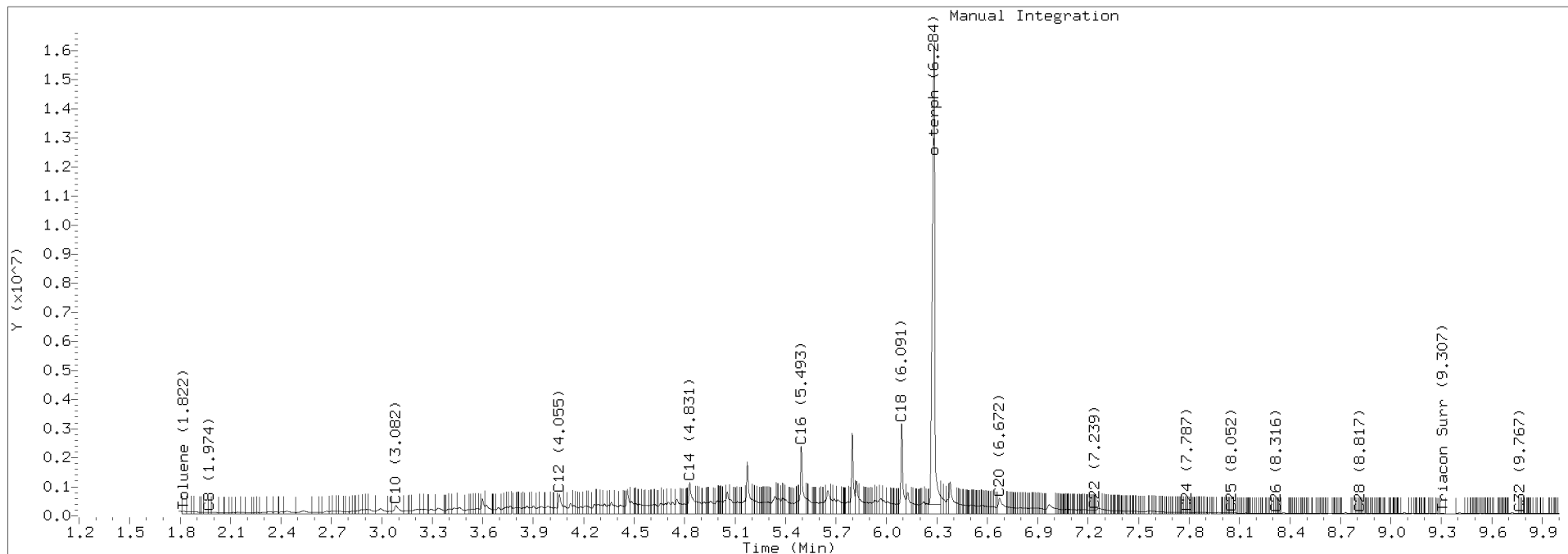
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0205.D Injection: 02-OCT-2020 10:02

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0206.D

Date : 02-OCT-2020 10:22

Client ID:

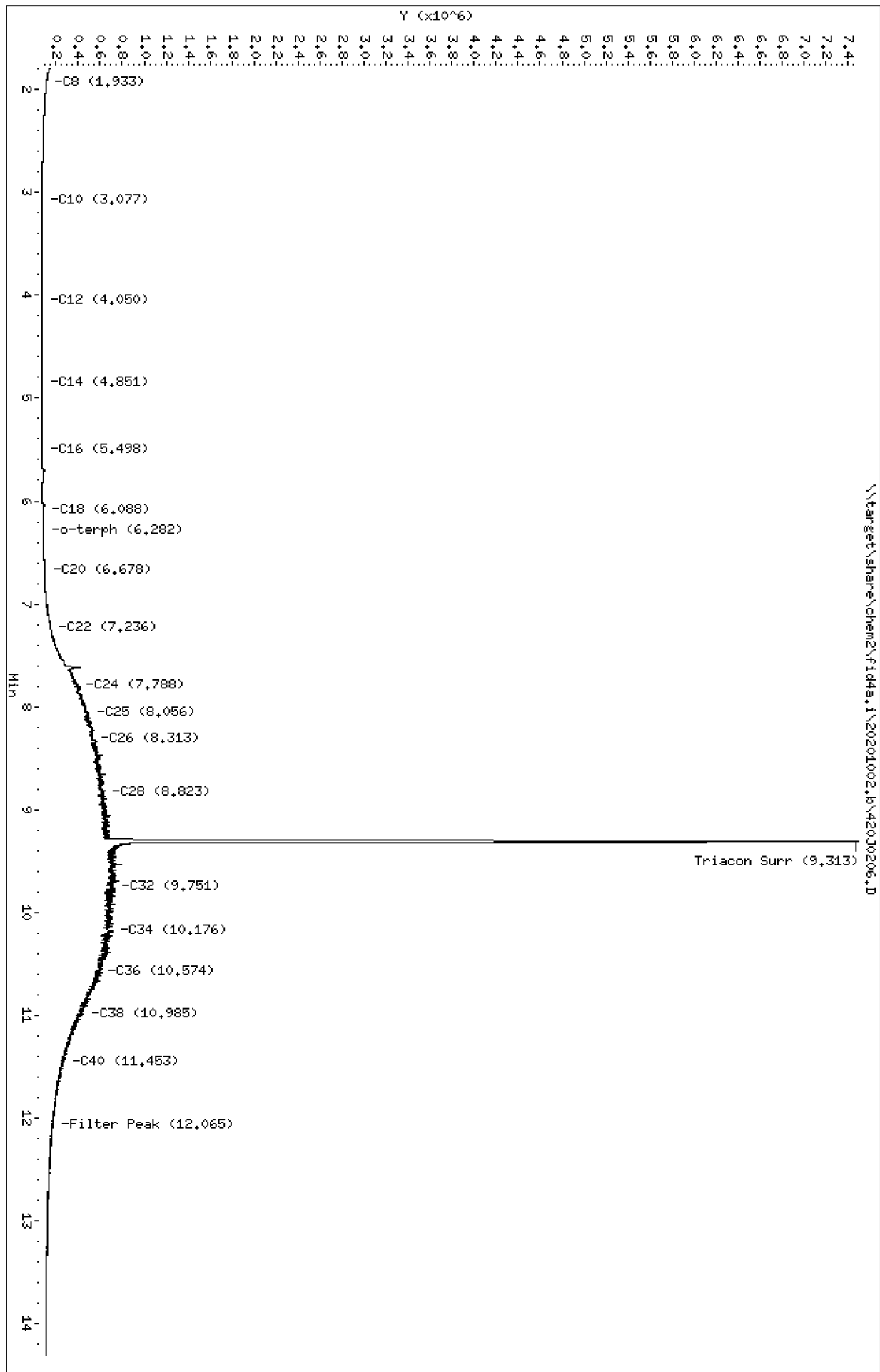
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0206.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-OCT-2020 10:22
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

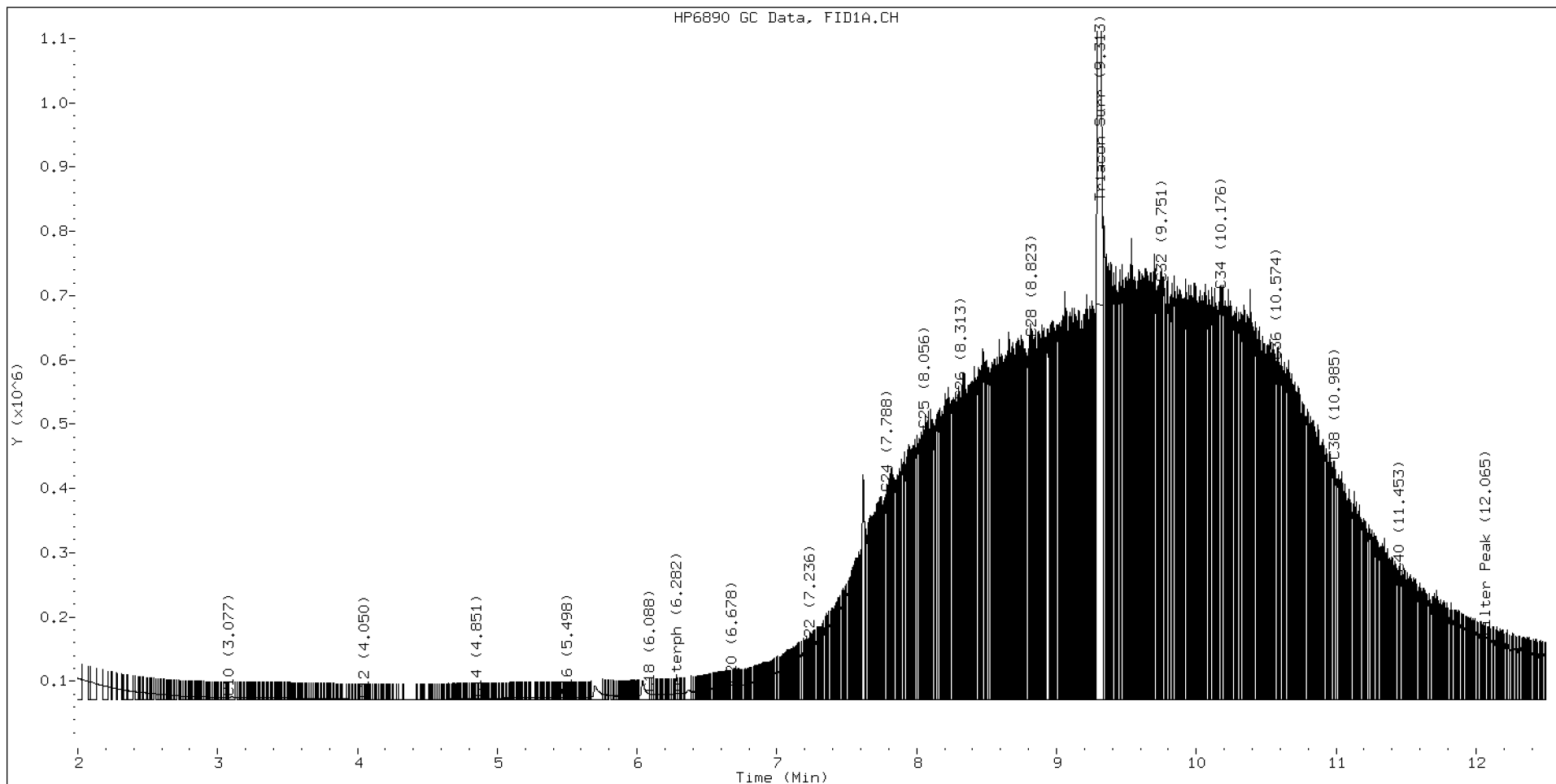
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.933	-0.053	40170	217629	WATPHD	(C12-C24)	9338175	58.6
C10	3.077	0.005	3116	1235	WATPHM	(C24-C38)	101326864	1001.6
C12	4.050	-0.002	739	300	AK102	(C10-C25)	12980414	66.4
C14	4.851	0.000	1691	875	AK103	(C25-C36)	87854436	1200.1
C16	5.498	-0.001	3965	1775	OR.DIES	(C10-C28)	38104832	194.4
C18	6.088	-0.004	9124	7454				
C20	6.678	0.004	23587	21755	JET-A	(C10-C18)	531068	3.2
C22	7.236	-0.000	78929	19568				
C24	7.788	0.003	320203	157142				
C25	8.056	0.001	419327	203040				
C26	8.313	-0.003	465120	205807				
C28	8.823	0.002	561848	139100				
C32	9.751	-0.002	648448	161534				
C34	10.176	-0.000	636189	188508				
Filter Peak	12.065	-0.004	95356	47076	CREOSOT	(C12-C22)	2490372	44.0
C36	10.574	-0.003	526198	280237				
C38	10.985	0.005	371706	208774				
C40	11.453	-0.002	195991	143228				
o-terph	6.282	-0.003	9393	6016				
Triacon Surr	9.313	-0.007	6811245	6463450	NAS DIES	(C10-C24)	9467683	48.5

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	6016	0.0
Triacontane	6463450	43.6 M

M Indicates the peak was manually integrated

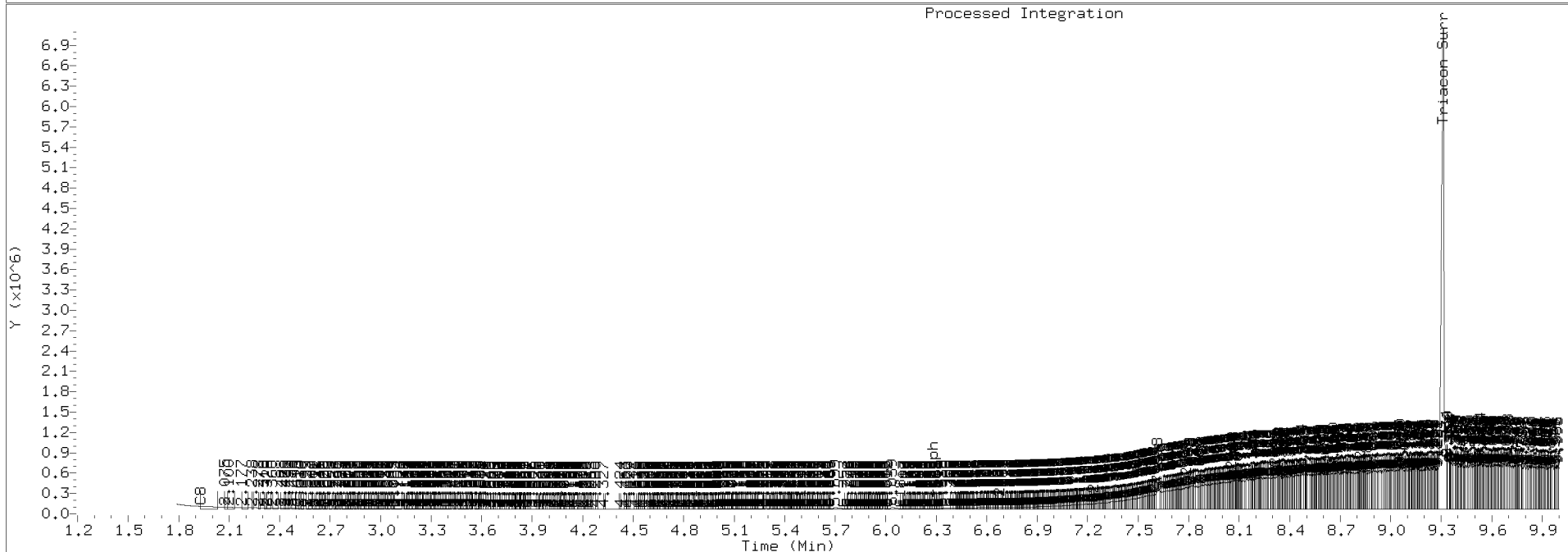
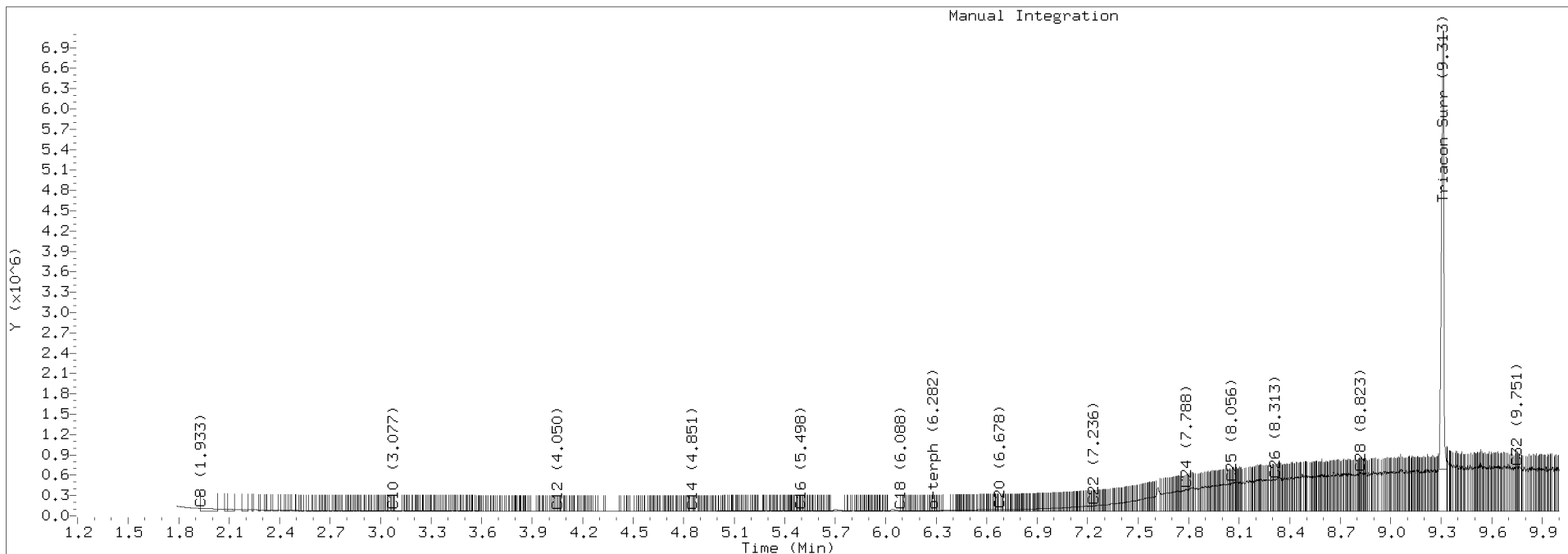
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0206.D Injection: 02-OCT-2020 10:22

Lab ID:SEQ-ICV2

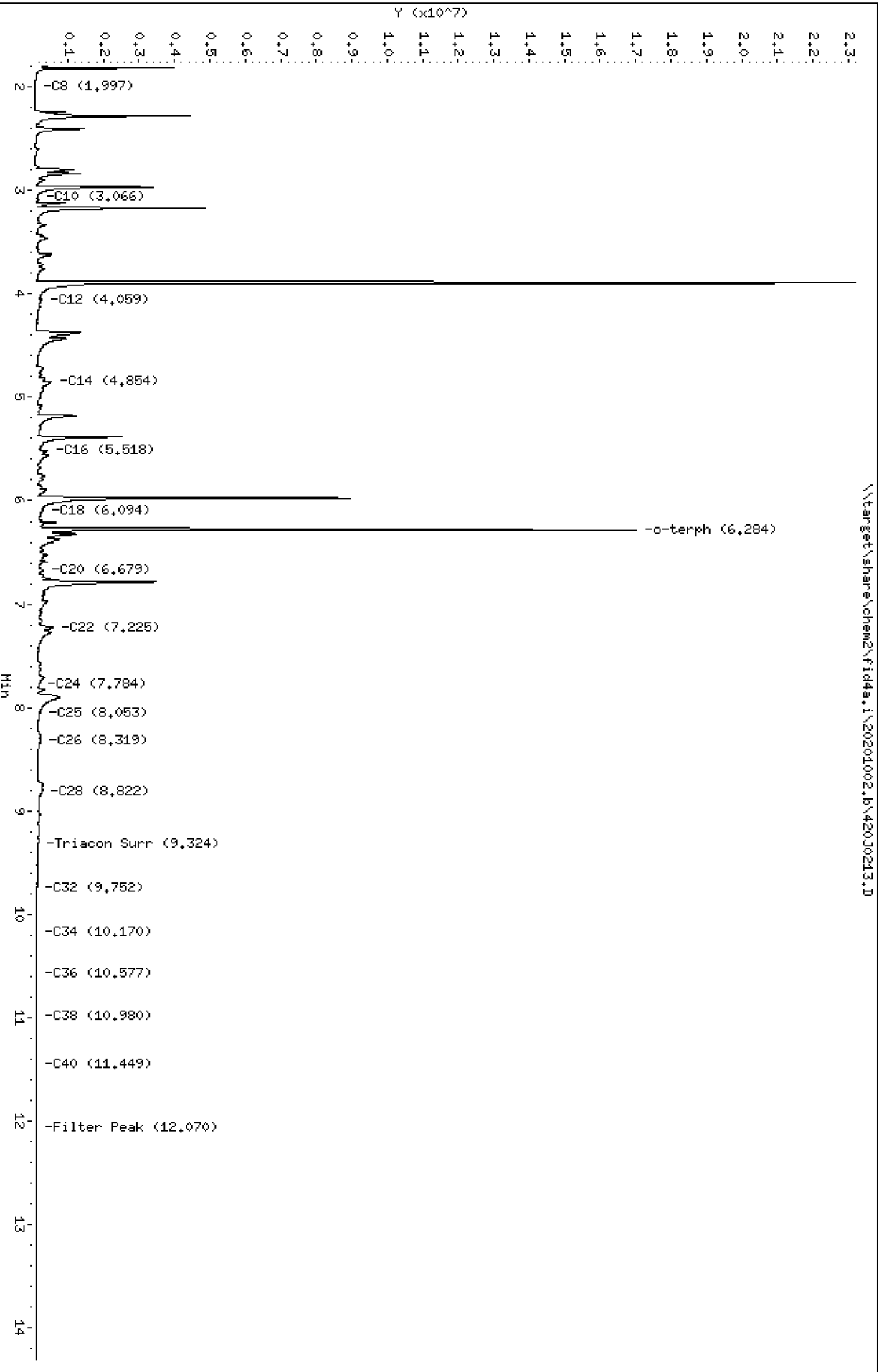


Data File: \\target\share\chem2\fid4a,1\20201002,b\420J0213.D
Date : 02-OCT-2020 12:46
Client ID:
Sample Info: SEQ-ICV3

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0213.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-OCT-2020 12:46
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

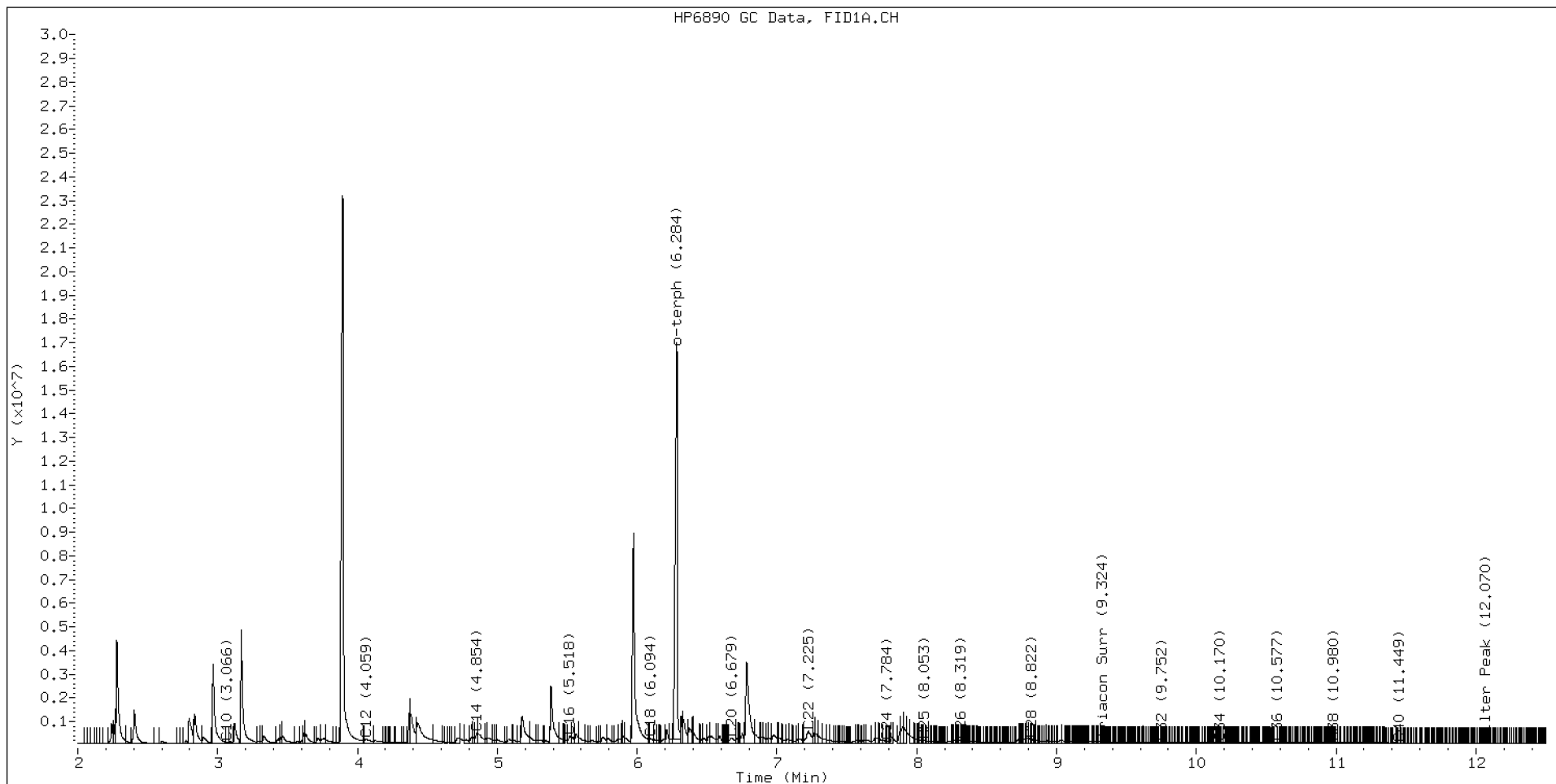
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.011	15231	44107	WATPHD	(C12-C24)	64142858	402.6
C10	3.066	-0.005	73828	66824	WATPHM	(C24-C38)	16752657	165.6
C12	4.059	0.007	208812	562762	AK102	(C10-C25)	104140417	532.7
C14	4.854	0.004	450395	458484	AK103	(C25-C36)	12683259	173.3
C16	5.518	0.018	336617	450507	OR.DIES	(C10-C28)	109859015	560.5
C18	6.094	0.002	214777	260250				
C20	6.679	0.005	247699	513028	JET-A	(C10-C18)	73860659	445.3
C22	7.225	-0.011	522649	1309051				
C24	7.784	-0.001	107515	42595				
C25	8.053	-0.002	136950	93608				
C26	8.319	0.002	144951	78122				
C28	8.822	0.001	186420	197034				
C32	9.752	-0.001	56122	19503				
C34	10.170	-0.006	43643	36590				
Filter Peak	12.070	0.001	32538	21116	CREOSOT	(C12-C22)	59740201	1056.5
C36	10.577	-0.000	42223	44767				
C38	10.980	0.001	44736	15566				
C40	11.449	-0.006	37967	30195				
o-terph	6.284	-0.000	16761119	17435581				
Triacon Surr	9.324	0.005	92969	45458	NAS DIES	(C10-C24)	101124086	518.2

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	17435581	85.2 M
Triacontane	45458	0.3

M Indicates the peak was manually integrated

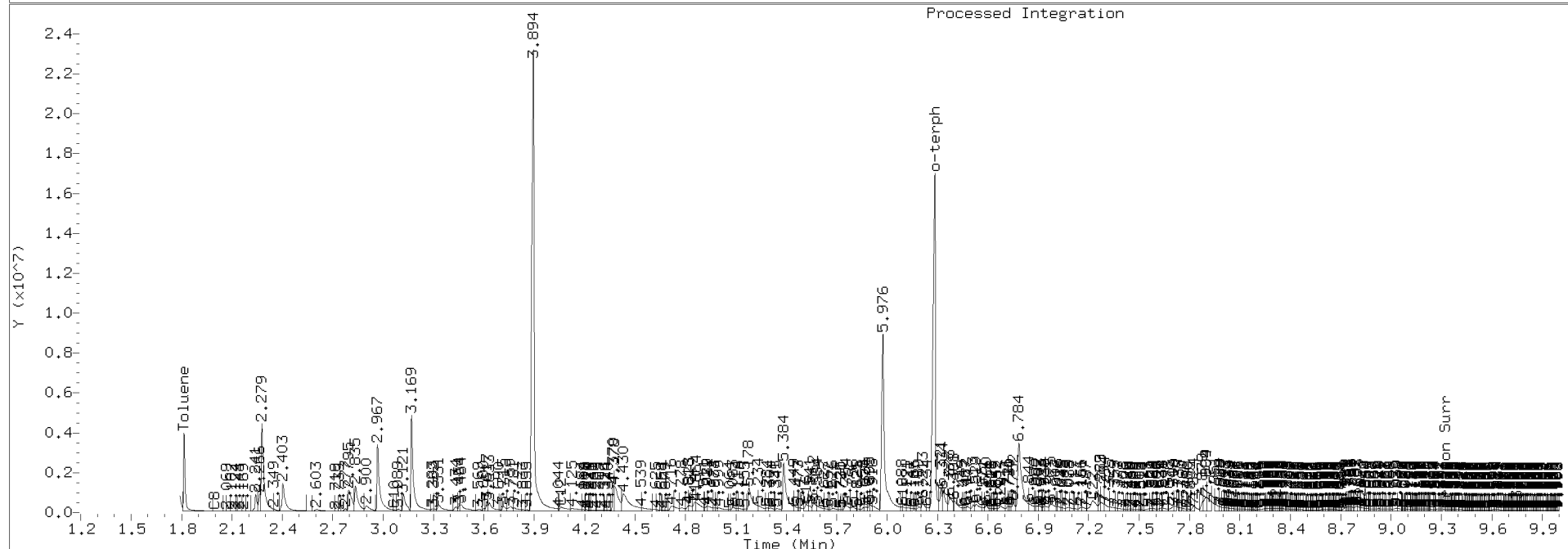
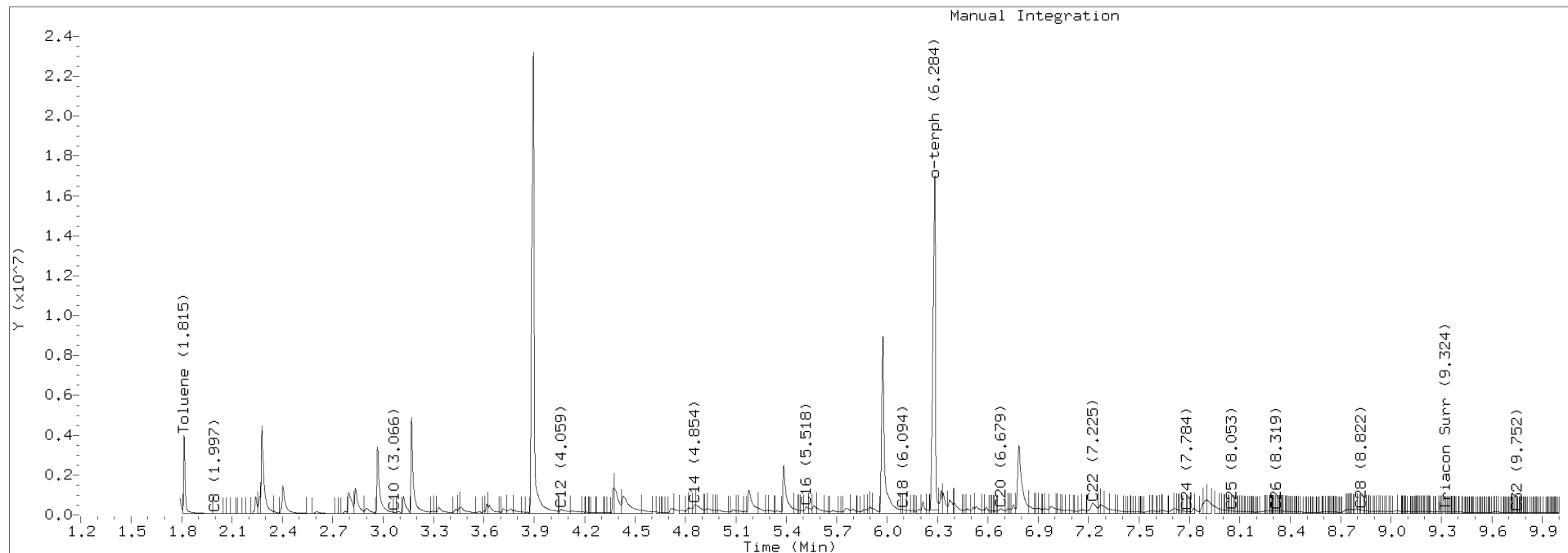
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0213.D Injection: 02-OCT-2020 12:46

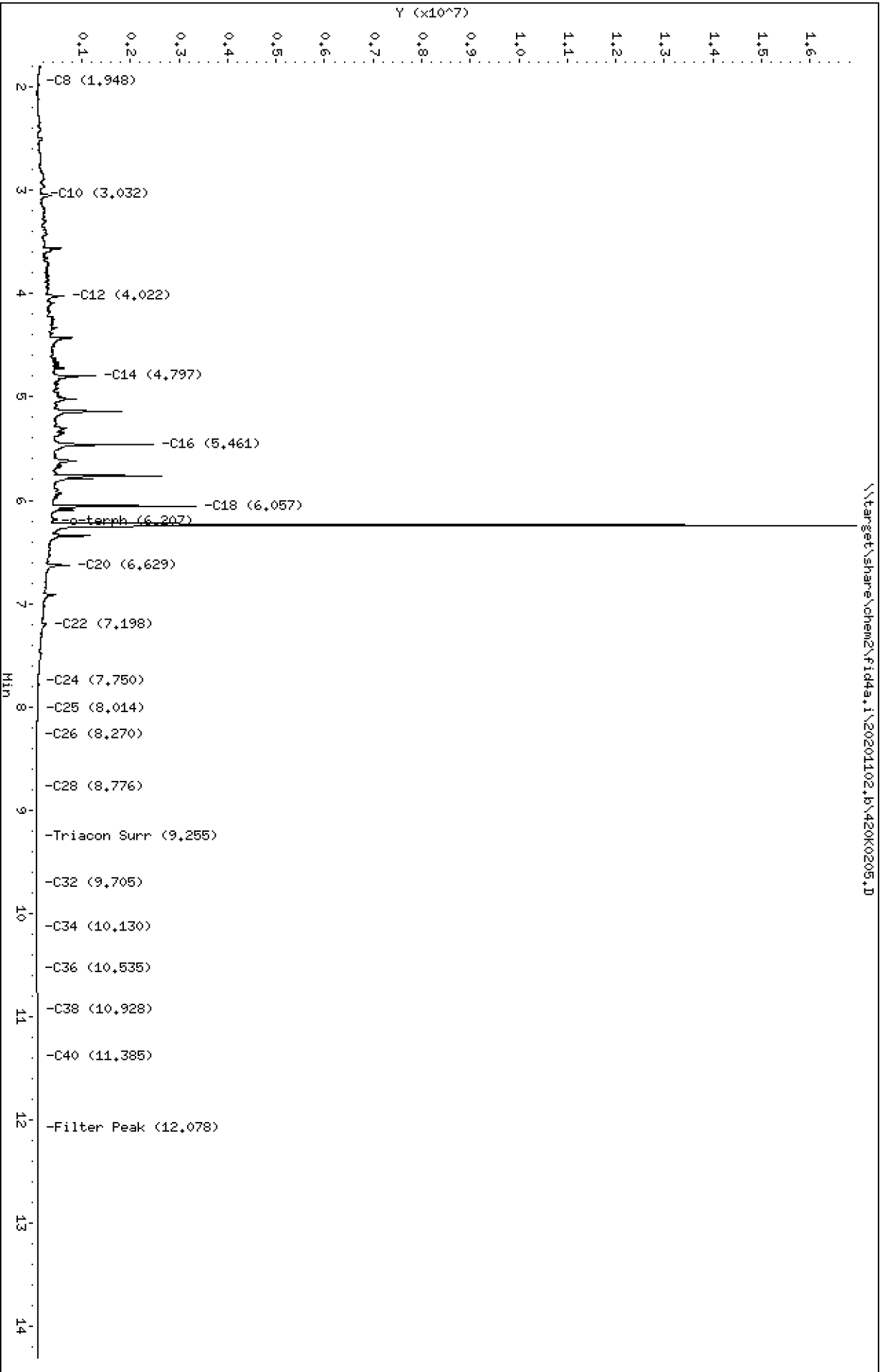
Lab ID:SEQ-ICV3



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0205.D
Date : 02-NOV-2020 09:50
Client ID:
Sample Info: SEQ-ICV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0205.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 02-NOV-2020 09:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

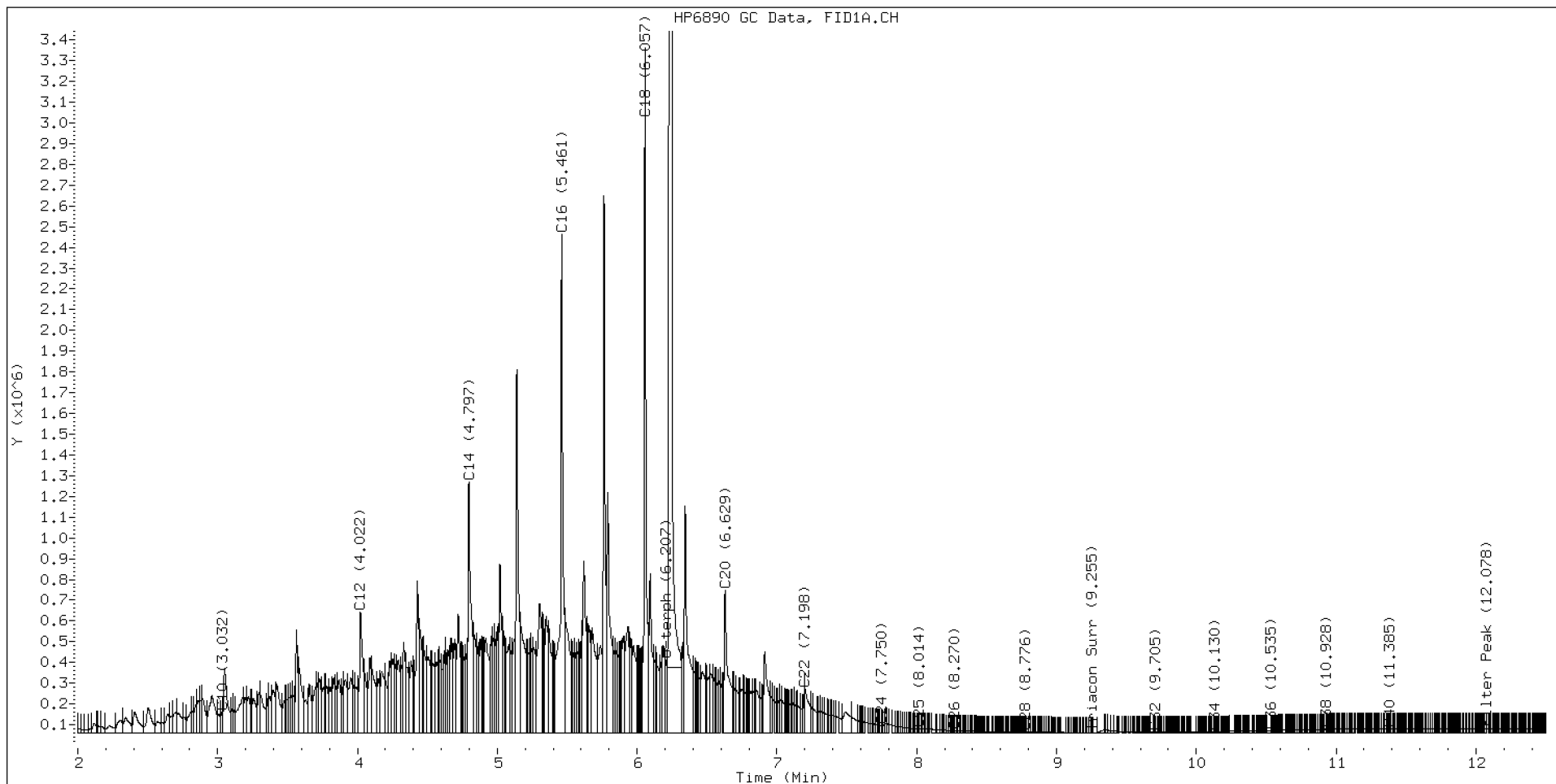
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.948	-0.005	27722	25305	WATPHD	(C12-C24)	73609123	462.0
C10	3.032	-0.000	100254	101191	WATPHM	(C24-C38)	1318446	13.0
C12	4.022	0.005	578386	910528	AK102	(C10-C25)	85995695	439.9
C14	4.797	-0.000	1205590	1792087	AK103	(C25-C36)	768399	10.5
C16	5.461	-0.003	2401105	3334464	OR.DIES	(C10-C28)	86376174	440.7
C18	6.057	0.000	3296857	2927279				
C20	6.629	0.000	687131	1352522	JET-A	(C10-C18)	67842897	409.1
C22	7.198	0.005	211338	187473				
C24	7.750	0.007	34186	5119				
C25	8.014	0.003	17661	6138				
C26	8.270	-0.002	8903	10303				
C28	8.776	-0.001	1579	700				
C32	9.705	-0.000	1846	457				
C34	10.130	-0.000	4665	1620				
Filter Peak	12.078	0.002	18811	4691	BUNKERC	(C10-C38)	87100489	2206.3
C36	10.535	0.001	10583	3159				
C38	10.928	-0.003	15959	3185				
C40	11.385	-0.001	18877	6577				
o-terph	6.247	-0.000	16578751	17511064				
Triacon Surr	9.255	-0.024	288	111	NAS DIES	(C10-C24)	85782044	439.6

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17511064	85.5 M
Triacontane	111	0.0

M Indicates the peak was manually integrated

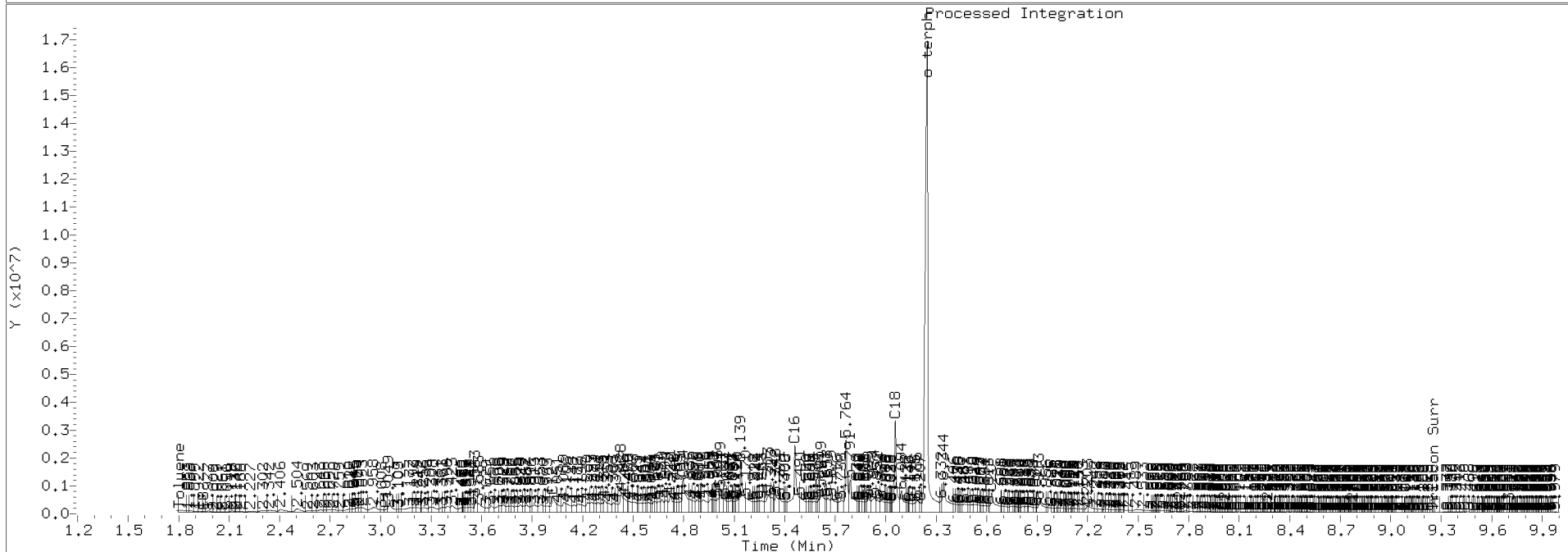
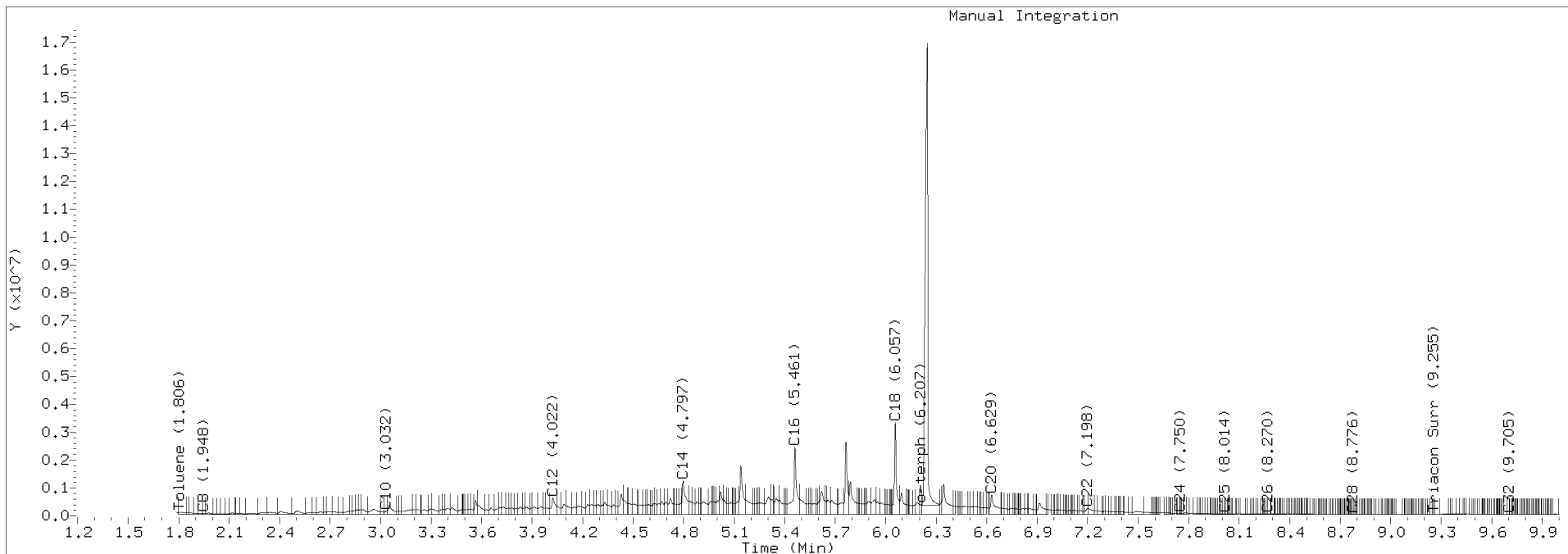
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0205.D Injection: 02-NOV-2020 09:50

Lab ID:SEQ-ICV1

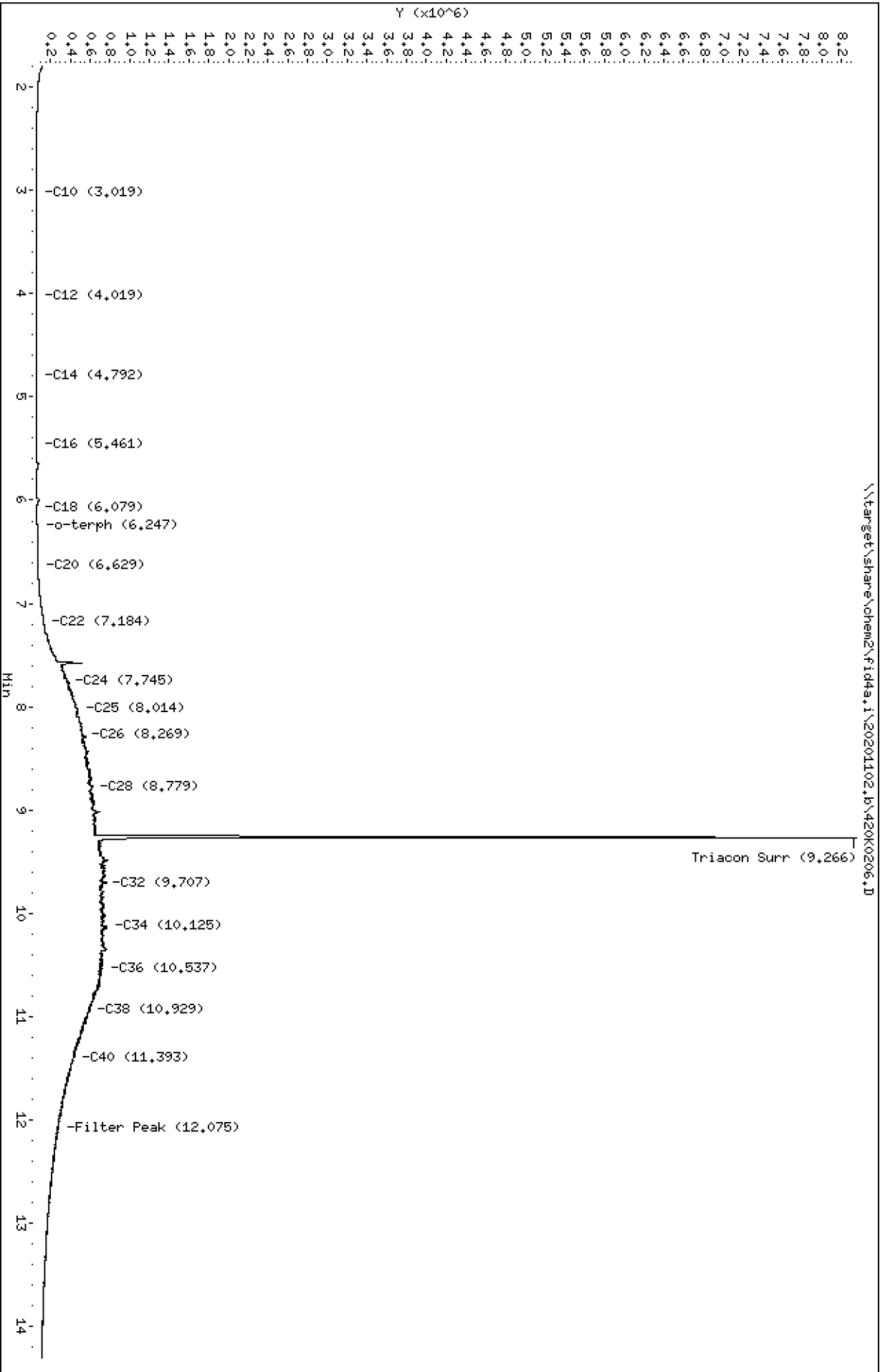


Data File: \\target\share\chem2\fid4a,1\20201102.b\420K0206.D
Date : 02-NOV-2020 10:10
Client ID:
Sample Info: SEQ-ICV2

Instrument: fid4a,1

Column phase: RTX-1

Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0206.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 02-NOV-2020 10:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

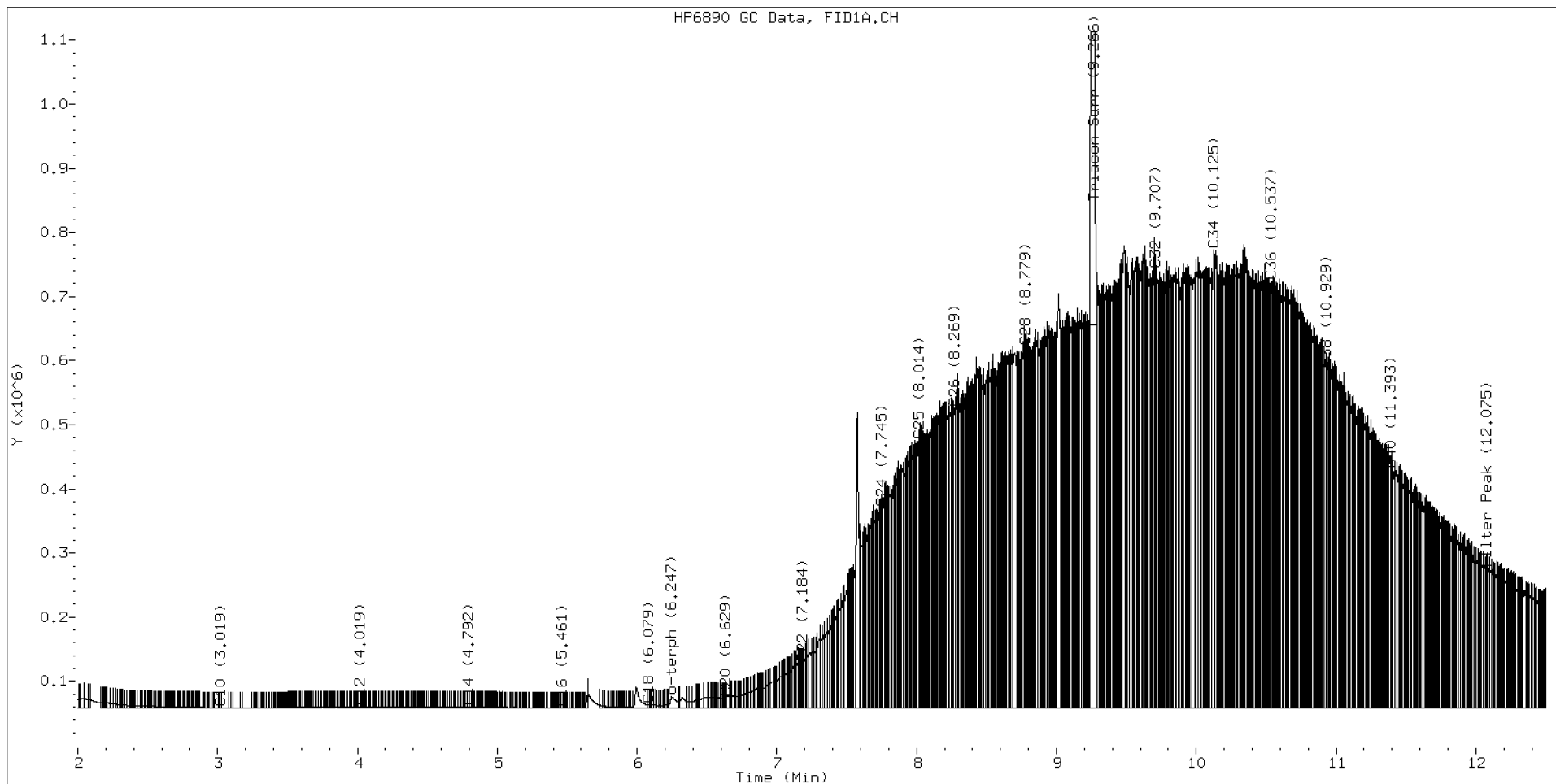
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.904	-0.050	31372	153084	WATPHD	(C12-C24)	8630664	54.2
C10	3.019	-0.013	378	194	WATPHM	(C24-C38)	109814018	1085.5
C12	4.019	0.003	1699	579	AK102	(C10-C25)	12272418	62.8
C14	4.792	-0.005	1288	918	AK103	(C25-C36)	92392635	1262.1
C16	5.461	-0.003	665	372	OR.DIES	(C10-C28)	37432985	191.0
C18	6.079	0.023	4466	3942				
C20	6.629	0.001	15807	7032	JET-A	(C10-C18)	251326	1.5
C22	7.184	-0.009	69530	27586				
C24	7.745	0.002	311043	168835				
C25	8.014	0.002	417193	362937				
C26	8.269	-0.003	467663	346796				
C28	8.779	0.002	562711	224336				
C32	9.707	0.001	683502	371053				
C34	10.125	-0.005	713842	924625				
Filter Peak	12.075	-0.000	216088	85492	BUNKERC	(C10-C38)	118490676	3001.5
C36	10.537	0.003	664921	523533				
C38	10.929	-0.001	529835	132064				
C40	11.393	0.006	371203	129552				
o-terph	6.247	-0.000	17150	49096				
Triacon Surr	9.266	-0.013	7693311	7418519	NAS DIES	(C10-C24)	8676658	44.5

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	49096	0.2
Triacontane	7418519	50.0 M

M Indicates the peak was manually integrated

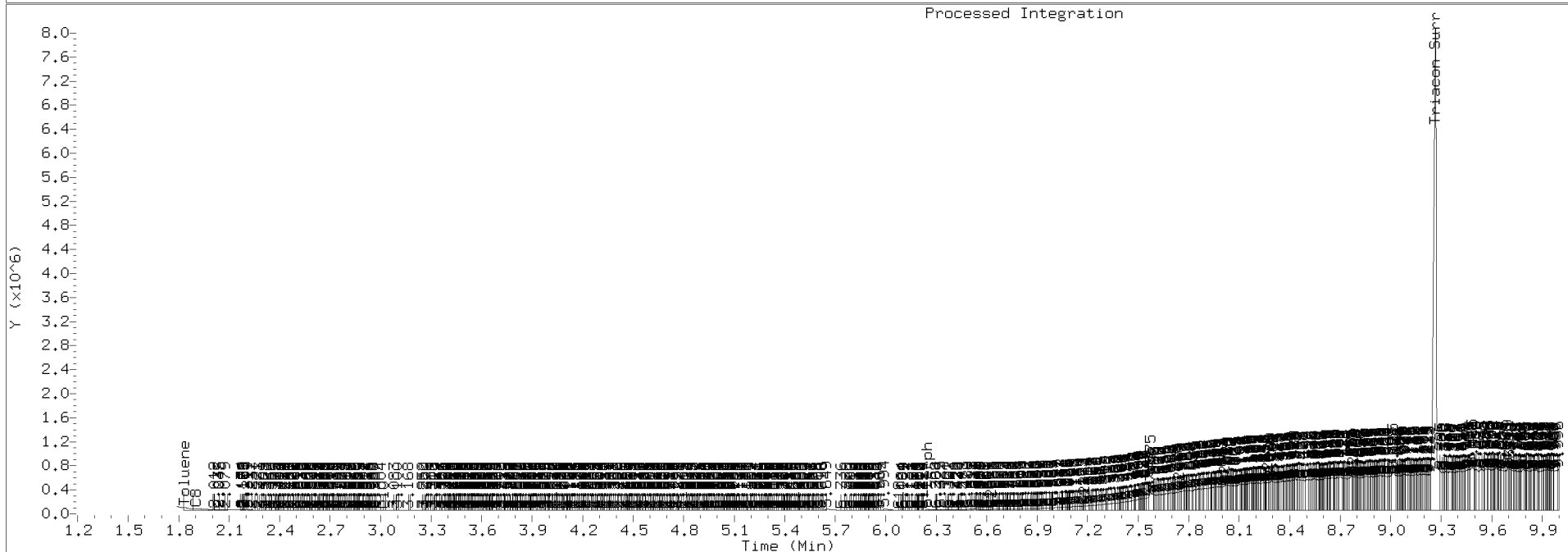
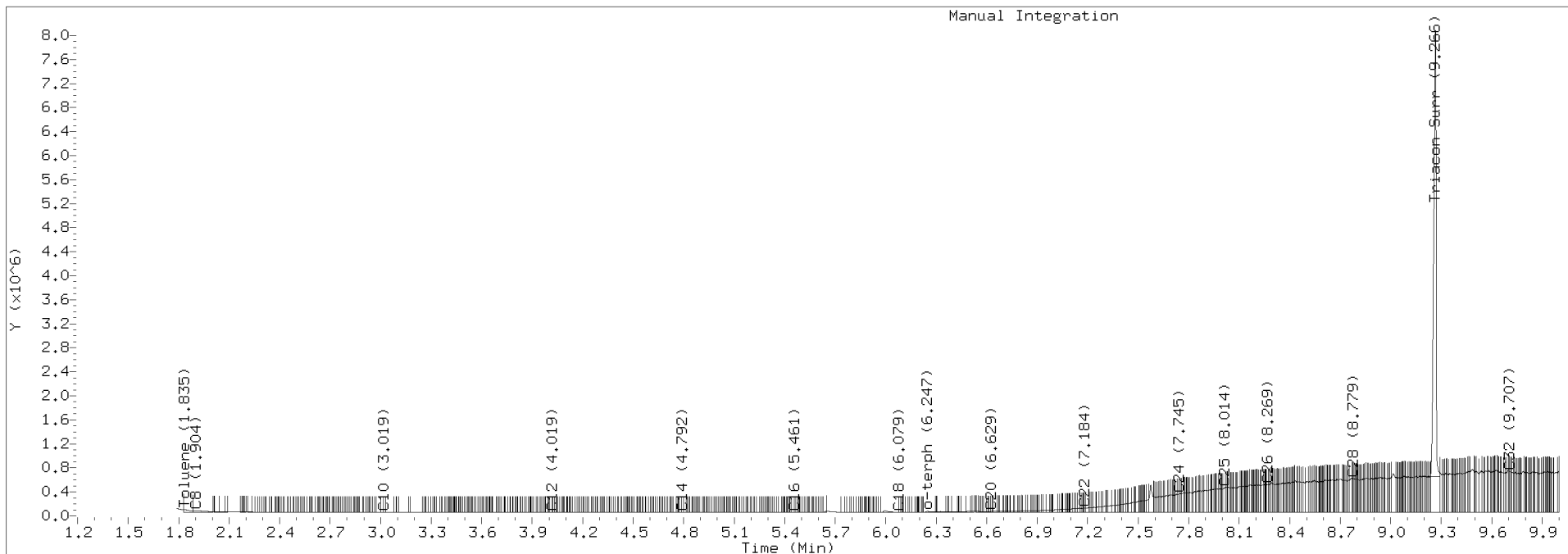
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0206.D Injection: 02-NOV-2020 10:10

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20201102,6\420K0213.D
Date : 02-NOV-2020 12:33

Client ID:

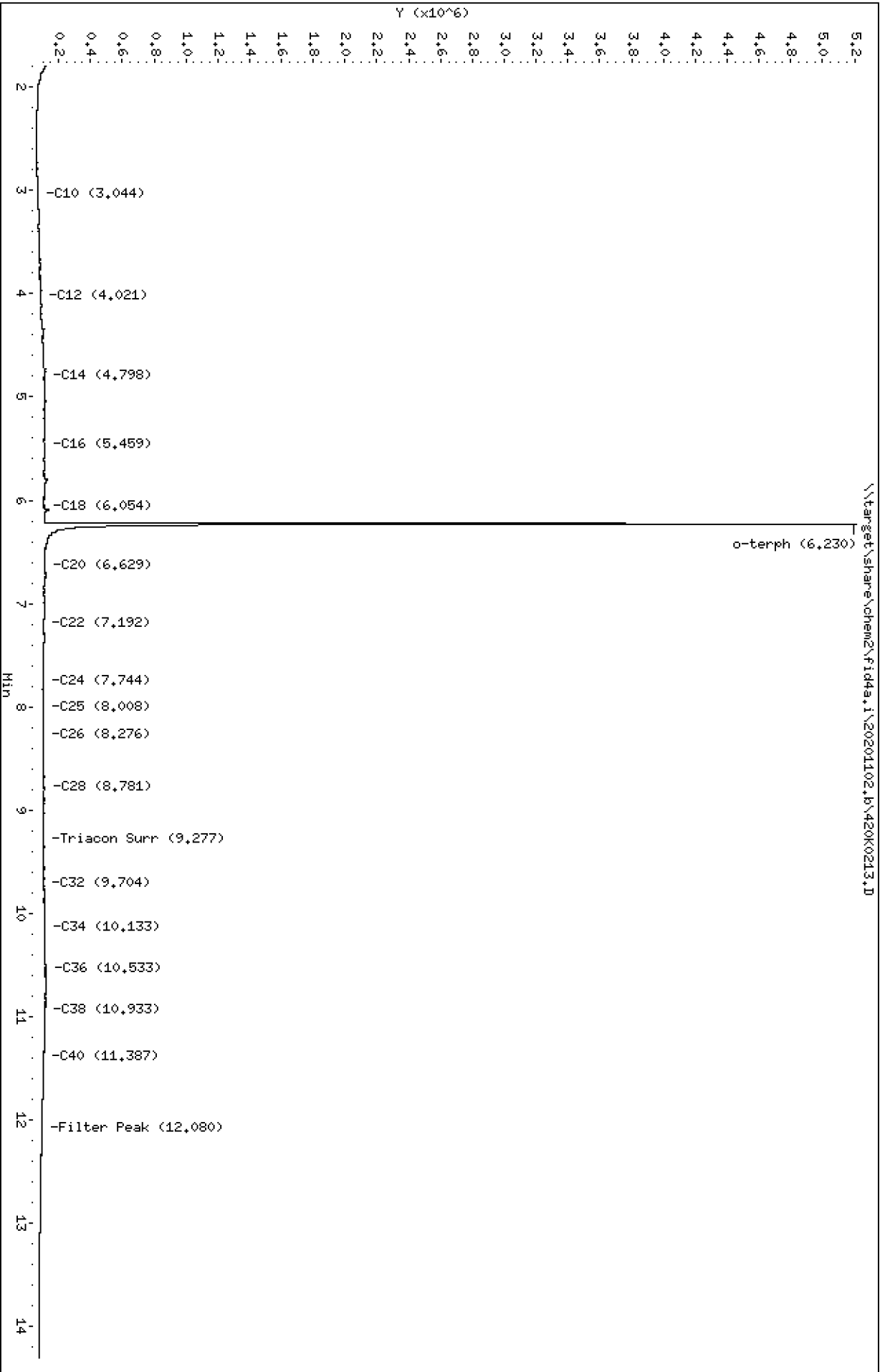
Sample Info: SEQ-ICV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0213.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV3
Client ID:
Injection: 02-NOV-2020 12:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

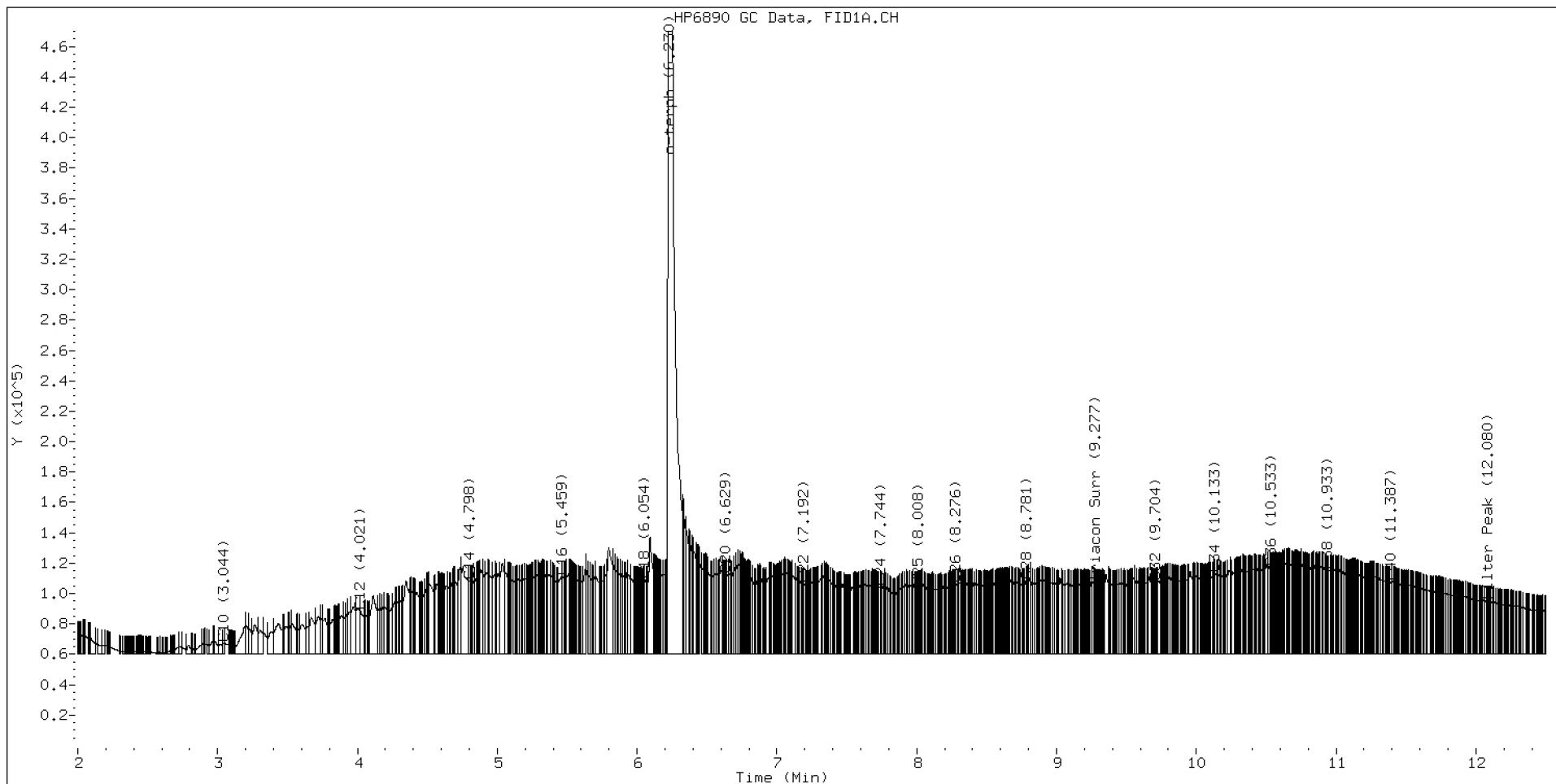
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.905	-0.049	29425	121927	WATPHD	(C12-C24)	10141433	63.6
C10	3.044	0.012	6803	6901	WATPHM	(C24-C38)	9120025	90.1
C12	4.021	0.005	27733	40280	AK102	(C10-C25)	11635353	59.5
C14	4.798	0.001	47843	38122	AK103	(C25-C36)	7369602	100.7
C16	5.459	-0.005	50282	92824	OR.DIES	(C10-C28)	13926769	71.1
C18	6.054	-0.002	48195	33149				
C20	6.629	0.000	51938	23197	JET-A	(C10-C18)	6617909	39.9
C22	7.192	-0.001	45794	36257				
C24	7.744	0.001	43476	10837				
C25	8.008	-0.003	43651	13061				
C26	8.276	0.004	45572	31655				
C28	8.781	0.004	47716	32741				
C32	9.704	-0.001	46788	30190				
C34	10.133	0.002	52271	15603				
Filter Peak	12.080	0.005	33980	18653	BUNKERC	(C10-C38)	20329330	515.0
C36	10.533	-0.000	56464	22507				
C38	10.933	0.002	54392	16254				
C40	11.387	0.000	47293	35175				
o-terph	6.230	-0.017	5152254	4640349				
Triacon Surr	9.277	-0.002	45837	24942	NAS DIES	(C10-C24)	11209305	57.4

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	4640349	22.7
Triacontane	24942	0.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



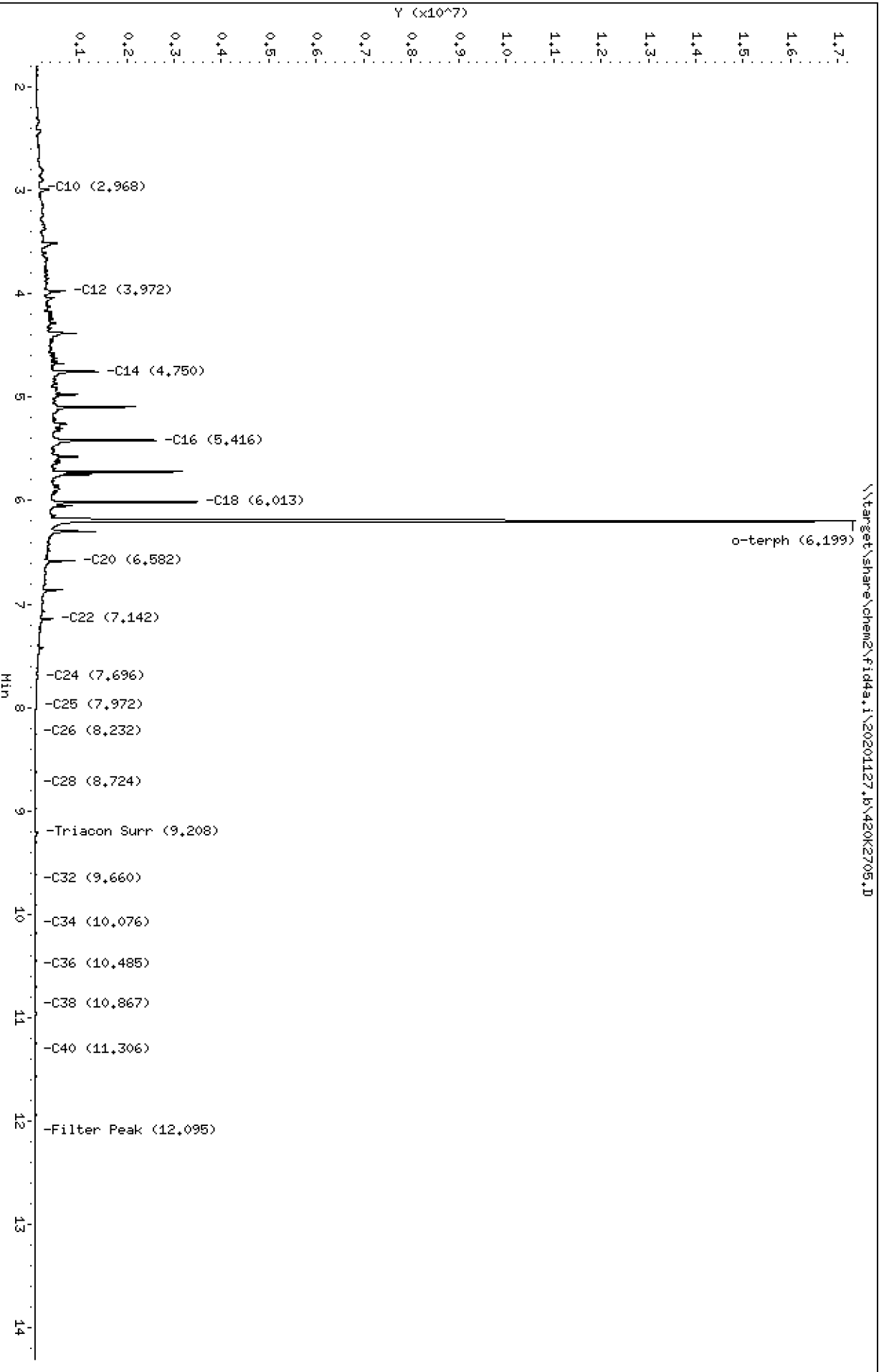
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Date: 27-NOV-2020 09:38
Client ID:
Sample Info: SEQ-ICV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2705.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 27-NOV-2020 09:38
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

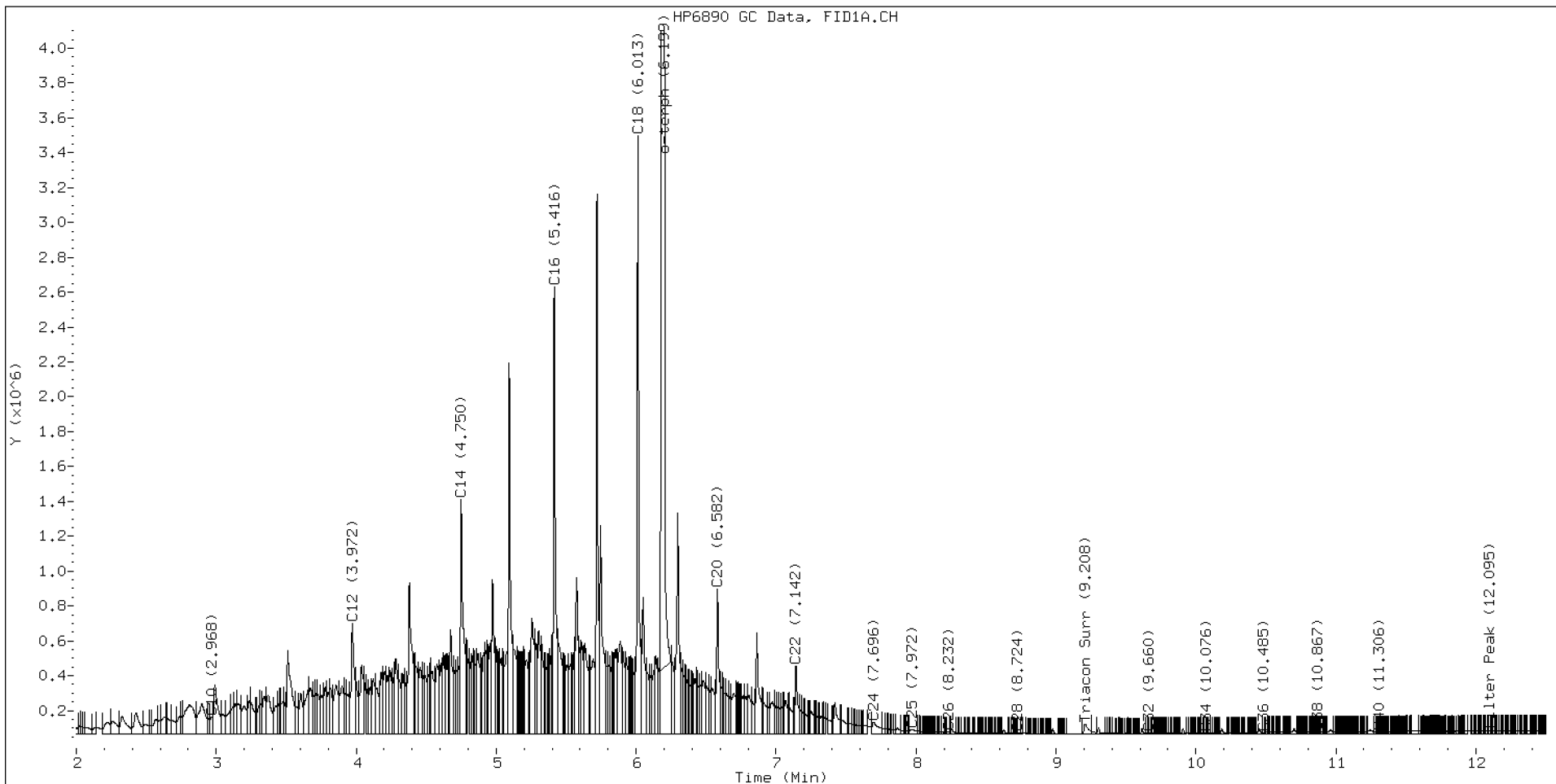
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.891	0.009	55279	110838	WATPHD	(C12-C24)	76219073	478.4
C10	2.968	-0.007	95912	114016	WATPHM	(C24-C38)	1163208	11.5
C12	3.972	0.005	631139	983194	AK102	(C10-C25)	88930197	454.9
C14	4.750	0.000	1341520	1810878	AK103	(C25-C36)	714872	9.8
C16	5.416	-0.000	2562614	2542395	OR.DIES	(C10-C28)	89284794	455.5
C18	6.013	-0.001	3428233	3082991				
C20	6.582	-0.004	830702	1032833	JET-A	(C10-C18)	68603545	413.7
C22	7.142	-0.006	387945	512471				
C24	7.696	0.000	65731	199144				
C25	7.972	0.008	23864	71763				
C26	8.232	0.007	9592	10268				
C28	8.724	-0.005	1518	615				
C32	9.660	0.004	1448	955				
C34	10.076	-0.004	2693	915				
Filter Peak	12.095	-0.000	13550	11445	BUNKERC	(C10-C38)	89876181	2276.7
C36	10.485	0.005	7080	7033				
C38	10.867	0.002	11428	6821				
C40	11.306	-0.003	13025	7145				
o-terph	6.199	-0.001	16921821	17925134				
Triacon Surr	9.208	-0.023	54515	109655	NAS DIES	(C10-C24)	88712974	454.6

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17925134	87.6 M
Triacontane	109655	0.7

M Indicates the peak was manually integrated

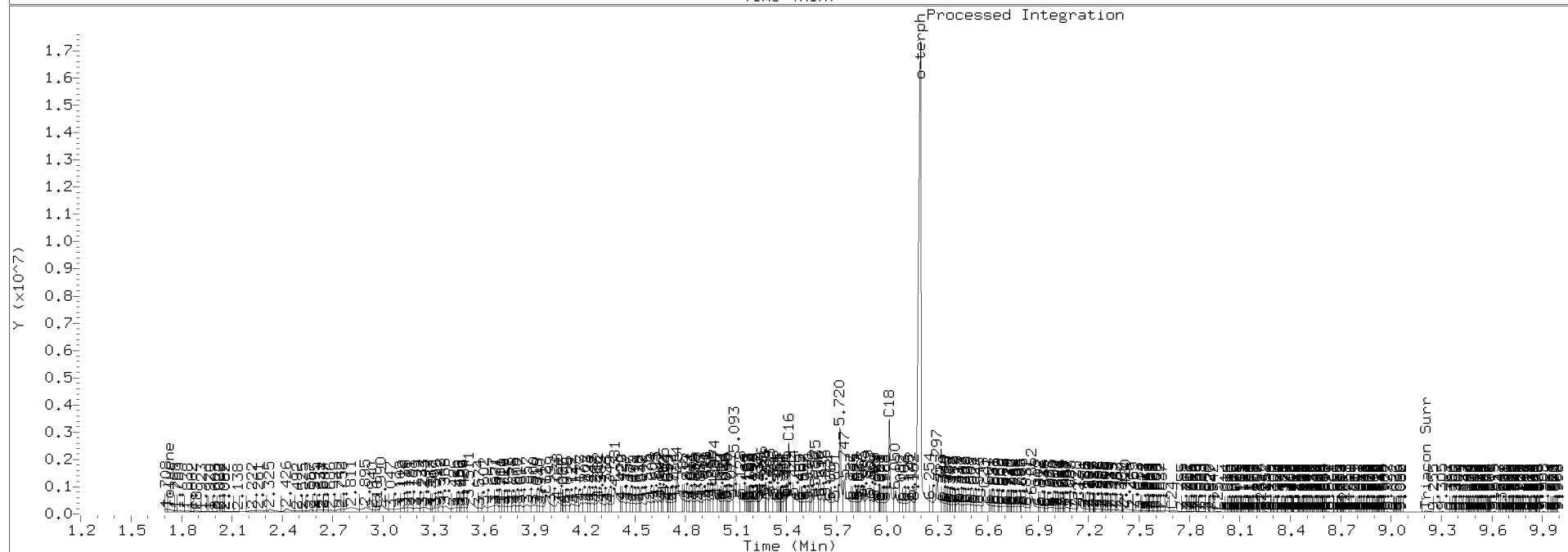
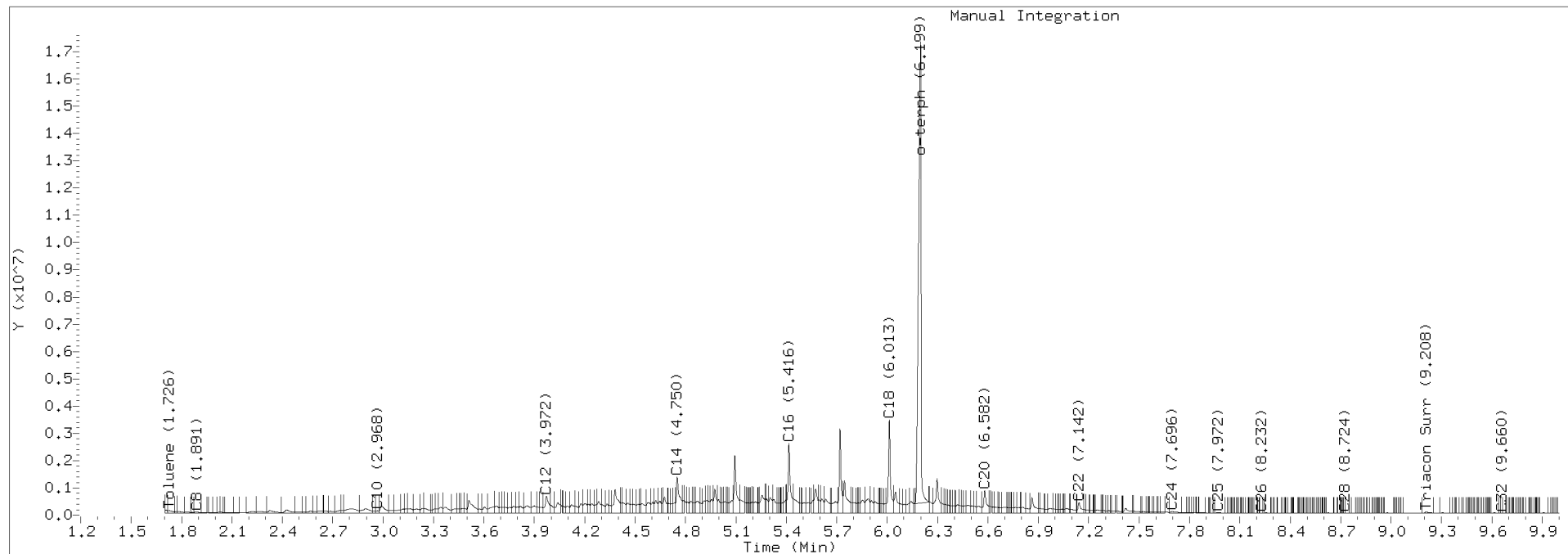
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2705.D Injection: 27-NOV-2020 09:38

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2706.D
Date: 27-NOV-2020 09:58

Client ID:

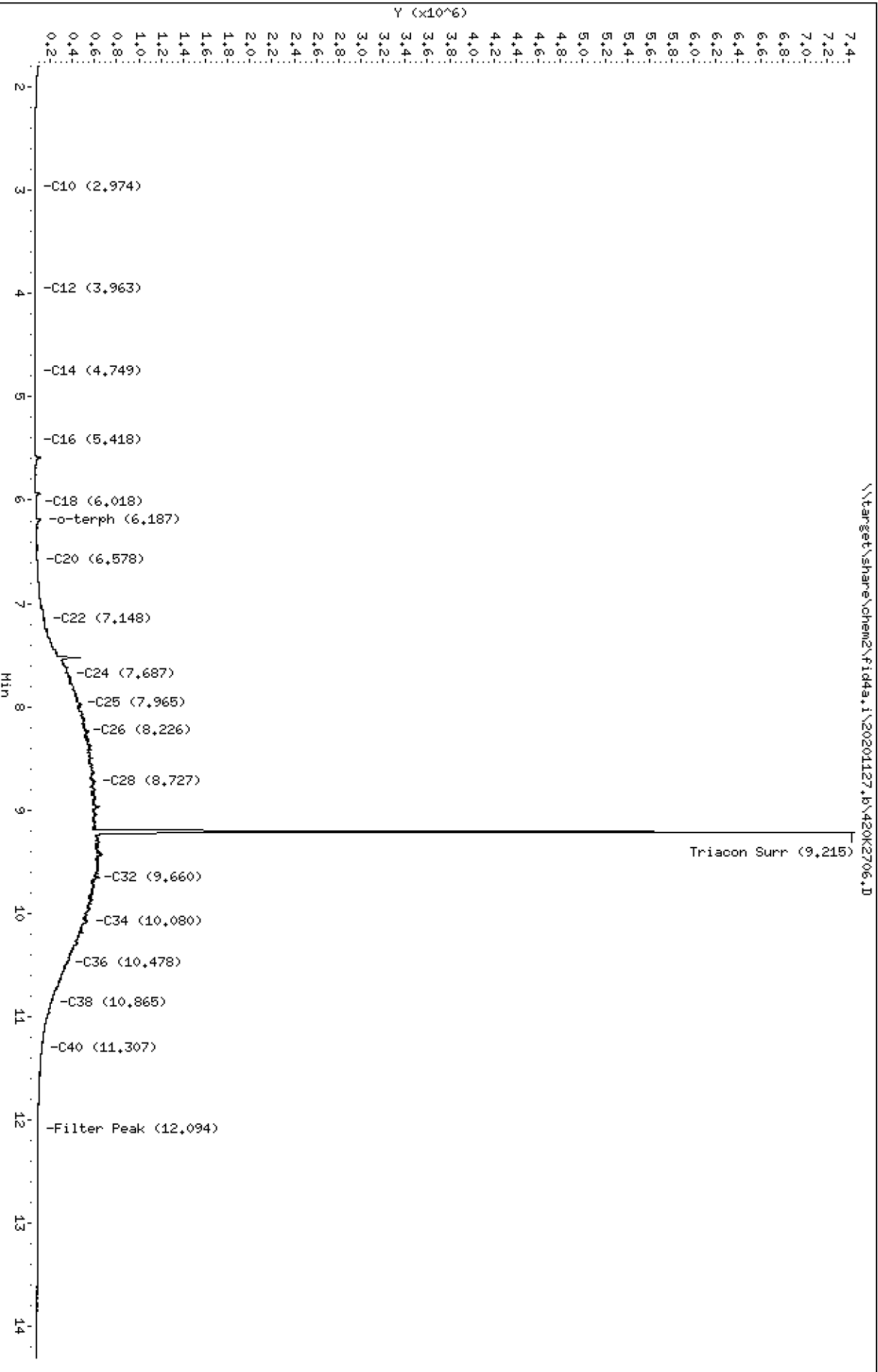
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2706.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 27-NOV-2020 09:58
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

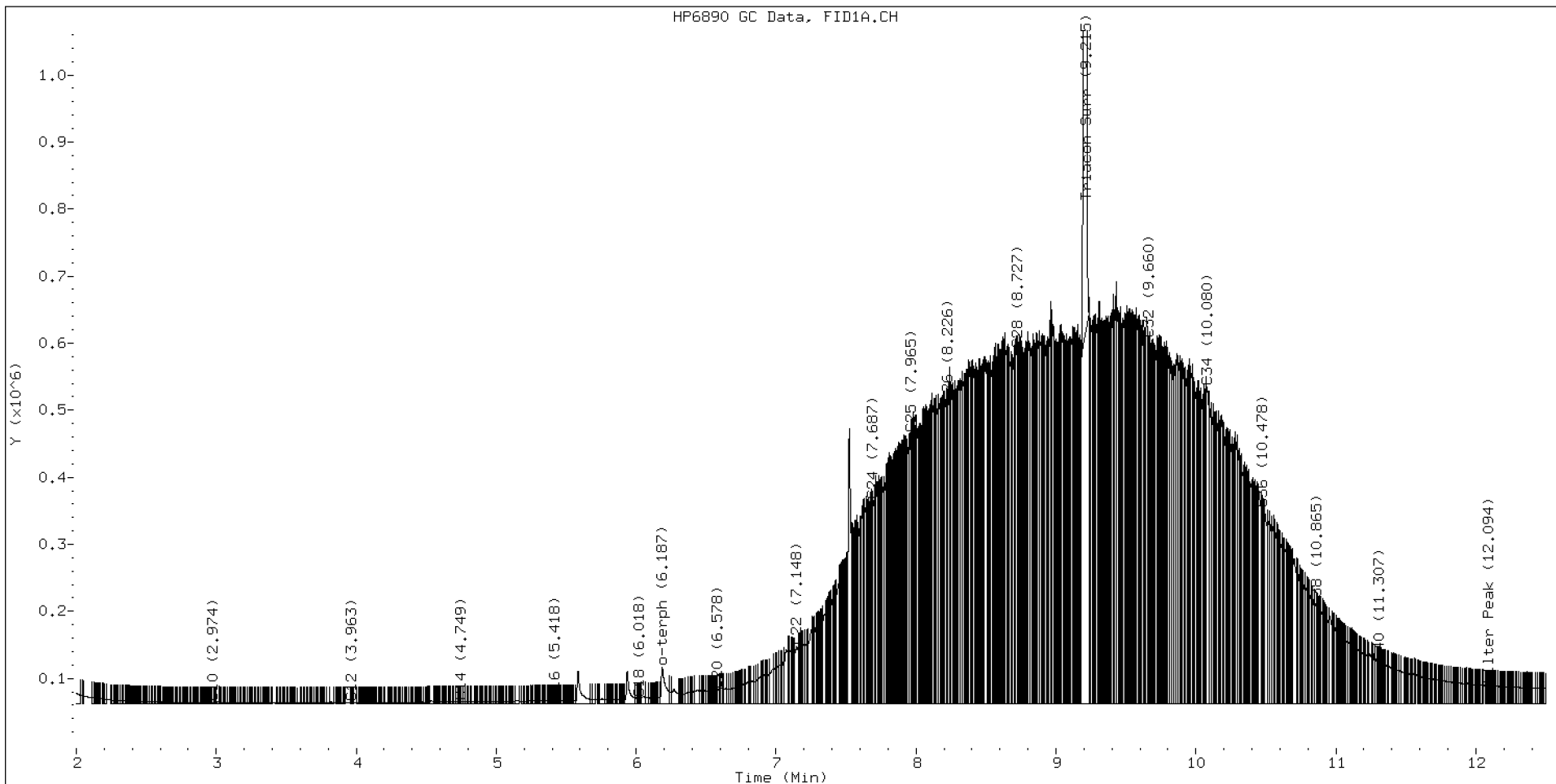
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.837	-0.045	28829	127524	WATPHD	(C12-C24)	9047518	56.8
C10	2.974	-0.002	1184	853	WATPHM	(C24-C38)	82752047	818.0
C12	3.963	-0.004	269	125	AK102	(C10-C25)	12601453	64.5
C14	4.749	-0.001	2301	673	AK103	(C25-C36)	74745416	1021.0
C16	5.418	0.002	3485	1206	OR.DIES	(C10-C28)	36591196	186.7
C18	6.018	0.003	7258	2876				
C20	6.578	-0.007	18811	5599	JET-A	(C10-C18)	498796	3.0
C22	7.148	0.000	84274	135542				
C24	7.687	-0.008	301893	163710				
C25	7.965	0.000	401686	80035				
C26	8.226	0.002	447555	155951				
C28	8.727	-0.002	528503	157220				
C32	9.660	0.004	543970	188229				
C34	10.080	0.000	471383	483311				
Filter Peak	12.094	-0.002	26238	14343	BUNKERC	(C10-C38)	91827993	2326.1
C36	10.478	-0.002	290589	143690				
C38	10.865	-0.001	143026	42669				
C40	11.307	-0.002	61878	42360				
o-terph	6.187	-0.013	54278	111130				
Triacon Surr	9.215	-0.016	6827946	6529750	NAS DIES	(C10-C24)	9075946	46.5

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	111130	0.5
Triacontane	6529750	44.0 M

M Indicates the peak was manually integrated

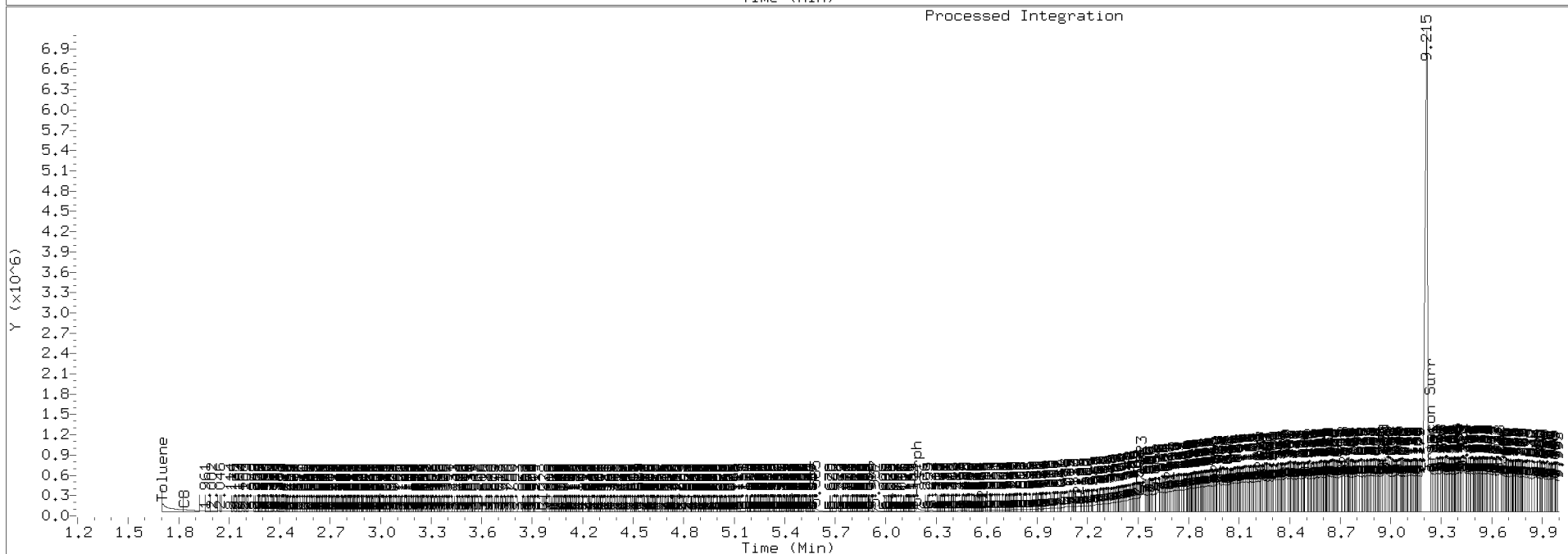
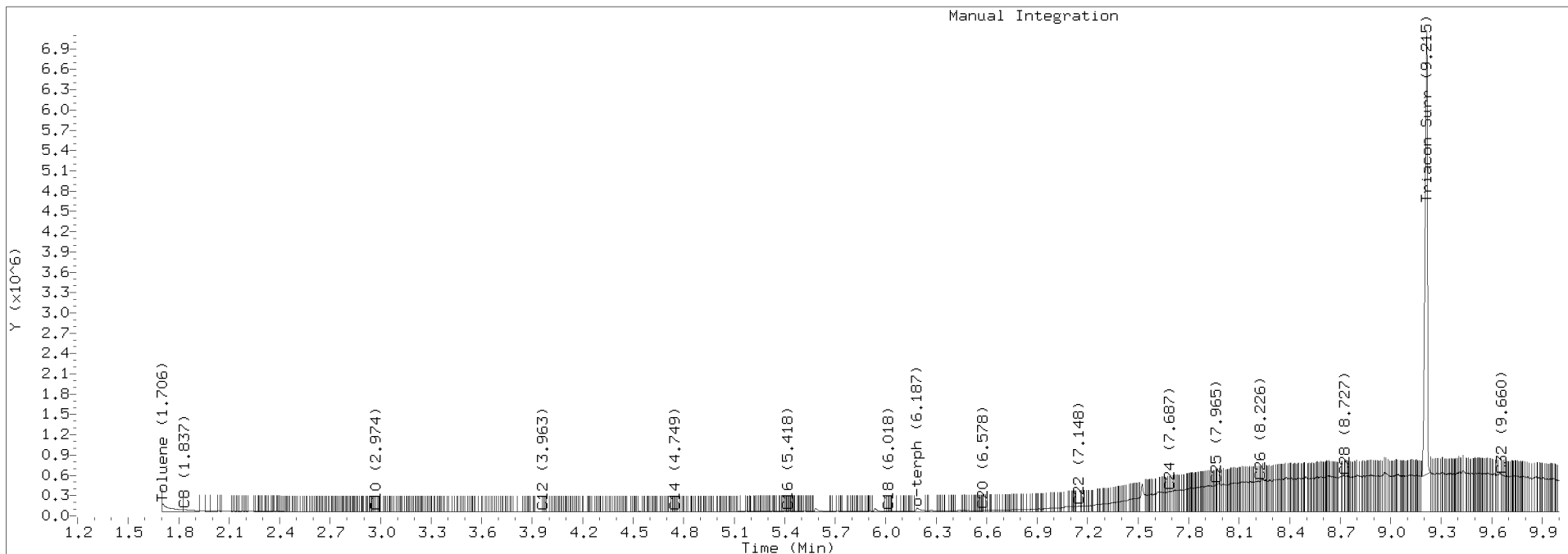
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2706.D Injection: 27-NOV-2020 09:58

Lab ID:SEQ-ICV2



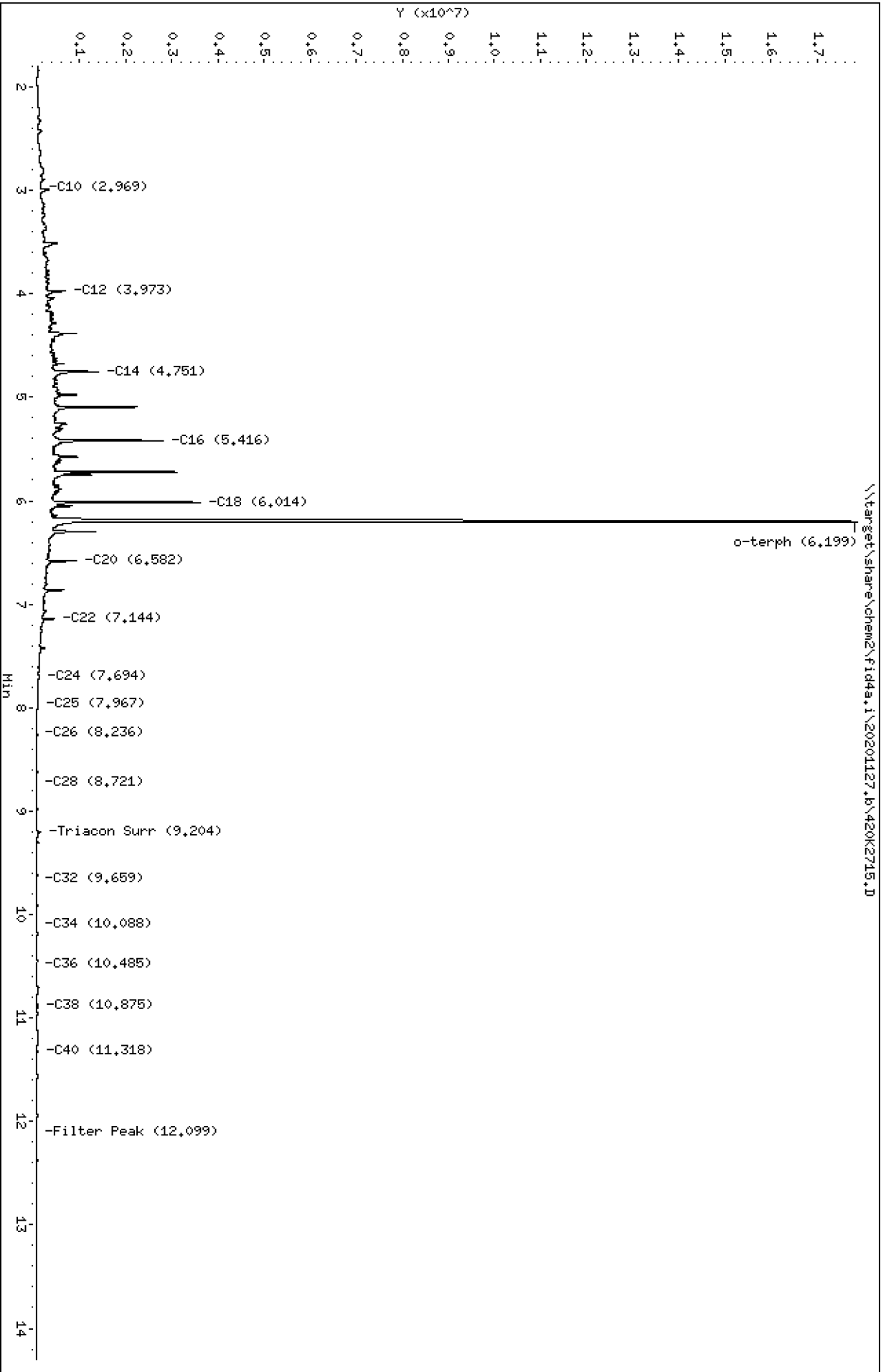
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Date: 27-NOV-2020 13:33
Client ID:
Sample Info: SEQ-ICV1

Instrument: fid4a,1

Page 1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2715.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 27-NOV-2020 13:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

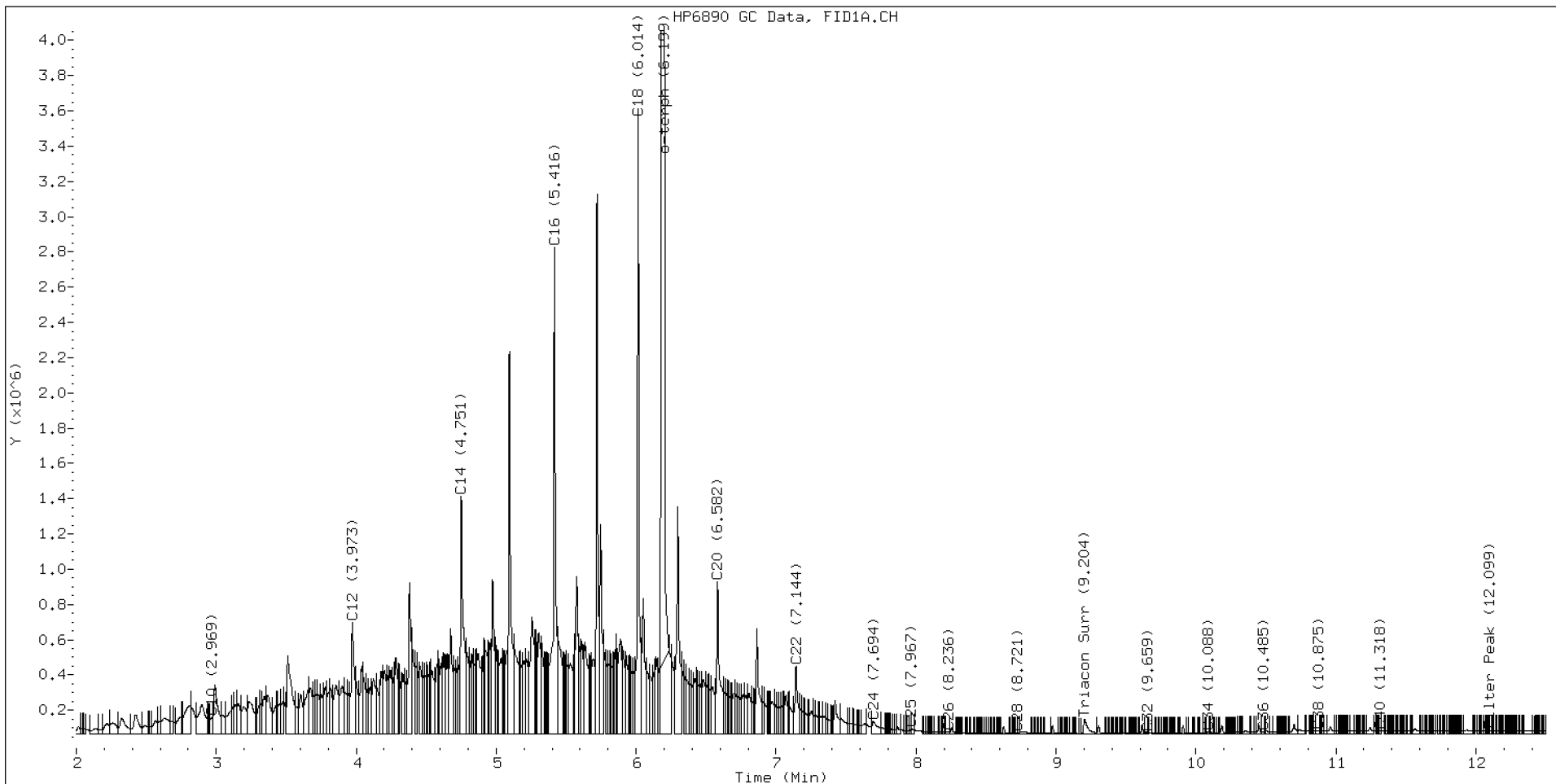
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	39904	116649	WATPHD	(C12-C24)	74267247	466.1
C10	2.969	-0.001	89837	110970	WATPHM	(C24-C38)	1428658	14.1
C12	3.973	0.009	632225	975512	AK102	(C10-C25)	86625093	443.1
C14	4.751	0.004	1345492	1852392	AK103	(C25-C36)	872941	11.9
C16	5.416	0.002	2755774	3330772	OR.DIES	(C10-C28)	86974110	443.7
C18	6.014	0.001	3543696	3151681				
C20	6.582	-0.002	858312	1319578	JET-A	(C10-C18)	66880330	403.3
C22	7.144	-0.004	384541	536928				
C24	7.694	0.000	70287	194007				
C25	7.967	0.004	24070	21683				
C26	8.236	0.011	9596	15000				
C28	8.721	-0.008	3181	1658				
C32	9.659	0.002	4751	2351				
C34	10.088	0.006	7348	9748				
Filter Peak	12.099	0.002	12202	3044	BUNKERC	(C10-C38)	87818709	2224.5
C36	10.485	0.002	11992	10807				
C38	10.875	0.002	15184	23088				
C40	11.318	0.004	15127	16398				
o-terph	6.199	0.000	17391834	17767257				
Triacon Surr	9.204	-0.025	80350	159773	NAS DIES	(C10-C24)	86390051	442.7

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17767257	86.8 M
Triacontane	159773	1.1

M Indicates the peak was manually integrated

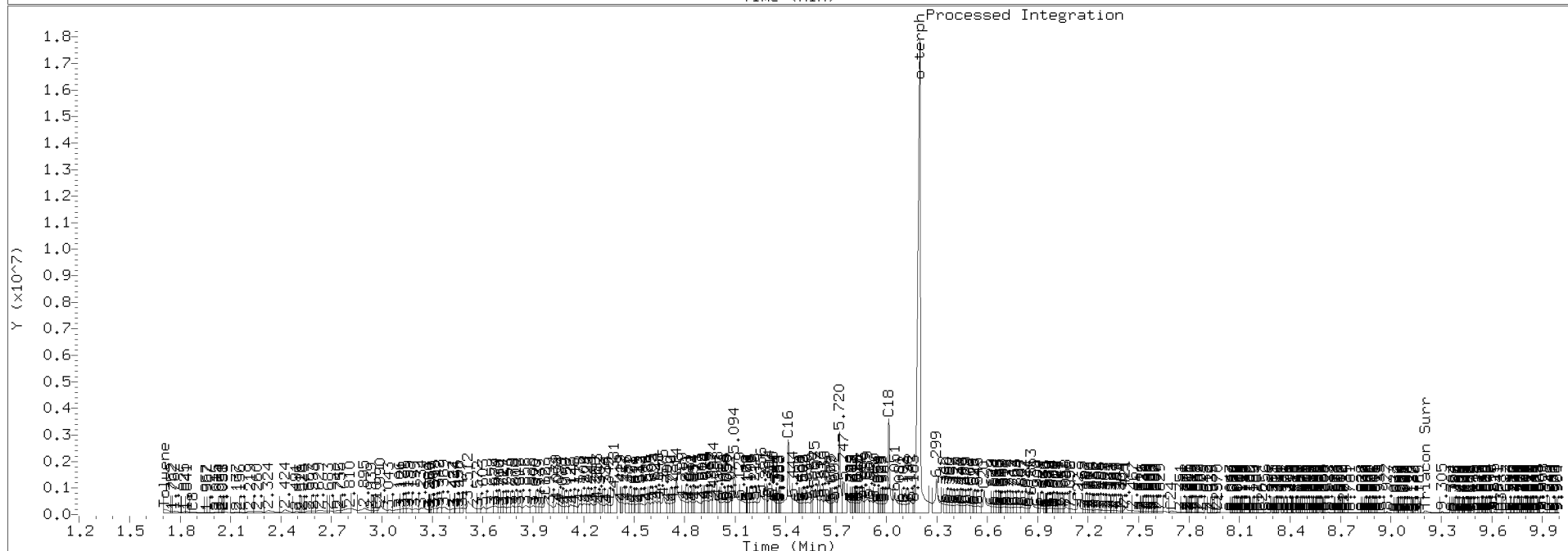
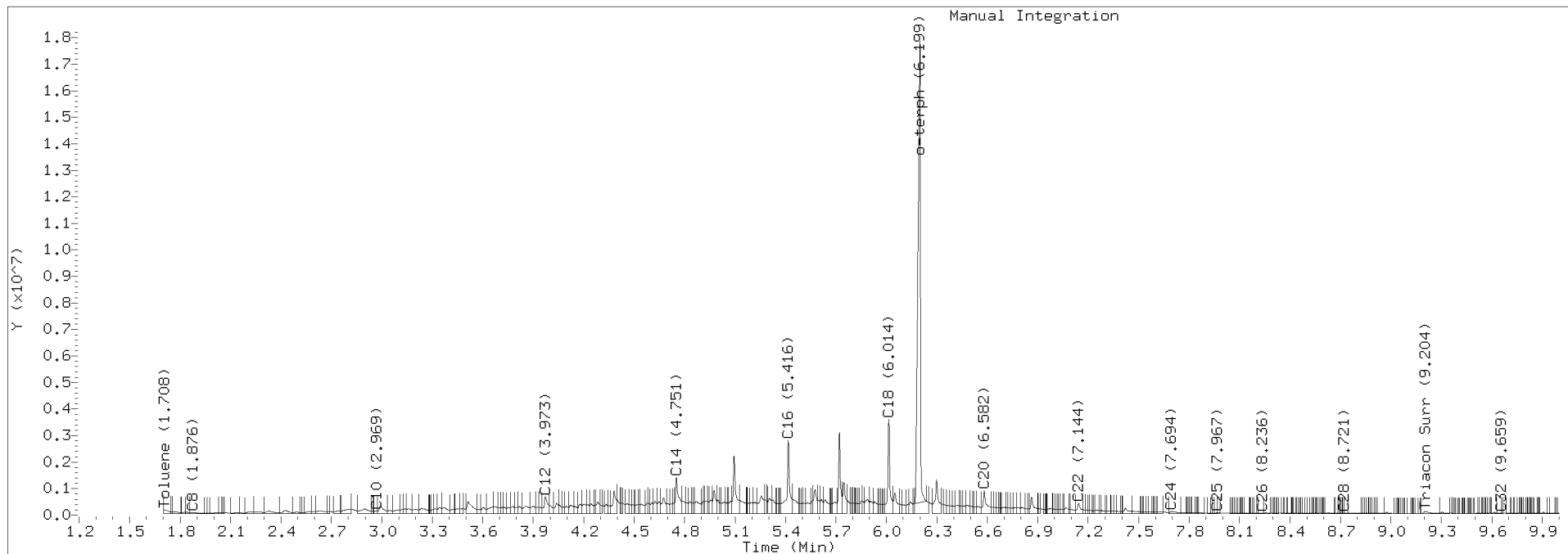
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2715.D Injection: 27-NOV-2020 13:33

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2716.D
Date: 27-NOV-2020 13:53

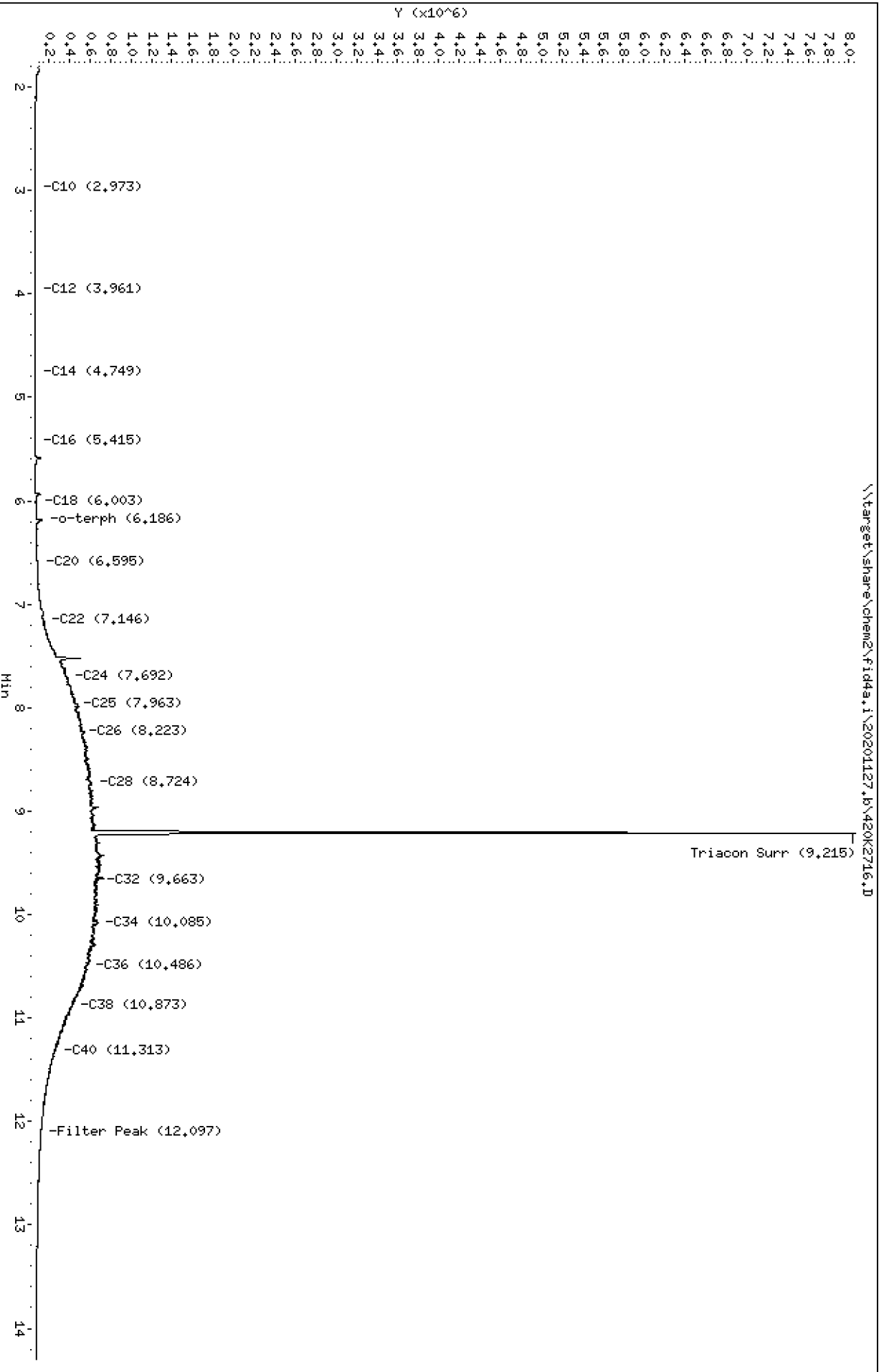
Client ID:
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2716.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 27-NOV-2020 13:53
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

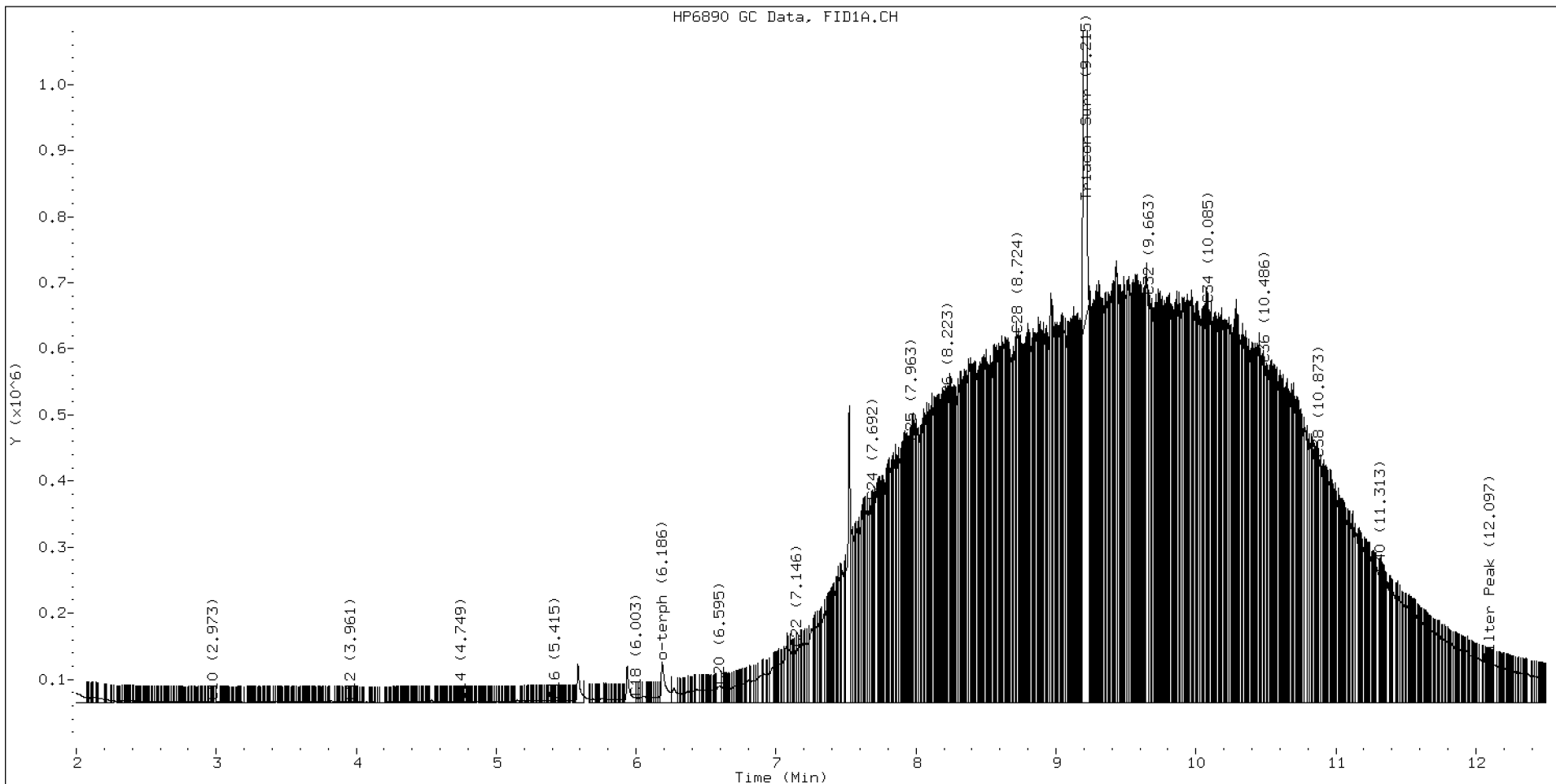
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.023	40763	137270	WATPHD	(C12-C24)	9148531	57.4
C10	2.973	0.003	352	109	WATPHM	(C24-C38)	97563051	964.4
C12	3.961	-0.003	576	216	AK102	(C10-C25)	12430873	63.6
C14	4.749	0.002	1276	609	AK103	(C25-C36)	84293012	1151.4
C16	5.415	0.001	2289	667	OR.DIES	(C10-C28)	37007946	188.8
C18	6.003	-0.011	6821	4968				
C20	6.595	0.011	24414	46709	JET-A	(C10-C18)	407415	2.5
C22	7.146	-0.002	82102	81684				
C24	7.692	-0.002	304531	149804				
C25	7.963	0.000	393779	78642				
C26	8.223	-0.002	448251	89499				
C28	8.724	-0.005	556450	359007				
C32	9.663	0.007	613734	181893				
C34	10.085	0.003	601068	209562				
Filter Peak	12.097	-0.001	59698	35244	BUNKERC	(C10-C38)	106736846	2703.8
C36	10.486	0.003	511775	254099				
C38	10.873	0.000	368473	164476				
C40	11.313	-0.001	195345	58400				
o-terph	6.186	-0.013	61414	131572				
Triacon Surr	9.215	-0.014	7412891	6841259	NAS DIES	(C10-C24)	9173795	47.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	131572	0.6
Triacontane	6841259	46.1 M

M Indicates the peak was manually integrated

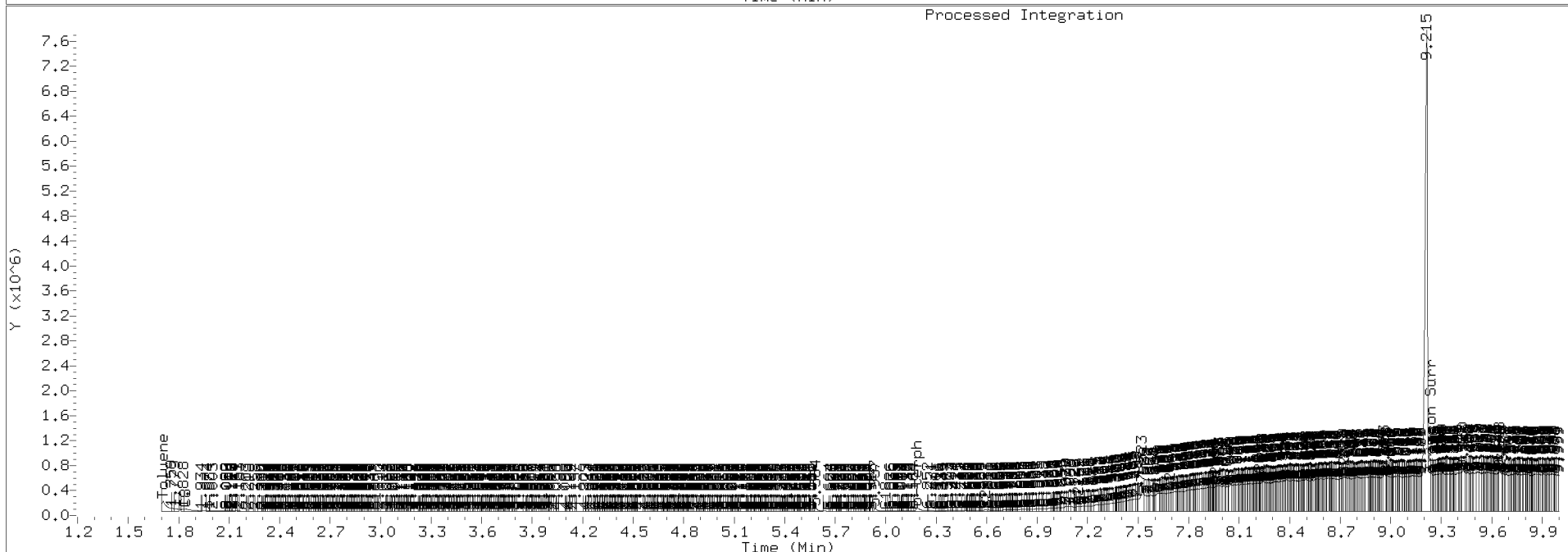
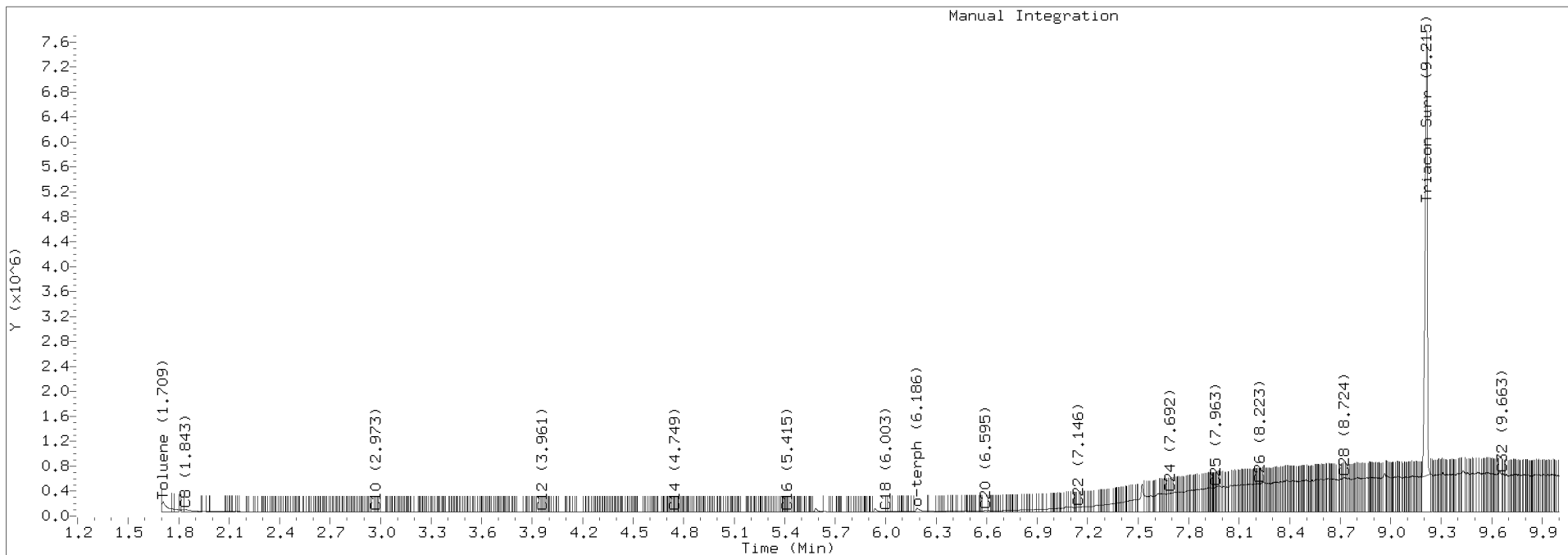
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2716.D Injection: 27-NOV-2020 13:53

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2405.D

Date: 24-NOV-2020 09:00

Client ID:

Sample Info: SEQ-ICV1

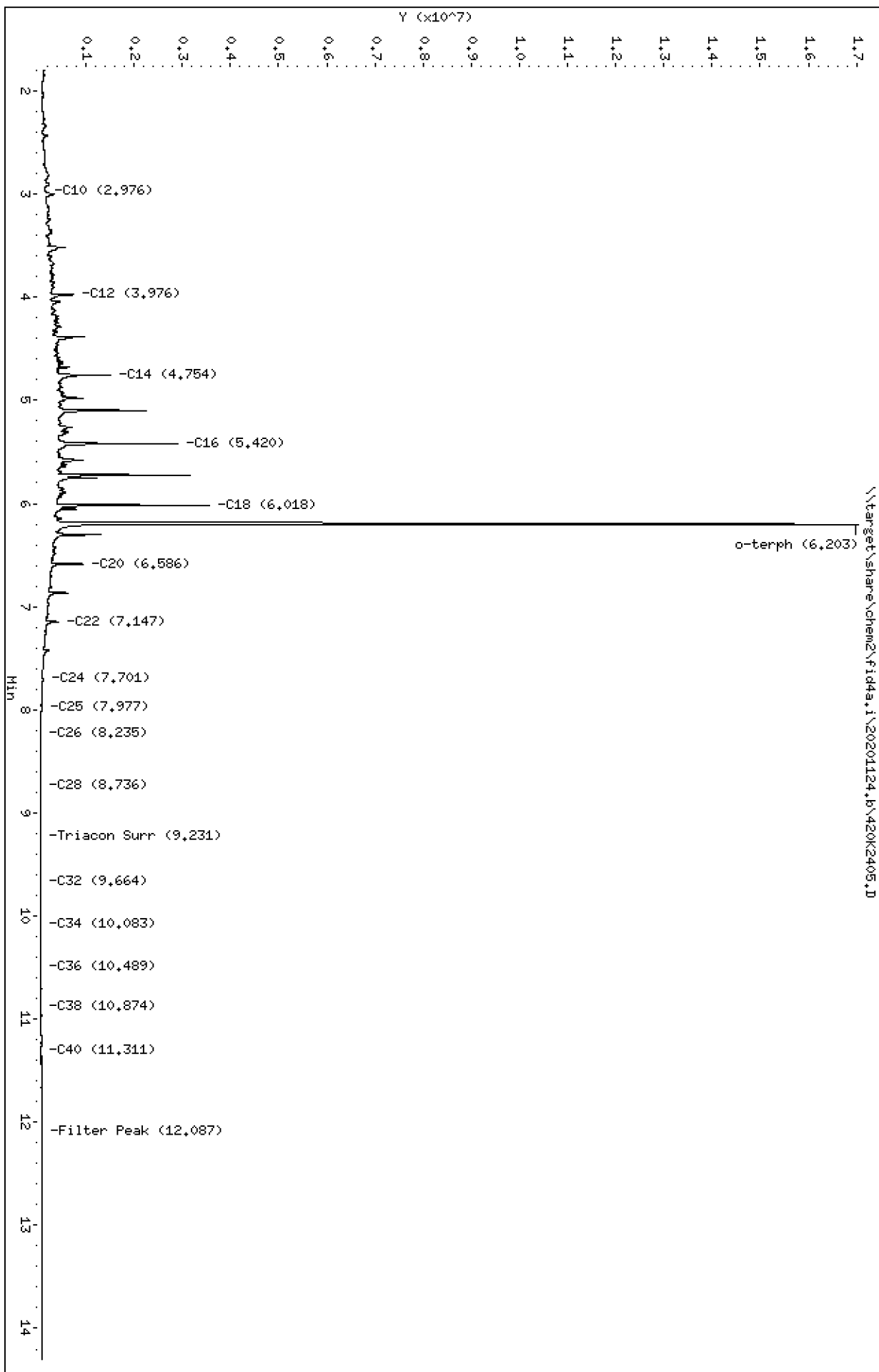
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2405.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV1
Client ID:
Injection: 24-NOV-2020 09:00
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

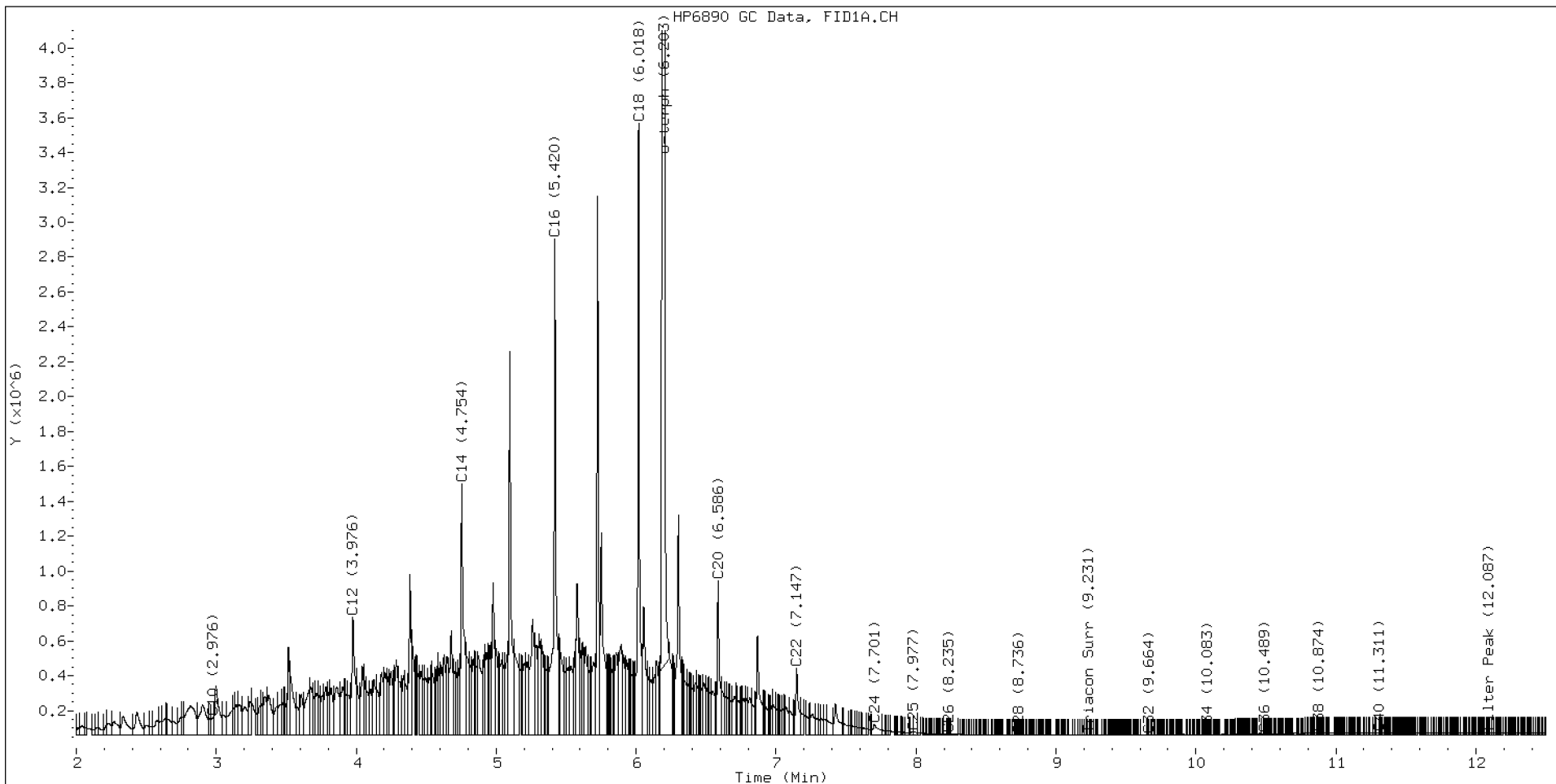
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.900	0.008	65042	130083	WATPHD	(C12-C24)	74967474	470.5
C10	2.976	-0.005	101177	125220	WATPHM	(C24-C38)	943732	9.3
C12	3.976	0.004	678522	1003759	AK102	(C10-C25)	87793061	449.1
C14	4.754	0.000	1441774	1793527	AK103	(C25-C36)	531663	7.3
C16	5.420	-0.001	2849284	3320282	OR.DIES	(C10-C28)	88080801	449.4
C18	6.018	-0.002	3511114	3084814				
C20	6.586	-0.005	888630	995070	JET-A	(C10-C18)	68089922	410.6
C22	7.147	-0.006	383133	522391				
C24	7.701	0.001	61638	173520				
C25	7.977	0.008	20605	26721				
C26	8.235	0.004	7189	5690				
C28	8.736	0.002	1125	646				
C32	9.664	0.002	1307	566				
C34	10.083	-0.003	3451	1368				
Filter Peak	12.087	-0.002	14751	5157	BUNKERC	(C10-C38)	88566853	2243.5
C36	10.489	0.001	7805	1553				
C38	10.874	-0.003	11799	5281				
C40	11.311	-0.006	13767	8226				
o-terph	6.203	-0.002	16581486	17359726				
Triacon Surr	9.231	-0.007	310	133	NAS DIES	(C10-C24)	87623122	449.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17359726	84.8 M
Triacontane	133	0.0

M Indicates the peak was manually integrated

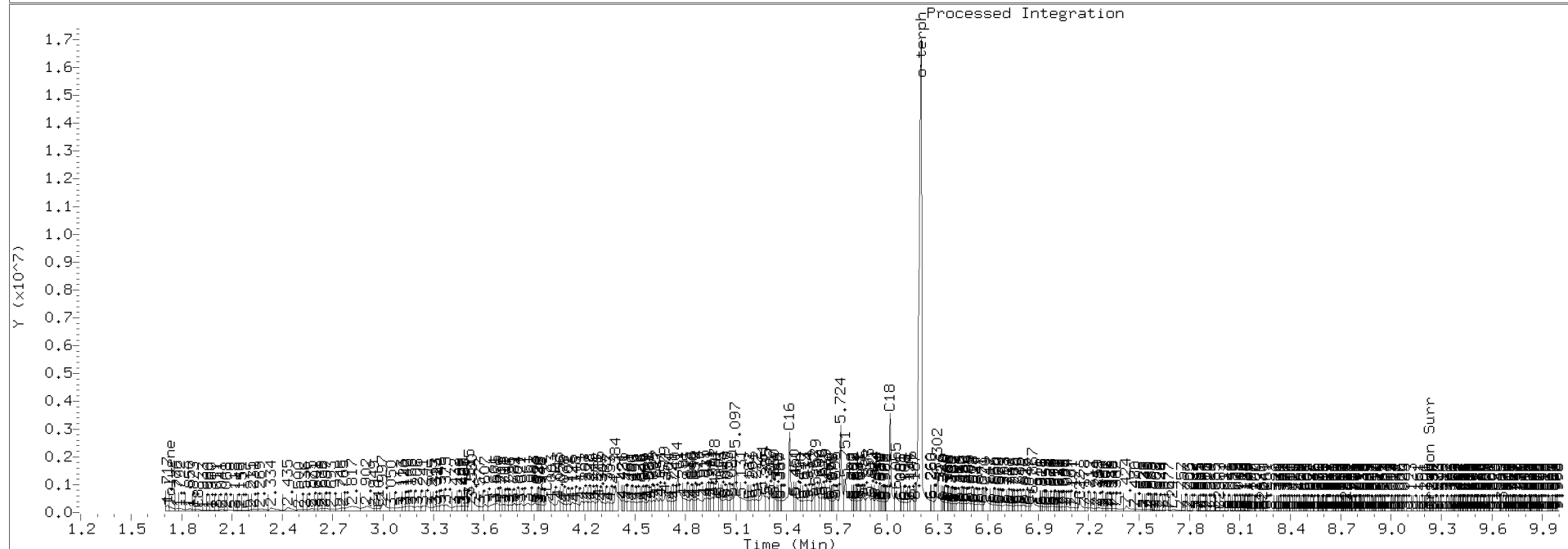
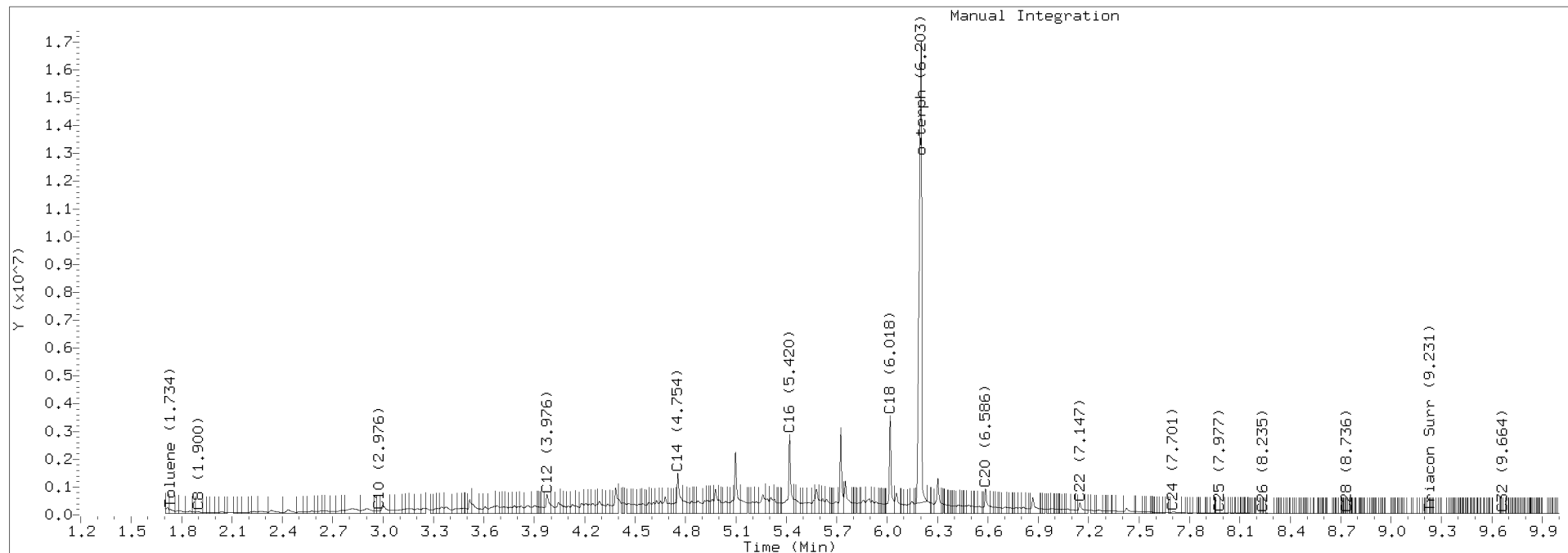
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2405.D Injection: 24-NOV-2020 09:00

Lab ID:SEQ-ICV1



Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2406.D
Date: 24-NOV-2020 09:21

Client ID:

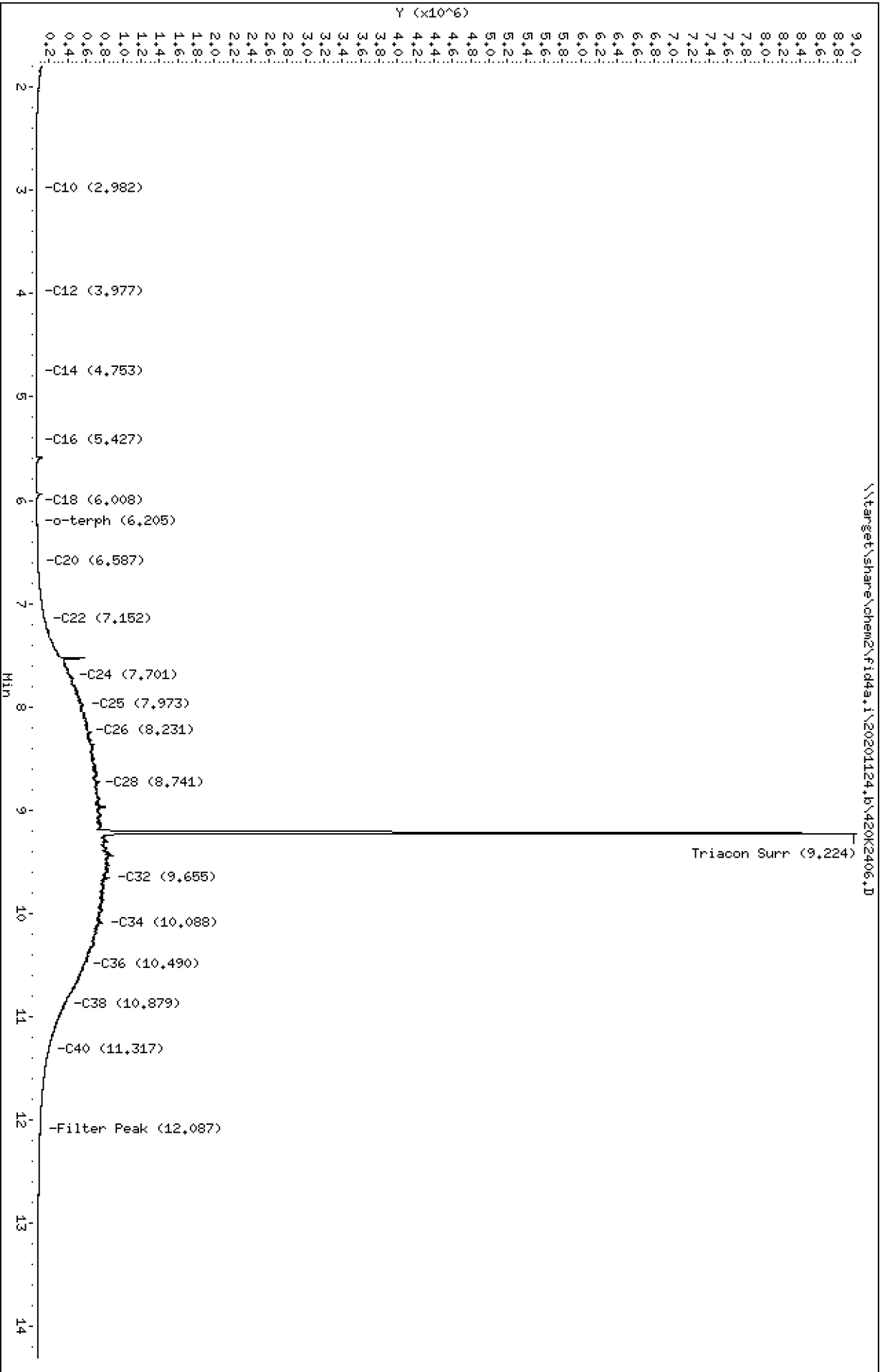
Sample Info: SEQ-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2406.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-ICV2
Client ID:
Injection: 24-NOV-2020 09:21
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

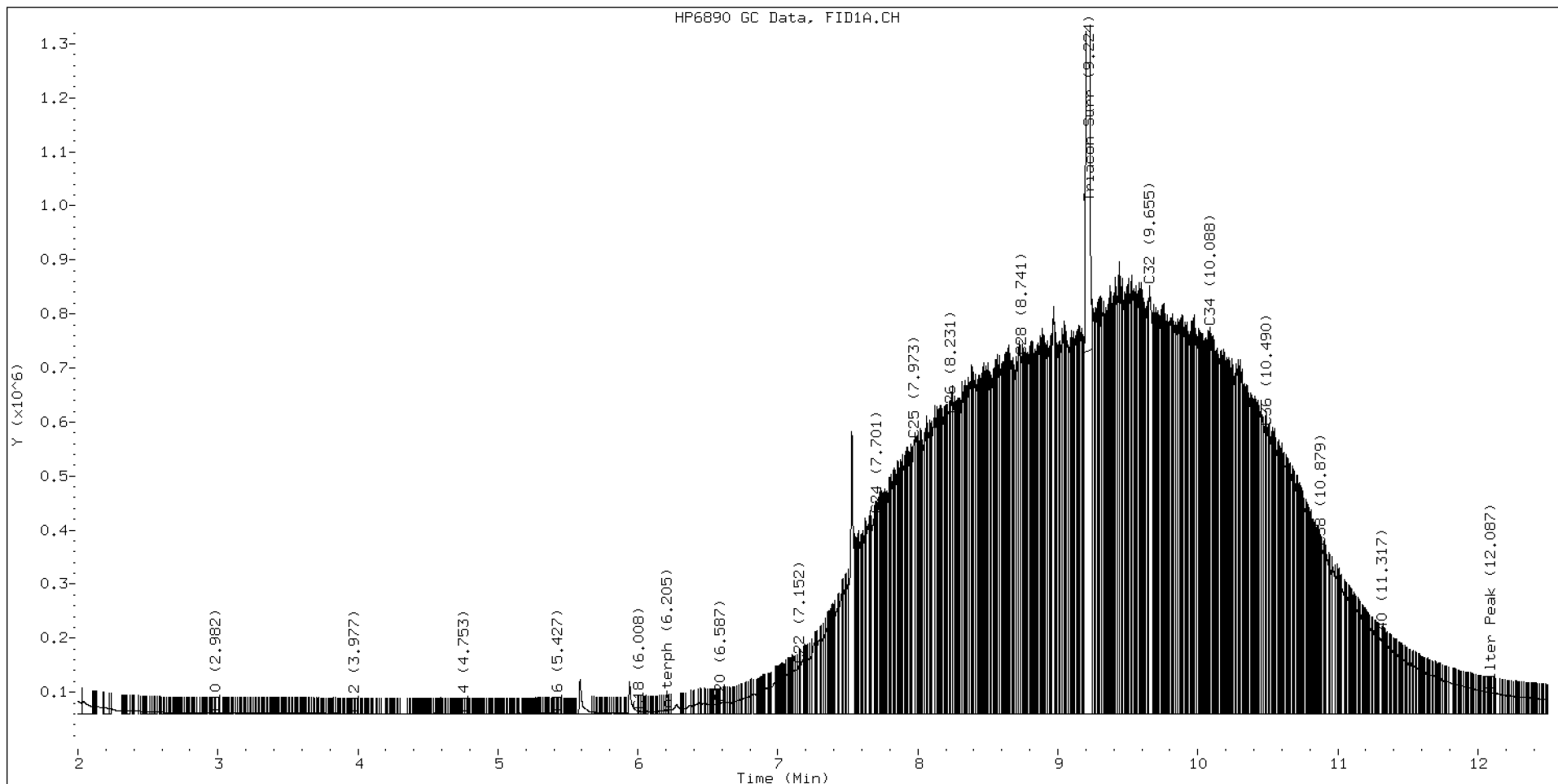
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.882	-0.011	47693	145324	WATPHD	(C12-C24)	10348582	64.9
C10	2.982	0.000	1679	733	WATPHM	(C24-C38)	114764860	1134.4
C12	3.977	0.005	612	173	AK102	(C10-C25)	14668206	75.0
C14	4.753	-0.001	746	600	AK103	(C25-C36)	101430306	1385.5
C16	5.427	0.007	1099	264	OR.DIES	(C10-C28)	44783804	228.5
C18	6.008	-0.011	5296	3975				
C20	6.587	-0.004	18884	8371	JET-A	(C10-C18)	355129	2.1
C22	7.152	-0.001	91276	82408				
C24	7.701	0.000	368659	146726				
C25	7.973	0.004	507914	587247				
C26	8.231	0.000	553329	192922				
C28	8.741	0.007	662190	328500				
C32	9.655	-0.007	793567	1318143				
C34	10.088	0.002	716540	660431				
Filter Peak	12.087	-0.001	39745	15741	BUNKERC	(C10-C38)	125192788	3171.3
C36	10.490	0.002	529922	157726				
C38	10.879	0.002	307964	212372				
C40	11.317	0.000	133948	40050				
o-terph	6.205	0.000	7104	4793				
Triacon Surr	9.224	-0.013	8275983	8675101	NAS DIES	(C10-C24)	10427928	53.4

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	4793	0.0
Triacontane	8675101	58.5 M

M Indicates the peak was manually integrated

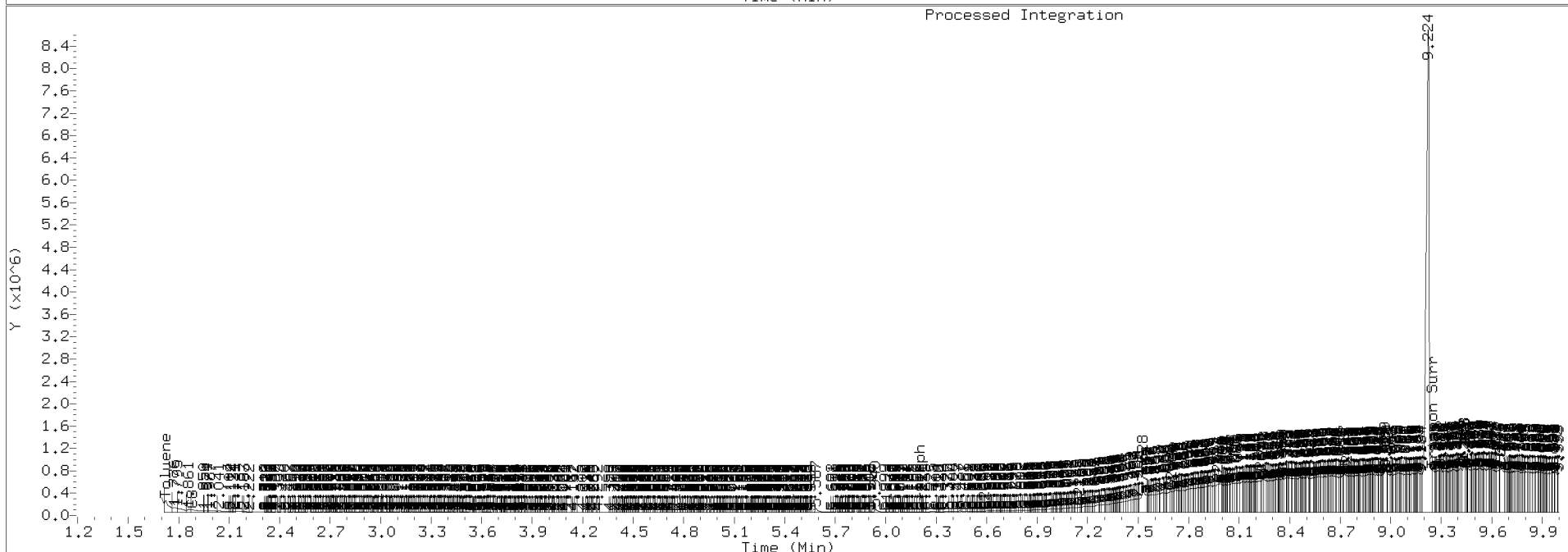
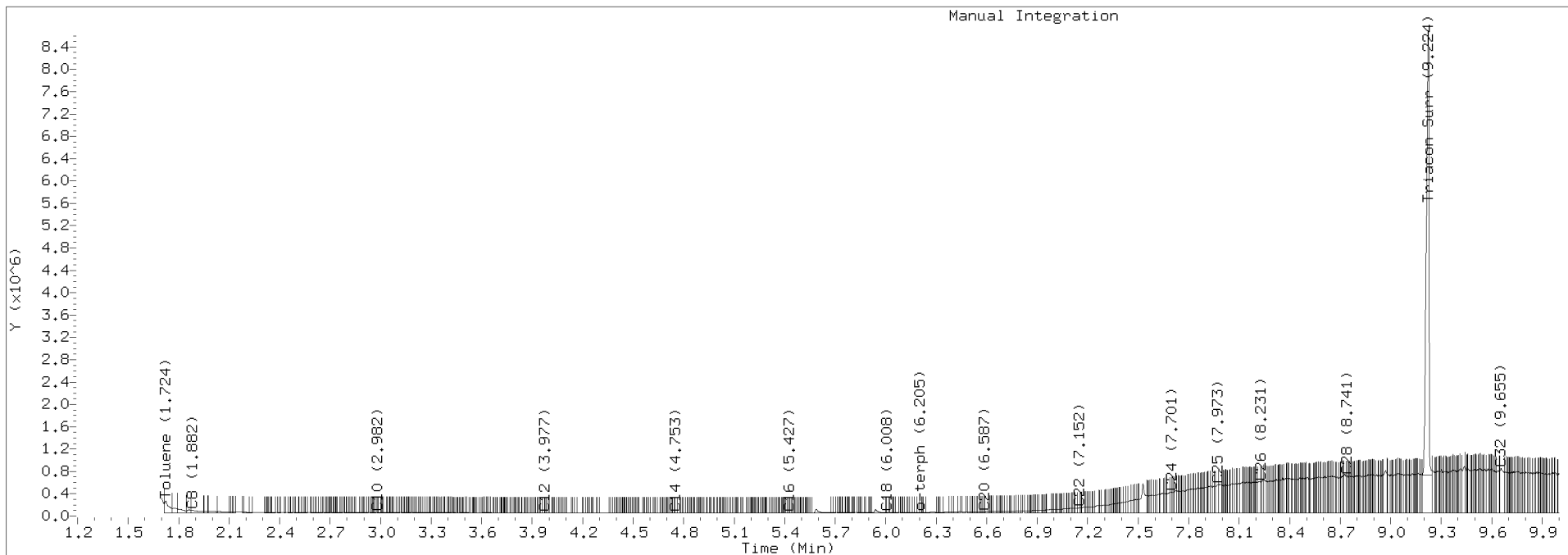
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2406.D Injection: 24-NOV-2020 09:21

Lab ID:SEQ-ICV2



Data File: \\target\share\chem2\fid4a,1\20201202,b\42010216.D

Date : 02-DEC-2020 14:04

Client ID:

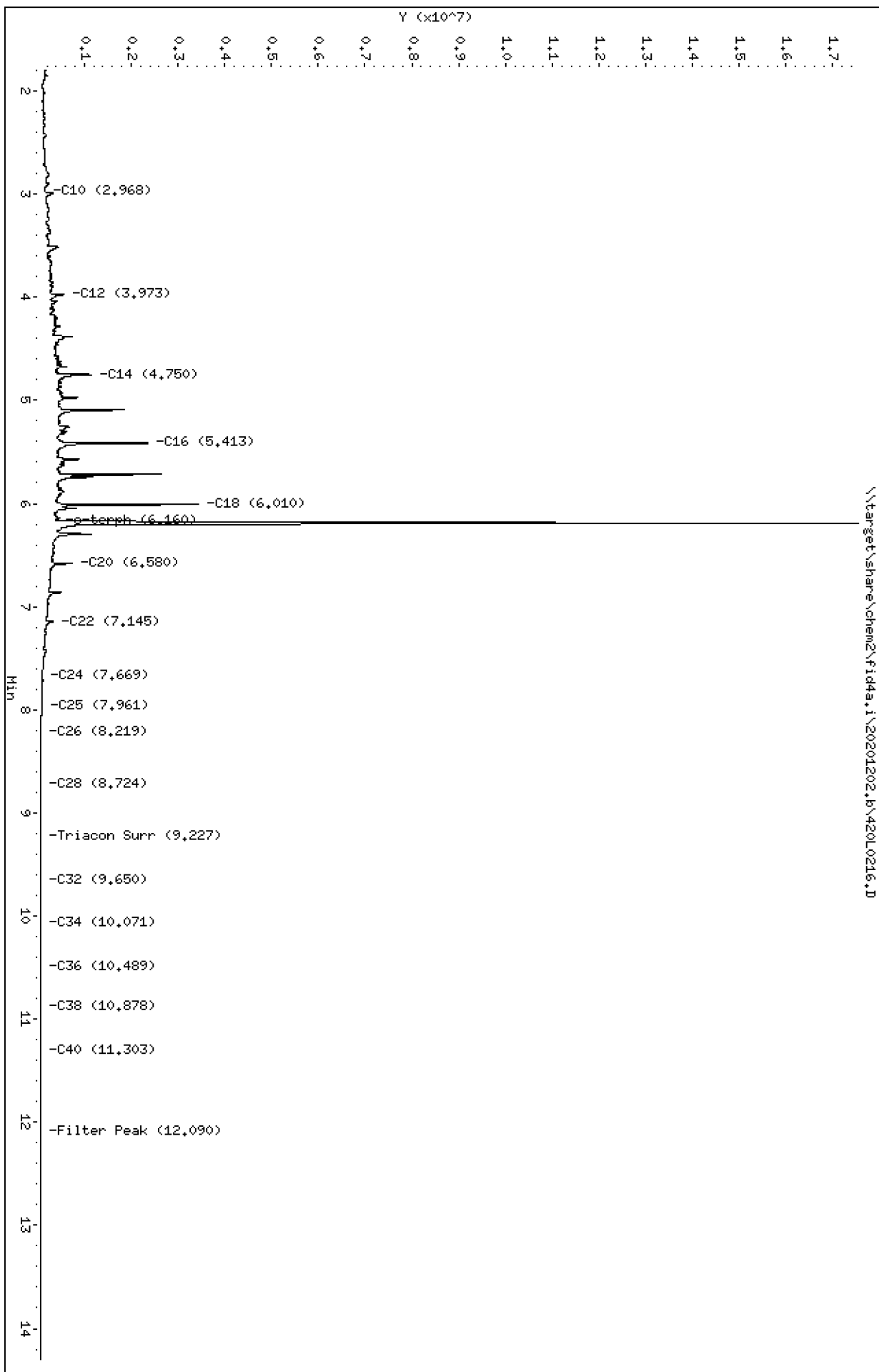
Sample Info: SIL0020-ICV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0216.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-ICV1
Client ID:
Injection: 02-DEC-2020 14:04
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

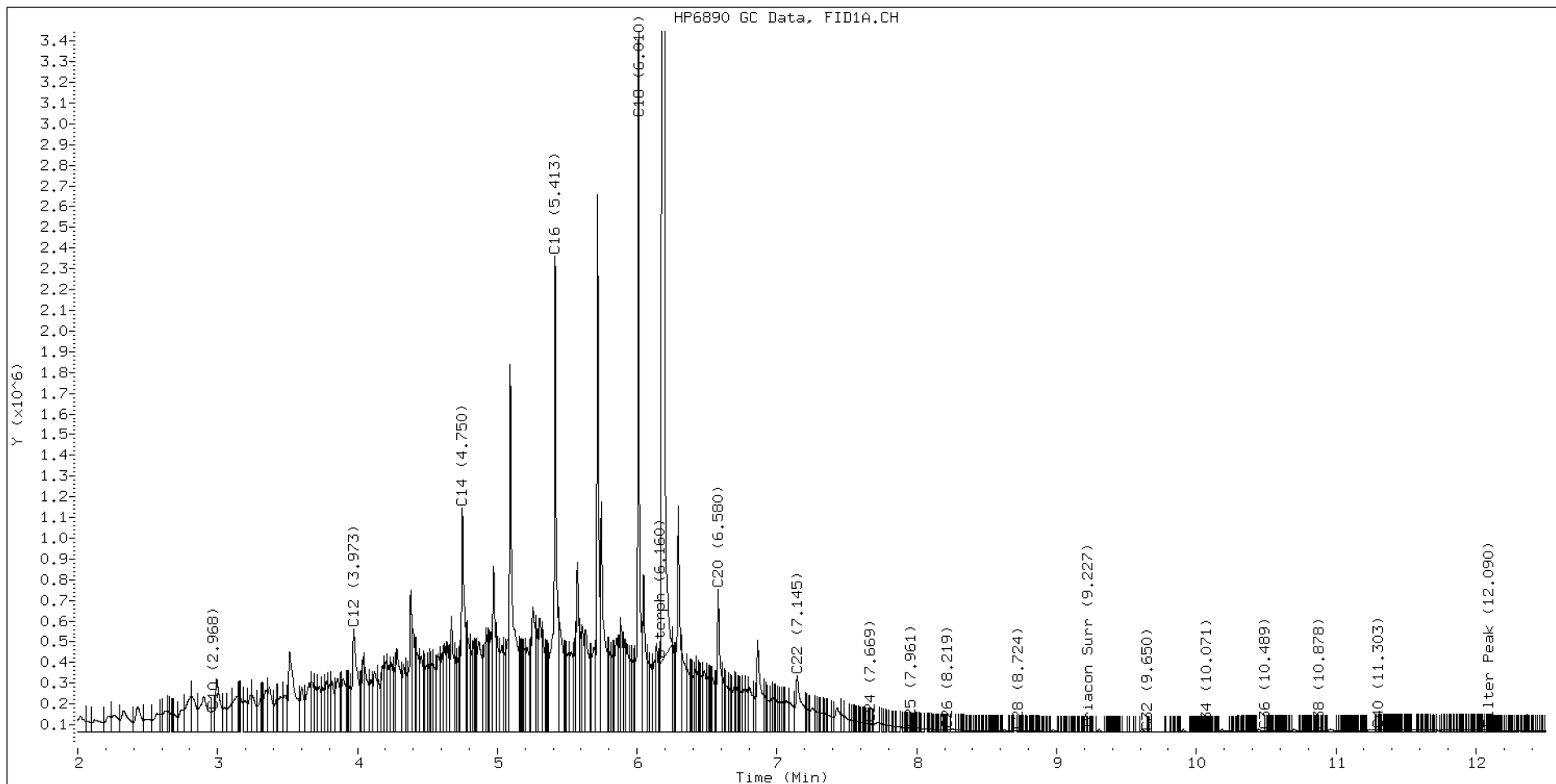
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.873	-0.009	93887	294491	WATPHD	(C12-C24)	74388629	466.9
C10	2.968	-0.006	99752	116582	WATPHM	(C24-C38)	827622	8.2
C12	3.973	0.007	494514	1251722	AK102	(C10-C25)	86569119	442.8
C14	4.750	0.002	1078886	1741680	AK103	(C25-C36)	517562	7.1
C16	5.413	0.001	2296926	3276349	OR.DIES	(C10-C28)	86929286	443.5
C18	6.010	-0.000	3383423	2994052				
C20	6.580	-0.000	686467	990812	JET-A	(C10-C18)	66869372	403.2
C22	7.145	0.003	270905	747757				
C24	7.669	-0.021	37917	38613				
C25	7.961	0.002	16753	8350				
C26	8.219	0.001	8719	2592				
C28	8.724	0.002	2391	2104				
C32	9.650	0.003	514	233				
C34	10.071	0.002	973	280				
Filter Peak	12.090	-0.006	6918	5118	BUNKERC	(C10-C38)	87195801	2208.8
C36	10.489	0.015	3342	1298				
C38	10.878	0.003	5525	2466				
C40	11.303	-0.000	7003	2448				
o-terph	6.195	-0.001	17118807	17049681				
Triacon Surr	9.227	0.004	309	221	NAS DIES	(C10-C24)	86368179	442.6

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17049681	83.3 M
Triacontane	221	0.0

M Indicates the peak was manually integrated

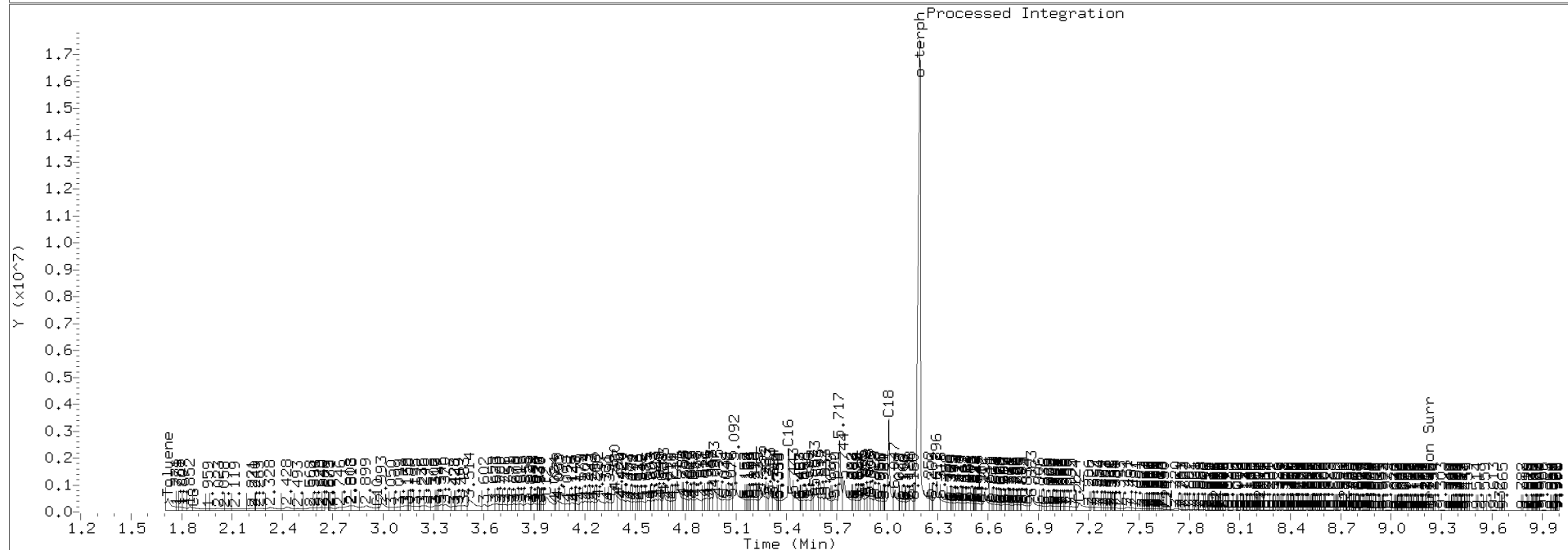
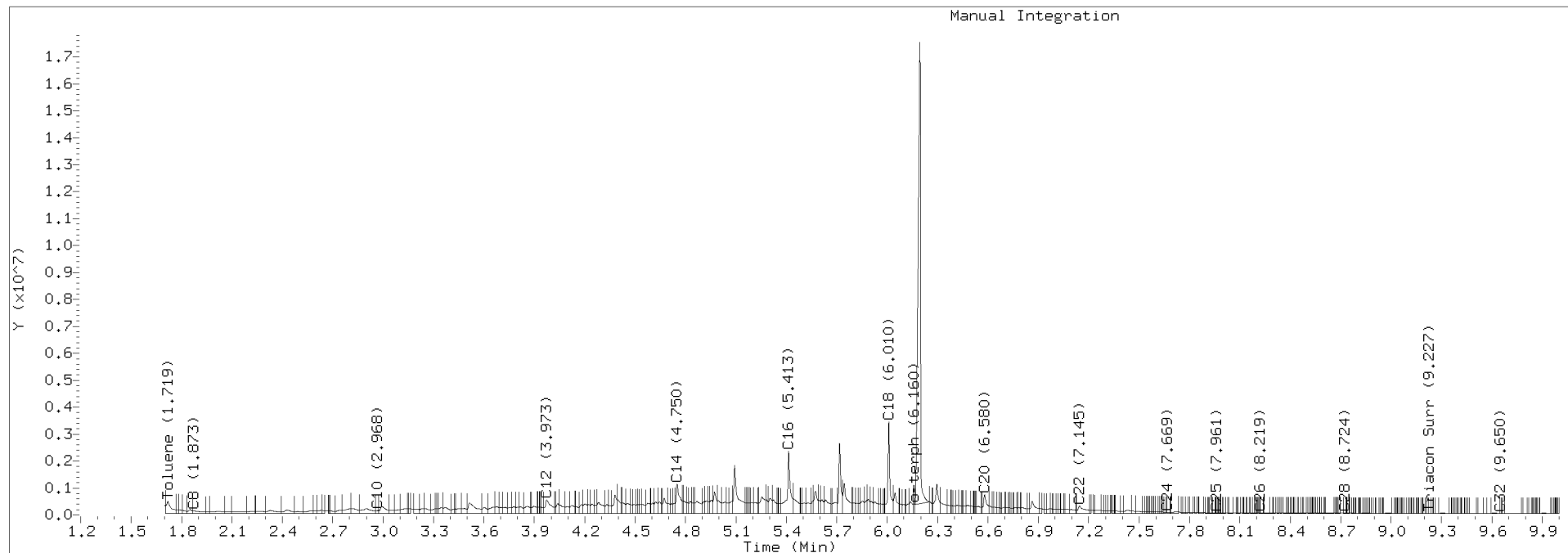
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0216.D Injection: 02-DEC-2020 14:04

Lab ID: SIL0020-ICV1



Data File: \\target\share\chem2\fid4a,1\20201202_16\42010217.D

Date: 02-DEC-2020 14:24

Client ID:

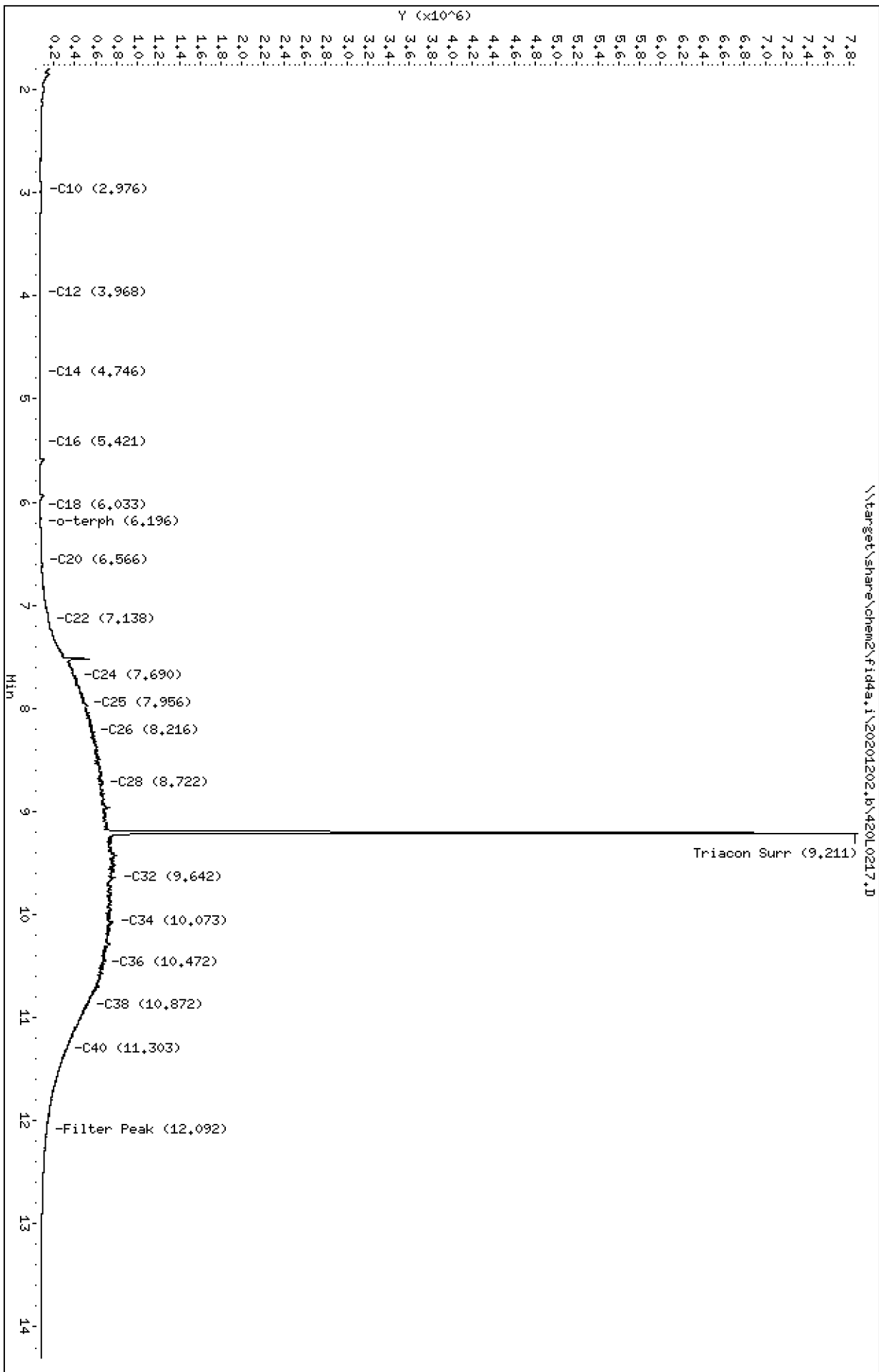
Sample Info: SIL0020-ICV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0217.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-ICV2
Client ID:
Injection: 02-DEC-2020 14:24
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

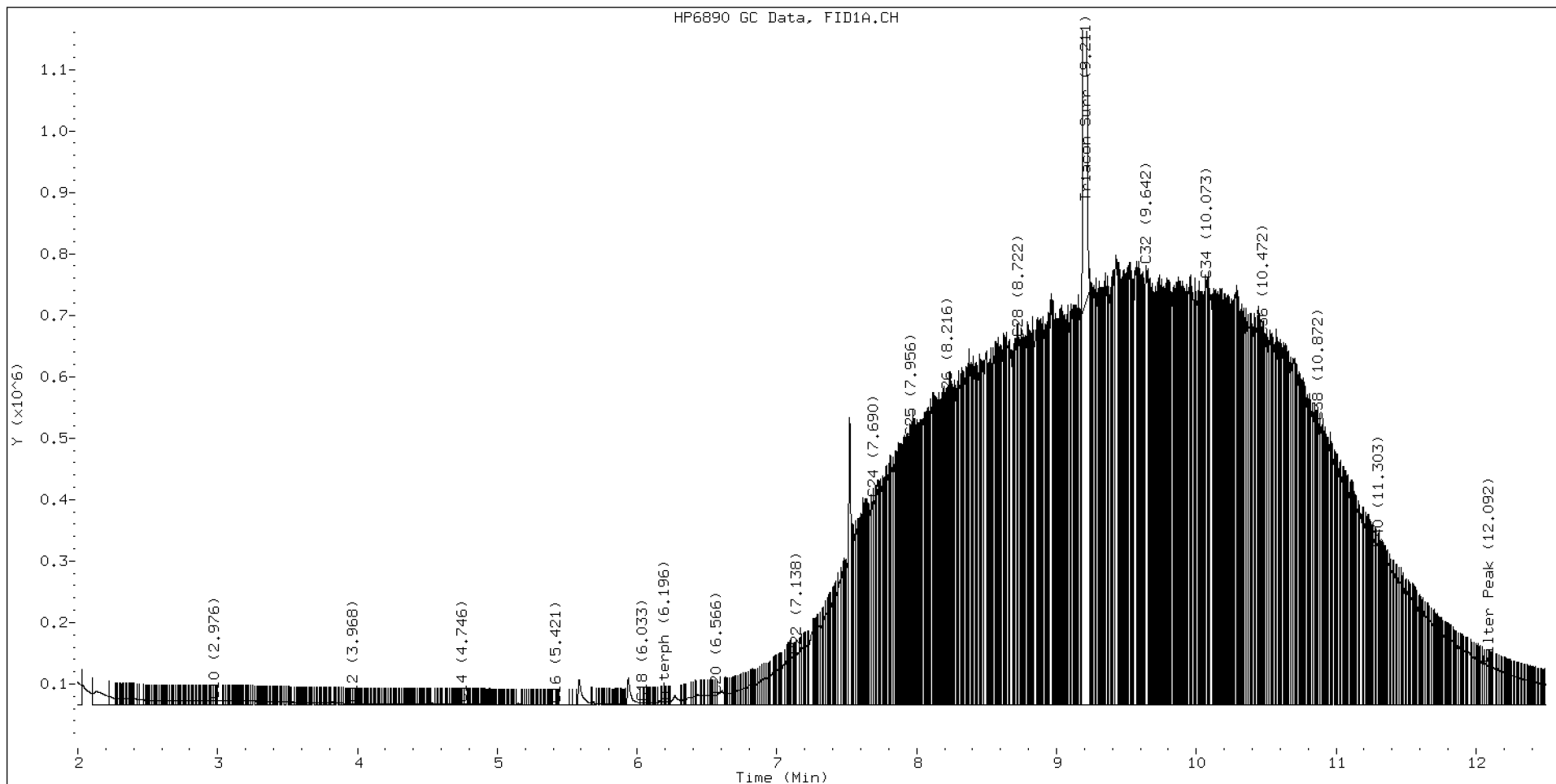
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.853	-0.029	98157	373535	WATPHD	(C12-C24)	9529607	59.8
C10	2.976	0.002	6757	6016	WATPHM	(C24-C38)	110405035	1091.3
C12	3.968	0.002	2609	1989	AK102	(C10-C25)	13484625	69.0
C14	4.746	-0.003	1695	815	AK103	(C25-C36)	94140627	1286.0
C16	5.421	0.009	326	116	OR.DIES	(C10-C28)	40275398	205.5
C18	6.033	0.023	3575	4714				
C20	6.566	-0.014	16059	15650	JET-A	(C10-C18)	566937	3.4
C22	7.138	-0.004	79872	35469				
C24	7.690	-0.000	334903	295641				
C25	7.956	-0.003	435490	129992				
C26	8.216	-0.002	493956	147231				
C28	8.722	-0.000	596152	148411				
C32	9.642	-0.005	715689	966677				
C34	10.073	0.005	692061	511594				
Filter Peak	12.092	-0.004	64278	38036	BUNKERC	(C10-C38)	120206486	3045.0
C36	10.472	-0.002	598260	178167				
C38	10.872	-0.003	460616	291814				
C40	11.303	0.000	254906	100982				
o-terph	6.196	-0.000	5576	2493				
Triacon Surr	9.211	-0.011	7162645	7311677	NAS DIES	(C10-C24)	9801452	50.2

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	2493	0.0
Triacontane	7311677	49.3 M

M Indicates the peak was manually integrated

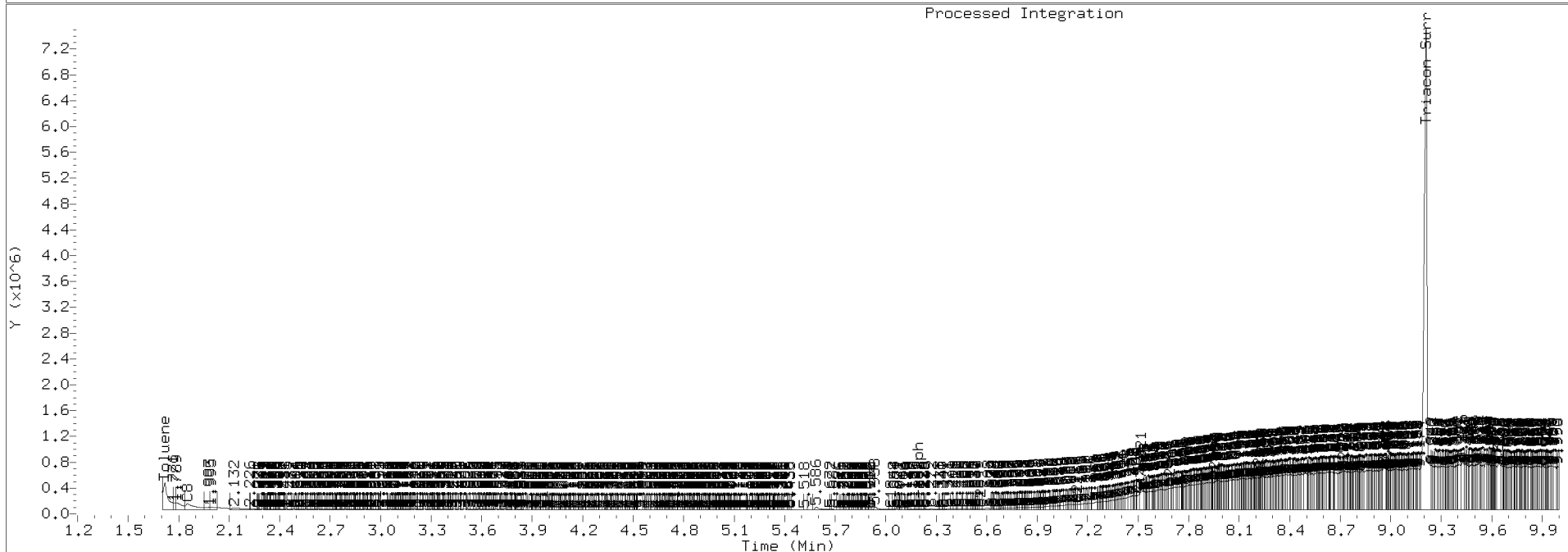
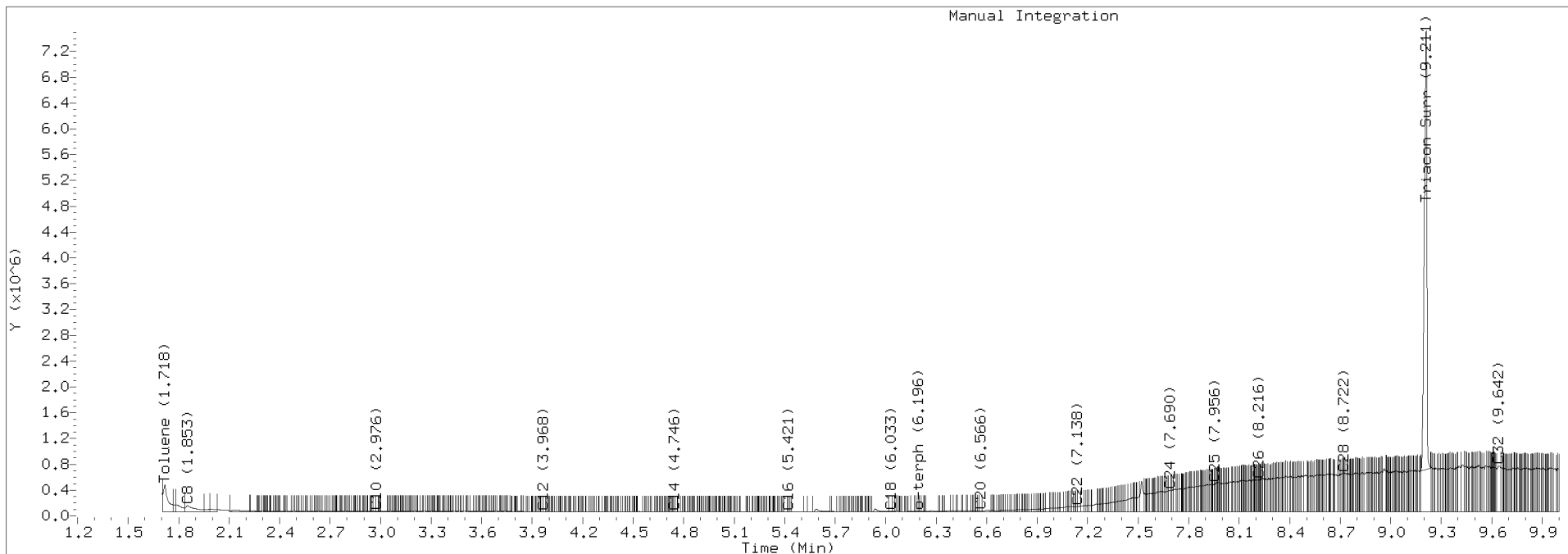
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0217.D Injection: 02-DEC-2020 14:24

Lab ID: SIL0020-ICV2





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0126</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420H1413.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIH0165</u>	Injection Date: <u>08/14/20</u>
Lab Sample ID: <u>SIH0165-CCV1</u>	Injection Time: <u>11:59</u>
Sequence Name: <u>DIESEL CCV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	481	159336.7	153209.9		-3.8	+/-15
o-Terphenyl	A	90.000	79.3	204701.9	180393.1		-11.9	+/-15

* Values outside of QC limits

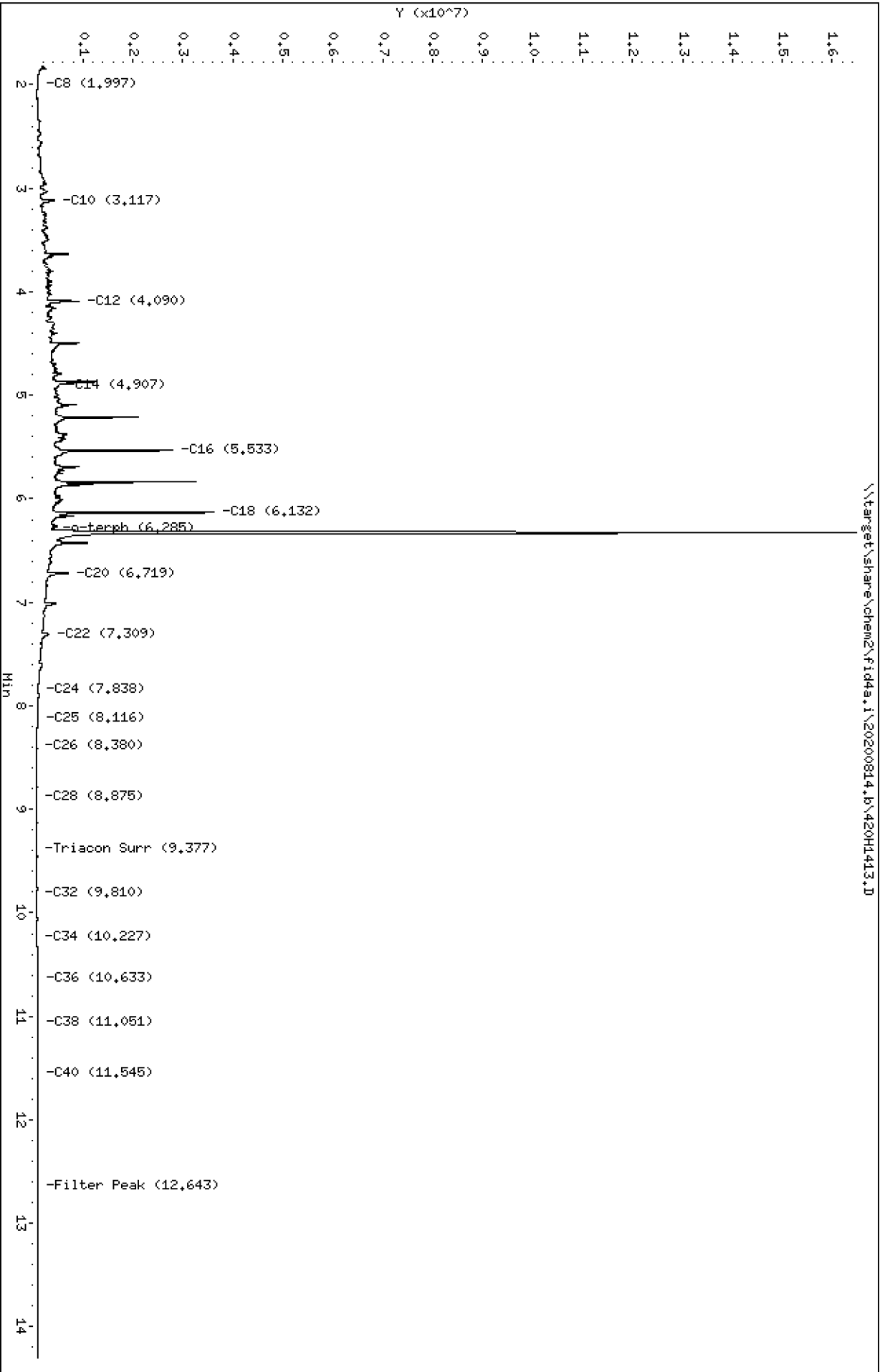
Data File: \\target\share\chem2\fid4a,1\20200814,b\420H1413.D
Date: 14-AUG-2020 11:59
Client ID:
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20200814.b/420H1413.D
Method: 20200814.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 08/24/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 14-AUG-2020 11:59
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

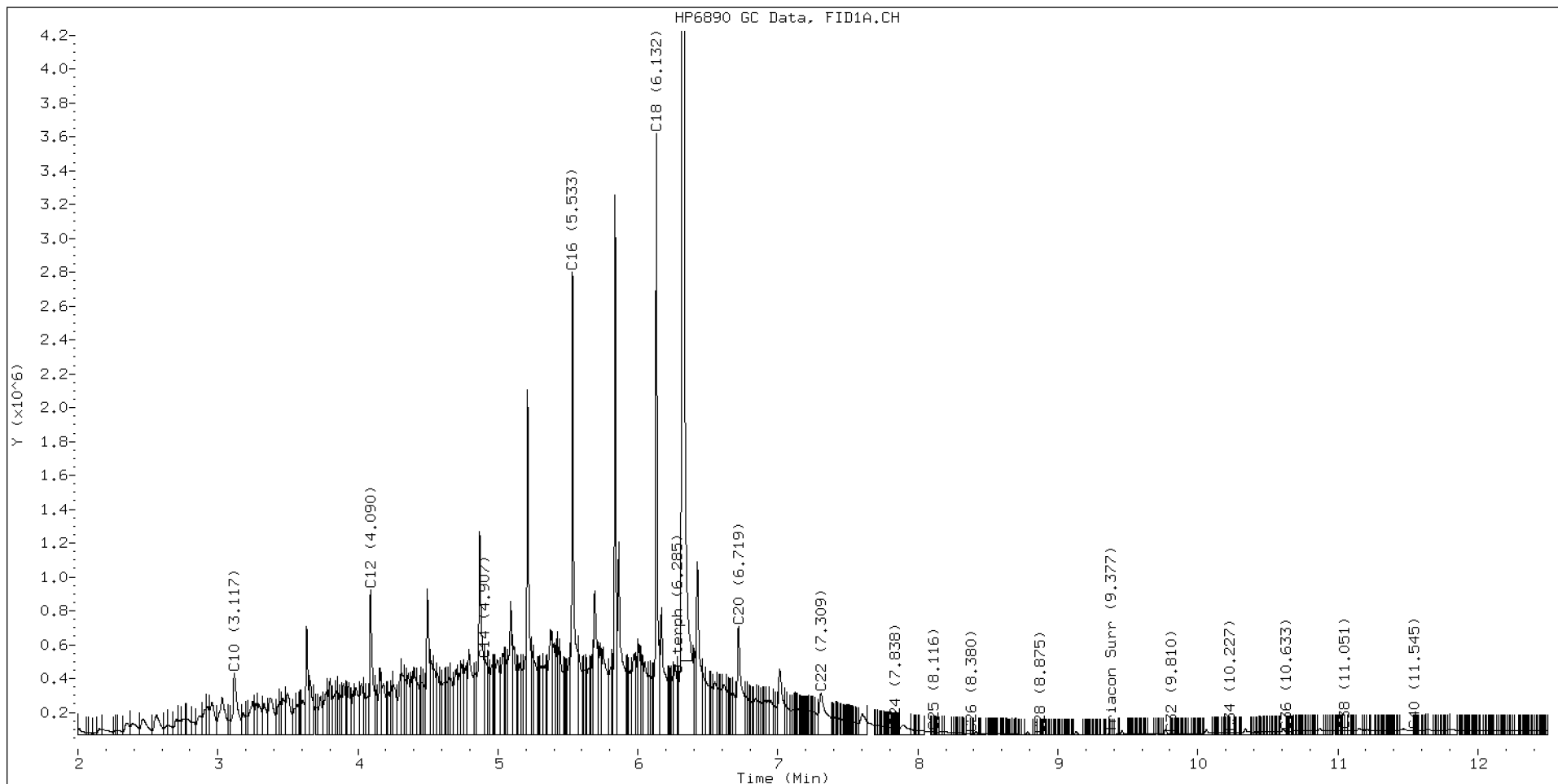
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.997	0.005	33555	26527	WATPHD	(C12-C24)	76604959	480.8
C10	3.117	0.011	360980	800884	WATPHM	(C24-C38)	2087736	20.6
C12	4.090	0.003	858002	1109180	AK102	(C10-C25)	90098220	460.9
C14	4.907	0.011	444696	641926	AK103	(C25-C36)	1192714	16.3
C16	5.533	-0.006	2733195	3097613	OR.DIES	(C10-C28)	90414159	461.3
C18	6.132	-0.001	3552120	3129904				
C20	6.719	-0.001	636483	1325665	JET-A	(C10-C18)	69968294	421.9
C22	7.309	0.022	248019	872467				
C24	7.838	0.001	39892	19883				
C25	8.116	0.009	16354	7274				
C26	8.380	0.009	7066	4723				
C28	8.875	-0.001	410	108				
C32	9.810	0.003	6271	1564				
C34	10.227	-0.005	10941	7550				
Filter Peak	12.643	0.007	25373	20242	CREOSOT	(C12-C22)	74914962	831.2
C36	10.633	-0.004	19294	9569				
C38	11.051	-0.001	25145	5023				
C40	11.545	-0.002	23988	7180				
o-terph	6.330	0.000	15978088	16235384				
Triacon Surr	9.377	-0.001	1405	784	NAS DIES	(C10-C24)	89766551	460.0

Range Times: NW Diesel(4.087 - 7.837) AK102(3.11 - 8.11) Jet A(3.11 - 6.13)
NW M.Oil(7.84 - 11.05) AK103(8.11 - 10.64) OR Diesel(3.11 - 8.88)

Surrogate	Area	Amount
o-Terphenyl	16235384	79.3 M
Triacontane	784	0.0

M Indicates the peak was manually integrated

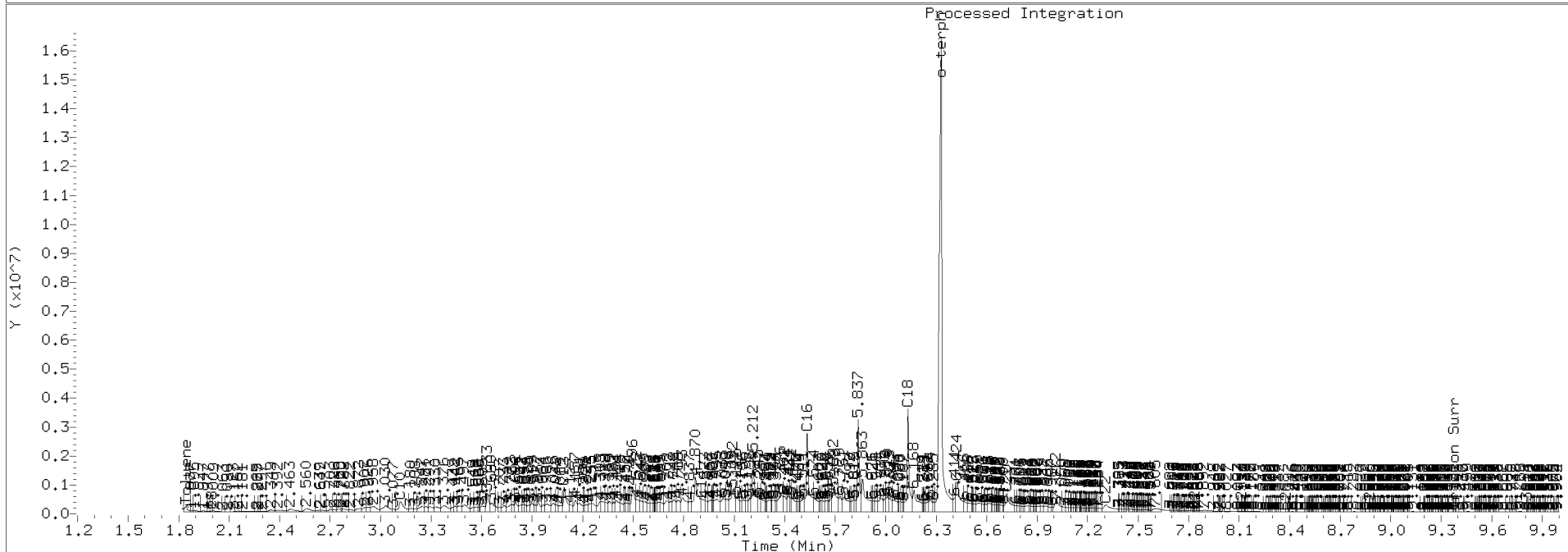
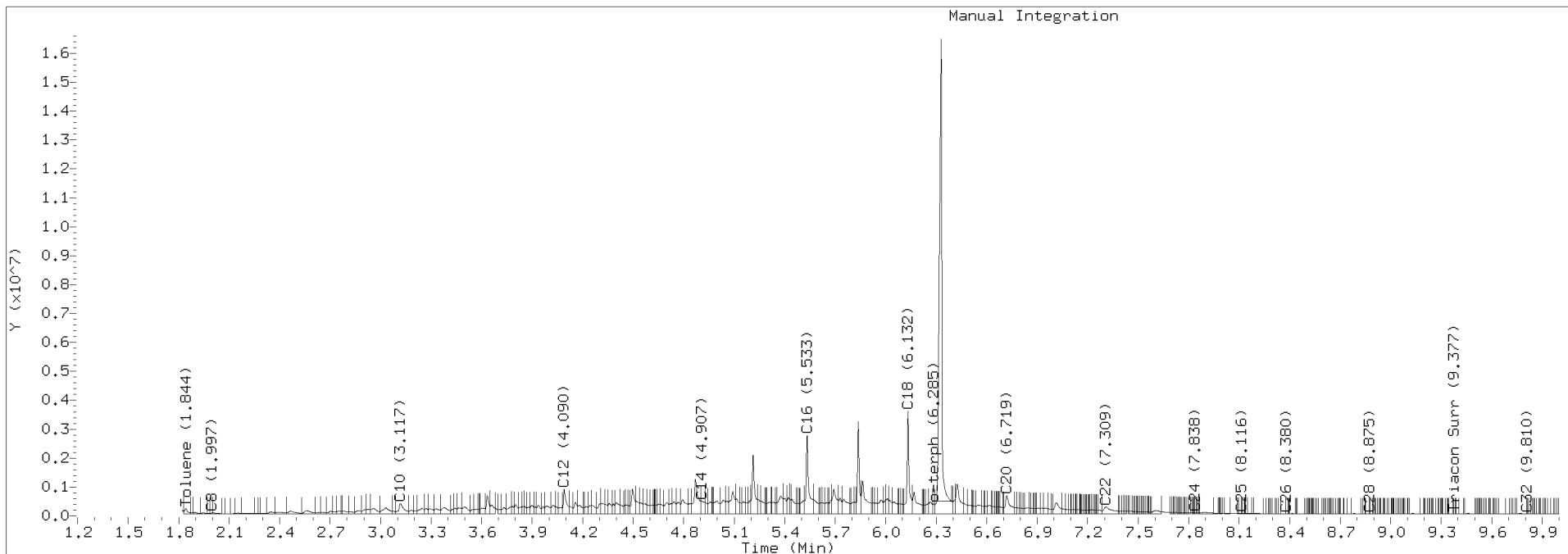
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	90128.3	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20200814.b/420H1413.D Injection: 14-AUG-2020 11:59

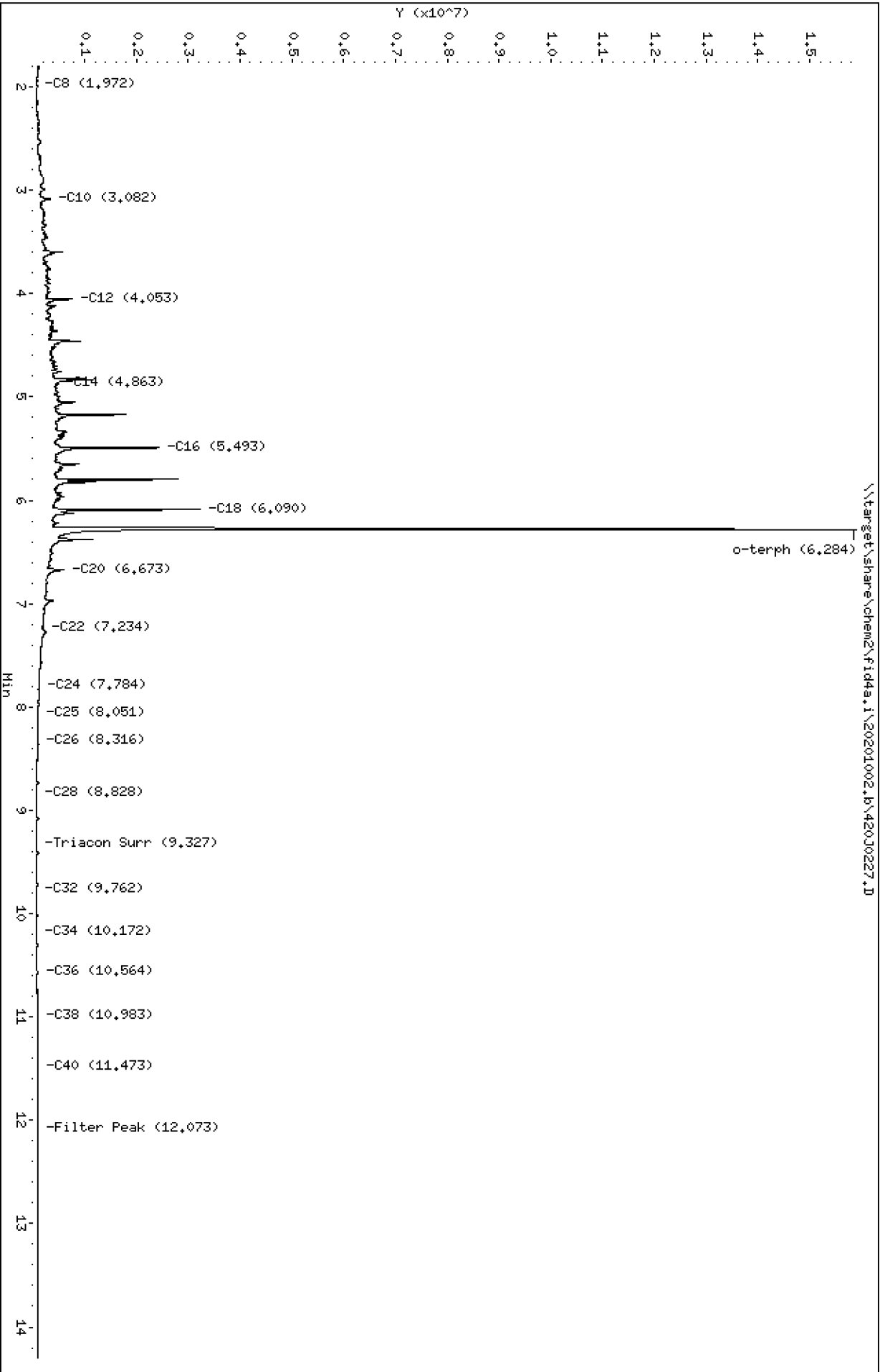
Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201002_b\42030227.D
Date : 02-OCT-2020 17:33
Client ID:
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201002.b/420J0227.D
Method: 20201002.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 10/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-OCT-2020 17:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

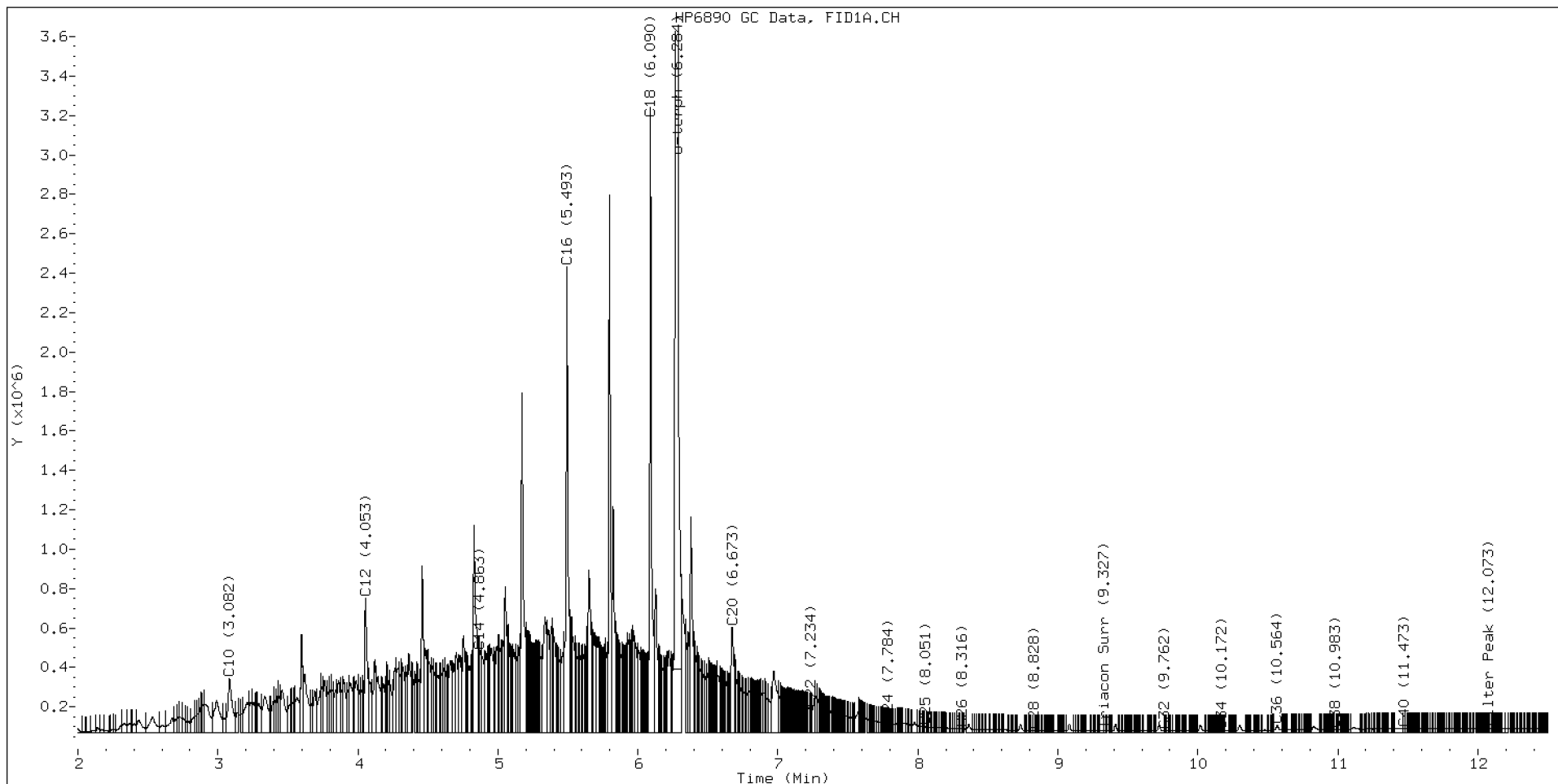
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.972	-0.014	9352	8051	WATPHD	(C12-C24)	71278543	447.3
C10	3.082	0.010	275290	604499	WATPHM	(C24-C38)	2595002	25.7
C12	4.053	0.001	678847	919302	AK102	(C10-C25)	83170245	425.4
C14	4.863	0.013	409591	81784	AK103	(C25-C36)	1818352	24.8
C16	5.493	-0.006	2358669	2412149	OR.DIES	(C10-C28)	84001487	428.6
C18	6.090	-0.002	3170614	2857622				
C20	6.673	-0.000	533120	754522	JET-A	(C10-C18)	63484632	382.8
C22	7.234	-0.002	119695	46935				
C24	7.784	-0.000	45383	13433				
C25	8.051	-0.004	27468	20294				
C26	8.316	-0.000	17075	9319				
C28	8.828	0.007	9161	4968				
C32	9.762	0.009	6982	2433				
C34	10.172	-0.005	7930	2763				
Filter Peak	12.073	0.004	16575	6608	CREOSOT	(C12-C22)	68914152	1218.7
C36	10.564	-0.013	34401	64674				
C38	10.983	0.003	15510	9262				
C40	11.473	0.018	17169	9419				
o-terph	6.284	-0.000	15509175	16279578				
Triacon Surr	9.327	0.007	6503	1296	NAS DIES	(C10-C24)	82734184	424.0

Range Times: NW Diesel(4.052 - 7.785) AK102(3.07 - 8.05) Jet A(3.07 - 6.09)
NW M.Oil(7.78 - 10.98) AK103(8.05 - 10.58) OR Diesel(3.07 - 8.82)

Surrogate	Area	Amount
o-Terphenyl	16279578	79.5 M
Triacontane	1296	0.0

M Indicates the peak was manually integrated

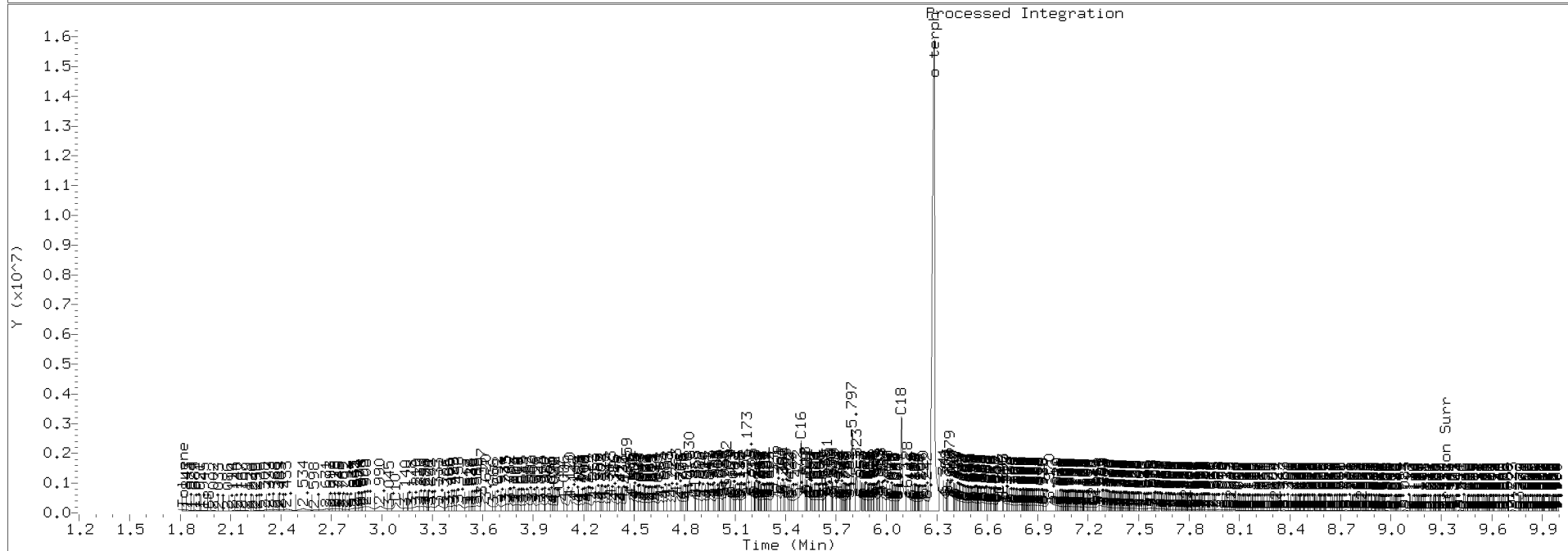
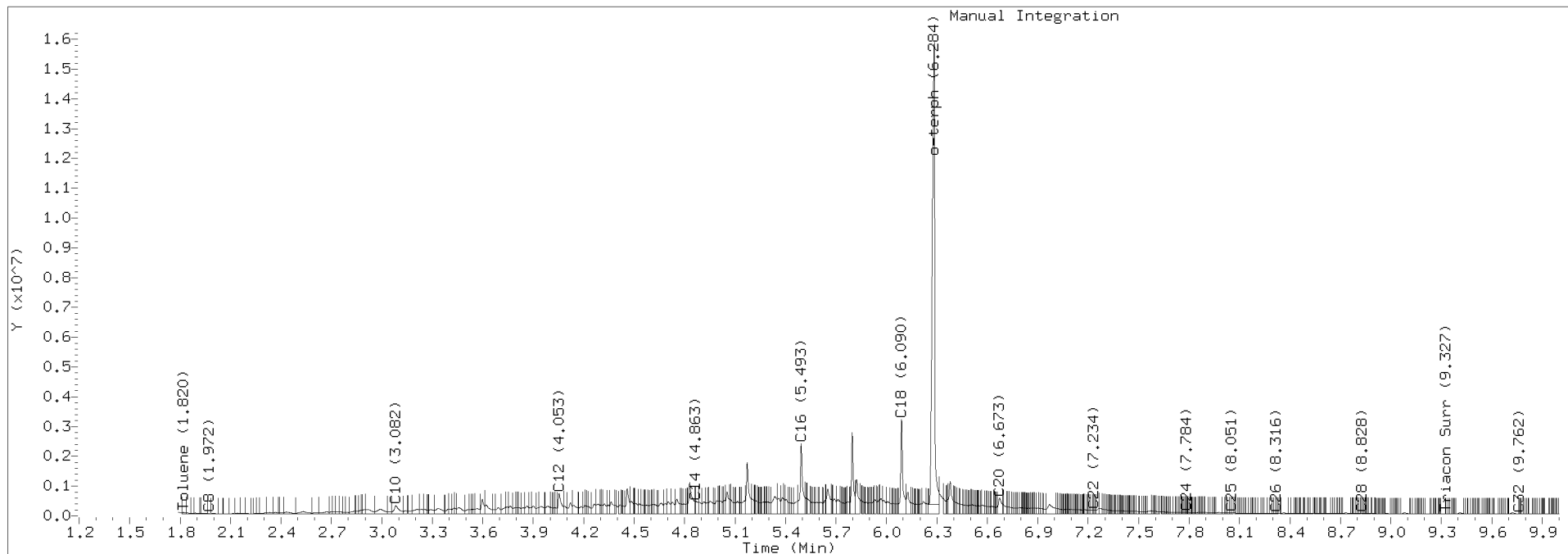
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	56546.9	30-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201002.b/420J0227.D Injection: 02-OCT-2020 17:33

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201102,b\420k0216.D

Date: 02-NOV-2020 13:34

Client ID:

Sample Info: SEQ-CCV1

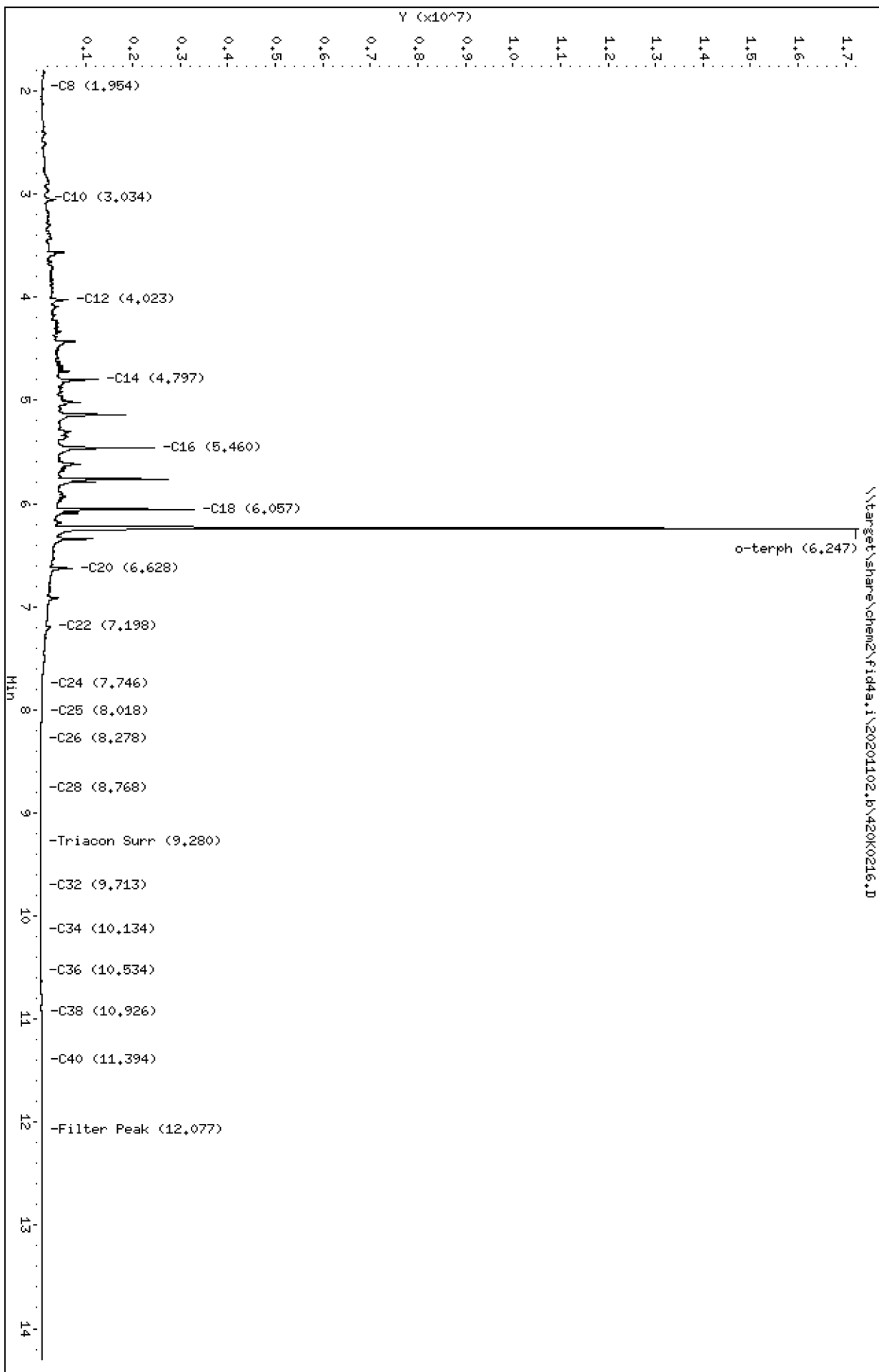
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201102.b/420K0216.D
Method: 20201102.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 11/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 02-NOV-2020 13:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

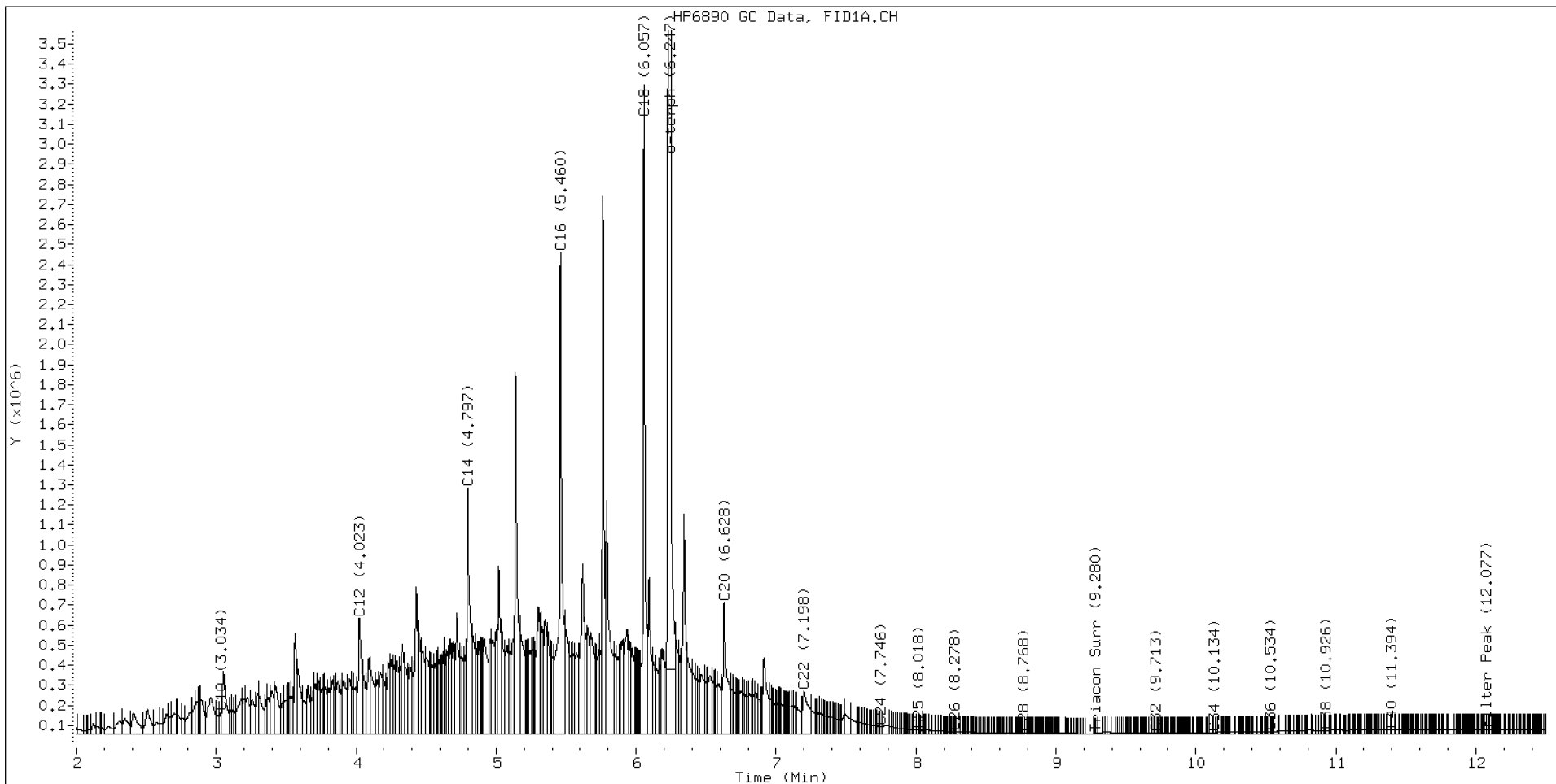
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.954	0.000	24971	20616	WATPHD	(C12-C24)	74763315	469.2
C10	3.034	0.002	105321	101464	WATPHM	(C24-C38)	1209447	12.0
C12	4.023	0.006	575267	930536	AK102	(C10-C25)	87571211	448.0
C14	4.797	-0.000	1223737	1816061	AK103	(C25-C36)	715520	9.8
C16	5.460	-0.004	2401544	3561647	OR.DIES	(C10-C28)	87913199	448.5
C18	6.057	0.000	3237914	3091821				
C20	6.628	-0.000	653899	1248522	JET-A	(C10-C18)	68713755	414.3
C22	7.198	0.005	208605	636302				
C24	7.746	0.003	33322	18203				
C25	8.018	0.006	16614	6601				
C26	8.278	0.006	7987	4343				
C28	8.768	-0.009	1583	1127				
C32	9.713	0.007	2142	1257				
C34	10.134	0.004	5373	3976				
Filter Peak	12.077	0.001	17799	13225	BUNKERC	(C10-C38)	88597423	2244.3
C36	10.534	0.000	10027	7461				
C38	10.926	-0.005	14614	5814				
C40	11.394	0.008	18404	11939				
o-terph	6.247	-0.000	16886621	17349107				
Triacon Surr	9.280	0.001	254	113	NAS DIES	(C10-C24)	87387977	447.8

Range Times: NW Diesel(4.016 - 7.743) AK102(3.03 - 8.01) Jet A(3.03 - 6.06)
NW M.Oil(7.74 - 10.93) AK103(8.01 - 10.53) OR Diesel(3.03 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17349107	84.8 M
Triacontane	113	0.0

M Indicates the peak was manually integrated

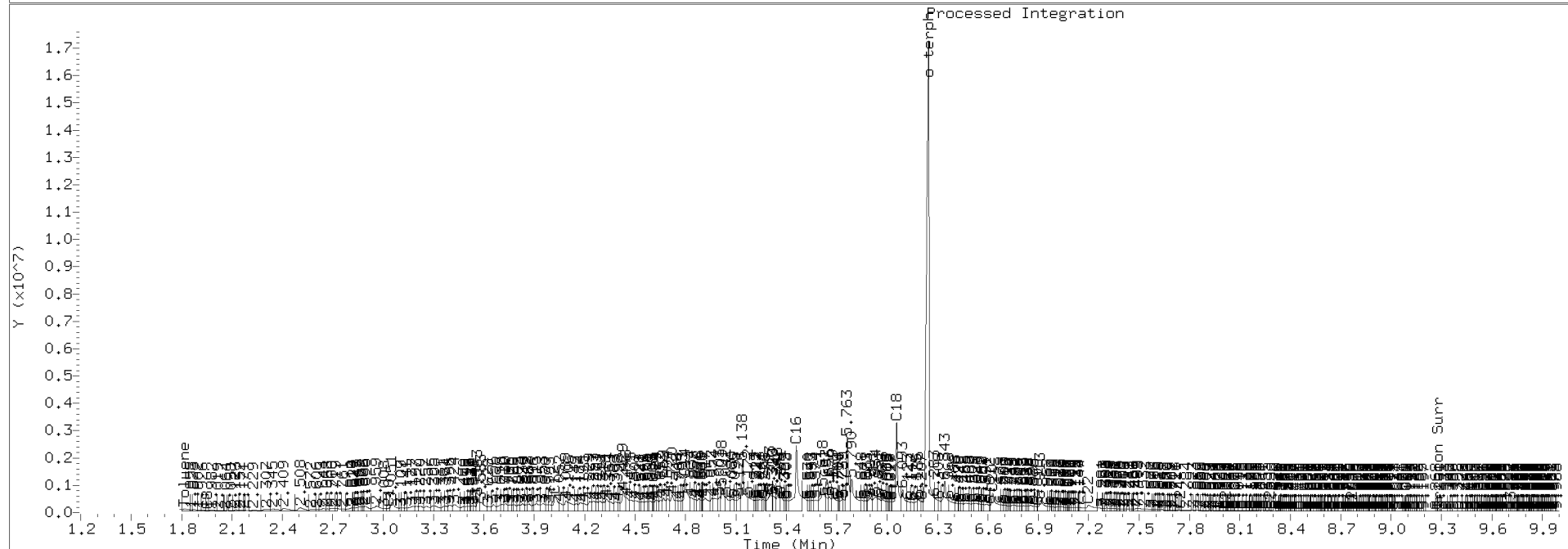
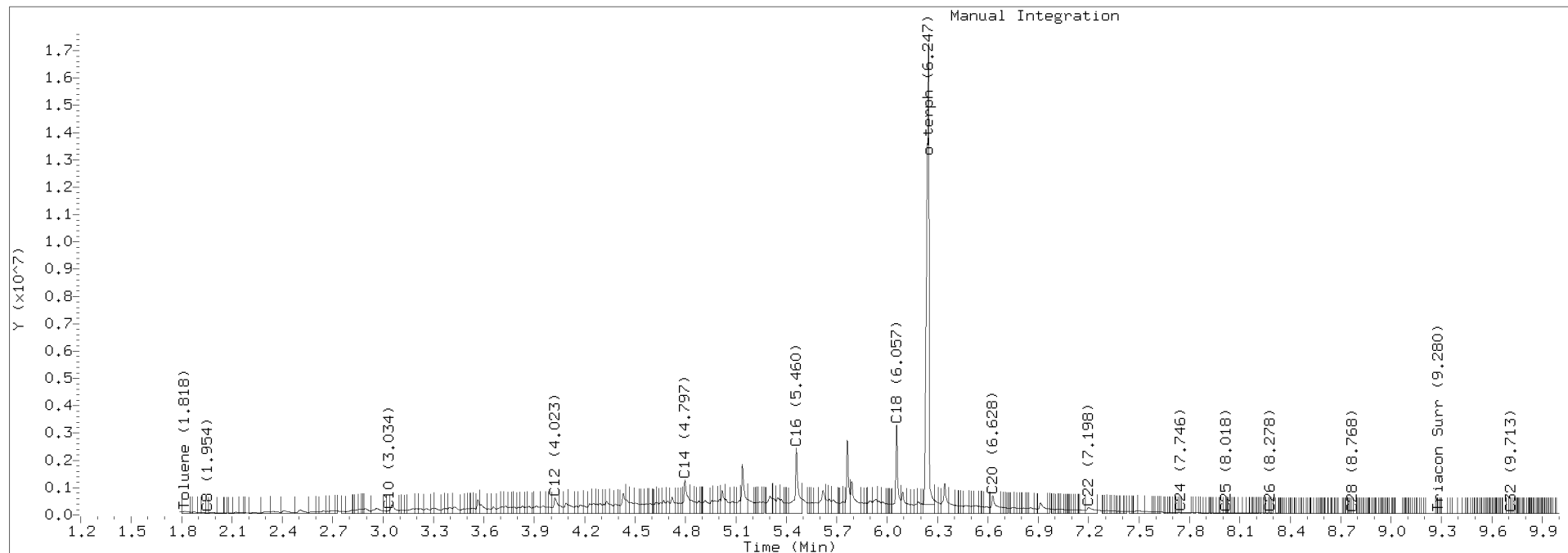
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201102.b/420K0216.D Injection: 02-NOV-2020 13:34

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2711.D
Date: 27-NOV-2020 11:39

Client ID:

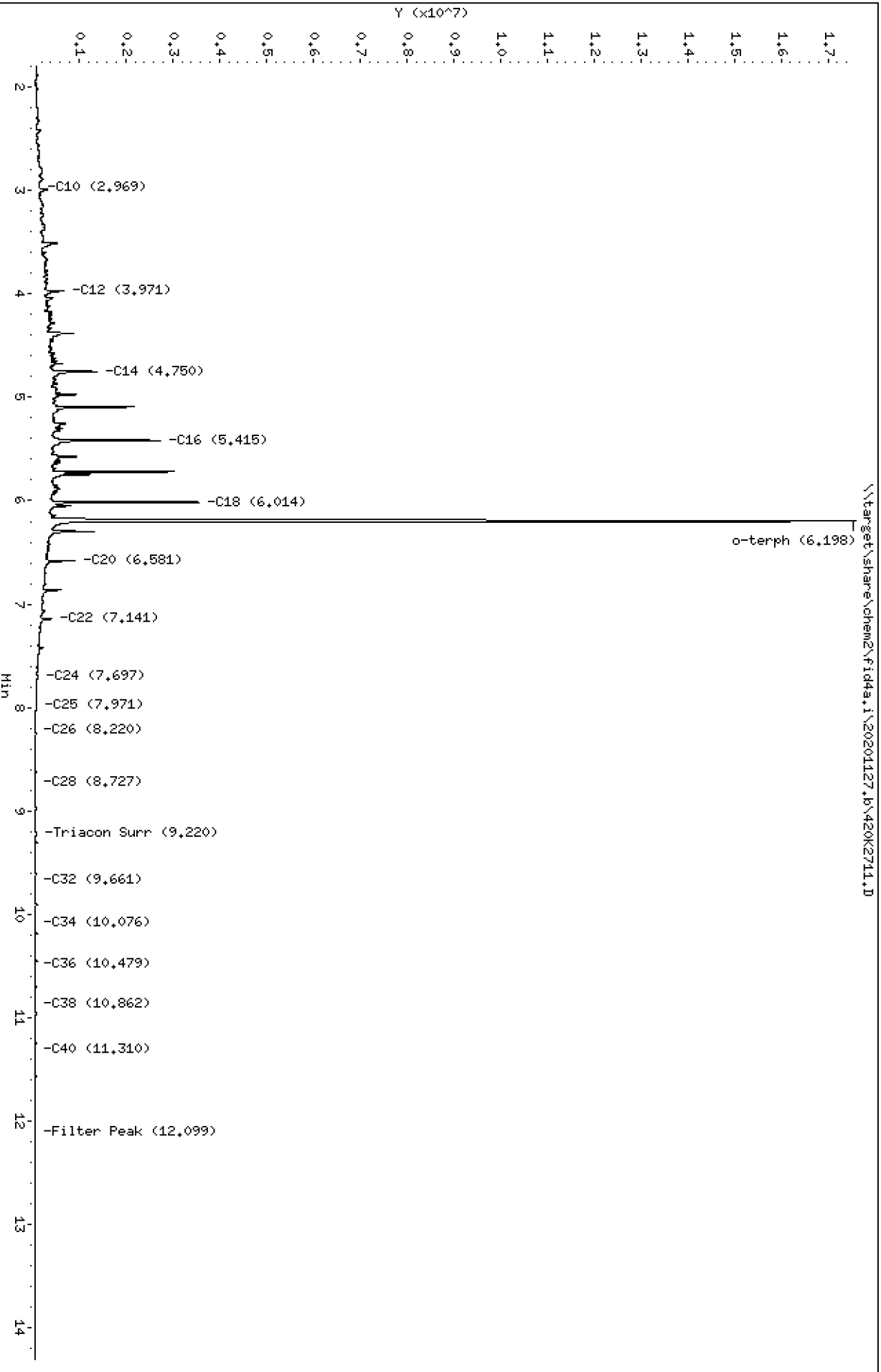
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2711.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 27-NOV-2020 11:39
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

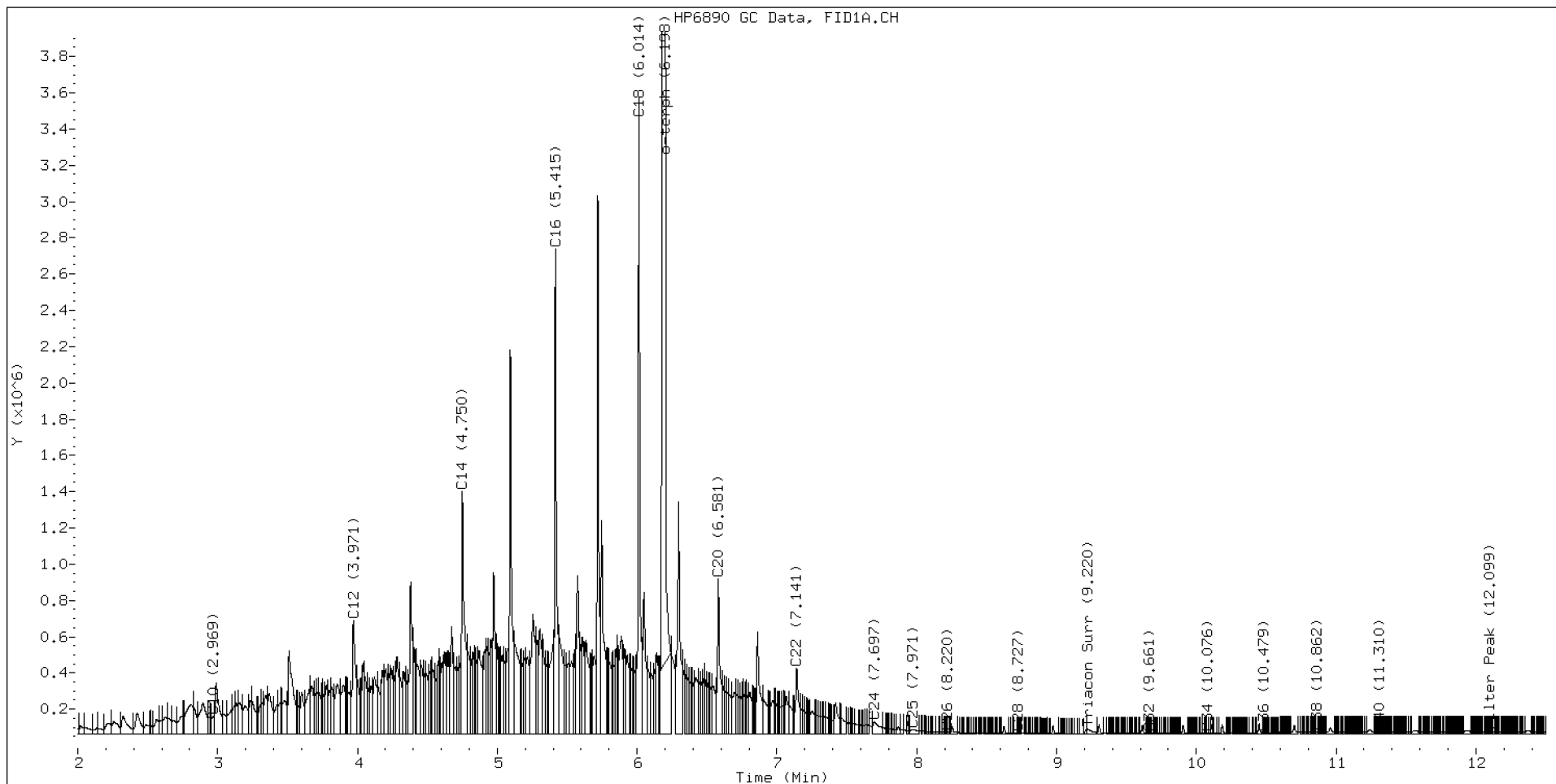
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.887	0.005	46704	87800	WATPHD	(C12-C24)	75577216	474.3
C10	2.969	-0.007	94305	115370	WATPHM	(C24-C38)	1149491	11.4
C12	3.971	0.004	625033	946730	AK102	(C10-C25)	88149209	450.9
C14	4.750	0.001	1337517	1822671	AK103	(C25-C36)	751687	10.3
C16	5.415	-0.001	2675506	2529397	OR.DIES	(C10-C28)	88503644	451.6
C18	6.014	-0.001	3514145	3089218				
C20	6.581	-0.004	854440	1111980	JET-A	(C10-C18)	68560983	413.4
C22	7.141	-0.007	358589	528134				
C24	7.697	0.002	66673	212912				
C25	7.971	0.007	23162	74056				
C26	8.220	-0.004	7742	2666				
C28	8.727	-0.002	1768	600				
C32	9.661	0.005	1157	328				
C34	10.076	-0.003	2564	1868				
Filter Peak	12.099	0.003	11818	4126	BUNKERC	(C10-C38)	89096189	2256.9
C36	10.479	-0.001	5767	1723				
C38	10.862	-0.003	9527	4726				
C40	11.310	0.002	11563	5170				
o-terph	6.198	-0.002	17139007	17589688				
Triacon Surr	9.220	-0.011	23927	59338	NAS DIES	(C10-C24)	87946698	450.7

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17589688	85.9 M
Triacontane	59338	0.4

M Indicates the peak was manually integrated

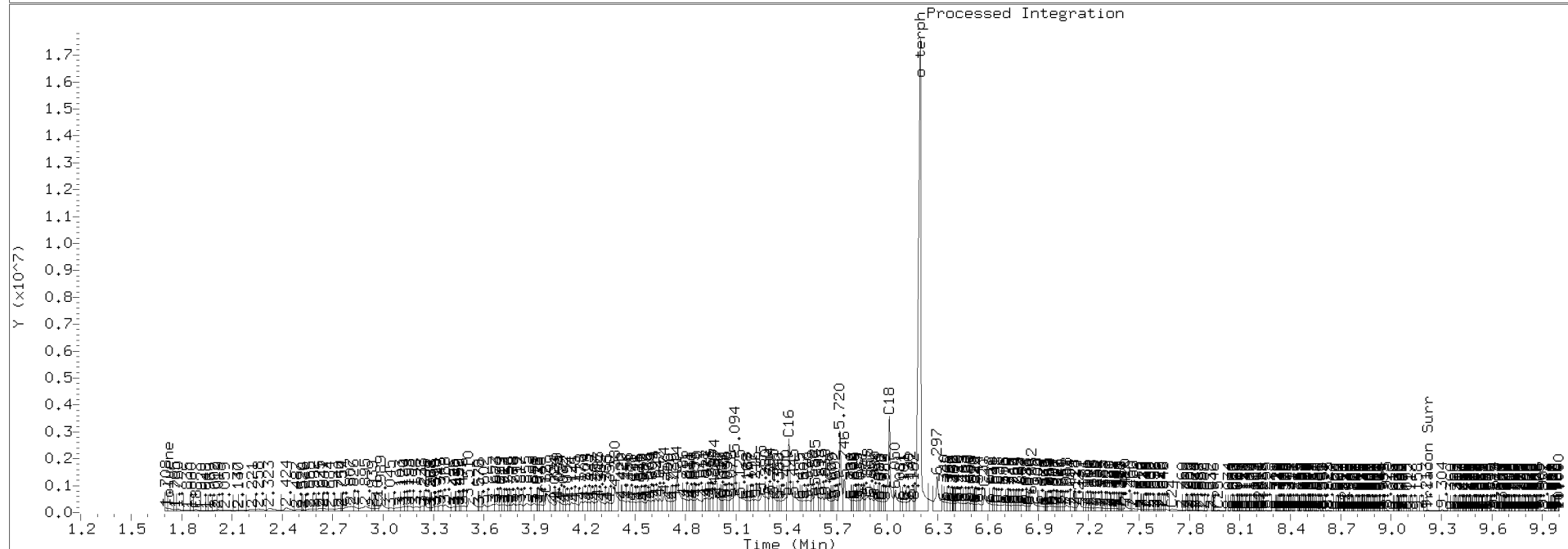
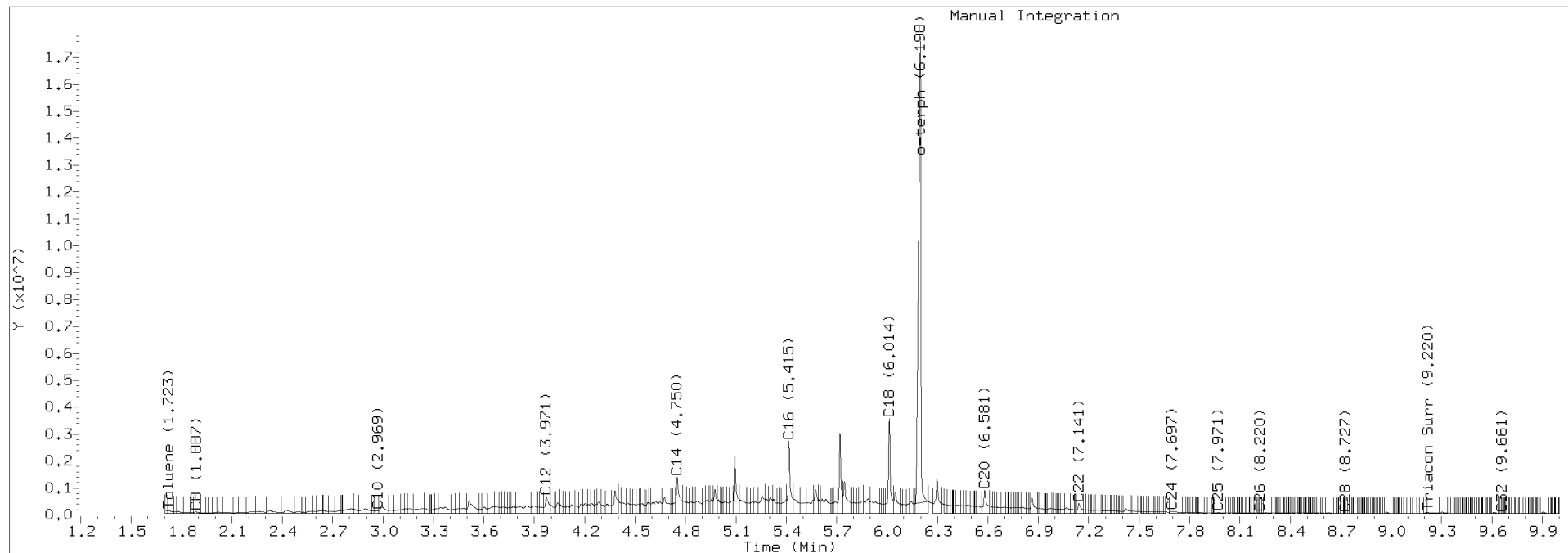
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2711.D Injection: 27-NOV-2020 11:39

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2712.D
Date: 27-NOV-2020 12:00

Client ID:

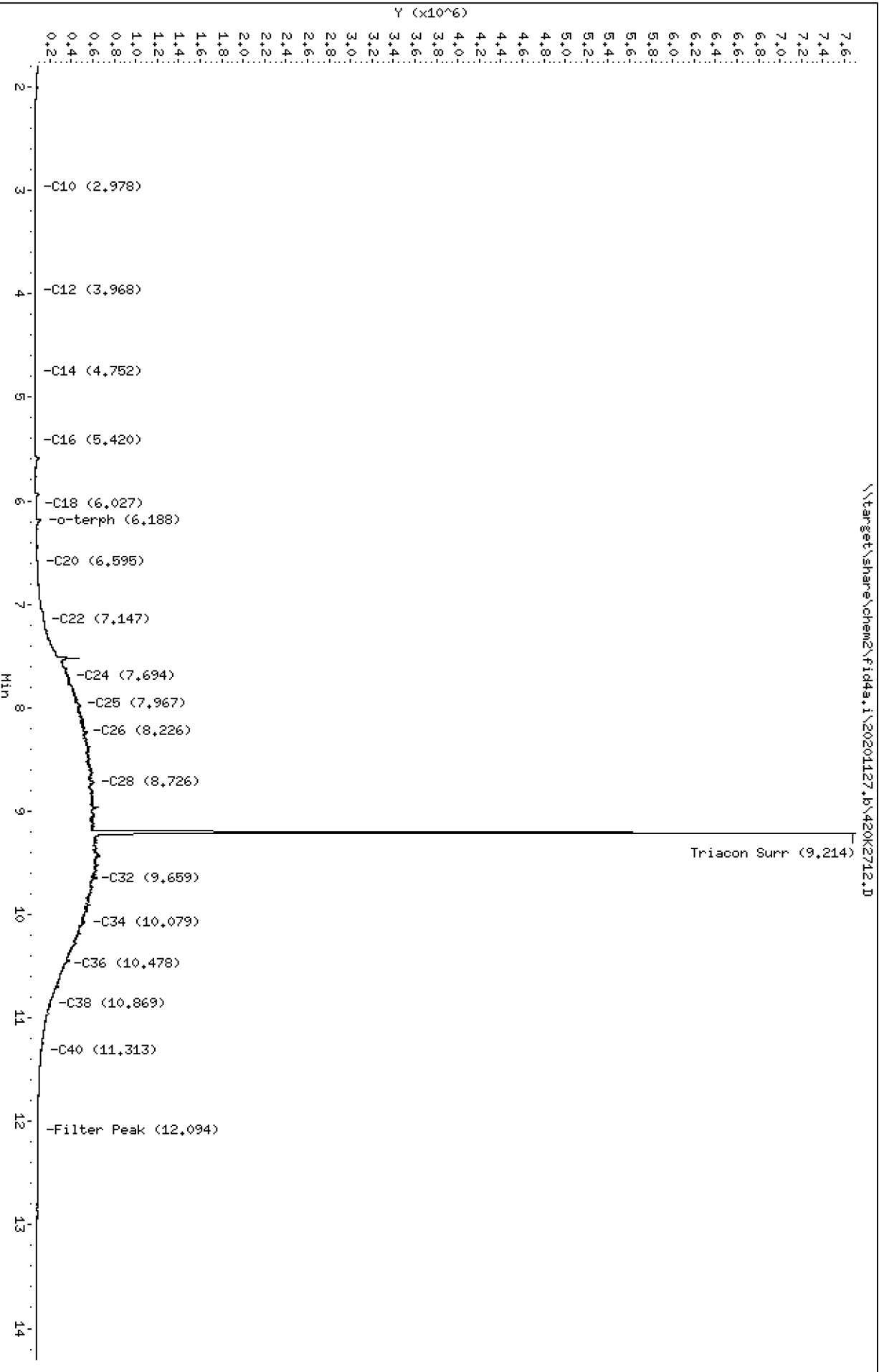
Sample Info: SEQ-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2712.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 27-NOV-2020 12:00
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

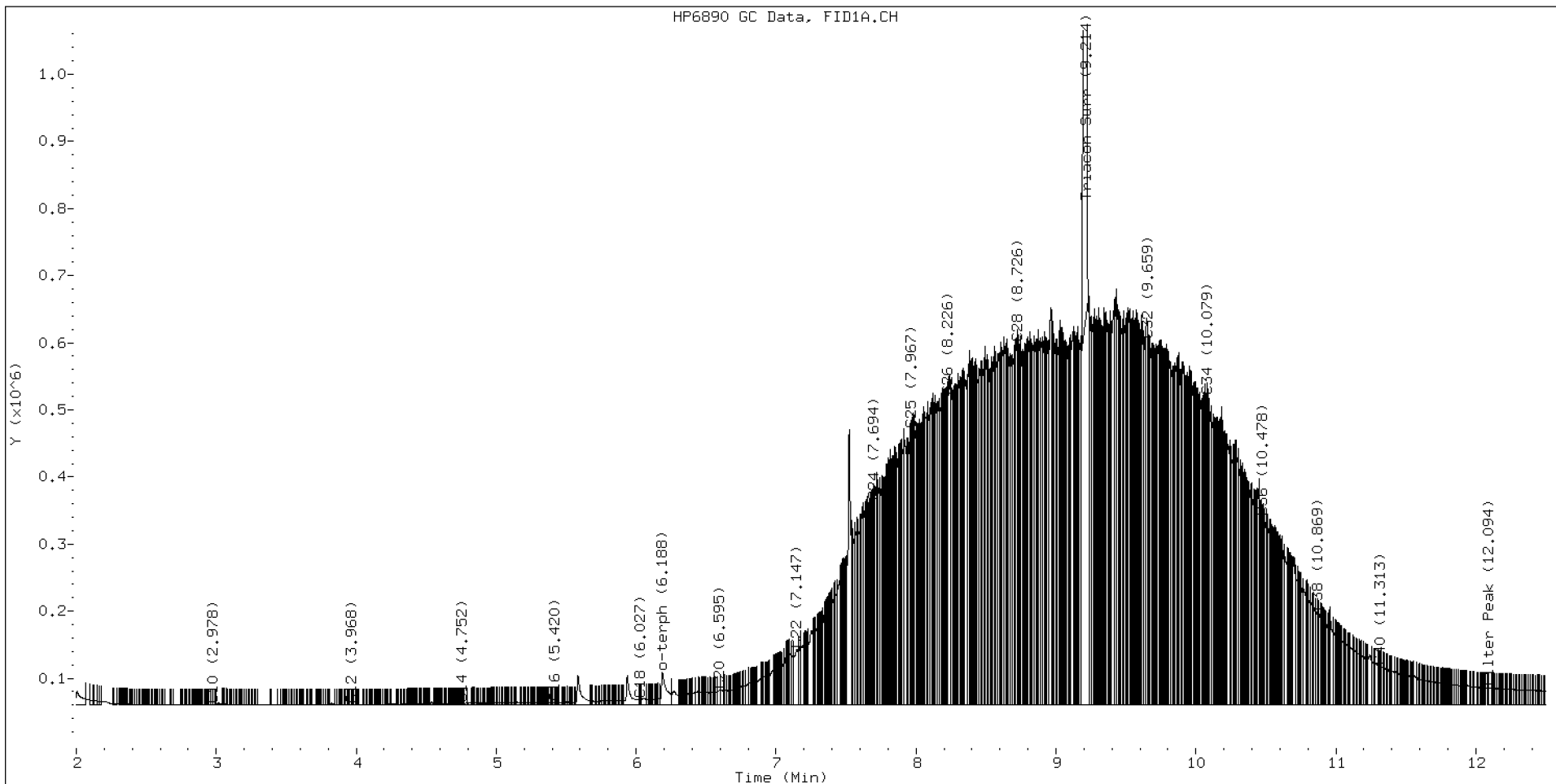
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.039	26209	108396	WATPHD	(C12-C24)	9113415	57.2
C10	2.978	0.002	717	535	WATPHM	(C24-C38)	82491555	815.4
C12	3.968	0.001	516	302	AK102	(C10-C25)	12725282	65.1
C14	4.752	0.002	2491	609	AK103	(C25-C36)	74621551	1019.3
C16	5.420	0.004	3930	1932	OR.DIES	(C10-C28)	36985217	188.7
C18	6.027	0.012	7709	3418				
C20	6.595	0.010	22196	34249	JET-A	(C10-C18)	538486	3.2
C22	7.147	-0.001	83022	147531				
C24	7.694	-0.002	302585	90378				
C25	7.967	0.002	410581	162704				
C26	8.226	0.002	460448	136945				
C28	8.726	-0.003	538865	213751				
C32	9.659	0.002	543875	295314				
C34	10.079	-0.000	460474	136668				
Filter Peak	12.094	-0.002	25063	29636	BUNKERC	(C10-C38)	91634193	2321.2
C36	10.478	-0.002	279583	69454				
C38	10.869	0.003	138292	60988				
C40	11.313	0.004	57804	31571				
o-terph	6.188	-0.013	48841	120133				
Triacon Surr	9.214	-0.018	7067054	6479231	NAS DIES	(C10-C24)	9142637	46.8

Range Times: NW Diesel(3.967 - 7.695) AK102(2.98 - 7.96) Jet A(2.98 - 6.01)
NW M.Oil(7.70 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	120133	0.6
Triacontane	6479231	43.7 M

M Indicates the peak was manually integrated

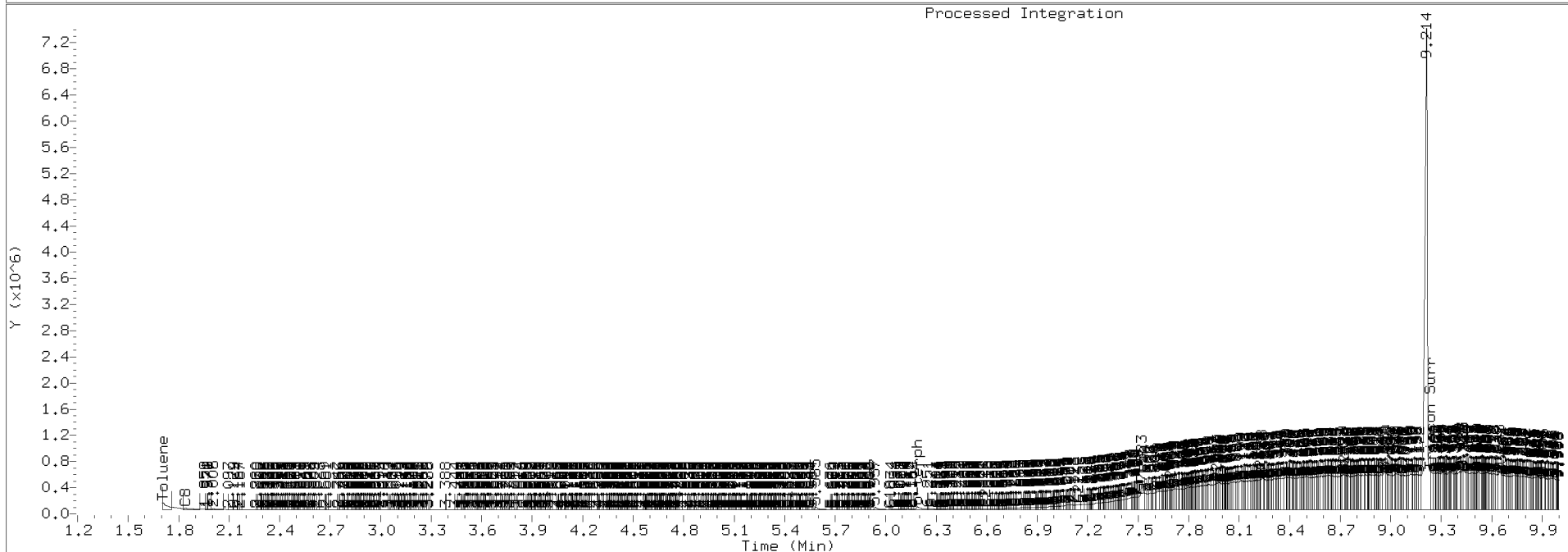
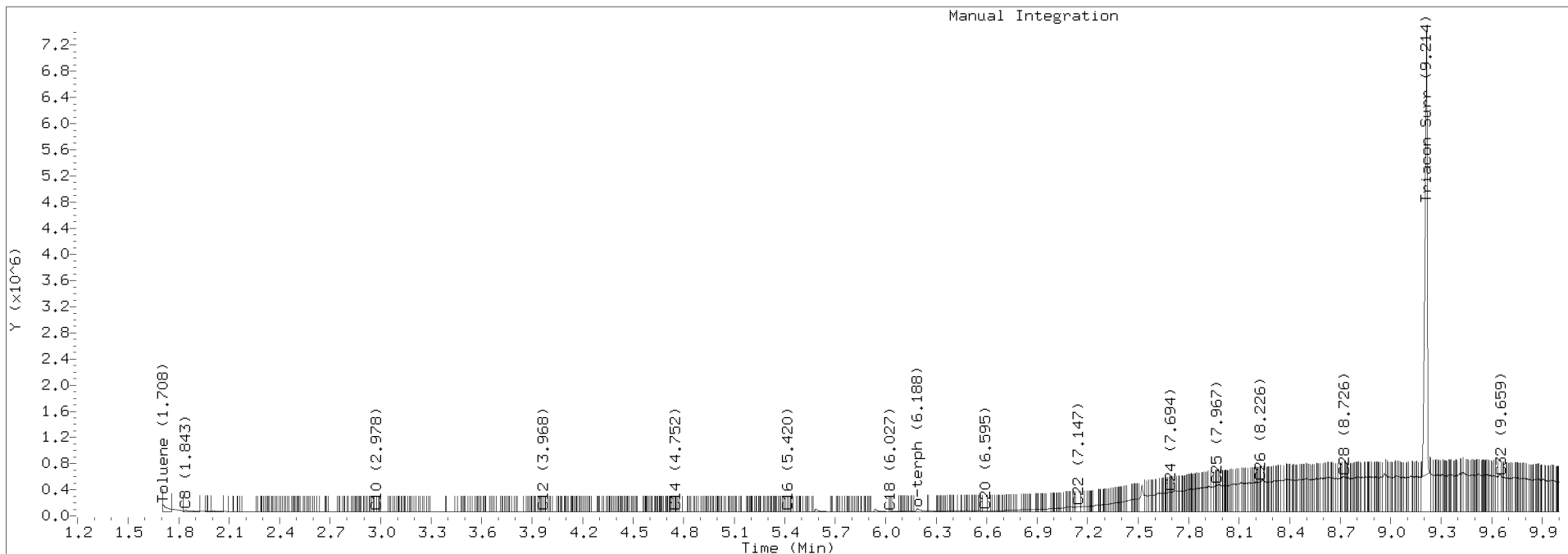
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2712.D Injection: 27-NOV-2020 12:00

Lab ID:SEQ-CCV2



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2721.D
Date: 27-NOV-2020 15:35

Client ID:

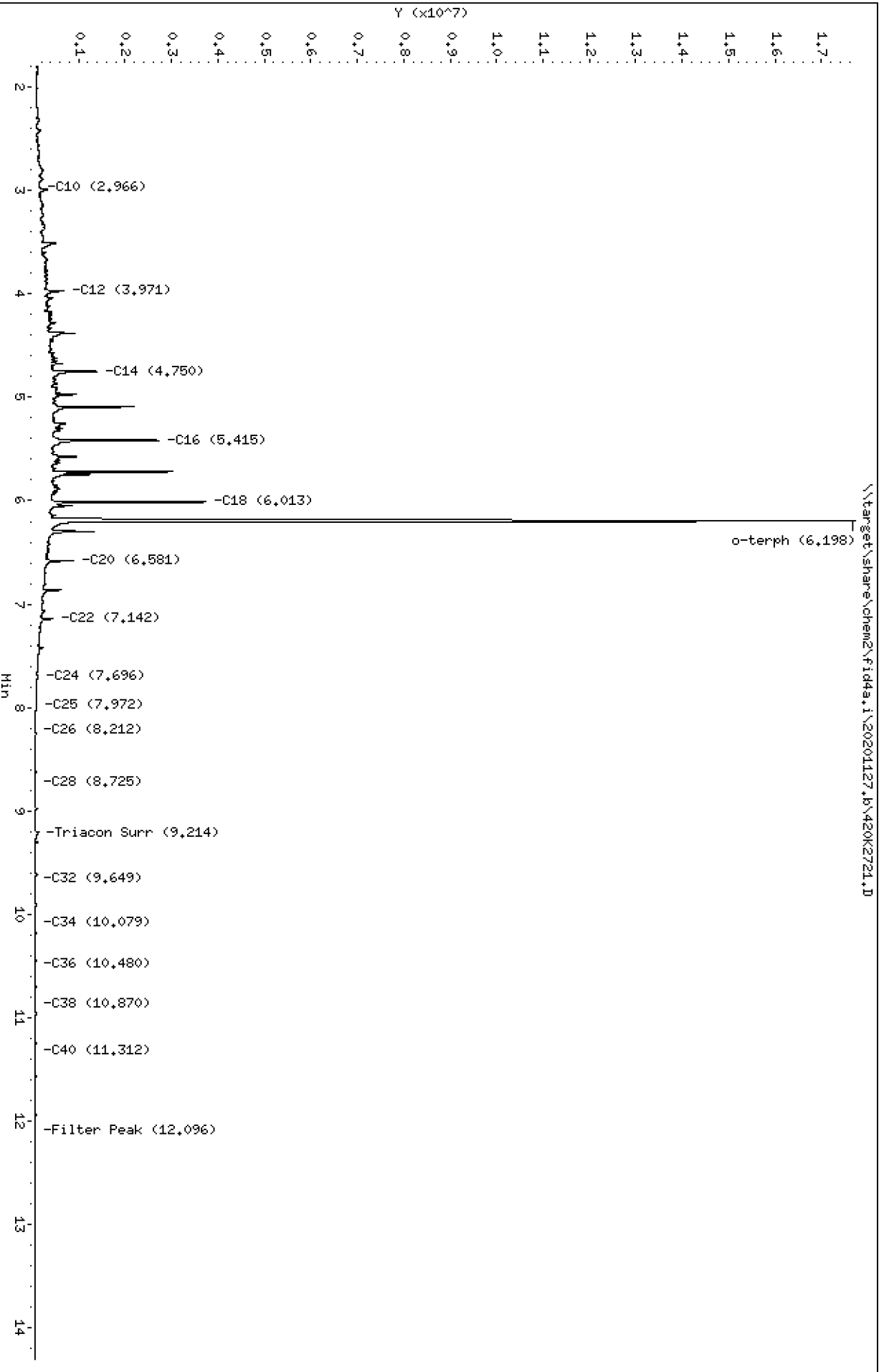
Sample Info: SEQ-CCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2721.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 27-NOV-2020 15:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

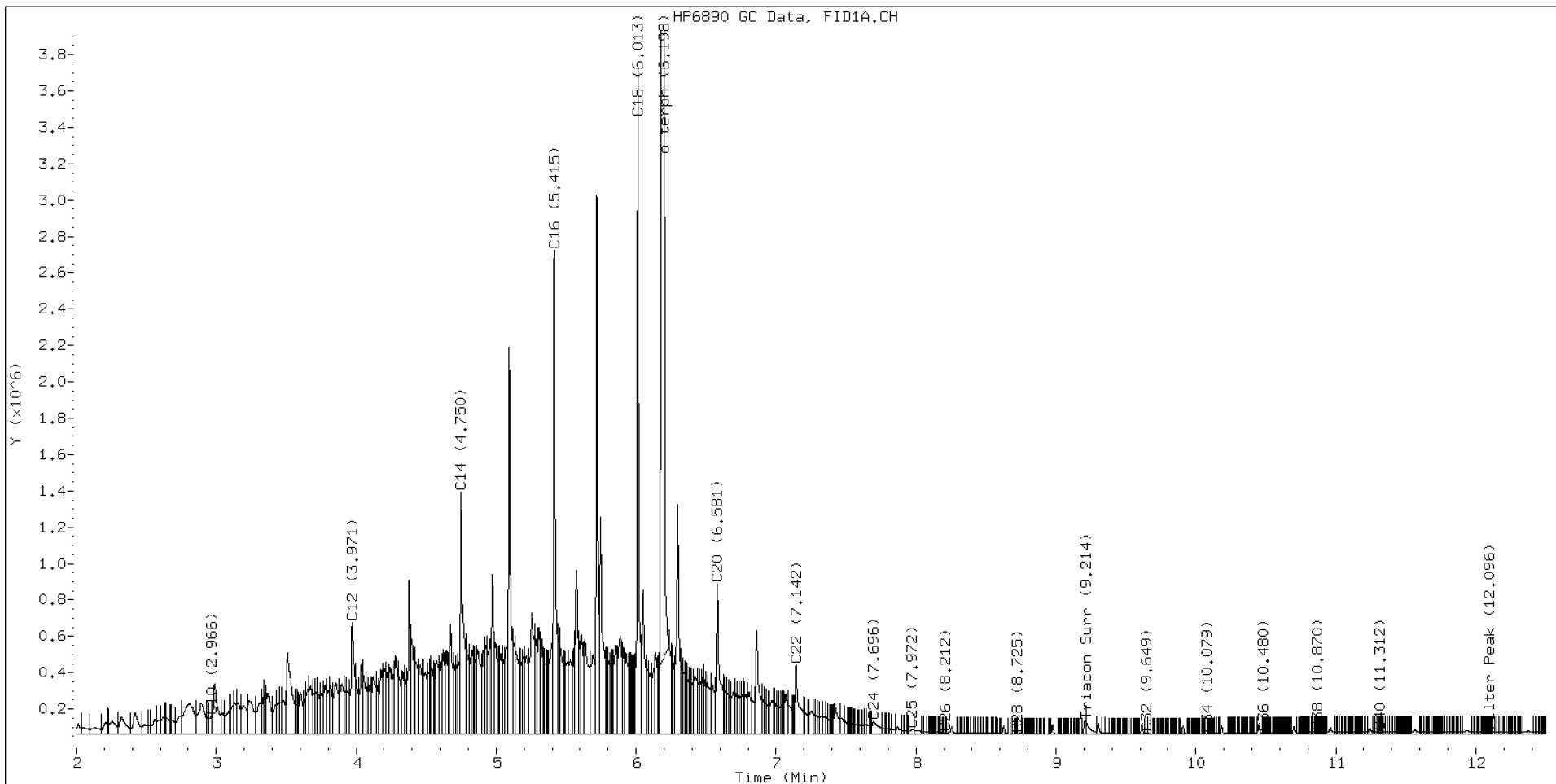
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.873	0.007	51498	153198	WATPHD	(C12-C24)	78570128	493.1
C10	2.966	-0.004	95448	121889	WATPHM	(C24-C38)	1303743	12.9
C12	3.971	0.007	611631	960999	AK102	(C10-C25)	91305168	467.1
C14	4.750	0.002	1331930	1903170	AK103	(C25-C36)	874287	11.9
C16	5.415	0.001	2660074	2562848	OR.DIES	(C10-C28)	91713233	467.9
C18	6.013	-0.000	3667843	3152165				
C20	6.581	-0.004	826398	1321763	JET-A	(C10-C18)	70391815	424.4
C22	7.142	-0.005	376203	765360				
C24	7.696	0.001	67333	212061				
C25	7.972	0.010	23282	40178				
C26	8.212	-0.013	7423	2906				
C28	8.725	-0.004	1653	608				
C32	9.649	-0.008	3857	3735				
C34	10.079	-0.003	2475	975				
Filter Peak	12.096	-0.001	10865	4339	BUNKERC	(C10-C38)	92381398	2340.1
C36	10.480	-0.004	5589	3040				
C38	10.870	-0.004	9115	4983				
C40	11.312	-0.001	11007	8203				
o-terph	6.198	-0.001	17244719	17657096				
Triacon Surr	9.214	-0.015	66418	128891	NAS DIES	(C10-C24)	91077655	466.7

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17657096	86.3 M
Triacontane	128891	0.9

M Indicates the peak was manually integrated

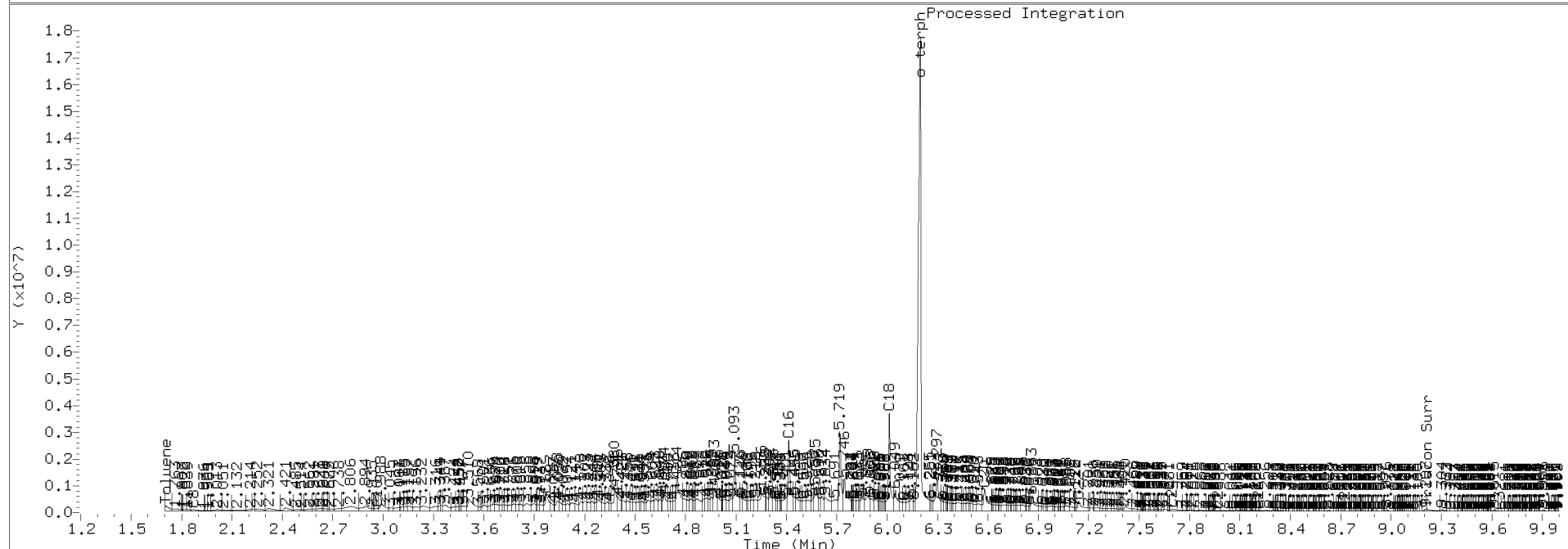
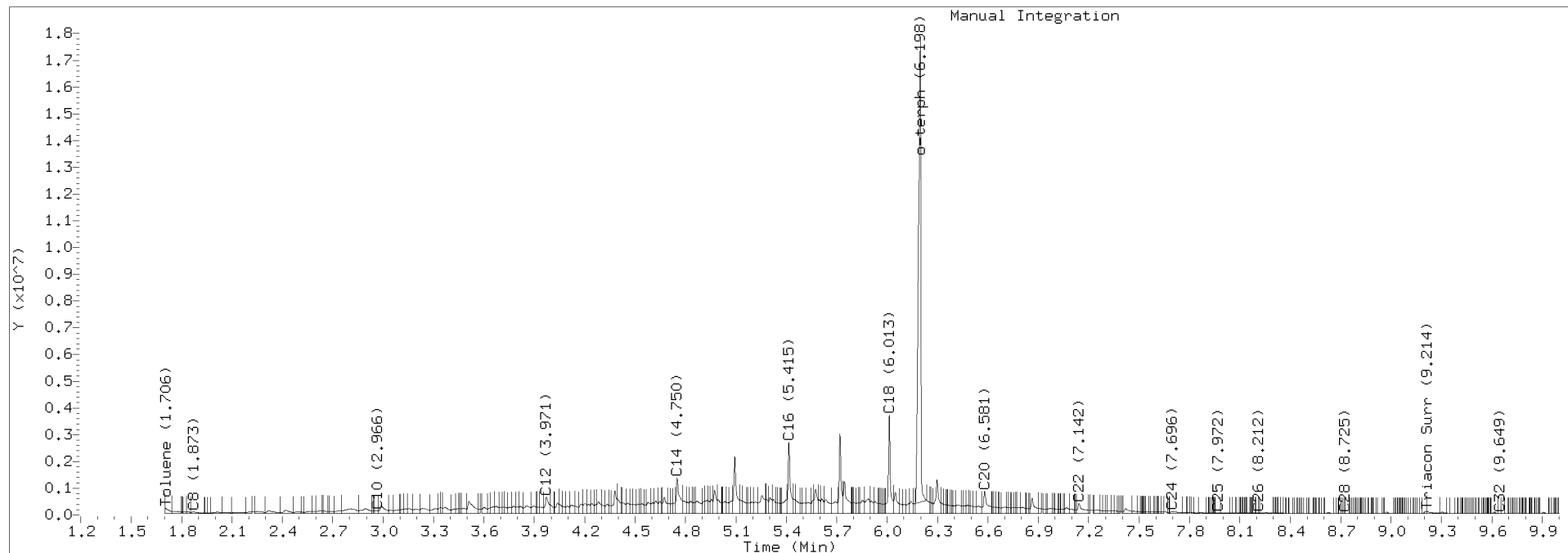
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2721.D Injection: 27-NOV-2020 15:35

Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2722.D
Date: 27-NOV-2020 15:55

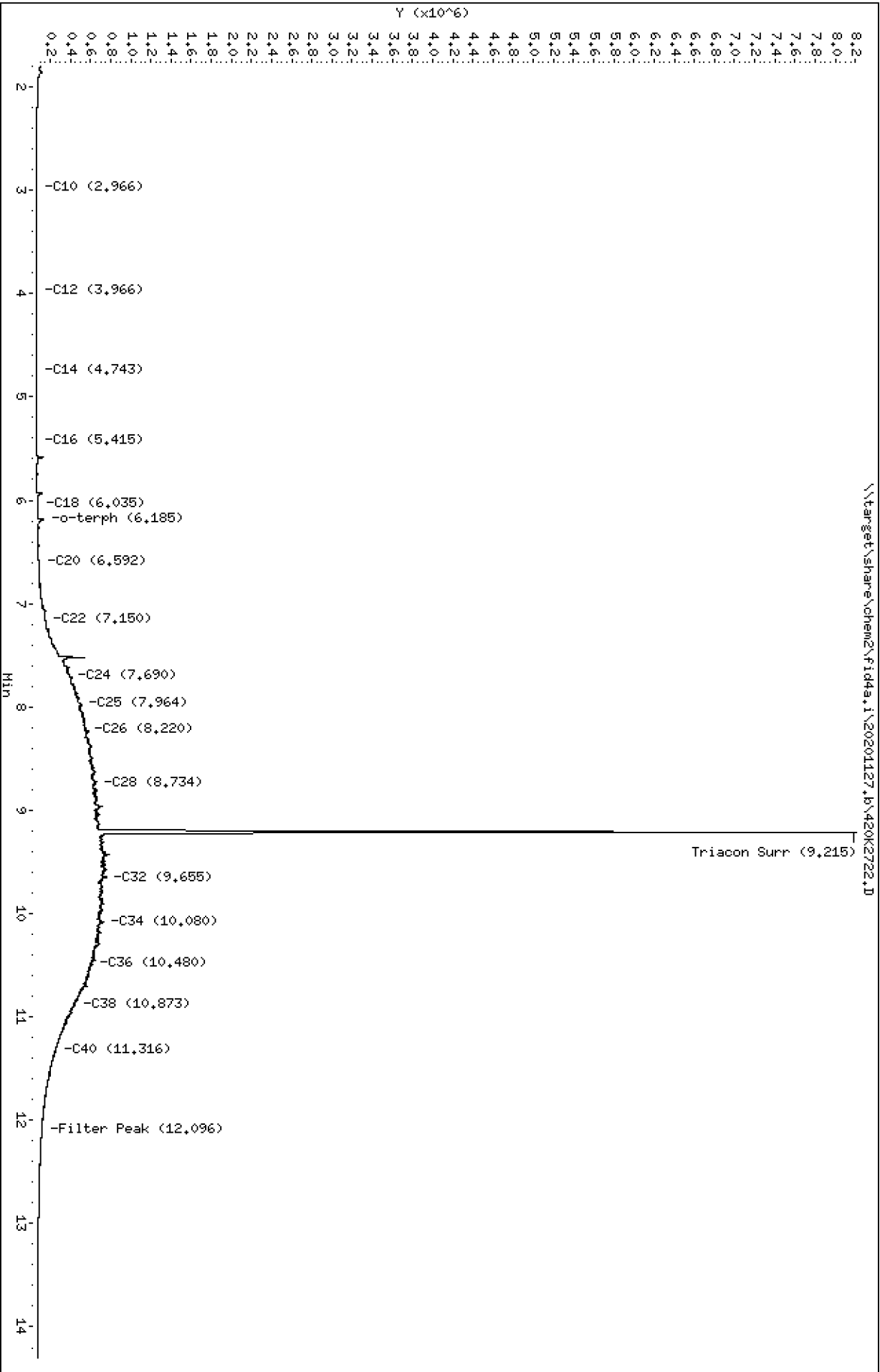
Client ID:
Sample Info: SEQ-CCV2

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2722.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 11/27/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 27-NOV-2020 15:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

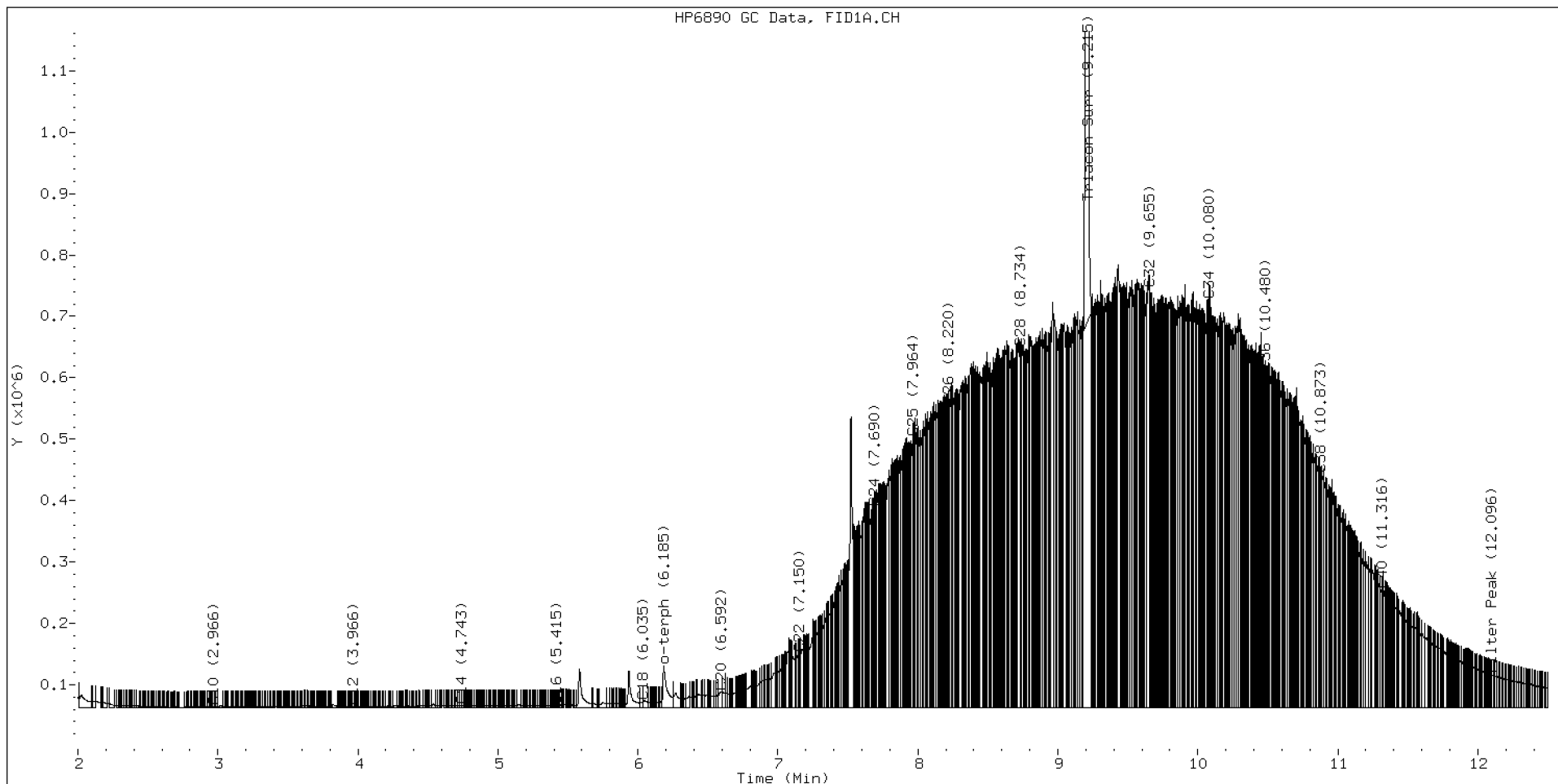
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.860	-0.005	51430	175379	WATPHD	(C12-C24)	9796120	61.5
C10	2.966	-0.004	795	529	WATPHM	(C24-C38)	105651493	1044.3
C12	3.966	0.002	1755	1234	AK102	(C10-C25)	13738919	70.3
C14	4.743	-0.005	2531	2247	AK103	(C25-C36)	91248654	1246.5
C16	5.415	0.000	3450	684	OR.DIES	(C10-C28)	39876989	203.5
C18	6.035	0.021	8731	12254				
C20	6.592	0.008	24738	46861	JET-A	(C10-C18)	617602	3.7
C22	7.150	0.002	87003	26039				
C24	7.690	-0.004	326055	145993				
C25	7.964	0.001	438853	359120				
C26	8.220	-0.005	491641	217863				
C28	8.734	0.005	584562	317294				
C32	9.655	-0.002	681294	401122				
C34	10.080	-0.001	662993	228380				
Filter Peak	12.096	-0.001	52539	15687	BUNKERC	(C10-C38)	115530248	2926.5
C36	10.480	-0.003	546417	162375				
C38	10.873	-0.000	379103	168027				
C40	11.316	0.003	190446	103879				
o-terph	6.185	-0.014	66682	143512				
Triacon Surr	9.215	-0.014	7518736	7372665	NAS DIES	(C10-C24)	9878755	50.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	143512	0.7
Triacontane	7372665	49.7 M

M Indicates the peak was manually integrated

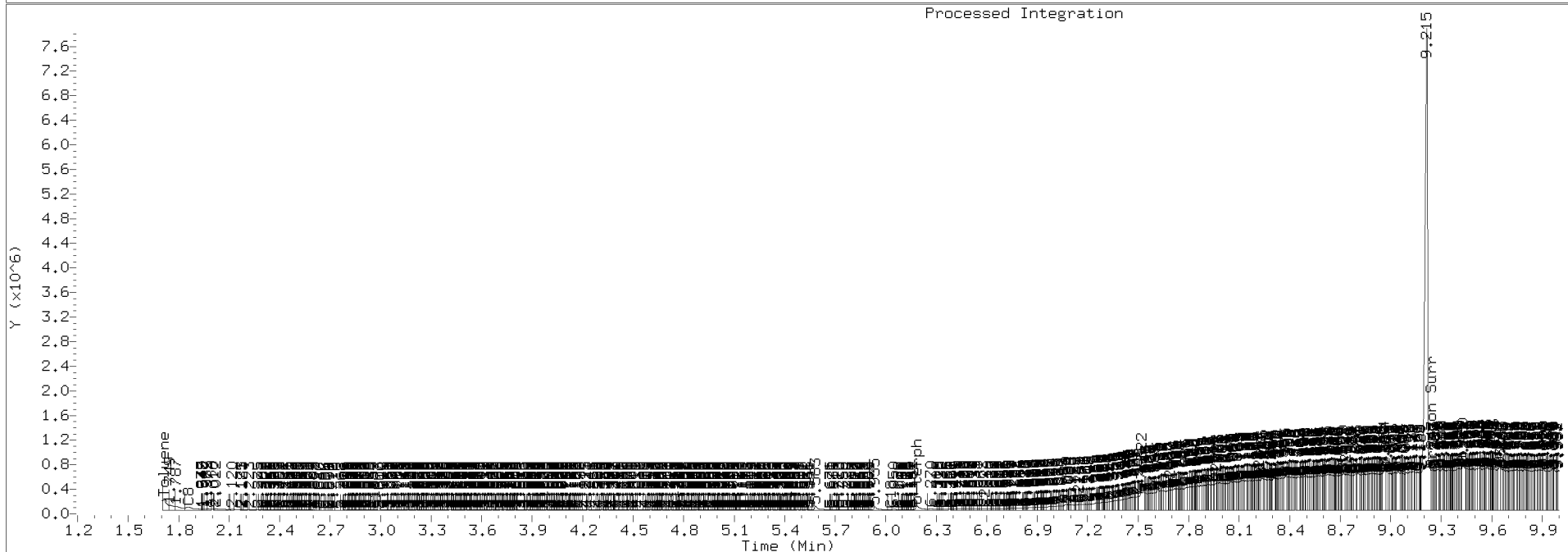
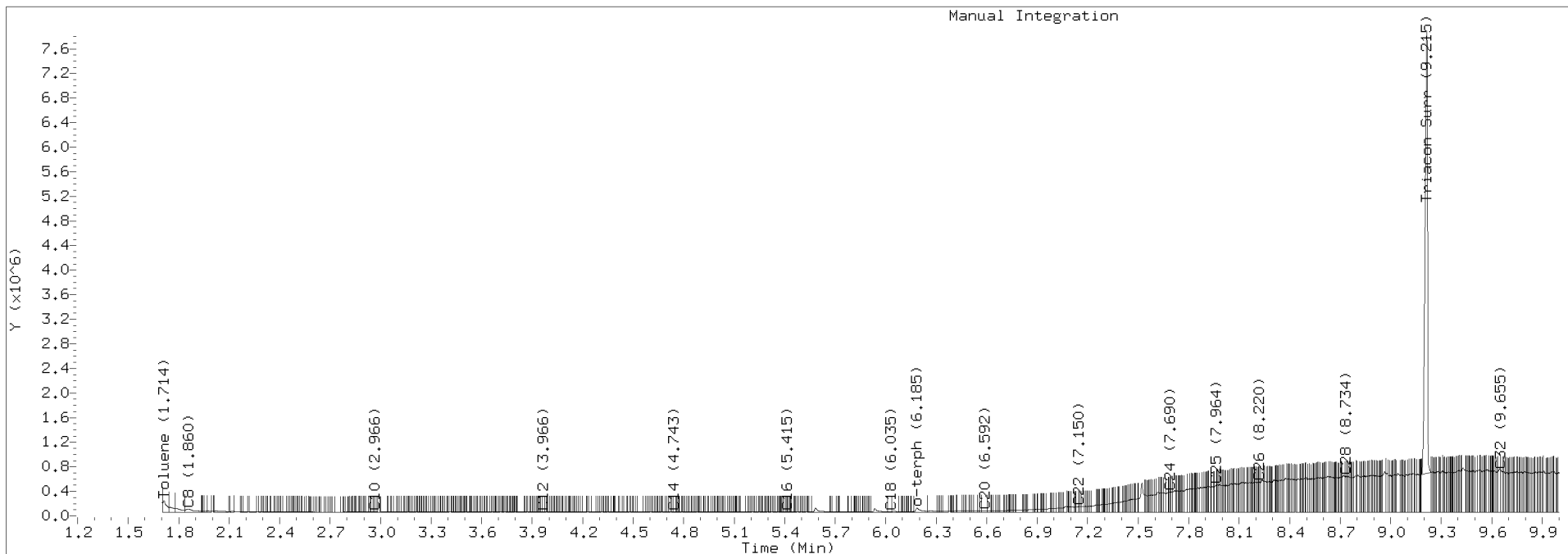
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2722.D Injection: 27-NOV-2020 15:55

Lab ID:SEQ-CCV2





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2733.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0381</u>	Injection Date:	<u>11/27/20</u>
Lab Sample ID:	<u>SIK0381-CCV5</u>	Injection Time:	<u>22:08</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	492	159336.7	156646.8		-1.7	+/-15
o-Terphenyl	A	90.000	89.8	204701.9	204171.3		-0.2	+/-15

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2733.D

Date: 27-NOV-2020 22:08

Client ID:

Sample Info: SIK0381-CCWS

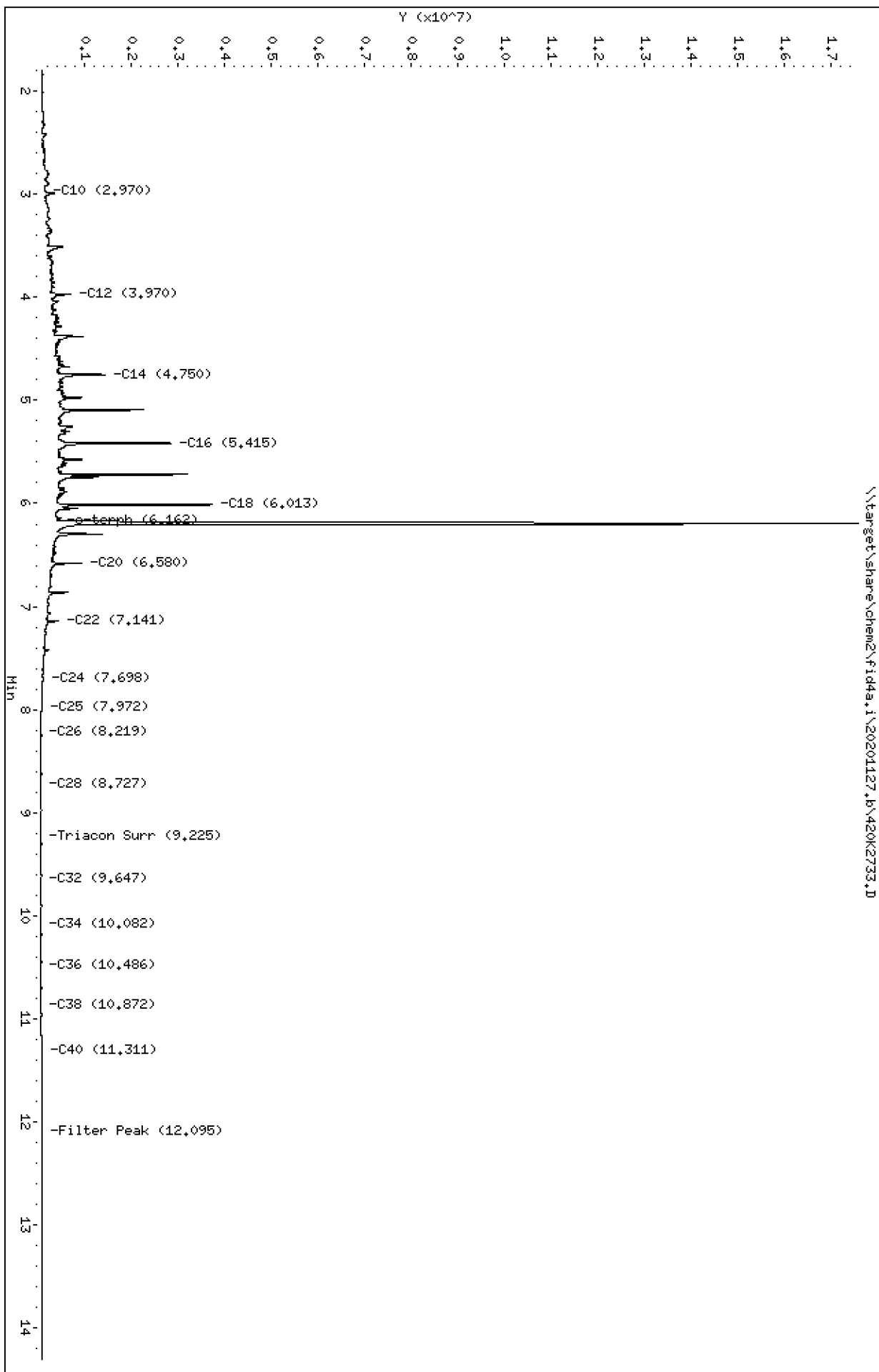
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2733.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV5
Client ID:
Injection: 27-NOV-2020 22:08
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

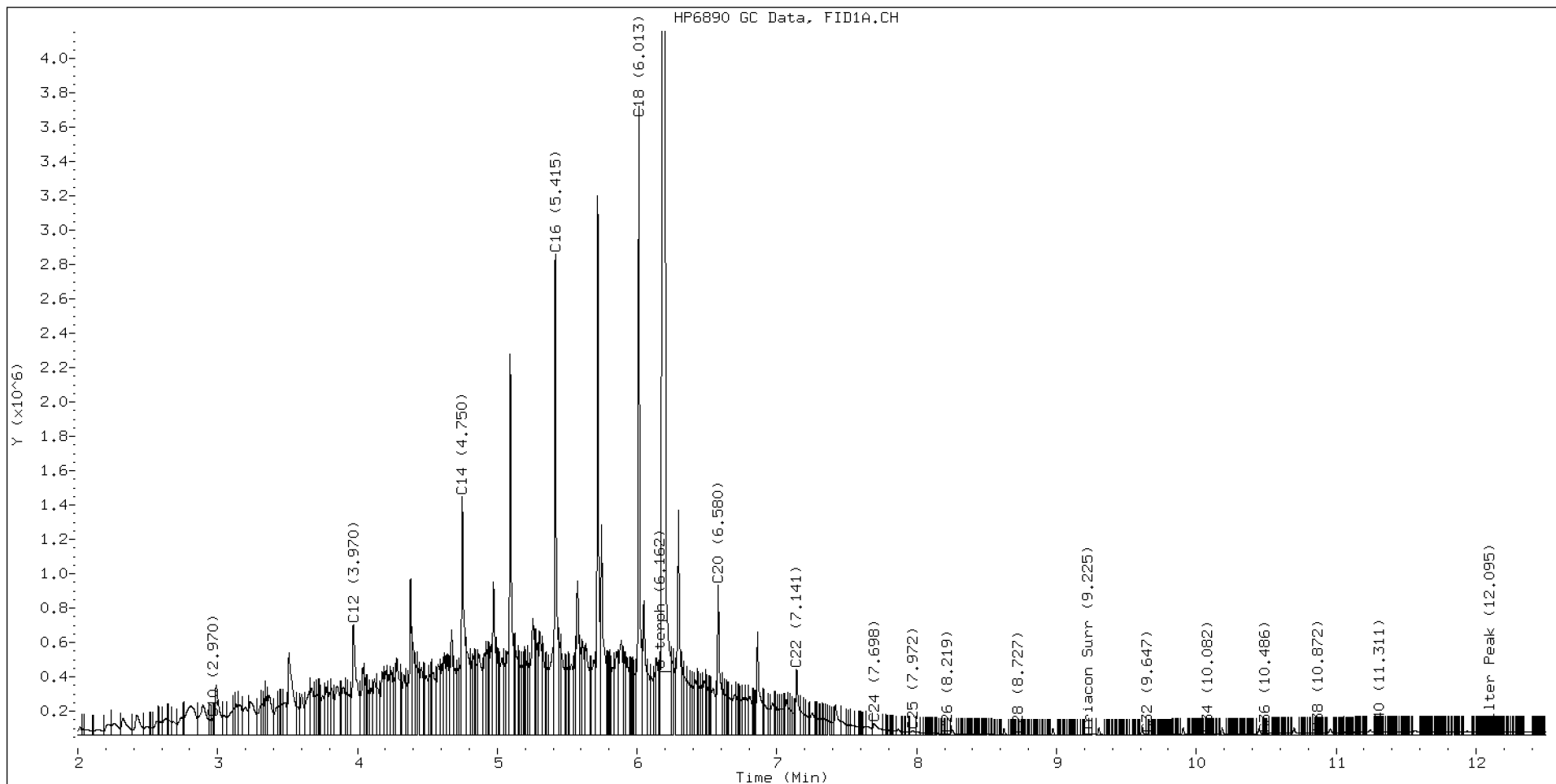
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	43601	143022	WATPHD	(C12-C24)	78323428	491.6
C10	2.970	-0.000	97462	33971	WATPHM	(C24-C38)	1289473	12.7
C12	3.970	0.006	641047	1370617	AK102	(C10-C25)	91555344	468.3
C14	4.750	0.002	1390470	1859296	AK103	(C25-C36)	778883	10.6
C16	5.415	0.000	2798936	2566336	OR.DIES	(C10-C28)	91894328	468.9
C18	6.013	-0.000	3663274	3246899				
C20	6.580	-0.004	875218	1104679	JET-A	(C10-C18)	71267110	429.7
C22	7.141	-0.006	381326	532284				
C24	7.698	0.004	65927	201619				
C25	7.972	0.010	22002	48272				
C26	8.219	-0.006	6473	1610				
C28	8.727	-0.002	915	221				
C32	9.647	-0.010	2522	2261				
C34	10.082	0.000	4331	1293				
Filter Peak	12.095	-0.002	15652	3126	BUNKERC	(C10-C38)	92616749	2346.1
C36	10.486	0.003	8256	5325				
C38	10.872	-0.001	12807	5713				
C40	11.311	-0.002	15711	8614				
o-terph	6.197	-0.002	17147590	18375424				
Triacon Surr	9.225	-0.004	6403	7713	NAS DIES	(C10-C24)	91327276	468.0

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18375424	89.8 M
Triacontane	7713	0.1

M Indicates the peak was manually integrated

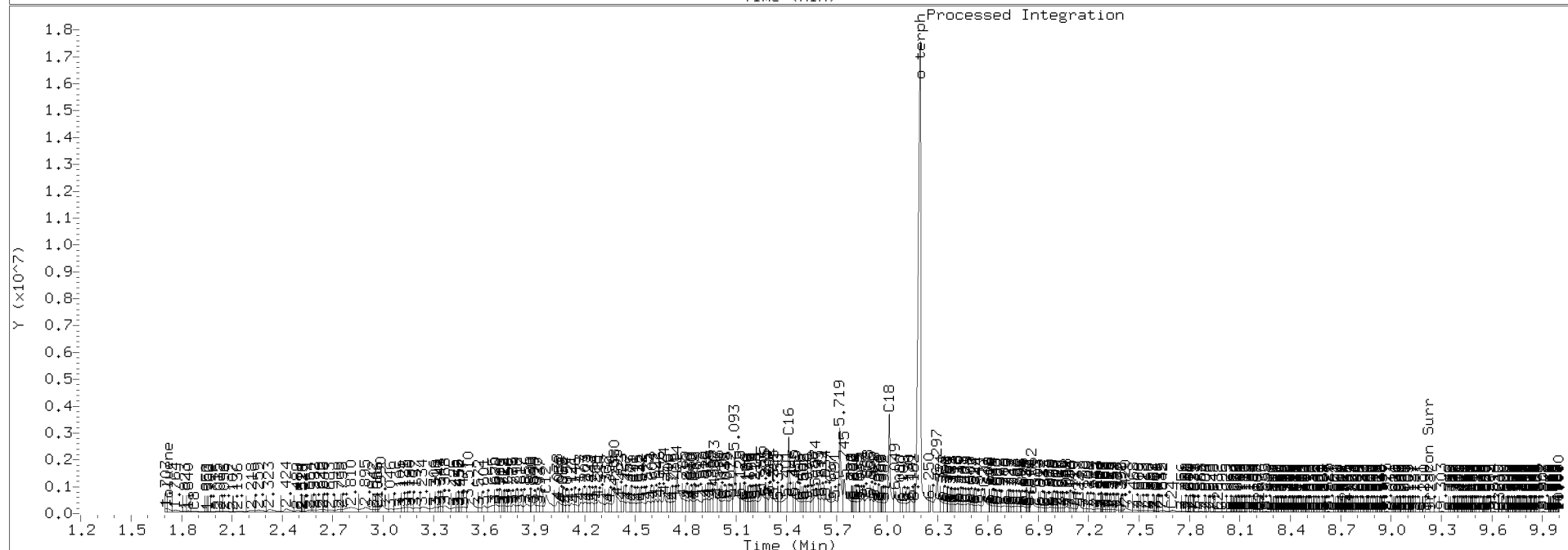
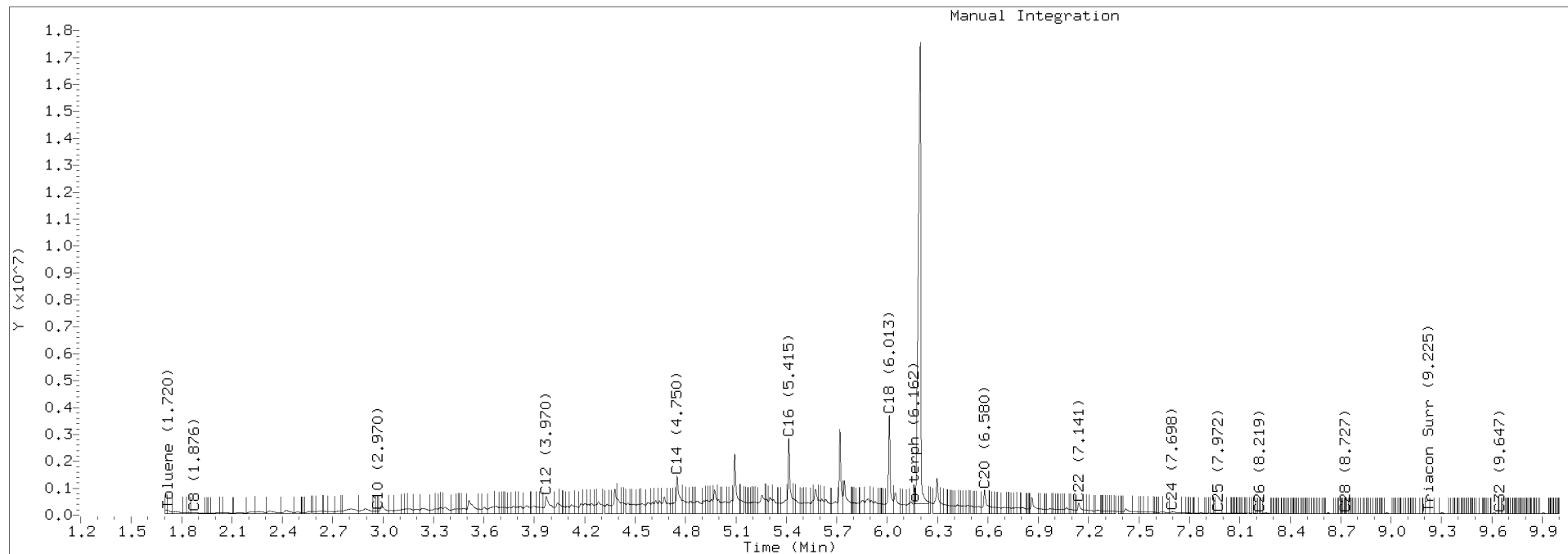
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2733.D Injection: 27-NOV-2020 22:08

Lab ID:SIK0381-CCV5





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0126
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Instrument ID: FID4 Calibration: DA00022
Lab File ID: 420K2734.D Calibration Date: 10/25/2019
Sequence: SIK0381 Injection Date: 11/27/20
Lab Sample ID: SIK0381-CCV6 Injection Time: 22:28
Sequence Name: MOIL CCV

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	983	101166	99487.32		-1.7	+/-15

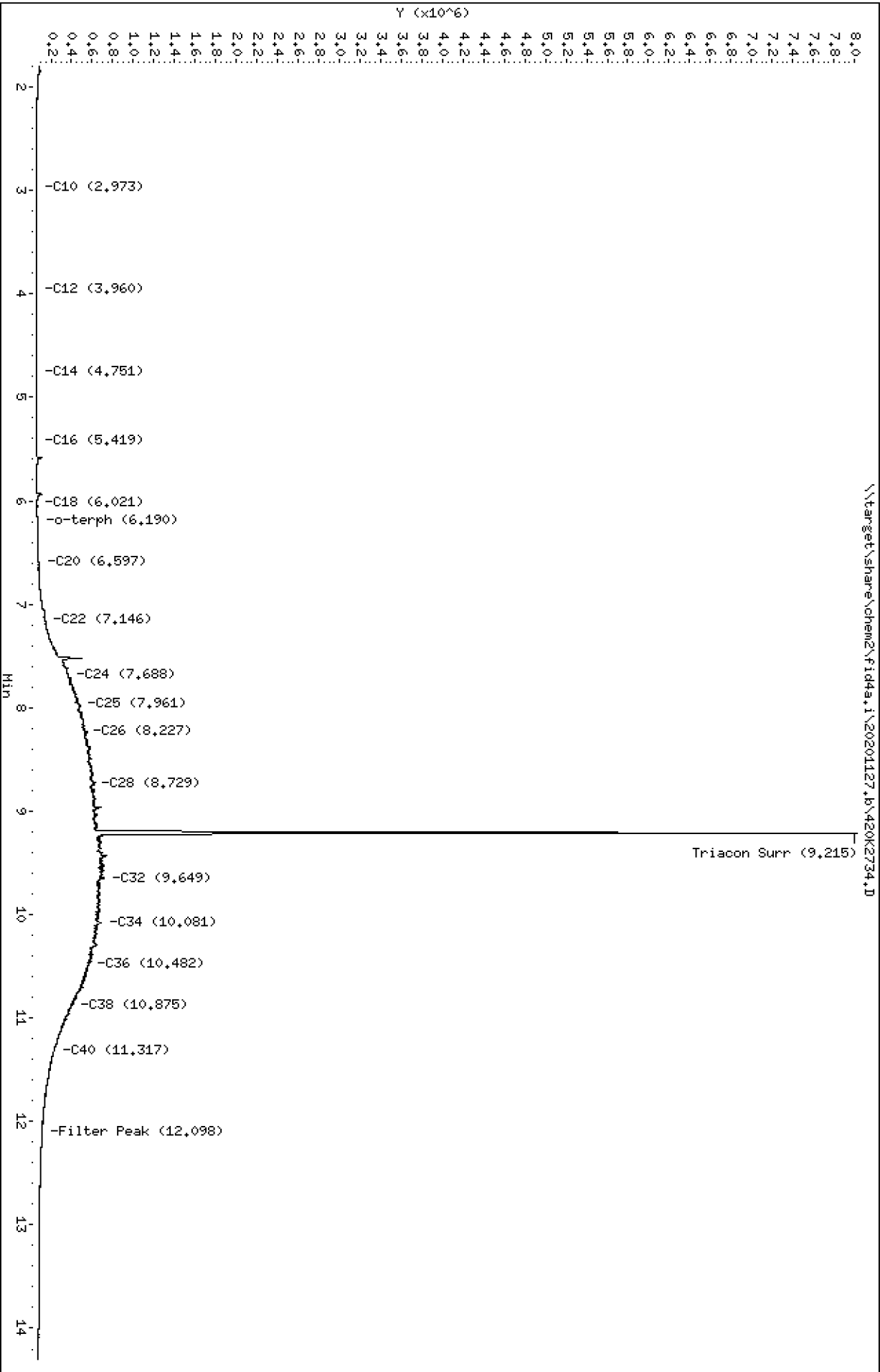
* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201127_b\420K2734.D
Date: 27-NOV-2020 22:28
Client ID:
Sample Info: SIK0381-CCW6

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2734.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV6
Client ID:
Injection: 27-NOV-2020 22:28
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

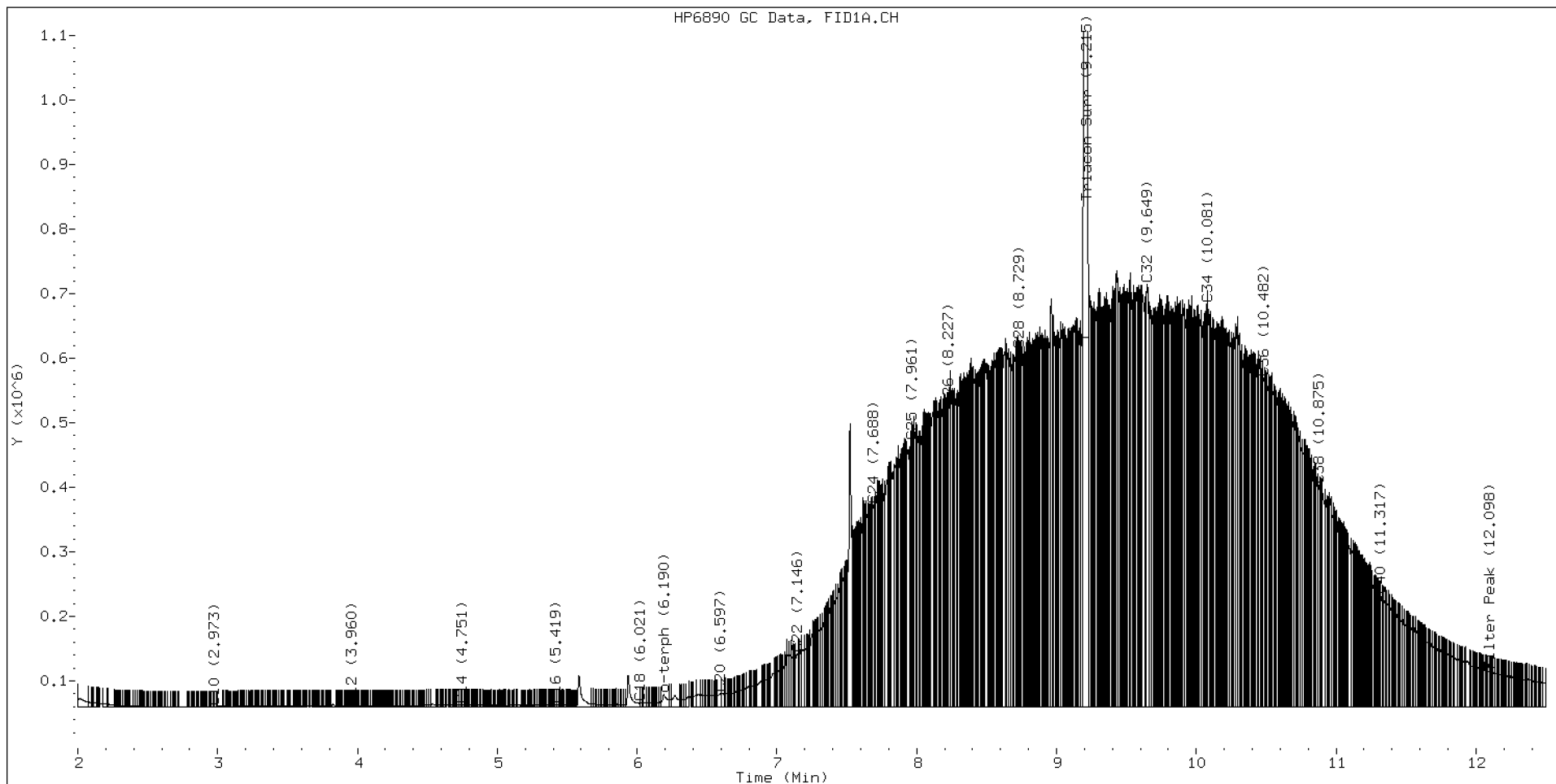
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.843	-0.023	36850	134426	WATPHD	(C12-C24)	9189197	57.7
C10	2.973	0.003	466	231	WATPHM	(C24-C38)	99487320	983.4
C12	3.960	-0.004	1825	448	AK102	(C10-C25)	12883100	65.9
C14	4.751	0.004	2926	2236	AK103	(C25-C36)	86133243	1176.6
C16	5.419	0.005	2734	2383	OR.DIES	(C10-C28)	38108220	194.4
C18	6.021	0.007	5768	1146				
C20	6.597	0.013	21115	34987	JET-A	(C10-C18)	537851	3.2
C22	7.146	-0.002	82353	86958				
C24	7.688	-0.006	313793	322530				
C25	7.961	-0.001	411043	142875				
C26	8.227	0.002	465180	92819				
C28	8.729	-0.000	553131	137534				
C32	9.649	-0.008	654492	884961				
C34	10.081	-0.000	624843	575478				
Filter Peak	12.098	0.001	54262	21525	BUNKERC	(C10-C38)	108760568	2755.0
C36	10.482	-0.001	510440	379845				
C38	10.875	0.001	344180	253779				
C40	11.317	0.004	173055	118644				
o-terph	6.190	-0.009	18697	48803				
Triacon Surr	9.215	-0.014	7393680	6974880	NAS DIES	(C10-C24)	9273248	47.5

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	48803	0.2
Triacontane	6974880	47.0 M

M Indicates the peak was manually integrated

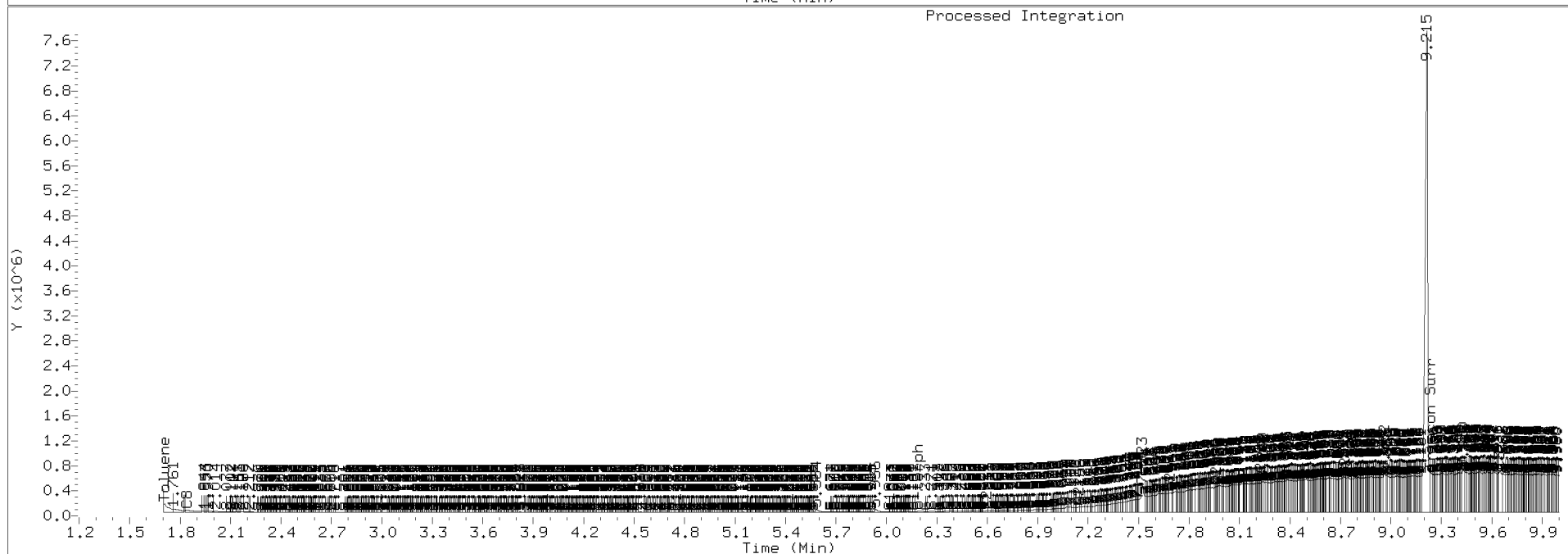
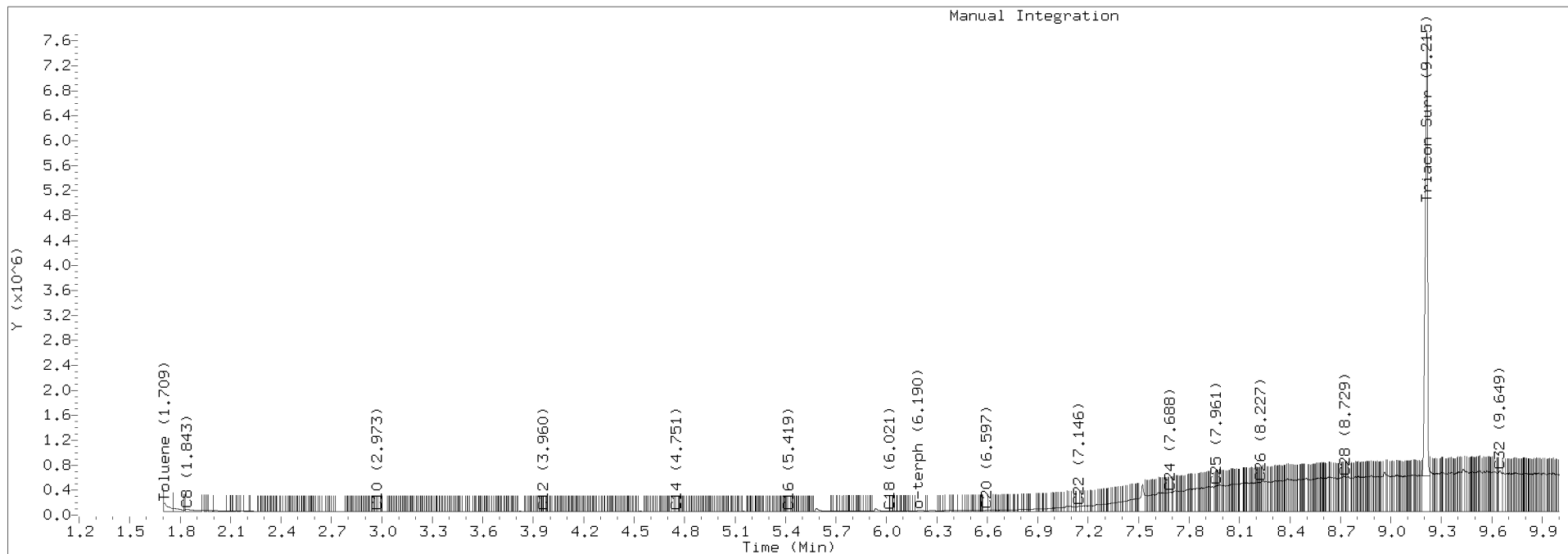
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2734.D Injection: 27-NOV-2020 22:28

Lab ID:SIK0381-CCV6



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2749.D

Date: 28-NOV-2020 03:31

Client ID:

Sample Info: SIK0381-CCV7

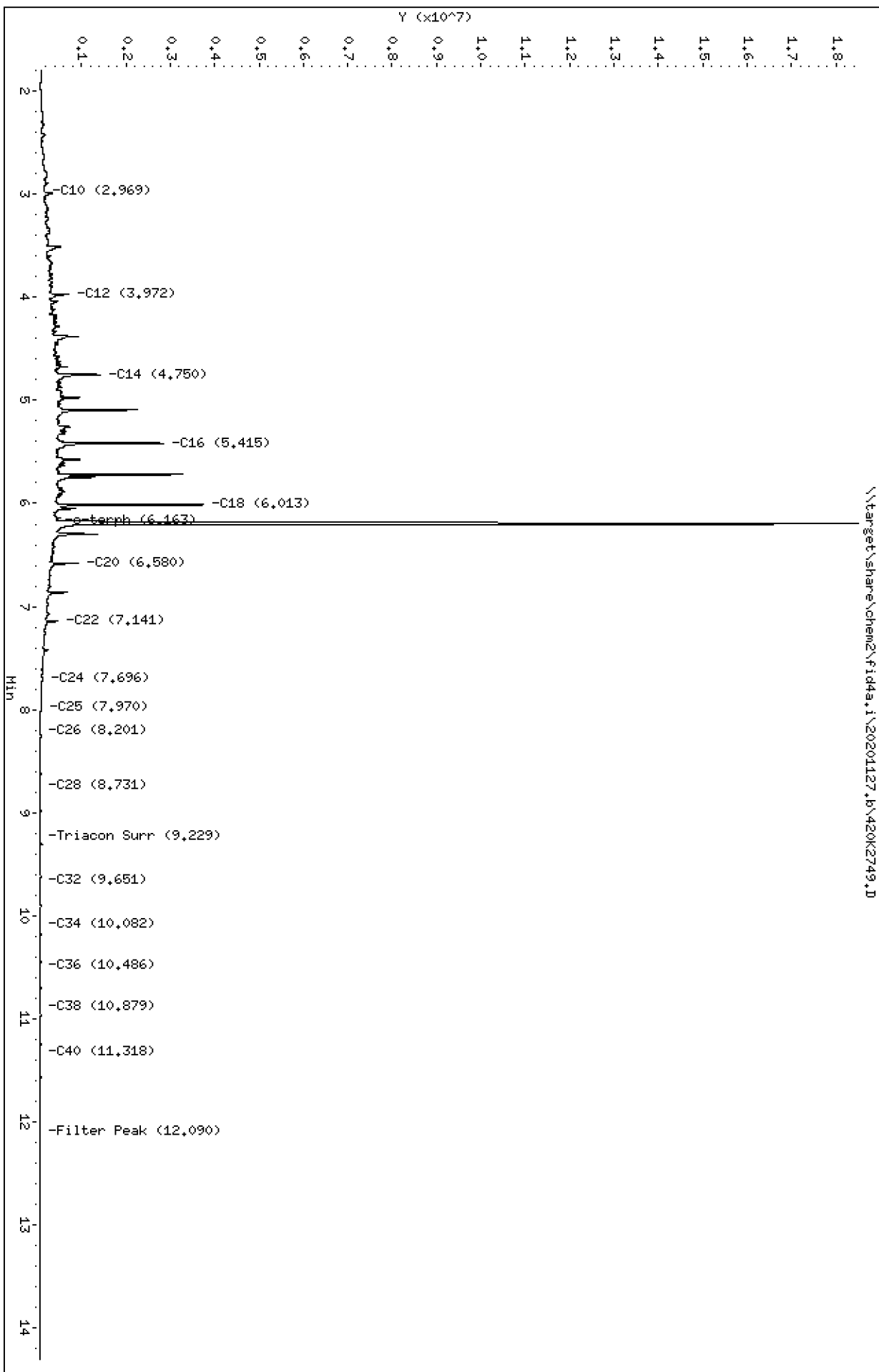
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2749.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV7
Client ID:
Injection: 28-NOV-2020 03:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

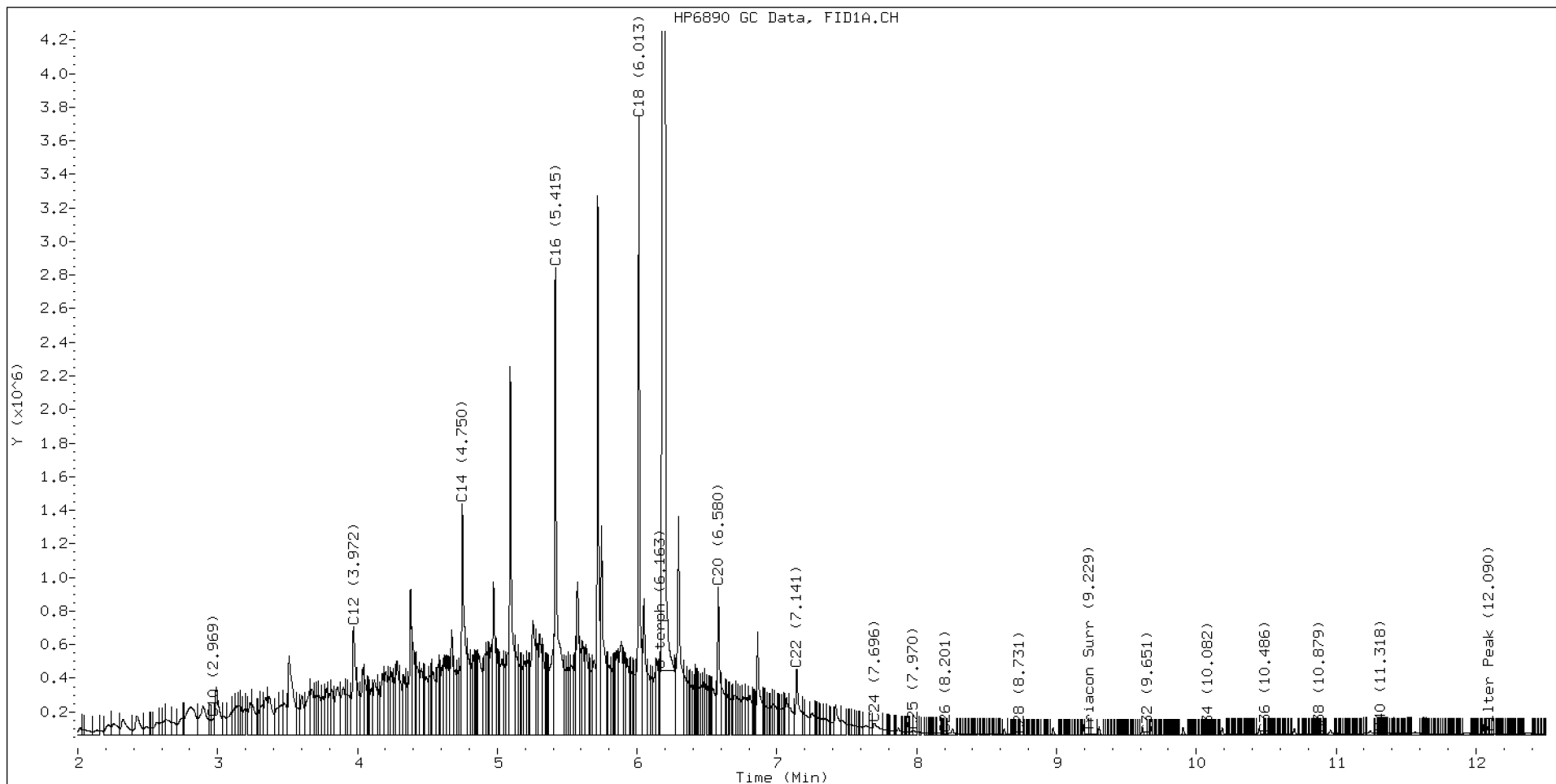
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	0.010	40321	123310	WATPHD	(C12-C24)	79779165	500.7
C10	2.969	-0.001	95752	118340	WATPHM	(C24-C38)	1154106	11.4
C12	3.972	0.008	644939	1014931	AK102	(C10-C25)	92867655	475.0
C14	4.750	0.002	1374597	1924599	AK103	(C25-C36)	736353	10.1
C16	5.415	0.001	2783785	3773802	OR.DIES	(C10-C28)	93256922	475.8
C18	6.013	-0.000	3682014	3311646				
C20	6.580	-0.004	879647	1094857	JET-A	(C10-C18)	71954213	433.9
C22	7.141	-0.006	390701	673682				
C24	7.696	0.002	69829	212628				
C25	7.970	0.008	23914	25239				
C26	8.201	-0.024	8315	4949				
C28	8.731	0.002	1971	791				
C32	9.651	-0.005	1228	784				
C34	10.082	0.000	1702	411				
Filter Peak	12.090	-0.007	8203	3659	BUNKERC	(C10-C38)	93770473	2375.3
C36	10.486	0.003	4661	2526				
C38	10.879	0.005	7505	1496				
C40	11.318	0.005	8946	5758				
o-terph	6.198	-0.001	18059140	18728210				
Triacon Surr	9.229	-0.000	7048	6044	NAS DIES	(C10-C24)	92616367	474.6

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18728210	91.5 M
Triacontane	6044	0.0

M Indicates the peak was manually integrated

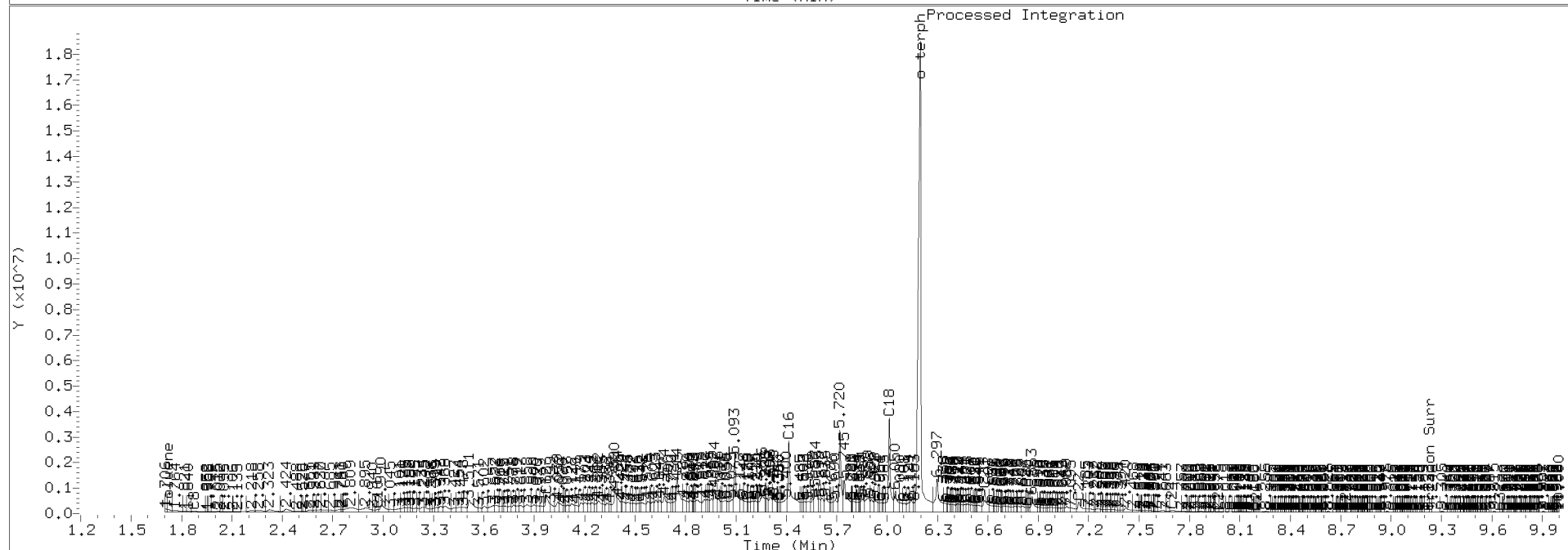
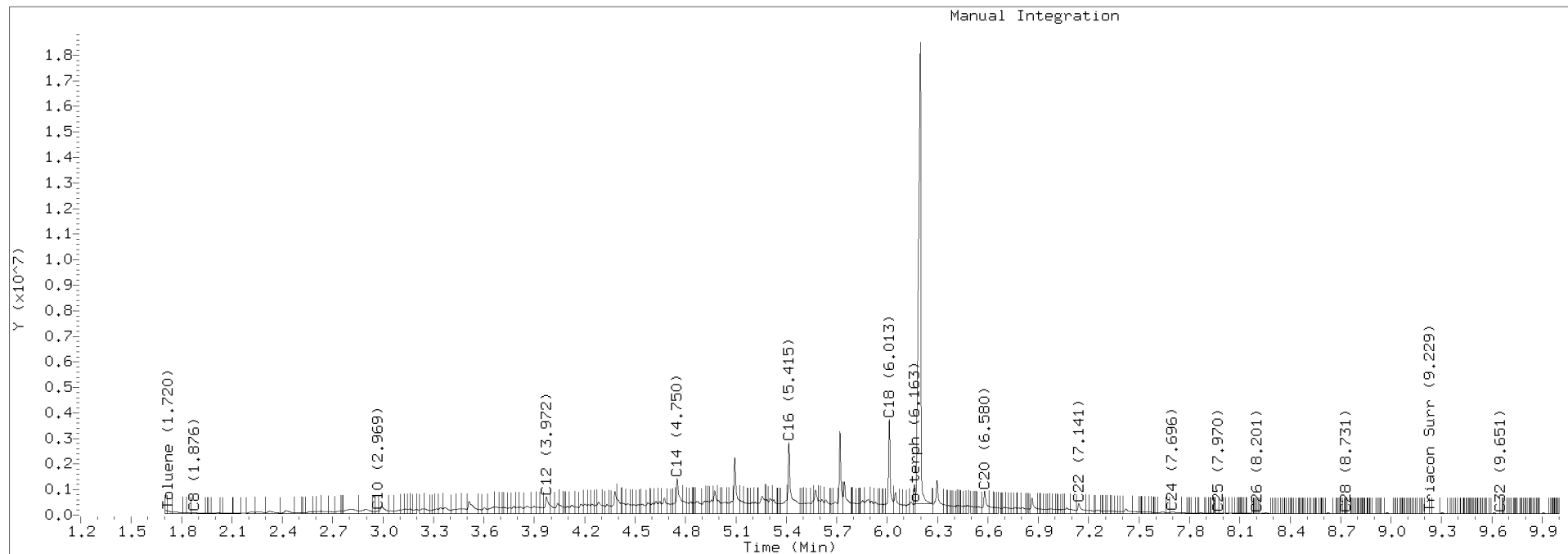
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2749.D Injection: 28-NOV-2020 03:31

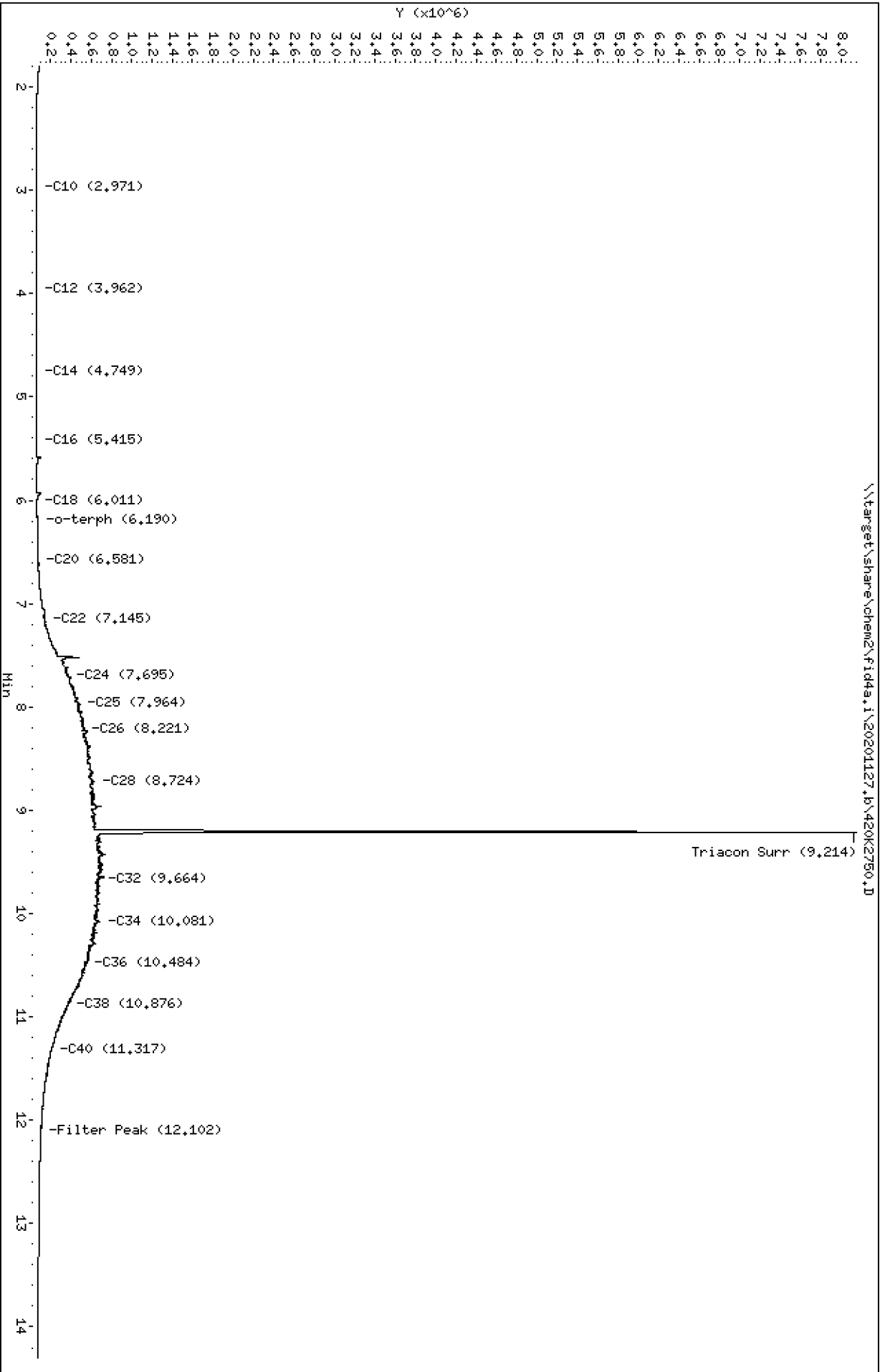
Lab ID:SIK0381-CCV7



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2750.D
Date: 28-NOV-2020 03:51
Client ID:
Sample Info: SIK0381-CCW8

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2750.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV8
Client ID:
Injection: 28-NOV-2020 03:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

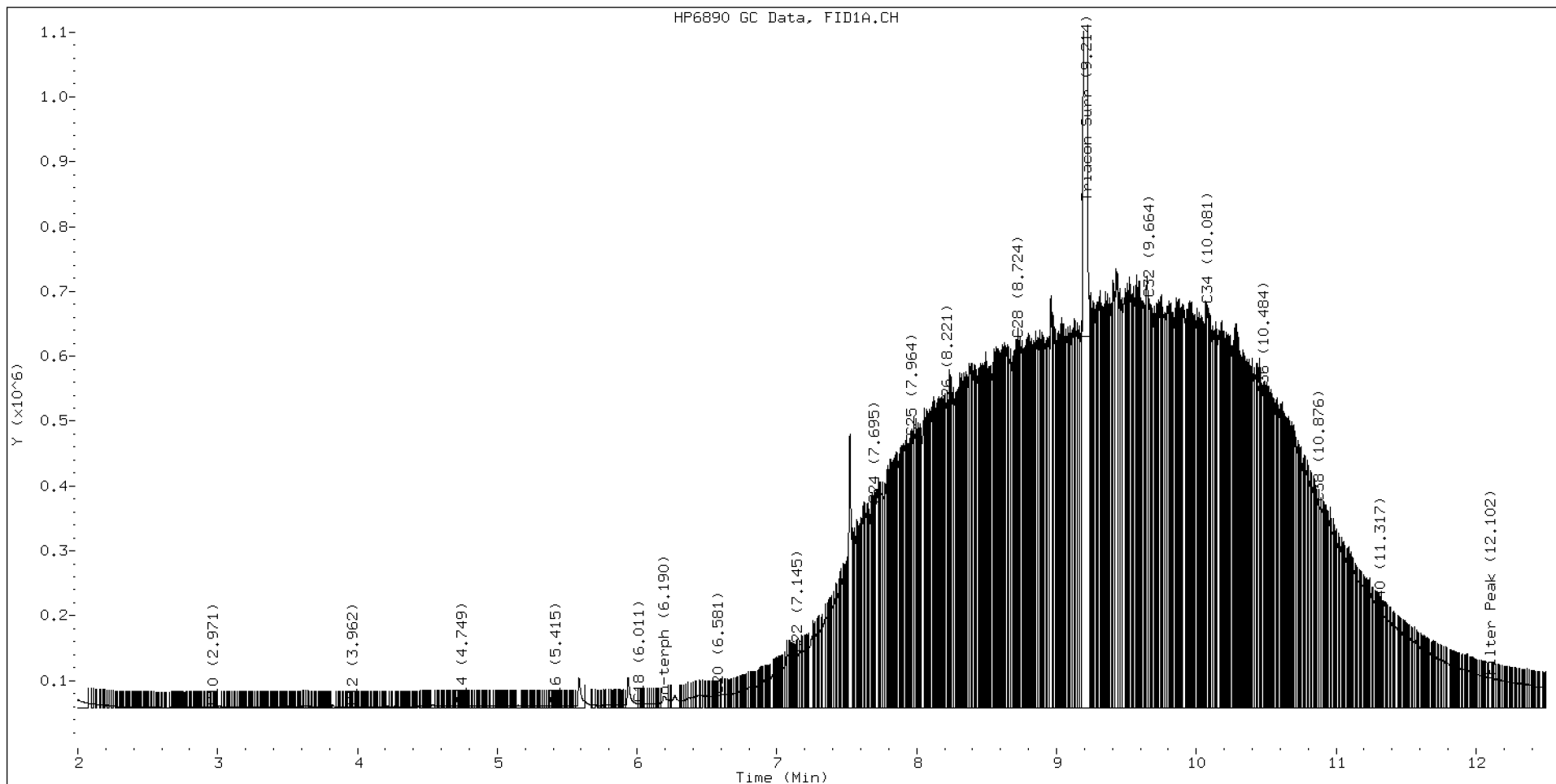
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.840	-0.026	24429	98816	WATPHD	(C12-C24)	9100512	57.1
C10	2.971	0.001	902	510	WATPHM	(C24-C38)	98368334	972.3
C12	3.962	-0.002	1500	642	AK102	(C10-C25)	12692903	64.9
C14	4.749	0.001	2460	1689	AK103	(C25-C36)	85979882	1174.5
C16	5.415	0.001	2514	1468	OR.DIES	(C10-C28)	37866025	193.2
C18	6.011	-0.002	5837	3150				
C20	6.581	-0.004	17968	7031	JET-A	(C10-C18)	494717	3.0
C22	7.145	-0.003	83281	32777				
C24	7.695	0.001	312168	107875				
C25	7.964	0.001	416413	225564				
C26	8.221	-0.004	461842	137589				
C28	8.724	-0.005	567185	307931				
C32	9.664	0.007	630015	432896				
C34	10.081	-0.000	620264	365070				
Filter Peak	12.102	0.005	46749	50659	BUNKERC	(C10-C38)	107556444	2724.5
C36	10.484	0.001	482851	192282				
C38	10.876	0.002	314957	124913				
C40	11.317	0.004	149717	51989				
o-terph	6.190	-0.009	17452	40980				
Triacon Surr	9.214	-0.015	7524651	7011770	NAS DIES	(C10-C24)	9188109	47.1

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	40980	0.2
Triacontane	7011770	47.3 M

M Indicates the peak was manually integrated

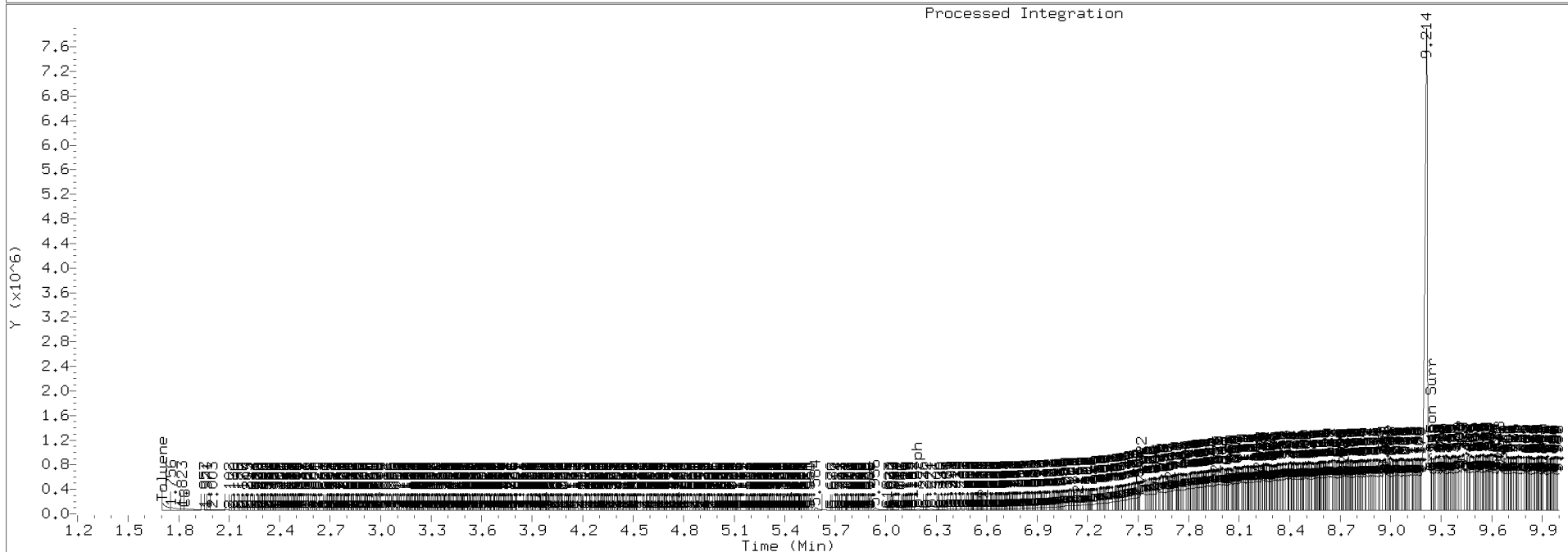
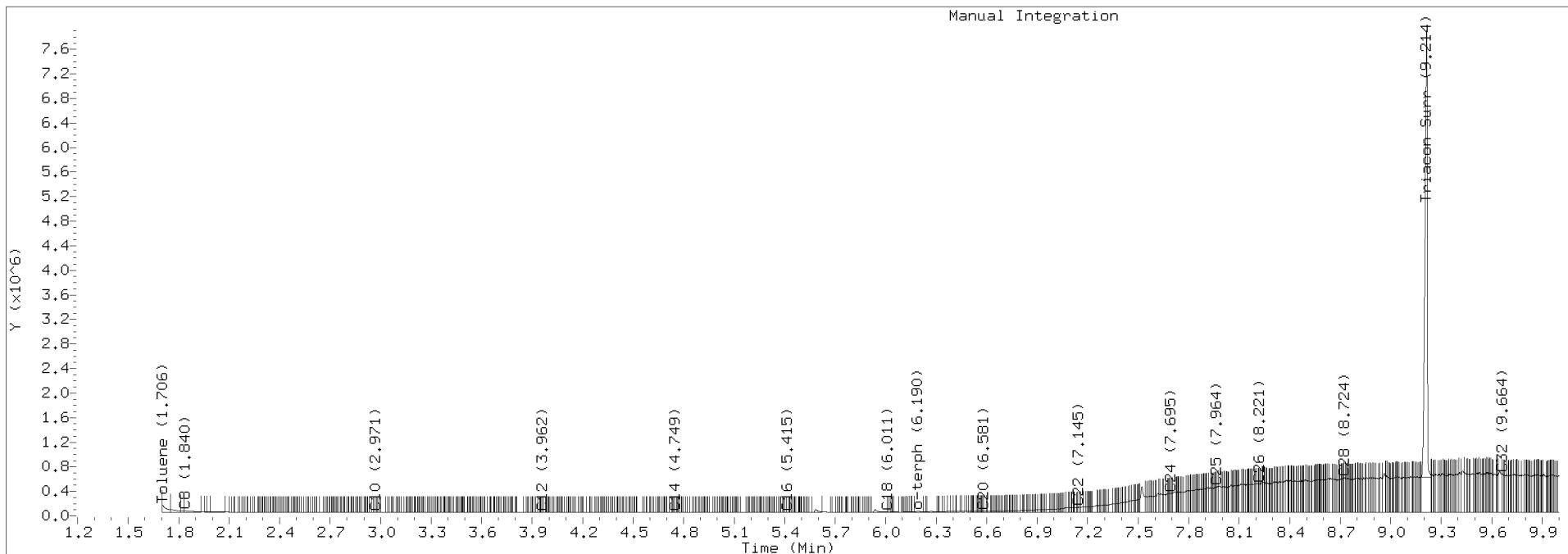
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2750.D Injection: 28-NOV-2020 03:51

Lab ID:SIK0381-CCV8





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2763.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIK0381</u>	Injection Date:	<u>11/28/20</u>
Lab Sample ID:	<u>SIK0381-CCV9</u>	Injection Time:	<u>08:14</u>
Sequence Name:	<u>DIESEL CCV</u>		

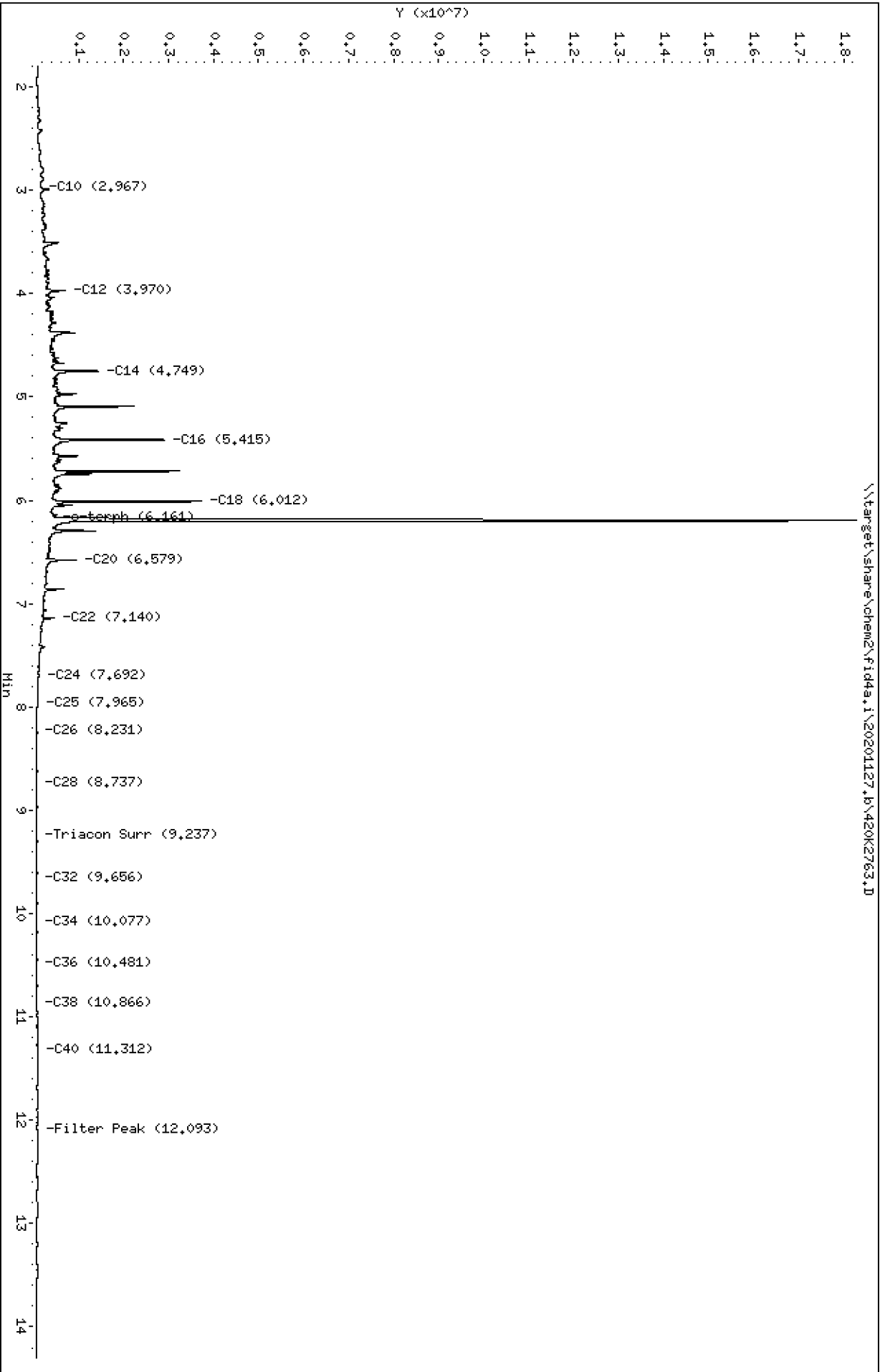
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	492	159336.7	156639.6		-1.7	+/-15
o-Terphenyl	A	90.000	89.6	204701.9	203860		-0.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2763.D
Date: 28-NOV-2020 08:14
Client ID:
Sample Info: SIK0381-CCV9

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2763.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCV9
Client ID:
Injection: 28-NOV-2020 08:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

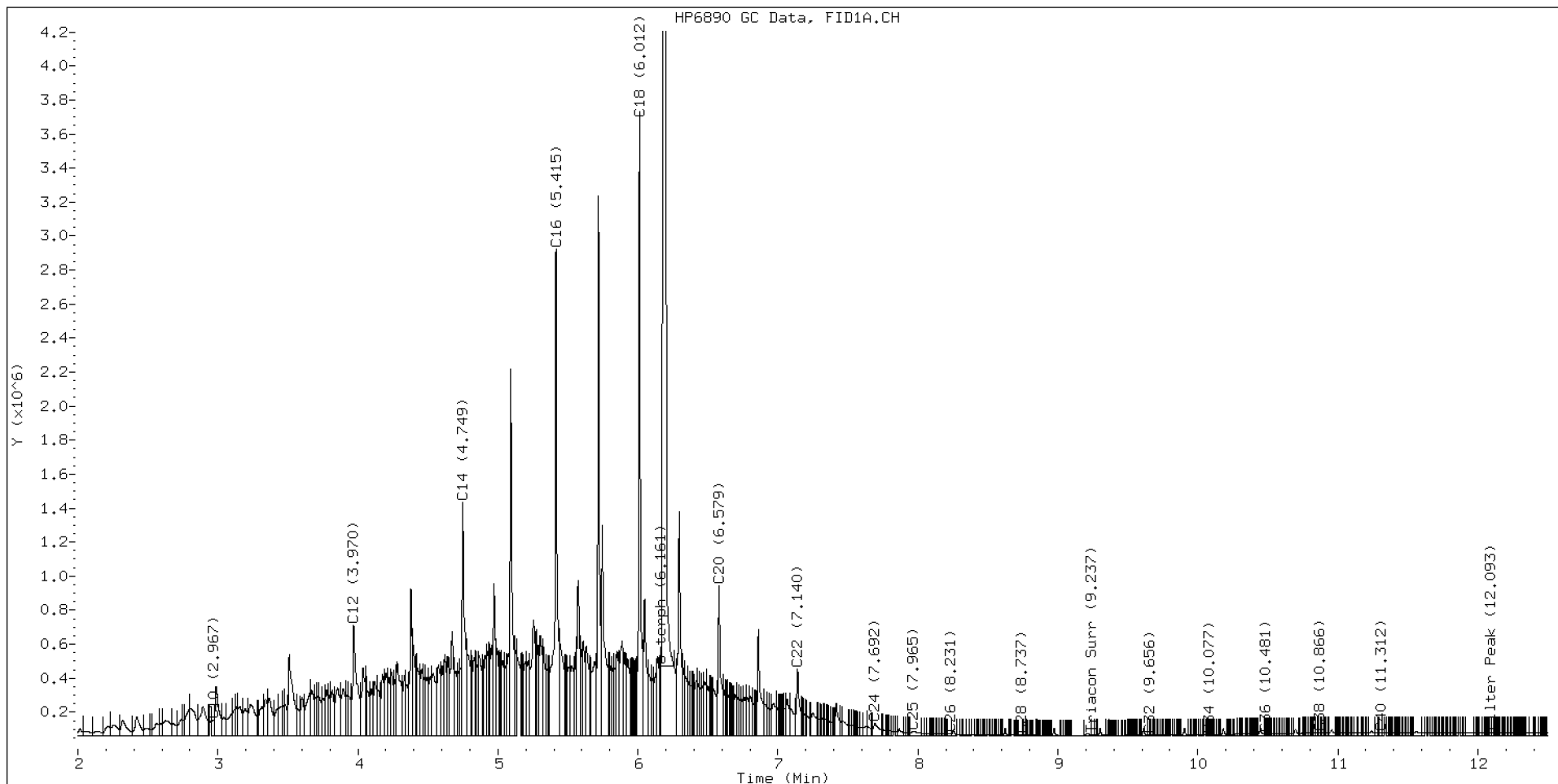
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.872	0.006	35294	107267	WATPHD	(C12-C24)	78319817	491.5
C10	2.967	-0.003	89362	110743	WATPHM	(C24-C38)	1425973	14.1
C12	3.970	0.006	645751	1301417	AK102	(C10-C25)	90999339	465.5
C14	4.749	0.001	1371692	1884794	AK103	(C25-C36)	861435	11.8
C16	5.415	0.001	2858657	3435178	OR.DIES	(C10-C28)	91359463	466.1
C18	6.012	-0.001	3669443	3124305				
C20	6.579	-0.005	880382	1124300	JET-A	(C10-C18)	69804829	420.9
C22	7.140	-0.008	391526	571053				
C24	7.692	-0.002	71036	192573				
C25	7.965	0.002	24836	91144				
C26	8.231	0.006	9730	15787				
C28	8.737	0.008	2019	3095				
C32	9.656	-0.000	1971	293				
C34	10.077	-0.005	4354	1287				
Filter Peak	12.093	-0.005	15292	9856	BUNKERC	(C10-C38)	92179908	2335.0
C36	10.481	-0.002	10512	7246				
C38	10.866	-0.008	14577	13661				
C40	11.312	-0.001	16693	20152				
o-terph	6.198	-0.001	17815786	18347405				
Triacon Surr	9.237	0.008	5065	6118	NAS DIES	(C10-C24)	90753935	465.1

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18347405	89.6 M
Triacontane	6118	0.0

M Indicates the peak was manually integrated

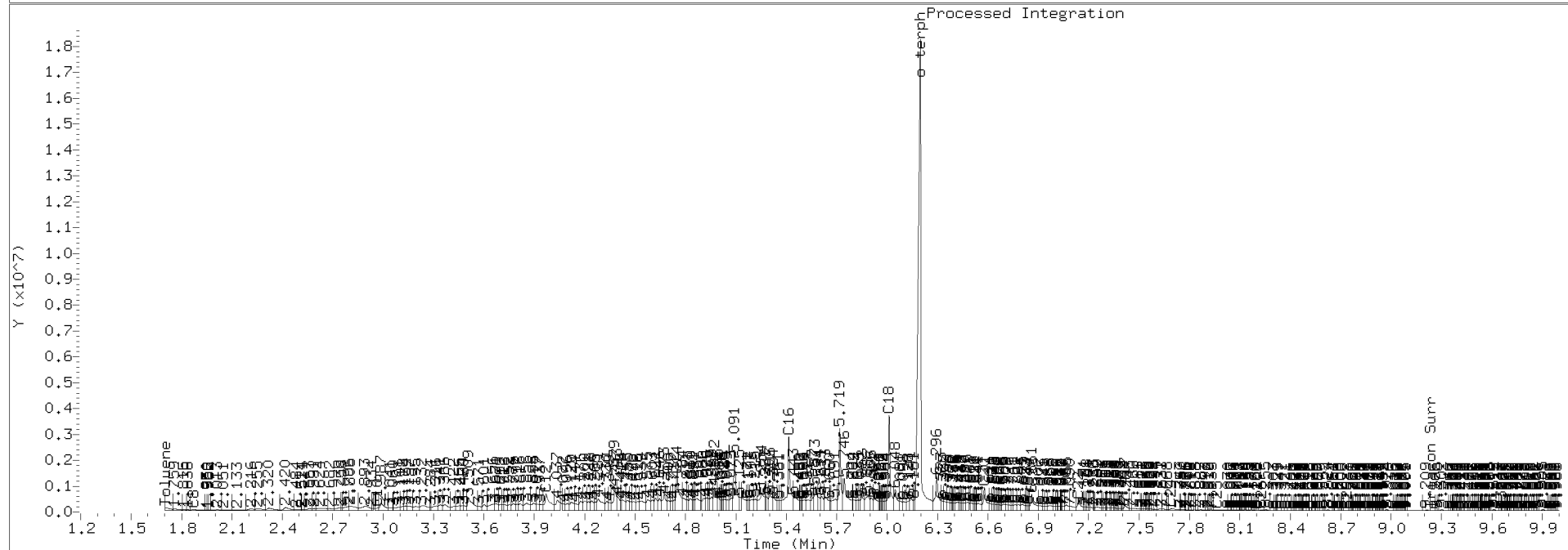
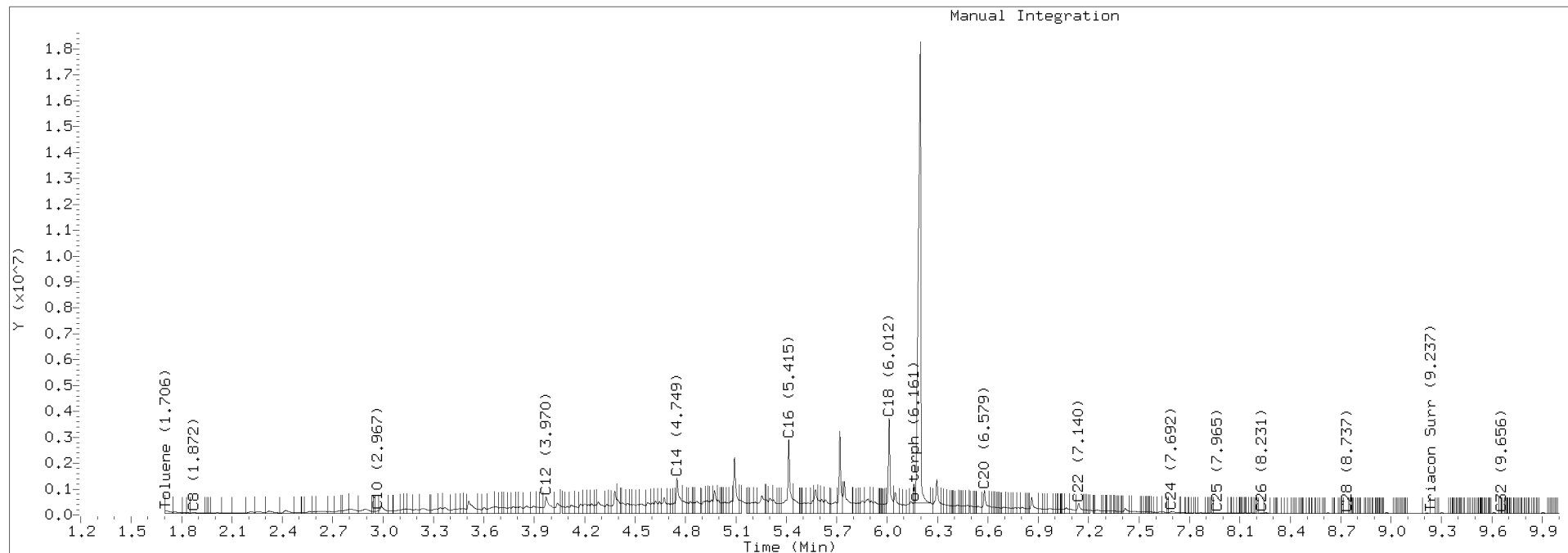
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2763.D Injection: 28-NOV-2020 08:14

Lab ID:SIK0381-CCV9

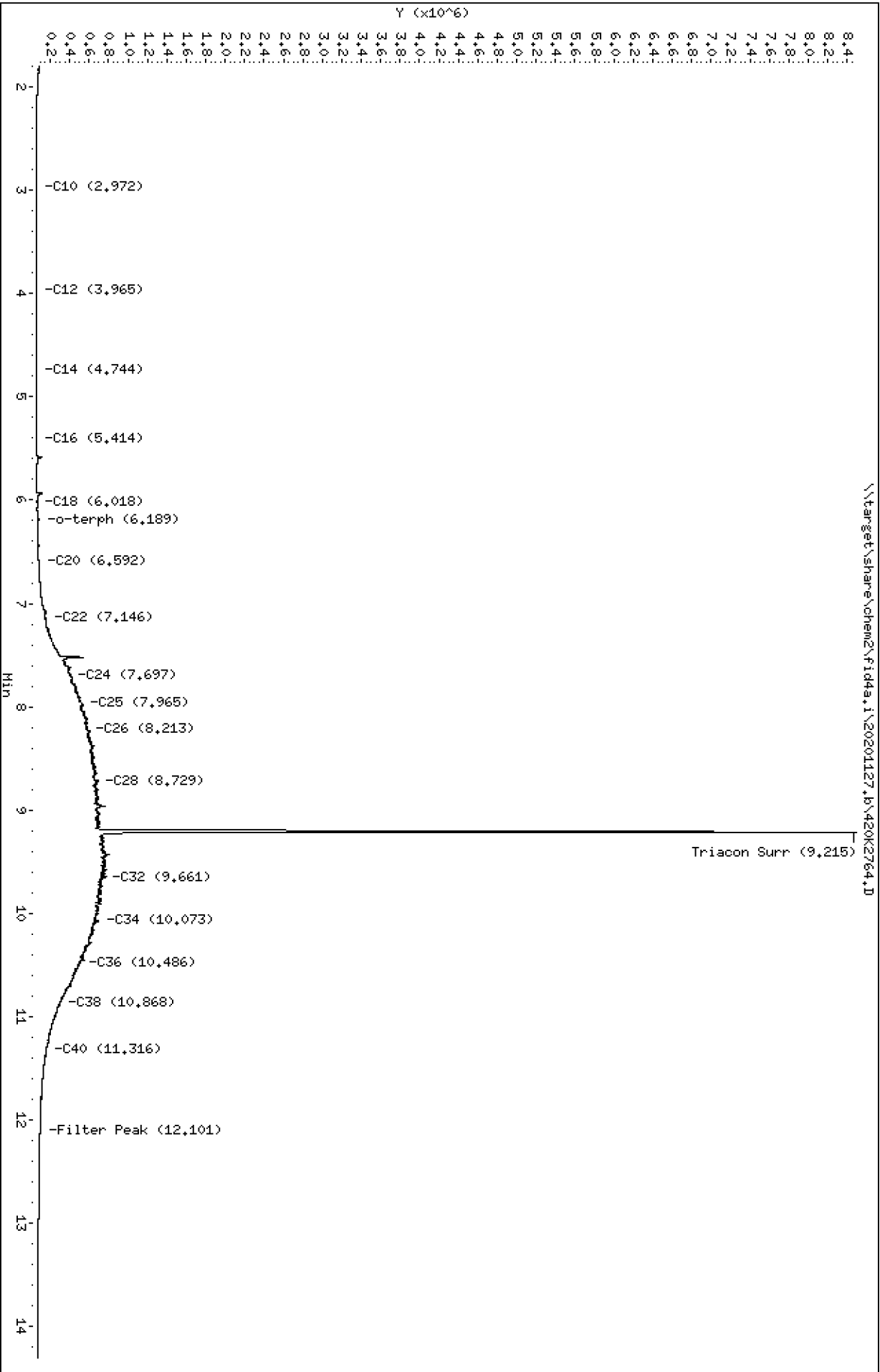


Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2764.D
Date: 28-NOV-2020 08:34
Client ID:
Sample Info: SIK0381-CCWA

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2764.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVA
Client ID:
Injection: 28-NOV-2020 08:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

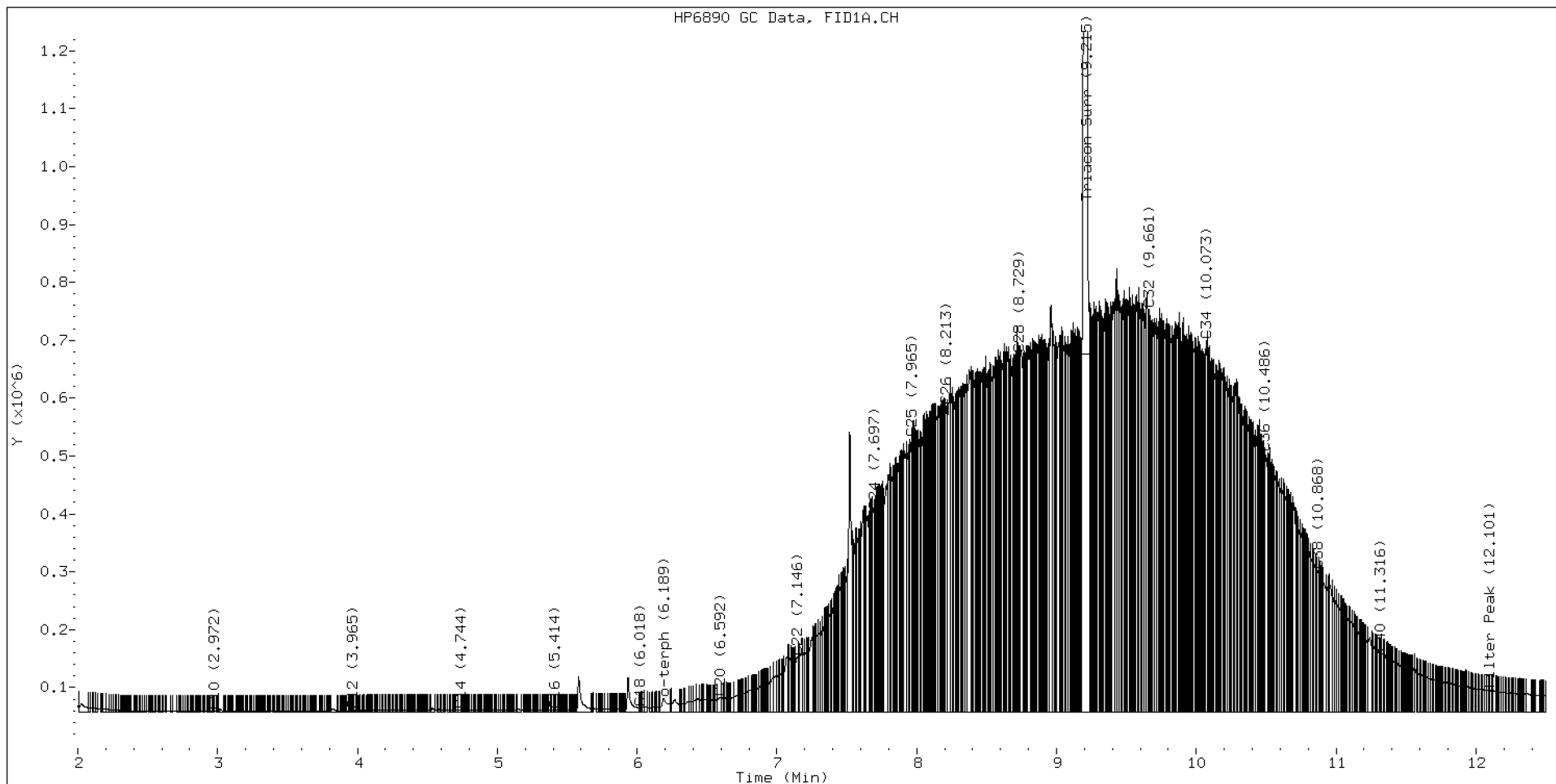
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.862	-0.004	22566	77525	WATPHD	(C12-C24)	10420785	65.4
C10	2.972	0.002	627	167	WATPHM	(C24-C38)	103839013	1026.4
C12	3.965	0.001	1873	987	AK102	(C10-C25)	14448464	73.9
C14	4.744	-0.004	3336	2423	AK103	(C25-C36)	92595060	1264.8
C16	5.414	-0.000	3120	1702	OR.DIES	(C10-C28)	42653385	217.6
C18	6.018	0.005	6907	2063				
C20	6.592	0.008	24013	42499	JET-A	(C10-C18)	602992	3.6
C22	7.146	-0.002	94795	118991				
C24	7.697	0.003	345414	120270				
C25	7.965	0.002	472370	233810				
C26	8.213	-0.012	528265	469329				
C28	8.729	-0.000	618196	214365				
C32	9.661	0.004	694454	408529				
C34	10.073	-0.009	640351	563977				
Filter Peak	12.101	0.003	36429	25278	BUNKERC	(C10-C38)	114333069	2896.2
C36	10.486	0.002	446096	218938				
C38	10.868	-0.005	243017	145058				
C40	11.316	0.003	100954	40140				
o-terph	6.189	-0.010	21851	63205				
Triacon Surr	9.215	-0.014	7818670	7865040	NAS DIES	(C10-C24)	10494056	53.8

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	63205	0.3
Triacontane	7865040	53.0 M

M Indicates the peak was manually integrated

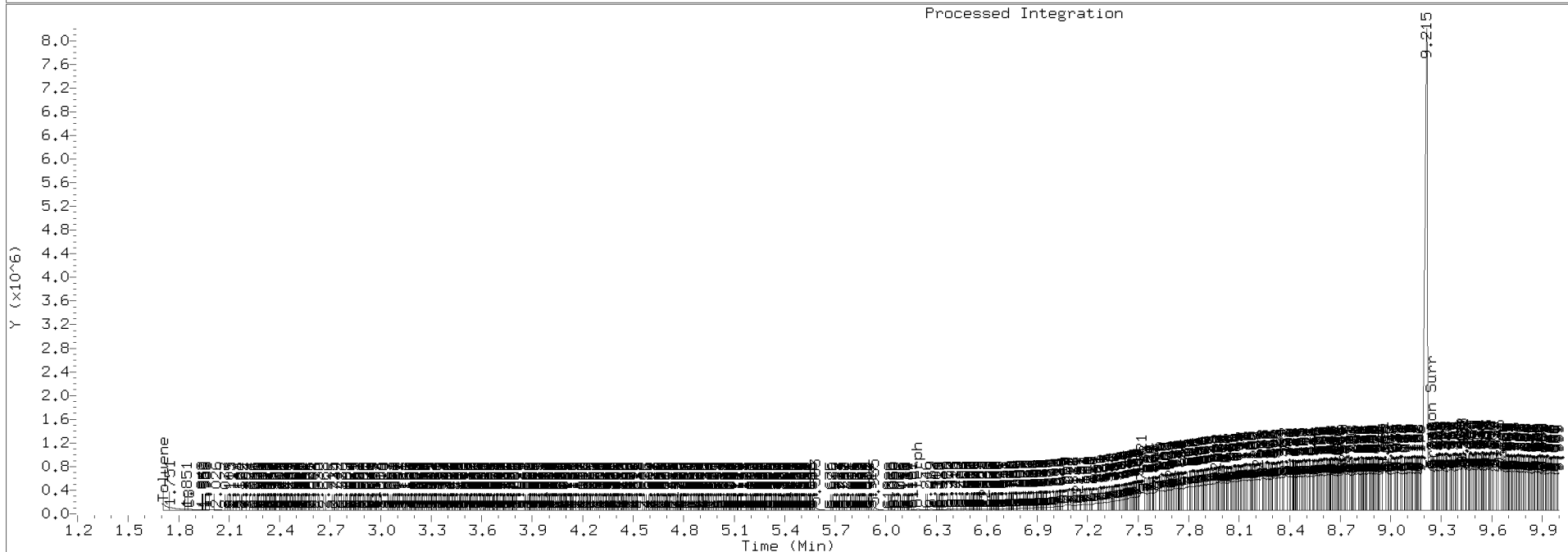
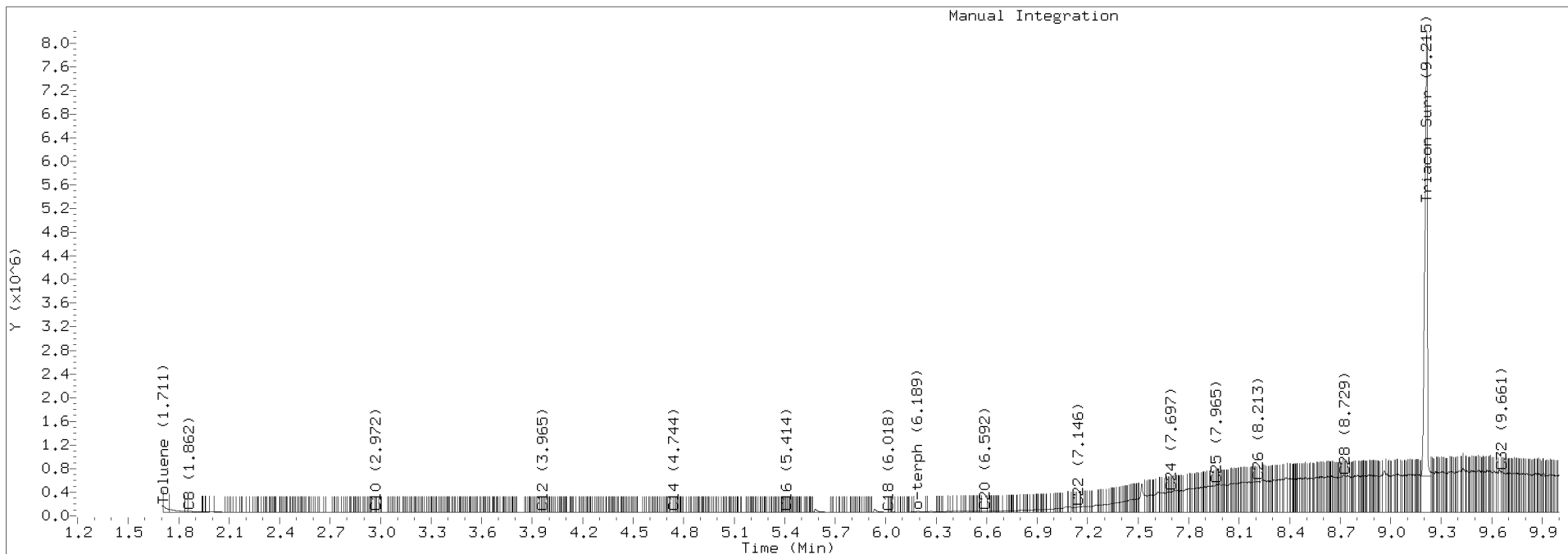
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2764.D Injection: 28-NOV-2020 08:34

Lab ID:SIK0381-CCVA



Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2777.D

Date: 28-NOV-2020 12:57

Client ID:

Sample Info: SIK0381-CCVB

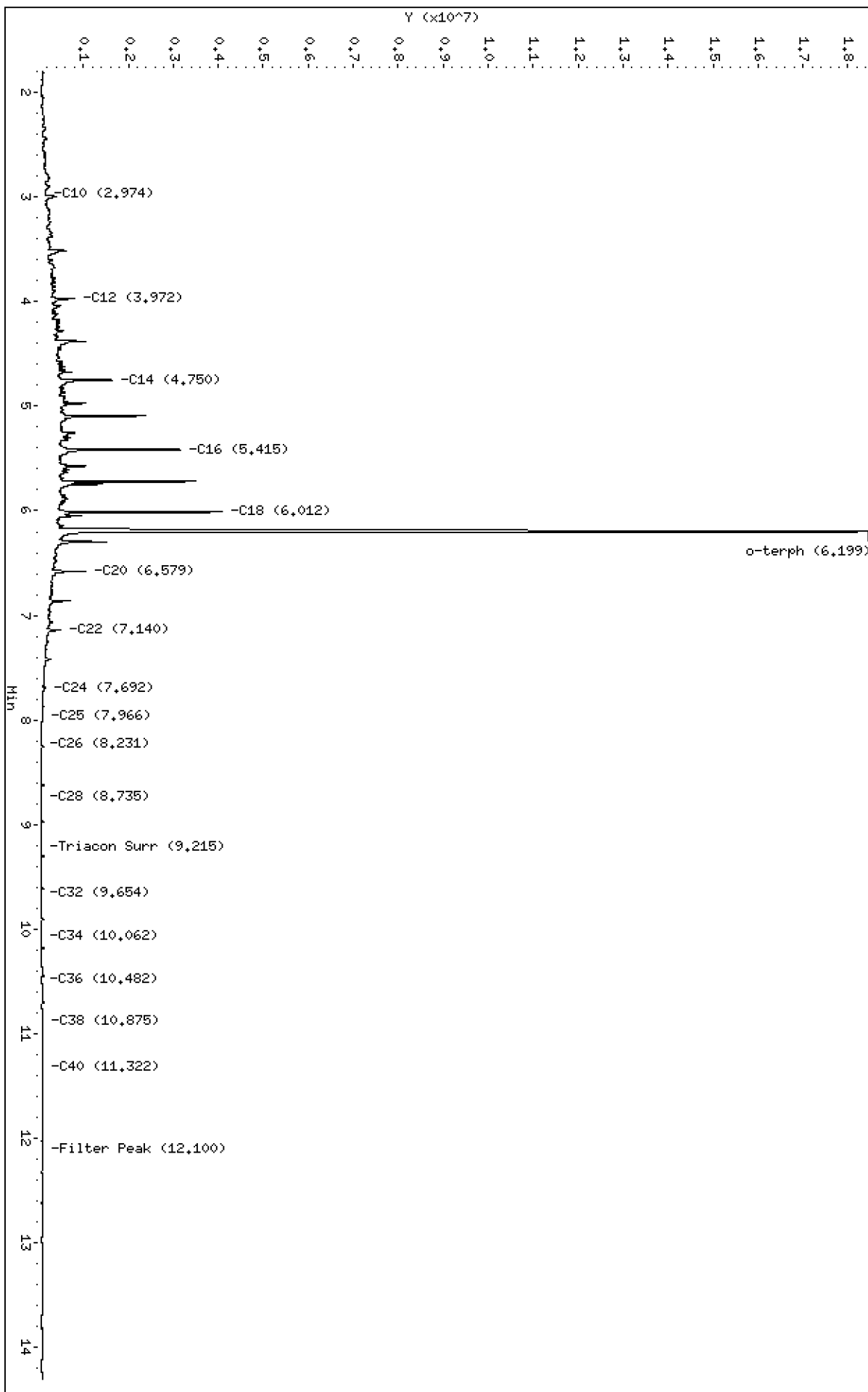
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201127,8\420K2777.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2777.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVB
Client ID:
Injection: 28-NOV-2020 12:57
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

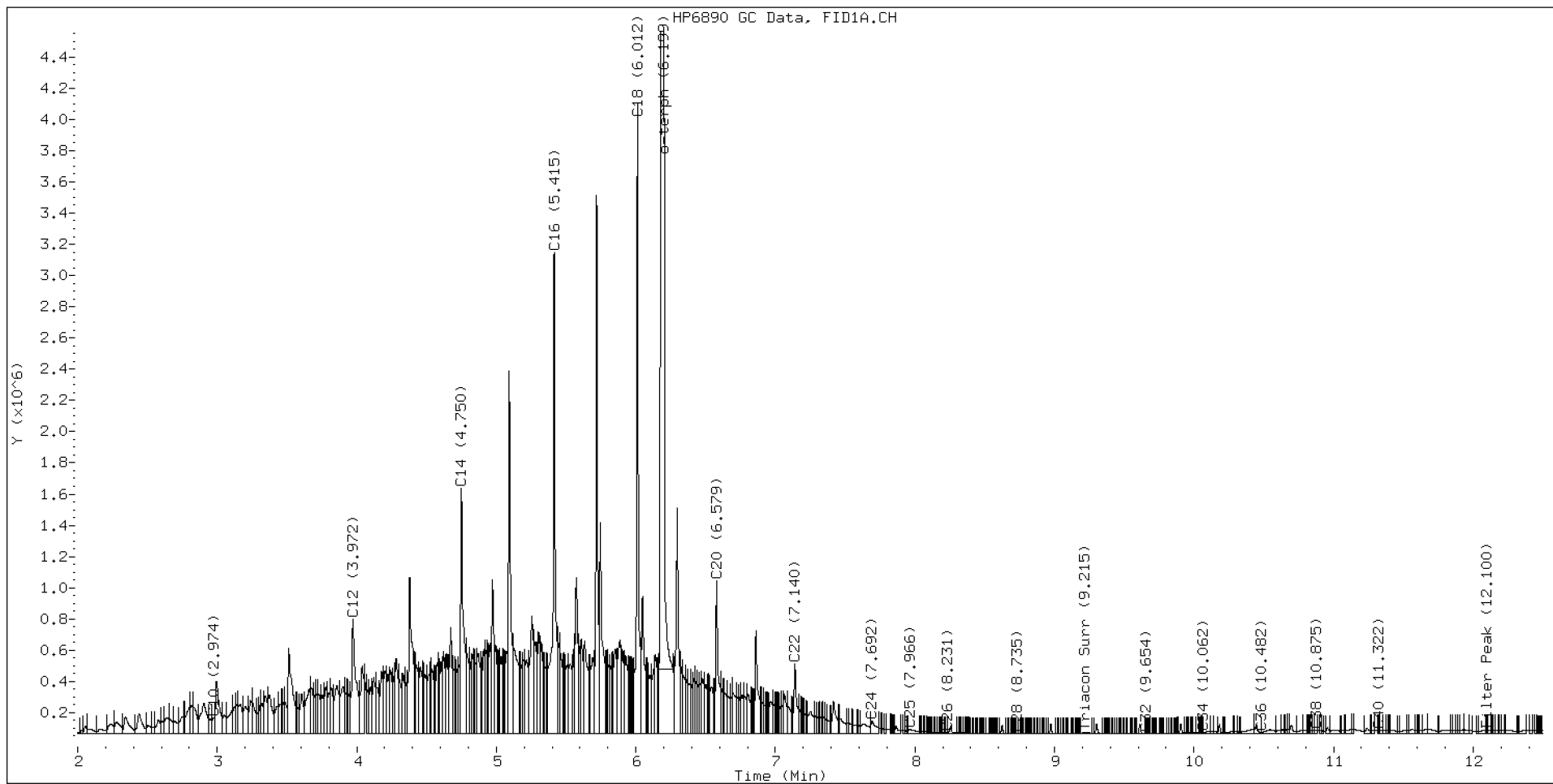
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.866	-0.000	33765	38370	WATPHD	(C12-C24)	86887556	545.3
C10	2.974	0.004	102811	115355	WATPHM	(C24-C38)	1894498	18.7
C12	3.972	0.008	734196	1463187	AK102	(C10-C25)	100944668	516.4
C14	4.750	0.002	1570598	2118388	AK103	(C25-C36)	1205419	16.5
C16	5.415	0.001	3085030	3814468	OR.DIES	(C10-C28)	101391675	517.3
C18	6.012	-0.001	4033317	3625107				
C20	6.579	-0.005	977688	1197130	JET-A	(C10-C18)	77899869	469.7
C22	7.140	-0.008	444675	630199				
C24	7.692	-0.002	83765	202493				
C25	7.966	0.003	27564	97833				
C26	8.231	0.006	10676	11571				
C28	8.735	0.006	2588	2176				
C32	9.654	-0.003	2839	1518				
C34	10.062	-0.020	8760	3049				
Filter Peak	12.100	0.002	19504	11557	BUNKERC	(C10-C38)	102661689	2600.5
C36	10.482	-0.002	10442	3640				
C38	10.875	0.002	20592	27231				
C40	11.322	0.009	19708	10724				
o-terph	6.199	-0.000	18035154	20335334				
Triacon Surr	9.215	-0.014	10414	28826	NAS DIES	(C10-C24)	100767190	516.4

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	20335334	99.3 M
Triacontane	28826	0.2

M Indicates the peak was manually integrated

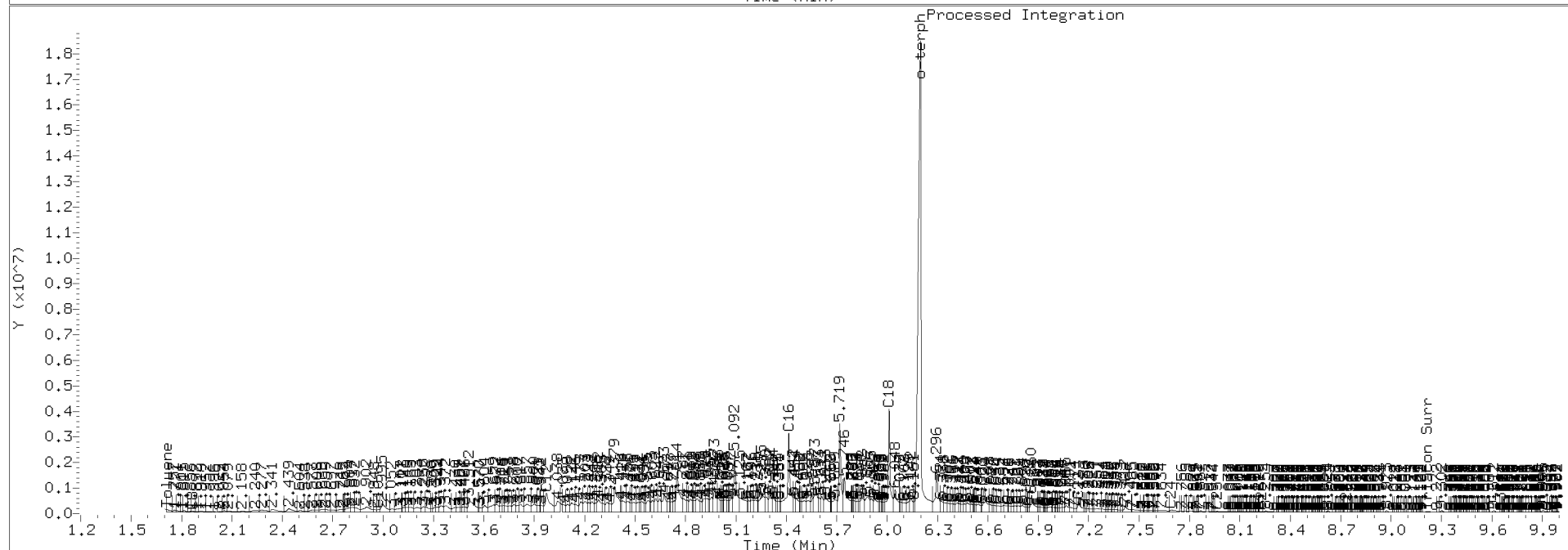
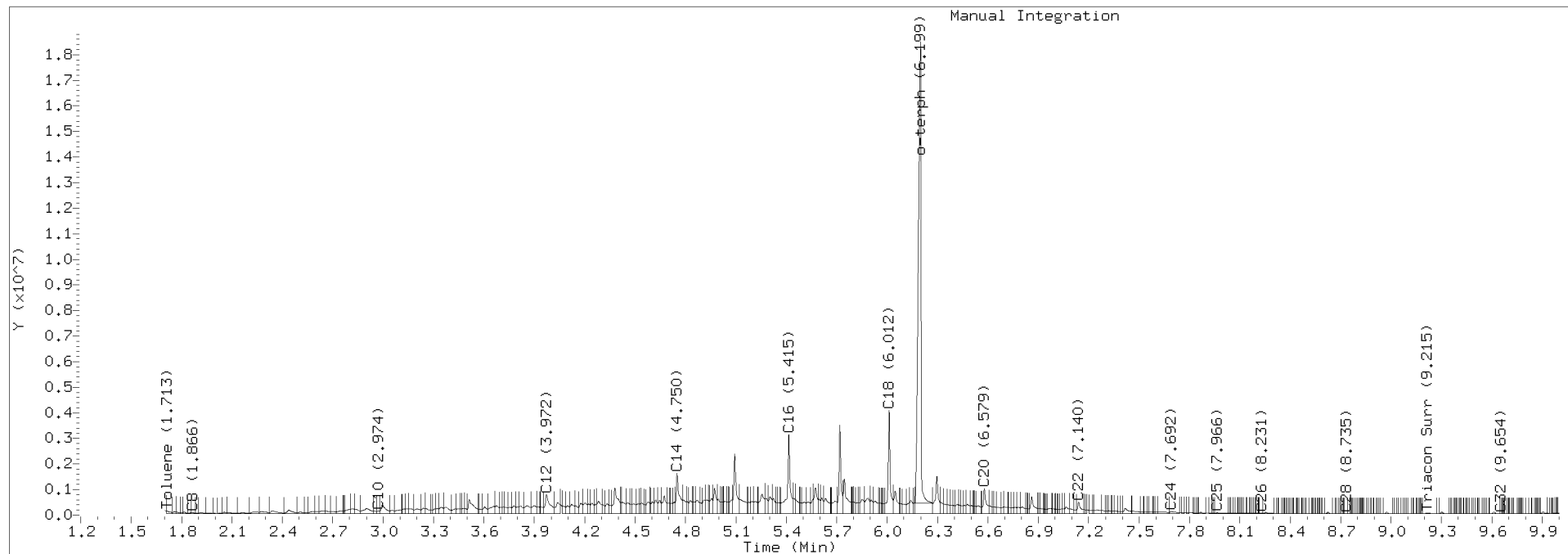
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2777.D Injection: 28-NOV-2020 12:57

Lab ID:SIK0381-CCVB

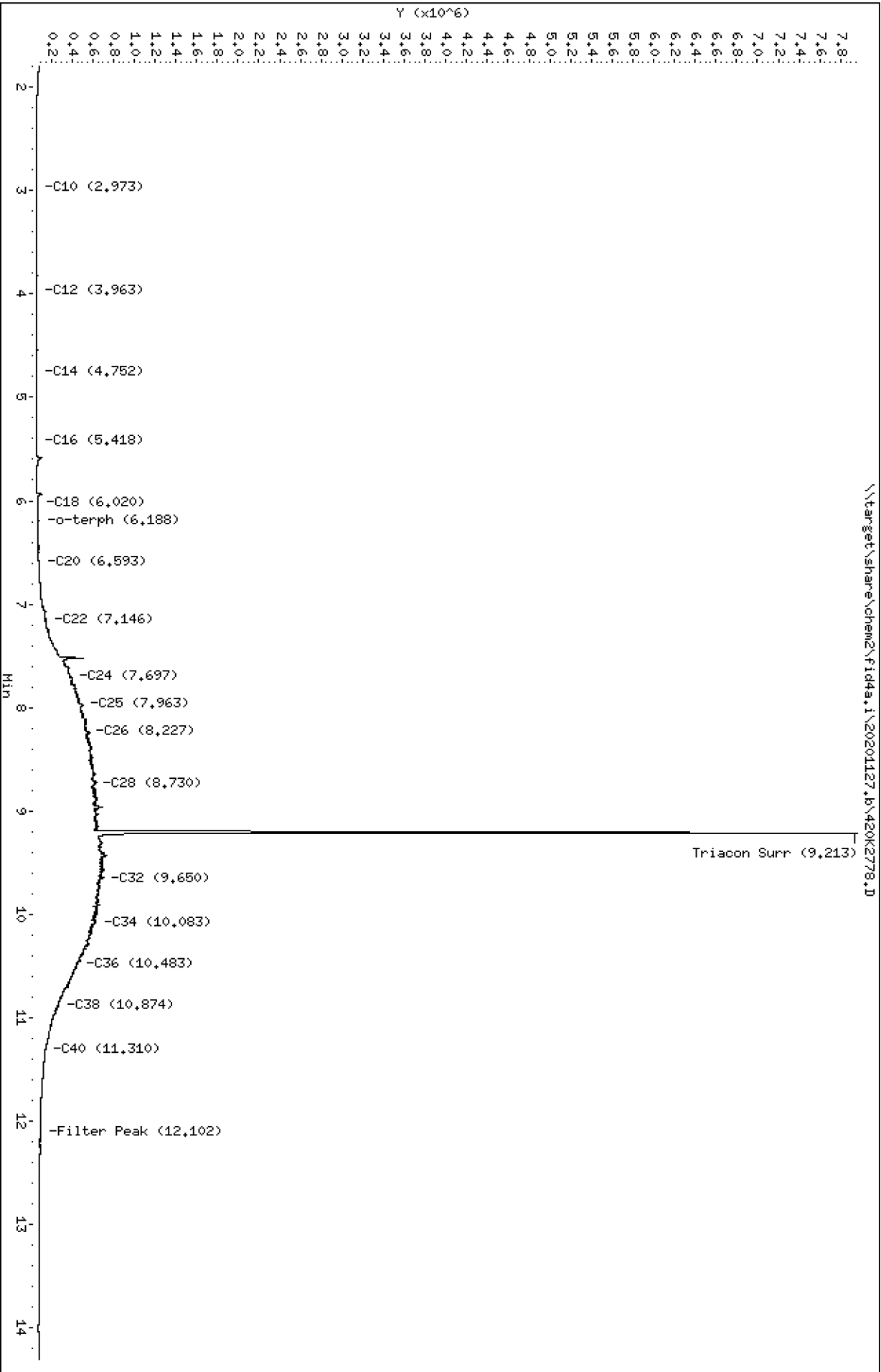


Data File: \\target\share\chem2\fid4a,1\20201127,8\420K2778.D
Date: 28-NOV-2020 13:17
Client ID:
Sample Info: SIK0381-CCWC

Instrument: fid4a,1

Column phase: RTX-1

Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201127.b/420K2778.D
Method: 20201127.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIK0381-CCVC
Client ID:
Injection: 28-NOV-2020 13:17
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

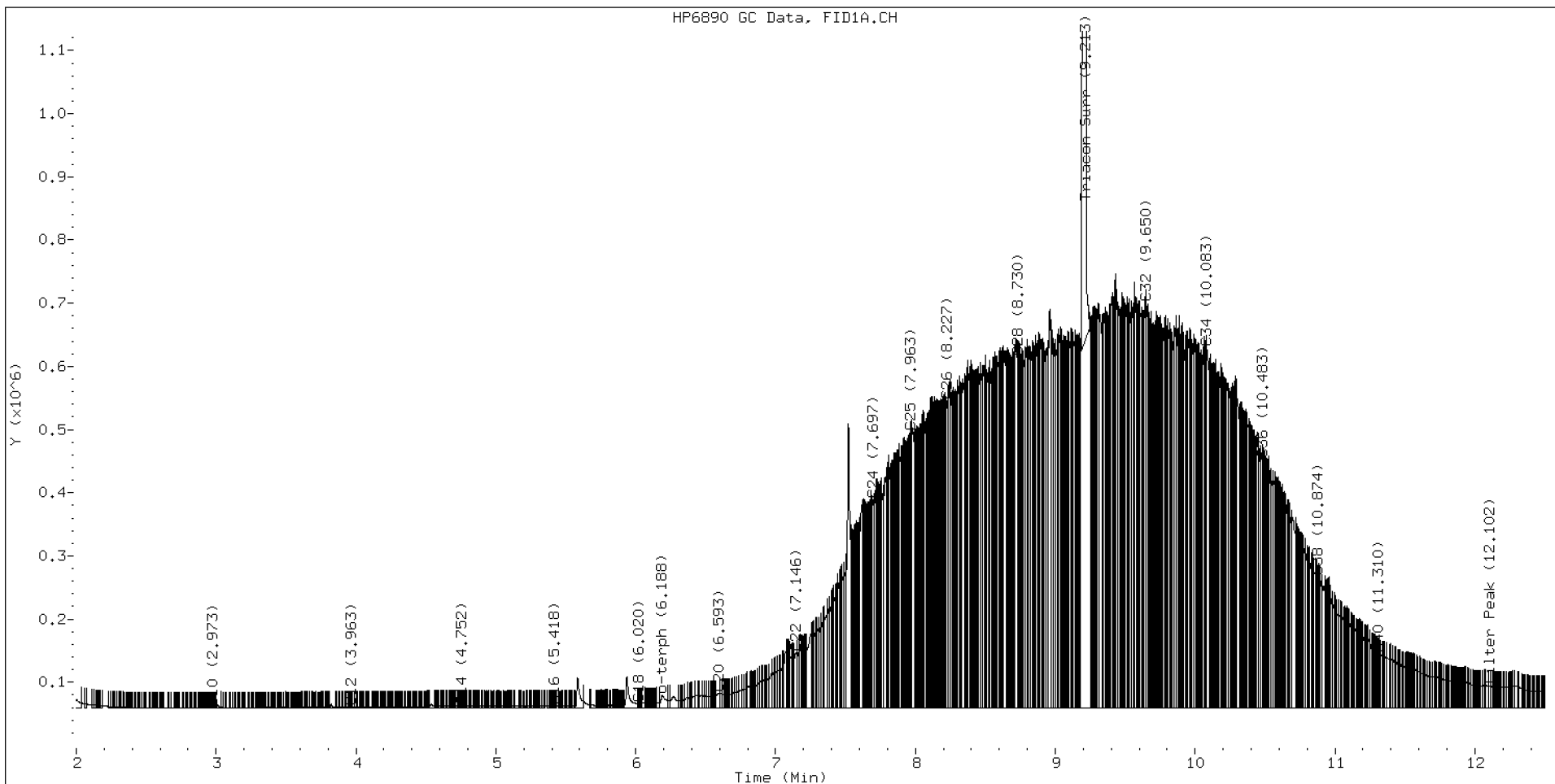
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.828	-0.037	23147	95258	WATPHD	(C12-C24)	9821763	61.6
C10	2.973	0.003	762	428	WATPHM	(C24-C38)	94166479	930.8
C12	3.963	-0.001	2038	971	AK102	(C10-C25)	13507446	69.1
C14	4.752	0.004	3488	2027	AK103	(C25-C36)	84431525	1153.3
C16	5.418	0.004	3420	1666	OR.DIES	(C10-C28)	39145078	199.7
C18	6.020	0.007	7617	1900				
C20	6.593	0.008	24379	38508	JET-A	(C10-C18)	615923	3.7
C22	7.146	-0.002	88019	122450				
C24	7.697	0.003	330927	305957				
C25	7.963	0.001	437650	299662				
C26	8.227	0.002	486151	263716				
C28	8.730	0.001	556379	138570				
C32	9.650	-0.007	641020	533941				
C34	10.083	0.001	571205	689683				
Filter Peak	12.102	0.004	35131	26225	BUNKERC	(C10-C38)	104075713	2636.3
C36	10.483	-0.001	394701	175789				
C38	10.874	0.001	208185	72023				
C40	11.310	-0.003	85936	46774				
o-terph	6.188	-0.011	20455	51425				
Triacon Surr	9.213	-0.016	7321247	7122409	NAS DIES	(C10-C24)	9909234	50.8

Range Times: NW Diesel(3.964 - 7.694) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.87) AK103(7.96 - 10.48) OR Diesel(2.97 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	51425	0.3
Triacontane	7122409	48.0 M

M Indicates the peak was manually integrated

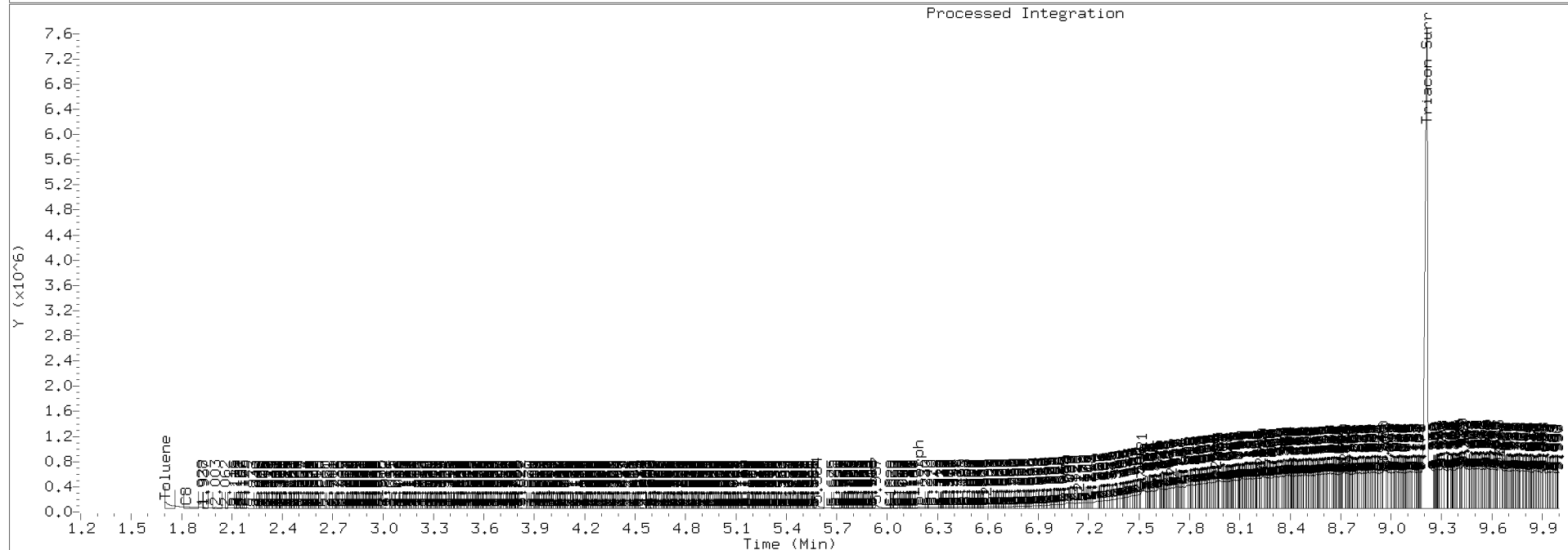
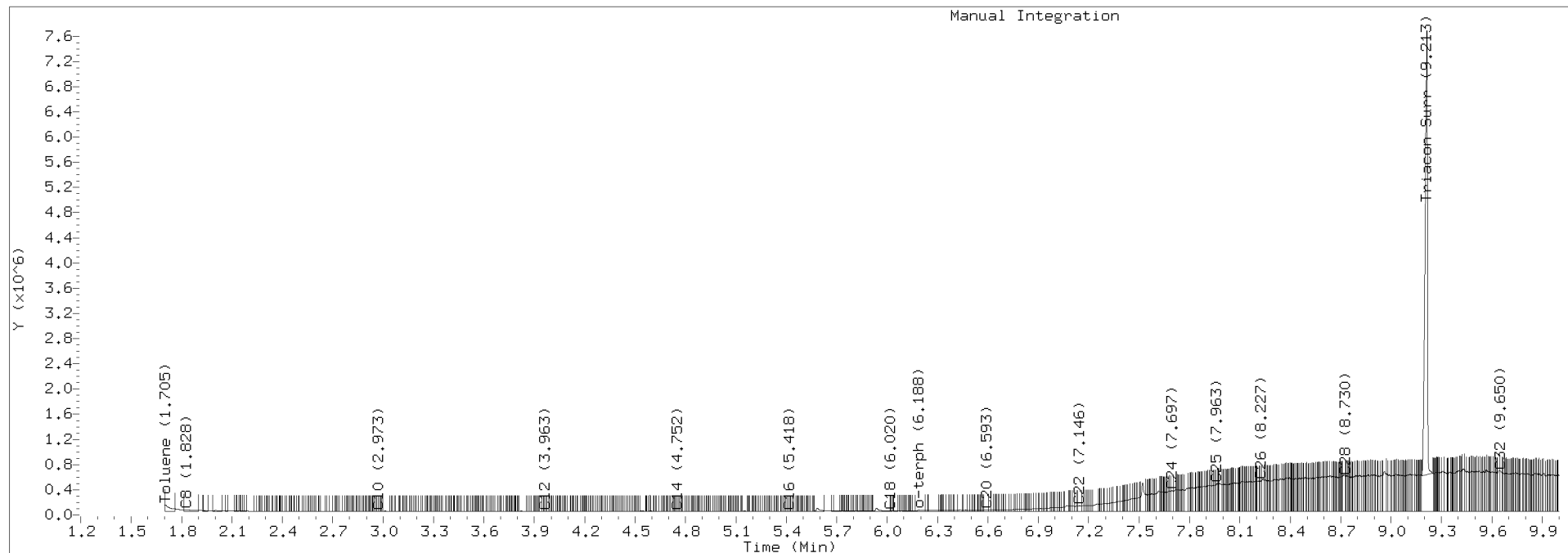
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201127.b/420K2778.D Injection: 28-NOV-2020 13:17

Lab ID:SIK0381-CCVC



Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2417.D
Date: 24-NOV-2020 13:05

Client ID:

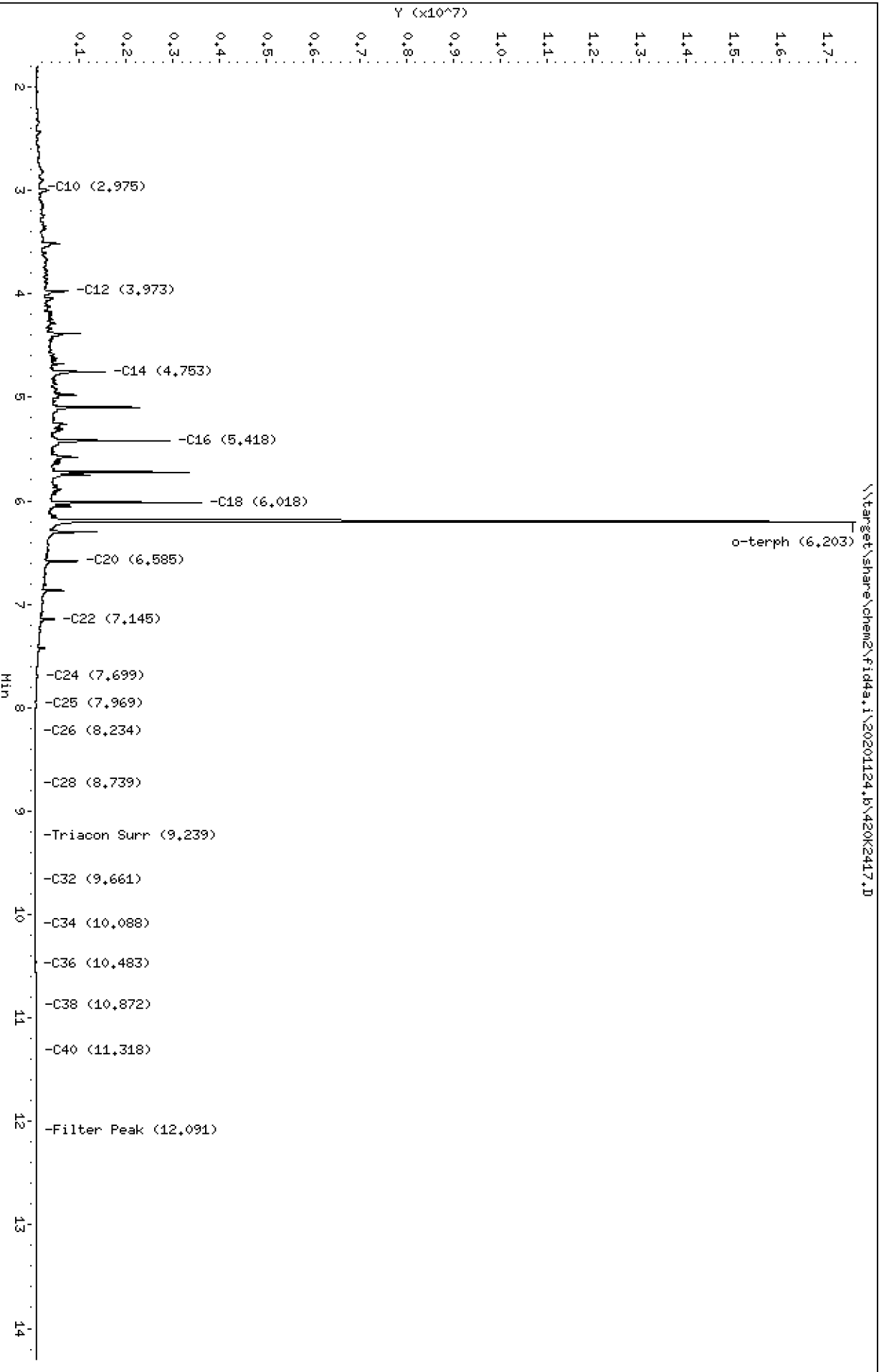
Sample Info: SEQ-CV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2417.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV1
Client ID:
Injection: 24-NOV-2020 13:05
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

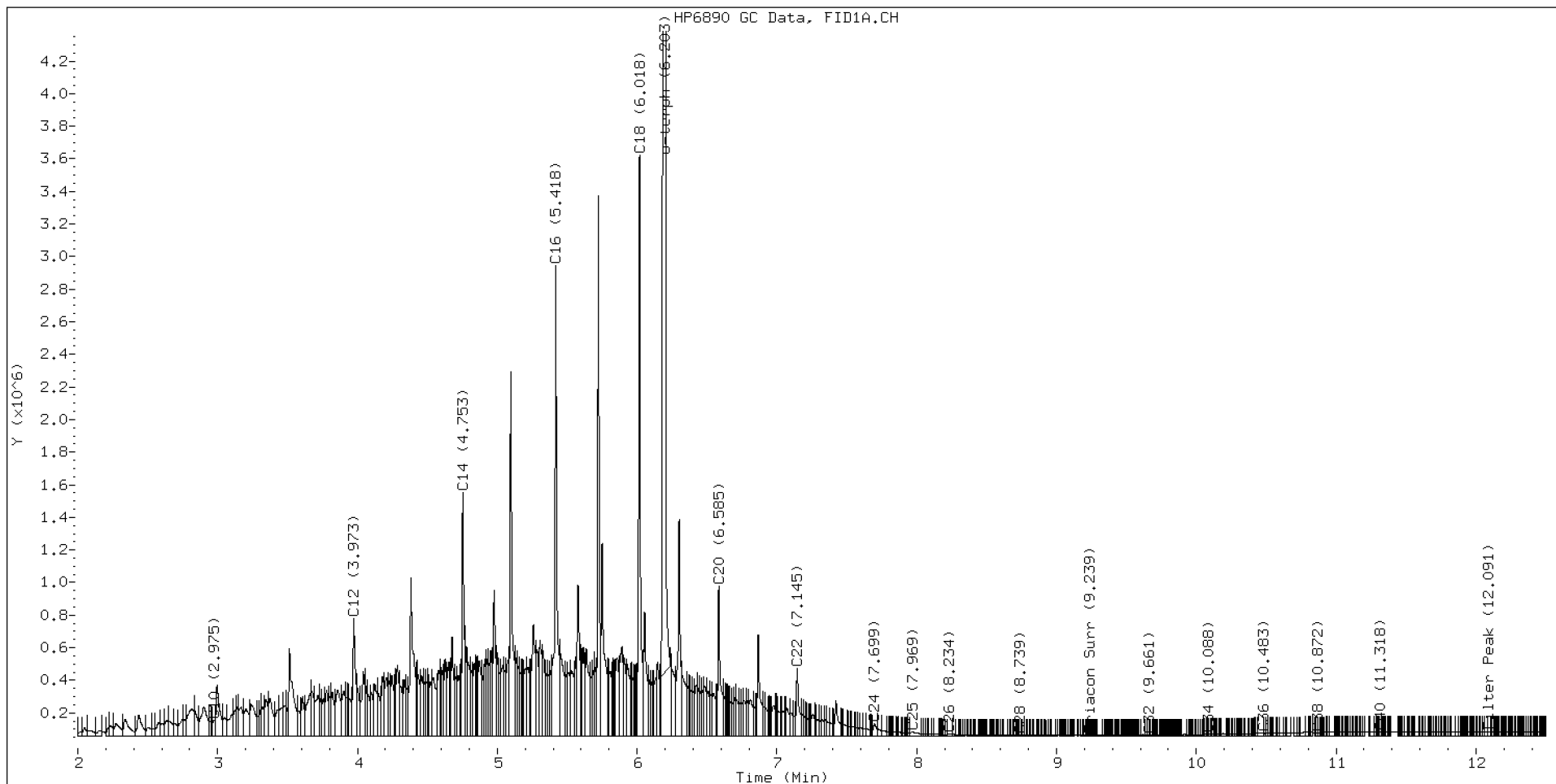
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.880	-0.012	30583	29678	WATPHD	(C12-C24)	76503105	480.1
C10	2.975	-0.006	93829	93170	WATPHM	(C24-C38)	1336211	13.2
C12	3.973	0.002	717338	1000107	AK102	(C10-C25)	89190363	456.2
C14	4.753	-0.000	1493243	1334457	AK103	(C25-C36)	745299	10.2
C16	5.418	-0.002	2881451	3086929	OR.DIES	(C10-C28)	89474667	456.5
C18	6.018	-0.002	3559385	3093325				
C20	6.585	-0.005	914580	1095675	JET-A	(C10-C18)	68882685	415.3
C22	7.145	-0.008	413897	527036				
C24	7.699	-0.001	73486	124952				
C25	7.969	0.000	24848	81492				
C26	8.234	0.004	8777	16368				
C28	8.739	0.005	1223	999				
C32	9.661	-0.001	3268	811				
C34	10.088	0.001	7005	2423				
Filter Peak	12.091	0.002	22013	32708	BUNKERC	(C10-C38)	90317323	2287.8
C36	10.483	-0.005	13302	10470				
C38	10.872	-0.005	18560	15687				
C40	11.318	0.002	21913	19348				
o-terph	6.203	-0.001	17156626	17871987				
Triacon Surr	9.239	0.002	833	383	NAS DIES	(C10-C24)	88981113	456.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	17871987	87.3 M
Triacontane	383	0.0

M Indicates the peak was manually integrated

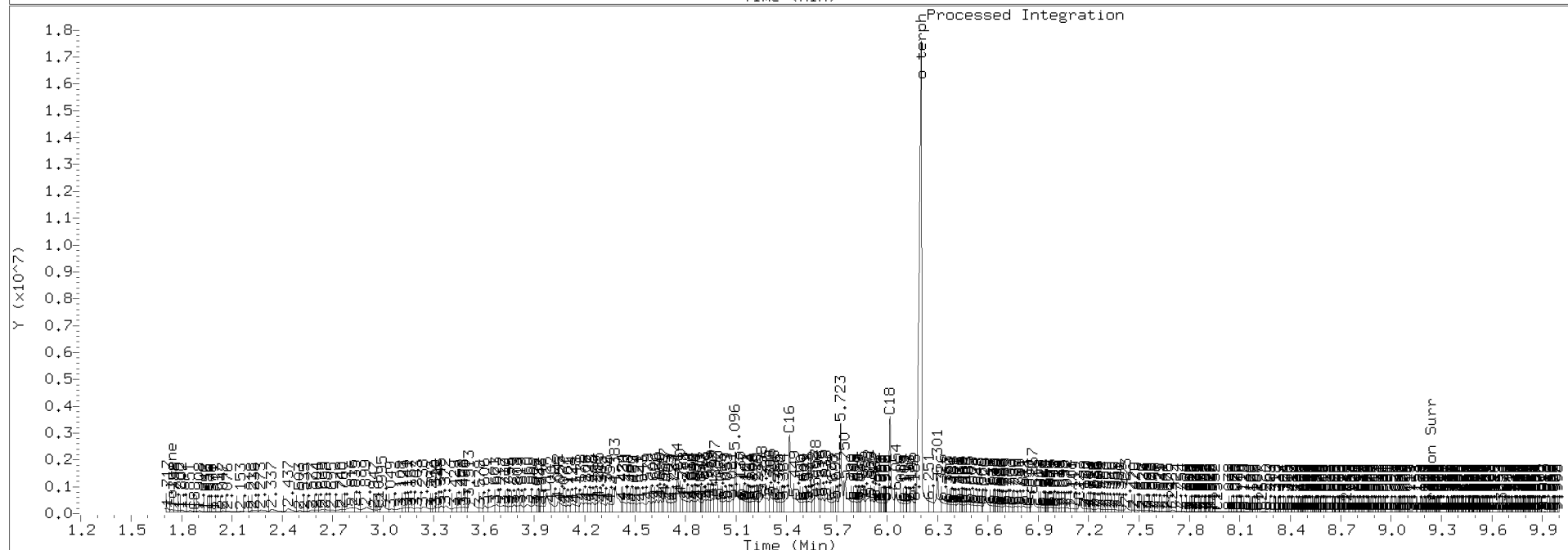
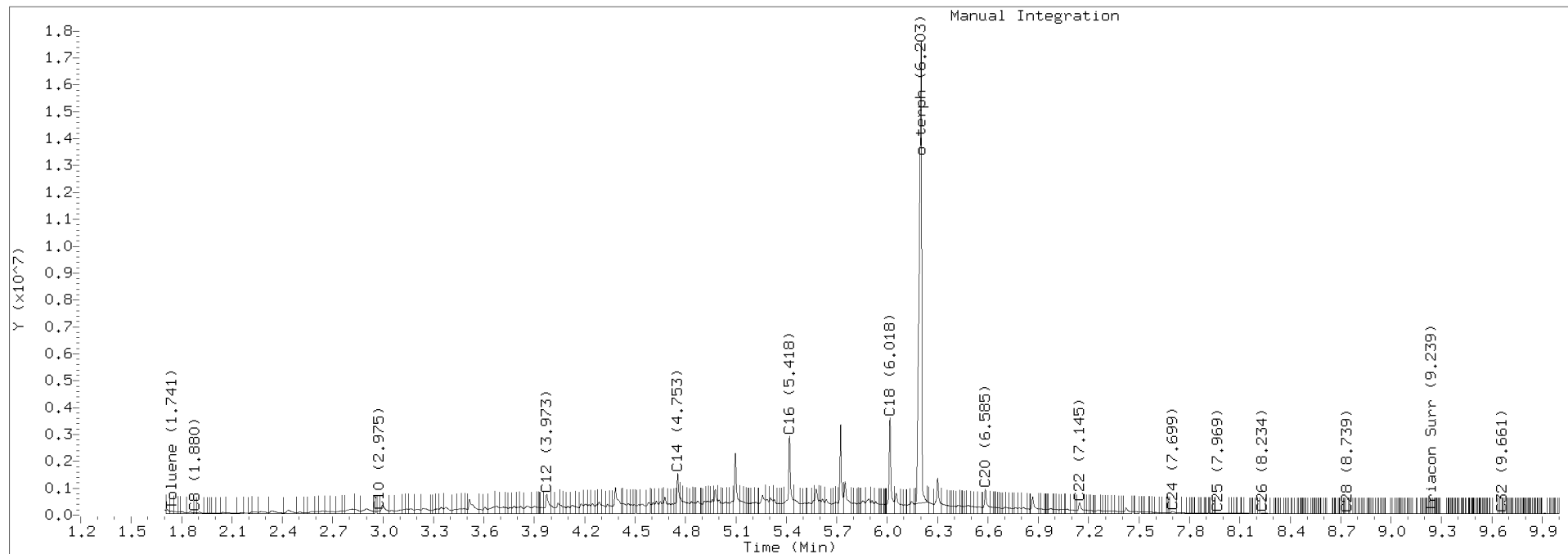
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2417.D Injection: 24-NOV-2020 13:05

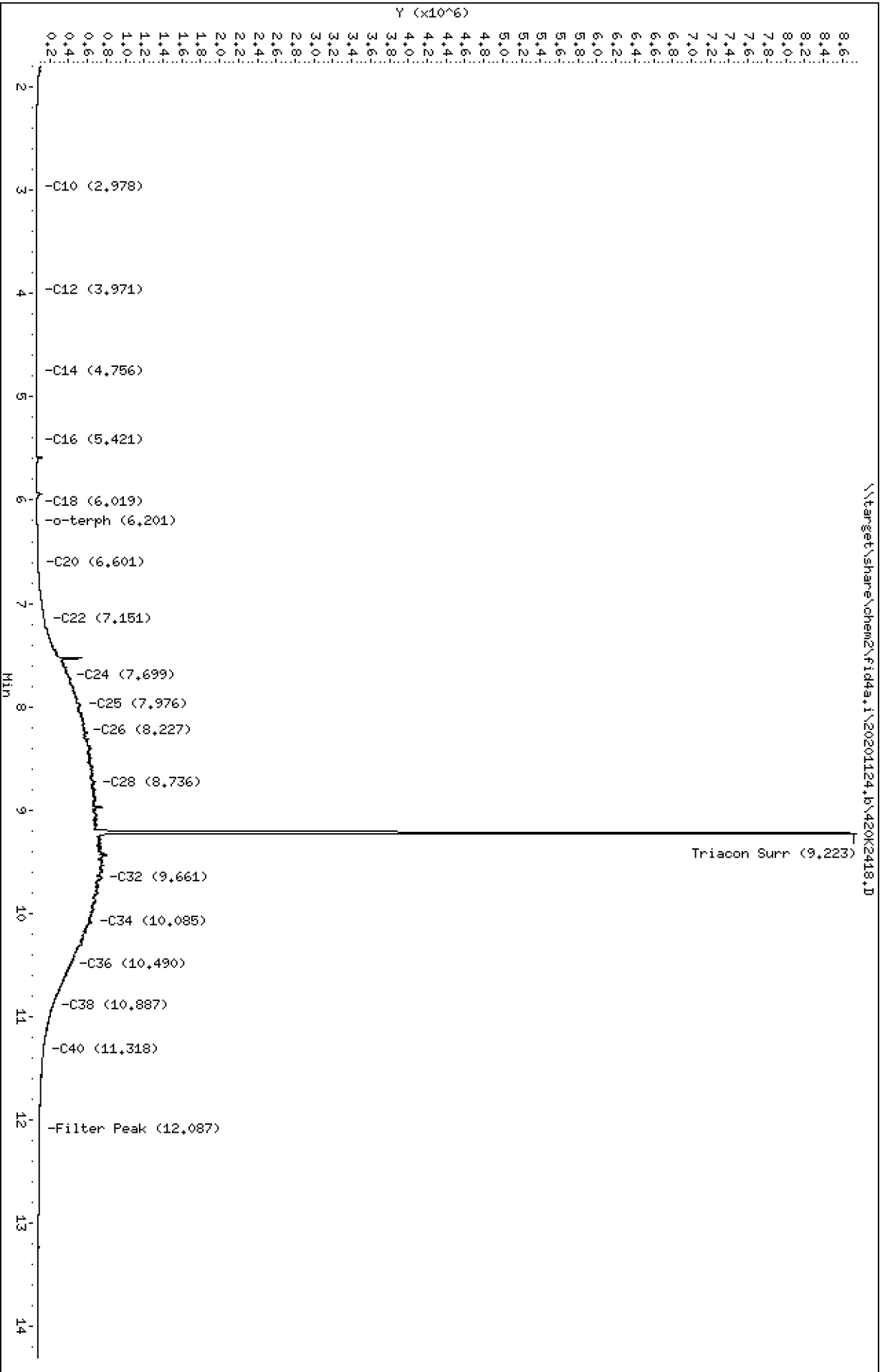
Lab ID:SEQ-CCV1



Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2418.D
Date: 24-NOV-2020 13:26
Client ID:
Sample Info: SEQ-OCV2

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2418.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV2
Client ID:
Injection: 24-NOV-2020 13:26
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

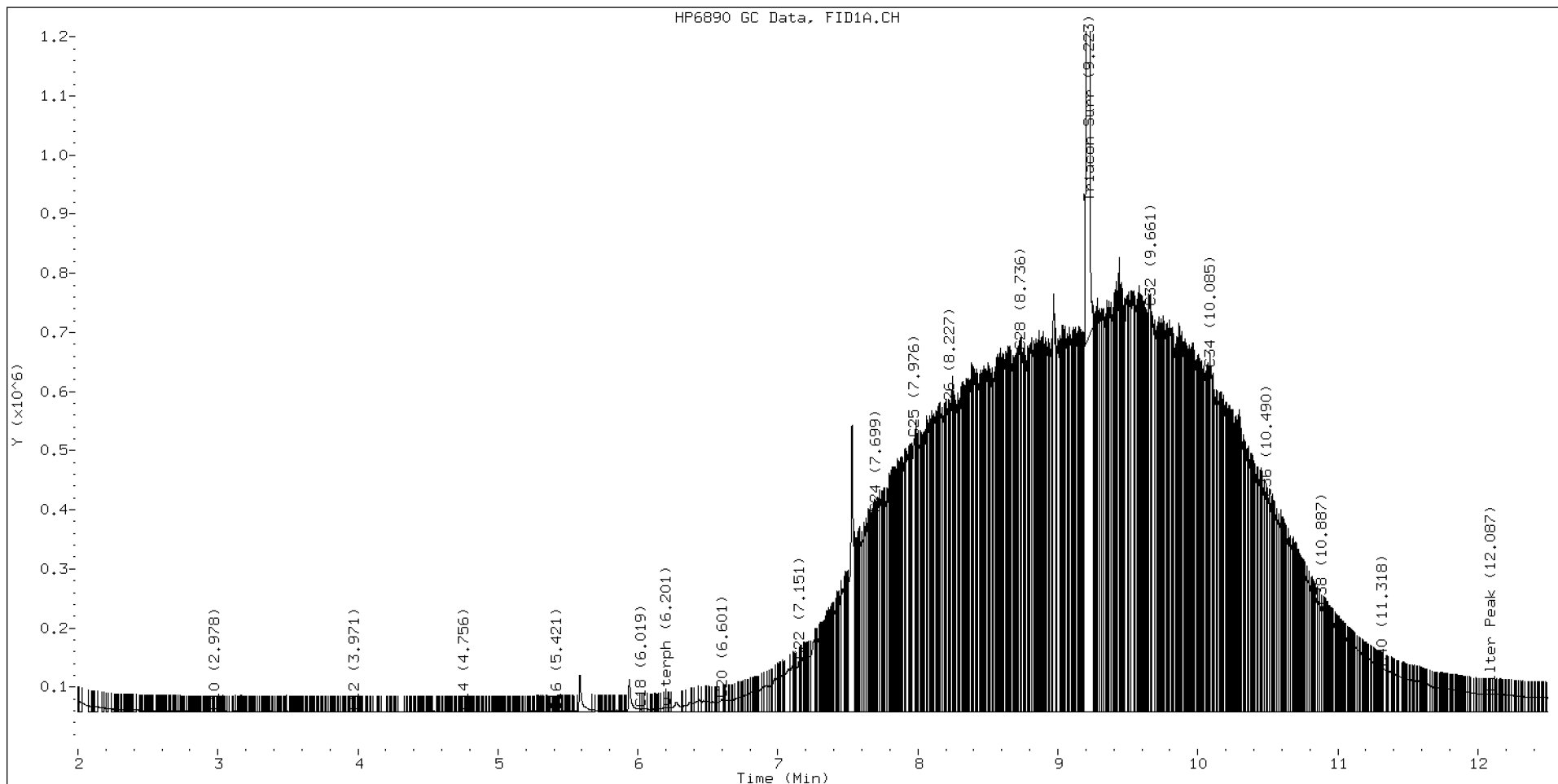
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.852	-0.040	43566	174464	WATPHD	(C12-C24)	9582391	60.1
C10	2.978	-0.003	952	573	WATPHM	(C24-C38)	98664605	975.3
C12	3.971	0.000	415	136	AK102	(C10-C25)	13506729	69.1
C14	4.756	0.002	796	399	AK103	(C25-C36)	89141376	1217.7
C16	5.421	0.000	1206	349	OR.DIES	(C10-C28)	40950439	208.9
C18	6.019	-0.001	4815	2861				
C20	6.601	0.010	20998	39008	JET-A	(C10-C18)	330956	2.0
C22	7.151	-0.002	87078	112513				
C24	7.699	-0.002	334676	83205				
C25	7.976	0.007	462615	493248				
C26	8.227	-0.003	508232	200928				
C28	8.736	0.002	610147	152127				
C32	9.661	-0.001	685127	565530				
C34	10.085	-0.002	580433	286271				
Filter Peak	12.087	-0.002	30224	13494	BUNKERC	(C10-C38)	108295622	2743.2
C36	10.490	0.002	362555	90161				
C38	10.887	0.010	178990	182795				
C40	11.318	0.002	74789	44290				
o-terph	6.201	-0.003	7145	5902				
Triacon Surr	9.223	-0.014	8056838	7784757	NAS DIES	(C10-C24)	9631018	49.4

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	5902	0.0
Triacontane	7784757	52.5 M

M Indicates the peak was manually integrated

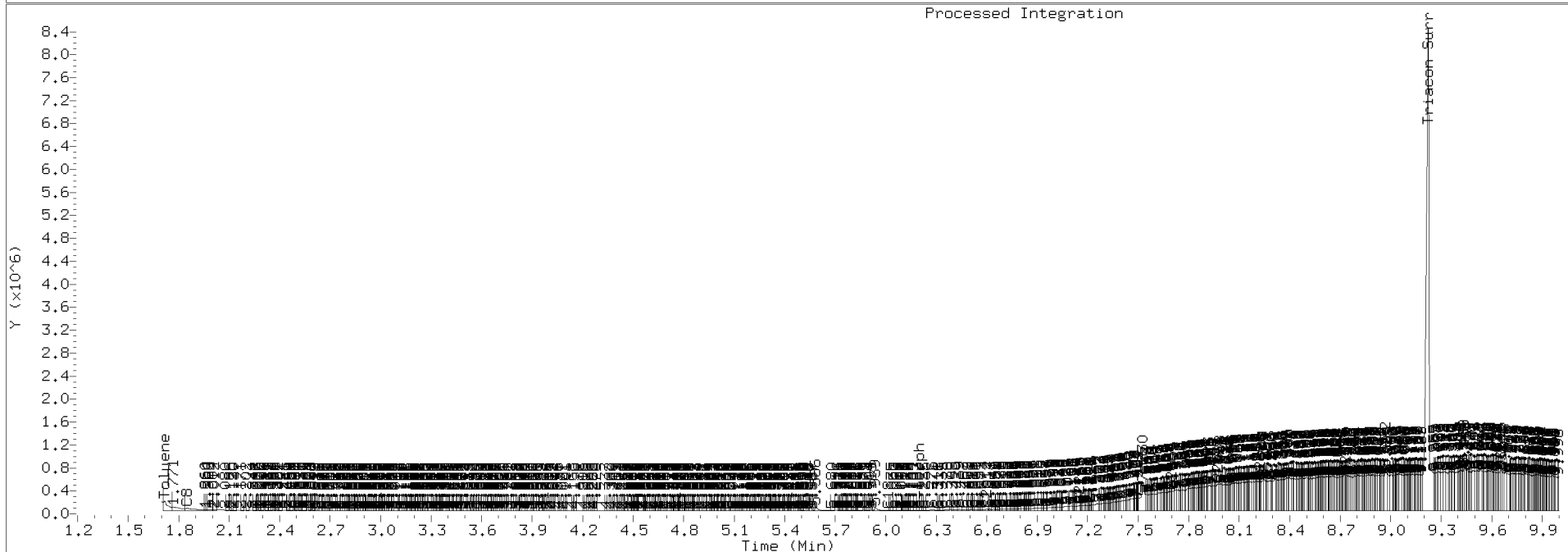
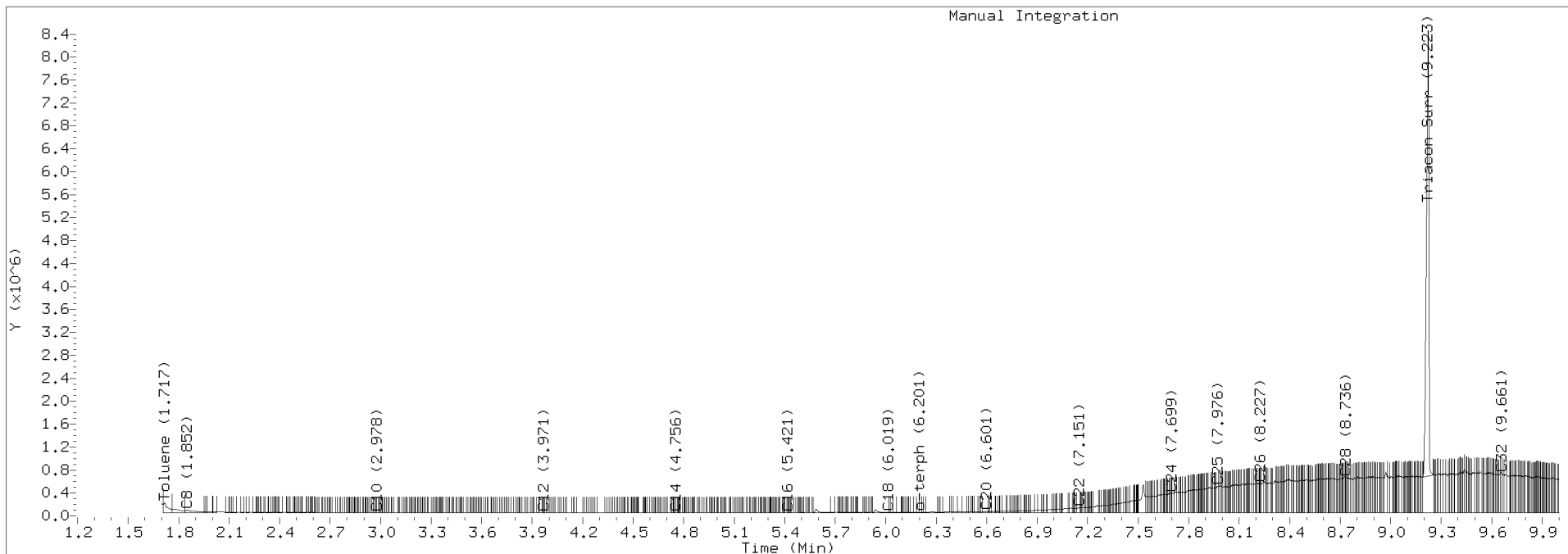
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2418.D Injection: 24-NOV-2020 13:26

Lab ID:SEQ-CCV2



Data File: \\target\share\chem2\fid4a,1\20201124,8\420K2434.D
Date: 24-NOV-2020 18:52

Client ID:

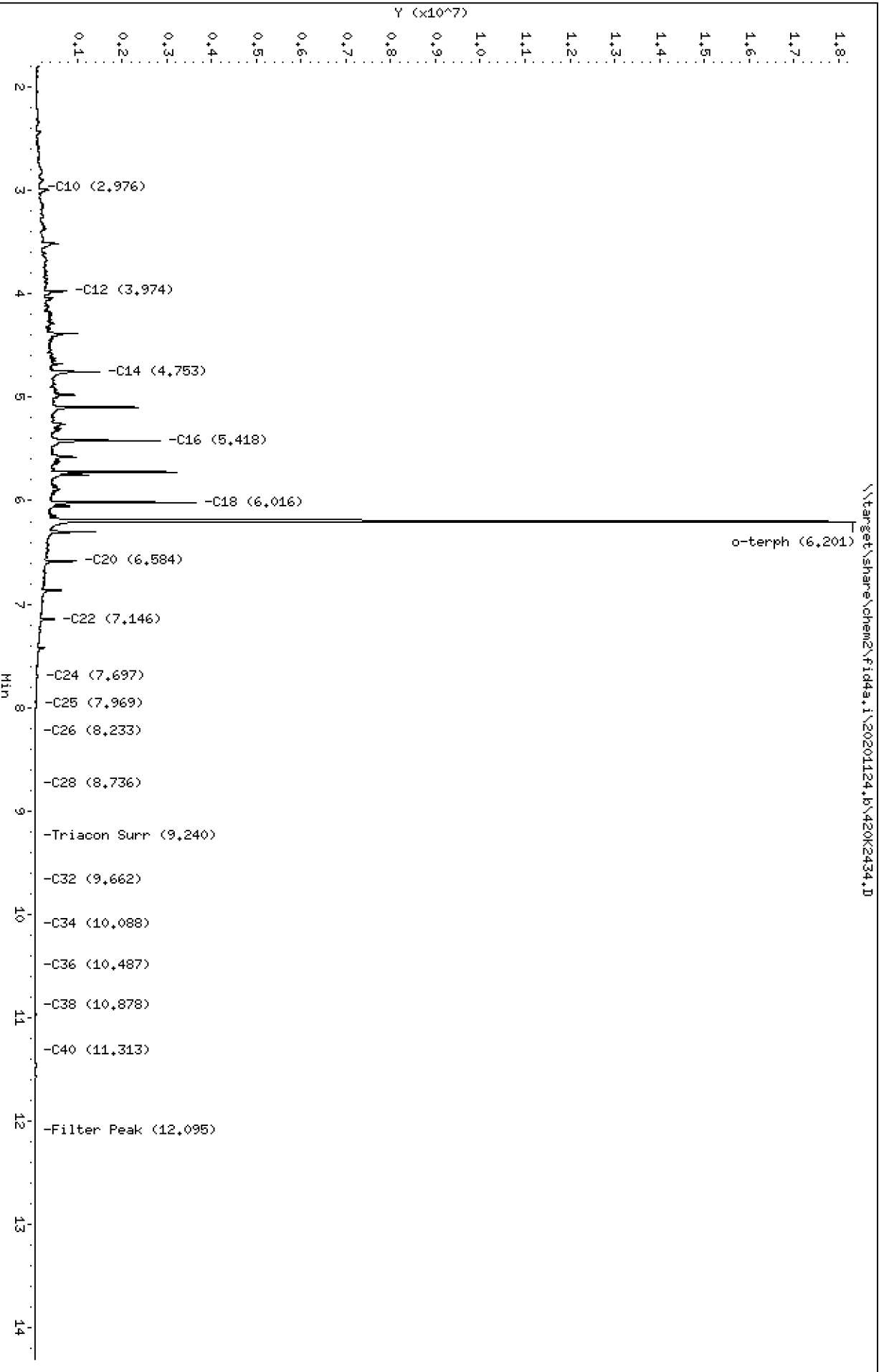
Sample Info: SEQ-CCV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2434.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV3
Client ID:
Injection: 24-NOV-2020 18:52
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

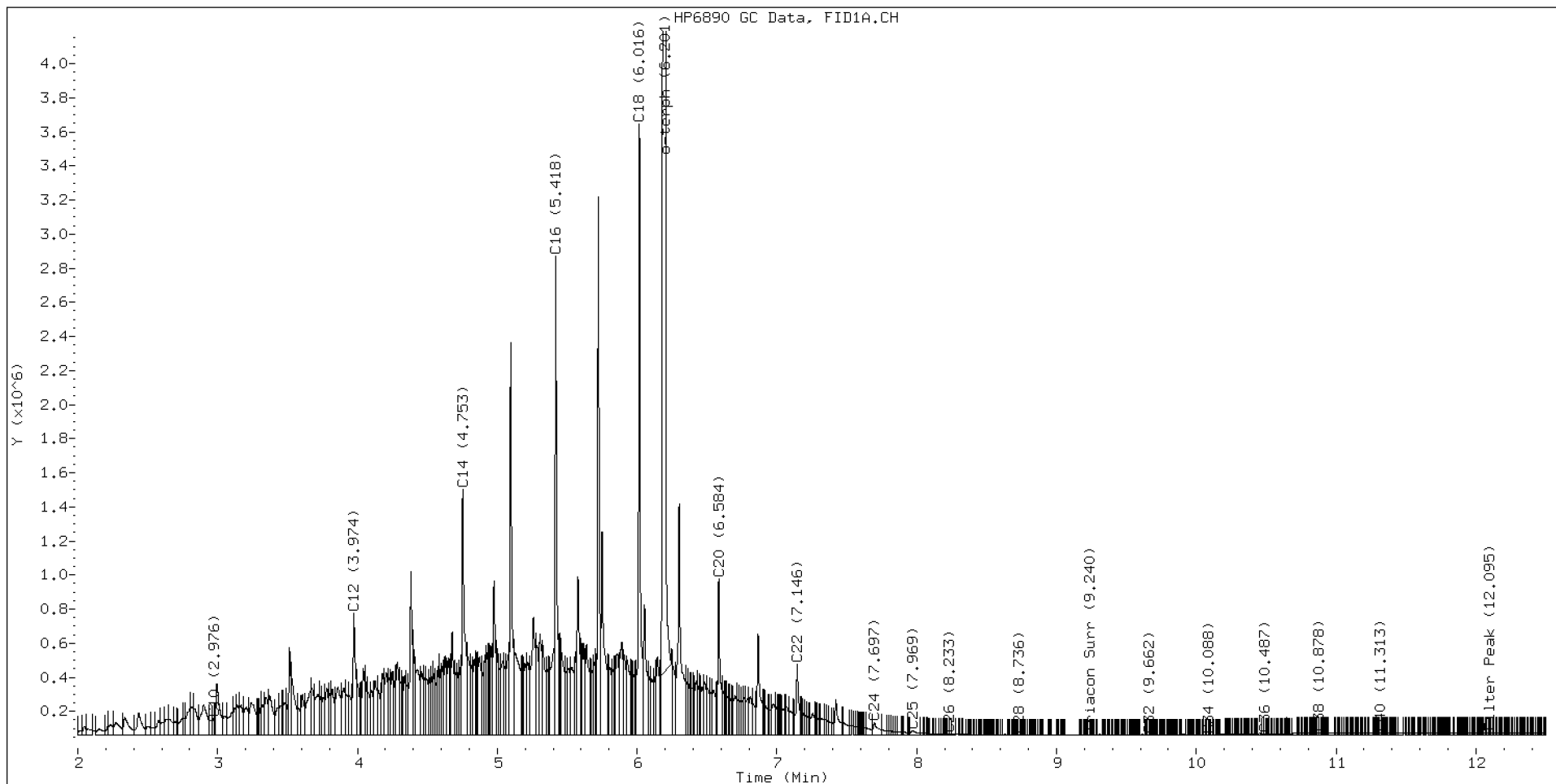
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.906	0.013	55579	103742	WATPHD	(C12-C24)	77358749	485.5
C10	2.976	-0.006	98169	39100	WATPHM	(C24-C38)	1057698	10.5
C12	3.974	0.002	713304	975351	AK102	(C10-C25)	90398919	462.4
C14	4.753	-0.001	1439918	1878193	AK103	(C25-C36)	559659	7.6
C16	5.418	-0.003	2808885	2482141	OR.DIES	(C10-C28)	90692120	462.7
C18	6.016	-0.003	3586358	3200790				
C20	6.584	-0.007	918190	1047094	JET-A	(C10-C18)	70040788	422.3
C22	7.146	-0.008	419162	548920				
C24	7.697	-0.003	72517	182439				
C25	7.969	-0.000	24213	79968				
C26	8.233	0.002	9064	7656				
C28	8.736	0.002	1200	565				
C32	9.662	-0.000	1494	935				
C34	10.088	0.002	3655	1092				
Filter Peak	12.095	0.006	14758	2949	BUNKERC	(C10-C38)	91218087	2310.7
C36	10.487	-0.001	8448	7078				
C38	10.878	0.001	12424	3718				
C40	11.313	-0.003	14635	10203				
o-terph	6.201	-0.003	17940523	18066335				
Triacon Surr	9.240	0.002	338	135	NAS DIES	(C10-C24)	90160390	462.0

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	18066335	88.3 M
Triacontane	135	0.0

M Indicates the peak was manually integrated

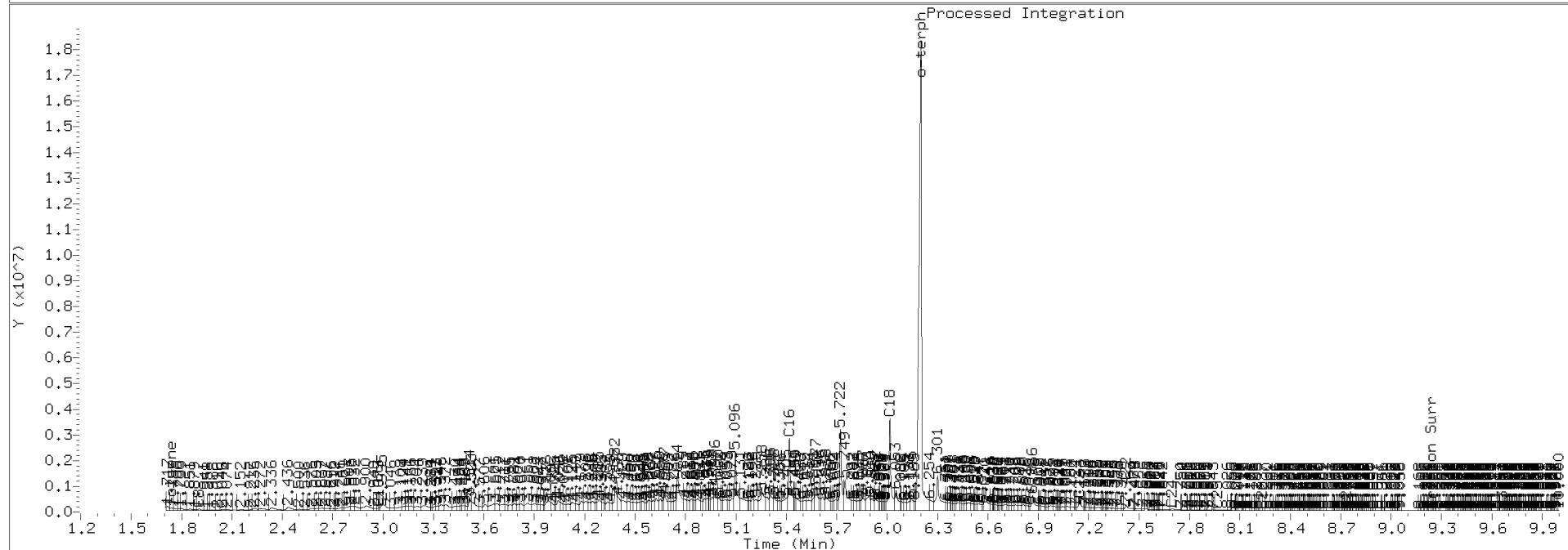
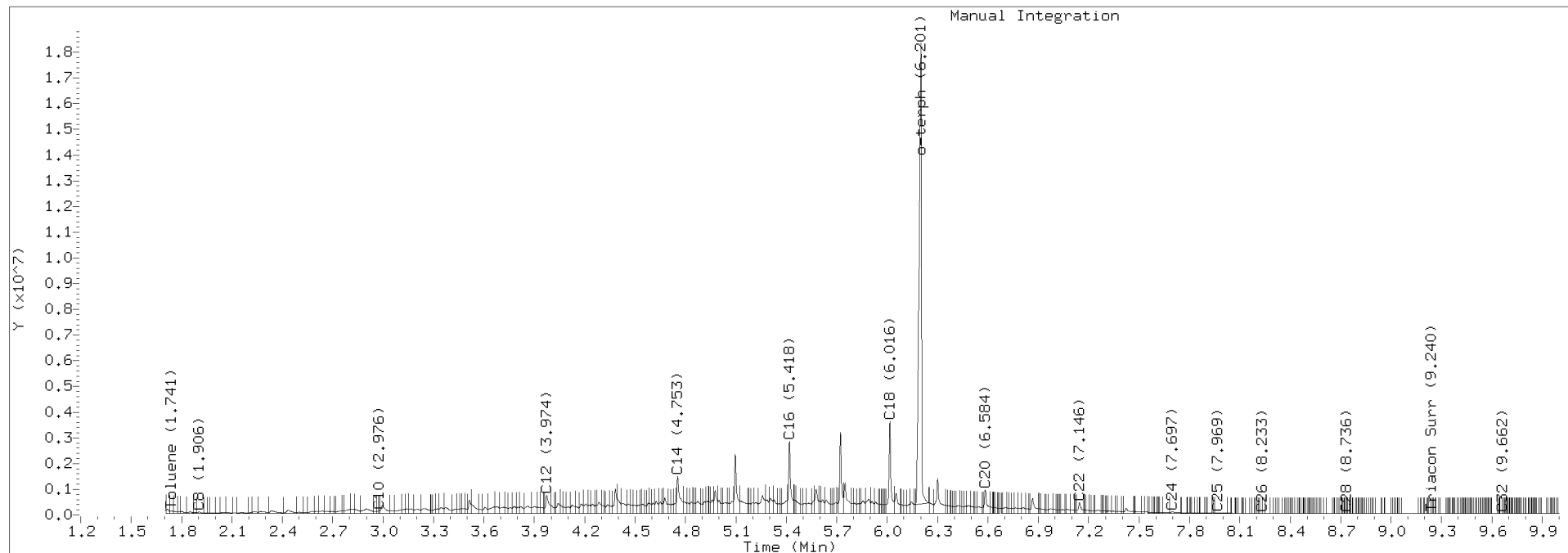
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2434.D Injection: 24-NOV-2020 18:52

Lab ID:SEQ-CCV3





CONTINUING CALIBRATION CHECK NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420K2435.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0016</u>	Injection Date:	<u>11/24/20</u>
Lab Sample ID:	<u>SIL0016-CCV4</u>	Injection Time:	<u>19:12</u>
Sequence Name:	<u>MOIL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	946	101166	95708.31		-5.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201124,b\420K2435.D
Date: 24-NOV-2020 19:12

Client ID:

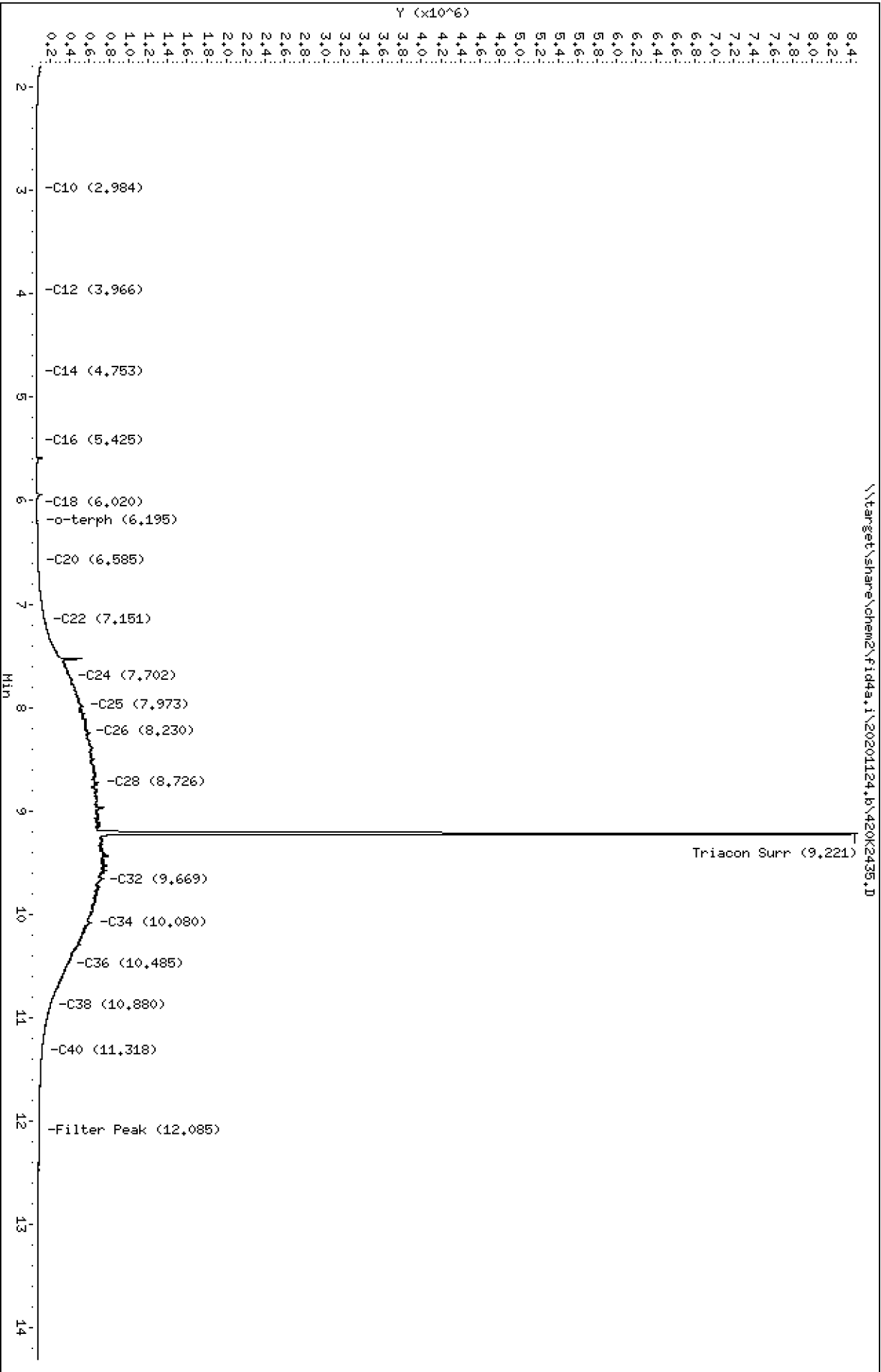
Sample Info: SEQ-CCV4

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201124.b/420K2435.D
Method: 20201124.b\FID4TPH.m
Instrument: fid4a.i, JGR
Report Date: 12/01/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SEQ-CCV4
Client ID:
Injection: 24-NOV-2020 19:12
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

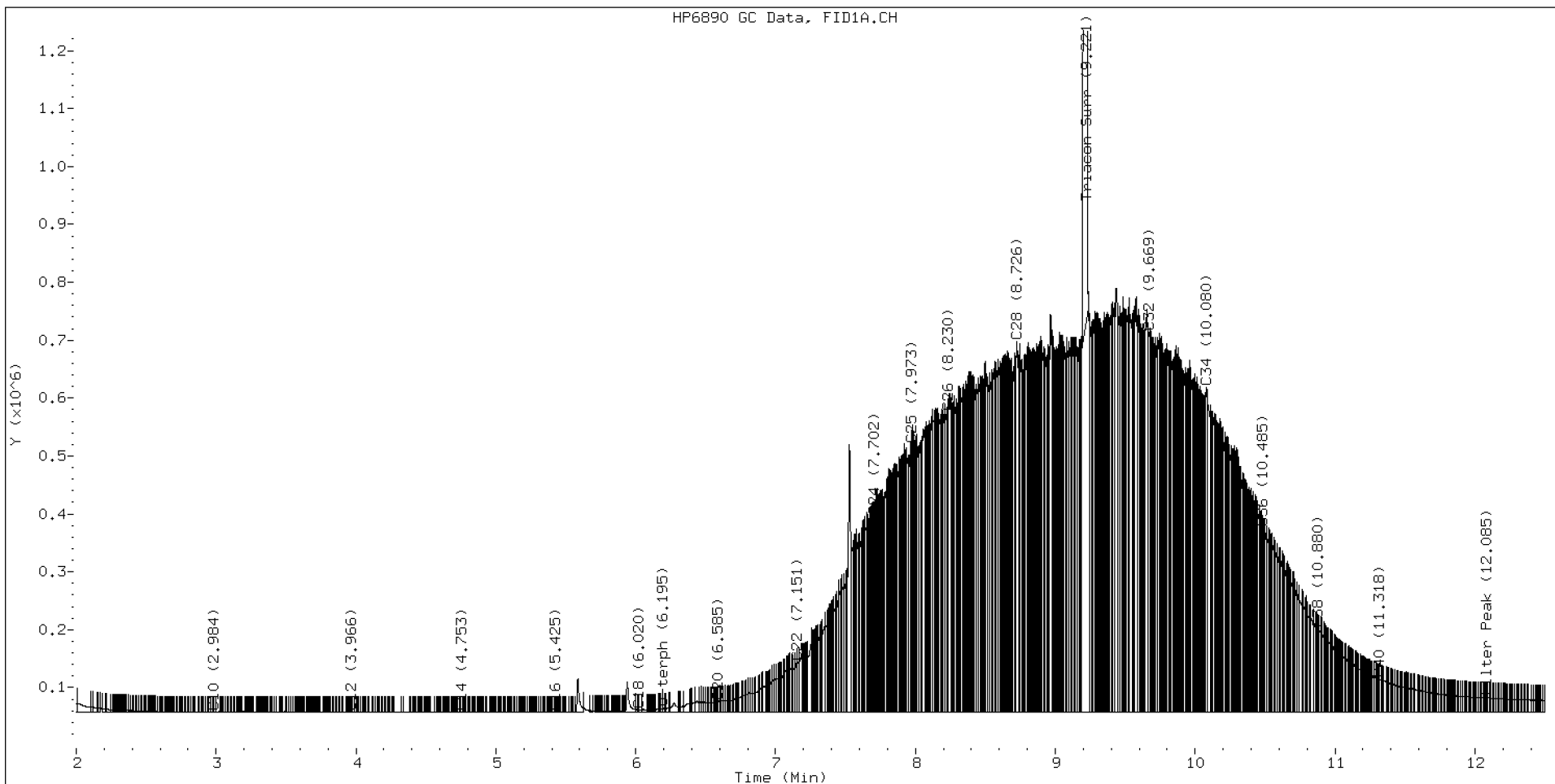
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.853	-0.039	40073	158451	WATPHD	(C12-C24)	9681917	60.8
C10	2.984	0.002	892	252	WATPHM	(C24-C38)	95708311	946.1
C12	3.966	-0.005	387	143	AK102	(C10-C25)	13635523	69.8
C14	4.753	-0.001	770	518	AK103	(C25-C36)	87106914	1189.9
C16	5.425	0.004	902	448	OR.DIES	(C10-C28)	41388691	211.2
C18	6.020	-0.000	4699	2306				
C20	6.585	-0.006	17830	8662	JET-A	(C10-C18)	287021	1.7
C22	7.151	-0.002	86775	97702				
C24	7.702	0.002	338710	84484				
C25	7.973	0.004	462675	295258				
C26	8.230	-0.000	517936	255835				
C28	8.726	-0.008	640726	824350				
C32	9.669	0.007	656652	520943				
C34	10.080	-0.006	561226	650788				
Filter Peak	12.085	-0.004	25191	13812	BUNKERC	(C10-C38)	105437024	2670.8
C36	10.485	-0.003	318521	188880				
C38	10.880	0.002	143844	56923				
C40	11.318	0.002	57742	45395				
o-terph	6.195	-0.009	7056	6879				
Triacon Surr	9.221	-0.016	7735934	7660809	NAS DIES	(C10-C24)	9728713	49.9

Range Times: NW Diesel(3.971 - 7.701) AK102(2.98 - 7.97) Jet A(2.98 - 6.02)
NW M.Oil(7.70 - 10.88) AK103(7.97 - 10.49) OR Diesel(2.98 - 8.73)

Surrogate	Area	Amount
o-Terphenyl	6879	0.0
Triacontane	7660809	51.6 M

M Indicates the peak was manually integrated

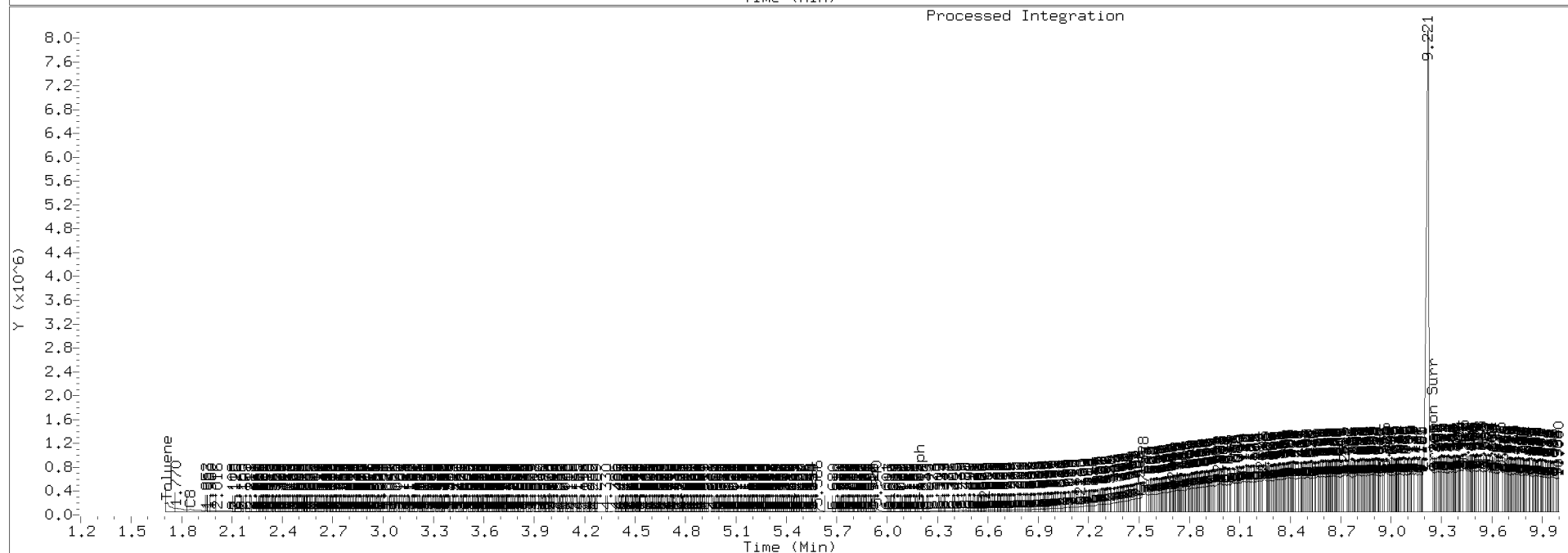
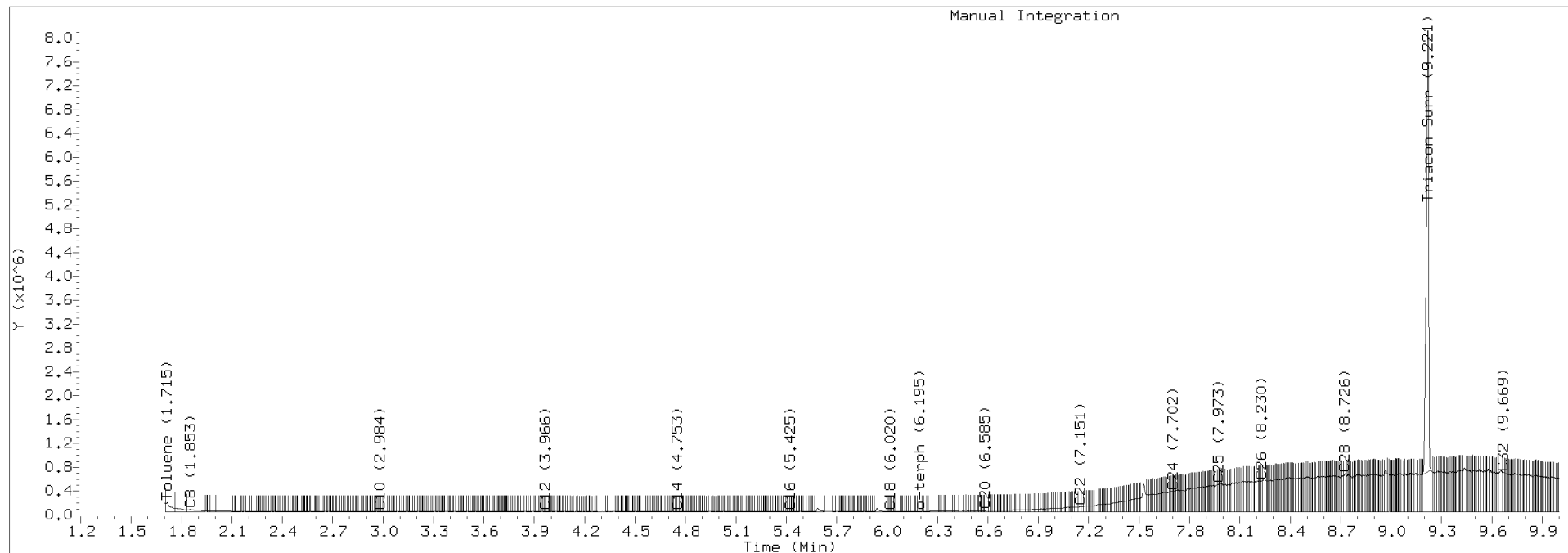
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201124.b/420K2435.D Injection: 24-NOV-2020 19:12

Lab ID:SEQ-CCV4





CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>20K0126</u>
Client: <u>Dalton, Olmsted & Fuglevand, Inc</u>	Project: <u>ICS-Former NW Cooperage</u>
Instrument ID: <u>FID4</u>	Calibration: <u>DA00022</u>
Lab File ID: <u>420L0230.D</u>	Calibration Date: <u>10/25/2019</u>
Sequence: <u>SIL0020</u>	Injection Date: <u>12/02/20</u>
Lab Sample ID: <u>SIL0020-CCV1</u>	Injection Time: <u>18:48</u>
Sequence Name: <u>DIESEL CCV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	470	159336.7	149712.9		-6.0	+/-15
o-Terphenyl	A	90.000	83.7	204701.9	190409.7		-7.0	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201202,b\42010230.D

Date : 02-DEC-2020 18:48

Client ID:

Sample Info: SIL0020-CCV1

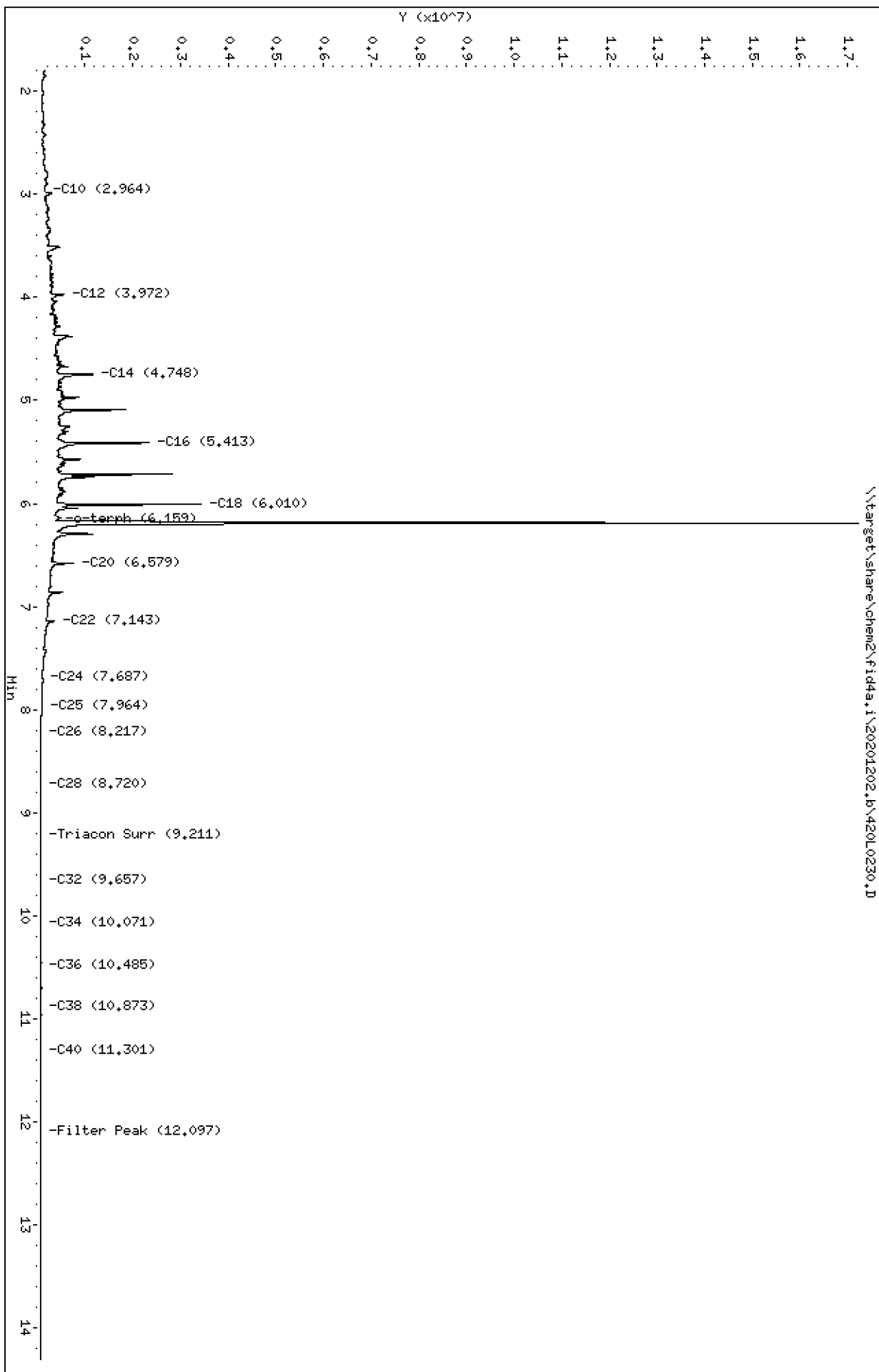
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0230.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV1
Client ID:
Injection: 02-DEC-2020 18:48
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

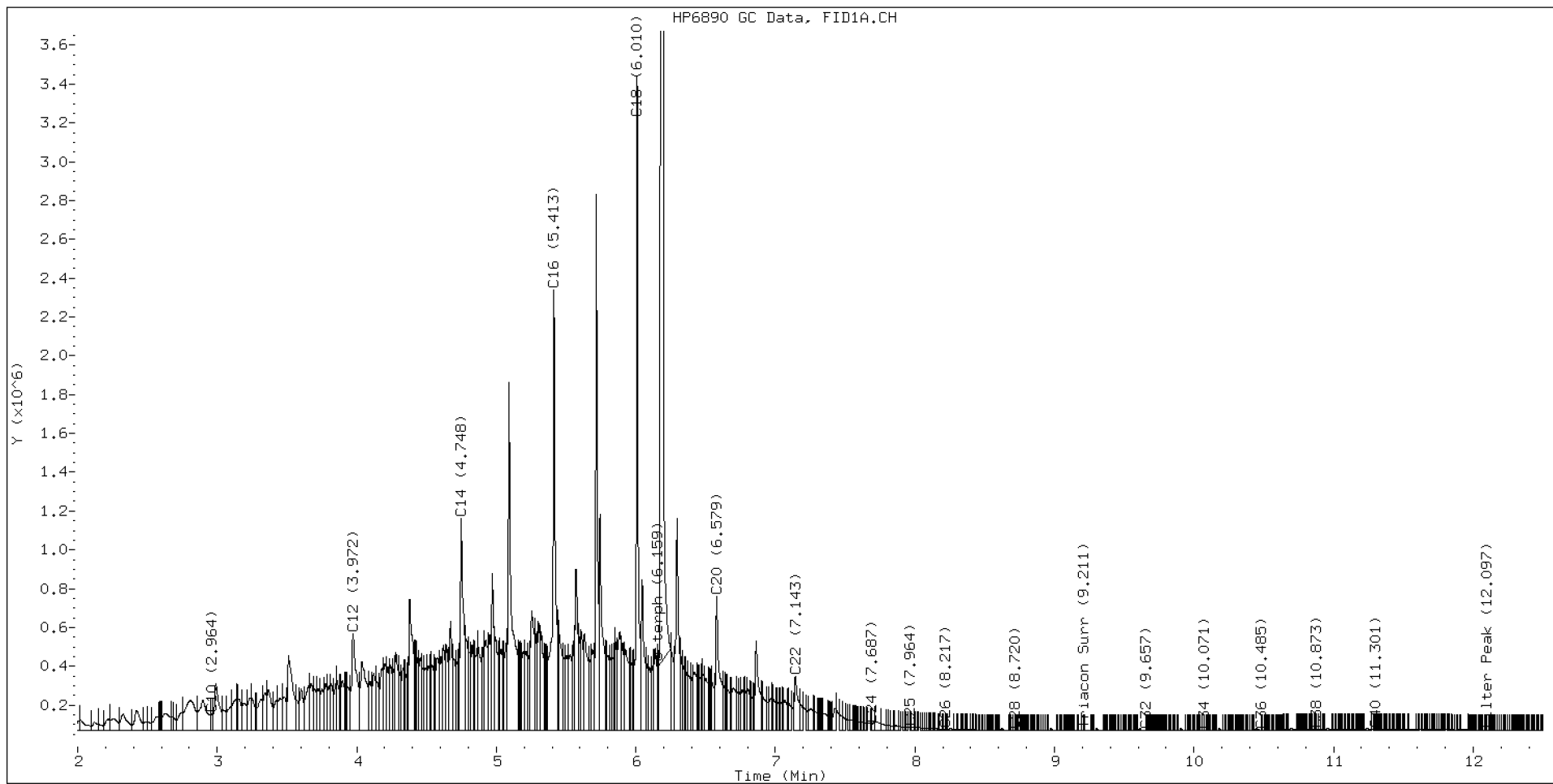
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.851	-0.031	118436	336889	WATPHD	(C12-C24)	74856430	469.8
C10	2.964	-0.010	87722	93589	WATPHM	(C24-C38)	930693	9.2
C12	3.972	0.006	499722	1237222	AK102	(C10-C25)	87005217	445.1
C14	4.748	-0.000	1095146	1743294	AK103	(C25-C36)	558337	7.6
C16	5.413	0.001	2272399	3245560	OR.DIES	(C10-C28)	87368283	445.8
C18	6.010	-0.000	3375025	3035014				
C20	6.579	-0.001	692024	1310237	JET-A	(C10-C18)	67427365	406.6
C22	7.143	0.001	279900	536582				
C24	7.687	-0.004	36786	18274				
C25	7.964	0.006	16649	6629				
C26	8.217	-0.001	8271	2448				
C28	8.720	-0.003	1994	687				
C32	9.657	0.010	931	342				
C34	10.071	0.002	1674	331				
Filter Peak	12.097	0.000	4632	1596	BUNKERC	(C10-C38)	87697518	2221.5
C36	10.485	0.011	4240	2090				
C38	10.873	-0.002	6001	1492				
C40	11.301	-0.002	6808	2701				
o-terph	6.194	-0.002	16789564	17136873				
Triacon Surr	9.211	-0.012	262	133	NAS DIES	(C10-C24)	86766824	444.6

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17136873	83.7 M
Triacontane	133	0.0

M Indicates the peak was manually integrated

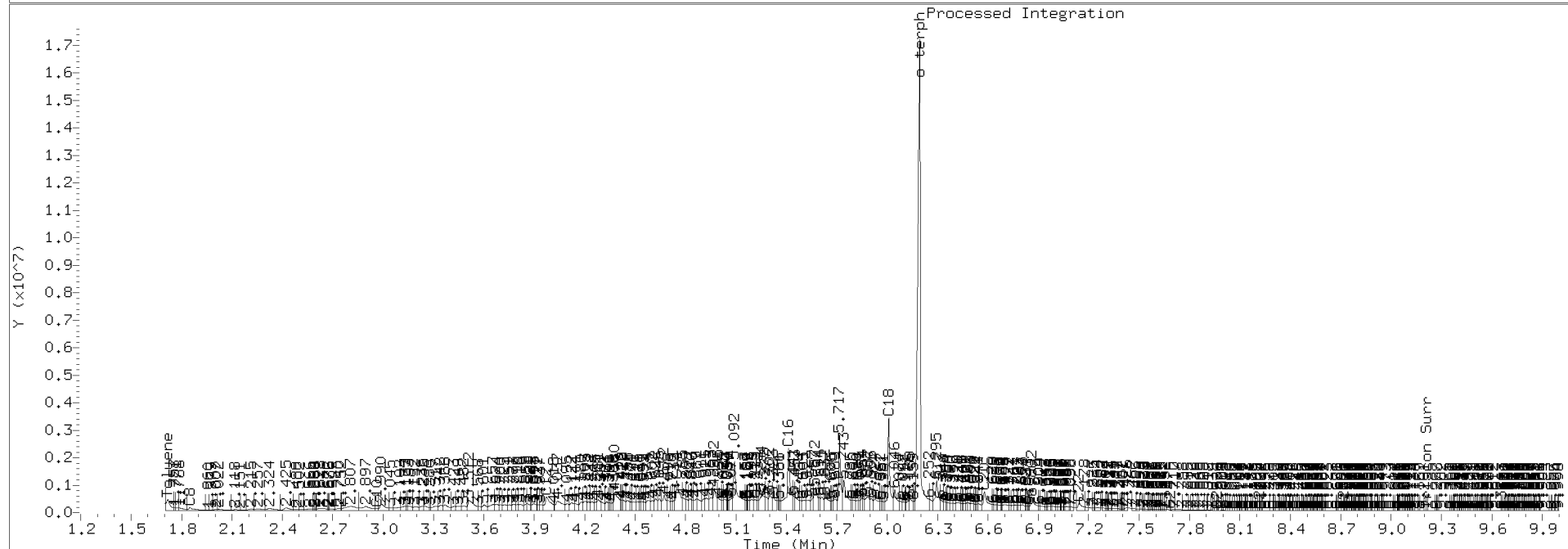
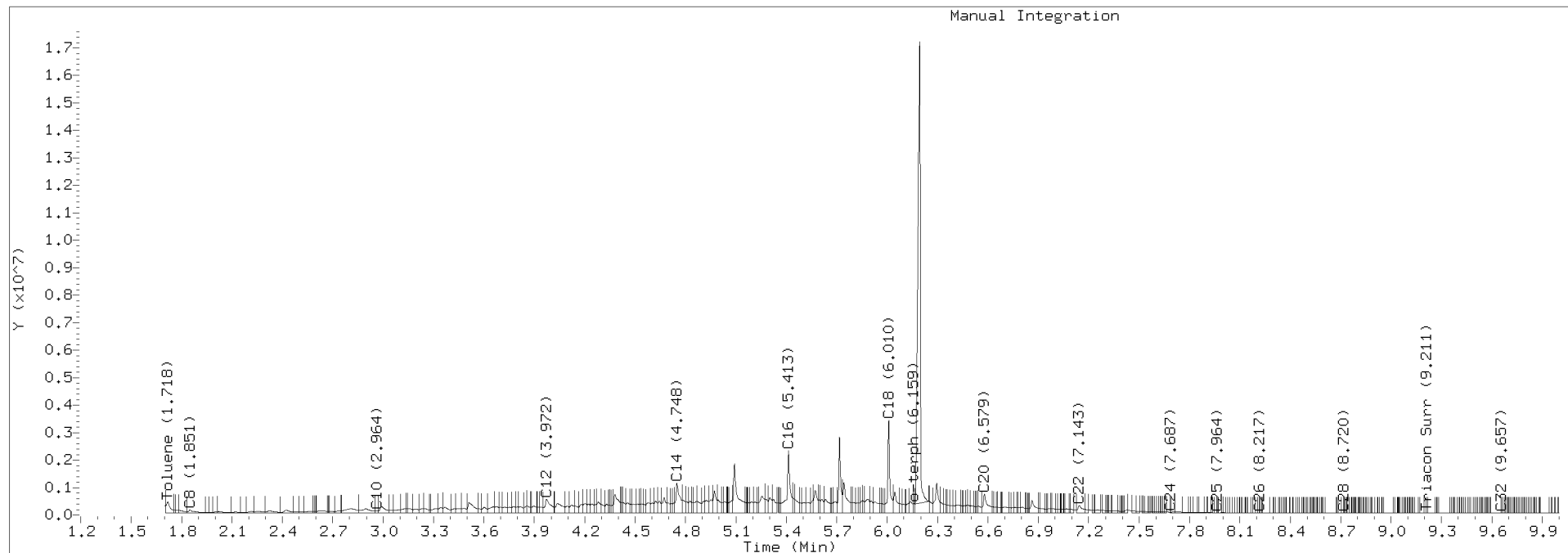
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0230.D Injection: 02-DEC-2020 18:48

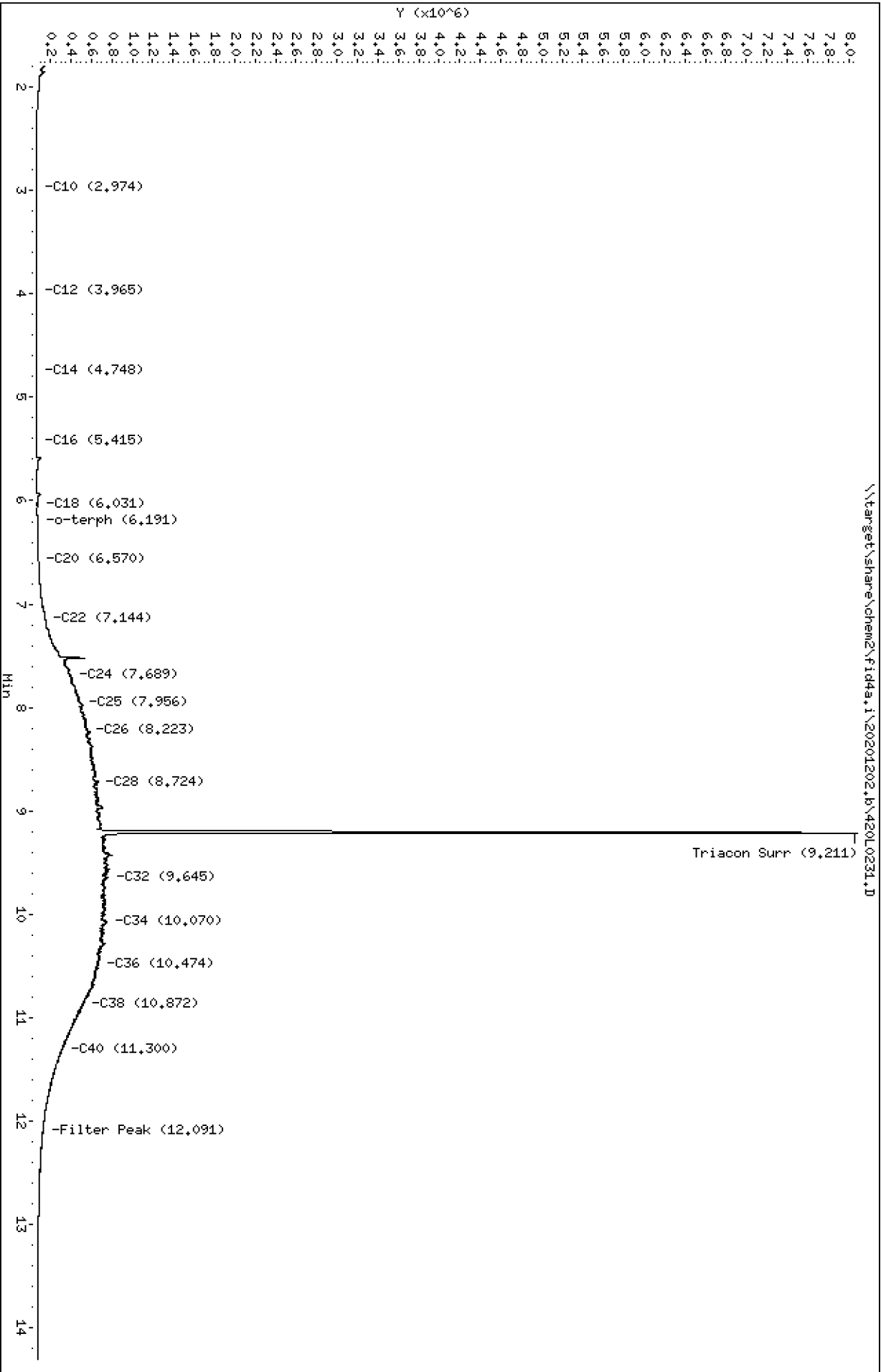
Lab ID: SIL0020-CCV1



Data File: \\target\share\chem2\fid4a,1\20201202,16\42010231.D
Date: 02-DEC-2020 19:08
Client ID:
Sample Info: SIL0020-CCV2

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR/CTO/VTS
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0231.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV2
Client ID:
Injection: 02-DEC-2020 19:08
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

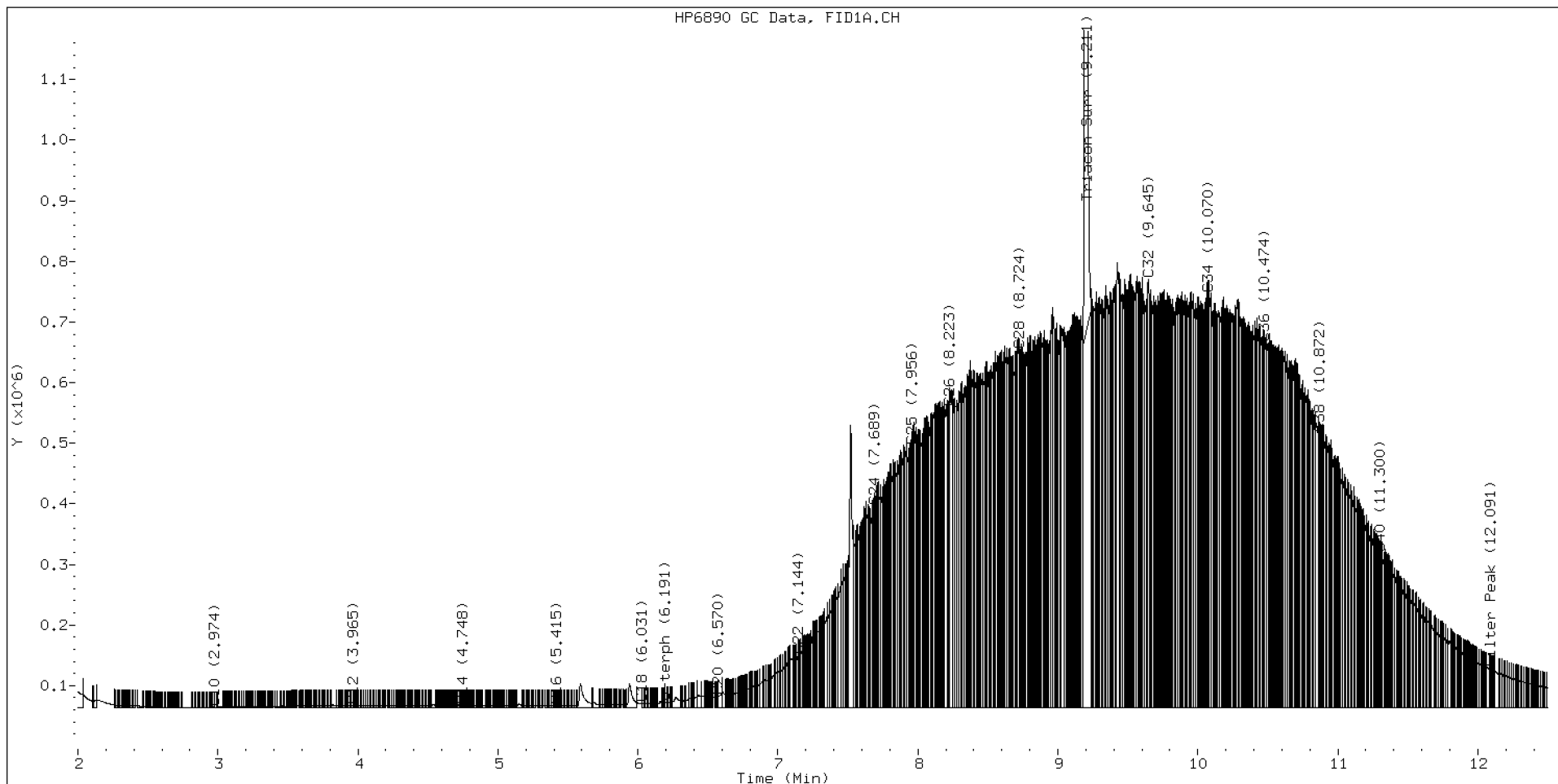
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.854	-0.028	75388	260251	WATPHD	(C12-C24)	10006728	62.8
C10	2.974	0.001	786	308	WATPHM	(C24-C38)	109429094	1081.7
C12	3.965	-0.001	3360	1665	AK102	(C10-C25)	13706693	70.1
C14	4.748	-0.001	4299	1270	AK103	(C25-C36)	93739244	1280.5
C16	5.415	0.002	3795	1499	OR.DIES	(C10-C28)	40170765	205.0
C18	6.031	0.021	7001	6505				
C20	6.570	-0.010	18146	3623	JET-A	(C10-C18)	720857	4.3
C22	7.144	0.002	86335	70507				
C24	7.689	-0.002	331274	212347				
C25	7.956	-0.003	431399	170181				
C26	8.223	0.004	494855	220089				
C28	8.724	0.002	590554	349614				
C32	9.645	-0.002	706063	686208				
C34	10.070	0.002	682147	203798				
Filter Peak	12.091	-0.005	63485	43572	BUNKERC	(C10-C38)	119579285	3029.1
C36	10.474	-0.001	602376	238960				
C38	10.872	-0.003	451581	335905				
C40	11.300	-0.003	253895	88397				
o-terph	6.191	-0.005	8220	3613				
Triacon Surr	9.211	-0.012	7393671	7344486	NAS DIES	(C10-C24)	10150191	52.0

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	3613	0.0
Triacontane	7344486	49.5 M

M Indicates the peak was manually integrated

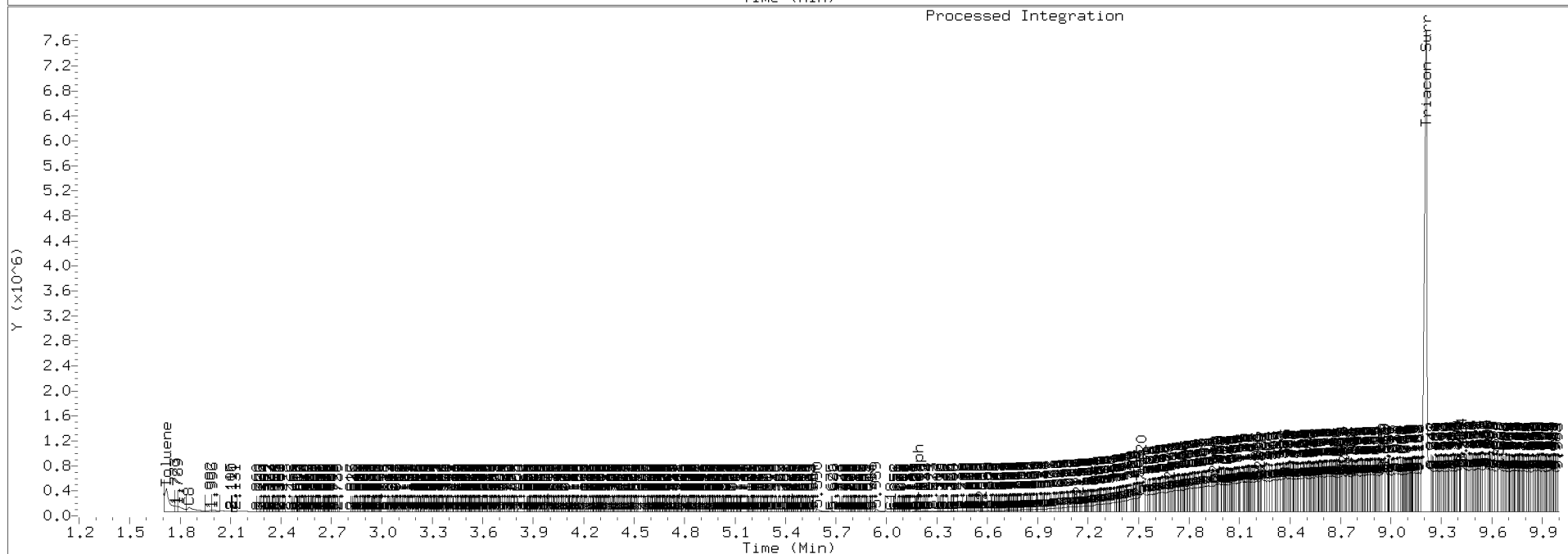
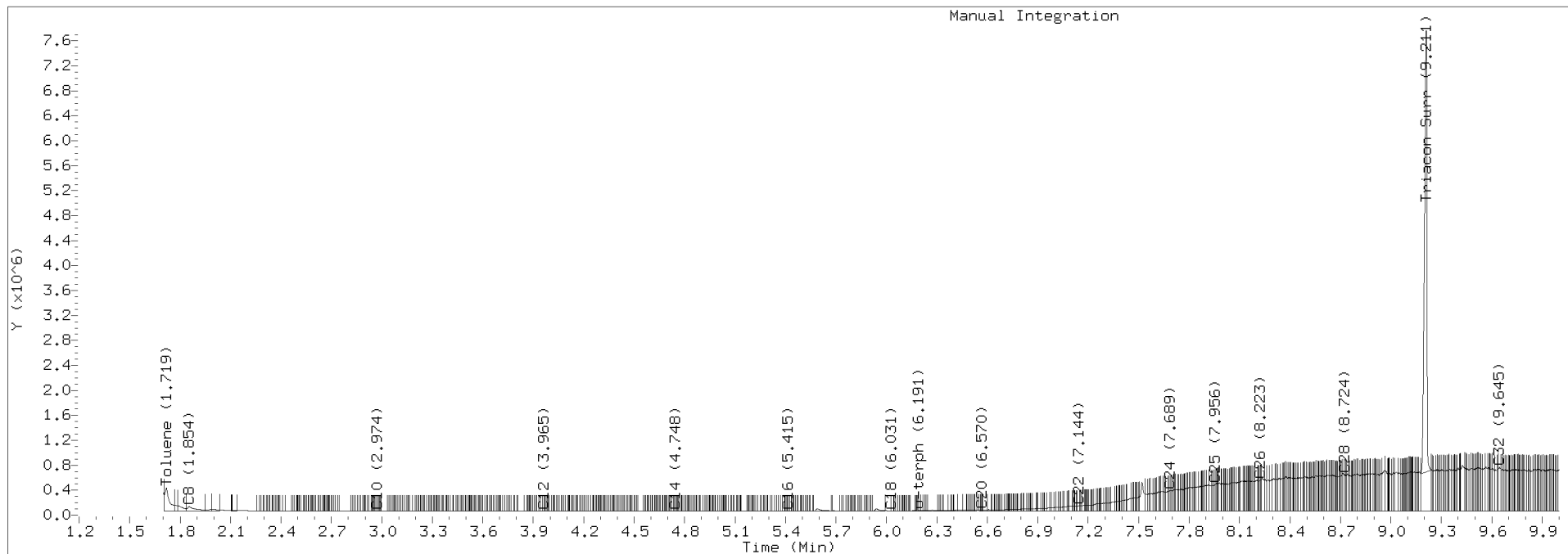
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0231.D Injection: 02-DEC-2020 19:08

Lab ID: SIL0020-CCV2





CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>20K0126</u>
Client:	<u>Dalton, Olmsted & Fuglevand, Inc</u>	Project:	<u>ICS-Former NW Cooperage</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>DA00022</u>
Lab File ID:	<u>420L0242.D</u>	Calibration Date:	<u>10/25/2019</u>
Sequence:	<u>SIL0020</u>	Injection Date:	<u>12/02/20</u>
Lab Sample ID:	<u>SIL0020-CCV3</u>	Injection Time:	<u>22:50</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	493	159336.7	157209.5		-1.3	+/-15
o-Terphenyl	A	90.000	86.9	204701.9	197591.7		-3.4	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20201202,b\42010242.D

Date: 02-DEC-2020 22:50

Client ID:

Sample Info: SIL0020-CCV3

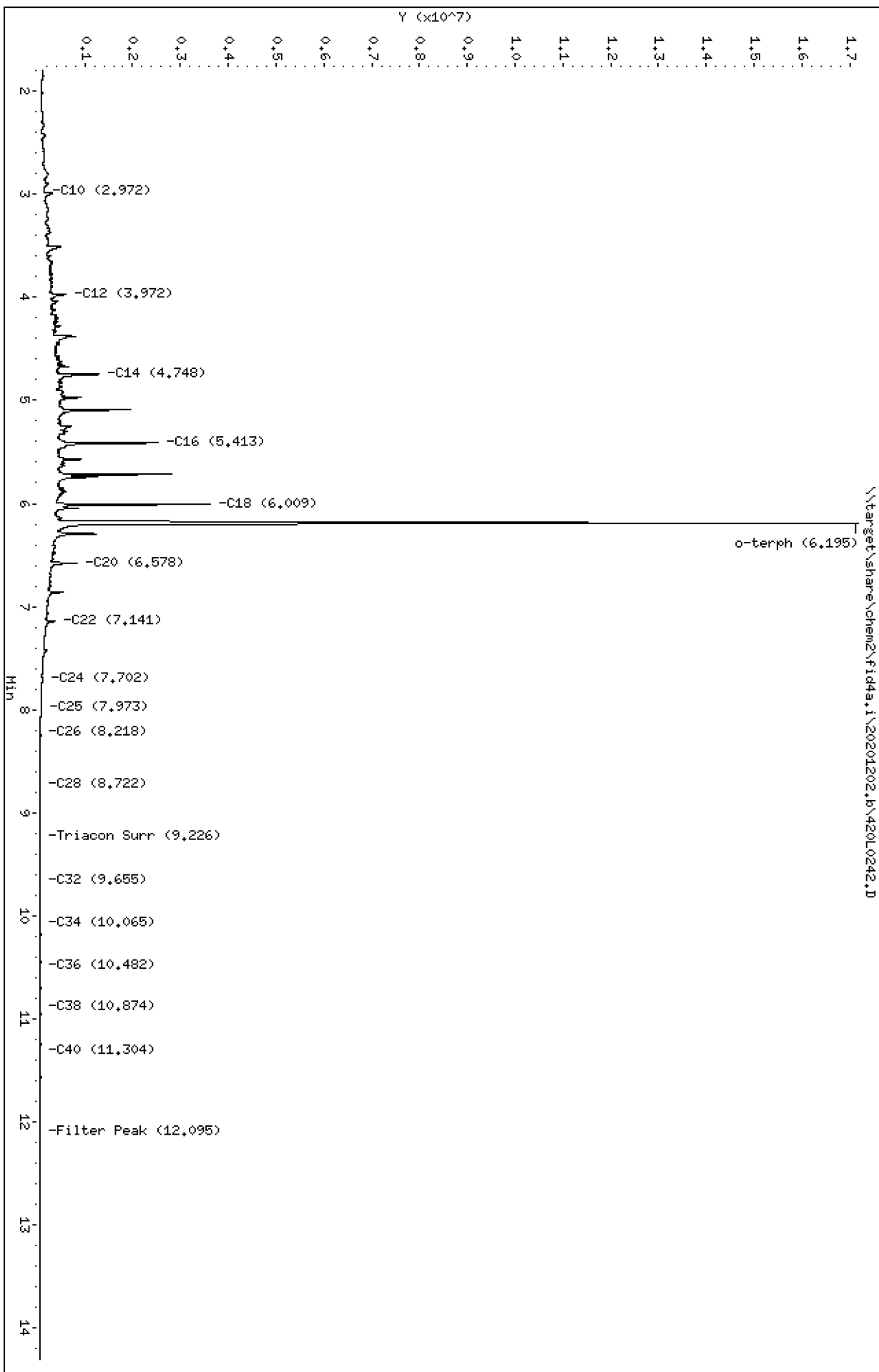
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0242.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV3
Client ID:
Injection: 02-DEC-2020 22:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

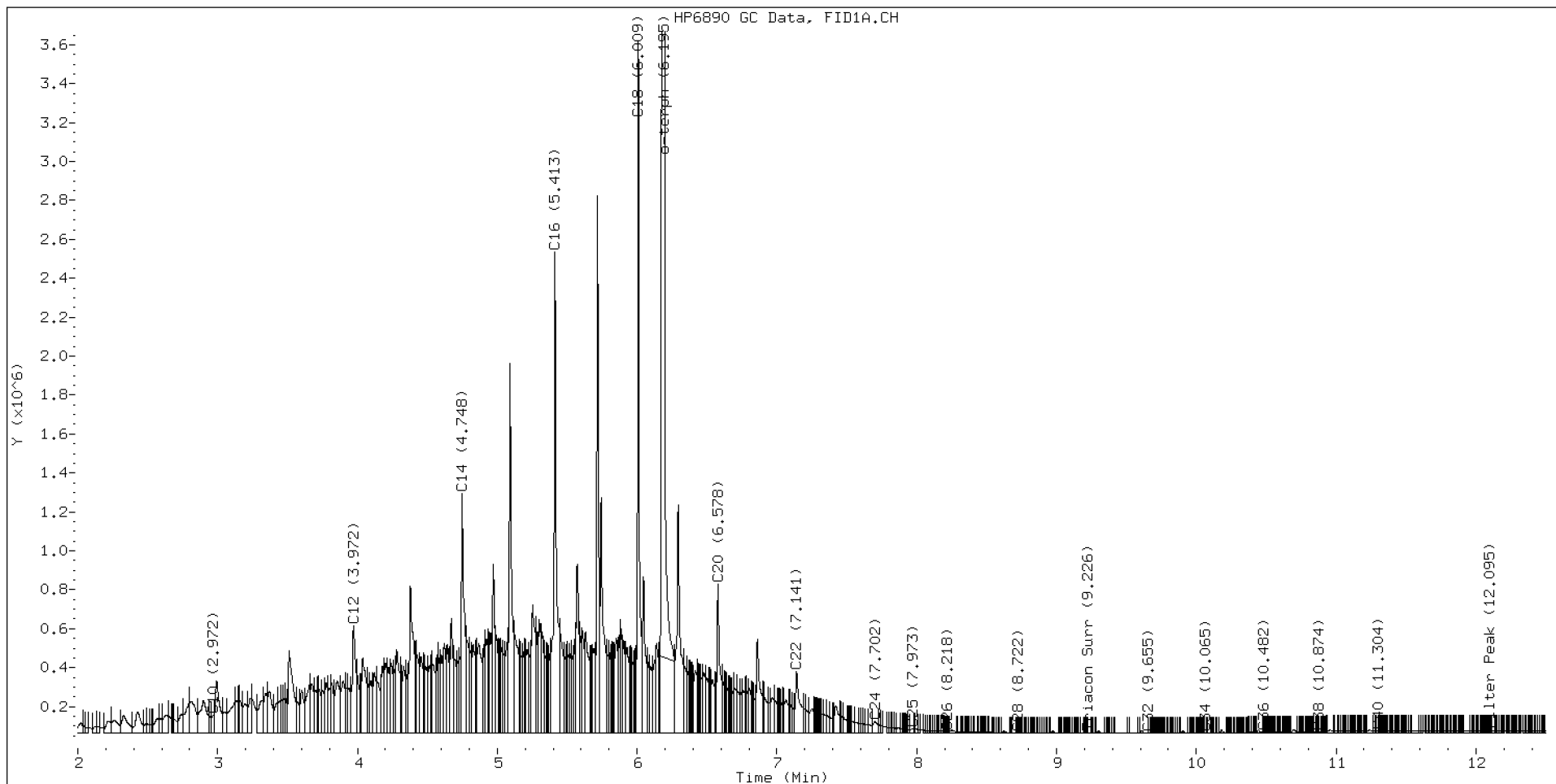
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.853	-0.028	79733	288904	WATPHD	(C12-C24)	78604734	493.3
C10	2.972	-0.002	92971	111099	WATPHM	(C24-C38)	1080059	10.7
C12	3.972	0.006	551821	945337	AK102	(C10-C25)	90891270	464.9
C14	4.748	-0.000	1230960	1832015	AK103	(C25-C36)	649400	8.9
C16	5.413	-0.000	2471113	3415283	OR.DIES	(C10-C28)	91302659	465.8
C18	6.009	-0.001	3560118	3009354				
C20	6.578	-0.002	764538	1073860	JET-A	(C10-C18)	69806015	420.9
C22	7.141	-0.001	314983	746675				
C24	7.702	0.012	58720	135271				
C25	7.973	0.015	24008	42425				
C26	8.218	-0.000	9489	3307				
C28	8.722	-0.001	2435	484				
C32	9.655	0.008	552	133				
C34	10.065	-0.003	2055	1077				
Filter Peak	12.095	-0.001	12609	3147	BUNKERC	(C10-C38)	91746615	2324.0
C36	10.482	0.007	6173	3372				
C38	10.874	-0.001	9332	5118				
C40	11.304	0.002	11158	1670				
o-terph	6.195	-0.001	16729230	17783250				
Triacon Surr	9.226	0.003	650	235	NAS DIES	(C10-C24)	90666557	464.6

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17783250	86.9 M
Triacontane	235	0.0

M Indicates the peak was manually integrated

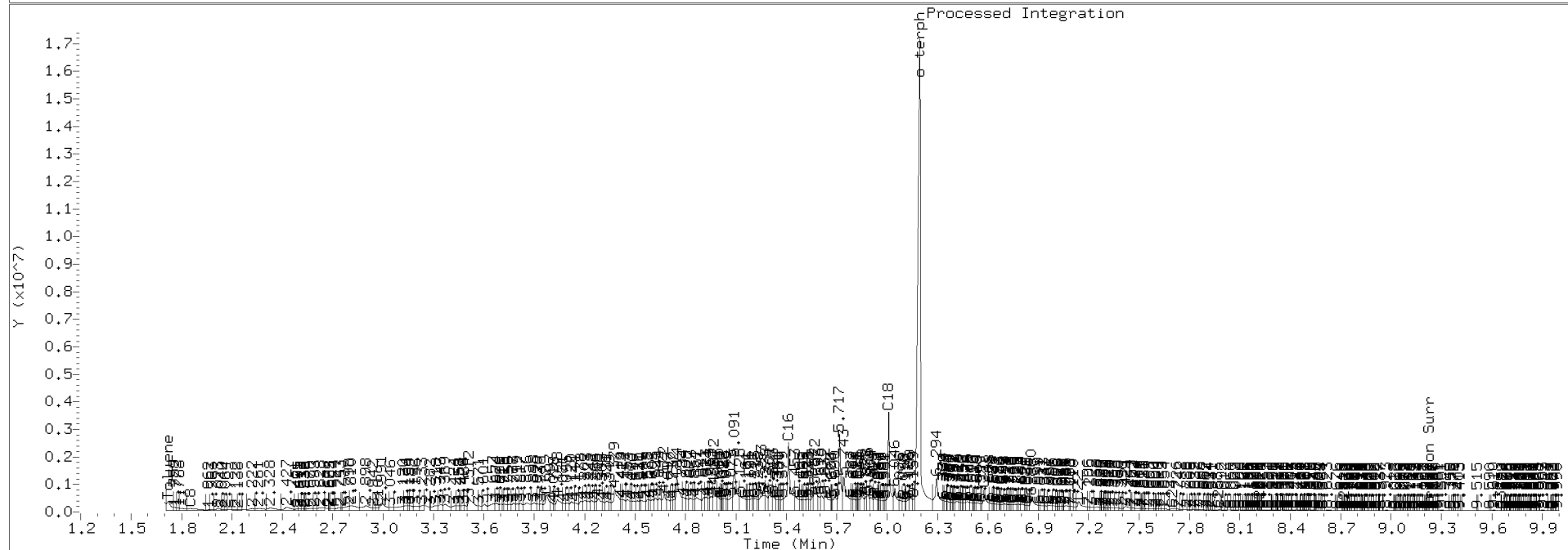
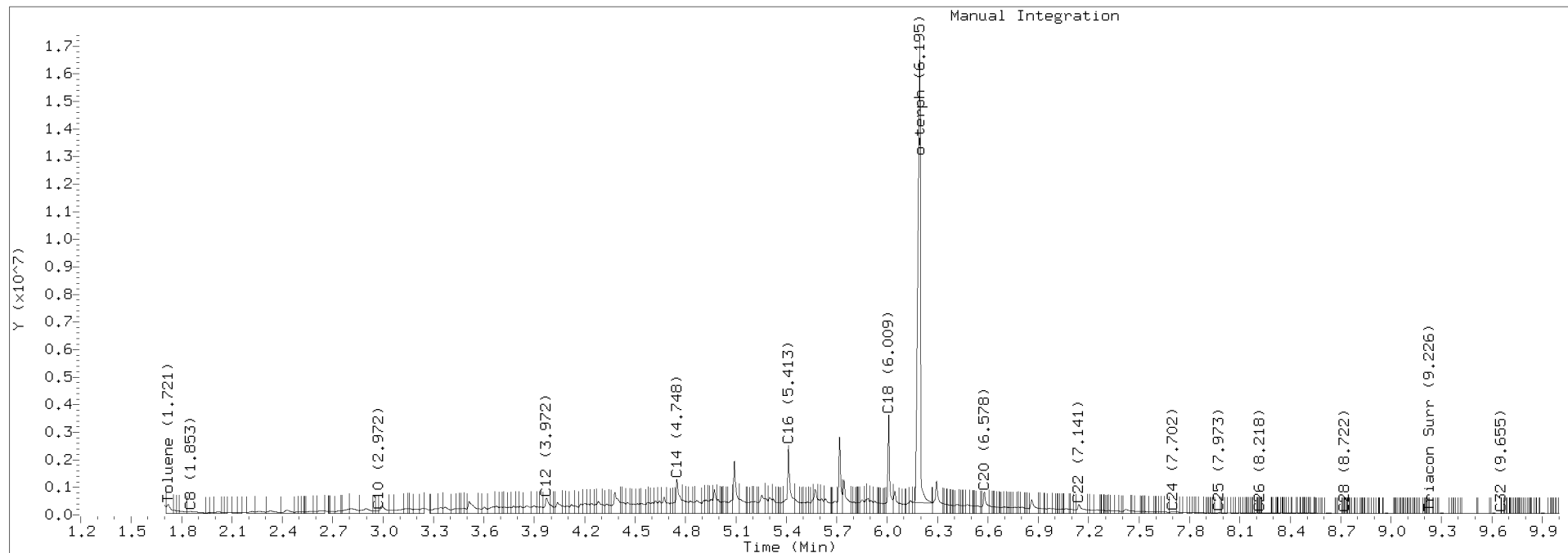
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0242.D Injection: 02-DEC-2020 22:50

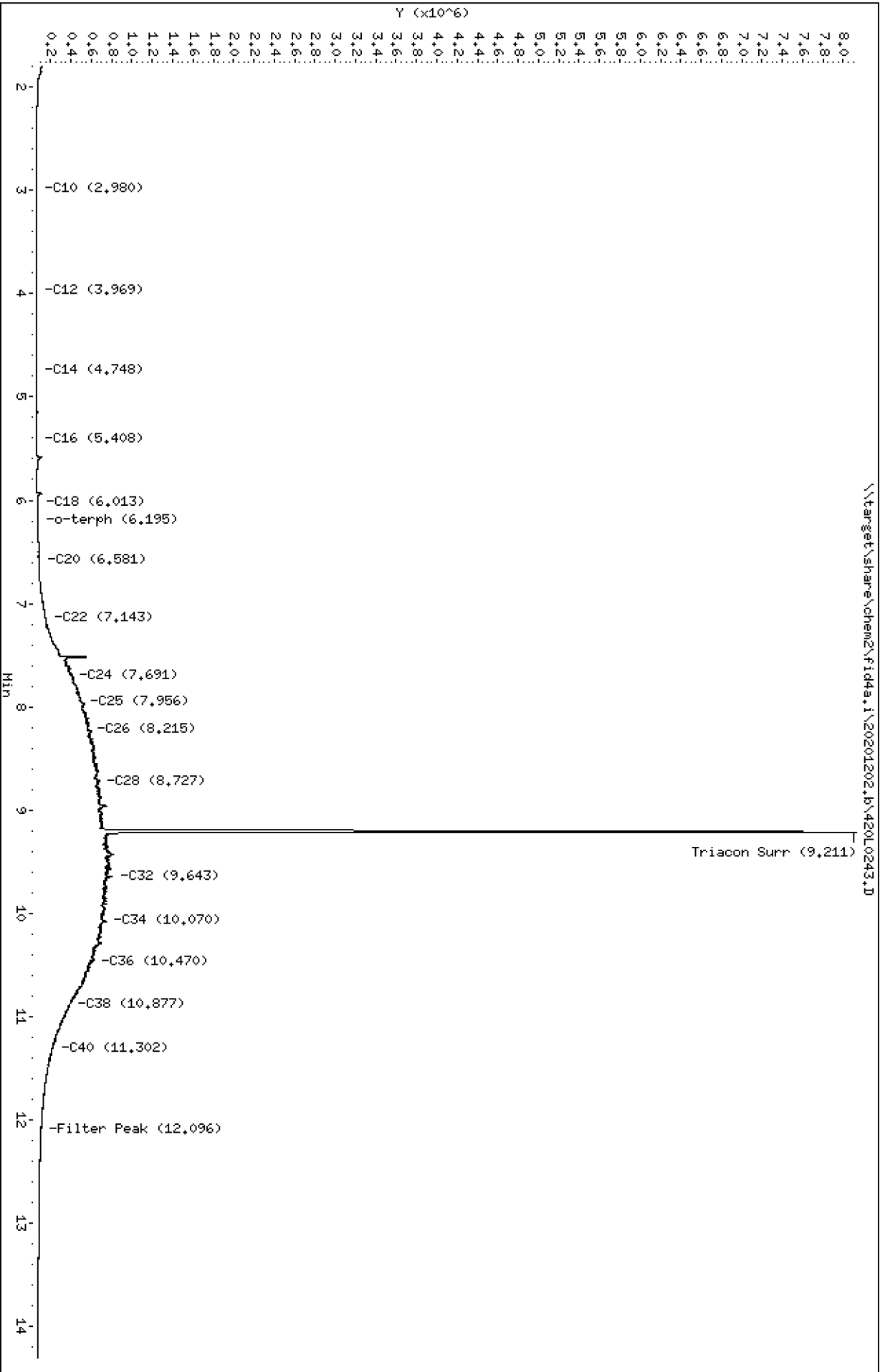
Lab ID: SIL0020-CCV3



Data File: \\target\share\chem2\fid4a,1\20201202,8\42010243.D
Date: 02-DEC-2020 23:10
Client ID:
Sample Info: SIL0020-CCV4

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR/CTO/VTS
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0243.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV4
Client ID:
Injection: 02-DEC-2020 23:10
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

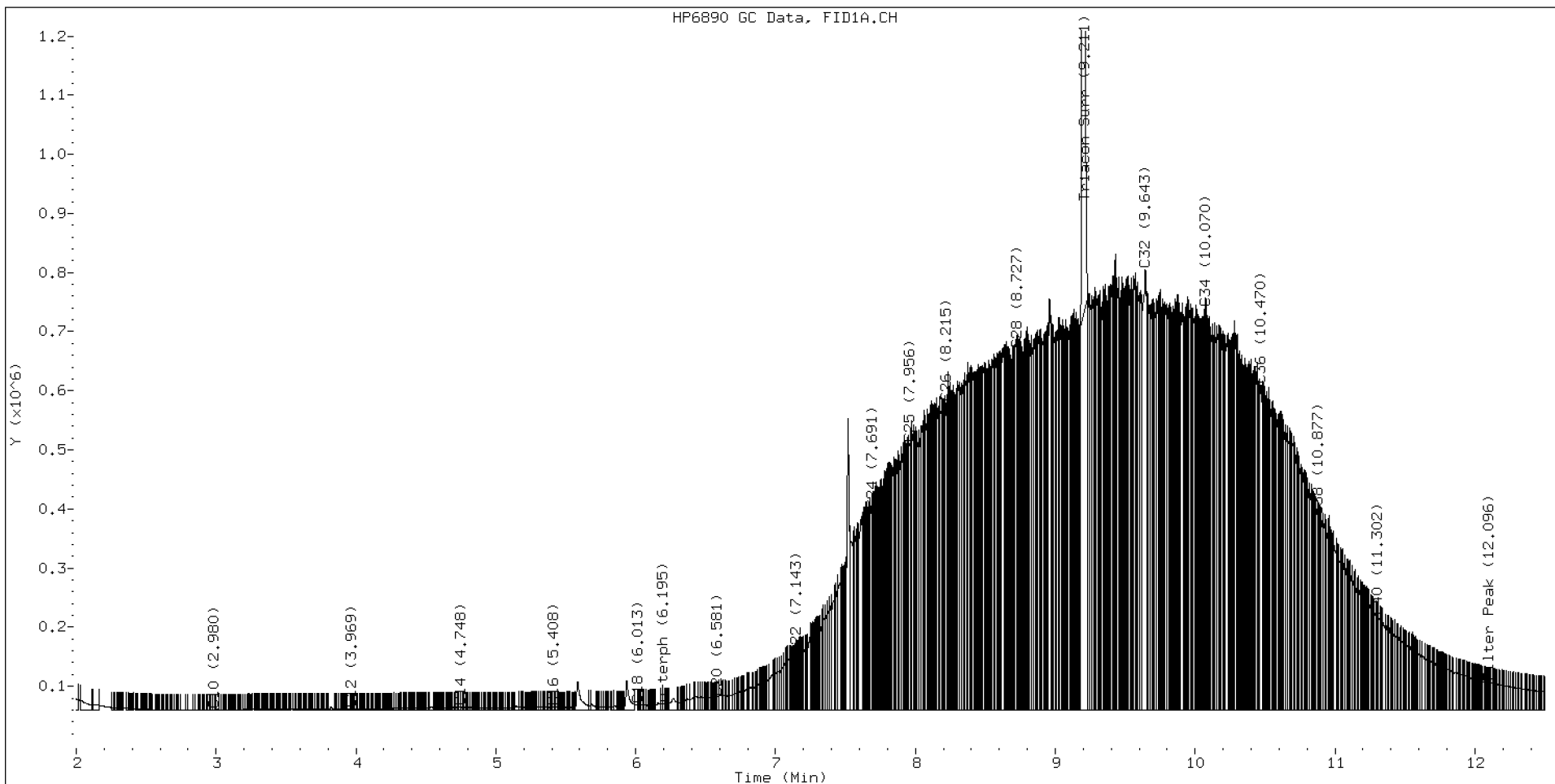
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.854	-0.028	51428	198202	WATPHD	(C12-C24)	10461576	65.7
C10	2.980	0.006	391	272	WATPHM	(C24-C38)	108873416	1076.2
C12	3.969	0.003	2450	843	AK102	(C10-C25)	14654793	75.0
C14	4.748	-0.001	4672	4331	AK103	(C25-C36)	94742511	1294.2
C16	5.408	-0.004	4735	3487	OR.DIES	(C10-C28)	41879845	213.7
C18	6.013	0.003	8454	4178				
C20	6.581	0.001	22082	12811	JET-A	(C10-C18)	755406	4.6
C22	7.143	0.001	92464	58870				
C24	7.691	0.001	337945	83658				
C25	7.956	-0.003	450481	290182				
C26	8.215	-0.004	520208	409868				
C28	8.727	0.004	609479	121429				
C32	9.643	-0.004	744197	1507372				
C34	10.070	0.001	679931	434326				
Filter Peak	12.096	-0.000	46026	16005	BUNKERC	(C10-C38)	119426613	3025.2
C36	10.470	-0.004	548894	538816				
C38	10.877	0.001	328071	65448				
C40	11.302	-0.001	158103	101099				
o-terph	6.195	-0.001	11092	12440				
Triacon Surr	9.211	-0.012	7394309	7603160	NAS DIES	(C10-C24)	10553197	54.1

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	12440	0.1
Triacontane	7603160	51.2 M

M Indicates the peak was manually integrated

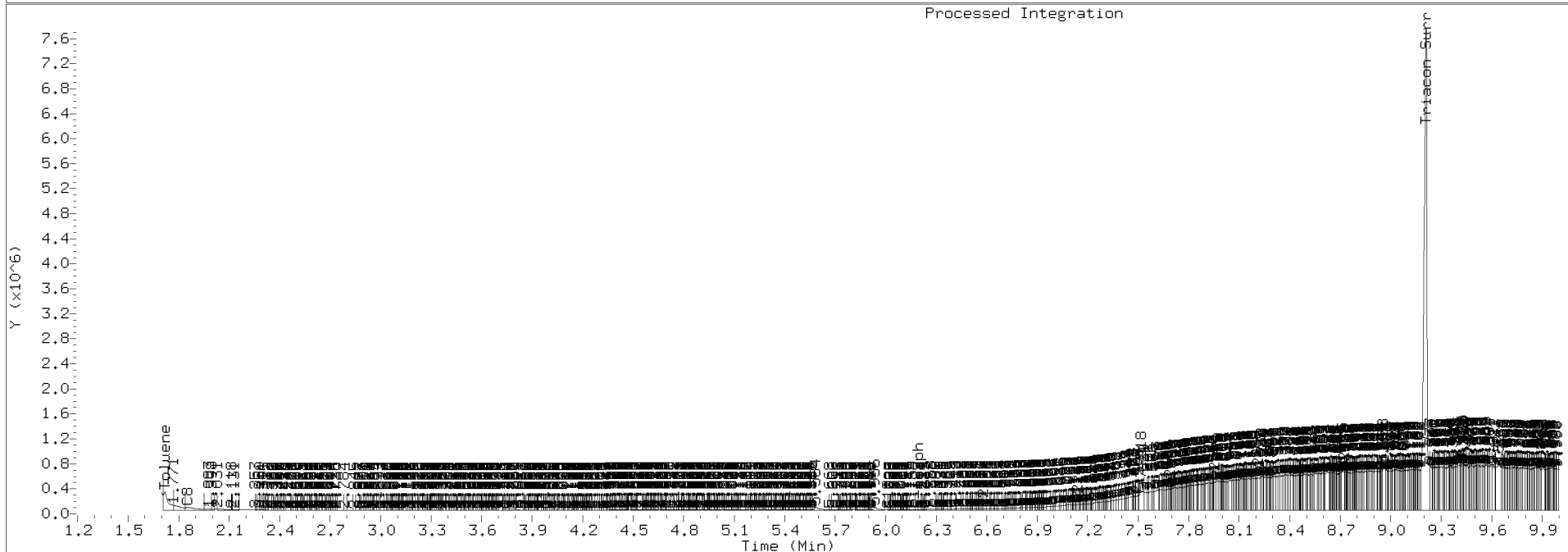
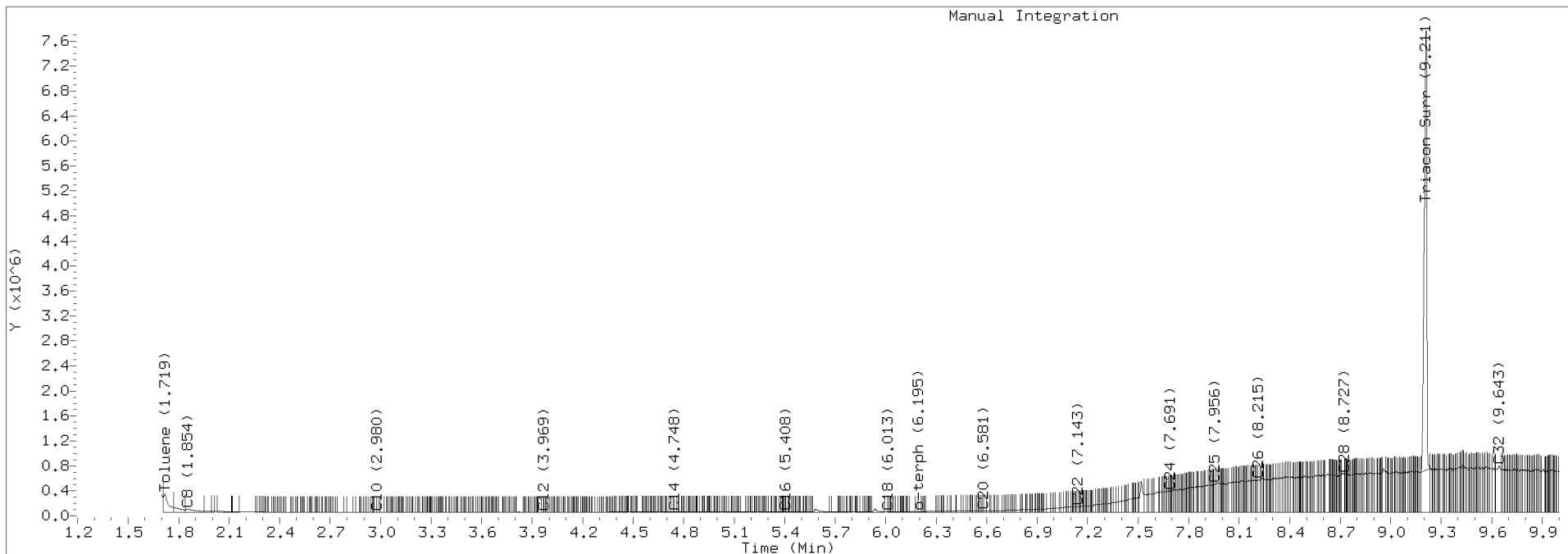
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0243.D Injection: 02-DEC-2020 23:10

Lab ID: SIL0020-CCV4



Data File: \\target\share\chem2\fid4a,1\20201202,b\42010257.D

Date: 03-DEC-2020 03:51

Client ID:

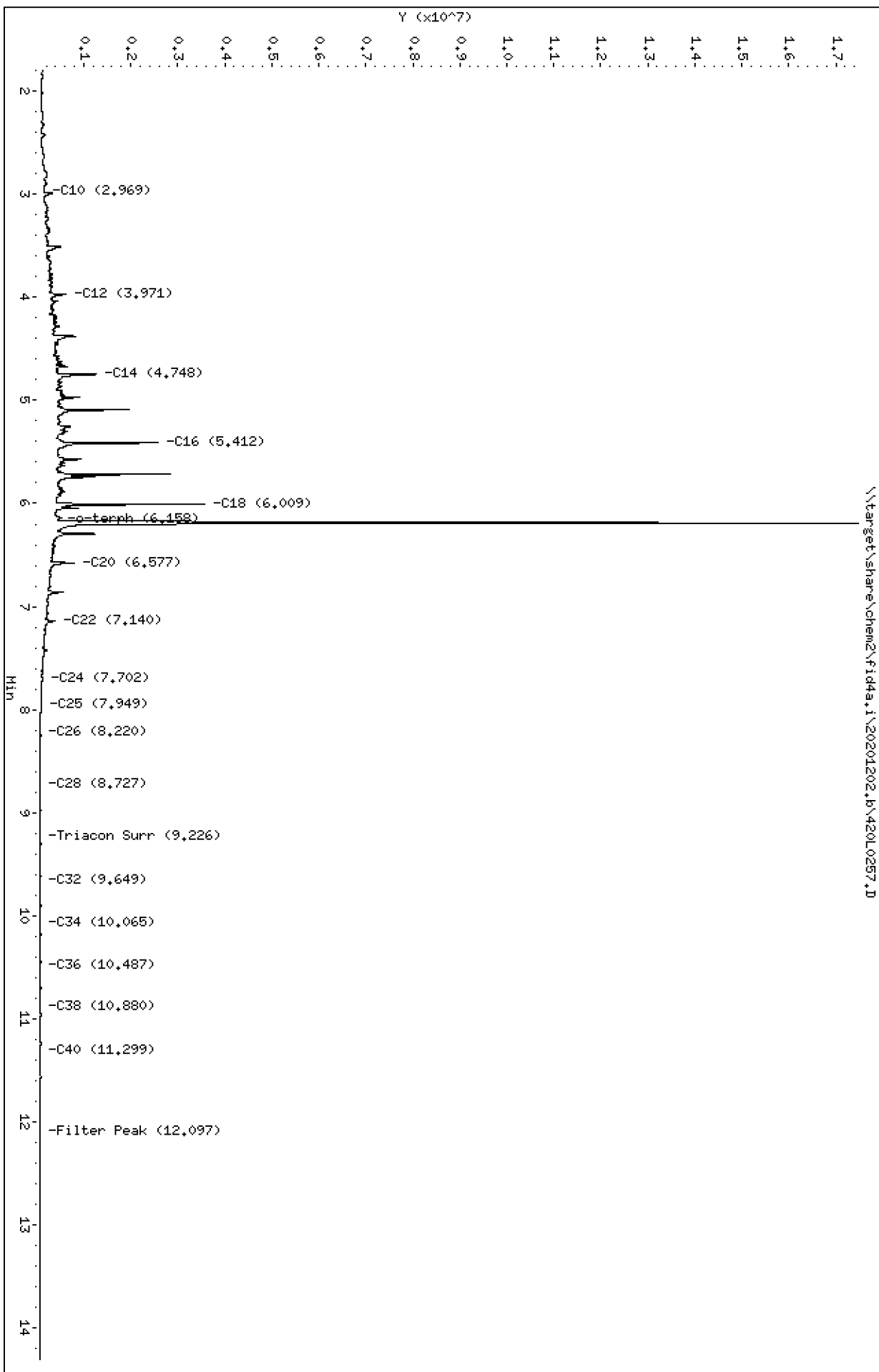
Sample Info: SIL0020-CCWS

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0257.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV5
Client ID:
Injection: 03-DEC-2020 03:51
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

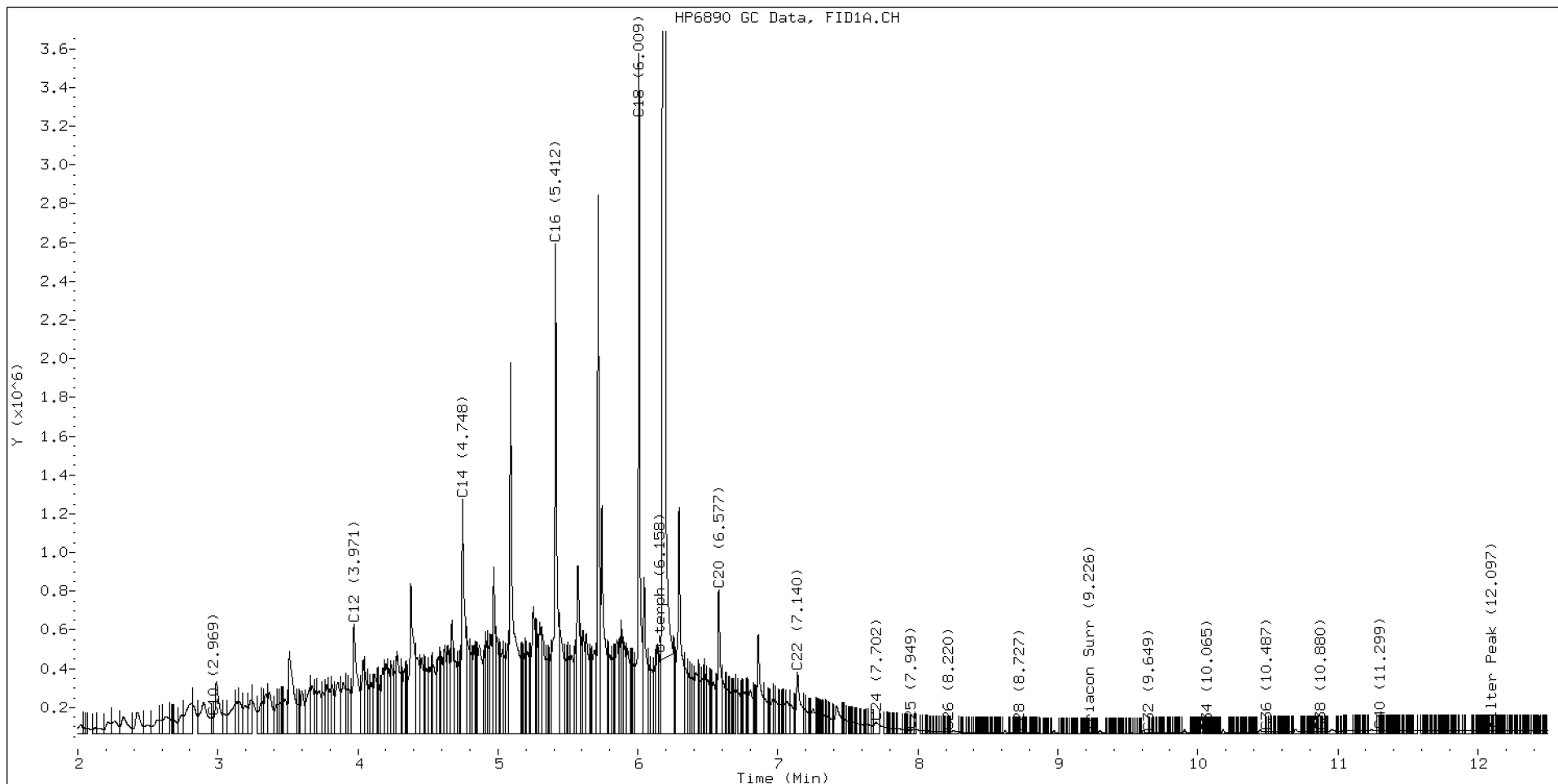
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.851	-0.031	72281	241130	WATPHD	(C12-C24)	76754307	481.7
C10	2.969	-0.004	84938	97127	WATPHM	(C24-C38)	1049759	10.4
C12	3.971	0.005	562409	1248540	AK102	(C10-C25)	88466949	452.5
C14	4.748	-0.000	1209715	1774577	AK103	(C25-C36)	617877	8.4
C16	5.412	-0.001	2524172	3084100	OR.DIES	(C10-C28)	88806478	453.1
C18	6.009	-0.001	3510775	3315533				
C20	6.577	-0.003	741992	1016280	JET-A	(C10-C18)	68169977	411.0
C22	7.140	-0.002	318309	633647				
C24	7.702	0.011	58325	141891				
C25	7.949	-0.009	16054	3202				
C26	8.220	0.001	7407	3301				
C28	8.727	0.005	1259	308				
C32	9.649	0.002	1357	718				
C34	10.065	-0.004	2736	1086				
Filter Peak	12.097	0.001	12279	2451	BUNKERC	(C10-C38)	89311698	2262.4
C36	10.487	0.012	6421	2228				
C38	10.880	0.005	10830	6435				
C40	11.299	-0.004	12263	6103				
o-terph	6.194	-0.002	17026644	17632621				
Triacon Surr	9.226	0.003	954	356	NAS DIES	(C10-C24)	88261938	452.3

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17632621	86.1 M
Triacontane	356	0.0

M Indicates the peak was manually integrated

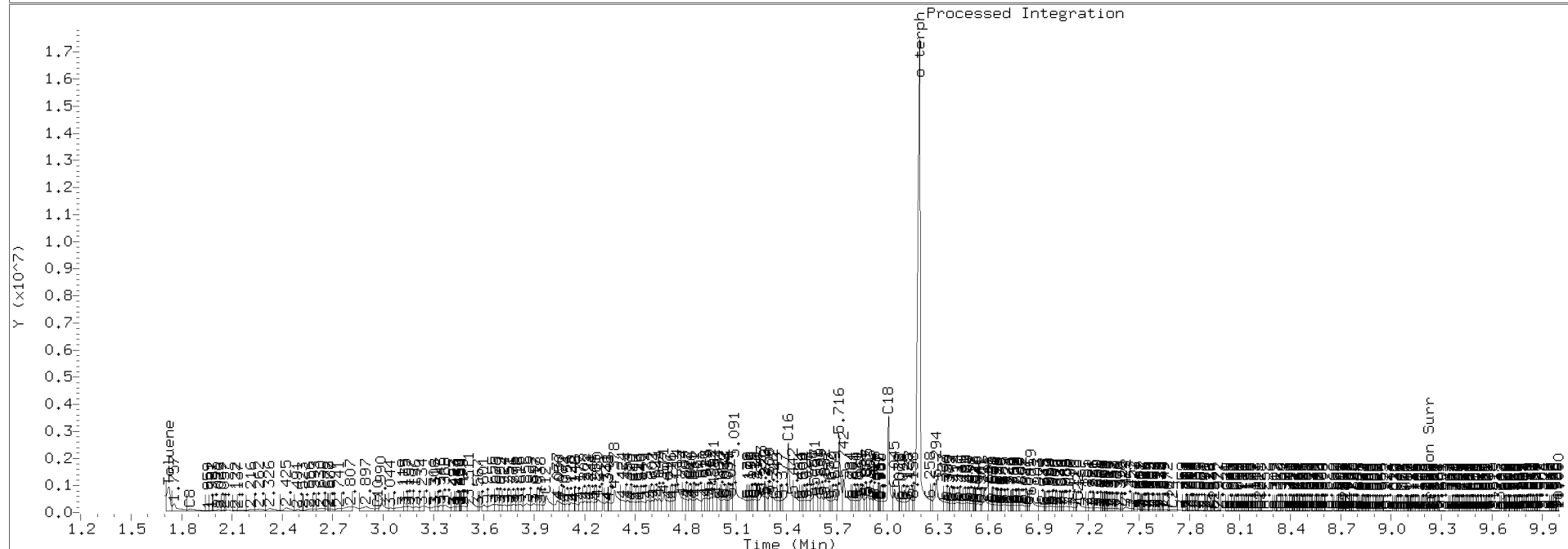
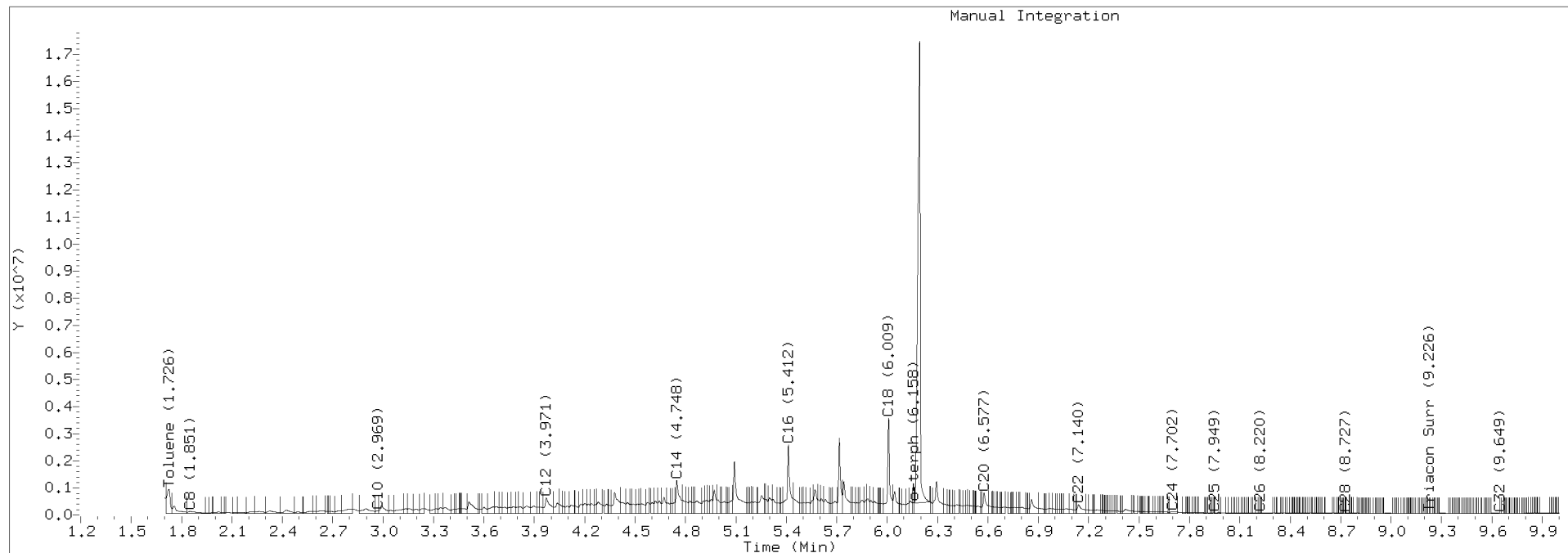
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0257.D Injection: 03-DEC-2020 03:51

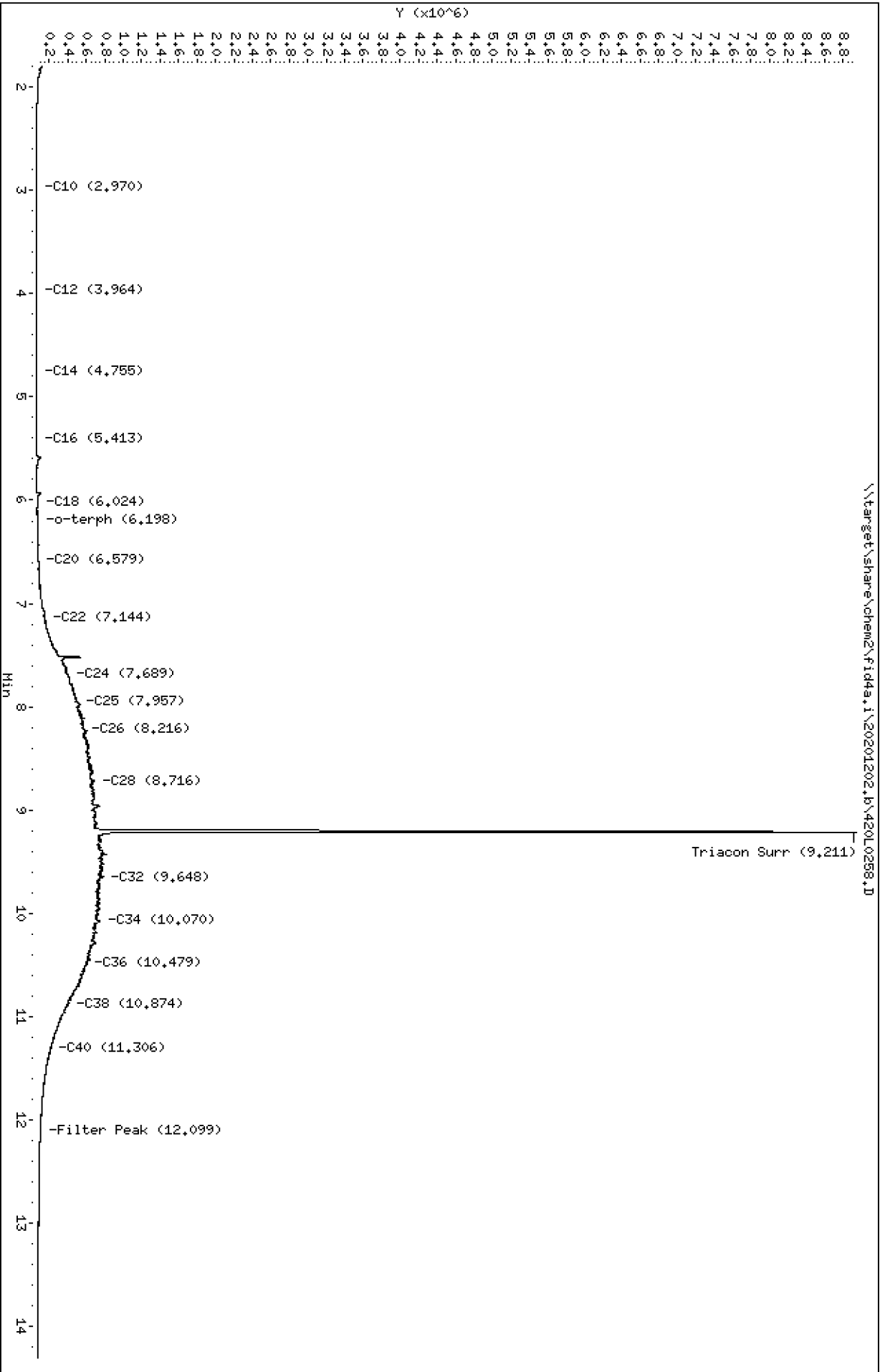
Lab ID: SIL0020-CCV5



Data File: \\target\share\chem2\fid4a,1\20201202,6\42010258.D
Date : 03-DEC-2020 04:11
Client ID:
Sample Info: SIL0020-CCW6

Column phase: RTX-1

Instrument: fid4a,1
Operator: JGR/CTO/VTS
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0258.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV6
Client ID:
Injection: 03-DEC-2020 04:11
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

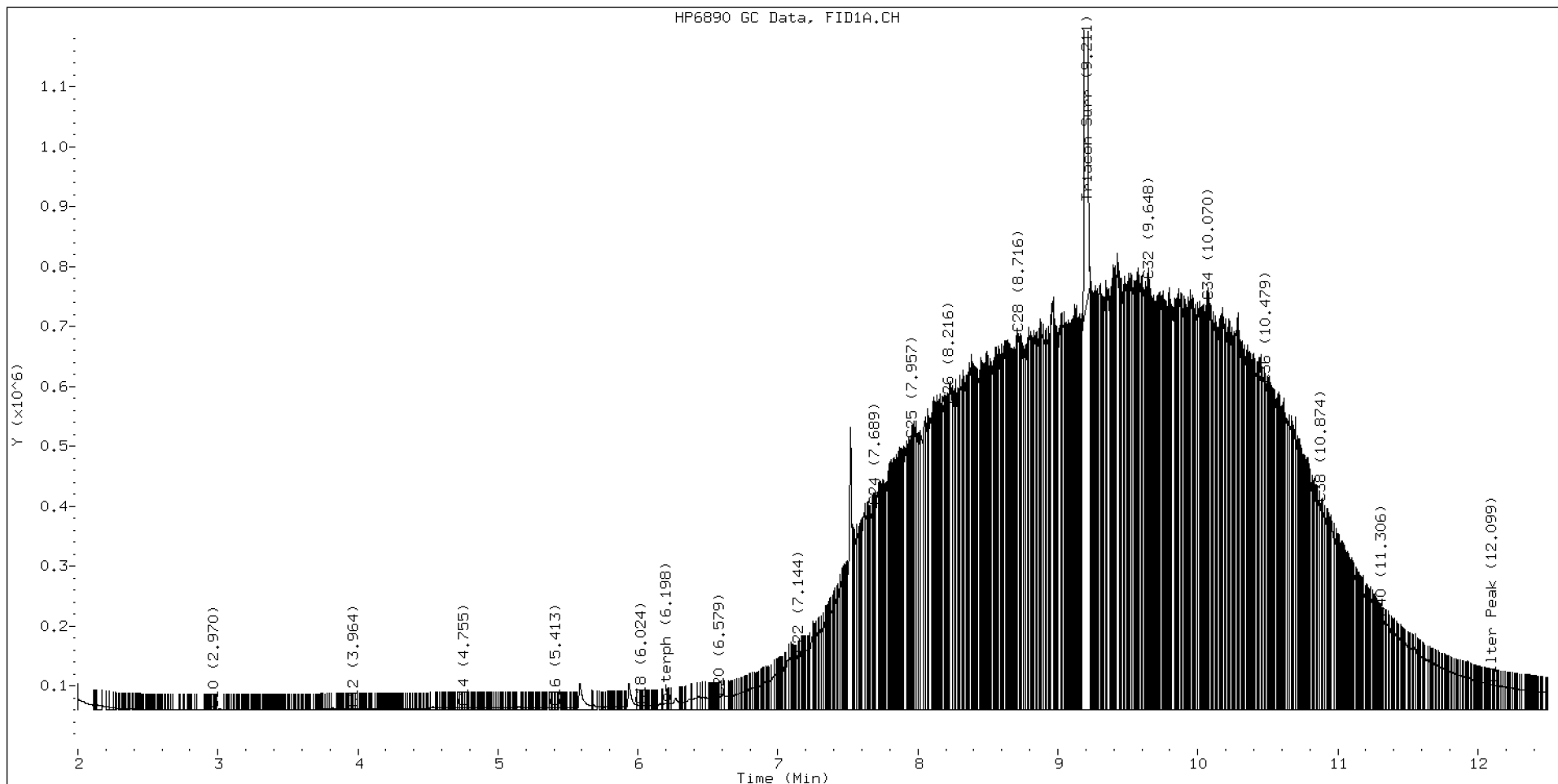
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.854	-0.028	49024	189543	WATPHD	(C12-C24)	10263204	64.4
C10	2.970	-0.003	442	104	WATPHM	(C24-C38)	109293233	1080.3
C12	3.964	-0.003	1882	1192	AK102	(C10-C25)	14115563	72.2
C14	4.755	0.007	3702	2190	AK103	(C25-C36)	95025133	1298.0
C16	5.413	0.000	3711	739	OR.DIES	(C10-C28)	41830437	213.4
C18	6.024	0.013	7792	2699				
C20	6.579	-0.002	20953	12321	JET-A	(C10-C18)	639504	3.9
C22	7.144	0.003	92407	114249				
C24	7.689	-0.002	338956	118215				
C25	7.957	-0.002	451550	221847				
C26	8.216	-0.002	507861	176482				
C28	8.716	-0.007	628638	463393				
C32	9.648	0.001	717074	354713				
C34	10.070	0.002	681740	169513				
Filter Peak	12.099	0.002	42990	35977	BUNKERC	(C10-C38)	119629146	3030.3
C36	10.479	0.004	542766	188934				
C38	10.874	-0.001	344098	352414				
C40	11.306	0.003	153187	45798				
o-terph	6.198	0.002	10585	18229				
Triacon Surr	9.211	-0.012	8202989	7608815	NAS DIES	(C10-C24)	10335912	53.0

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	18229	0.1
Triacontane	7608815	51.3 M

M Indicates the peak was manually integrated

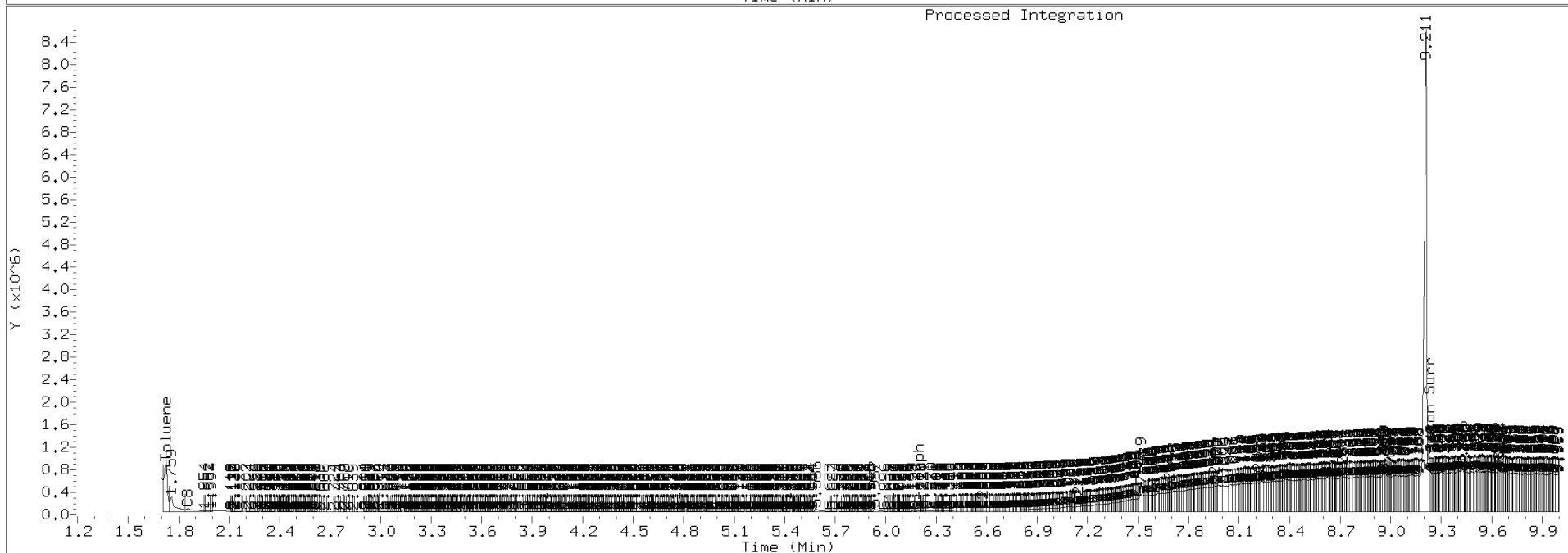
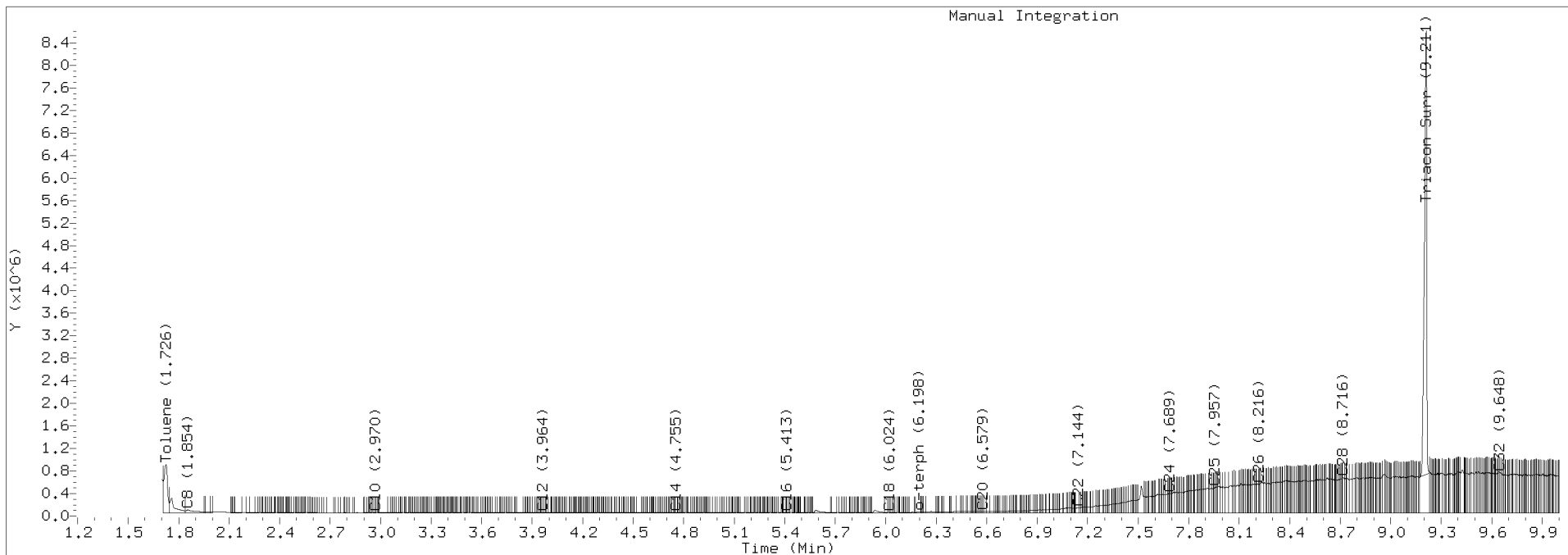
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0258.D Injection: 03-DEC-2020 04:11

Lab ID: SIL0020-CCV6



Data File: \\target\share\chem2\fid4a,1\20201202_b\42010273.D

Date: 03-DEC-2020 09:14

Client ID:

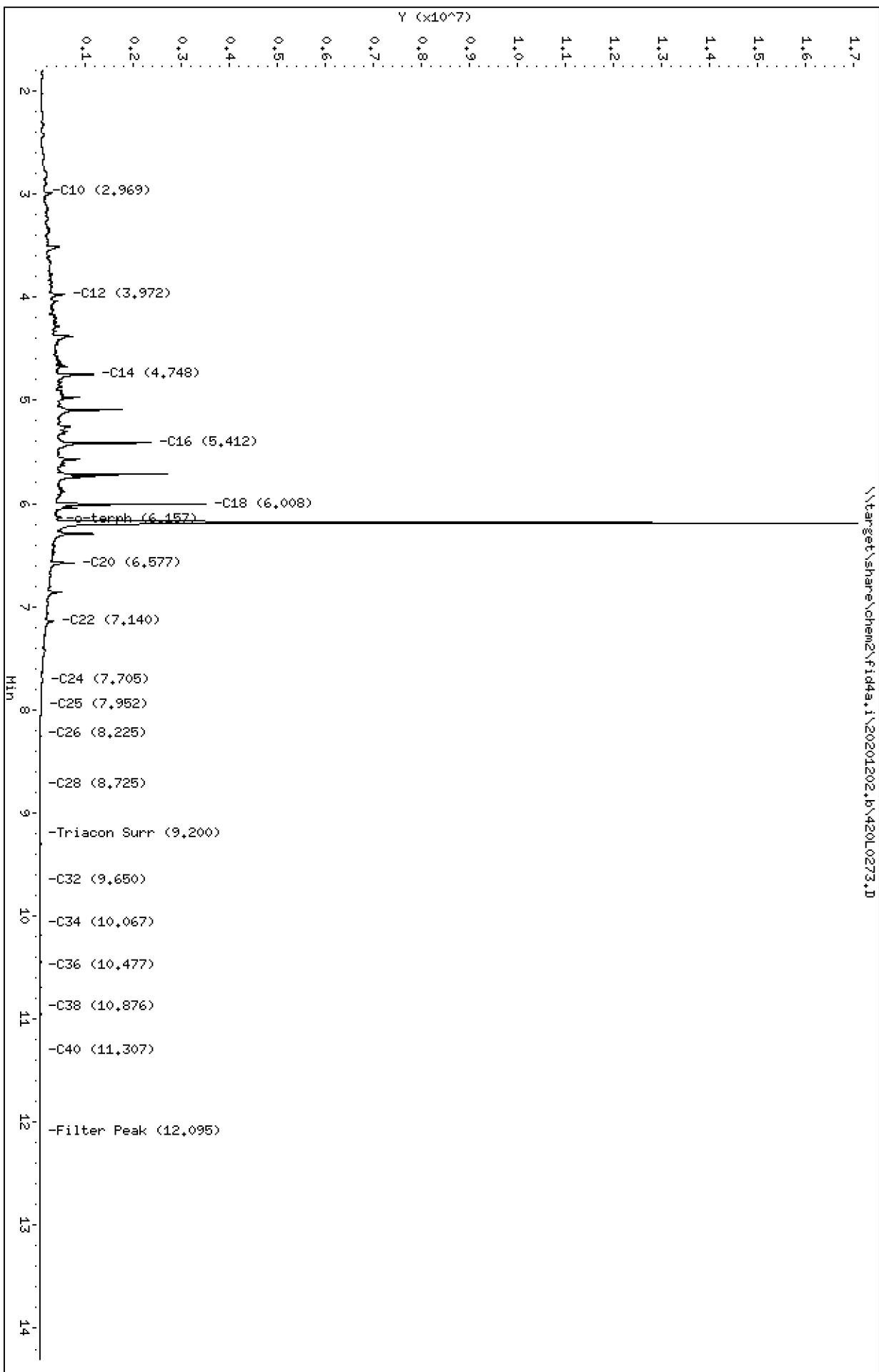
Sample Info: SIL0020-CCV7

Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0273.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV7
Client ID:
Injection: 03-DEC-2020 09:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

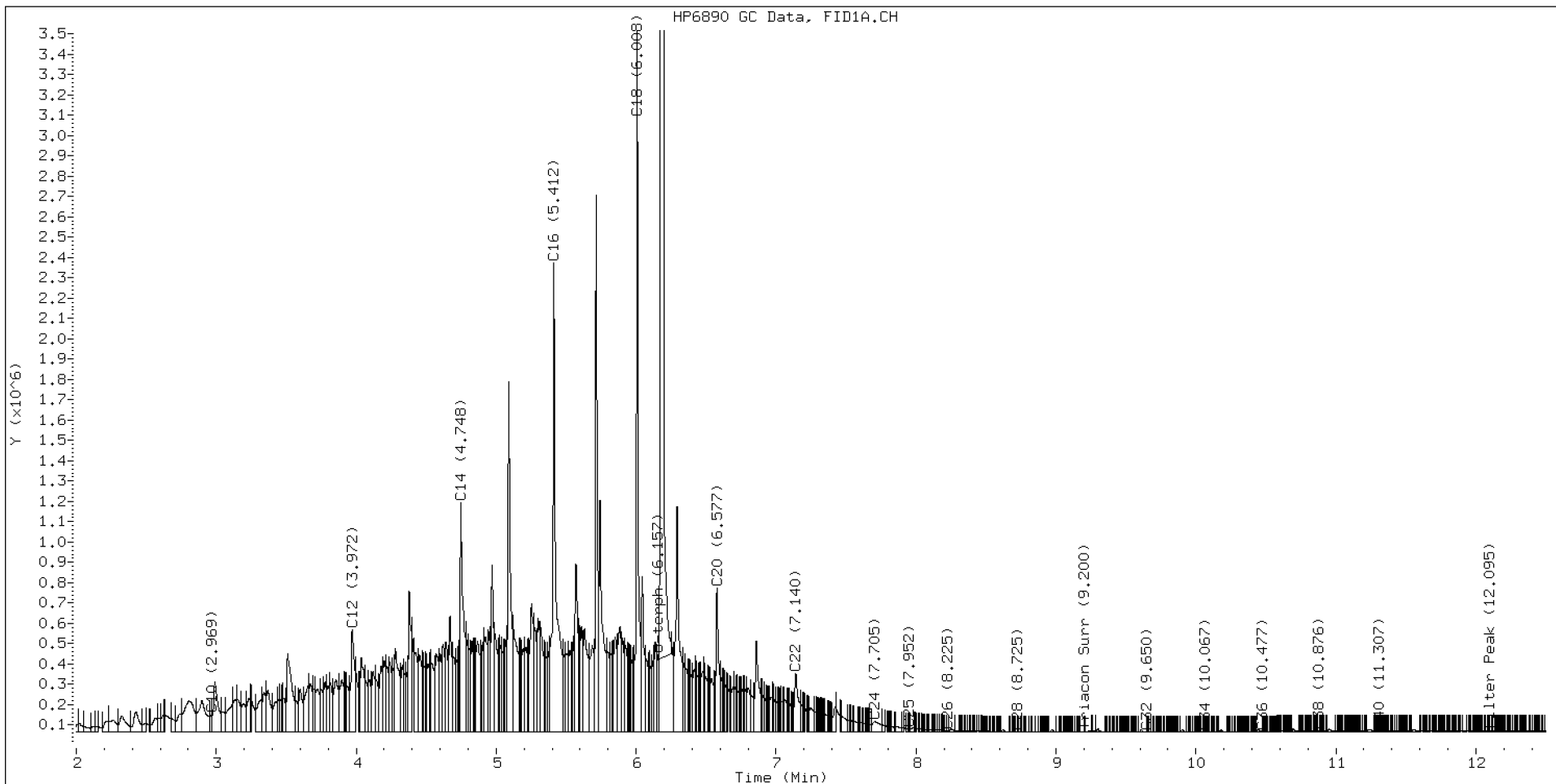
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.851	-0.031	68664	239395	WATPHD	(C12-C24)	75185543	471.9
C10	2.969	-0.005	86304	90430	WATPHM	(C24-C38)	922141	9.1
C12	3.972	0.006	504298	957796	AK102	(C10-C25)	86585772	442.9
C14	4.748	-0.001	1126705	1817949	AK103	(C25-C36)	585823	8.0
C16	5.412	-0.001	2309284	4032396	OR.DIES	(C10-C28)	86949786	443.6
C18	6.008	-0.002	3442986	3078315				
C20	6.577	-0.003	706662	934495	JET-A	(C10-C18)	66623559	401.7
C22	7.140	-0.002	286422	594182				
C24	7.705	0.015	52957	201560				
C25	7.952	-0.006	17528	10440				
C26	8.225	0.006	8474	4584				
C28	8.725	0.003	2095	922				
C32	9.650	0.003	777	319				
C34	10.067	-0.002	1306	688				
Filter Peak	12.095	-0.002	7885	3530	BUNKERC	(C10-C38)	87303838	2211.5
C36	10.477	0.003	3994	1371				
C38	10.876	0.001	6495	3559				
C40	11.307	0.004	8217	2867				
o-terph	6.193	-0.003	16652718	17359253				
Triacon Surr	9.200	-0.022	306	121	NAS DIES	(C10-C24)	86381697	442.6

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17359253	84.8 M
Triacontane	121	0.0

M Indicates the peak was manually integrated

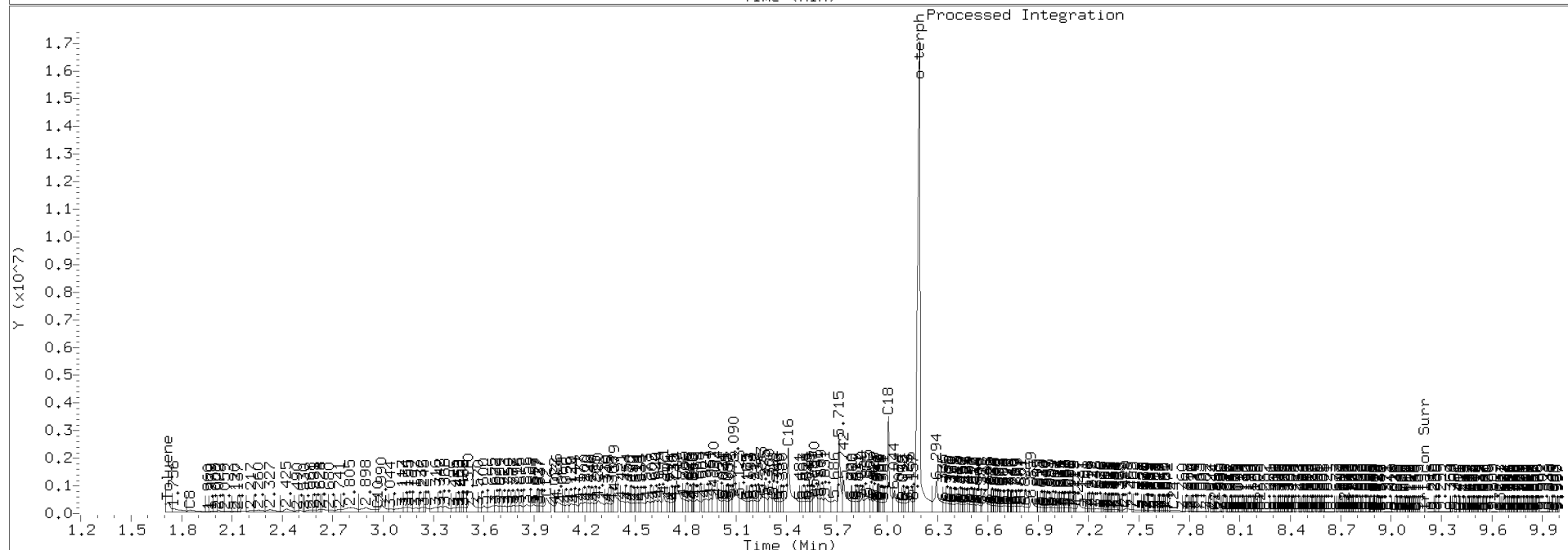
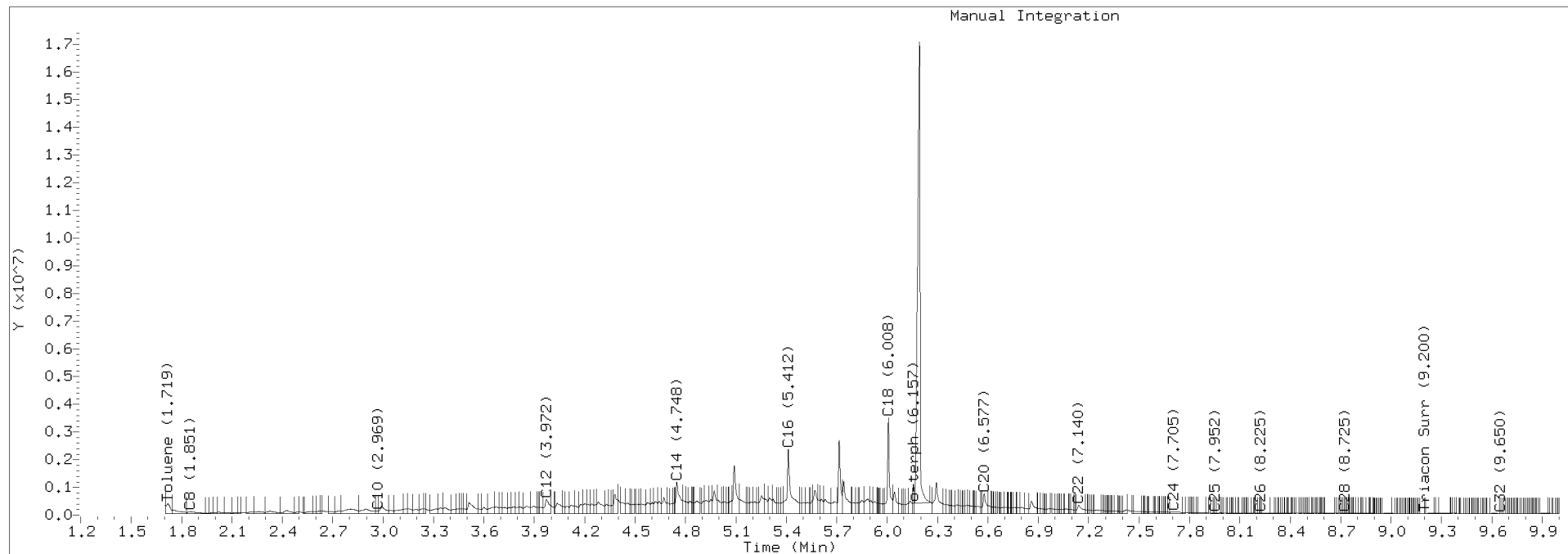
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0273.D Injection: 03-DEC-2020 09:14

Lab ID: SIL0020-CCV7



Data File: \\target\share\chem2\fid4a,1\20201202,8\42010274.D

Date: 03-DEC-2020 09:34

Client ID:

Sample Info: SIL0020-CCW8

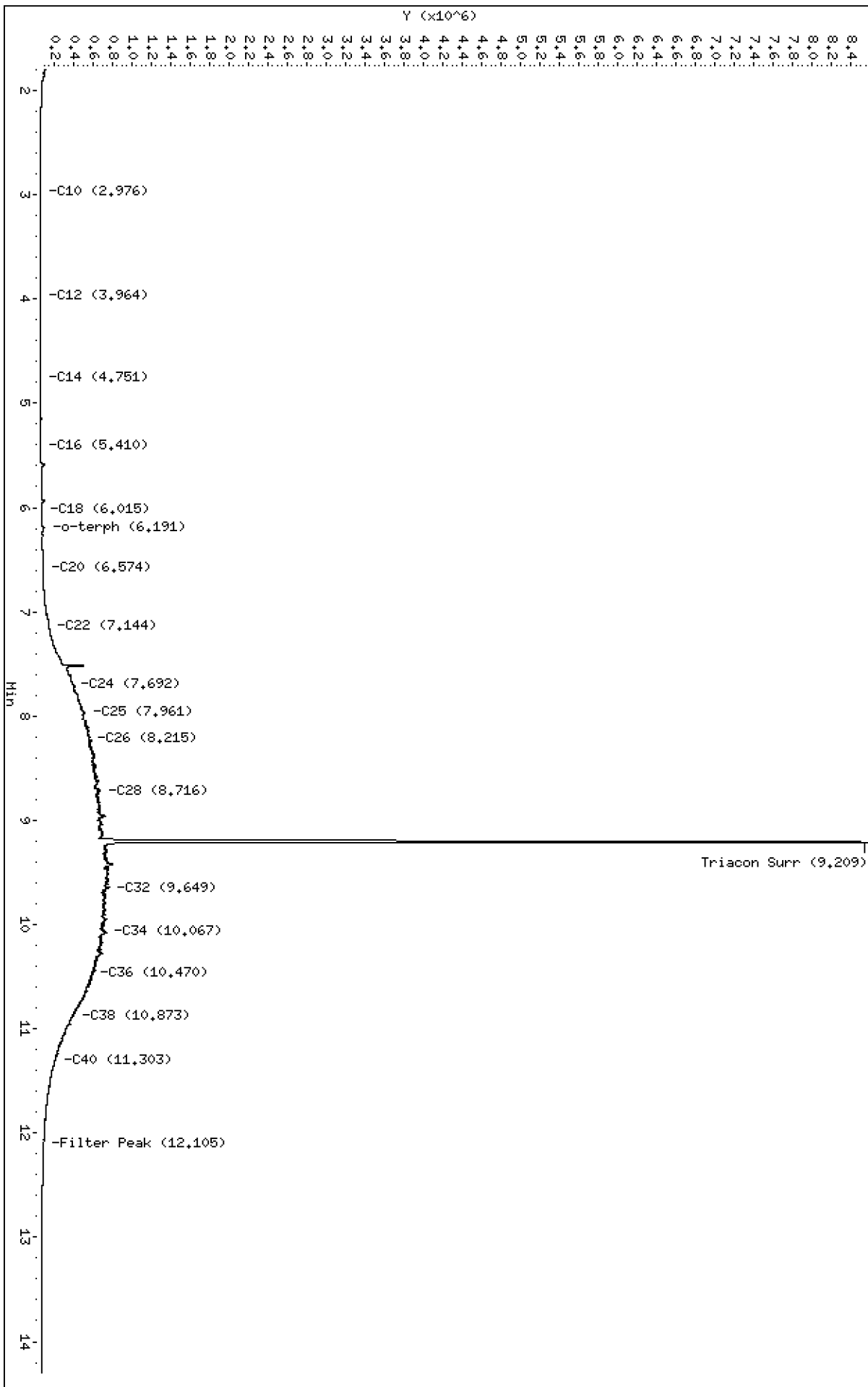
Column phase: RTX-1

Instrument: fid4a,1

Operator: JGR/CTO/VTS

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20201202,8\42010274.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20201202.b/420L0274.D
Method: 20201202.b\FID4TPH.m
Instrument: fid4a.i, JGR/CTO/VTS
Report Date: 12/03/2020
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:25-OCT-2019 M.Oil:25-OCT-2019

ARI ID: SIL0020-CCV8
Client ID:
Injection: 03-DEC-2020 09:34
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

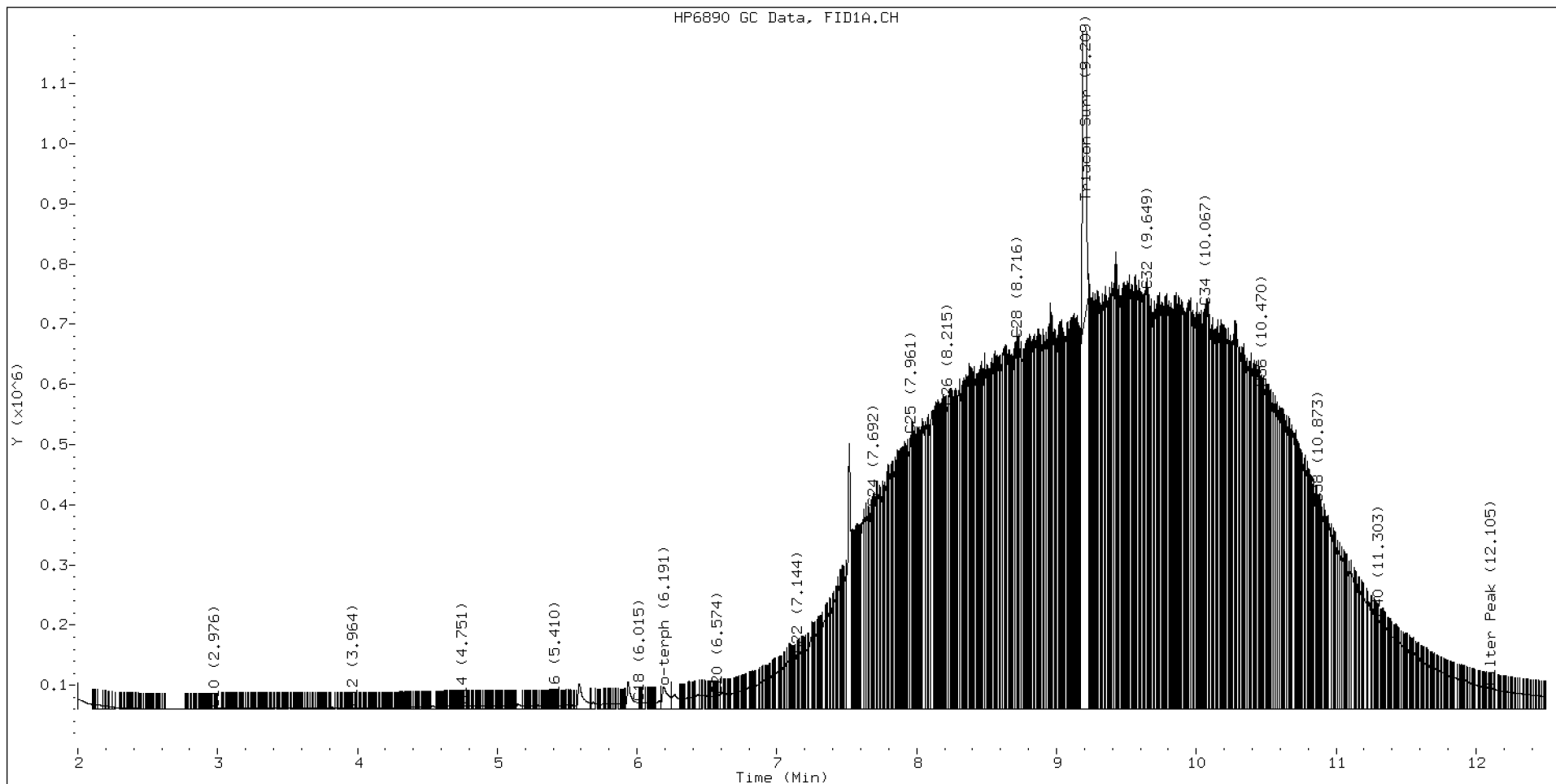
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.854	-0.028	44277	180342	WATPHD	(C12-C24)	10481245	65.8
C10	2.976	0.003	1145	501	WATPHM	(C24-C38)	106982651	1057.5
C12	3.964	-0.002	2486	1328	AK102	(C10-C25)	14294657	73.1
C14	4.751	0.003	5364	1869	AK103	(C25-C36)	93522446	1277.5
C16	5.410	-0.002	6776	2022	OR.DIES	(C10-C28)	41130655	209.9
C18	6.015	0.004	10945	3258				
C20	6.574	-0.007	22353	14389	JET-A	(C10-C18)	951036	5.7
C22	7.144	0.002	91413	92105				
C24	7.692	0.002	333923	116105				
C25	7.961	0.003	455083	353913				
C26	8.215	-0.003	503187	299099				
C28	8.716	-0.007	614899	392637				
C32	9.649	0.002	696573	409724				
C34	10.067	-0.002	667711	362348				
Filter Peak	12.105	0.008	34685	17268	BUNKERC	(C10-C38)	117583337	2978.5
C36	10.470	-0.004	532830	159101				
C38	10.873	-0.002	341234	201390				
C40	11.303	0.000	151056	125135				
o-terph	6.191	-0.005	37770	117506				
Triacon Surr	9.209	-0.014	7853282	7443462	NAS DIES	(C10-C24)	10600686	54.3

Range Times: NW Diesel(3.966 - 7.690) AK102(2.97 - 7.96) Jet A(2.97 - 6.01)
NW M.Oil(7.69 - 10.88) AK103(7.96 - 10.47) OR Diesel(2.97 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	117506	0.6
Triacontane	7443462	50.2 M

M Indicates the peak was manually integrated

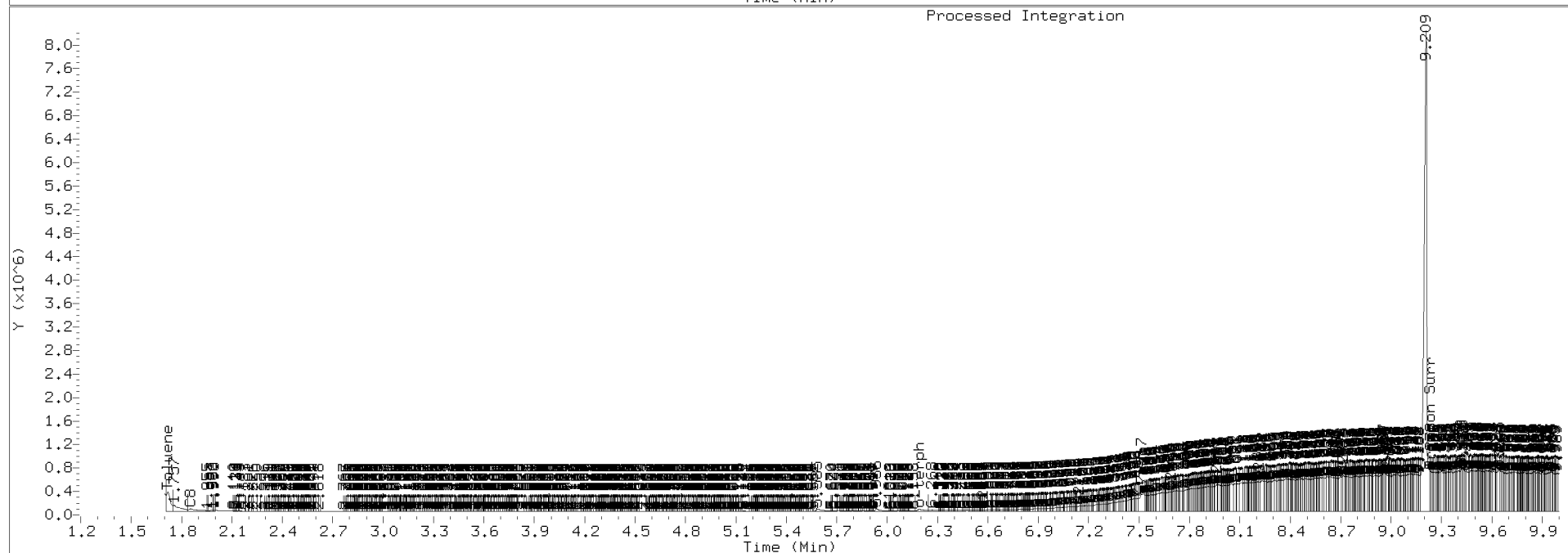
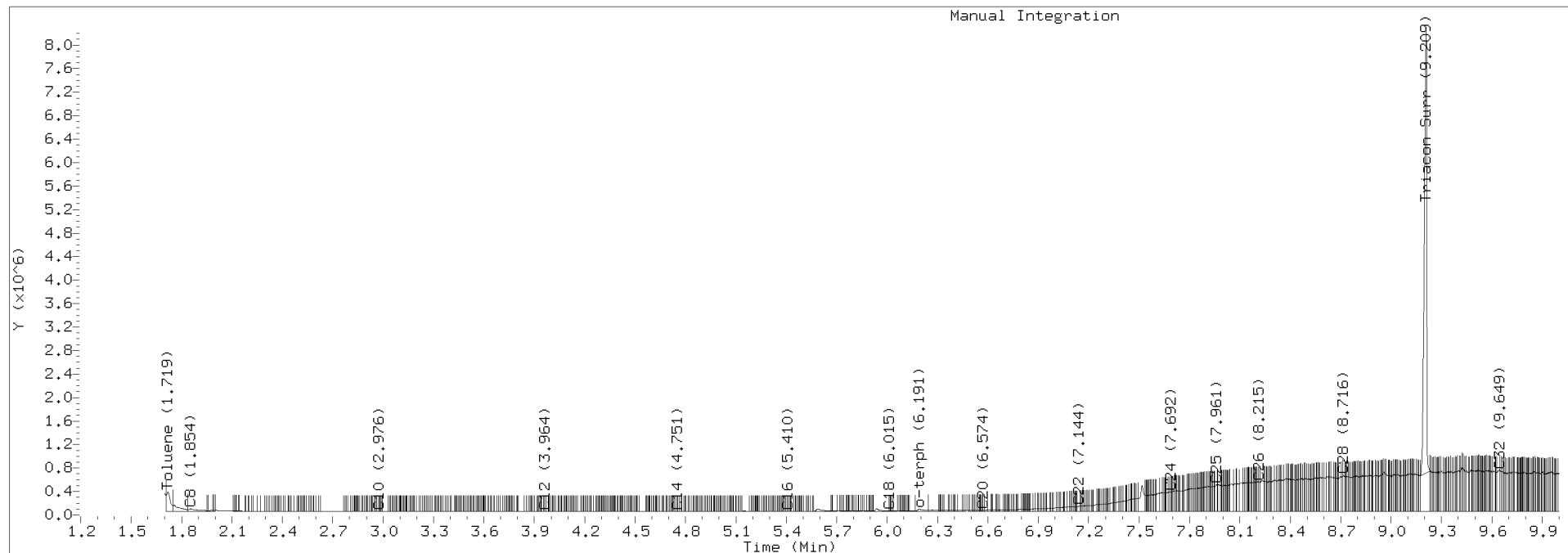
Analyte	RF	Curve Date
o-Terph Surr	204701.9	25-OCT-2019
Triacon Surr	148377.1	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	159336.7	25-OCT-2019
Motor Oil	101166.0	25-OCT-2019
AK102	195491.2	25-OCT-2019
AK103	73206.5	25-OCT-2019
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report

Datafile: FID4A, 20201202.b/420L0274.D Injection: 03-DEC-2020 09:34

Lab ID: SIL0020-CCV8





ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0126

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SHJ0406

Instrument: FID4

Calibration: CJ00089

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SHJ0406-IBL1	419J2505.D	NA	10/25/19 13:11
Instrument Blank	SHJ0406-IBL2	419J2506.D	NA	10/25/19 13:31
DIESEL 50	SHJ0406-CAL1	419J2507.D	NA	10/25/19 13:52
DIESEL 100	SHJ0406-CAL2	419J2508.D	NA	10/25/19 14:12
DIESEL 250	SHJ0406-CAL3	419J2509.D	NA	10/25/19 14:32
DIESEL 500	SHJ0406-CAL4	419J2510.D	NA	10/25/19 14:53
DIESEL 1000	SHJ0406-CAL5	419J2511.D	NA	10/25/19 15:13
DIESEL 2500	SHJ0406-CAL6	419J2512.D	NA	10/25/19 15:32
DIESEL SCV	SHJ0406-SCV1	419J2513.D	NA	10/25/19 15:52
MOIL 100	SHJ0406-CAL7	419J2514.D	NA	10/25/19 16:12
MOIL 250	SHJ0406-CAL8	419J2515.D	NA	10/25/19 16:33
MOIL 500	SHJ0406-CAL9	419J2516.D	NA	10/25/19 16:53
MOIL 1000	SHJ0406-CALA	419J2517.D	NA	10/25/19 17:13
MOIL 2500	SHJ0406-CALB	419J2518.D	NA	10/25/19 17:34
MOIL 5000	SHJ0406-CALC	419J2519.D	NA	10/25/19 17:54
MOIL SCV	SHJ0406-SCV2	419J2520.D	NA	10/25/19 18:14



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4

Element Column ID: G004925

Calibration ID: CJ00089

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-IBL1	Retention Time Standard	QC		1	H006806		
SHJ0406-IBL2	Instrument Blank	QC		2	H007457		
SHJ0406-CAL1	DIESEL 50	QC		3	H010495		
SHJ0406-CAL2	DIESEL 100	QC		4	H010496		
SHJ0406-CAL3	DIESEL 250	QC		5	H010497		
SHJ0406-CAL4	DIESEL 500	QC		6	H010498		
SHJ0406-CAL5	DIESEL 1000	QC		7	H010499		
SHJ0406-CAL6	DIESEL 2500	QC		8	H009367		
SHJ0406-SCV1	DIESEL SCV	QC		9	H008294		
SHJ0406-CAL7	MOIL 100	QC		10	H008395		
SHJ0406-CAL8	MOIL 250	QC		11	H008396		
SHJ0406-CAL9	MOIL 500	QC		12	H008397		
SHJ0406-CALA	MOIL 1000	QC		13	H007659		
SHJ0406-CALB	MOIL 2500	QC		14	H008398		
SHJ0406-CALC	MOIL 5000	QC		15	H007458		
SHJ0406-SCV2	MOIL SCV	QC		16	H008399		
SHJ0406-CALD	AK103 100	QC		17	H010478		
SHJ0406-CALE	AK103 250	QC		18	H010479		
SHJ0406-CALF	AK103 500	QC		19	H010480		
SHJ0406-CALG	AK103 1000	QC		20	H010481		
SHJ0406-CALH	AK103 2500	QC		21	H010482		
SHJ0406-CALI	AK103 5000	QC		22	H008608		



ANALYSIS SEQUENCE

SHJ0406

Instrument: FID4
Calibration ID: CJ00089

Element Column ID: G004925

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SHJ0406-SCV3	AK103 SCV	QC		23	H008400		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-OCT-2019	11:37	419J2501.D	1	RINSE	
2	25-OCT-2019	11:55	419J2502.D	1	RINSE	
3	25-OCT-2019	12:30	419J2503.D	1	RINSE	
4	25-OCT-2019	12:51	419J2504.D	1	RINSE	
5	25-OCT-2019	13:11	419J2505.D	1	SHJ0406-IBL1	
6	25-OCT-2019	13:31	419J2506.D	1	SHJ0406-IBL2	
7	25-OCT-2019	13:52	419J2507.D	1	SHJ0406-CAL1	
8	25-OCT-2019	14:12	419J2508.D	1	SHJ0406-CAL2	
9	25-OCT-2019	14:32	419J2509.D	1	SHJ0406-CAL3	
10	25-OCT-2019	14:53	419J2510.D	1	SHJ0406-CAL4	
11	25-OCT-2019	15:13	419J2511.D	1	SHJ0406-CAL5	
12	25-OCT-2019	15:32	419J2512.D	1	SHJ0406-CAL6	
13	25-OCT-2019	15:52	419J2513.D	1	SHJ0406-SCV1	
14	25-OCT-2019	16:12	419J2514.D	1	SHJ0406-CAL7	
15	25-OCT-2019	16:33	419J2515.D	1	SHJ0406-CAL8	
16	25-OCT-2019	16:53	419J2516.D	1	SHJ0406-CAL9	
17	25-OCT-2019	17:13	419J2517.D	1	SHJ0406-CALA	
18	25-OCT-2019	17:34	419J2518.D	1	SHJ0406-CALB	
19	25-OCT-2019	17:54	419J2519.D	1	SHJ0406-CALC	
20	25-OCT-2019	18:14	419J2520.D	1	SHJ0406-SCV2	
21	25-OCT-2019	18:35	419J2521.D	1	SHJ0406-CALD	
22	25-OCT-2019	18:55	419J2522.D	1	SHJ0406-CALE	
23	25-OCT-2019	19:15	419J2523.D	1	SHJ0406-CALF	
24	25-OCT-2019	19:34	419J2524.D	1	SHJ0406-CALG	
25	25-OCT-2019	19:54	419J2525.D	1	SHJ0406-CALH	
26	25-OCT-2019	20:15	419J2526.D	1	SHJ0406-CALI	
27	25-OCT-2019	20:35	419J2527.D	1	SHJ0406-SCV3	
28	25-OCT-2019	20:55	419J2528.D	1	SHJ0406-ICV1	
29	25-OCT-2019	21:16	419J2529.D	1	SHJ0406-ICV2	
30	25-OCT-2019	21:36	419J2530.D	1	BHJ0711-BLK1	
31	25-OCT-2019	21:56	419J2531.D	1	BHJ0711-BS1	
32	25-OCT-2019	22:16	419J2532.D	1	19J0373-01	
33	25-OCT-2019	22:35	419J2533.D	1	19J0373-02	
34	25-OCT-2019	22:55	419J2534.D	1	19J0373-03	
35	25-OCT-2019	23:16	419J2535.D	1	19J0373-04	
36	25-OCT-2019	23:36	419J2536.D	1	19J0373-05	
37	25-OCT-2019	23:57	419J2537.D	1	19J0373-06	
38	26-OCT-2019	00:17	419J2538.D	1	19J0373-07	
39	26-OCT-2019	00:37	419J2539.D	1	19J0373-08	
40	26-OCT-2019	00:58	419J2540.D	1	SHJ0406-CCV1	
41	26-OCT-2019	01:18	419J2541.D	1	SHJ0406-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 25-OCT-2019

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1137	419J2501.D	RINSE		1	NO MANUAL INTEGRATION
1155	419J2502.D	RINSE		1	NO MANUAL INTEGRATION
1230	419J2503.D	RINSE		1	NO MANUAL INTEGRATION
1251	419J2504.D	RINSE		1	NO MANUAL INTEGRATION
1311	419J2505.D	SHJ0406-IBL1		1	NO MANUAL INTEGRATION
1331	419J2506.D	SHJ0406-IBL2		1	NO MANUAL INTEGRATION
1352	419J2507.D	SHJ0406-CAL1		1	NO MANUAL INTEGRATION
1412	419J2508.D	SHJ0406-CAL2		1	o-terph,
1432	419J2509.D	SHJ0406-CAL3		1	NO MANUAL INTEGRATION
1453	419J2510.D	SHJ0406-CAL4		1	o-terph,
1513	419J2511.D	SHJ0406-CAL5		1	o-terph,
1532	419J2512.D	SHJ0406-CAL6		1	o-terph,
1552	419J2513.D	SHJ0406-SCV1		1	NO MANUAL INTEGRATION
1612	419J2514.D	SHJ0406-CAL7		1	Triacon Surr,
1633	419J2515.D	SHJ0406-CAL8		1	Triacon Surr,
1653	419J2516.D	SHJ0406-CAL9		1	Triacon Surr,
1713	419J2517.D	SHJ0406-CALA		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1734	419J2518.D	SHJ0406-CALB		1	Triacon Surr,
1754	419J2519.D	SHJ0406-CALC		1	Triacon Surr,
1814	419J2520.D	SHJ0406-SCV2		1	Triacon Surr,
1835	419J2521.D	SHJ0406-CALD		1	Triacon Surr,
1855	419J2522.D	SHJ0406-CALE		1	Triacon Surr,
1915	419J2523.D	SHJ0406-CALF		1	Triacon Surr,
1934	419J2524.D	SHJ0406-CALG		1	Triacon Surr,
1954	419J2525.D	SHJ0406-CALH		1	Triacon Surr,
2015	419J2526.D	SHJ0406-CALI		1	Triacon Surr,
2035	419J2527.D	SHJ0406-SCV3		1	Triacon Surr,
2055	419J2528.D	SHJ0406-ICV1		1	o-terph,
2116	419J2529.D	SHJ0406-ICV2		1	Triacon Surr,
2136	419J2530.D	BHJ0711-BLK1		1	NO MANUAL INTEGRATION
2156	419J2531.D	BHJ0711-BS1		1	o-terph,
2216	419J2532.D	19J0373-01		1	Triacon Surr,
2235	419J2533.D	19J0373-02		1	NO MANUAL INTEGRATION
2255	419J2534.D	19J0373-03		1	Triacon Surr,
2316	419J2535.D	19J0373-04		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20191025.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2336	419J2536.D	19J0373-05	1	o-terph,	Triacon Surr,
2357	419J2537.D	19J0373-06	1		Triacon Surr,
0017	419J2538.D	19J0373-07	1		Triacon Surr,
0037	419J2539.D	19J0373-08	1		Triacon Surr,
0058	419J2540.D	SHJ0406-CCV1	1	o-terph,	
0118	419J2541.D	SHJ0406-CCV2	1		Triacon Surr,

Security Status Report

Date: 30-Oct-2019 07:25

419J2507.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2508.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2509.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2510.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2511.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2512.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2513.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2514.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2515.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2516.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2517.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2518.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2519.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2520.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2521.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2522.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2523.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2524.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2525.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2526.D	Data Locked	j rains, 30-Oct-2019 07:20
419J2527.D	Data Locked	j rains, 30-Oct-2019 07:20

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	02-JUN-2020	07:40	420F0201.D	1	RINSE	
2	02-JUN-2020	07:59	420F0202.D	1	RINSE	
3	02-JUN-2020	08:19	420F0203.D	1	SIF0018-IBL1	
4	02-JUN-2020	08:38	420F0204.D	1	SIF0018-IBL2	
5	02-JUN-2020	08:58	420F0205.D	1	SIF0018-CAL1	
6	02-JUN-2020	09:17	420F0206.D	1	SIF0018-CAL2	
7	02-JUN-2020	09:37	420F0207.D	1	SIF0018-CAL3	
8	02-JUN-2020	09:56	420F0208.D	1	SIF0018-CAL4	
9	02-JUN-2020	10:16	420F0209.D	1	SIF0018-CAL5	
10	02-JUN-2020	10:36	420F0210.D	1	SIF0018-CAL6	
11	02-JUN-2020	10:55	420F0211.D	1	SIF0018-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200602.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 02-JUN-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0740	420F0201.D	RINSE		1	NO MANUAL INTEGRATION
0759	420F0202.D	RINSE		1	NO MANUAL INTEGRATION
0819	420F0203.D	SIF0018-IBL1		1	NO MANUAL INTEGRATION
0838	420F0204.D	SIF0018-IBL2		1	NO MANUAL INTEGRATION
0858	420F0205.D	SIF0018-CAL1		1	Triacon Surr,
0917	420F0206.D	SIF0018-CAL2		1	Triacon Surr,
0937	420F0207.D	SIF0018-CAL3		1	Triacon Surr,
0956	420F0208.D	SIF0018-CAL4		1	Triacon Surr,
1016	420F0209.D	SIF0018-CAL5		1	Triacon Surr,
1036	420F0210.D	SIF0018-CAL6		1	Triacon Surr,
1055	420F0211.D	SIF0018-SCV1		1	Triacon Surr,

Security Status Report

Date: 02-Jun-2020 12:52

420F0201.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0202.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0203.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0204.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0205.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0206.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0207.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0208.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0209.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0210.D	Data Locked	christopher, 02-Jun-2020 12:51
420F0211.D	Data Locked	christopher, 02-Jun-2020 12:51

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	10-AUG-2020	08:11	420H1001.D	1	RINSE	
2	10-AUG-2020	08:30	420H1002.D	1	RINSE	
3	10-AUG-2020	08:50	420H1003.D	1	SEQ-IBL1	
4	10-AUG-2020	09:10	420H1004.D	1	SEQ-IBL2	
5	10-AUG-2020	09:30	420H1005.D	1	SEQ-ICV1	
6	10-AUG-2020	09:49	420H1006.D	1	SEQ-ICV2	
7	10-AUG-2020	10:09	420H1007.D	1	I006965	
8	10-AUG-2020	11:44	420H1008.D	1	SEQ-CAL1	
9	10-AUG-2020	12:03	420H1009.D	1	SEQ-CAL2	
10	10-AUG-2020	12:23	420H1010.D	1	SEQ-CAL3	
11	10-AUG-2020	12:43	420H1011.D	1	SEQ-CAL4	
12	10-AUG-2020	13:02	420H1012.D	1	SEQ-CAL5	
13	10-AUG-2020	13:22	420H1013.D	1	SEQ-CAL6	
14	10-AUG-2020	15:15	420H1014.D	1	BIH0129-BLK1	
15	10-AUG-2020	15:34	420H1015.D	1	BIH0129-BS1	
16	10-AUG-2020	15:54	420H1016.D	1	20H0053-01	
17	10-AUG-2020	16:14	420H1017.D	1	20H0058-01	
18	10-AUG-2020	16:34	420H1018.D	1	20H0058-02	
19	10-AUG-2020	16:53	420H1019.D	1	20H0058-03	
20	10-AUG-2020	17:13	420H1020.D	1	20H0060-01	
21	10-AUG-2020	17:33	420H1021.D	1	20H0060-02	
22	10-AUG-2020	17:52	420H1022.D	1	20H0060-03	
23	10-AUG-2020	18:12	420H1023.D	1	BIH0058-BLK1	
24	10-AUG-2020	18:32	420H1024.D	1	BIH0058-BS1	
25	10-AUG-2020	18:52	420H1025.D	1	20G0289-03	
26	10-AUG-2020	19:11	420H1026.D	1	20G0291-01	
27	10-AUG-2020	19:31	420H1027.D	1	SEQ-CCV1	
28	10-AUG-2020	19:51	420H1028.D	1	SEQ-CCV2	
29	10-AUG-2020	20:11	420H1029.D	1	SEQ-ICV3	
30	10-AUG-2020	20:30	420H1030.D	1	BIH0100-BLK1	
31	10-AUG-2020	20:50	420H1031.D	1	BIH0100-BS1	
32	10-AUG-2020	21:10	420H1032.D	1	BIH0100-BSD1	
33	10-AUG-2020	21:29	420H1033.D	1	20G0287-01	
34	10-AUG-2020	21:49	420H1034.D	1	BIH0100-MS1	
35	10-AUG-2020	22:09	420H1035.D	1	BIH0100-MSD1	
36	10-AUG-2020	22:28	420H1036.D	1	BIH0113-BLK1	
37	10-AUG-2020	22:48	420H1037.D	1	BIH0113-BS1	
38	10-AUG-2020	23:08	420H1038.D	1	BIH0113-BSD1	
39	10-AUG-2020	23:27	420H1039.D	1	20H0047-01	
40	10-AUG-2020	23:47	420H1040.D	1	20H0047-02	
41	11-AUG-2020	00:06	420H1041.D	1	20H0047-03	
42	11-AUG-2020	00:26	420H1042.D	1	SEQ-CCV3	
43	11-AUG-2020	00:46	420H1043.D	1	SEQ-CCV4	
44	11-AUG-2020	01:05	420H1044.D	1	SEQ-CCV5	
45	11-AUG-2020	01:25	420H1045.D	1	BIH0166-BLK1	
46	11-AUG-2020	01:44	420H1046.D	1	BIH0166-BS1	
47	11-AUG-2020	02:04	420H1047.D	1	BIH0166-BSD1	
48	11-AUG-2020	02:23	420H1048.D	1	20H0082-01	
49	11-AUG-2020	02:43	420H1049.D	1	BIH0166-MS1	
50	11-AUG-2020	03:03	420H1050.D	1	BIH0166-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	11-AUG-2020	03:22	420H1051.D	1	20H0082-02	
52	11-AUG-2020	03:42	420H1052.D	1	20H0082-03	
53	11-AUG-2020	04:01	420H1053.D	1	20H0082-04	
54	11-AUG-2020	04:21	420H1054.D	1	20H0082-05	
55	11-AUG-2020	04:40	420H1055.D	1	20H0082-06	
56	11-AUG-2020	05:00	420H1056.D	1	20H0082-07	
57	11-AUG-2020	05:19	420H1057.D	1	20H0082-08	
58	11-AUG-2020	05:39	420H1058.D	1	20H0082-09	
59	11-AUG-2020	05:58	420H1059.D	1	SEQ-CCV6	
60	11-AUG-2020	06:18	420H1060.D	1	SEQ-CCV7	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200810.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 10-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0811	420H1001.D	RINSE		1	NO MANUAL INTEGRATION
0830	420H1002.D	RINSE		1	NO MANUAL INTEGRATION
0850	420H1003.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
0910	420H1004.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0930	420H1005.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0949	420H1006.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
1009	420H1007.D	I006965		1	NO MANUAL INTEGRATION
1144	420H1008.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
1203	420H1009.D	SEQ-CAL2		1	o-terph,
1223	420H1010.D	SEQ-CAL3		1	o-terph,
1243	420H1011.D	SEQ-CAL4		1	o-terph,
1302	420H1012.D	SEQ-CAL5		1	o-terph,
1322	420H1013.D	SEQ-CAL6		1	o-terph,

Security Status Report

Date: 10-Aug-2020 15:38

420H1001.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1002.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1003.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1004.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1005.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1006.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1007.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1008.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1009.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1010.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1011.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1012.D	Data Locked	christopher, 10-Aug-2020 15:38
420H1013.D	Data Locked	christopher, 10-Aug-2020 15:38



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 20K0126

Client: Dalton, Olmsted & Fuglevand, Inc

Project: ICS-Former NW Cooperaage

Sequence: SIH0165

Instrument: FID4

Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SIH0165-IBL1	420H1403.D	NA	08/14/20 08:43
Instrument Blank	SIH0165-IBL2	420H1404.D	NA	08/14/20 09:03
ZZZZZ	20H0120-01	420H1410.D	Solid	08/14/20 11:00
ZZZZZ	20H0120-02	420H1411.D	Solid	08/14/20 11:20
ZZZZZ	20H0120-03	420H1412.D	Solid	08/14/20 11:39
DIESEL CCV	SIH0165-CCV1	420H1413.D	NA	08/14/20 11:59
MOIL CCV	SIH0165-CCV2	420H1414.D	NA	08/14/20 12:18
JETA CAL	SIH0165-CAL1	420H1416.D	NA	08/14/20 12:58
ZZZZZ	BIH0255-BLK1	420H1417.D	Water	08/14/20 13:17
ZZZZZ	BIH0255-BS1	420H1418.D	Water	08/14/20 13:37
ZZZZZ	BIH0255-BSD1	420H1419.D	Water	08/14/20 13:56
ZZZZZ	20H0139-03	420H1420.D	Water	08/14/20 14:16
ZZZZZ	20H0139-04	420H1421.D	Water	08/14/20 14:36
ZZZZZ	20H0139-05	420H1422.D	Water	08/14/20 14:55
ZZZZZ	20H0142-01	420H1423.D	Water	08/14/20 15:15
ZZZZZ	BIH0199-BLK1	420H1424.D	Water	08/14/20 15:34
ZZZZZ	BIH0199-BS1	420H1425.D	Water	08/14/20 15:54
ZZZZZ	BIH0199-BSD1	420H1426.D	Water	08/14/20 16:14
ZZZZZ	20H0099-01	420H1427.D	Water	08/14/20 16:33
ZZZZZ	20H0099-02	420H1428.D	Water	08/14/20 16:53
ZZZZZ	20H0099-03	420H1429.D	Water	08/14/20 17:13
ZZZZZ	20H0099-04	420H1430.D	Water	08/14/20 17:32
DIESEL CCV	SIH0165-CCV4	420H1431.D	NA	08/14/20 17:52
MOIL CCV	SIH0165-CCV5	420H1432.D	NA	08/14/20 18:11
JETA CCV	SIH0165-CCV6	420H1433.D	NA	08/14/20 18:31
ZZZZZ	BIH0218-BLK1	420H1434.D	Water	08/14/20 18:51
ZZZZZ	BIH0218-BS1	420H1435.D	Water	08/14/20 19:10
ZZZZZ	BIH0218-BSD1	420H1436.D	Water	08/14/20 19:30
ZZZZZ	20H0114-01	420H1437.D	Water	08/14/20 19:49
ZZZZZ	20H0114-02	420H1438.D	Water	08/14/20 20:09



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc. SDG: 20K0126
Client: Dalton, Olmsted & Fuglevand, Inc Project: ICS-Former NW Cooperage
Sequence: SIH0165 Instrument: FID4
Calibration: DA00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	BIH0216-BLK1	420H1439.D	Solid	08/14/20 20:29
ZZZZZ	BIH0216-BS1	420H1440.D	Solid	08/14/20 20:48
ZZZZZ	20H0085-01	420H1441.D	Solid	08/14/20 21:08
ZZZZZ	20H0085-02	420H1442.D	Solid	08/14/20 21:27
ZZZZZ	20H0085-03	420H1443.D	Solid	08/14/20 21:47
ZZZZZ	20H0085-04	420H1444.D	Solid	08/14/20 22:06
DIESEL CCV	SIH0165-CCV7	420H1445.D	NA	08/14/20 22:26
MOIL CCV	SIH0165-CCV8	420H1446.D	NA	08/14/20 22:45

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	14-AUG-2020	08:04	420H1401.D	1	RINSE	
2	14-AUG-2020	08:23	420H1402.D	1	RINSE	
3	14-AUG-2020	08:43	420H1403.D	1	SEQ-IBL1	
4	14-AUG-2020	09:03	420H1404.D	1	SEQ-IBL2	
5	14-AUG-2020	09:22	420H1405.D	1	SEQ-ICV1	
6	14-AUG-2020	09:42	420H1406.D	1	SEQ-ICV2	
7	14-AUG-2020	10:01	420H1407.D	1	SEQ-ICV3	
8	14-AUG-2020	10:21	420H1408.D	1	BIH0223-BLK1	
9	14-AUG-2020	10:41	420H1409.D	1	BIH0223-BS1	
10	14-AUG-2020	11:00	420H1410.D	1	20H0120-01	
11	14-AUG-2020	11:20	420H1411.D	1	20H0120-02	
12	14-AUG-2020	11:39	420H1412.D	1	20H0120-03	
13	14-AUG-2020	11:59	420H1413.D	1	SEQ-CCV1	
14	14-AUG-2020	12:18	420H1414.D	1	SEQ-CCV2	
15	14-AUG-2020	12:38	420H1415.D	1	SEQ-CCV3	
16	14-AUG-2020	12:58	420H1416.D	1	SEQ-ICV4	
17	14-AUG-2020	13:17	420H1417.D	1	BIH0255-BLK1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20200814.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 14-AUG-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0804	420H1401.D	RINSE		1	NO MANUAL INTEGRATION
0823	420H1402.D	RINSE		1	NO MANUAL INTEGRATION
0843	420H1403.D	SEQ-IBL1		1	C40,
0903	420H1404.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
0922	420H1405.D	SEQ-ICV1		1	o-terph,
0942	420H1406.D	SEQ-ICV2		1	Triacon Surr,
1001	420H1407.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
1021	420H1408.D	BIH0223-BLK1		1	o-terph,
1041	420H1409.D	BIH0223-BS1		1	NO MANUAL INTEGRATION
1100	420H1410.D	20H0120-01		1	o-terph, Triacon Surr,
1120	420H1411.D	20H0120-02		1	o-terph, Triacon Surr,
1139	420H1412.D	20H0120-03		1	o-terph, Triacon Surr,
1159	420H1413.D	SEQ-CCV1		1	o-terph,
1218	420H1414.D	SEQ-CCV2		1	Triacon Surr,
1238	420H1415.D	SEQ-CCV3		1	NO MANUAL INTEGRATION