



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: 4,4' DDT

Manufacturer: Chem Service

Product #: \_\_\_\_\_

Lot #: 198-128A

Purity: 99.2%

Analyst: AS



Description: SVOC alpha-Terpineol Expires: 31-Dec-29  
Standard Type: Calibration Stan Prepared: 31-Dec-12  
Solvent: N/A Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 23-Sep-13 12:13 by JZ  
Vendor: ACROS Organics Lot #: AD16481201  
Vendor Catalog #:

**Comments**

Neat, Purity @ 98%. (ARI#: I1582A)

Analyte	CAS Number	Concentration	Units
alpha-Terpineol	98-55-5	1000000	ug/mL





Appendix 20.1

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The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: alpha-Terpineol

Manufacturer: Acros Organics

Product #: \_\_\_\_\_

Lot #: AD6481201

Purity: 98%

Analyst: 12



Description: SVOA Dibutyl Phenyl phosphate Expires: 31-Dec-29  
Standard Type: Calibration Stan Prepared: 31-Dec-12  
Solvent: NA Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 23-Sep-13 15:45 by JZ  
Vendor: Monsanto Lot #: N/A  
Vendor Catalog #:

**Comments**

Neat, Purity @ 98.9%.

Analyte	CAS Number	Concentration	Units
Dibutyl Phenyl Phosphate	2528-36-1	1000000	ug/mL

Reviewed By

Date



Appendix 20.1

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The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Dibutyl Phenyl Phosphate

Manufacturer: Monsanto

Product #: NA

Lot #: NA

Purity: 98.9%

Analyst: AD



Description: SVOC Triphenyl Phosphate Expires: 31-Dec-29  
Standard Type: Calibration Stan Prepared: 31-Dec-12  
Solvent: NA Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 23-Sep-13 15:59 by JZ  
Vendor: Aldrich Lot #: 04902CM  
Vendor Catalog #:

**Comments**

Neat, Purity @ 99%.

Analyte	CAS Number	Concentration	Units
Triphenyl Phosphate	115-86-6	1000000	ug/mL

Reviewed By

Date



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The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Triphenyl phosphate

Manufacturer: Aldrich

Product #: \_\_\_\_\_

Lot #: 04902CM

Purity: 99%

Analyst: [Signature]



Description: SVOC Butylated Hydroxytoluene Expires: 31-Dec-29  
Standard Type: Calibration Stan Prepared: 31-Dec-12  
Solvent: NA Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 23-Sep-13 16:18 by JZ  
Vendor: SIGMA Lot #: 39F-0197  
Vendor Catalog #:

**Comments**

neat,Purity @ 99.9%.

Analyte	CAS Number	Concentration	Units
Butylated Hydroxytoluene	128-37-0	1000000	ug/mL

Reviewed By

Date



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Bulkyated Hydroxytoluene

Manufacturer: Sigma

Product #: \_\_\_\_\_

Lot #: 39F-0197

Purity: 99.8%

Analyst: AB



Description: SVOC Butyl Diphenyl Phosphate Expires: 31-Dec-29  
Standard Type: Calibration Stan Prepared: 31-Dec-12  
Solvent: NA Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 23-Sep-13 17:02 by JZ  
Vendor: Monsanto Lot #: N/A  
Vendor Catalog #:

**Comments**

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Butyl Diphenyl Phosphate	2752-95-6	1000000	ug/mL

Reviewed By

Date





Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Butyl Diphenyl Phosphate

Manufacturer: Monsanto

Product #: NA

Lot #: NA

Purity: 99%

Analyst: [Signature]



Description:	SVOC 2,4-Dinitrophenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 13:45 by JZ
Vendor:	SIGMA	Lot #:	65H5021
Vendor Catalog #:			

**Comments**

Neat, Purity @ 90-95%. (ARI#: 0466)

Analyte	CAS Number	Concentration	Units
2,4-Dinitrophenol	51-28-5	1000000	ug/mL

**B001941**

SVOA 2,4-Dinitrophenol  
Expires 12/31/2029  
*Prepared By Jianqing Zhou 9/25/2013*



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: 2,4-Dinitrophenol

Manufacturer: Sigma

Product #: \_\_\_\_\_

Lot #: 644 5021

Purity: 90.29%

Analyst: AB



Description:	SVOC Benzoic Acid	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:23 by JZ
Vendor:	ACROS Organics	Lot #:	A0224339
Vendor Catalog #:			

**Comments**

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Benzoic acid	65-85-0	1000000	ug/mL

**B001945**

SVOC Benzoic Acid  
Expires 12/31/2029

*Prepared By Jianqing Zhou 12/31/2012*

Reviewed By

Date



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Benzoic Acid

Manufacturer: Acros Organics

Product #: \_\_\_\_\_

Lot #: A0224339

Purity: 98%

Analyst: AB



Description:	SVOC 4,6-Dinitro-2-Methylphenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:37 by JZ
Vendor:	Chem Service	Lot #:	179-31A
Vendor Catalog #:			

**Comments**

Neat, Purity @ 99%. (ARI#: 009A)

Analyte	CAS Number	Concentration	Units
4,6-Dinitro-2-methylphenol	534-52-1	1000000	ug/mL

**B001948**

SVOA 4,6-Dinitro-2-Methylphenol  
Expires 12/31/2029  
*Prepared By Jianqing Zhou 9/25/2013*



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: 4,6-Dinitro-2-Methylphenol

Manufacturer: Chem Service

Product #: \_\_\_\_\_

Lot #: 179-31A

Purity: 99%

Analyst: RB



Description: SVOA Benzidine Expires: 31-Dec-29  
Standard Type: Analyte Spike Prepared: 15-Oct-13  
Solvent: N/A Prepared By: Jianqing Zhou  
Final Volume (mls): 1 Department: Organics  
Vials: 1 Last Edit: 15-Oct-13 12:07 by JZ  
Vendor: SIGMA Lot #: 18C0024  
Vendor Catalog #:

**Comments**

Purity @ 95%. ARI#: 0467.

Analyte	CAS Number	Concentration	Units
Benzidine	92-87-5	1000000	ug/mL





Appendix 20.1

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The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: \_\_\_\_\_

Chemical: Benzidine

Manufacturer: Sigma

Product #: B-3503

Lot #: 18C0024

Purity: 95%

Analyst: B.

# Certificate of Analysis

Product Name: 1,2,4,5-Tetrachlorobenzene  
Product Description: 98%  
Product Brand: Sigma-Aldrich  
Product Number: 131857  
Molecular Weight: 215.89  
CAS Number: 95-94-3

## TEST

APPEARANCE  
INFRARED SPECTRUM

&nbsp;

&nbsp;

&nbsp;

GAS LIQUID

QUALITY CONTROL

## SPECIFICATION

WHITE POWDER, CHIPS OR CRYSTALS  
CONFORMS TO STRUCTURE.

97.5% (MINIMUM)

## LOT 19309JR RESULTS

WHITE CHIPS  
CONFORMS TO STRUCTURE AND  
STANDARD AS  
ILLUSTRATED ON PAGE 1011C OF EDITION  
I,  
VOLUME 1 OF "THE ALDRICH LIBRARY OF  
FT-IR  
SPECTRA".  
99.9 %  
JULY 1997



Barbara Rajzer, Supervisor  
Quality Control  
Milwaukee, Wisconsin USA

**F09172**

SVOC 1,2,4,5-Tetrachlorobenzene  
Expires 12/31/2079  
*Prepared By Joshua Rains 10/6/2017*

# Certificate of Analysis

**Produced by Phenova**

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com  
Access your Safety Data Sheets and digital Certificates at [www.phenova.com/documents](http://www.phenova.com/documents).

## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101244

**Lot Number:** CL15236

**Description:** Benzidines Standard

**Certification Date:** April 28, 2020

**Storage:** 4 °C

**Expiration Date:** April 30, 2030

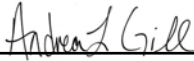
**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride

**I010154**

Benzidines std @2000ug/ml

Expires 4/30/2030

Prepared By Joshua Rains 10/29/2020



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.231%
3,3'-Dichlorobenzidine	91-94-1	2000	± 0.116%

# Certificate of Analysis

## Produced by Phenova

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com

Access your Safety Data Sheets and digital Certificates at [www.phenova.com/documents](http://www.phenova.com/documents).

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31<sup>1</sup> and ISO Guide 35.<sup>2</sup>
2. Quality Standards: Phenova is accredited by A2LA to ISO 17034<sup>3</sup> and ISO/IEC 17025<sup>4</sup> as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

## References:

<sup>1</sup> ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.

<sup>2</sup> ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.

<sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.

<sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.

<sup>5</sup> ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer  
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material  
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory  
Certificate No. 2427.03

# Certificate of Composition - Analytical Standard

## BASE STOCK

**Product no.:** 22523051  
**Lot no.:** LRAC9813  
**Expiry Date:** May 2023  
**Manufacturing Date:** May 2021  
**Storage:** Refrigerate  
**Solvent/Matrix:** Dichloromethane  
**Certificate version:** LRAC9813.01 (Note: Certificates may be updated due to the availability of new data. Check our website at: [www.sigma-aldrich.com](http://www.sigma-aldrich.com) for the most current version.)

**J005199**

SVOA-ABN BASE STOCK-200-800ug/ml  
 Expires 5/31/2023  
 Prepared By Jiangqing Zhou 5/18/2021

Analyte	Assigned Value	Units	Raw Material Purity, %	Raw Material Lot
3,3'-DICHLOROBENZIDINE CAS# 91-94-1	802	µg/mL	99.9	LC27068
2,4-DINITROTOLUENE CAS# 121-14-2	802	µg/mL	97.8	LB46632
2,6-DINITROTOLUENE CAS# 606-20-2	801	µg/mL	99.9	LB79891
HEXACHLOROCYCLOPENTADIENE CAS# 77-47-4	802	µg/mL	96.0	LB95525
N-NITROSODIMETHYLAMINE CAS# 62-75-9	801	µg/mL	95.0	2019-030598 5
PERYLENE CAS# 198-55-0	201	µg/mL	99.6	04101PG
ANILINE CAS# 62-53-3	803	µg/mL	100.0	10126MG
4-CHLOROANILINE CAS# 106-47-8	803	µg/mL	100.0	MKBZ6909V
2-NITROANILINE CAS# 88-74-4	802	µg/mL	99.9	LC05068
3-NITROANILINE CAS# 99-09-2	802	µg/mL	99.9	LC09264
4-NITROANILINE CAS# 100-01-6	802	µg/mL	99.9	LC11400
PYRIDINE (LOW WATER) CAS# 110-86-1	802	µg/mL	100.0	SHBJ9218

**Measurement method:** Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

**Intended use:** Intended for R&D and Analytical Use only. Not for drug, household or other uses.

**Packaging:** 1 mL in amber ampule

**Instructions for handling and correct use:** Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user's location. Open slowly and carefully to avoid dispersion of the material.



**Health and safety information:**

All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

**Certificate issue date:**

12-May-2021



Andy Ommen - QC Manager



Mark Pooler - QA Supervisor

**Certificate of analysis revision history:**

Certificate version	Date	Reason for version
LRAC9813.01	12-May-2021	Original Release Date

**Disclaimer:** The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.





## Certificate of Composition - Analytical Standard

## ACID STOC™

**Product no.:** 22523046  
**Lot no.:** LRAC9812  
**Expiry Date:** May 2023  
**Manufacturing Date:** May 2021  
**Storage:** Refrigerate  
**Solvent/Matrix:** Dichloromethane  
**Certificate version:** LRAC9812.01 (Note: Certificates may be updated due to the availability of new data. Check our website at: [www.sigma-aldrich.com](http://www.sigma-aldrich.com) for the most current version.)

**J005200**  
 SVOA-ABN ACID STOCK-200-800ug/ml  
 Solvent / Lot: DCM  
 Prep: 5/18/2021 by JZ  
 Exp: 5/31/2023  
 Location:



Analyte	Assigned Value	Units	Raw Material Purity, %	Raw Material Lot
2,4-DIMETHYLPHENOL CAS# 105-67-9	802	µg/mL	99.9	LB88935
2,4-DICHLOROPHENOL CAS# 120-83-2	802	µg/mL	100.0	BCBZ6787
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	802	µg/mL	99.9	JS00008
2,4-DINITROPHENOL CAS# 51-28-5	1806	µg/mL	75.9	MKBP5833V
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	803	µg/mL	98.7	LB82983
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	801	µg/mL	99.9	JS00013
4-NITROPHENOL CAS# 100-02-7	801	µg/mL	99.9	LC10889
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	1804	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	803	µg/mL	98.7	MKCK8156
BENZOIC ACID CAS# 65-85-0	1805	µg/mL	99.9	LC16514

**Measurement method:** Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

**Intended use:** Intended for R&D and Analytical Use only. Not for drug, household or other uses.

**Packaging:** 1 mL in amber ampule

**Instructions for handling and correct use:** Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user's location. Open slowly and carefully to avoid dispersion of the material.

**Health and safety information:** All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.





# CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31493 **Lot No.:** A0167617

**Description :** CLP 04.1 BNA Surrogate Mix  
CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use. **Ship:** Ambient

**J005610**

CLP 04.1 BNA SURR MIX  
Expires 9/30/2024  
*Prepared By Jianqing Zhou 5/26/2021*

### CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	2-Fluorophenol	1,506.0 µg/mL	+/-	8.9452	µg/mL	Gravimetric
	CAS # 367-12-4 (Lot STBF3761V)		+/-	43.9882	µg/mL	Unstressed
	Purity 99%		+/-	53.3632	µg/mL	Stressed
2	Phenol-d6	1,512.0 µg/mL	+/-	8.9808	µg/mL	Gravimetric
	CAS # 13127-88-3 (Lot PR-31658)		+/-	44.1635	µg/mL	Unstressed
	Purity 99%		+/-	53.5758	µg/mL	Stressed
3	2-Chlorophenol-d4	1,502.0 µg/mL	+/-	8.9214	µg/mL	Gravimetric
	CAS # 93951-73-6 (Lot PR-30568)		+/-	43.8714	µg/mL	Unstressed
	Purity 99%		+/-	53.2214	µg/mL	Stressed
4	1,2-Dichlorobenzene-d4	1,006.0 µg/mL	+/-	5.9753	µg/mL	Gravimetric
	CAS # 2199-69-1 (Lot M-2097)		+/-	29.3839	µg/mL	Unstressed
	Purity 99%		+/-	35.6463	µg/mL	Stressed
5	Nitrobenzene-d5	1,002.0 µg/mL	+/-	5.9516	µg/mL	Gravimetric
	CAS # 4165-60-0 (Lot PR-29940B)		+/-	29.2671	µg/mL	Unstressed
	Purity 99%		+/-	35.5046	µg/mL	Stressed
6	2-Fluorobiphenyl	1,002.0 µg/mL	+/-	5.9516	µg/mL	Gravimetric
	CAS # 321-60-8 (Lot 00019169)		+/-	29.2671	µg/mL	Unstressed
	Purity 99%		+/-	35.5046	µg/mL	Stressed
7	2,4,6-Tribromophenol	1,502.0 µg/mL	+/-	8.9214	µg/mL	Gravimetric
	CAS # 118-79-6 (Lot S55013V)		+/-	43.8714	µg/mL	Unstressed
	Purity 99%		+/-	53.2214	µg/mL	Stressed



8	p-Terphenyl-d14	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	<b>CAS #</b> 1718-51-0	(Lot PR-30504)	+/- 29.2671	µg/mL	Unstressed
	<b>Purity</b> 99%		+/- 35.5046	µg/mL	Stressed

**Solvent:** Methylene chloride  
**CAS #** 75-09-2  
**Purity** 99%

**Tech Tips:**

Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

**Column:**  
30m x 0.25mm x 0.25µm  
Rtx-5 (cat.#10223)

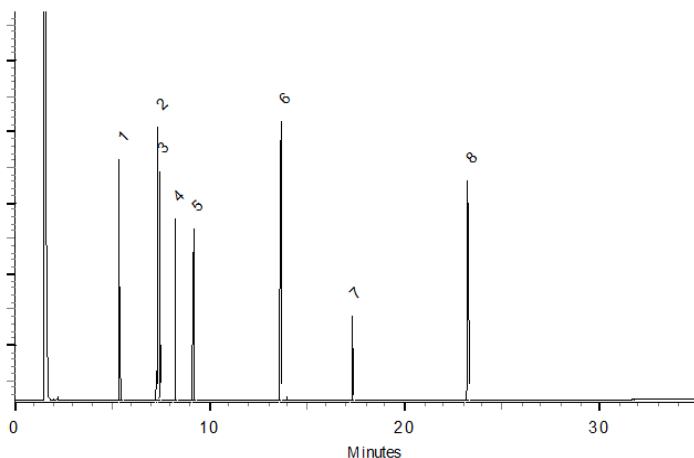
**Carrier Gas:**  
hydrogen-constant pressure 10 psi.

**Temp. Program:**  
40°C (hold 2 min.) to 330°C  
@ 10°C/min. (hold 10 min.)

**Inj. Temp:**  
250°C

**Det. Temp:**  
330°C

**Det. Type:**  
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

  
**Tom Suckar - Mix Technician**

**Date Mixed:** 29-Dec-2020      **Balance:** B345965662

  
**Justine Albertson - Operations Tech-ARM QC**

**Date Passed:** 31-Dec-2020

**Manufactured under Restek's ISO 9001:2015  
Registered Quality System  
Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

# Certificate of Analysis

**Produced by Phenova**

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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101444

**Lot Number:** CL16916

**Description:** 8270 Calibration Standard

**Certification Date:** June 25, 2021

**Storage:** -18 °C

**Expiration Date:** September 30, 2022

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

**J007896**

SVOA-8270 LCS MIX 1000ug/ml  
Expires 9/30/2022

Prepared By Van Spohn 7/31/2021



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 0.300%
Acenaphthylene	208-96-8	1000	± 0.225%
Anthracene	120-12-7	1000	± 0.224%
Azobenzene	103-33-3	1000	± 0.224%
Benzo(a)anthracene	56-55-3	1000	± 0.247%
Benzo(a)pyrene	50-32-8	1000	± 0.258%
Benzo(b)fluoranthene	205-99-2	1000	± 0.144%
Benzo(k)fluoranthene	207-08-9	1000	± 0.146%
Benzo(g,h,i)perylene	191-24-2	1000	± 0.146%
Benzyl alcohol	100-51-6	1000	± 0.231%
Benzyl butyl phthalate	85-68-7	1000	± 0.480%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.527%
bis(2-Chloroethyl) ether	111-44-4	1000	± 0.486%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 0.148%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 0.479%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 0.479%
4-Bromophenyl phenyl ether	101-55-3	1000	± 0.479%
Carbazole	86-74-8	1000	± 0.147%



Reference Material Producer  
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material  
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Chemical Testing Laboratory  
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## Certified Reference Material

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**Catalog No.:** AL0-101444

**Lot Number:** CL16916

**Description:** 8270 Calibration Standard

**Certification Date:** June 25, 2021

**Storage:** -18 °C

**Expiration Date:** September 30, 2022

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 0.300%
4-Chloro-3-methylphenol	59-50-7	1000	± 0.545%
2-Chloronaphthalene	91-58-7	1000	± 0.224%
2-Chlorophenol	95-57-8	1000	± 0.507%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 0.145%
Dibenz(a,h)anthracene	53-70-3	1000	± 0.280%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 0.519%
1,2-Dichlorobenzene	95-50-1	1000	± 0.247%
1,3-Dichlorobenzene	541-73-1	1000	± 0.225%
1,4-Dichlorobenzene	106-46-7	1000	± 0.224%
2,4-Dichlorophenol	120-83-2	1000	± 0.545%
Diethyl phthalate	84-66-2	1000	± 0.479%
2,4-Dimethylphenol	105-67-9	1000	± 0.507%
Dimethyl phthalate	131-11-3	1000	± 0.519%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 0.242%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 0.226%

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## Certified Reference Material

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**Catalog No.:** AL0-101444

**Lot Number:** CL16916

**Description:** 8270 Calibration Standard

**Certification Date:** June 25, 2021

**Storage:** -18 °C

**Expiration Date:** September 30, 2022

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 0.224%
Di-n-octyl phthalate	117-84-0	1000	± 0.486%
Fluoranthene	206-44-0	1000	± 0.224%
Fluorene	86-73-7	1000	± 0.224%
Hexachlorobenzene	118-74-1	1000	± 0.152%
Hexachlorobutadiene	87-68-3	1000	± 0.479%
Hexachlorocyclopentadiene	77-47-4	1000	± 0.146%
Hexachloroethane	67-72-1	1000	± 0.300%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 0.149%
Isophorone	78-59-1	1000	± 0.145%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 0.479%
2-Methylnaphthalene	91-57-6	1000	± 0.487%
2-Methylphenol	95-48-7	1000	± 0.545%
3-Methylphenol	108-39-4	500	± 0.279%
4-Methylphenol	106-44-5	500	± 0.279%
Naphthalene	91-20-3	1000	± 0.226%
2-Nitroaniline	88-74-4	1000	± 0.224%
3-Nitroaniline	99-09-2	1000	± 0.235%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 0.300%



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## Certified Reference Material

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**Catalog No.:** AL0-101444

**Lot Number:** CL16916

**Description:** 8270 Calibration Standard

**Certification Date:** June 25, 2021

**Storage:** -18 °C

**Expiration Date:** September 30, 2022

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.514%
4-Nitrophenol	100-02-7	1000	± 0.519%
N-Nitrosodimethylamine	62-75-9	1000	± 0.503%
N-Nitrosodiphenylamine	86-30-6	1000	± 0.476%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 0.152%
Phenanthrene	85-01-8	1000	± 0.145%
Phenol	108-95-2	1000	± 0.545%
Pyrene	129-00-0	1000	± 0.147%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 0.247%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 0.247%
1,2,4-Trichlorobenzene	120-82-1	1000	± 0.224%
2,4,5-Trichlorophenol	95-95-4	1000	± 0.507%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.509%

**Notes:** The proper chemical name for Bis(2-Chloroisopropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31<sup>1</sup> and ISO Guide 35.<sup>2</sup>
2. Quality Standards: Phenova is accredited by A2LA to ISO 17034<sup>3</sup> and ISO/IEC 17025<sup>4</sup> as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k \sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

## References:

<sup>1</sup> ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.

<sup>2</sup> ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.

<sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.

<sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.

<sup>5</sup> ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



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Certificate No. 2427.02



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Chemical Testing Laboratory  
Certificate No. 2427.03

# Certificate of Analysis

**J008074**

 SVOA PAH STD 2000ug/ml  
 Expires 6/30/2023  
 Prepared By Joshua Rains 8/5/2021

**Product Name:** PAH Standard

**Product Number:** US-106N-1

**Lot Issue Date:** 11-Jun-2020

**Lot Number:** 0006540449

**Expiration Date:** 30-Jun-2023

**Description:**

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
acenaphthene	000083-32-9	RM10879	2008 ± 10 µg/mL
acenaphthylene	000208-96-8	RM10891	2003 ± 10 µg/mL
anthracene	000120-12-7	RM14212	2006 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM16072	2006 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM14571	2005 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM14321	2009 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM15761	2008 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM12669	2009 ± 10 µg/mL
chrysene	000218-01-9	RM12260	2009 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	2009 ± 10 µg/mL
fluoranthene	000206-44-0	RM12277	2004 ± 10 µg/mL
fluorene	000086-73-7	RM09441	2009 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM14192	2009 ± 10 µg/mL
naphthalene	000091-20-3	NT00970	2008 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2009 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2008 ± 10 µg/mL

**Matrix:** methylene chloride/benzene (1:1)

 ISO 17034 Cert No.  
 AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

Page: 1 of 2

[www.agilent.com/quality/](http://www.agilent.com/quality/)

 ISO 17025 Cert  
 No. AT-1937



# Certificate of Analysis

**Product Number:** US-106N-1

**Lot Number:** 0006540449

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this RM.

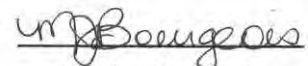
**Expiration of Certification:**

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

  
Monica Bourgeois  
QMS Representative

ISO 17034 Cert No.  
AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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[www.agilent.com/quality/](http://www.agilent.com/quality/)



ISO 17025 Cert  
No. AT-1937

# Certificate of Analysis

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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101244

**Lot Number:** CL16062

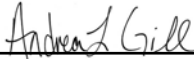
**Description:** Benzidines Standard

**Certification Date:** November 19, 2020

**Storage:** 4 °C

**Expiration Date:** November 30, 2030

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 2.740%
3,3'-Dichlorobenzidine	91-94-1	2000	± 3.229%

**J008310**

Benzidines std @2000ug/ml

Expires 11/30/2030

Prepared By Van Spohn 8/12/2021

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1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31<sup>1</sup> and ISO Guide 35.<sup>2</sup>
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034<sup>3</sup> and ISO/IEC 17025<sup>4</sup> as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

## References:

<sup>1</sup> ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.

<sup>2</sup> ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.

<sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.

<sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.

<sup>5</sup> ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Reference Material Producer  
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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101246

**Lot Number:** CL16692

**Description:** Benzoic Acid

**Certification Date:** April 23, 2021

**Storage:** 4 °C

**Expiration Date:** April 30, 2031

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 3.403%

**J008311**

Benzoic Acid @2000ug/ml  
Expires 4/30/2031  
Prepared By Van Spohn 8/12/2021



# Certificate of Analysis

## Produced by Phenova

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com

Access your Safety Data Sheets and digital Certificates at [www.phenova.com/documents](http://www.phenova.com/documents).

1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31<sup>1</sup> and ISO Guide 35.<sup>2</sup>
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034<sup>3</sup> and ISO/IEC 17025<sup>4</sup> as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 25 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$u_{CRM} = k \sqrt{u_M^2 + u_H^2 + u_{LTS}^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

## References:

- <sup>1</sup> ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
- <sup>2</sup> ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
- <sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- <sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
- <sup>5</sup> ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



Phenova is an accredited ISO/IEC 17034 Reference Material  
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101443

**Lot Number:** CL16571

**Description:** Aniline

**Certification Date:** March 23, 2021

**Storage:** 4 °C

**Expiration Date:** March 31, 2029

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride

*Andrea Gill*

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aniline	62-53-3	1000	± 0.561%

J10387  
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Reference Material Producer  
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Chemical Testing Laboratory  
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5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
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- <sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- <sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
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Reference Material Producer  
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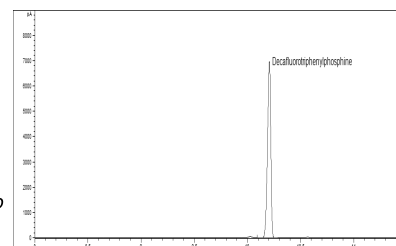
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Chemical Testing Laboratory  
Certificate No. 2427.03

**Certificate of Analysis - Certified Reference Material****Decafluorotriphenylphosphine solution**

**Product no.:** 48724-U  
**Lot no.:** LRAD0628  
**Expiry Date:** October 2024  
**Manufacturing Date:** September 2021  
**Storage:** ROOM TEMPERATURE  
**Solvent/Matrix:** DICHLOROMETHANE  
**Certificate version:** LRAD0628.01 (Note: Certificates may be updated due to the availability of new data. Check our website at: [www.sigma-aldrich.com](http://www.sigma-aldrich.com) for the most current version.)

**Certified Values:**

Analyte	Certified Value	Units	Raw Material Purity, %	Raw Material Lot
DFTPP CAS# 5074-71-5	25.2 ± 2.6	mg/mL	97.0	10220909

**ASSAY Method****METHOD: GC (BELLEFONTE )**

Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness

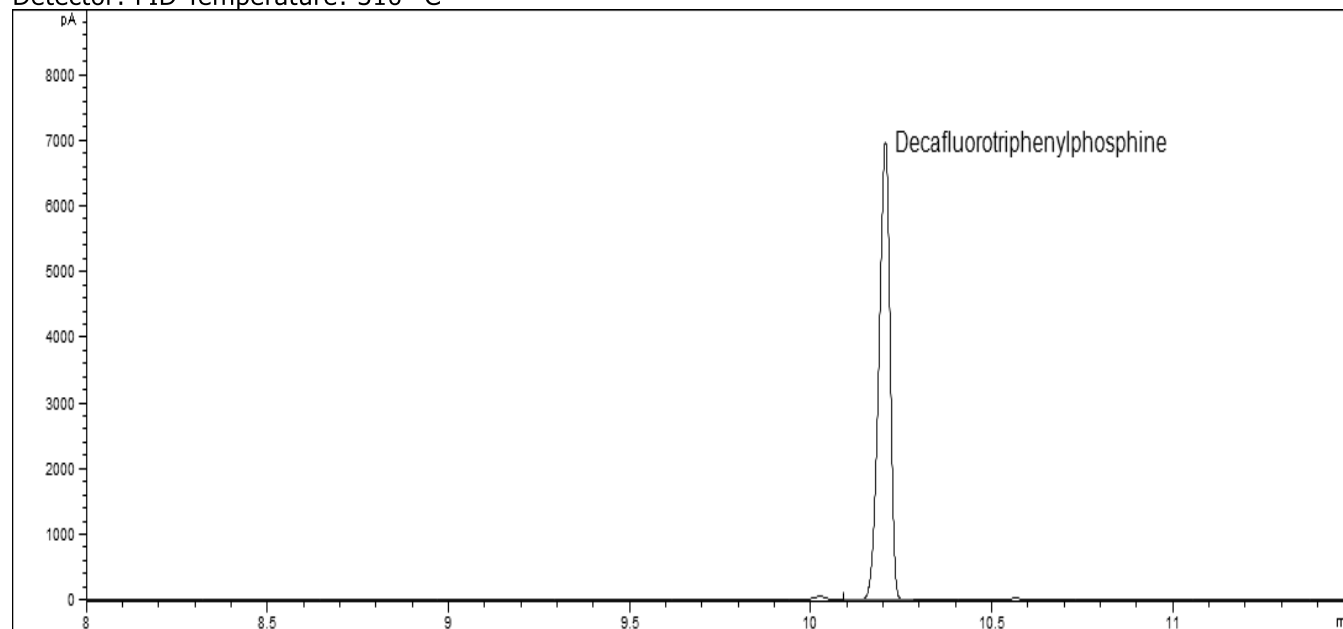
Carrier Gas: H<sub>2</sub> Flow Rate: 4.3 mL/min

Inlet Temperature: 250 °C Injection Volume: 1 µL

Injection Mode: 25:1

Temperature Program: 120 °C (Hold 0 min) @ 12 °C/min to 260 °C (Hold 0 min)

Detector: FID Temperature: 310 °C





**Elution details:**

EO	RT(MIN)	ANALYTE
1	10.206	Decafluorotriphenylphosphine

**Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

**Measurement method:** Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

**Intended use:** Intended for R&D and Analytical Use only. Not for drug, household or other uses.

**Minimum sample size:** 1 µL

**Packaging:** 1 mL in amber ampule

**Instructions for handling and correct use:** Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

**Health and safety information:** All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

**Accreditation:** Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

**Certificate issue date:** 30-Sep-2021



Andy Ommen - QC Manager

Scott Stetler - QA Manager

**Details on metrological traceability:** This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

**Associated uncertainty:** Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

**Homogeneity assessment:** Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

**Stability assessment:**

Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

**Certificate of analysis revision history:**

<b>Certificate version</b>	<b>Date</b>	<b>Reason for version</b>
LRAD0628.01	30-Sep-2021	Original Release Date

**Disclaimer:** The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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The life science business of Merck KGaA, Darmstadt, Germany  
operates as MilliporeSigma in the US and Canada.



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## Certified Reference Material

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**Catalog No.:** AL0-101244

**Lot Number:** CL17662

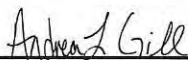
**Description:** Benzidines Standard

**Certification Date:** December 2, 2021

**Storage:** 4 °C

**Expiration Date:** November 30, 2031

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride



Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.211%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.305%

**K001616**  
Benzidines std @2000ug/ml  
Solvent / Lot: CL17662  
Prep: 2/16/2022 by VS  
Exp: 11/30/2031  
Location: GC



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## Certified Reference Material

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**Catalog No.:** AL0-101246

**Lot Number:** CL16692

**Description:** Benzoic Acid

**Certification Date:** April 23, 2021

**Storage:** 4 °C

**Expiration Date:** April 30, 2031

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride

*Andrea Gill*

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 3.403%

K 2725



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## Certified Reference Material

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**Catalog No.:** AL0-101444

**Lot Number:** CL17663

**Description:** 8270 Calibration Standard

**Certification Date:** December 2, 2021

**Storage:** -18 °C

**Expiration Date:** February 28, 2023

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

*Andrea Gill*

Andrea Gill, Certified Reference Materials Manager

*K 3240*

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.803%
Acenaphthylene	208-96-8	1000	± 1.317%
Anthracene	120-12-7	1000	± 2.120%
Azobenzene	103-33-3	1000	± 2.067%
Benzo(a)anthracene	56-55-3	1000	± 2.525%
Benzo(a)pyrene	50-32-8	1000	± 2.589%
Benzo(b)fluoranthene	205-99-2	1000	± 2.615%
Benzo(k)fluoranthene	207-08-9	1000	± 2.722%
Benzo(g,h,i)perylene	191-24-2	1000	± 2.226%
Benzyl alcohol	100-51-6	1000	± 2.000%
Benzyl butyl phthalate	85-68-7	1000	± 2.473%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 1.844%
bis(2-Chloroethyl) ether	111-44-4	1000	± 1.505%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 1.500%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 2.224%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 2.700%
4-Bromophenyl phenyl ether	101-55-3	1000	± 1.980%
Carbazole	86-74-8	1000	± 2.111%



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**Lot Number:** CL17663

**Description:** 8270 Calibration Standard

**Certification Date:** December 2, 2021

**Storage:** -18 °C

**Expiration Date:** February 28, 2023

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 2.013%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.963%
2-Chloronaphthalene	91-58-7	1000	± 2.044%
2-Chlorophenol	95-57-8	1000	± 1.940%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 2.549%
Dibenz(a,h)anthracene	53-70-3	1000	± 2.289%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 2.320%
1,2-Dichlorobenzene	95-50-1	1000	± 1.691%
1,3-Dichlorobenzene	541-73-1	1000	± 1.794%
1,4-Dichlorobenzene	106-46-7	1000	± 1.829%
2,4-Dichlorophenol	120-83-2	1000	± 2.308%
Diethyl phthalate	84-66-2	1000	± 1.580%
2,4-Dimethylphenol	105-67-9	1000	± 1.523%
Dimethyl phthalate	131-11-3	1000	± 2.809%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 2.254%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 2.556%

K3240



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**Description:** 8270 Calibration Standard

**Certification Date:** December 2, 2021

**Storage:** -18 °C

**Expiration Date:** February 28, 2023

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 2.056%
Di-n-octyl phthalate	117-84-0	1000	± 2.826%
Fluoranthene	206-44-0	1000	± 2.023%
Fluorene	86-73-7	1000	± 4.870%
Hexachlorobenzene	118-74-1	1000	± 1.380%
Hexachlorobutadiene	87-68-3	1000	± 1.782%
Hexachlorocyclopentadiene	77-47-4	1000	± 1.040%
Hexachloroethane	67-72-1	1000	± 2.338%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 2.148%
Isophorone	78-59-1	1000	± 2.016%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 2.104%
2-Methylnaphthalene	91-57-6	1000	± 2.111%
2-Methylphenol	95-48-7	1000	± 1.721%
3-Methylphenol	108-39-4	500	± 0.906%
4-Methylphenol	106-44-5	500	± 0.906%
Naphthalene	91-20-3	1000	± 1.757%
2-Nitroaniline	88-74-4	1000	± 1.623%
3-Nitroaniline	99-09-2	1000	± 2.738%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 2.172%



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**Storage:** -18 °C

**Expiration Date:** February 28, 2023

**Provided As:** 1 mL in 2 mL Ampoule in MeCl<sub>2</sub>/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 1.771%
4-Nitrophenol	100-02-7	1000	± 1.321%
N-Nitrosodimethylamine	62-75-9	1000	± 3.831%
N-Nitrosodiphenylamine	86-30-6	1000	± 1.835%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 1.284%
Phenanthrene	85-01-8	1000	± 2.201%
Phenol	108-95-2	1000	± 1.758%
Pyrene	129-00-0	1000	± 2.394%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 1.292%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.133%
1,2,4-Trichlorobenzene	120-82-1	1000	± 1.708%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.702%
2,4,6-Trichlorophenol	88-06-2	1000	± 2.926%

**Notes:** The proper chemical name for Bis(2-Chloropropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.



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Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material  
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory  
Certificate No. 2427.03



# Certificate of Analysis

## Produced by Phenova

6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com  
Access your Safety Data Sheets and digital Certificates at [www.phenova.com/documents](http://www.phenova.com/documents).

1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31<sup>1</sup> and ISO Guide 35.<sup>2</sup>
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034<sup>3</sup> and ISO/IEC 17025<sup>4</sup> as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.
3. **Intended Use:** The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.
4. **Handling and Usage Notes:** Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.
5. **Hazardous Situation:** The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at [www.phenova.com/documents](http://www.phenova.com/documents).
6. **Level of Homogeneity:** The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.
7. **Certified Value:** Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.
8. **Raw Materials and Purity:** Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.
9. **Expanded Uncertainty:** The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98<sup>5</sup> and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. **Metrological Traceability:** The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.
11. **Values Obtained During Product Testing:** This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.
12. **Period of Validity:** The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

## References:

- <sup>1</sup> ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
- <sup>2</sup> ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
- <sup>3</sup> ISO 17034 – General Requirements for the Competence of Reference Material Producers.
- <sup>4</sup> ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
- <sup>5</sup> ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)



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Chemical Testing Laboratory  
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# Certificate of Analysis



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## Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

**Catalog No.:** AL0-101291

**Lot Number:** CL11000

**Description:** GC/MS Tuning Mix

**Certification Date:** May 9, 2014

**Storage:** 4 °C

**Expiration Date:** December 31, 2023

**Provided As:** 1 mL in 2 mL Ampoule in Methylene chloride

**Revision Date:** August 5, 2015

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	1000	± 0.208%
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	1000	± 0.057%
4,4'-DDT	50-29-3	1000	± 0.056%
Pentachlorophenol	87-86-5	1000	± 0.061%

### K003891

GC/MS Tune solution-1000ug/ml

Solvent / Lot: CL11000

Prep: 4/22/2022 by VS

Exp: 12/31/2023

Location:



Reference Material Producer  
Certificate No. 2427.02



Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory  
Certificate No. 2427.03

IL1110612\_us



# Certificate of Analysis

**Product Name:** Toxic Substances Standard

**Product Number:** US-103N-1

**Lot Issue Date:** 25-May-2021

**Lot Number:** 0006609664

**Expiration Date:** 30-Jun-2024

**Description:**

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
benzoic acid	000065-85-0	RM01884	2005 ± 10 µg/mL
o-cresol	000095-48-7	RM12877	2005 ± 10 µg/mL
p-cresol	000106-44-5	RM01988	2005 ± 10 µg/mL
2,4,5-trichlorophenol	000095-95-4	NT00344	2004 ± 10 µg/mL

**Matrix:** methylene chloride (dichloromethane)

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NC SL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this RM.

*[Handwritten signature]*  
*5/11/22*

**K004539**

toxic sub mix#1

Solvent / Lot: methylene chloride

Prep: 5/11/2022 by JZ

Exp: 6/30/2024

Location:



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

Page: 1 of 2

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CSD-QA-015.1



ISO 17025 Cert  
No. AT-1937





## Reference Material Certificate

**Product Name:** Phenols Standard **Lot Number:** 0006648297  
**Product Number:** US-107N-1 **Lot Issue Date:** 17-Nov-2021  
**Storage Conditions:** Store at Room Temperature (15° to 30°C). **Expiration Date:** 31-Dec-2024

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded Uncertainty			
4-chloro-3-methylphenol	2006	± 10 µg/mL		000059-50-7	RM01885
2-chlorophenol	2007	± 10 µg/mL		000095-57-8	RM01871
2,4-dichlorophenol	2005	± 10 µg/mL		000120-83-2	RM13878
2,4-dimethylphenol	2006	± 10 µg/mL		000105-67-9	RM13009
2,4-dinitrophenol	2006	± 10 µg/mL		000051-28-5	RM02112
2-methyl-4,6-dinitrophenol	2005	± 10 µg/mL		000534-52-1	RM02292
2-nitrophenol	2007	± 10 µg/mL		000088-75-5	RM13445
4-nitrophenol	2006	± 10 µg/mL		000100-02-7	RM03752
pentachlorophenol	2006	± 10 µg/mL		000087-86-5	RM02474
phenol	2006	± 10 µg/mL		000108-95-2	RM11471
2,4,6-trichlorophenol	2006	± 10 µg/mL		000088-06-2	RM18096

**Matrix:** methylene chloride (dichloromethane)

**Description:**

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this analytical reference material.

*[Handwritten signature]* 5/11/22



## Reference Material Certificate

**Product Name:** PAH Standard **Lot Number:** 0006627349  
**Product Number:** US-106N-1 **Lot Issue Date:** 17-Sep-2021  
**Storage Conditions:** Store at Room Temperature (15° to 30°C). **Expiration Date:** 31-Oct-2024

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded Uncertainty			
acenaphthene	2007	± 10 µg/mL		000083-32-9	RM10879
acenaphthylene	2004	± 10 µg/mL		000208-96-8	RM10891
anthracene	2006	± 10 µg/mL		000120-12-7	RM14212
benz[a]anthracene	2006	± 10 µg/mL		000056-55-3	RM16072
benzo[b]fluoranthene	2006	± 10 µg/mL		000205-99-2	RM14571
benzo[k]fluoranthene	2006	± 10 µg/mL		000207-08-9	RM18376
benzo[ghi]perylene	2006	± 10 µg/mL		000191-24-2	RM15761
benzo[a]pyrene	2006	± 10 µg/mL		000050-32-8	RM17573
chrysene	2007	± 10 µg/mL		000218-01-9	RM13771
dibenz[a,h]anthracene	2006	± 10 µg/mL		000053-70-3	RM06786
fluoranthene	2006	± 10 µg/mL		000206-44-0	RM12277
fluorene	2006	± 10 µg/mL		000086-73-7	RM09441
indeno[1,2,3-cd]pyrene	2006	± 10 µg/mL		000193-39-5	RM14192
naphthalene	2007	± 10 µg/mL		000091-20-3	RM10445
phenanthrene	2005	± 10 µg/mL		000085-01-8	RM10495
pyrene	2005	± 10 µg/mL		000129-00-0	RM16126

**Matrix:** methylene chloride/benzene (1:1)

**Description:**

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**K004541**

SVOA PAH STD 2000ug/ml

Solvent / Lot: DCM/BENZENE

Prep: 5/11/2022 by JZ

Exp: 10/31/2024

Location: Fridge 19

Page: 1 of 2

CSD-QA-015.1





# Certificate of Analysis

**Product Name:** 1-Methylnaphthalene Standard

**Product Number:** EPA-1225-1

**Lot Issue Date:** 19-Jul-2021

**Lot Number:** 0006624769

**Expiration Date:** 31-Jul-2023

**Description:**

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
1-methylnaphthalene	000090-12-0	RM07712	999.3 ± 5.0 µg/mL

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this RM.

**Expiration of Certification:**

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**K004543**

1-Methylnaphthalene  
Solvent / Lot: MEOH  
Prep: 5/11/2022 by JZ  
Exp: 7/31/2023  
Location:

*[Handwritten signature]*  
*5/11/22*

**Sample lot approver:**

*[Handwritten signature]*  
Monica Bourgeois  
QMS Representative



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

Page: 1 of 1

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CSD-QA-015.1



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# Certificate of Analysis

**Product Name:** Toxic Substances Standard

**Product Number:** US-104N-1

**Lot Issue Date:** 02-Jul-2021

**Lot Number:** 0006620643

**Expiration Date:** 31-Jul-2023

**Description:**

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
aniline	000062-53-3	RM12853	2005 ± 10 µg/mL
benzyl alcohol	000100-51-6	RM10547	2004 ± 10 µg/mL
4-chloroaniline	000106-47-8	RM01886	2002 ± 10 µg/mL
dibenzofuran	000132-64-9	RM02077	2002 ± 10 µg/mL
2-methylnaphthalene	000091-57-6	RM01258	2006 ± 10 µg/mL
2-nitroaniline	000088-74-4	RM02402	2003 ± 10 µg/mL
3-nitroaniline	000099-09-2	RM02424	2003 ± 10 µg/mL
4-nitroaniline	000100-01-6	RM02425	2003 ± 10 µg/mL

**Matrix:** methylene chloride (dichloromethane)

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**K004544**

toxic sub mix#2

Solvent / Lot: methylene chloride

Prep: 5/11/2022 by JZ

Exp: 7/31/2023

Location:

*JZ* 05/11/22



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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ISO 17025 Cert  
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## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31493 **Lot No.:** A0181243  
**Description :** CLP 04.1 BNA Surrogate Mix  
CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** October 31, 2025 **Storage:** 10°C or colder  
**Handling:** Sonicate prior to use. **Ship:** Ambient

*Handwritten signature and date: 05/11/22*

**K004545**  
 CLP 04.1 BNA SURR MIX  
 Solvent / Lot: AO175316  
 Prep: 5/11/2022 by JZ  
 Exp: 10/20/2025  
 Location:

Elution Order	Compound	Gr (weight)					
1	2-Fluorophenol CAS # 367-12-4 (Lot STBJ2508) Purity 99%	1,50					
			+/-	53.3632	µg/mL	Stressed	
2	Phenol-d6 CAS # 13127-88-3 (Lot PR-31262) Purity 99%	1,506.0 µg/mL	+/-	8.9452	µg/mL	Gravimetric	
			+/-	43.9882	µg/mL	Unstressed	
			+/-	53.3632	µg/mL	Stressed	
3	2-Chlorophenol-d4 CAS # 93951-73-6 (Lot PR-30568) Purity 99%	1,510.0 µg/mL	+/-	8.9689	µg/mL	Gravimetric	
			+/-	44.1050	µg/mL	Unstressed	
			+/-	53.5049	µg/mL	Stressed	
4	1,2-Dichlorobenzene-d4 CAS # 2199-69-1 (Lot PR-32542/022621DB1) Purity 99%	1,004.0 µg/mL	+/-	5.9635	µg/mL	Gravimetric	
			+/-	29.3255	µg/mL	Unstressed	
			+/-	35.5754	µg/mL	Stressed	
5	Nitrobenzene-d5 CAS # 4165-60-0 (Lot PR-29940A) Purity 99%	1,008.0 µg/mL	+/-	5.9872	µg/mL	Gravimetric	
			+/-	29.4423	µg/mL	Unstressed	
			+/-	35.7172	µg/mL	Stressed	
6	2-Fluorobiphenyl CAS # 321-60-8 (Lot 19169) Purity 99%	1,006.0 µg/mL	+/-	5.9753	µg/mL	Gravimetric	
			+/-	29.3839	µg/mL	Unstressed	
			+/-	35.6463	µg/mL	Stressed	
7	2,4,6-Tribromophenol CAS # 118-79-6 (Lot MKCJ7664) Purity 99%	1,506.0 µg/mL	+/-	8.9452	µg/mL	Gravimetric	
			+/-	43.9882	µg/mL	Unstressed	
			+/-	53.3632	µg/mL	Stressed	



# Certificate of Analysis

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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101246

**Lot Number:** CL17953

**Description:** Benzoic Acid

**Certification Date:** January 31, 2022

**Storage:** 4 °C

**Expiration Date:** January 31, 2032

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride

*Andrea Gill*

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 2.714%

**K004603**

Benzoic Acid @2000ug/ml

Solvent / Lot: N/A

Prep: 5/13/2022 by JZ

Exp: 1/31/2032

Location: GC

*JZ 5/13/22*



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## Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

**Catalog No.:** AL0-101244

**Lot Number:** CL17662

**Description:** Benzidines Standard

**Certification Date:** December 2, 2021

**Storage:** 4 °C

**Expiration Date:** November 30, 2031

**Provided As:** 1 mL in 2 mL Ampoule in Methylene Chloride

*Andrea Gill*

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.211%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.305%

**K004604**

Benzidines std @2000ug/ml  
Solvent / Lot: Mecl2  
Prep: 5/13/2022 by JZ  
Exp: 11/30/2031  
Location: GC

*JZ 5/13/22*



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# Certificate of Analysis

2,3,4,6-TETRACHLOROPHENOL, 1X1ML, 5000UG/ML, METHANOL

Certified  
Reference  
Material

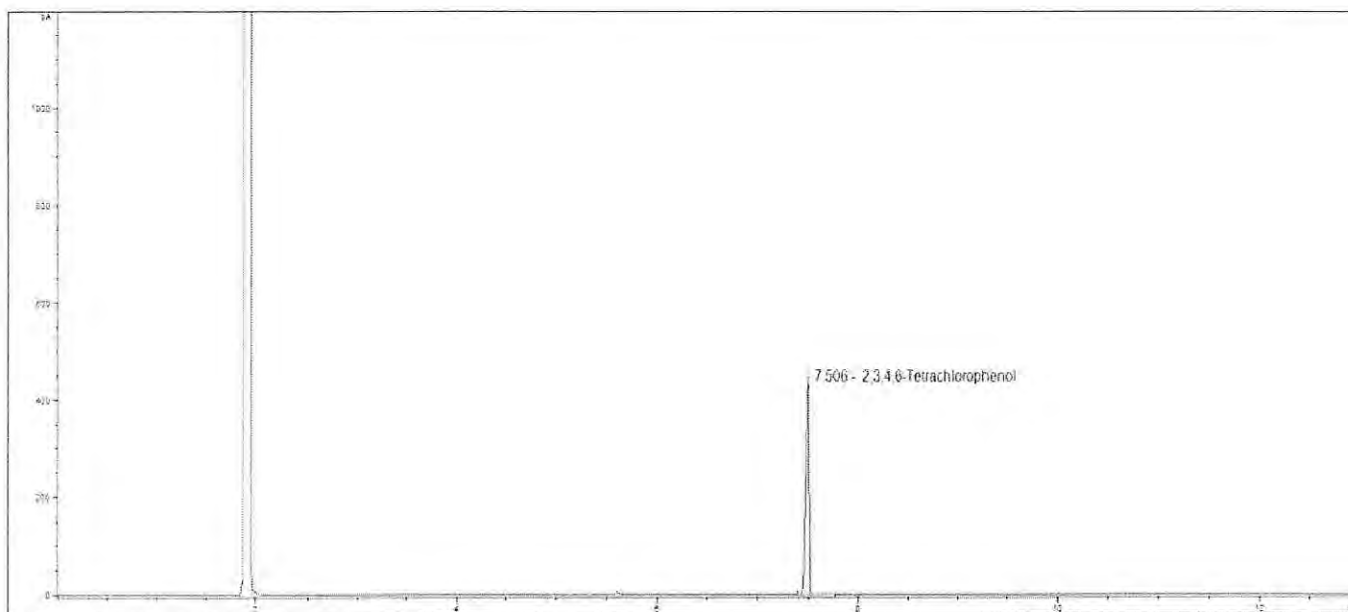
## Description

Product ID 48264  
Lot LRAC3510  
Expiration Date August 2022  
Manufacturing Date August 2019  
Storage Conditions Refrigerate  
Solvent/Matrix METHANOL

## Certified Values

Analyte	Certified Value <sup>1,4</sup>	Units	Raw Material Purity,%	Analytical Value <sup>6</sup>	Elution order	Raw Material Lot	CAS
2,3,4,6-TETRACHLOROPHENOL	4994 ± 79	µg/mL	99.4	4950	1	29072019	58-90-2

## Informational Values



## Additional Information:

Analytical Method Parameters:

Column: SPB-5, 30 m x 0.25 mm x 0.25 µm df  
140°C (2 min) to 240°C (1 min) at 10°C/min  
Detector: FID, 310°C  
Injection Volume: 0.8 µL  
Split 25:1

**K004644**

SVOA 2,3,4,6-Tetrachlorophenol

Solvent / Lot: Methanol

Prep: 5/16/2022 by JZ

Exp: 8/31/2022

Location:

*Handwritten signature and date: 5/16/22*



**SIGMA-ALDRICH®**

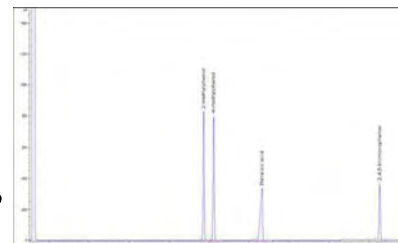
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA  
307-742-5452  
rctechgroup@sial.com www.sigma-aldrich.com



# Certificate of Analysis - Certified Reference Material

## EPA TCL Hazardous Substances Mix 1

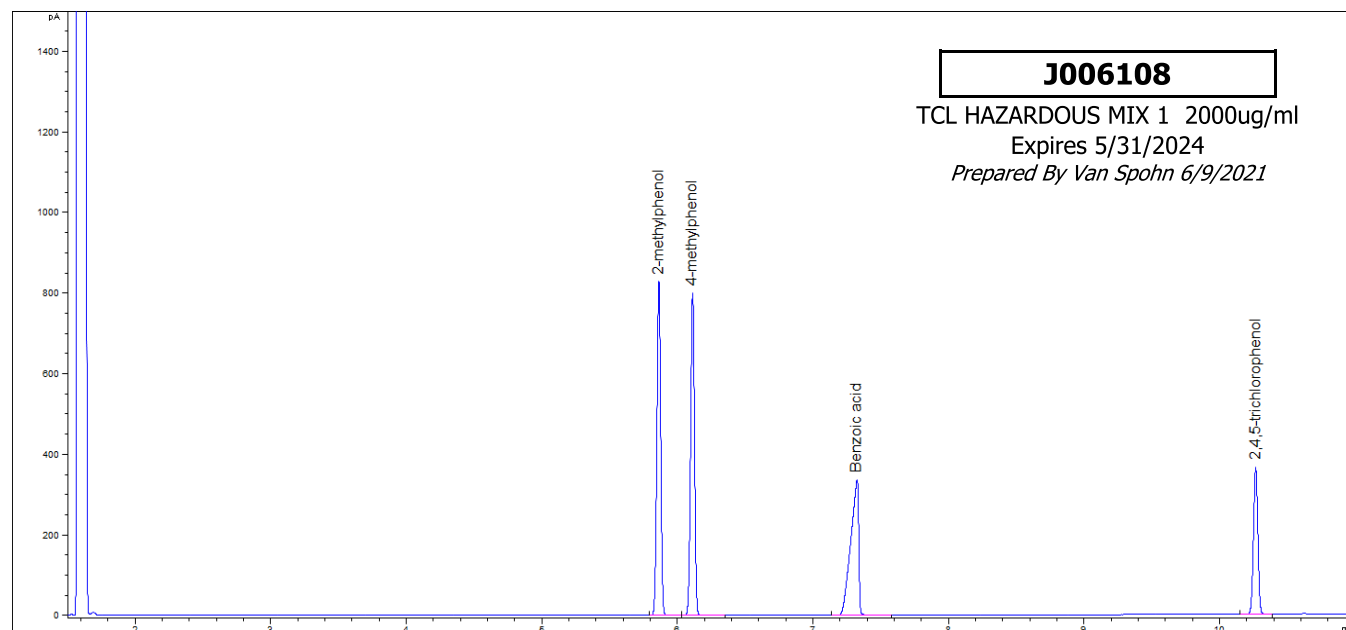
**Product no.:** 48907  
**Lot no.:** LRAC9610  
**Expiry Date:** May 2024  
**Manufacturing Date:** May 2021  
**Storage:** Refrigerate  
**Solvent/Matrix:** DICHLOROMETHANE  
**Certificate version:** LRAC9610.01 (Note: Certificates may be updated due to the availability of new data. Check our website at: [www.sigma-aldrich.com](http://www.sigma-aldrich.com) for the most current version.)



### Certified Values:

Analyte	Certified Value	Units	Raw Material Purity, %	Elution order	Raw Material Lot
2-METHYLPHENOL CAS# 95-48-7	2004 ± 9	µg/mL	99.0	1	G1735A
4-METHYLPHENOL CAS# 106-44-5	2004 ± 13	µg/mL	98.9	2	06921MG
BENZOIC ACID CAS# 65-85-0	2012 ± 6	µg/mL	99.9	3	LC16514
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	2003 ± 6	µg/mL	99.9	4	JS00008

### Informational Values:



### Additional Information:

**Analytical Method Parameters:**  
 Column: Equity-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness (Column #98)  
 Carrier Gas: H<sub>2</sub>, Flow: 4.5 mL/min  
 Inlet Temperature: 170 °C, Injection Volume: 1 µL  
 Injection Mode: Split, Split Ratio: 20:1



Temperature Program: 80 °C @ 10 °C/min to 190 °C (Hold 5 min)  
Detector: FID  
Detector Temperature: 310 °C

**Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

**Measurement method:** Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

**Intended use:** Intended for R&D and Analytical Use only. Not for drug, household or other uses.

**Packaging:** 1 mL in amber ampule

**Instructions for handling and correct use:** Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

**Health and safety information:** All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

**Accreditation:** Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

**Certificate issue date:** 20-May-2021



Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

**Details on metrological traceability:** This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

**Associated uncertainty:** Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

**Homogeneity assessment:** Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

**Stability assessment:**

Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

**Certificate of analysis revision history:**

<b>Certificate version</b>	<b>Date</b>	<b>Reason for version</b>
LRAC9610.01	20-May-2021	Original Release Date

**Disclaimer:** The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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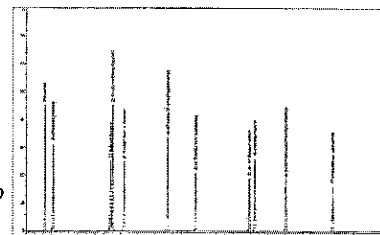
The life science business of Merck KGaA, Darmstadt, Germany  
operates as MilliporeSigma in the US and Canada.



# Certificate of Analysis - Certified Reference Material

## EPA TCL Phenols Mix

**Product no.:** 48904  
**Lot no.:** LRAD0139  
**Expiry Date:** July 2024  
**Manufacturing Date:** July 2021  
**Storage:** REFRIGERATE  
**Solvent/Matrix:** DICHLOROMETHANE  
**Certificate version:** LRAD0139.01 (Note: Certificates may be updated due to the availability of new data. Check our website at: [www.sigma-aldrich.com](http://www.sigma-aldrich.com) for the most current version.)



### Certified Values:

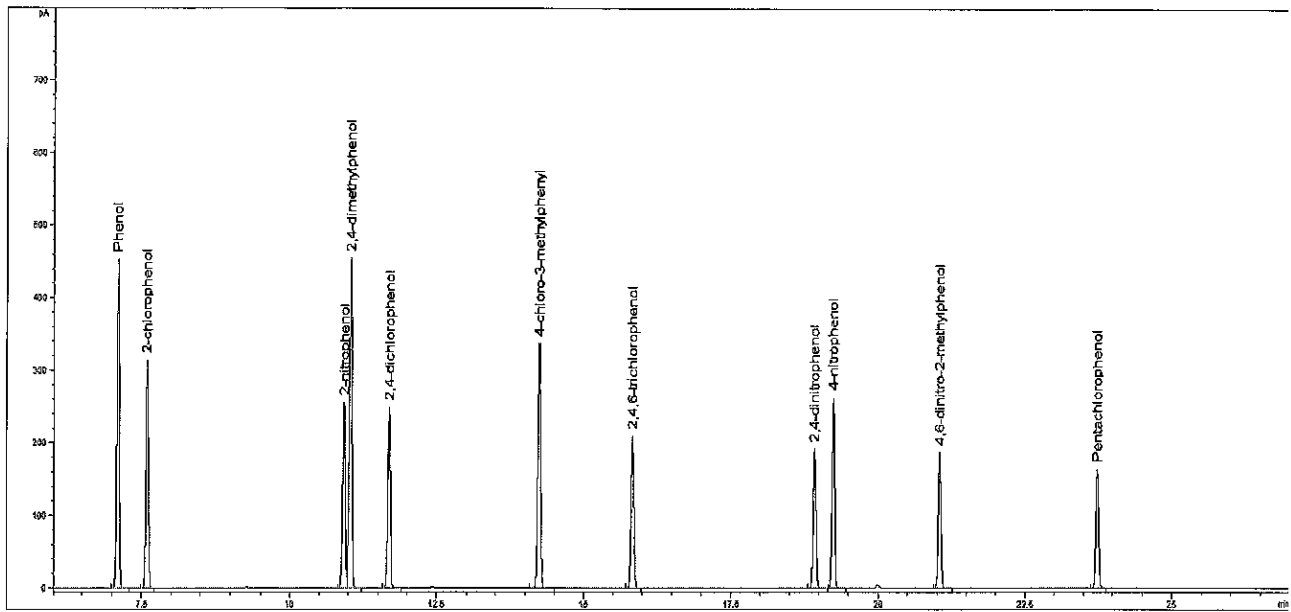
Analyte	Certified Value	Units	Raw Material Purity, %	Raw Material Lot
2-CHLOROPHENOL CAS# 95-57-8	2001 ± 25	µg/mL	99.9	STBG3033V
2-NITROPHENOL CAS# 88-75-5	1999 ± 18	µg/mL	99.3	15905BB
2,4-DIMETHYLPHENOL CAS# 105-67-9	2000 ± 14	µg/mL	99.2	05421CO
2,4-DICHLOROPHENOL CAS# 120-83-2	2000 ± 17	µg/mL	99.5	03221TN
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	2000 ± 5	µg/mL	99.9	JS00013
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	2002 ± 5	µg/mL	99.5	04212PS
2,4-DINITROPHENOL CAS# 51-28-5	2000 ± 28	µg/mL	66.9	STBJ5751
4-NITROPHENOL CAS# 100-02-7	2000 ± 33	µg/mL	99.0	04628LT
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	2000 ± 27	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	1999 ± 25	µg/mL	97.9	MKCD2150

### ASSAY Method

#### J013597

TCL Phenols Mix 2000ug/ml  
 Solvent / Lot: LRAD0139  
 Prep: 12/30/2021 by VS  
 Exp: 7/31/2024  
 Location:





**METHOD: GC (Bellefonte Method )**

Column: SPB-5, 30 m x 0.53 mm I.D., 1.5 µm film thickness

Carrier Gas: H<sub>2</sub> Flow Rate: 4.5 mL/min

Inlet Temperature: 200 °C Injection Volume: 1.0 µL

Injection Mode: 25:1

Temperature Program: 80 °C (Hold 2 min) @ 6 °C/min to 260 °C (Hold 5 min)

Detector: FID Temperature: 310 °C

**Elution details:**

EO	RT(MIN)	ANALYTE
1	7.095	Phenol
2	7.585	2-chlorophenol
3	10.925	2-nitrophenol
4	11.037	2,4-dimethylphenol
5	11.696	2,4-dichlorophenol
6	14.242	4-chloro-3-methylphenol
7	15.842	2,4,6-trichlorophenol
8	18.93	2,4-dinitrophenol
9	19.25	4-nitrophenol
10	21.05	4,6-dinitro-2-methylphenol
11	23.752	Pentachlorophenol



**Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

**Measurement method:** Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

**Intended use:** Intended for R&D and Analytical Use only. Not for drug, household or other uses.

**Packaging:** 1 mL in amber ampule

**Instructions for handling and correct use:** Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

**Health and safety information:** All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

**Accreditation:** Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

**Certificate issue date:** 12-Jul-2021



Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

**Details on metrological traceability:**

This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

**Associated uncertainty:**

Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

**Homogeneity assessment:**

Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

**Stability assessment:**

Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

**Certificate of analysis revision history:**

<b>Certificate version</b>	<b>Date</b>	<b>Reason for version</b>
LRAD0139.01	12-Jul-2021	Original Release Date

**Disclaimer:** The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-01 A      SDG: 22F0267  
 Sampled: 06/14/22 13:00      Prepared: 06/21/22 11:11      File ID: 322F2428.D  
 % Solids: 51.14      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 18:35  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.05 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	123		4.55	9.73
RRO	Motor Oil Range Organics (C24-C38)	1	365		5.82	19.5

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	21.889	18.3	83.8	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2428.D

Date: 24-JUN-2022 18:35

Client ID:

Sample Info: 22F0267-01

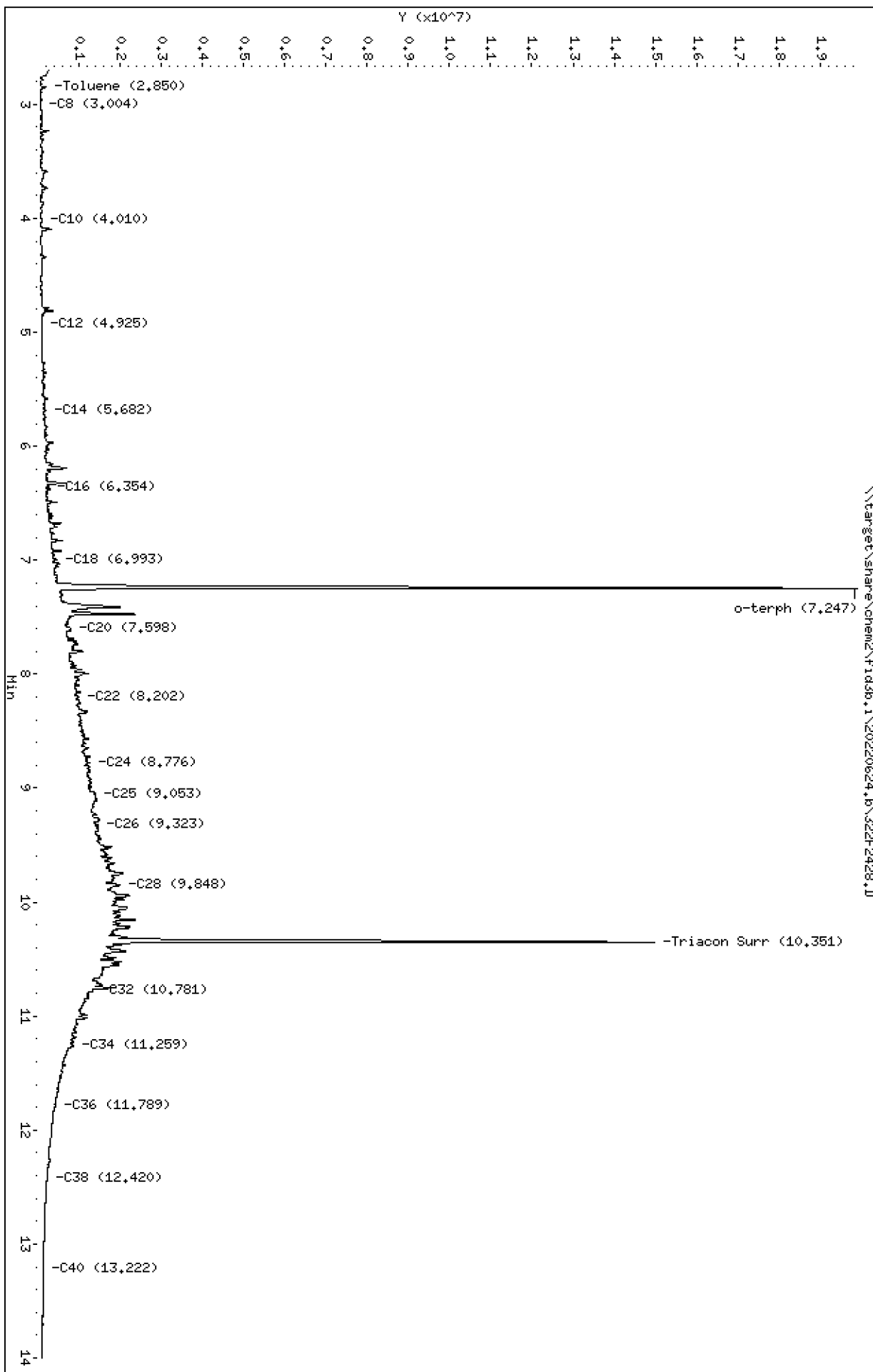
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2428.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-01  
Client ID:  
Injection: 24-JUN-2022 18:35  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.850	-0.008	119084	103973	WATPHG	(Tol-C12)	4244493	23.7
C8	3.004	-0.006	8471	7494	WATPHD	(C12-C24)	108619852	629.9
C10	4.010	-0.001	35513	65797	WATPHM	(C24-C38)	233207167	1878.5
C12	4.925	0.000	45565	51859	AK102	(C10-C25)	122917254	603.2 M
C14	5.682	-0.001	134831	233070	AK103	(C25-C36)	213014862	2242.1 M
C16	6.354	-0.004	205489	256573	OR.DIES	(C10-C28)	198460927	971.4 M
C18	6.993	0.001	395064	928067				
C20	7.598	-0.006	748690	1702690				
C22	8.202	0.001	939848	1783833				
C24	8.776	0.004	1190270	2255991				
C25	9.053	0.003	1330414	593764				
C26	9.323	0.004	1402854	1571752				
C28	9.848	0.014	1933877	2554837	IT.DIES	(C10-C24)	110790570	544.8
C32	10.781	0.002	1264027	1387998				
C34	11.259	0.006	790005	2154952	CREOSOT	(C12-C22)	73342477	1425.5
Filter Peak	13.962	-0.011	42935	27799				
C36	11.789	0.002	356131	828461	BUNKERC	(C10-C38)	343997737	4530.7
o-terph	7.247	0.005	19356242	22687841	JET-A	(C10-C18)	21744054	126.4
Triacon Surr	10.351	0.007	13083977	14867678				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

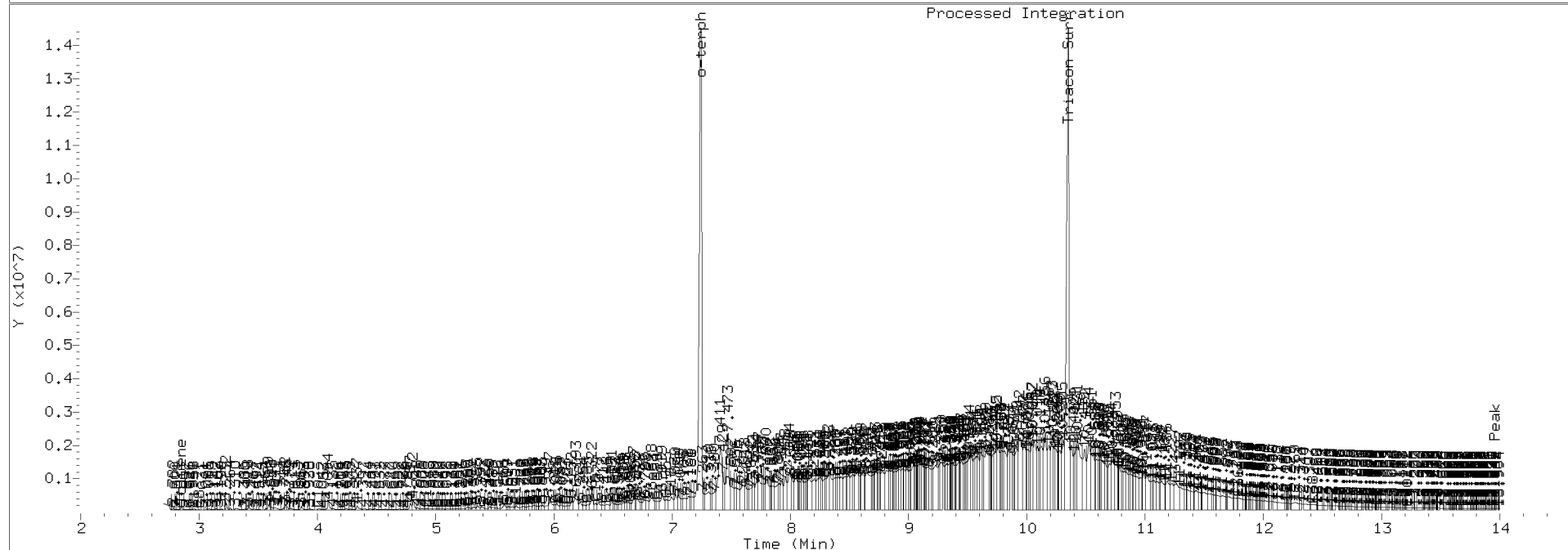
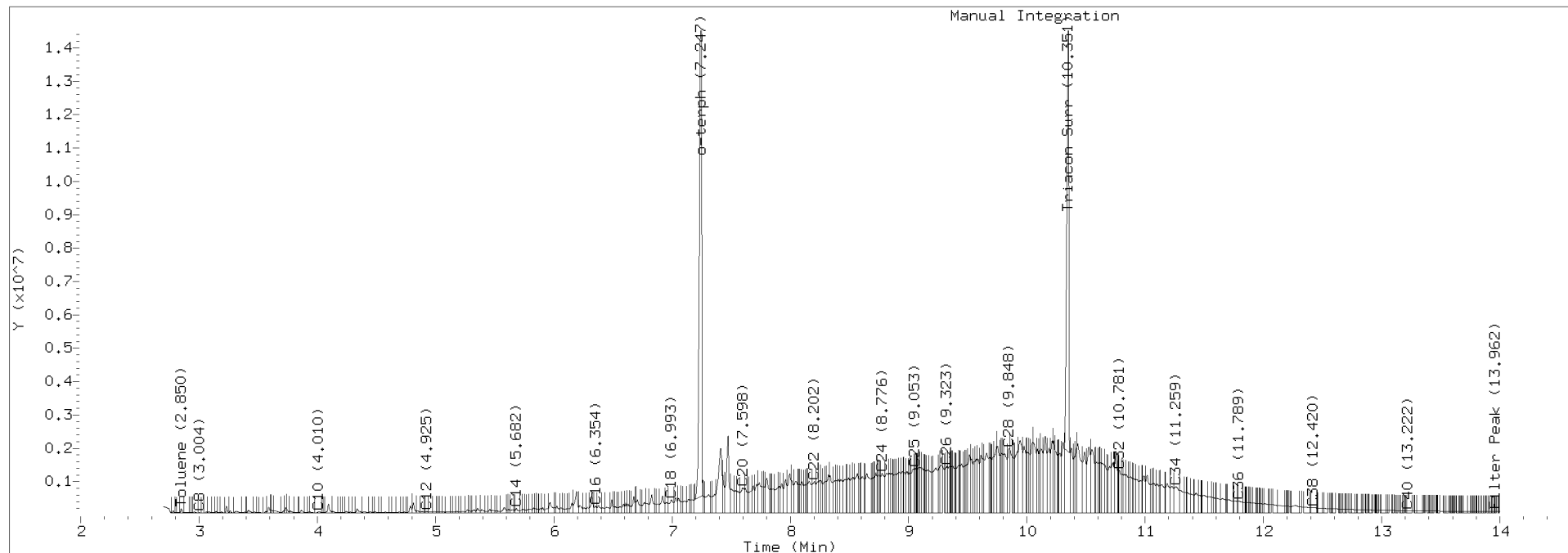
Surrogate	Area	Amount
o-Terphenyl	22687841	94.3
Triacontane	14867678	86.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2428.D Injection: 24-JUN-2022 18:35

Lab ID:22F0267-01





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-02 A      SDG: 22F0267  
 Sampled: 06/14/22 13:00      Prepared: 06/21/22 11:00      File ID: 322F2410.D  
 % Solids: 43.44      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 12:13  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.01 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	91.4		5.38	11.5
RRO	Motor Oil Range Organics (C24-C38)	1	407		6.88	23.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	25.872	17.8	68.9	50 - 150	



Data File: \\target\share\chem2\fid3b.1\20220624\_b\32F2410.D

Date: 24-JUN-2022 12:13

Client ID:

Sample Info: 22F0267-02

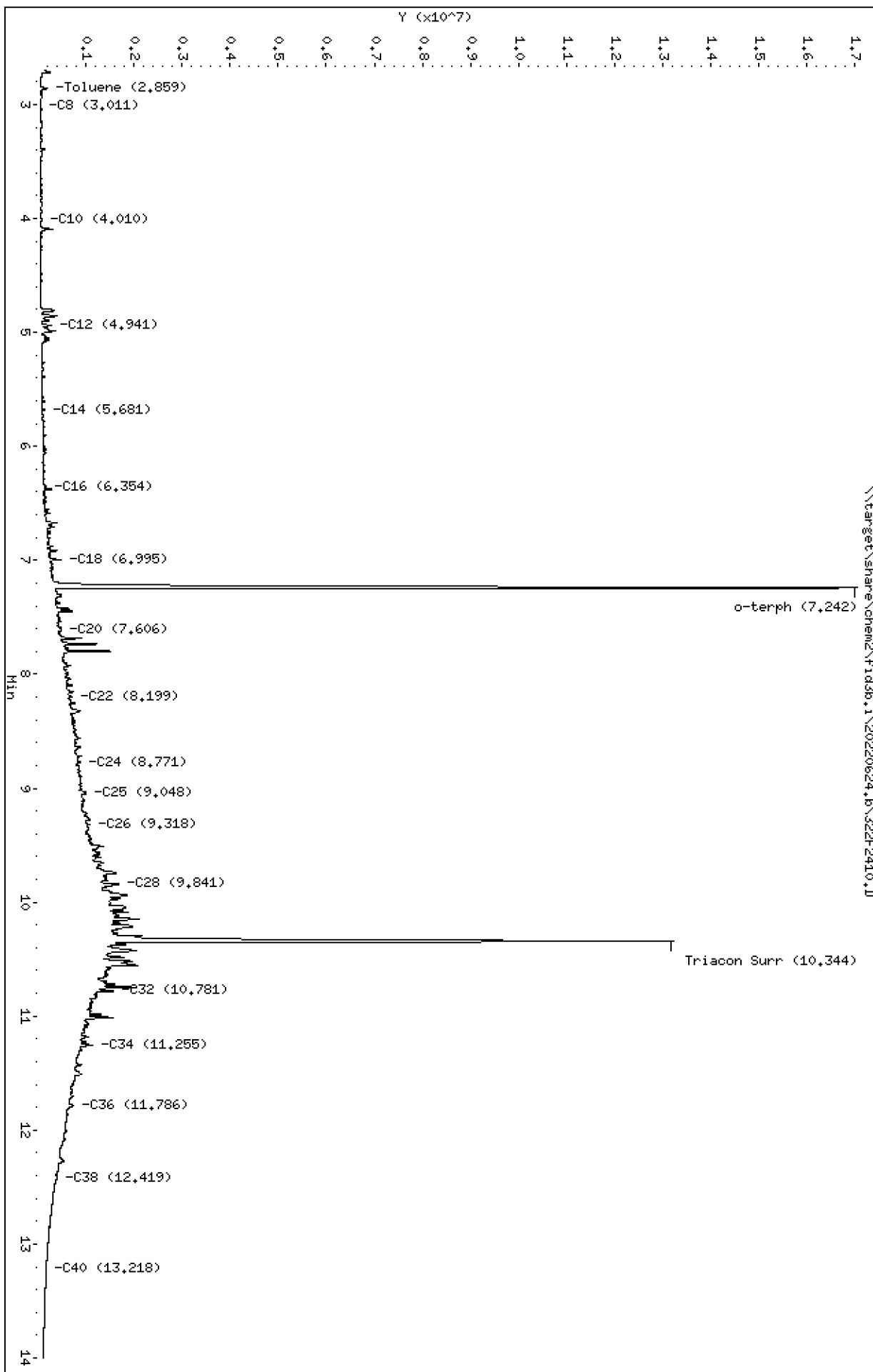
Column phase: RTX-1

Instrument: fid3b.1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2410.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-02  
Client ID:  
Injection: 24-JUN-2022 12:13  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.859	0.001	132851	140750	WATPHG	(Tol-C12)	2898876	16.2
C8	3.011	0.000	12671	12507	WATPHD	(C12-C24)	68507863	397.3
C10	4.010	-0.001	22697	33023	WATPHM	(C24-C38)	219588092	1768.8
C12	4.941	0.016	220525	240411	AK102	(C10-C25)	79007115	387.7 M
C14	5.681	-0.003	90502	93703	AK103	(C25-C36)	194524663	2047.5 M
C16	6.354	-0.004	109899	90131	OR.DIES	(C10-C28)	136706019	669.2 M
C18	6.995	0.003	430355	564170				
C20	7.606	0.001	433442	421377				
C22	8.199	-0.002	648927	1311314				
C24	8.771	-0.001	839588	1652598				
C25	9.048	-0.002	936636	1086669				
C26	9.318	-0.002	1014905	1609871				
C28	9.841	0.007	1636303	3373162	IT.DIES	(C10-C24)	70479861	346.6
C32	10.781	0.002	1515043	2316312				
C34	11.255	0.002	1075103	2522441	CREOSOT	(C12-C22)	43270830	841.0
Filter Peak	13.970	-0.002	58847	35115				
C36	11.786	-0.002	693999	2352240	BUNKERC	(C10-C38)	290067953	3820.4
o-terph	7.242	0.001	16668242	18647150	JET-A	(C10-C18)	12786420	74.3
Triacon Surr	10.344	0.000	11471556	12186874				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

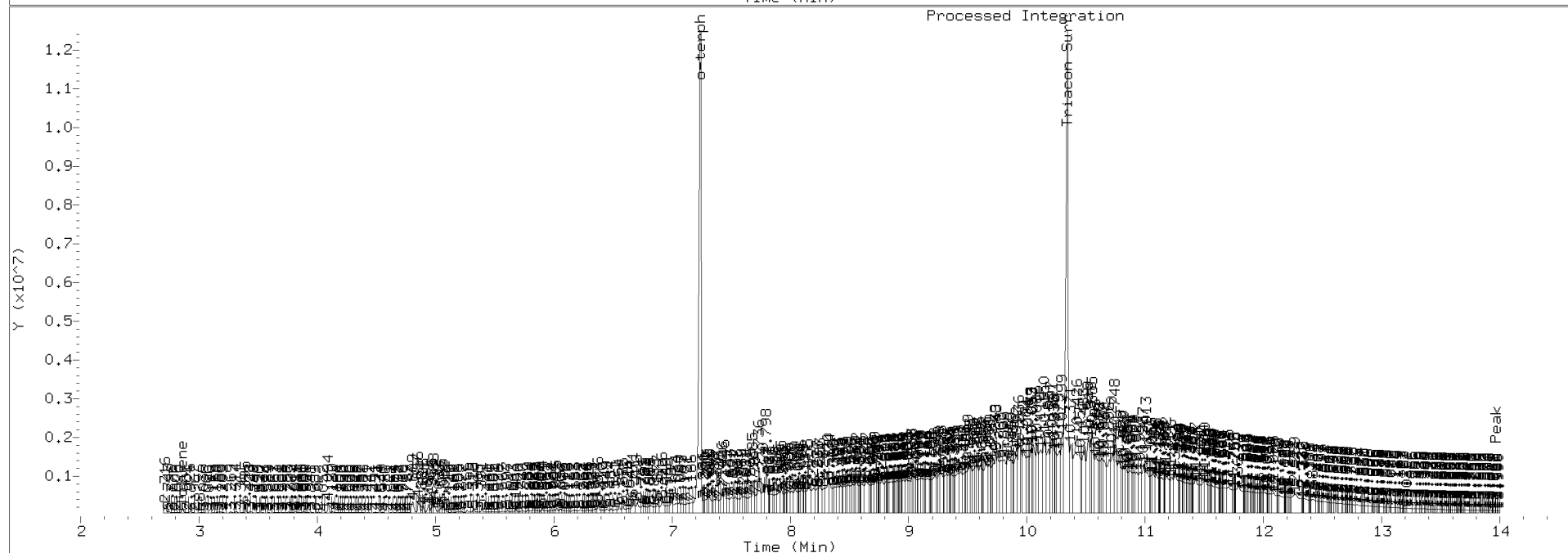
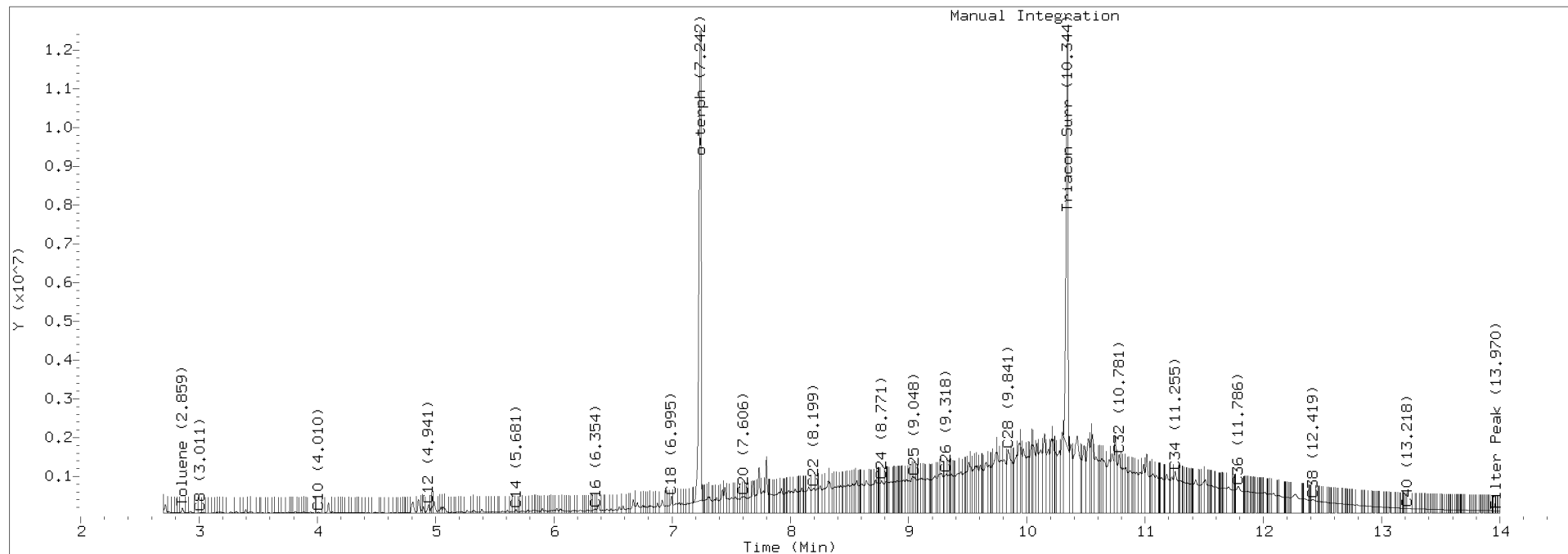
Surrogate	Area	Amount
o-Terphenyl	18647150	77.5
Triacontane	12186874	70.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2410.D Injection: 24-JUN-2022 12:13

Lab ID:22F0267-02





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-03 A      SDG: 22F0267  
 Sampled: 06/14/22 13:10      Prepared: 06/21/22 11:11      File ID: 322F2429.D  
 % Solids: 30.08      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 18:56  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.01 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	1630	D	77.7	166
RRO	Motor Oil Range Organics (C24-C38)	10	2780	D	99.3	332

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	37.363	28.1	75.1	50 - 150	

Data File: \\target\share\chem2\fid3b.1\20220624\_b\322F2429.D

Date: 24-JUN-2022 18:56

Client ID:

Sample Info: 22F0267-03.10

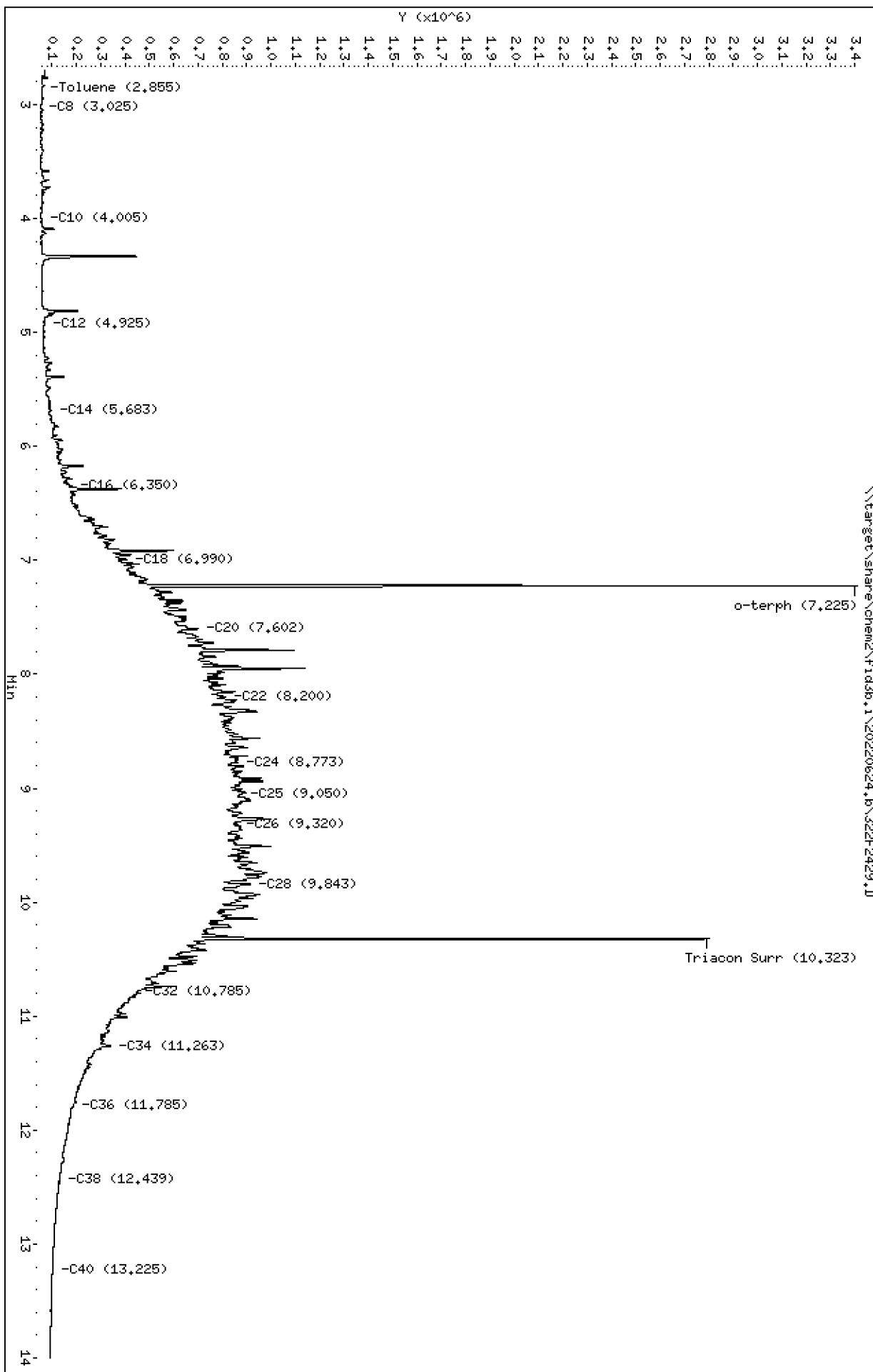
Instrument: fid3b.1

Operator: CTO

Column diameter: 0.25

Column phase: RTX-1

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2429.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-03  
Client ID:  
Injection: 24-JUN-2022 18:56  
Dilution Factor: 10  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.855	-0.003	5024	4365	WATPHG	(Tol-C12)	1454129	8.1
C8	3.025	0.015	1626	400	WATPHD	(C12-C24)	84475050	489.9
C10	4.005	-0.005	4328	5467	WATPHM	(C24-C38)	103814372	836.2
C12	4.925	-0.000	15362	35763	AK102	(C10-C25)	93607610	459.3 M
C14	5.683	-0.001	46505	95870	AK103	(C25-C36)	92333033	971.9 M
C16	6.350	-0.008	127534	186495	OR.DIES	(C10-C28)	137167752	671.4 M
C18	6.990	-0.002	352475	566695				
C20	7.602	-0.003	648394	1531951				
C22	8.200	-0.001	760028	858261				
C24	8.773	0.001	808396	1261650				
C25	9.050	-0.001	829832	700281				
C26	9.320	-0.000	810140	682907				
C28	9.843	0.008	859540	1682043	IT.DIES	(C10-C24)	85522184	420.5
C32	10.785	0.007	393779	78706				
C34	11.263	0.010	284908	652072	CREOSOT	(C12-C22)	58188532	1130.9
Filter Peak	13.970	-0.002	38553	28825				
C36	11.785	-0.002	136517	387285	BUNKERC	(C10-C38)	189336556	2493.7
o-terph	7.225	-0.017	2923370	2032846	JET-A	(C10-C18)	14518170	84.4
Triacon Surr	10.323	-0.021	2094159	1420177				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

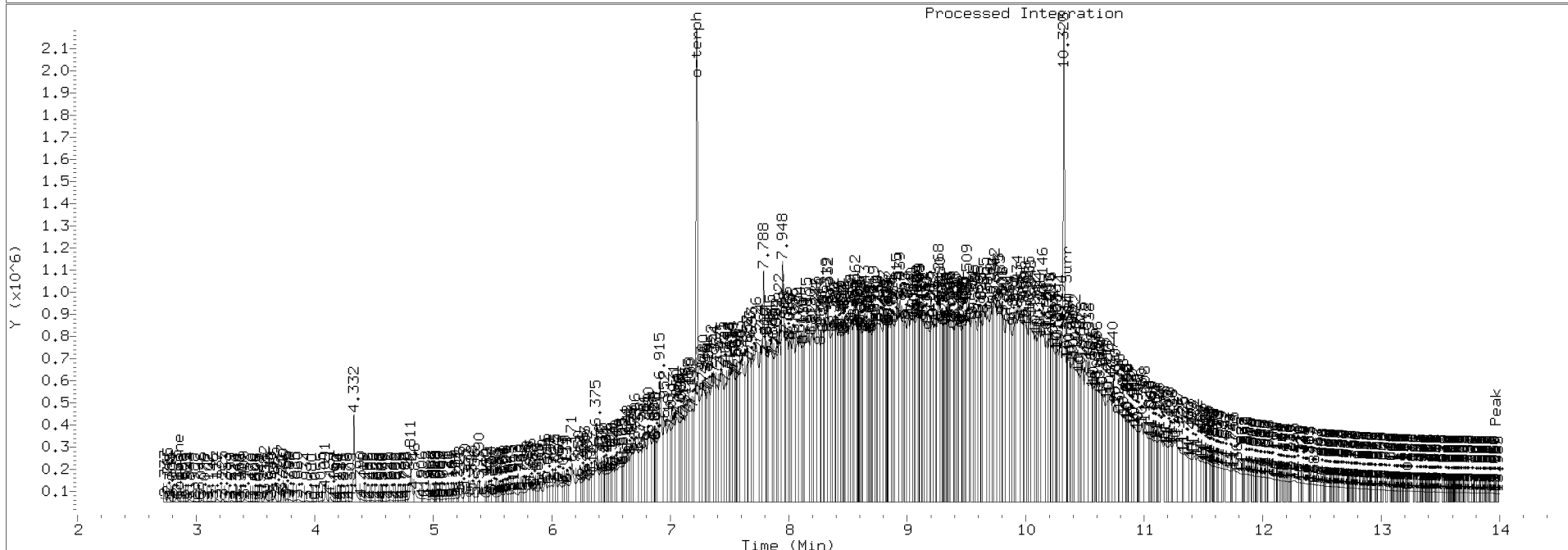
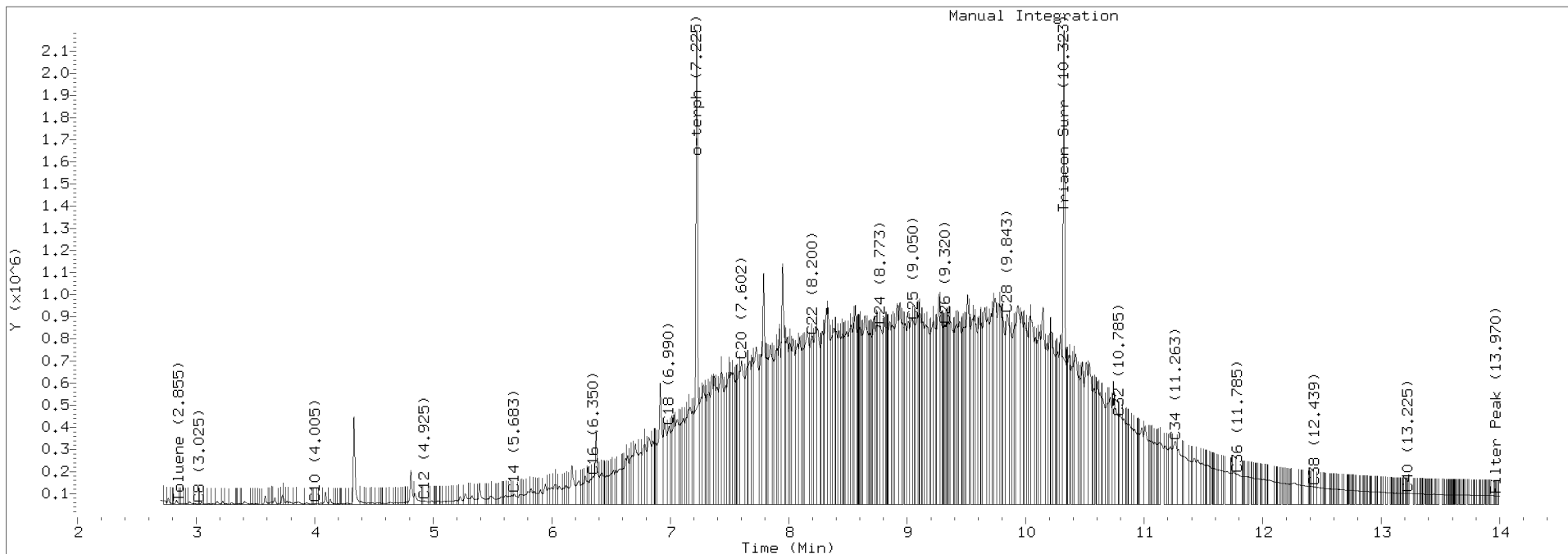
Surrogate	Area	Amount
o-Terphenyl	2032846	8.4
Triacontane	1420177	8.3

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2429.D Injection: 24-JUN-2022 18:56

Lab ID:22F0267-03







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-04 A      SDG: 22F0267  
 Sampled: 06/14/22 13:10      Prepared: 06/21/22 11:00      File ID: 322F2411.D  
 % Solids: 37.91      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 12:34  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.03 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	10	937	D	61.5	131
RRO	Motor Oil Range Organics (C24-C38)	10	1840	D	78.6	263

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	29.587	22.6	76.4	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2411.D

Date: 24-JUN-2022 12:34

Client ID:

Sample Info: 22F0267-04,10

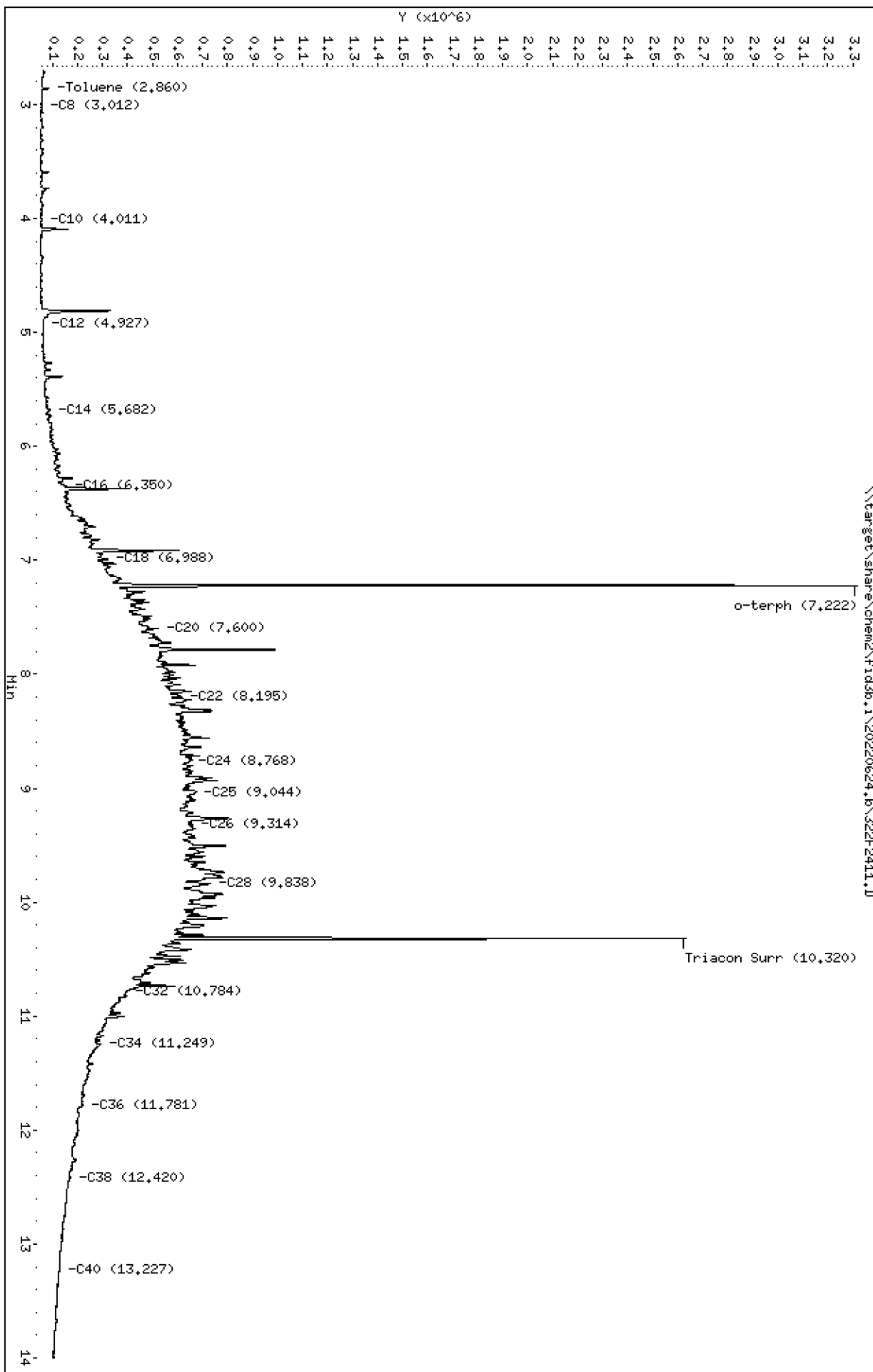
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2411.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-04  
Client ID:  
Injection: 24-JUN-2022 12:34  
Dilution Factor: 10  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.860	0.002	32888	34255	WATPHG	(Tol-C12)	963662	5.4
C8	3.012	0.002	5024	5924	WATPHD	(C12-C24)	61456280	356.4
C10	4.011	0.001	5197	6552	WATPHM	(C24-C38)	86747731	698.8
C12	4.927	0.002	12577	13520	AK102	(C10-C25)	68614970	336.7 M
C14	5.682	-0.002	40160	81658	AK103	(C25-C36)	75199458	791.5 M
C16	6.350	-0.008	102588	208206	OR.DIES	(C10-C28)	100916295	494.0 M
C18	6.988	-0.004	269229	449899				
C20	7.600	-0.005	470426	622127				
C22	8.195	-0.006	562166	657314				
C24	8.768	-0.004	596788	763415				
C25	9.044	-0.007	618490	640559				
C26	9.314	-0.006	606815	599454				
C28	9.838	0.003	680120	2241054	IT.DIES	(C10-C24)	62090827	305.3
C32	10.784	0.005	345731	69014				
C34	11.249	-0.004	238526	485227	CREOSOT	(C12-C22)	41983455	816.0
Filter Peak	13.980	0.007	51793	23255				
C36	11.781	-0.006	167318	493943	BUNKERC	(C10-C38)	148838559	1960.3
o-terph	7.222	-0.019	2956832	2067886	JET-A	(C10-C18)	10994714	63.9
Triacon Surr	10.320	-0.024	2037573	1384045				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

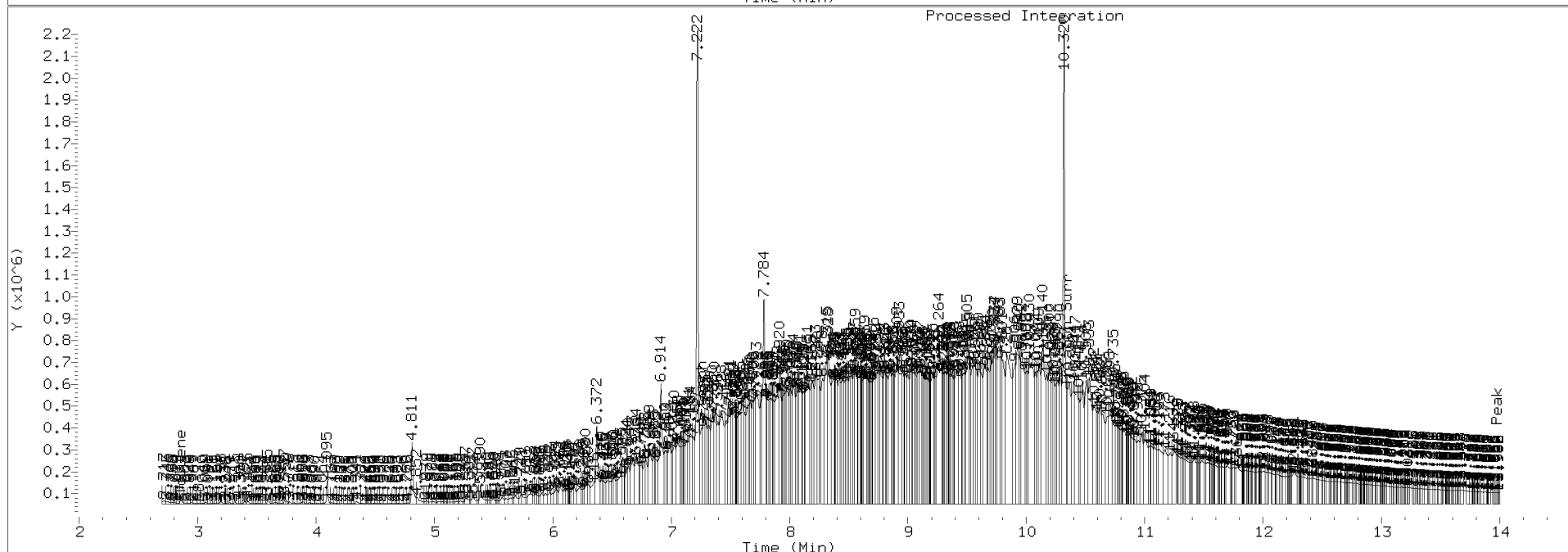
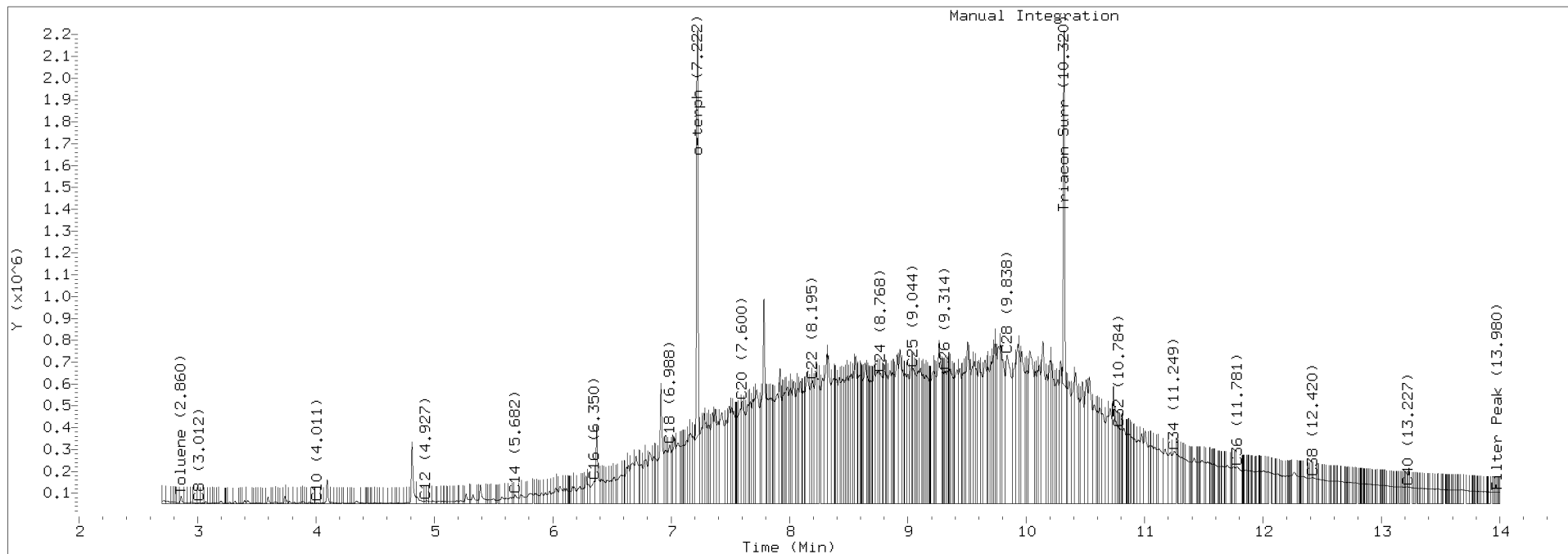
Surrogate	Area	Amount
o-Terphenyl	2067886	8.6
Triacontane	1384045	8.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2411.D Injection: 24-JUN-2022 12:34

Lab ID:22F0267-04





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Sediment

Laboratory ID: 22F0267-05 A

SDG: 22F0267

Sampled: 06/15/22 10:20

Prepared: 06/21/22 11:11

File ID: 322F2430.D

% Solids: 79.27

Preparation: EPA 3546 (Microwave)

Analyzed: 06/24/22 19:18

Batch: BKF0467

Sequence: SKF0314

Initial/Final: 10.01 g Wet / 1 mL

Instrument: FID3

Column: RTX-1

Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	35.5		2.95	6.30
RRO	Motor Oil Range Organics (C24-C38)	1	85.9		3.77	12.6

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.178	12.2	86.3	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2430.D

Date: 24-JUN-2022 19:18

Client ID:

Sample Info: 22F0267-05

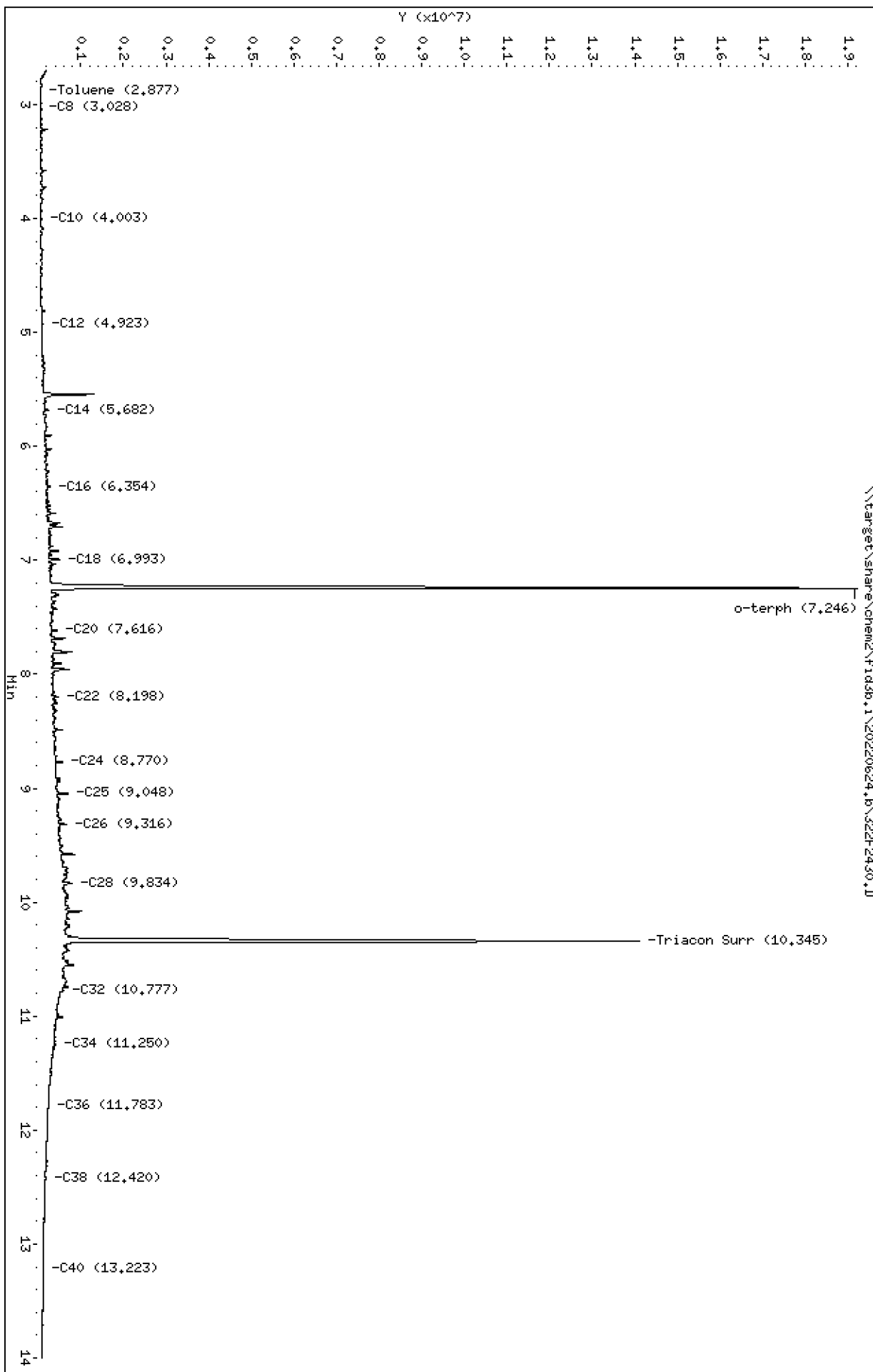
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2430.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-05  
Client ID:  
Injection: 24-JUN-2022 19:18  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.877	0.019	8164	10751	WATPHG	(Tol-C12)	2388225	13.3
C8	3.028	0.017	1343	256	WATPHD	(C12-C24)	48606361	281.9
C10	4.003	-0.007	42969	50524	WATPHM	(C24-C38)	84664528	682.0
C12	4.923	-0.001	54906	62282	AK102	(C10-C25)	53369846	261.9
C14	5.682	-0.002	179524	270100	AK103	(C25-C36)	75767289	797.5 M
C16	6.354	-0.004	237510	234439	OR.DIES	(C10-C28)	78767152	385.6
C18	6.993	0.001	454596	675812				
C20	7.616	0.011	401803	1015266				
C22	8.198	-0.002	422592	612381				
C24	8.770	-0.002	519435	988967				
C25	9.048	-0.003	652793	1032239				
C26	9.316	-0.004	595414	808438				
C28	9.834	-0.001	754508	2020153	IT.DIES	(C10-C24)	49794409	244.9
C32	10.777	-0.002	542053	653477				
C34	11.250	-0.003	344977	883931	CREOSOT	(C12-C22)	36958049	718.3
Filter Peak	13.972	-0.001	40868	22433				
C36	11.783	-0.004	204662	705790	BUNKERC	(C10-C38)	134458936	1770.9
o-terph	7.246	0.004	19169097	23365504	JET-A	(C10-C18)	18538289	107.8
Triacon Surr	10.345	0.001	13383988	15949710				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

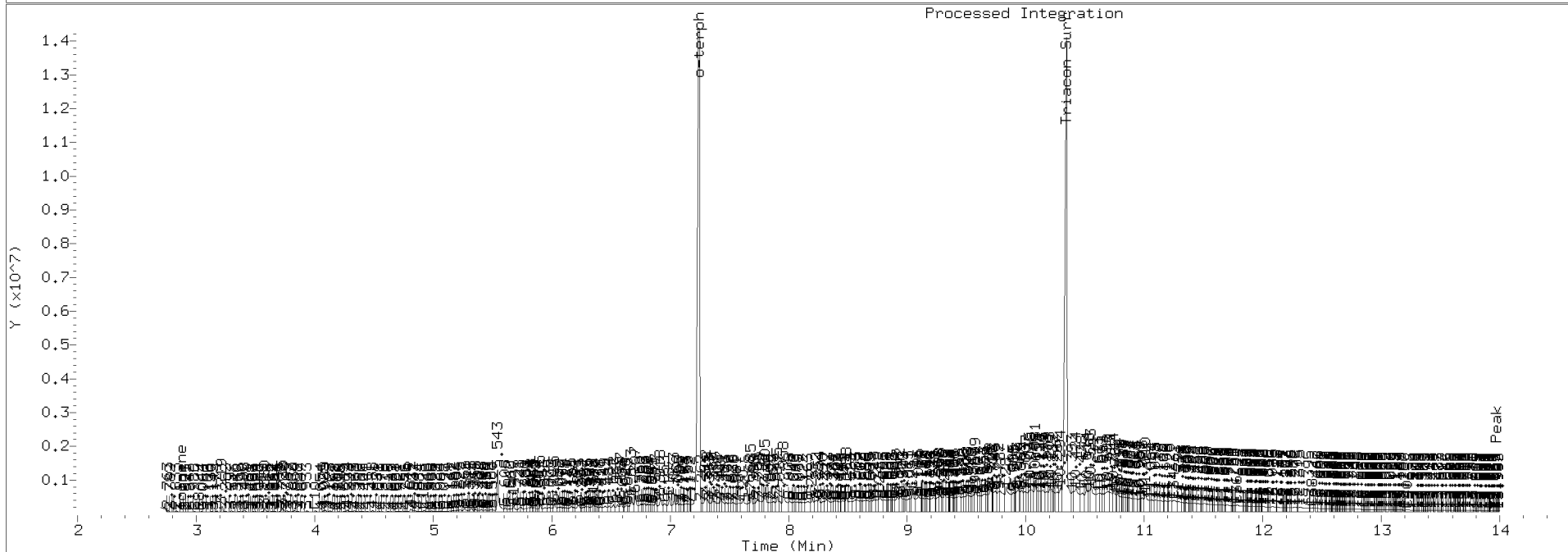
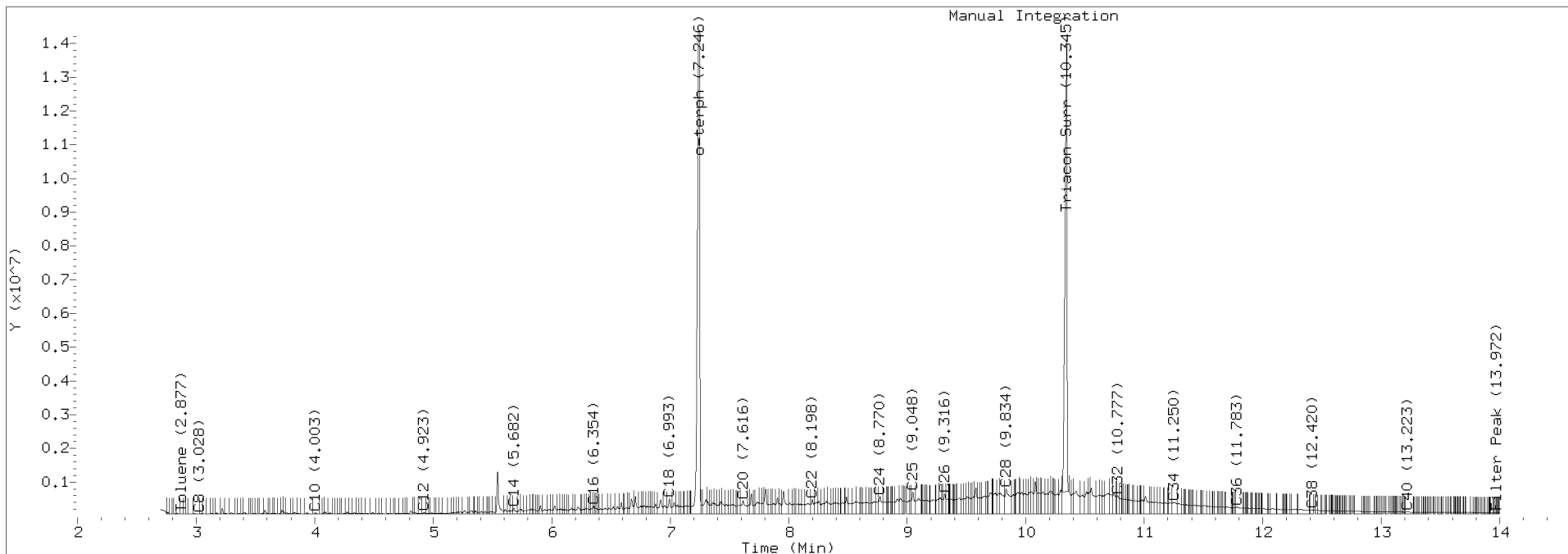
Surrogate	Area	Amount
o-Terphenyl	23365504	97.1
Triacontane	15949710	92.8

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2430.D Injection: 24-JUN-2022 19:18

Lab ID:22F0267-05





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-06 A      SDG: 22F0267  
 Sampled: 06/15/22 10:20      Prepared: 06/21/22 11:00      File ID: 322F2412.D  
 % Solids: 78.51      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 12:56  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.05 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	56.8		2.97	6.34
RRO	Motor Oil Range Organics (C24-C38)	1	209		3.79	12.7

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	14.258	11.8	82.8	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2412.D

Date: 24-JUN-2022 12:56

Client ID:

Sample Info: 22F0267-06

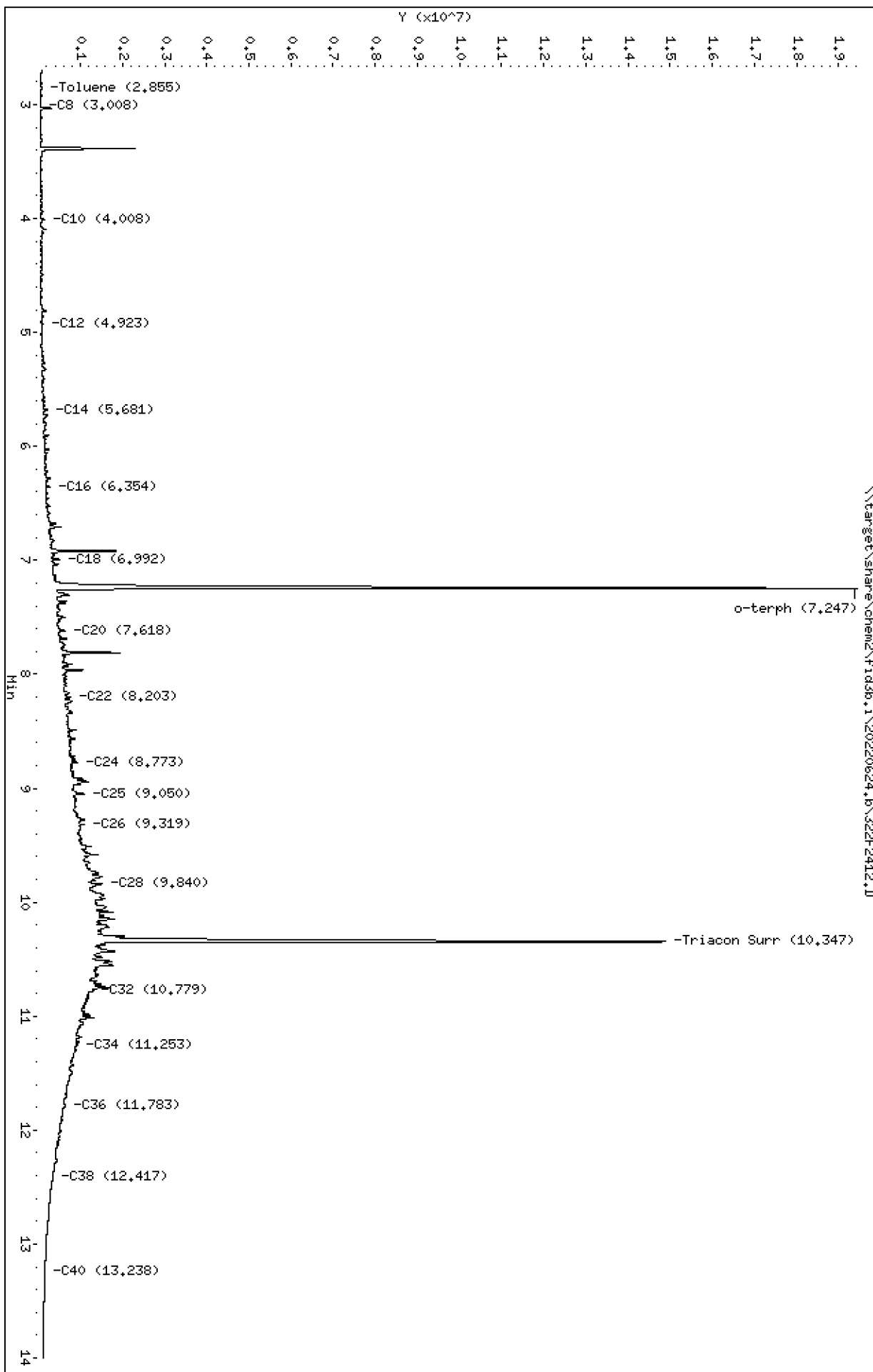
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2412.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-06  
Client ID:  
Injection: 24-JUN-2022 12:56  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.855	-0.003	39886	44379	WATPHG	(Tol-C12)	4184526	23.3
C8	3.008	-0.003	15295	12219	WATPHD	(C12-C24)	77280036	448.2
C10	4.008	-0.002	83402	100580	WATPHM	(C24-C38)	205192396	1652.8
C12	4.923	-0.001	54318	52406	AK102	(C10-C25)	87558132	429.7 M
C14	5.681	-0.003	172597	308316	AK103	(C25-C36)	181144683	1906.7 M
C16	6.354	-0.004	227063	444844	OR.DIES	(C10-C28)	141140350	690.9 M
C18	6.992	-0.001	440147	598966				
C20	7.618	0.014	587475	954211				
C22	8.203	0.002	721921	1168432				
C24	8.773	0.001	885637	1882778				
C25	9.050	-0.001	1054233	1717401				
C26	9.319	-0.001	1031749	1202170				
C28	9.840	0.005	1453847	4156294	IT.DIES	(C10-C24)	78745930	387.2
C32	10.779	0.000	1236086	1249727				
C34	11.253	-0.001	878026	1616239	CREOSOT	(C12-C22)	54218827	1053.8
Filter Peak	13.975	0.003	56423	22538				
C36	11.783	-0.004	588557	1887479	BUNKERC	(C10-C38)	283938327	3739.7
o-terph	7.247	0.005	18981128	22408364	JET-A	(C10-C18)	18734071	108.9
Triacon Surr	10.347	0.003	13271752	15050021				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

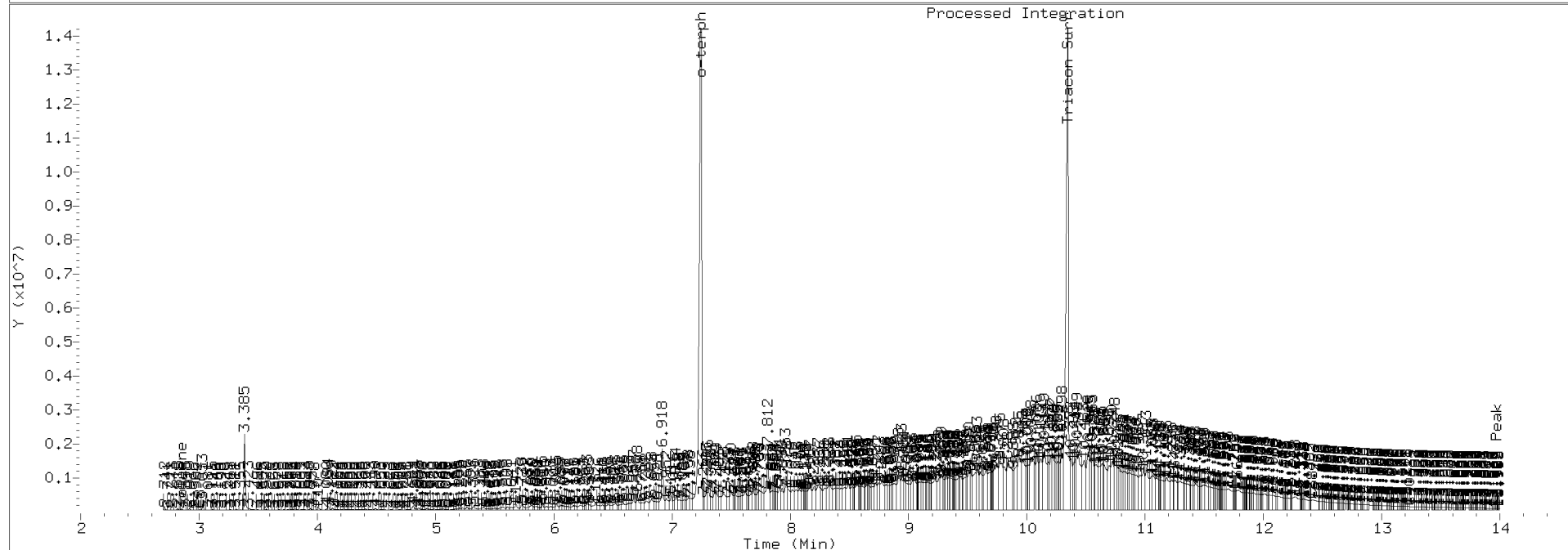
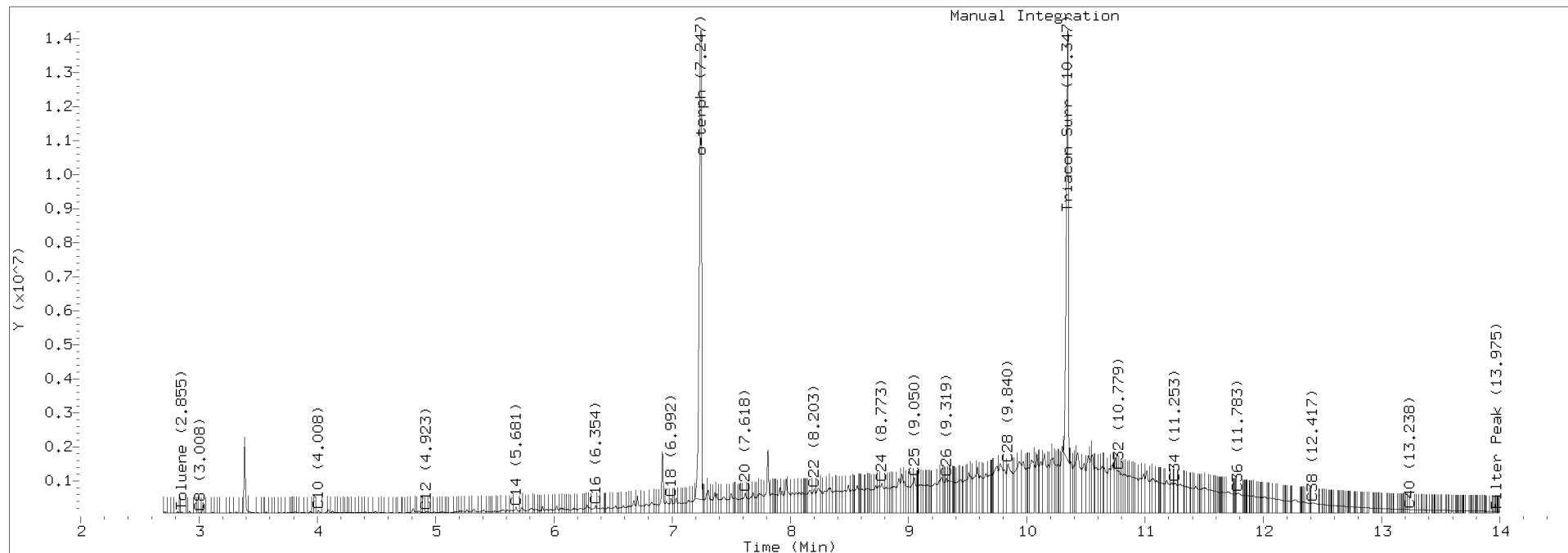
Surrogate	Area	Amount
o-Terphenyl	22408364	93.1
Triacontane	15050021	87.6

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2412.D Injection: 24-JUN-2022 12:56

Lab ID:22F0267-06







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-07 A      SDG: 22F0267  
 Sampled: 06/15/22 09:55      Prepared: 06/21/22 11:11      File ID: 322F2431.D  
 % Solids: 83.24      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 19:39  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.03 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	293		2.80	5.99
RRO	Motor Oil Range Organics (C24-C38)	1	72.5		3.58	12.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.475	11.2	83.0	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,8\32F2431.D

Date: 24-JUN-2022 19:39

Client ID:

Sample Info: 22F0267-07

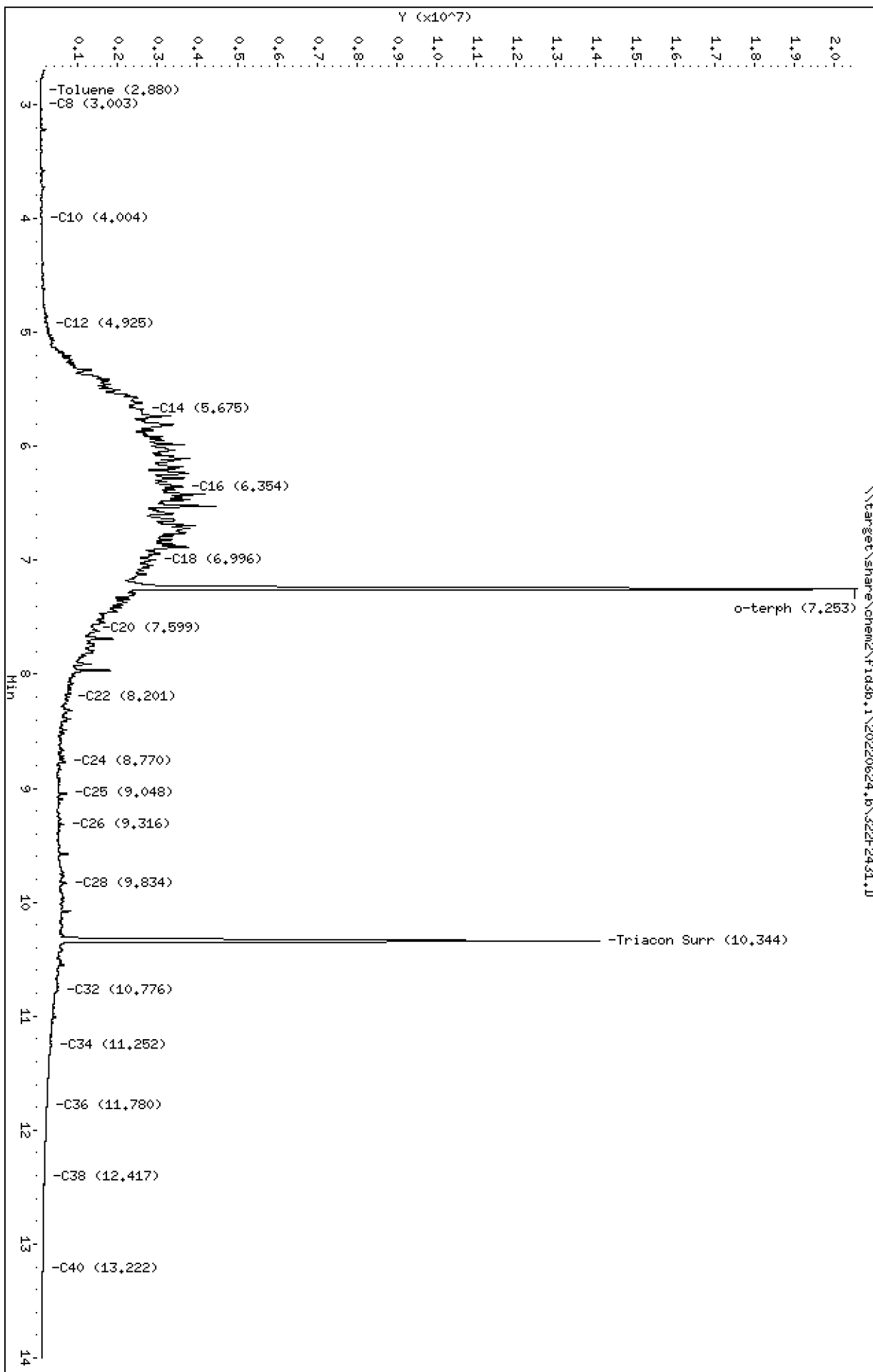
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2431.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-07  
Client ID:  
Injection: 24-JUN-2022 19:39  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.880	0.021	7140	9637	WATPHG	(Tol-C12)	5100618	28.4
C8	3.003	-0.008	5454	6282	WATPHD	(C12-C24)	421910357	2446.9
C10	4.004	-0.007	39158	52650	WATPHM	(C24-C38)	75157328	605.4
C12	4.925	-0.000	183230	226327	AK102	(C10-C25)	430138223	2110.8 M
C14	5.675	-0.009	2585771	4333857	AK103	(C25-C36)	66744263	702.5 M
C16	6.354	-0.004	3579385	4374308	OR.DIES	(C10-C28)	455442353	2229.3 M
C18	6.996	0.004	2877594	7961419				
C20	7.599	-0.006	1350935	1001915				
C22	8.201	0.001	707753	1078257				
C24	8.770	-0.002	612061	1310660				
C25	9.048	-0.003	650827	1217531				
C26	9.316	-0.004	578167	676981				
C28	9.834	-0.001	667299	1717657	IT.DIES	(C10-C24)	425839787	2094.0
C32	10.776	-0.003	448546	752715				
C34	11.252	-0.001	273733	725298	CREOSOT	(C12-C22)	403271003	7837.9
Filter Peak	13.970	-0.003	36415	21809				
C36	11.780	-0.008	161391	490855	BUNKERC	(C10-C38)	500997115	6598.5
o-terph	7.253	0.011	18249223	22462808	JET-A	(C10-C18)	298224700	1733.6
Triacon Surr	10.344	-0.000	13505770	15915705				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

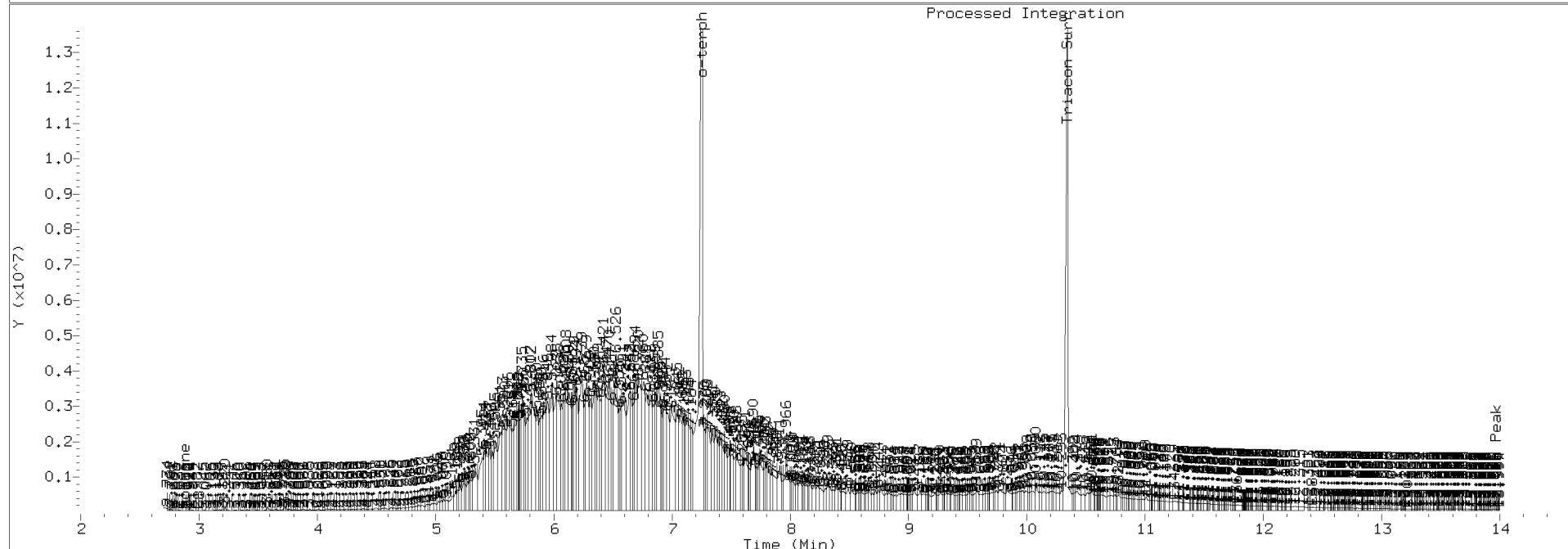
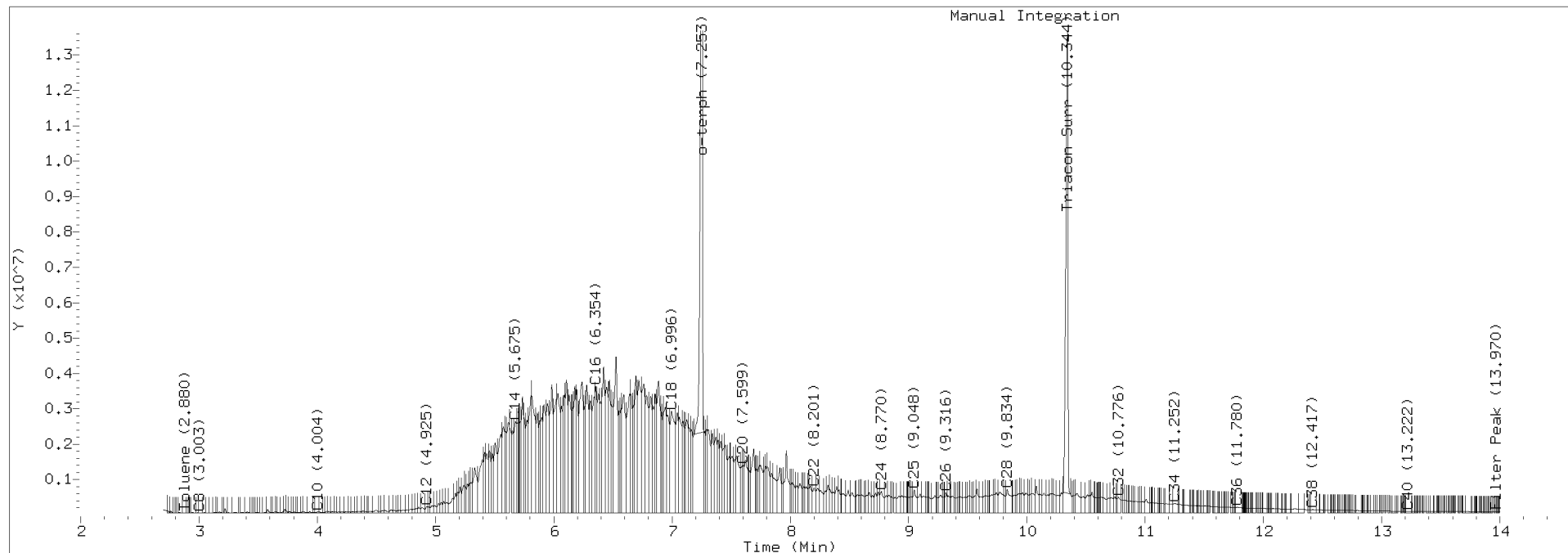
Surrogate	Area	Amount
o-Terphenyl	22462808	93.3
Triacontane	15915705	92.6

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2431.D Injection: 24-JUN-2022 19:39

Lab ID:22F0267-07





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-08 A      SDG: 22F0267  
 Sampled: 06/15/22 09:55      Prepared: 06/21/22 11:00      File ID: 322F2415.D  
 % Solids: 82.14      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 13:59  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.02 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	5	443	D	14.2	30.4
RRO	Motor Oil Range Organics (C24-C38)	5	100	D	18.2	60.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.669	12.3	90.0	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2415.D

Date: 24-JUN-2022 13:59

Client ID:

Sample Info: 22F0267-08,5

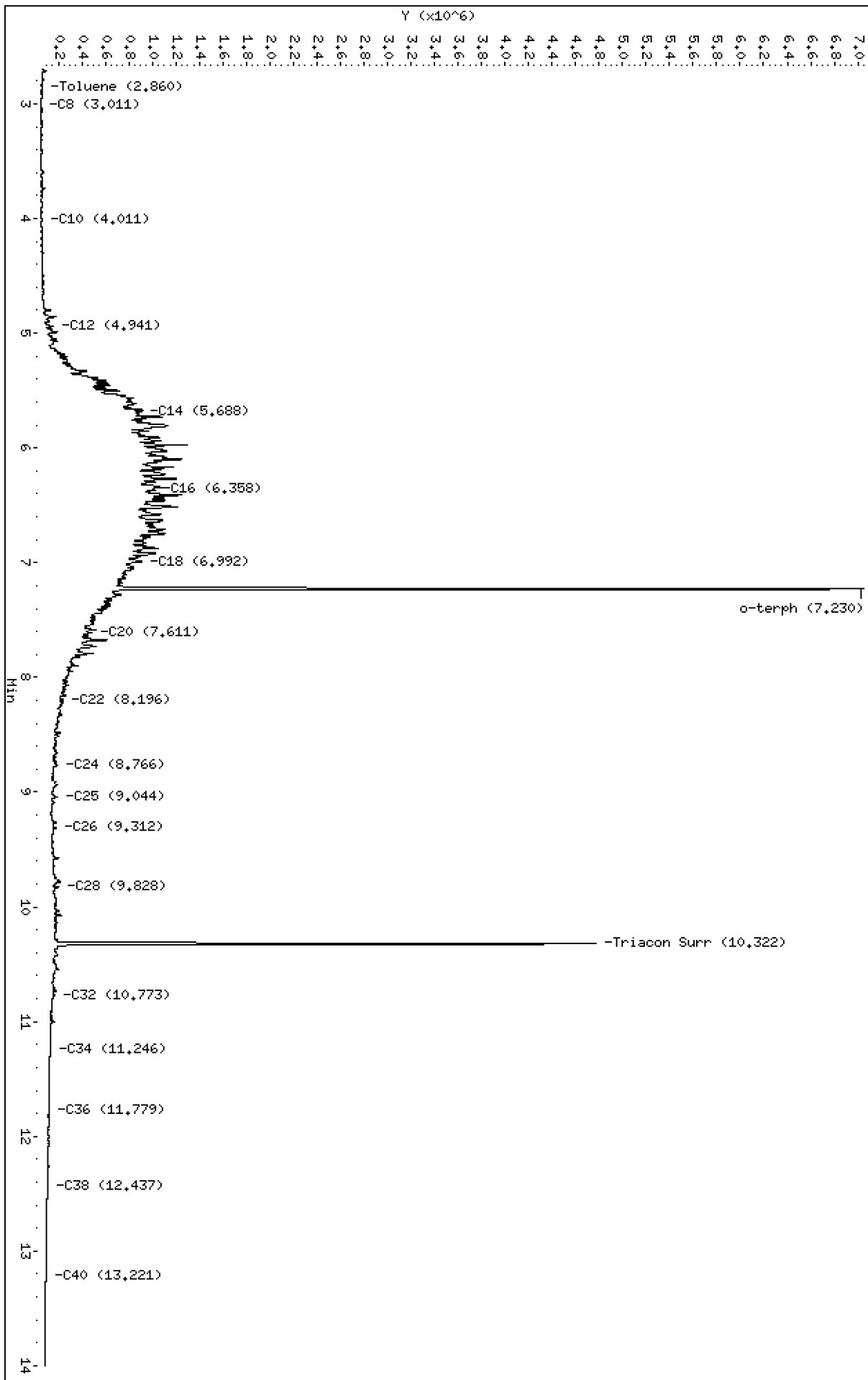
Instrument: fid3b,1

Operator: CTO

Column diameter: 0,25

Column phase: RTX-1

\\target\share\chem2\fid3b,1\20220624,b\322F2415.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2415.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-08  
Client ID:  
Injection: 24-JUN-2022 13:59  
Dilution Factor: 5  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.860	0.002	10864	21007	WATPHG	(Tol-C12)	1684094	9.4
C8	3.011	0.000	5610	7472	WATPHD	(C12-C24)	125744986	729.3
C10	4.011	0.000	10365	14029	WATPHM	(C24-C38)	20497406	165.1
C12	4.941	0.017	102028	162093	AK102	(C10-C25)	128146042	628.8 M
C14	5.688	0.004	852745	994008	AK103	(C25-C36)	17058508	179.6 M
C16	6.358	0.000	962496	479467	OR.DIES	(C10-C28)	133715766	654.5 M
C18	6.992	0.000	855697	2327234				
C20	7.611	0.006	433248	622569				
C22	8.196	-0.005	187928	224969				
C24	8.766	-0.006	144237	336412				
C25	9.044	-0.007	141197	255851				
C26	9.312	-0.007	125698	131479				
C28	9.828	-0.007	148210	413633	IT.DIES	(C10-C24)	127037456	624.7
C32	10.773	-0.006	121049	245649				
C34	11.246	-0.007	84560	152485	CREOSOT	(C12-C22)	121352276	2358.6
Filter Peak	13.976	0.004	34365	46517				
C36	11.779	-0.008	71634	227756	BUNKERC	(C10-C38)	147534861	1943.1
o-terph	7.230	-0.012	6357628	4876294	JET-A	(C10-C18)	92611046	538.3
Triacon Surr	10.322	-0.022	4580447	3519864				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

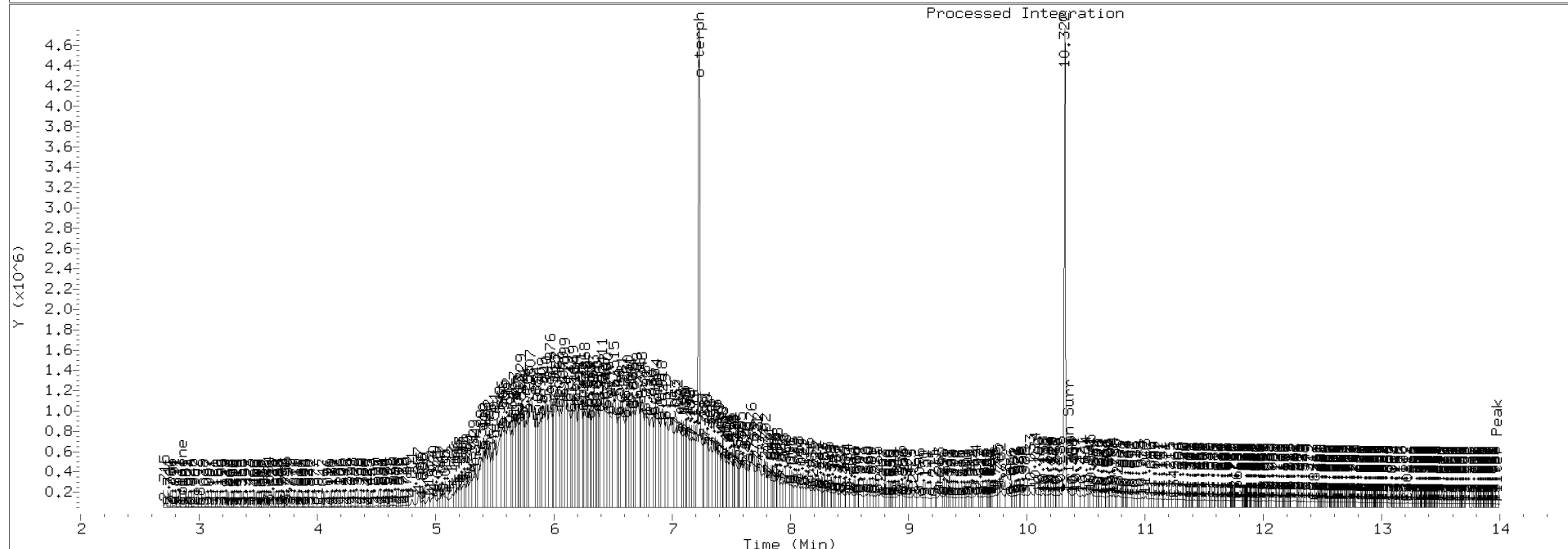
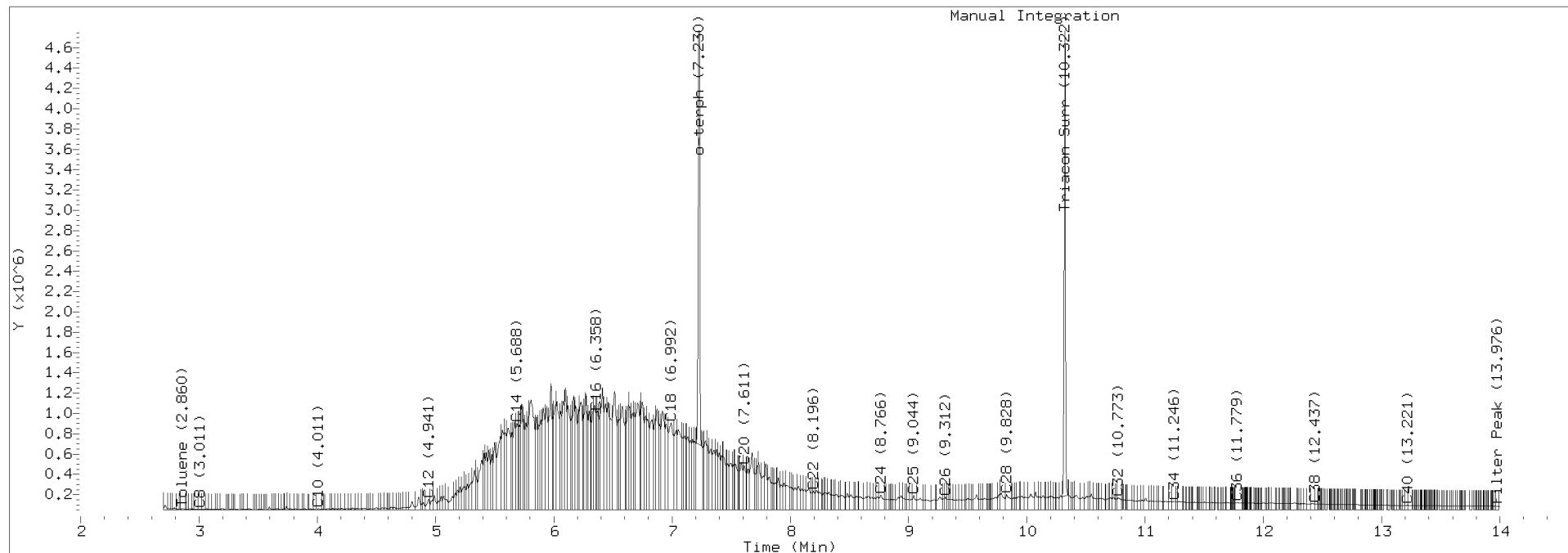
Surrogate	Area	Amount
o-Terphenyl	4876294	20.3
Triacontane	3519864	20.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2415.D Injection: 24-JUN-2022 13:59

Lab ID:22F0267-08





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-09 E

SDG: 22F0267

Sampled: 06/14/22 13:30

Prepared: 06/22/22 09:33

File ID: 422F2422.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 18:56

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.210	93.5	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2422.D

Date: 24-JUN-2022 18:56

Client ID:

Sample Info: 22F0267-09

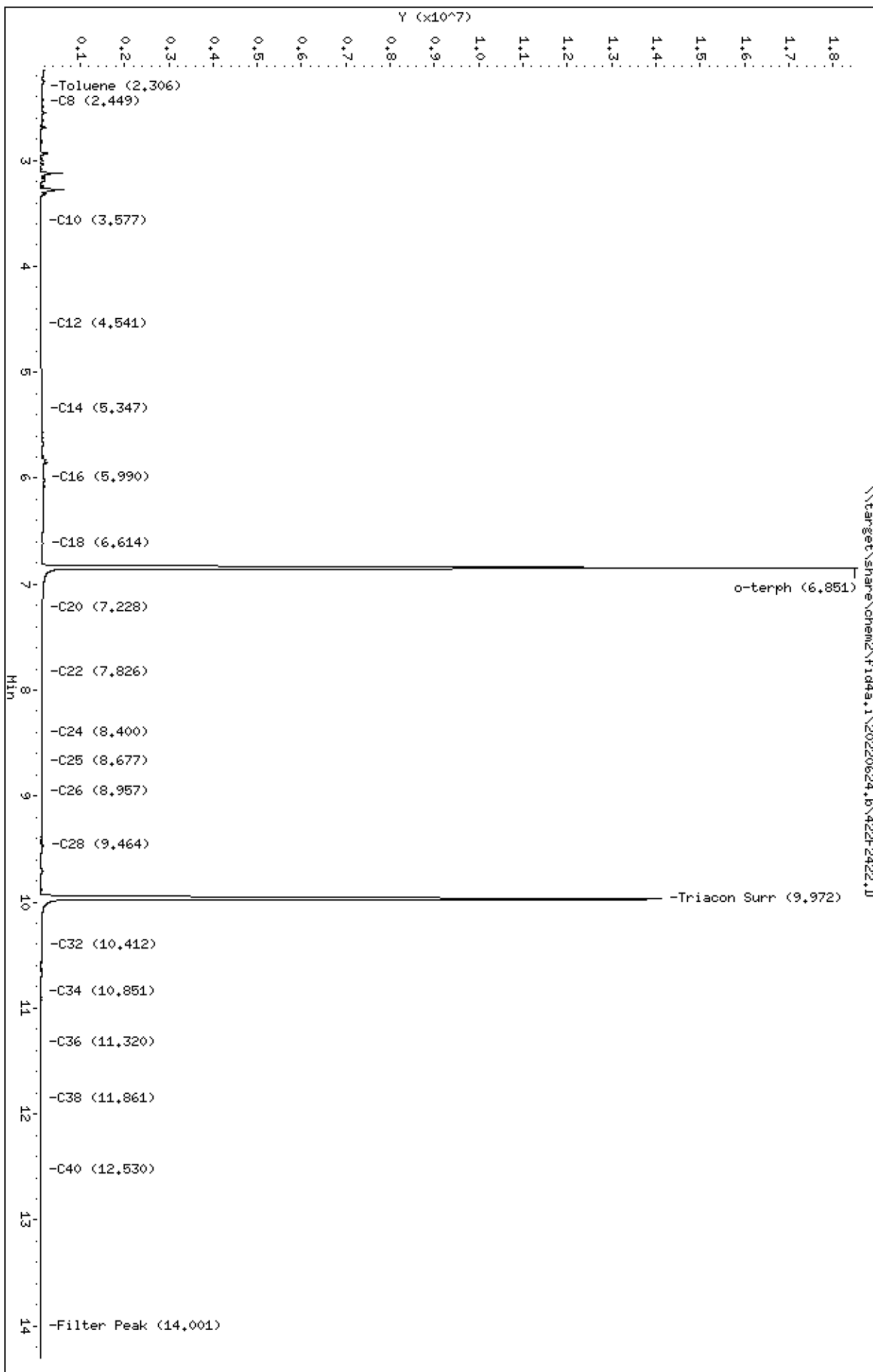
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2422.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-09  
Client ID:  
Injection: 24-JUN-2022 18:56  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

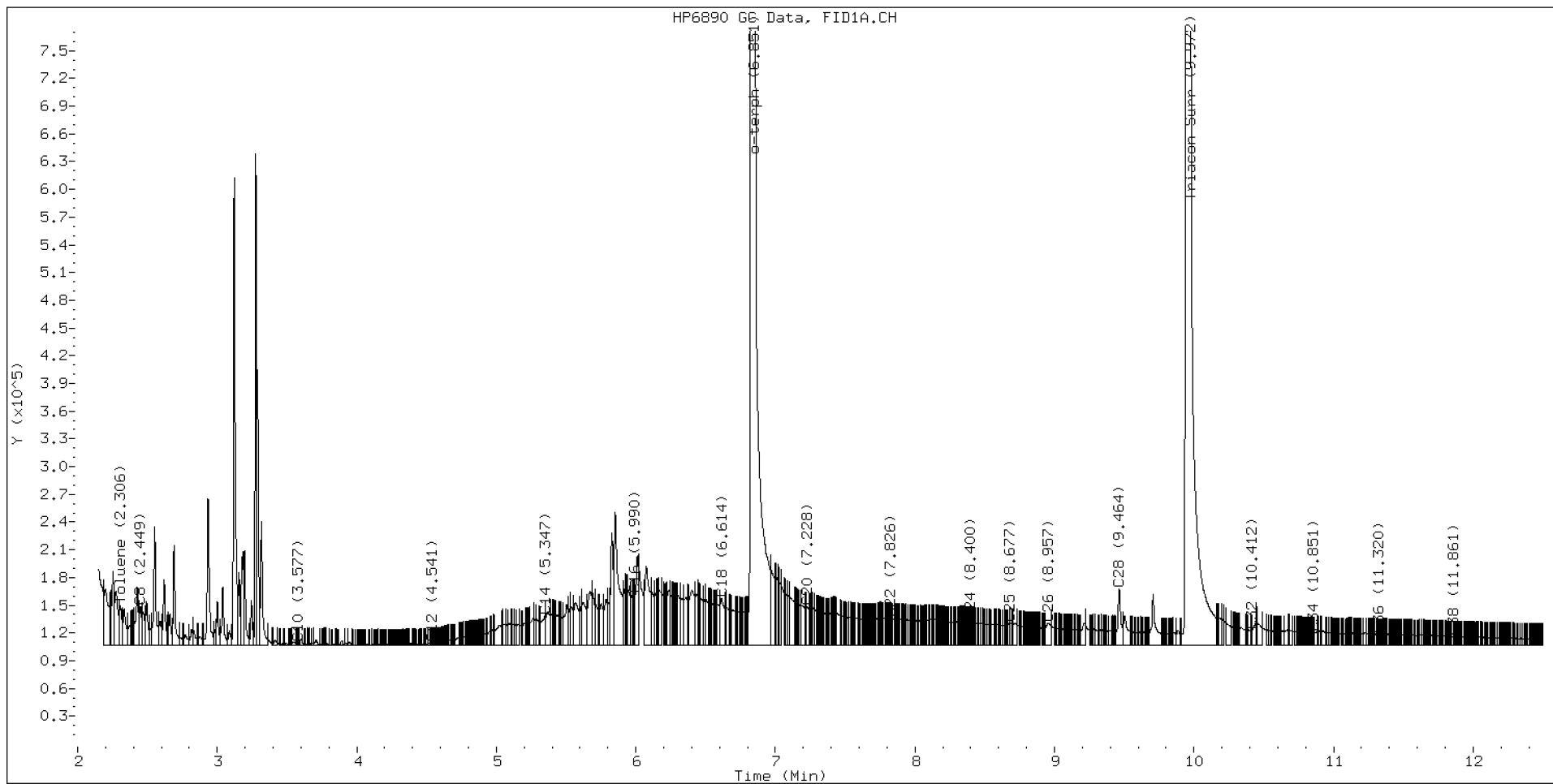
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.449	-0.008	42453	45227	WATPHD	(C12-C24)	7569768	47.7
C10	3.577	0.001	2231	1057	WATPHM	(C24-C38)	2897709	21.9
C12	4.541	-0.003	2529	1176	AK102	(C10-C25)	7898380	41.8
C14	5.347	0.026	31508	61972	AK103	(C25-C36)	2324016	23.5
C16	5.990	-0.004	55196	13734	OR.DIES	(C10-C28)	8886114	46.8
C18	6.614	-0.008	51036	103464				
C20	7.228	-0.002	41519	44968	JET-A	(C10-C18)	4586097	26.5
C22	7.826	0.001	29581	10317				
C24	8.400	0.001	25912	7741				
C25	8.677	-0.001	23820	17279				
C26	8.957	0.009	24200	57234				
C28	9.464	-0.002	61257	92928				
C32	10.412	-0.003	16098	8794				
C34	10.851	-0.001	13657	4736				
Filter Peak	14.001	0.002	4808	2116				
C36	11.320	0.002	11951	4731				
C38	11.861	-0.000	9520	1893				
C40	12.530	-0.003	6640	2972				
o-terph	6.851	-0.005	18442944	21432365				
Triacon Surr	9.972	-0.008	14011200	18412368	NAS DIES	(C10-C24)	7667382	40.6

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	21432365	105.2
Triacontane	18412368	105.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-10 E

SDG: 22F0267

Sampled: 06/14/22 13:40

Prepared: 06/22/22 09:33

File ID: 422F2423.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 19:16

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.116		0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.270		0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.218	97.0	50 - 150	



Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2423.D

Date: 24-JUN-2022 19:16

Client ID:

Sample Info: 22F0267-10

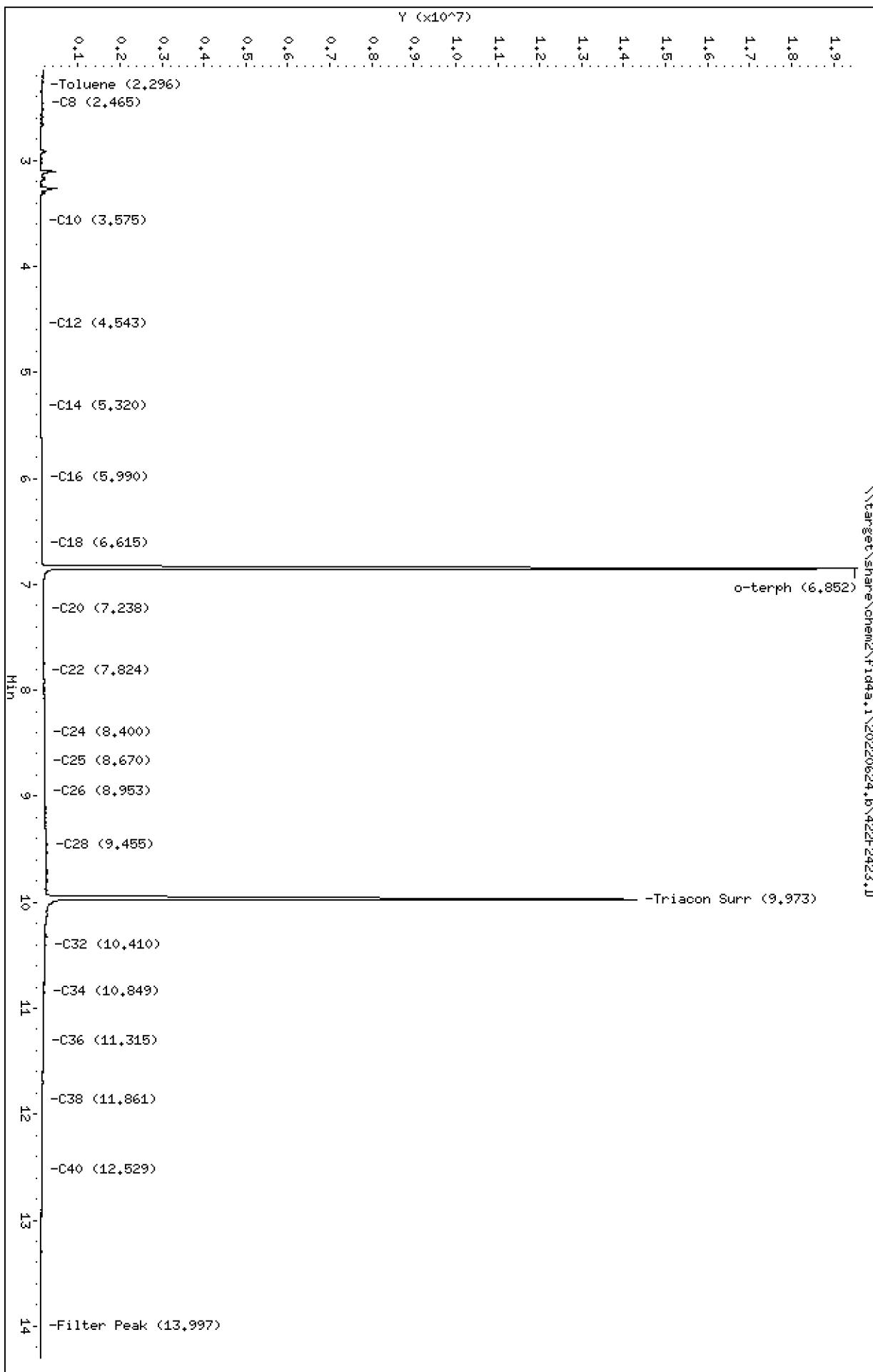
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2423.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-10  
Client ID:  
Injection: 24-JUN-2022 19:16  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

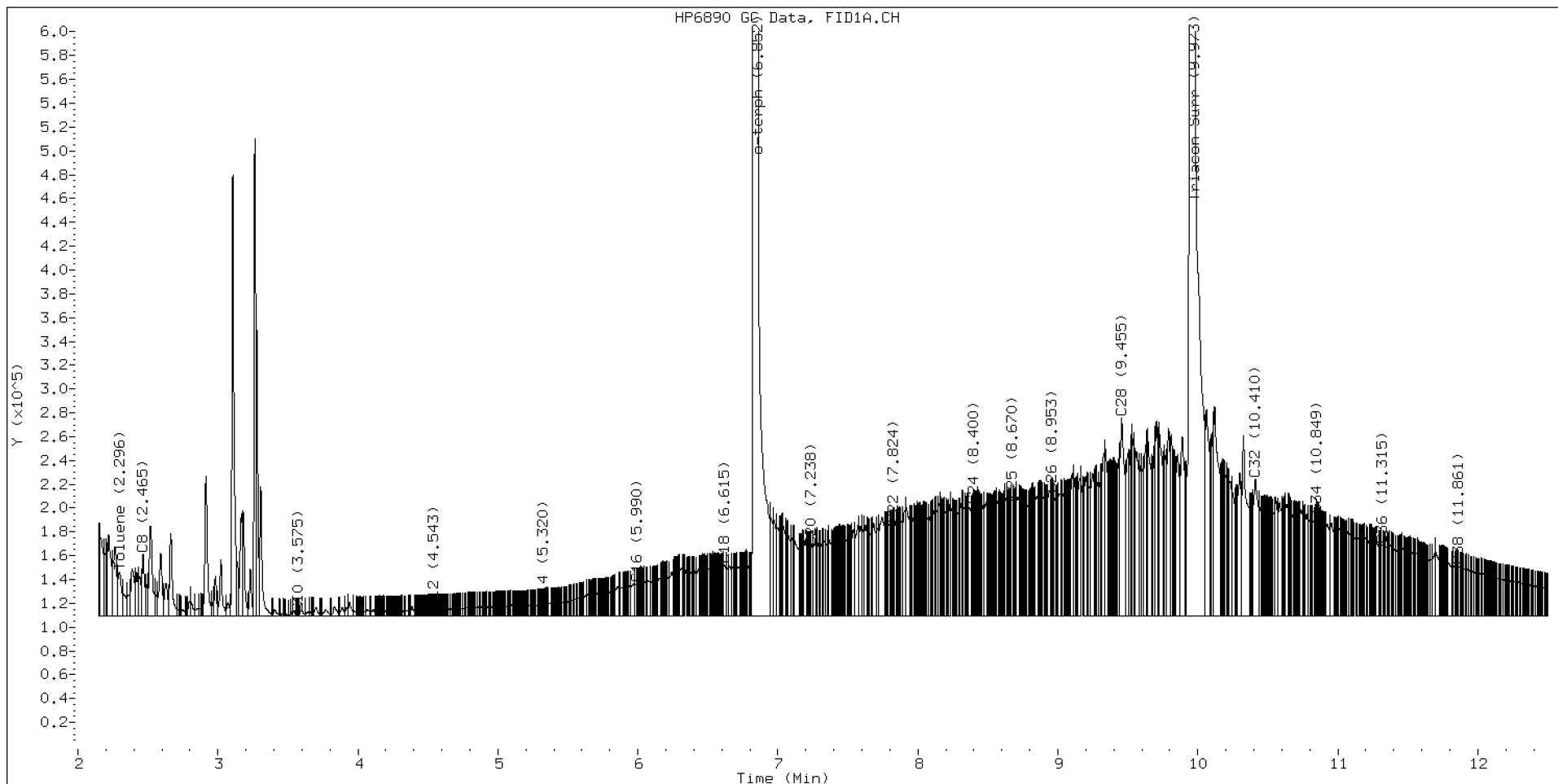
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.465	0.007	51504	68016	WATPHD	(C12-C24)	9215567	58.1
C10	3.575	-0.002	1969	799	WATPHM	(C24-C38)	17896752	135.0
C12	4.543	-0.000	4994	1469	AK102	(C10-C25)	10479381	55.4
C14	5.320	-0.002	9614	4254	AK103	(C25-C36)	15329118	155.0
C16	5.990	-0.004	26734	21076	OR.DIES	(C10-C28)	15904443	83.8
C18	6.615	-0.007	42341	49562				
C20	7.238	0.008	57445	14292	JET-A	(C10-C18)	2651947	15.3
C22	7.824	-0.001	77205	19268				
C24	8.400	0.000	92463	18463				
C25	8.670	-0.008	97367	53308				
C26	8.953	0.005	102606	30683				
C28	9.455	-0.010	165914	333938				
C32	10.410	-0.005	114430	248340				
C34	10.849	-0.003	84874	58957				
Filter Peak	13.997	-0.001	7163	2134				
C36	11.315	-0.002	59648	41480				
C38	11.861	0.000	41549	36961				
C40	12.529	-0.004	22705	12425				
o-terph	6.852	-0.004	19458568	22210086				
Triacon Surr	9.973	-0.007	14215422	19511822	NAS DIES	(C10-C24)	9468425	50.2

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22210086	109.1
Triacontane	19511822	112.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-11 E

SDG: 22F0267

Sampled: 06/15/22 10:30

Prepared: 06/22/22 09:33

File ID: 422F2424.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 19:36

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.247	110	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2424.D

Date: 24-JUN-2022 19:36

Client ID:

Sample Info: 22F0267-11

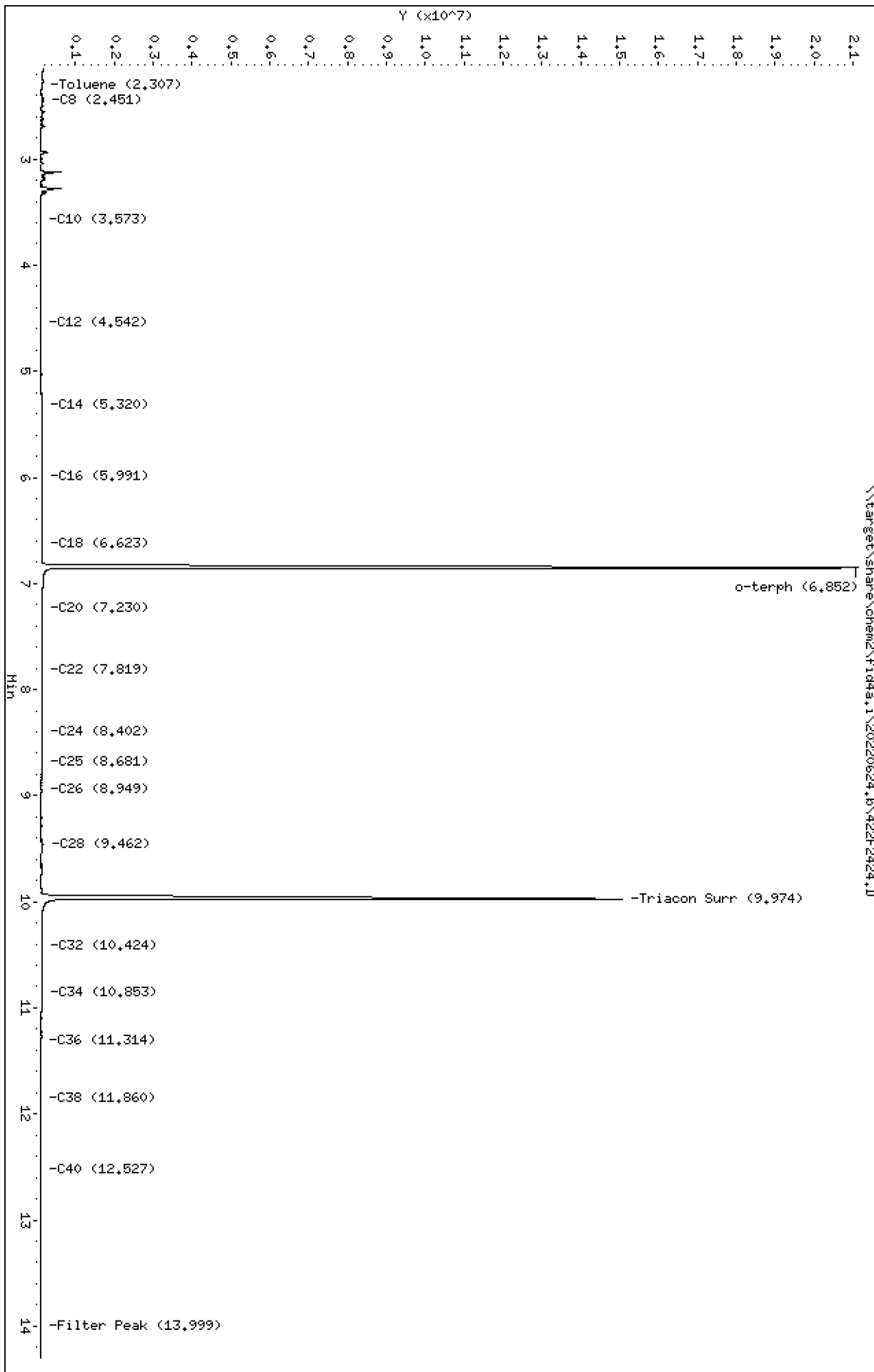
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2424.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-11  
Client ID:  
Injection: 24-JUN-2022 19:36  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

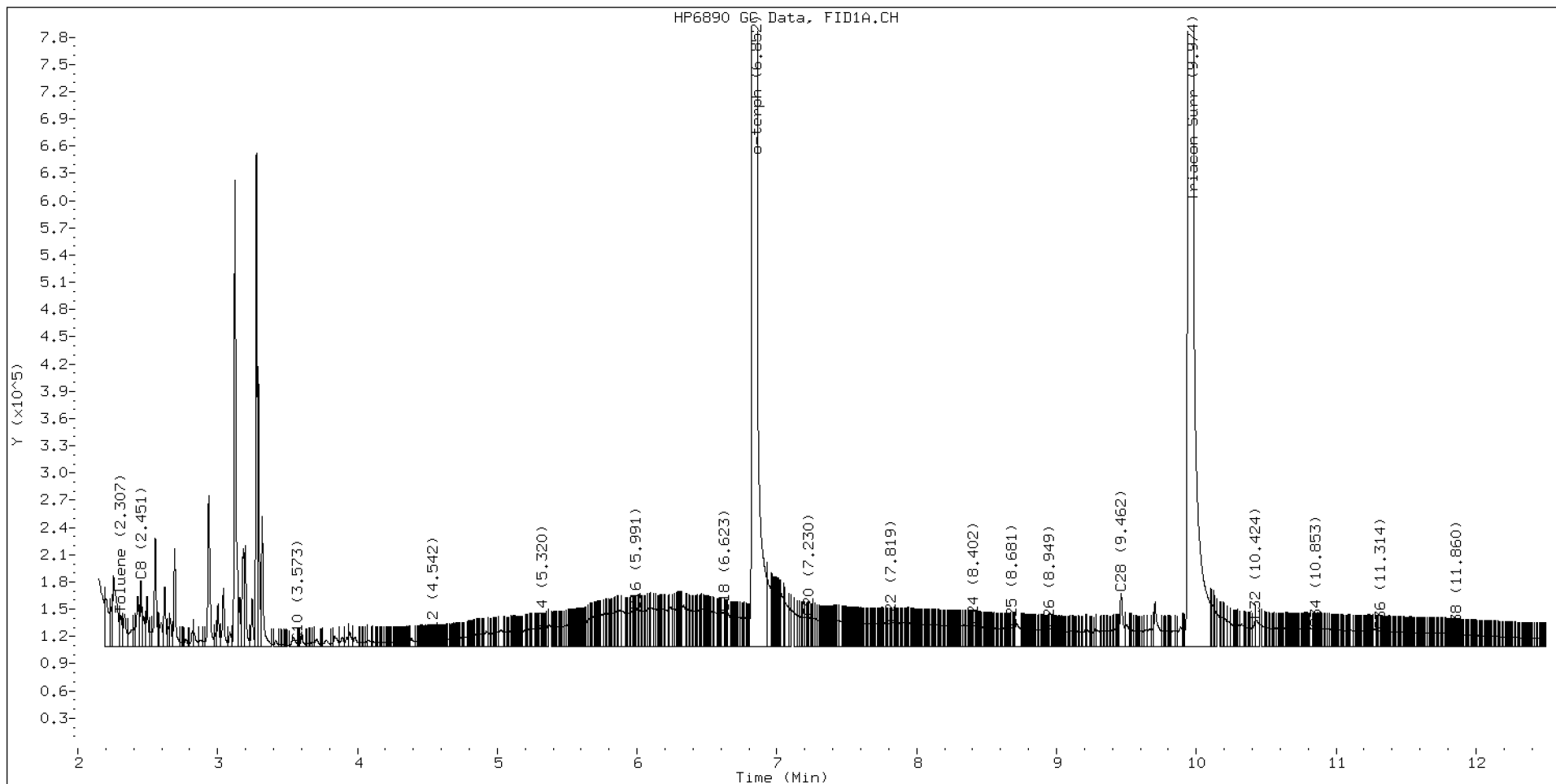
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.451	-0.007	72070	63199	WATPHD	(C12-C24)	6086599	38.4
C10	3.573	-0.003	2650	911	WATPHM	(C24-C38)	3523039	26.6
C12	4.542	-0.002	6024	1195	AK102	(C10-C25)	6608880	35.0
C14	5.320	-0.002	19392	9583	AK103	(C25-C36)	2873578	29.1
C16	5.991	-0.003	38735	20971	OR.DIES	(C10-C28)	7583981	40.0
C18	6.623	0.001	35667	26018				
C20	7.230	-0.000	31333	24379	JET-A	(C10-C18)	3626551	20.9
C22	7.819	-0.006	25067	13683				
C24	8.402	0.003	22907	6802				
C25	8.681	0.003	20346	11060				
C26	8.949	0.002	18645	7329				
C28	9.462	-0.003	57736	92915				
C32	10.424	0.009	28523	37537				
C34	10.853	0.002	19419	5785				
Filter Peak	13.999	0.001	3516	1546				
C36	11.314	-0.003	16365	7313				
C38	11.860	-0.001	13122	5235				
C40	12.527	-0.005	8135	6794				
o-terph	6.852	-0.003	21028819	25136683				
Triacon Surr	9.974	-0.006	14943254	20642194	NAS DIES	(C10-C24)	6414746	34.0

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	25136683	123.4
Triacontane	20642194	118.5

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Water                      Laboratory ID: 22F0267-12 E                      SDG: 22F0267  
 Sampled: 06/15/22 10:00                      Prepared: 06/22/22 09:33                      File ID: 422F2425.D  
 % Solids:                      Preparation: EPA 3510C SepF                      Analyzed: 06/24/22 19:56  
 Batch: BKF0451                      Sequence: SKF0318                      Initial/Final: 500 mL / 1 mL  
 Instrument: FID4                      Column: RTX-1                      Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.331		0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.223	98.9	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2425.D

Date: 24-JUN-2022 19:56

Client ID:

Sample Info: 22F0267-12

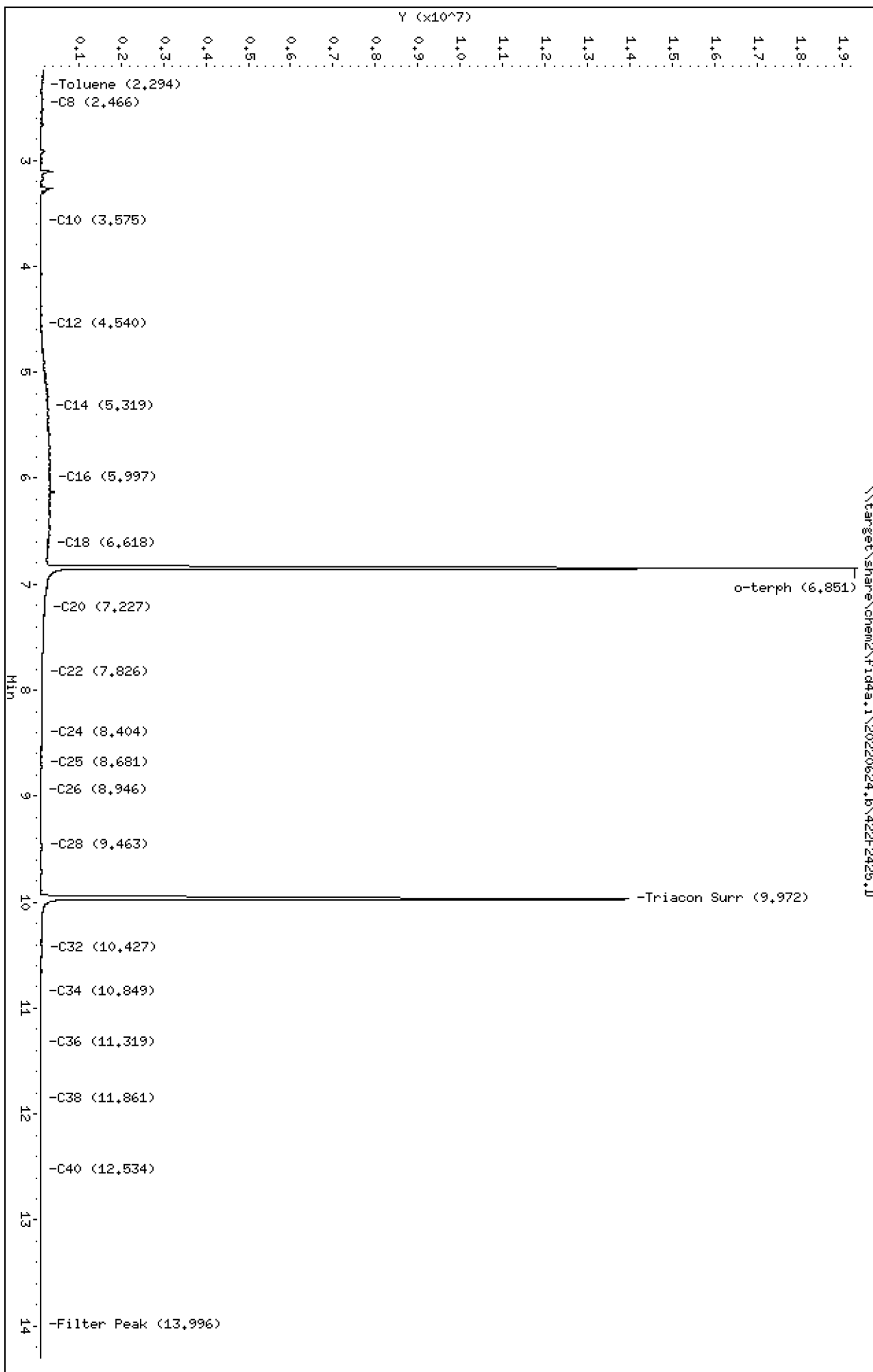
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2425.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-12  
Client ID:  
Injection: 24-JUN-2022 19:56  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

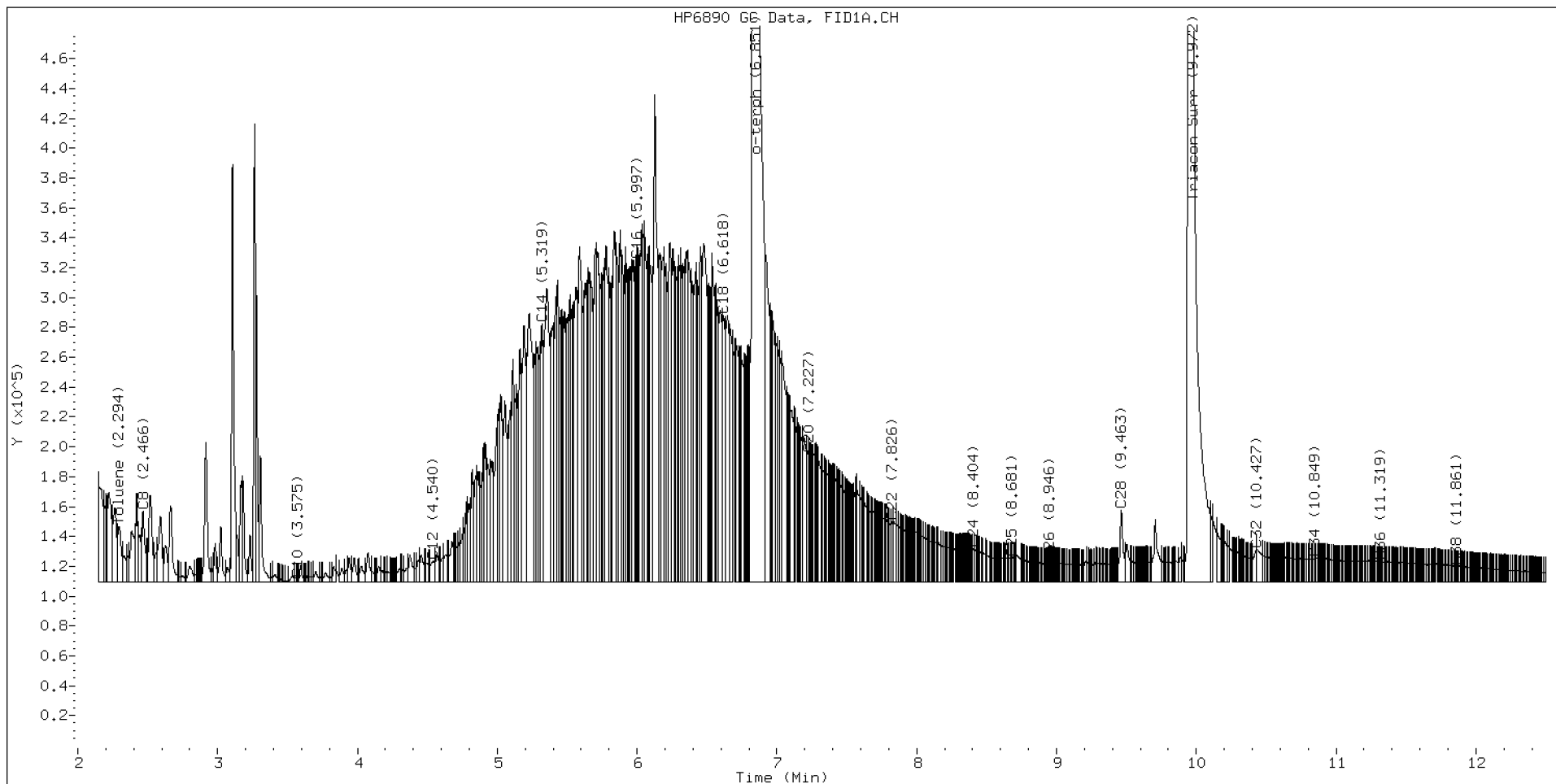
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.466	0.009	47559	71959	WATPHD	(C12-C24)	26272163	165.6
C10	3.575	-0.002	2088	507	WATPHM	(C24-C38)	2810128	21.2
C12	4.540	-0.004	14045	25716	AK102	(C10-C25)	26939217	142.5
C14	5.319	-0.003	172842	224564	AK103	(C25-C36)	2254593	22.8
C16	5.997	0.003	215056	95537	OR.DIES	(C10-C28)	27682411	145.9
C18	6.618	-0.004	178346	268486				
C20	7.227	-0.003	85895	54967	JET-A	(C10-C18)	20414856	117.9
C22	7.826	0.001	40024	39279				
C24	8.404	0.005	22241	19624				
C25	8.681	0.003	16287	4035				
C26	8.946	-0.001	13596	3362				
C28	9.463	-0.003	48175	76339				
C32	10.427	0.012	21503	31650				
C34	10.849	-0.003	15736	7758				
Filter Peak	13.996	-0.002	2121	1550				
C36	11.319	0.001	13588	6048				
C38	11.861	0.001	10659	5274				
C40	12.534	0.001	6014	2394				
o-terph	6.851	-0.004	19238839	22662924				
Triacon Surr	9.972	-0.008	13845366	18401675	NAS DIES	(C10-C24)	26759809	141.8

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22662924	111.3
Triacontane	18401675	105.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Sediment

Laboratory ID: 22F0267-13 A

SDG: 22F0267

Sampled: 06/14/22 10:20

Prepared: 06/21/22 11:11

File ID: 322F2432.D

% Solids: 84.44

Preparation: EPA 3546 (Microwave)

Analyzed: 06/24/22 20:00

Batch: BKF0467

Sequence: SKF0314

Initial/Final: 10.04 g Wet / 1 mL

Instrument: FID3

Column: RTX-1

Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	31.3		2.76	5.90
RRO	Motor Oil Range Organics (C24-C38)	1	120		3.53	11.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.270	12.3	92.8	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2432.D

Date: 24-JUN-2022 20:00

Client ID:

Sample Info: 22F0267-13

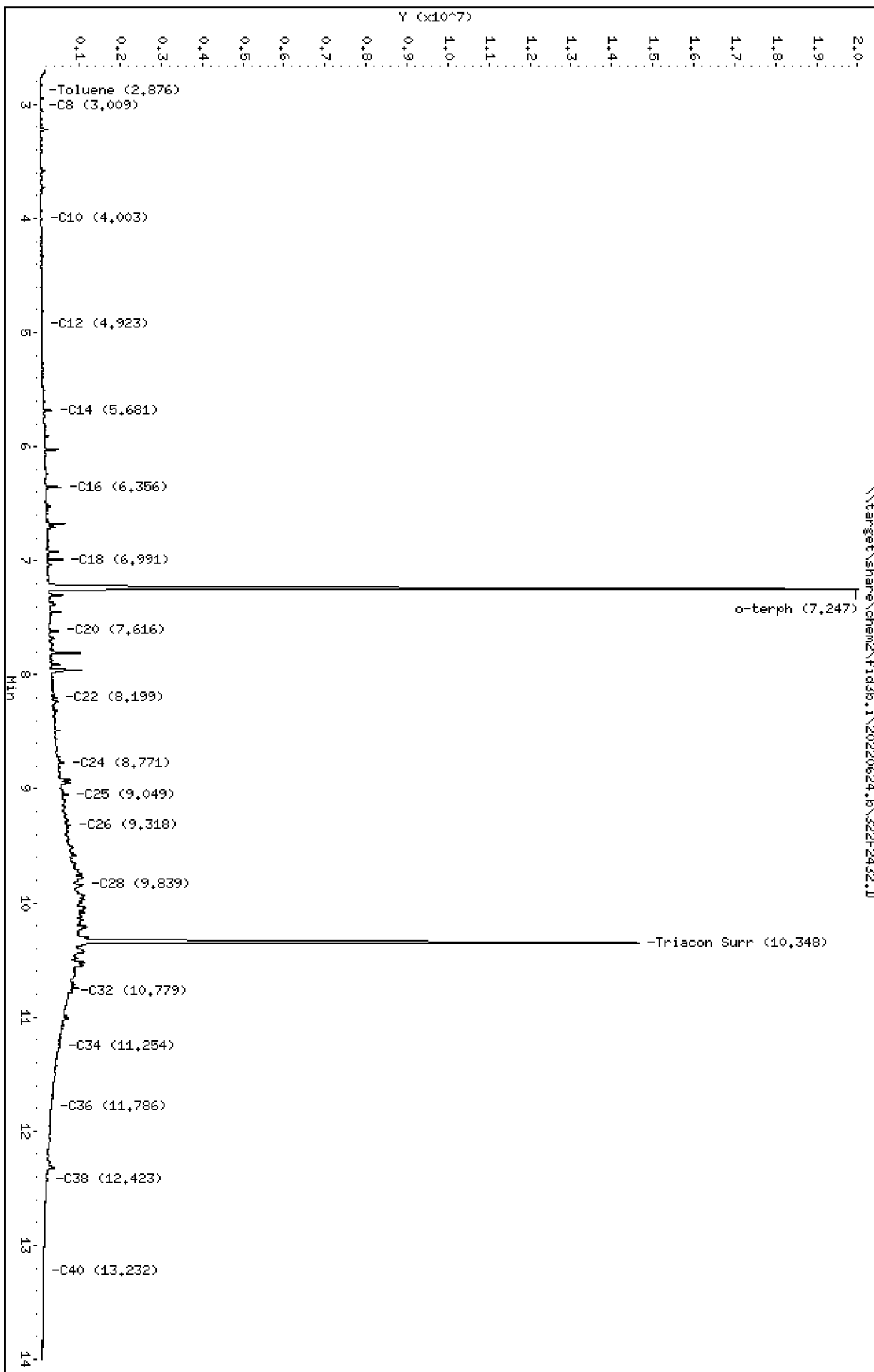
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2432.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-13  
Client ID:  
Injection: 24-JUN-2022 20:00  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.876	0.018	8639	14794	WATPHG	(Tol-C12)	2533085	14.1
C8	3.009	-0.002	4681	4323	WATPHD	(C12-C24)	45743117	265.3
C10	4.003	-0.007	30691	49848	WATPHM	(C24-C38)	125910938	1014.2
C12	4.923	-0.002	39470	77346	AK102	(C10-C25)	52654624	258.4
C14	5.681	-0.002	275779	343822	AK103	(C25-C36)	112992317	1189.3 M
C16	6.356	-0.002	499276	693851	OR.DIES	(C10-C28)	88675857	434.1
C18	6.991	-0.002	536386	565274				
C20	7.616	0.011	440948	518150				
C22	8.199	-0.002	403384	576727				
C24	8.771	-0.001	582908	899444				
C25	9.049	-0.002	656694	1067805				
C26	9.318	-0.002	728040	837864				
C28	9.839	0.004	1048268	1536647	IT.DIES	(C10-C24)	47190131	232.0
C32	10.779	0.000	782367	963750				
C34	11.254	0.001	482337	1323039	CREOSOT	(C12-C22)	32737816	636.3
Filter Peak	13.972	0.000	47691	73332				
C36	11.786	-0.001	281700	1091952	BUNKERC	(C10-C38)	173101069	2279.9
o-terph	7.247	0.006	19961031	25114132	JET-A	(C10-C18)	15816666	91.9
Triacon Surr	10.348	0.004	13559616	16467853				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

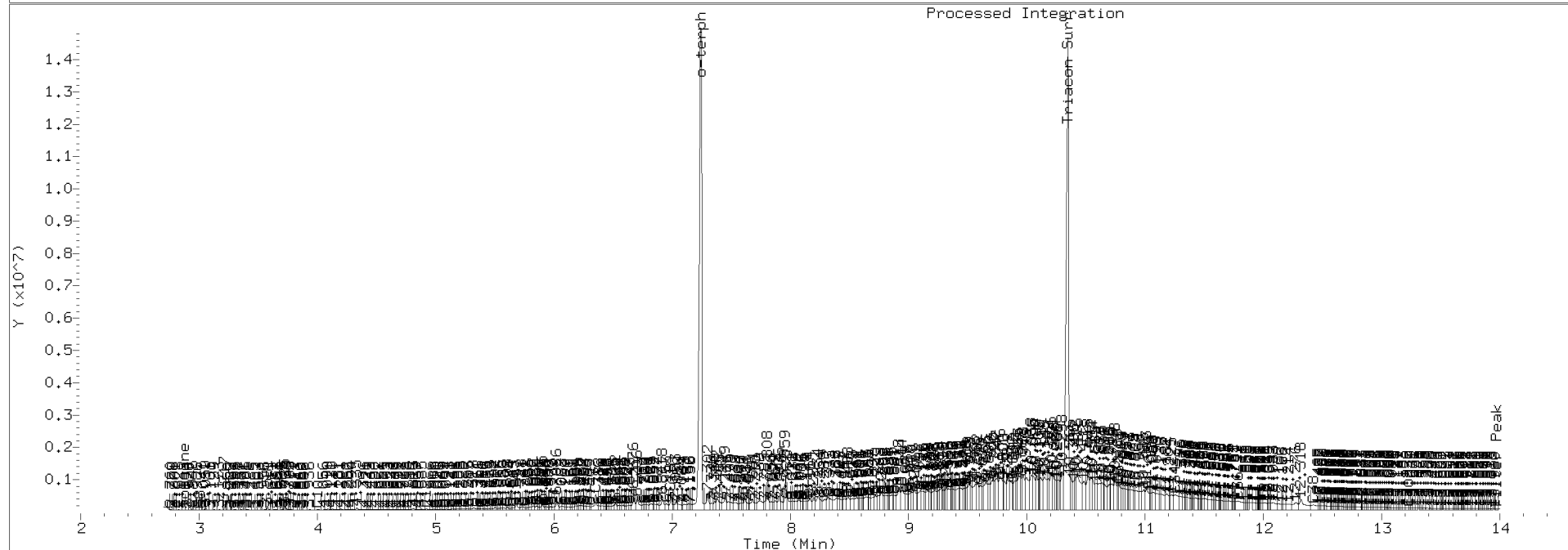
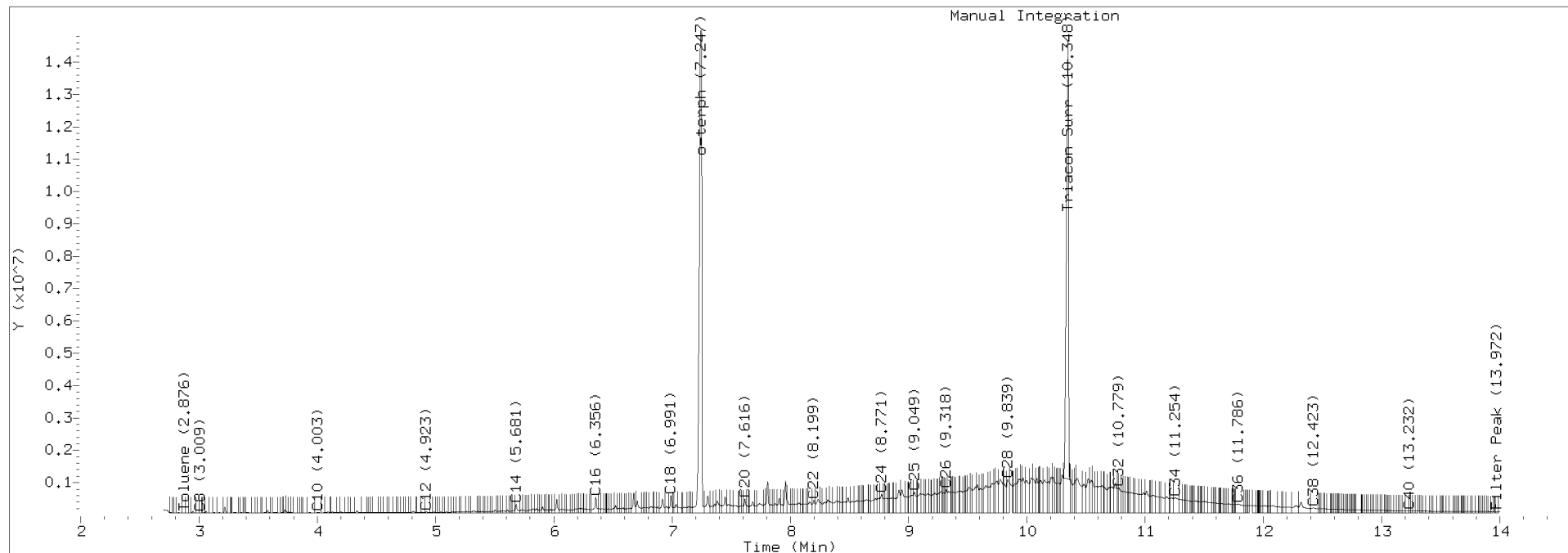
Surrogate	Area	Amount
o-Terphenyl	25114132	104.3
Triacontane	16467853	95.8

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2432.D Injection: 24-JUN-2022 20:00

Lab ID:22F0267-13







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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Sediment

Laboratory ID: 22F0267-14 A

SDG: 22F0267

Sampled: 06/14/22 10:20

Prepared: 06/21/22 11:00

File ID: 322F2416.D

% Solids: 84.44

Preparation: EPA 3546 (Microwave)

Analyzed: 06/24/22 14:21

Batch: BKF0468

Sequence: SKF0314

Initial/Final: 10.04 g Wet / 1 mL

Instrument: FID3

Column: RTX-1

Calibration: FF00020

Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	22.9		2.76	5.90
RRO	Motor Oil Range Organics (C24-C38)	1	107		3.53	11.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.270	13.0	98.0	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2416.D

Date: 24-JUN-2022 14:21

Client ID:

Sample Info: 22F0267-14

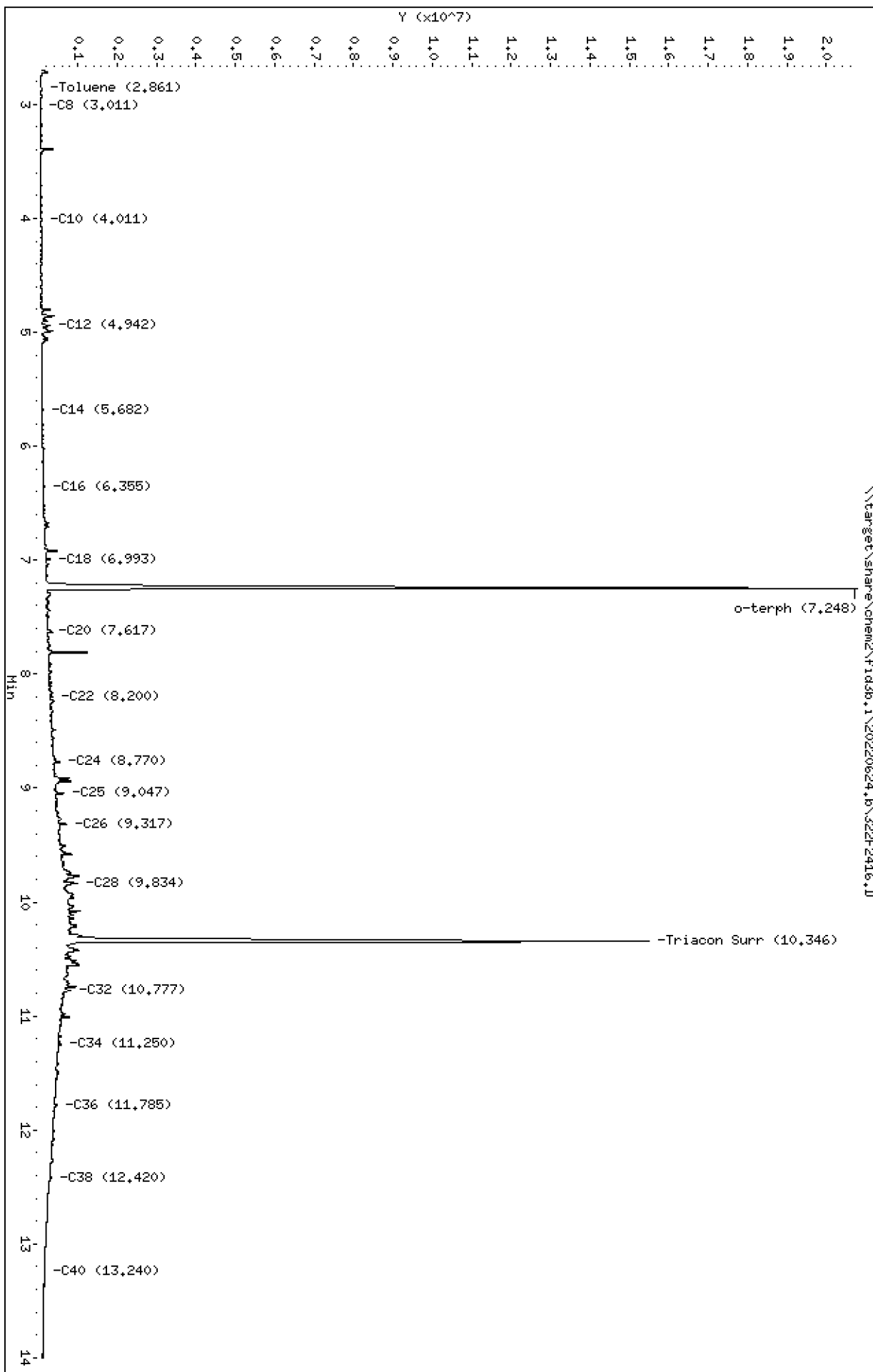
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2416.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-14  
Client ID:  
Injection: 24-JUN-2022 14:21  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.861	0.003	45025	64893	WATPHG	(Tol-C12)	3118332	17.4
C8	3.011	0.000	9430	8080	WATPHD	(C12-C24)	33459727	194.1
C10	4.011	0.000	28926	45629	WATPHM	(C24-C38)	112656874	907.5
C12	4.942	0.017	234926	252542	AK102	(C10-C25)	40089496	196.7
C14	5.682	-0.002	61357	79063	AK103	(C25-C36)	97136569	1022.4 M
C16	6.355	-0.003	107391	106299	OR.DIES	(C10-C28)	67735816	331.6
C18	6.993	0.001	237607	336940				
C20	7.617	0.013	239886	285668				
C22	8.200	-0.001	311520	489912				
C24	8.770	-0.002	495124	955540				
C25	9.047	-0.003	582359	971653				
C26	9.317	-0.003	662010	768507				
C28	9.834	-0.001	925555	2377753	IT.DIES	(C10-C24)	35633252	175.2
C32	10.777	-0.002	761704	1374945				
C34	11.250	-0.003	518850	1087992	CREOSOT	(C12-C22)	23083632	448.6
Filter Peak	13.977	0.004	53484	39397				
C36	11.785	-0.002	418070	1244050	BUNKERC	(C10-C38)	148290126	1953.1
o-terph	7.248	0.007	20736452	26536205	JET-A	(C10-C18)	11246128	65.4
Triacon Surr	10.346	0.002	14567391	17715242				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

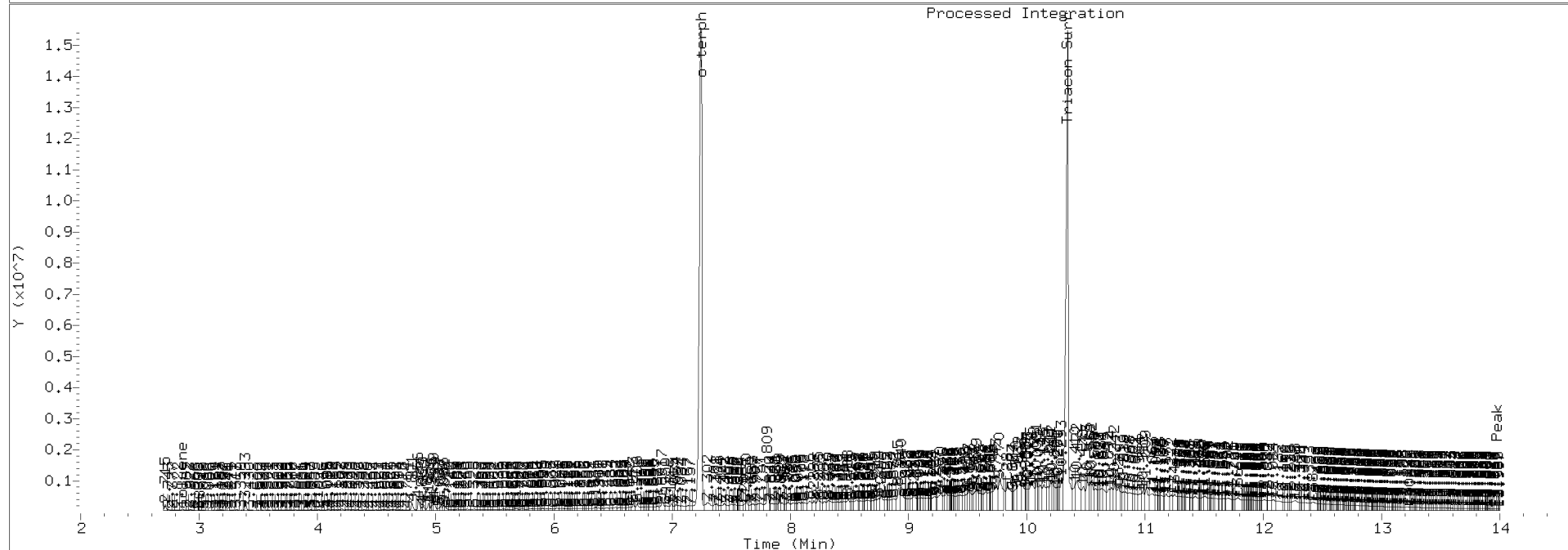
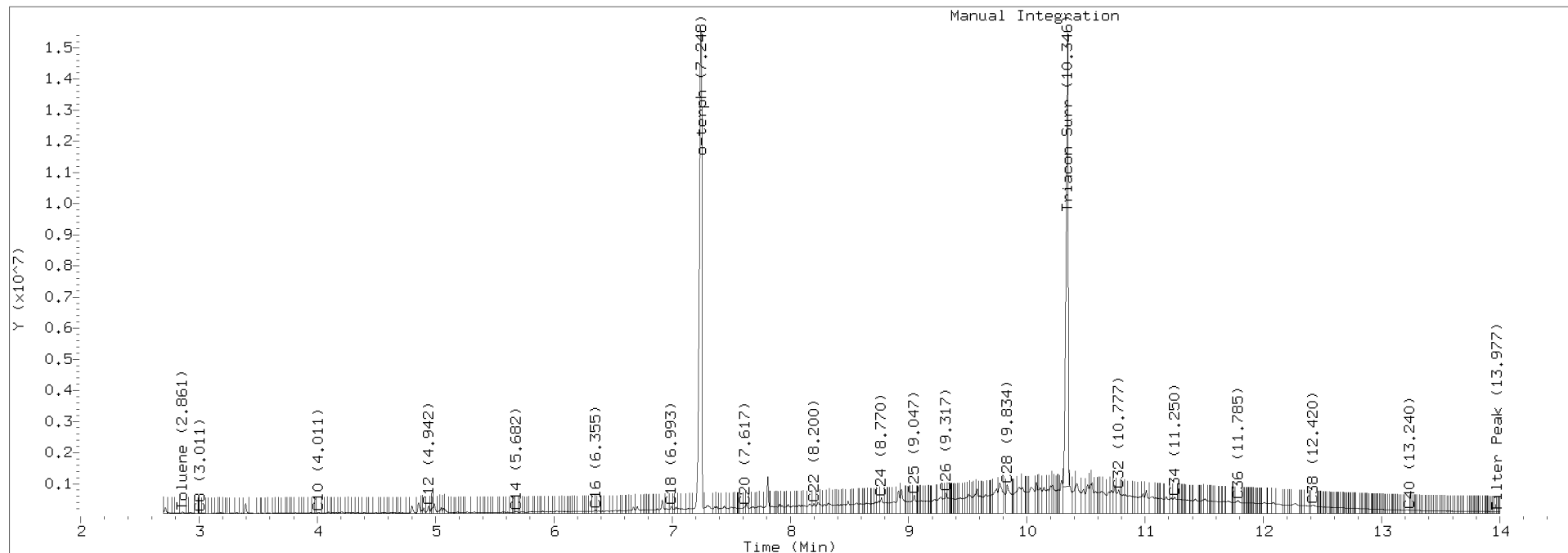
Surrogate	Area	Amount
o-Terphenyl	26536205	110.3
Triacontane	17715242	103.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2416.D Injection: 24-JUN-2022 14:21

Lab ID:22F0267-14





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-15 E

SDG: 22F0267

Sampled: 06/15/22 12:30

Prepared: 06/22/22 09:33

File ID: 422F2426.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 20:16

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.212		0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.367		0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.215	95.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2426.D

Date: 24-JUN-2022 20:16

Client ID:

Sample Info: 22F0267-15

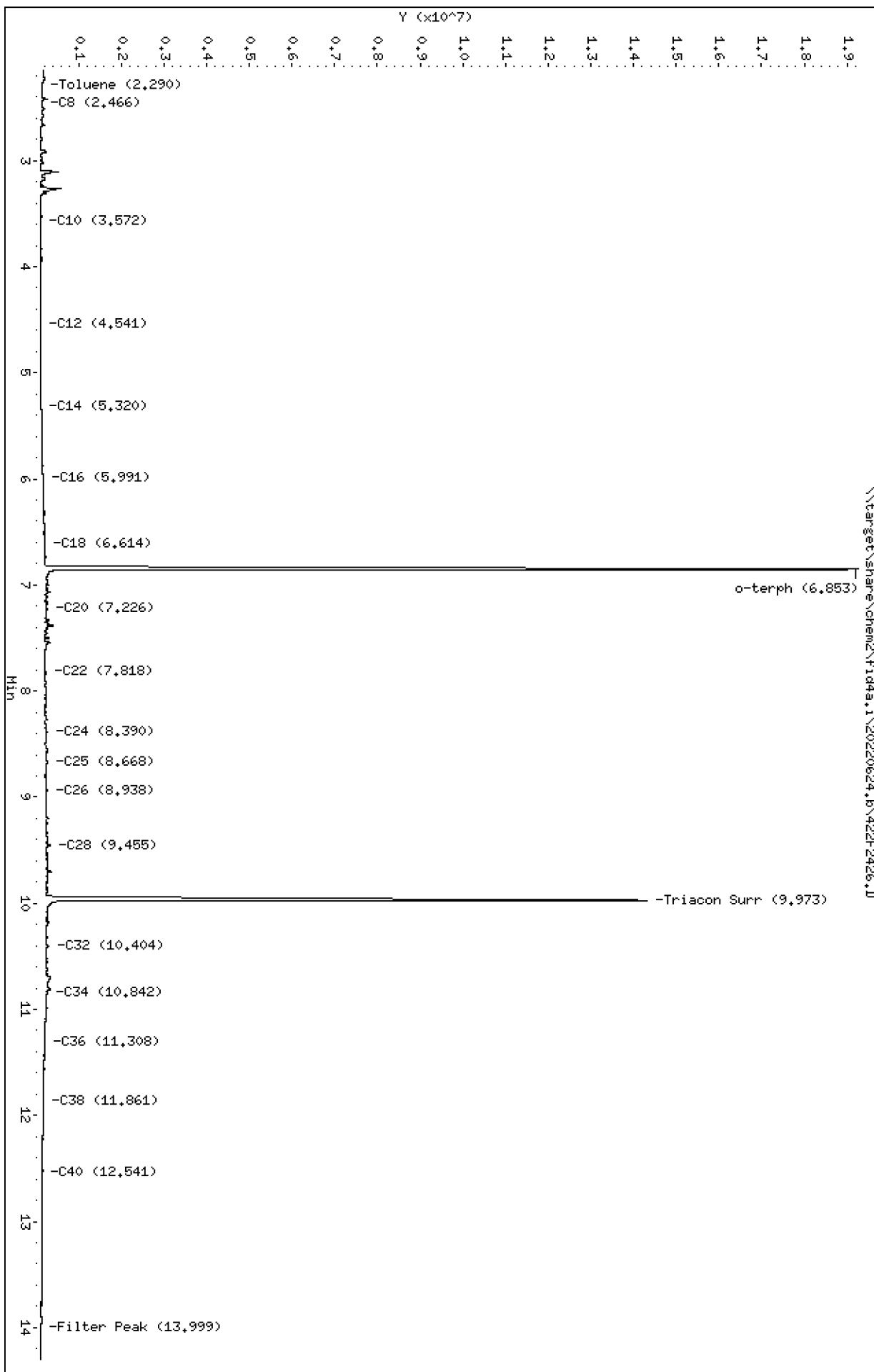
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2426.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-15  
Client ID:  
Injection: 24-JUN-2022 20:16  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

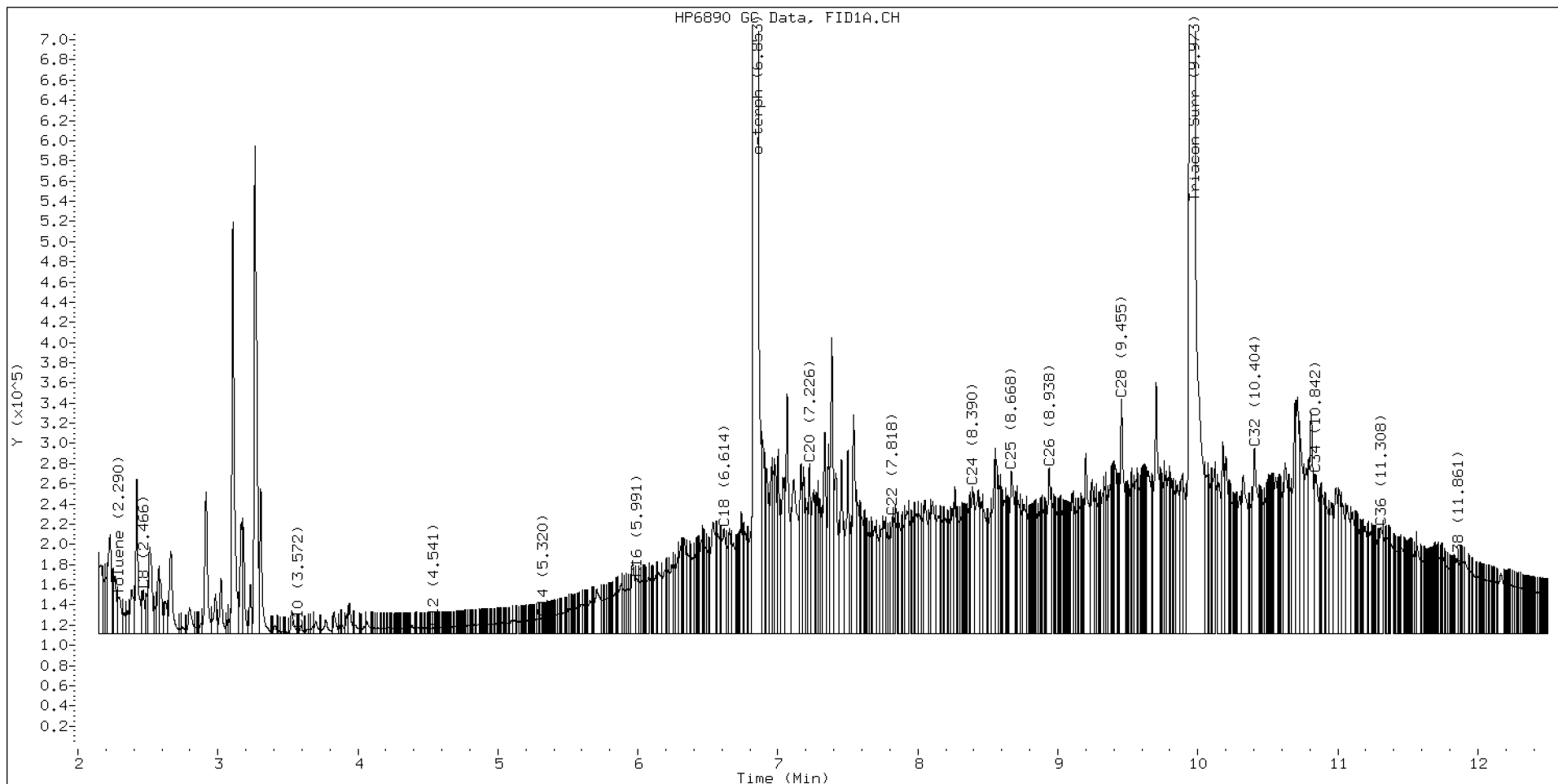
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.466	0.008	42654	57797	WATPHD	(C12-C24)	16784477	105.8
C10	3.572	-0.005	3933	2358	WATPHM	(C24-C38)	24325221	183.5
C12	4.541	-0.002	5800	5559	AK102	(C10-C25)	18573498	98.2
C14	5.320	-0.002	15253	7529	AK103	(C25-C36)	20550352	207.8
C16	5.991	-0.003	54879	66655	OR.DIES	(C10-C28)	25289466	133.3
C18	6.614	-0.008	103990	202918				
C20	7.226	-0.004	168179	194218	JET-A	(C10-C18)	4962077	28.7
C22	7.818	-0.007	115592	133479				
C24	8.390	-0.009	145634	231244				
C25	8.668	-0.009	160380	346327				
C26	8.938	-0.010	163796	334504				
C28	9.455	-0.011	232418	465587				
C32	10.404	-0.011	183109	488402				
C34	10.842	-0.010	157843	345563				
Filter Peak	13.999	0.001	14555	7079				
C36	11.308	-0.009	105152	187640				
C38	11.861	0.000	68699	13695				
C40	12.541	0.008	40100	19502				
o-terph	6.853	-0.003	19155187	21840778				
Triacon Surr	9.973	-0.007	14202690	19262917	NAS DIES	(C10-C24)	17201354	91.2

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	21840778	107.3
Triacontane	19262917	110.6

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-16 A      SDG: 22F0267  
 Sampled: 06/14/22 10:15      Prepared: 06/21/22 11:11      File ID: 322F2433.D  
 % Solids: 84.30      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 20:24  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.03 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	31.8		2.77	5.91
RRO	Motor Oil Range Organics (C24-C38)	1	124		3.54	11.8

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.305	11.9	89.5	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2433.D

Date: 24-JUN-2022 20:24

Client ID:

Sample Info: 22F0267-16

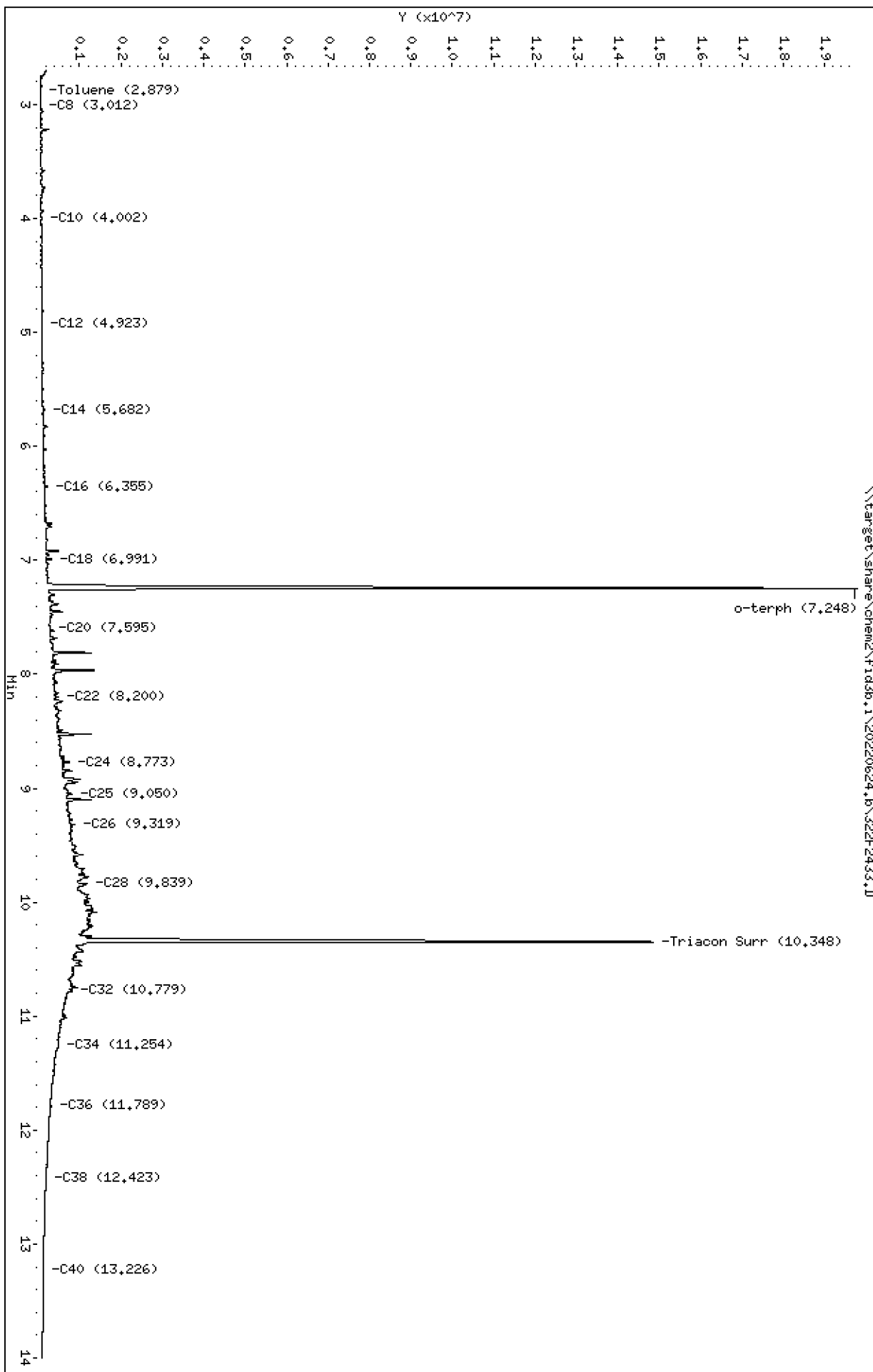
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2433.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-16  
Client ID:  
Injection: 24-JUN-2022 20:24  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.879	0.021	10052	15351	WATPHG	(Tol-C12)	2767731	15.4
C8	3.012	0.001	5104	4690	WATPHD	(C12-C24)	46331035	268.7
C10	4.002	-0.009	33182	52832	WATPHM	(C24-C38)	130579223	1051.8
C12	4.923	-0.002	40408	78852	AK102	(C10-C25)	54526810	267.6
C14	5.682	-0.002	103768	168439	AK103	(C25-C36)	117682733	1238.7 M
C16	6.355	-0.003	180284	344574	OR.DIES	(C10-C28)	96533547	472.5
C18	6.991	-0.001	261656	356799				
C20	7.595	-0.009	230919	273359				
C22	8.200	-0.000	439795	680805				
C24	8.773	0.001	694572	1023268				
C25	9.050	-0.000	759563	1477844				
C26	9.319	-0.000	834398	921233				
C28	9.839	0.005	1129546	3332280	IT.DIES	(C10-C24)	47784753	235.0
C32	10.779	-0.000	755611	1021068				
C34	11.254	0.001	446448	1189863	CREOSOT	(C12-C22)	30609928	594.9
Filter Peak	13.971	-0.001	45302	11317				
C36	11.789	0.001	257222	737504	BUNKERC	(C10-C38)	178363976	2349.2
o-terph	7.248	0.006	19727531	24230661	JET-A	(C10-C18)	11768081	68.4
Triacon Surr	10.348	0.004	13749316	16211587				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

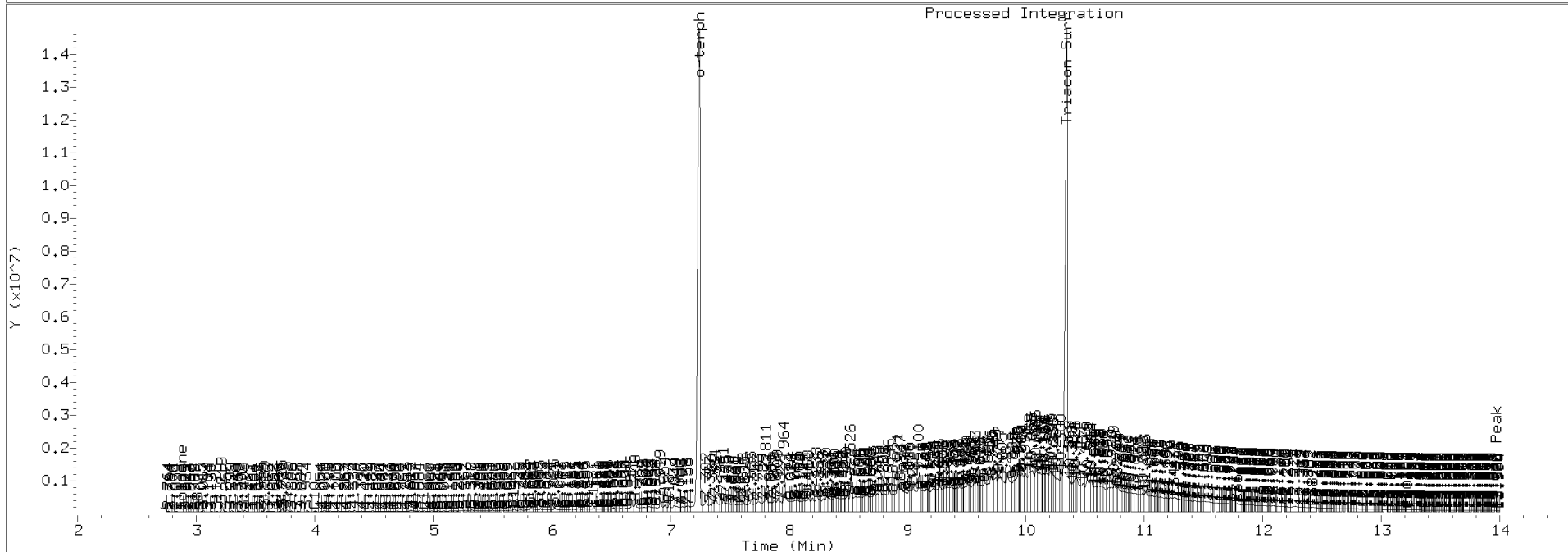
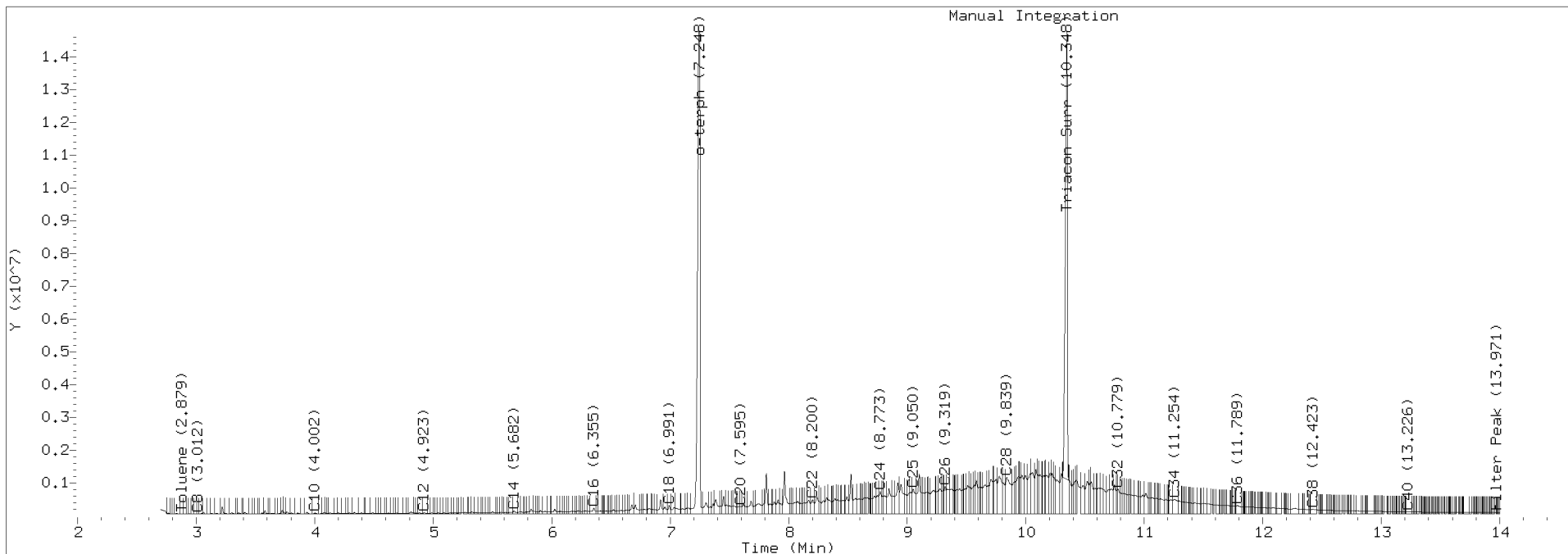
Surrogate	Area	Amount
o-Terphenyl	24230661	100.7
Triacontane	16211587	94.3

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2433.D Injection: 24-JUN-2022 20:24

Lab ID:22F0267-16





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-17 A      SDG: 22F0267  
 Sampled: 06/14/22 10:15      Prepared: 06/21/22 11:00      File ID: 322F2417.D  
 % Solids: 82.88      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 14:42  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.03 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	27.4		2.81	6.01
RRO	Motor Oil Range Organics (C24-C38)	1	173		3.60	12.0

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.533	11.8	87.5	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2417.D

Date: 24-JUN-2022 14:42

Client ID:

Sample Info: 22F0267-17

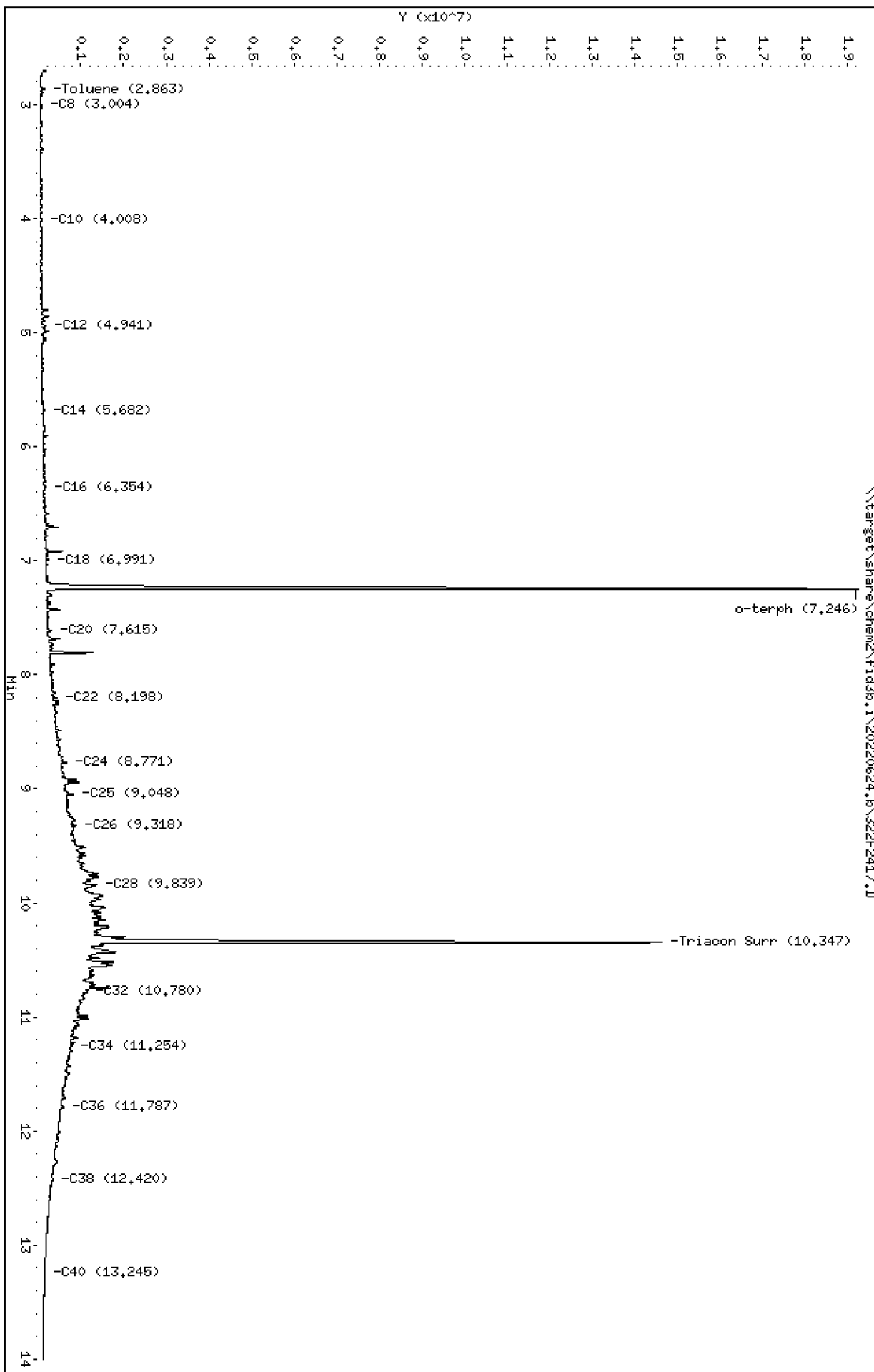
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2417.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-17  
Client ID:  
Injection: 24-JUN-2022 14:42  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.863	0.005	111965	137866	WATPHG	(Tol-C12)	2821907	15.7
C8	3.004	-0.006	20171	28746	WATPHD	(C12-C24)	39288645	227.9
C10	4.008	-0.002	31711	43759	WATPHM	(C24-C38)	178495514	1437.8
C12	4.941	0.016	135546	171761	AK102	(C10-C25)	47455180	232.9
C14	5.682	-0.002	92298	156854	AK103	(C25-C36)	158322518	1666.4 M
C16	6.354	-0.004	126396	201154	OR.DIES	(C10-C28)	91402819	447.4
C18	6.991	-0.001	197940	270635				
C20	7.615	0.010	242240	372501				
C22	8.198	-0.002	375133	620241				
C24	8.771	-0.001	605037	1333358				
C25	9.048	-0.002	759863	947077				
C26	9.318	-0.001	827743	891960				
C28	9.839	0.004	1317235	2625914	IT.DIES	(C10-C24)	41147265	202.3
C32	10.780	0.001	1098799	1168150				
C34	11.254	0.001	753384	1477068	CREOSOT	(C12-C22)	25283031	491.4
Filter Peak	13.981	0.009	52618	57700				
C36	11.787	-0.001	545217	1909826	BUNKERC	(C10-C38)	219642779	2892.8
o-terph	7.246	0.004	19196197	23697142	JET-A	(C10-C18)	12039474	70.0
Triacon Surr	10.347	0.003	13162411	15478194				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

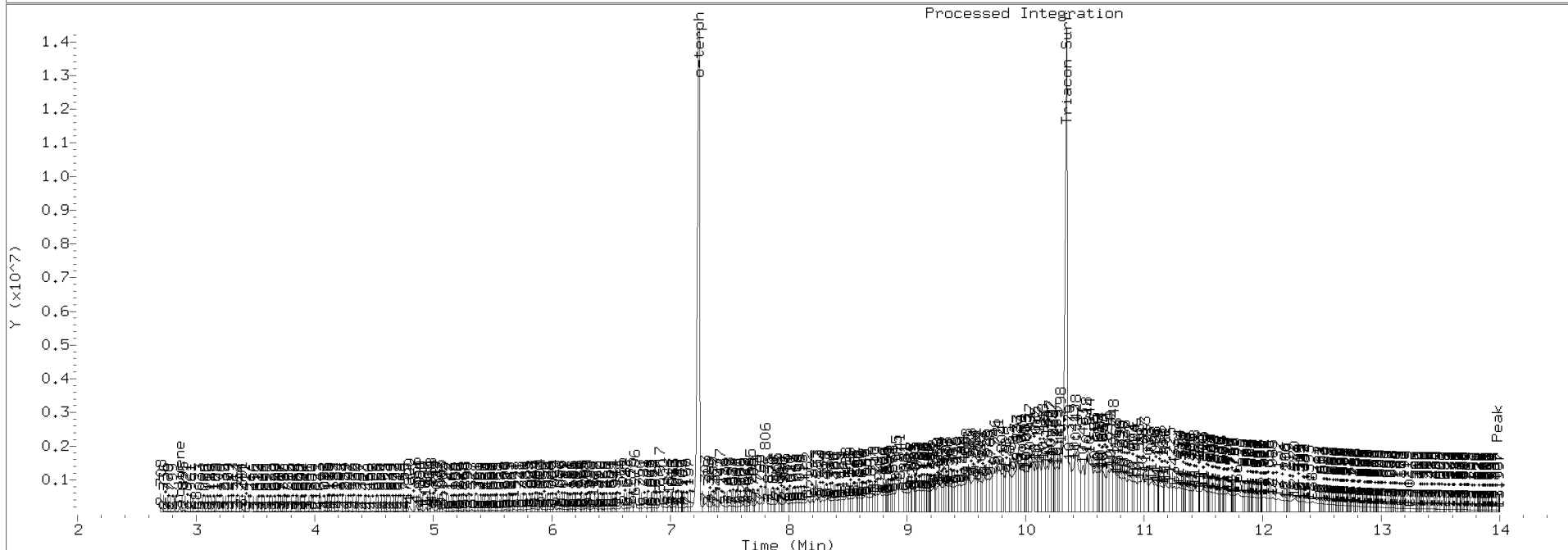
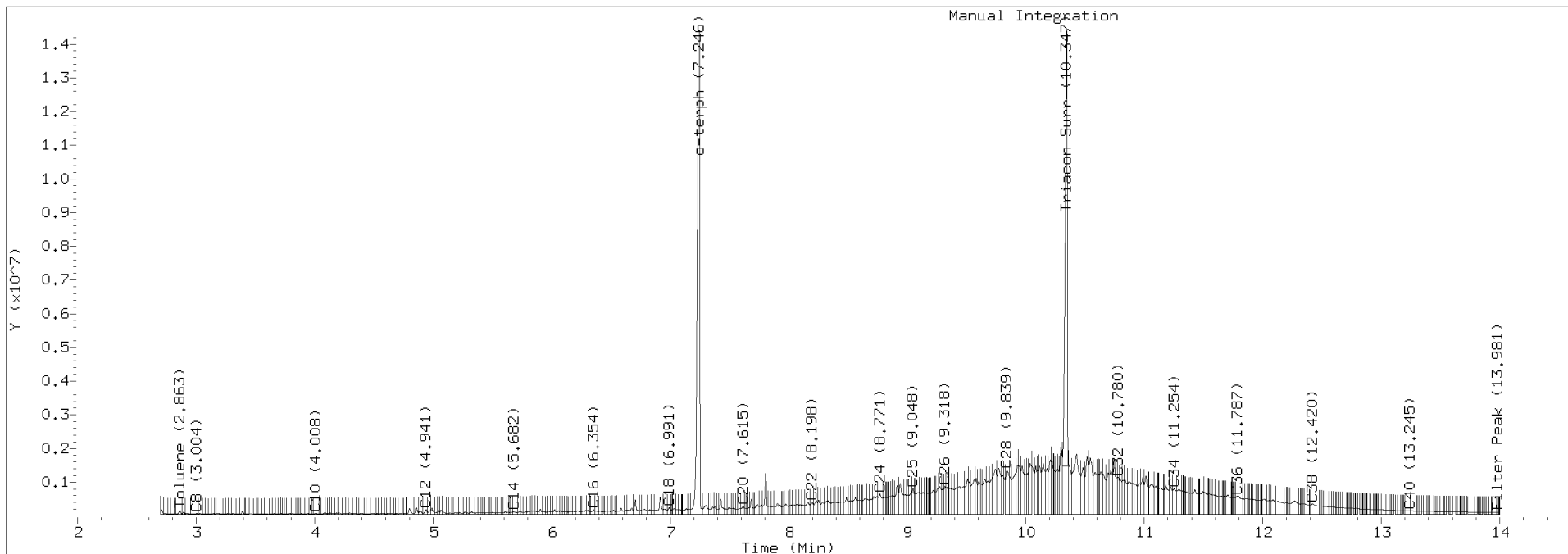
Surrogate	Area	Amount
o-Terphenyl	23697142	98.5
Triacontane	15478194	90.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2417.D Injection: 24-JUN-2022 14:42

Lab ID:22F0267-17







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-18 A      SDG: 22F0267  
 Sampled: 06/14/22 10:30      Prepared: 06/21/22 11:11      File ID: 322F2434.D  
 % Solids: 87.98      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 20:45  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.01 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	12.8		2.66	5.68
RRO	Motor Oil Range Organics (C24-C38)	1	52.2		3.40	11.4

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.774	11.7	91.6	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2434.D

Date: 24-JUN-2022 20:45

Client ID:

Sample Info: 22F0267-18

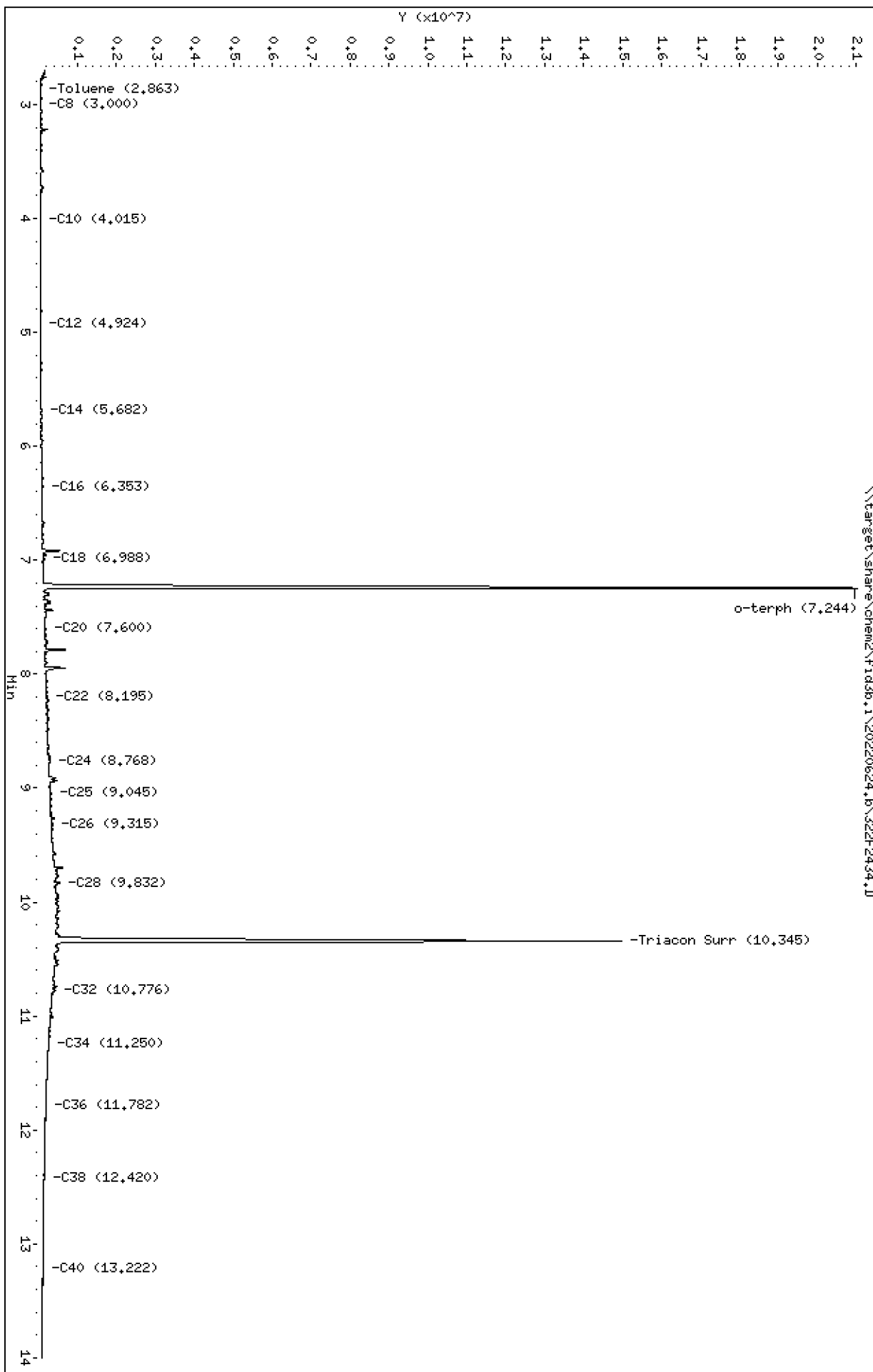
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2434.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-18  
Client ID:  
Injection: 24-JUN-2022 20:45  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.863	0.005	3568	708	WATPHG	(Tol-C12)	1164281	6.5
C8	3.000	-0.011	9704	19340	WATPHD	(C12-C24)	19449895	112.8
C10	4.015	0.005	8531	7388	WATPHM	(C24-C38)	57067210	459.7
C12	4.924	-0.001	9691	17683	AK102	(C10-C25)	22192323	108.9
C14	5.682	-0.002	34138	58169	AK103	(C25-C36)	50691164	533.6 M
C16	6.353	-0.005	64538	131595	OR.DIES	(C10-C28)	38463739	188.3
C18	6.988	-0.004	107916	158243				
C20	7.600	-0.005	154792	171054				
C22	8.195	-0.006	175755	284760				
C24	8.768	-0.004	258573	419224				
C25	9.045	-0.005	297702	543138				
C26	9.315	-0.005	329879	406324				
C28	9.832	-0.003	498721	1231697	IT.DIES	(C10-C24)	19760151	97.2
C32	10.776	-0.003	387474	778344				
C34	11.250	-0.003	228484	572713	CREOSOT	(C12-C22)	13243783	257.4
Filter Peak	13.973	0.001	43483	62492				
C36	11.782	-0.005	144562	456819	BUNKERC	(C10-C38)	76827361	1011.9
o-terph	7.244	0.002	20974672	24809752	JET-A	(C10-C18)	4004284	23.3
Triacon Surr	10.345	0.002	14505254	17823905				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

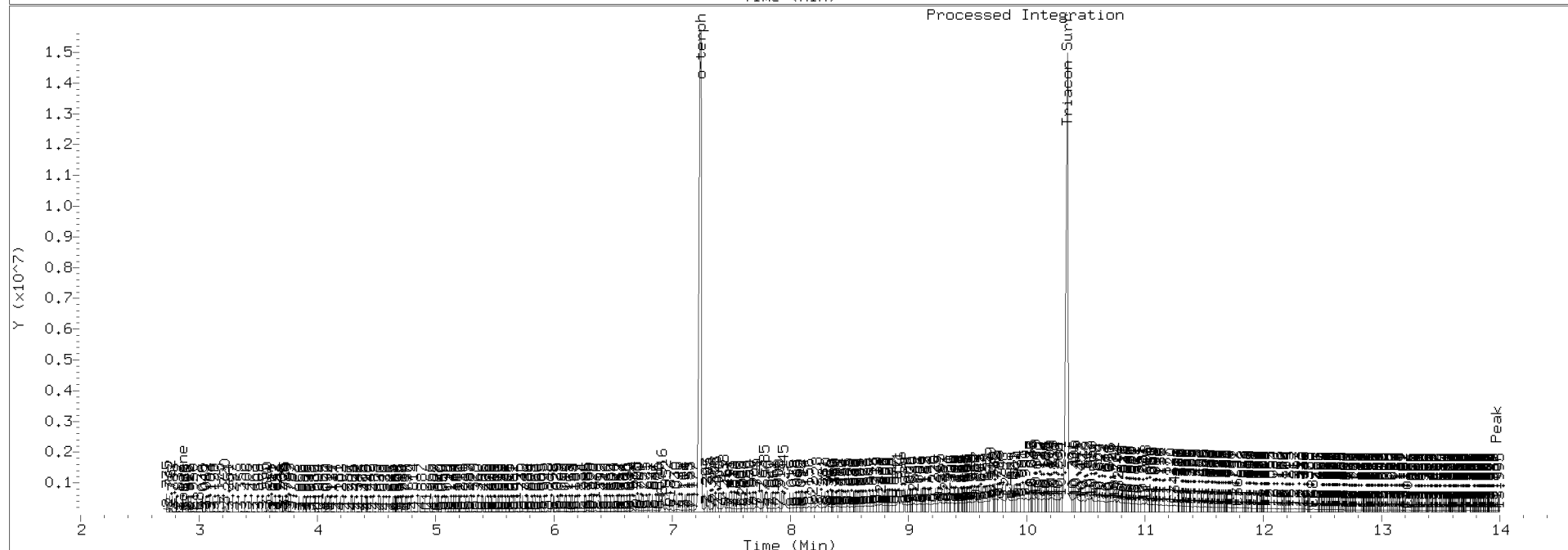
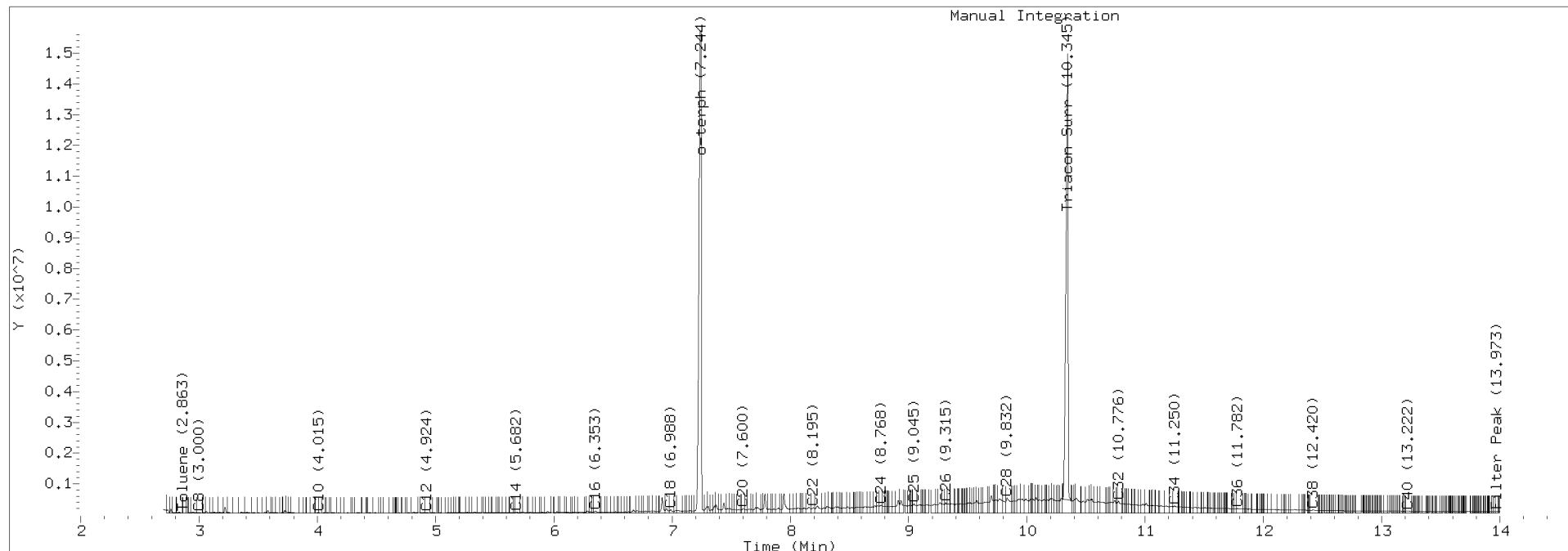
Surrogate	Area	Amount
o-Terphenyl	24809752	103.1
Triacontane	17823905	103.7

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2434.D Injection: 24-JUN-2022 20:45

Lab ID:22F0267-18





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-19 A      SDG: 22F0267  
 Sampled: 06/14/22 10:30      Prepared: 06/21/22 11:00      File ID: 322F2418.D  
 % Solids: 94.18      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 15:03  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.02 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	7.97		2.48	5.30
RRO	Motor Oil Range Organics (C24-C38)	1	45.3		3.17	10.6

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	11.921	10.1	85.0	50 - 150	

Data File: \\target\share\chem2\FID3b,1\20220624,8\32F2418.D

Date: 24-JUN-2022 15:03

Client ID:

Sample Info: 22F0267-19

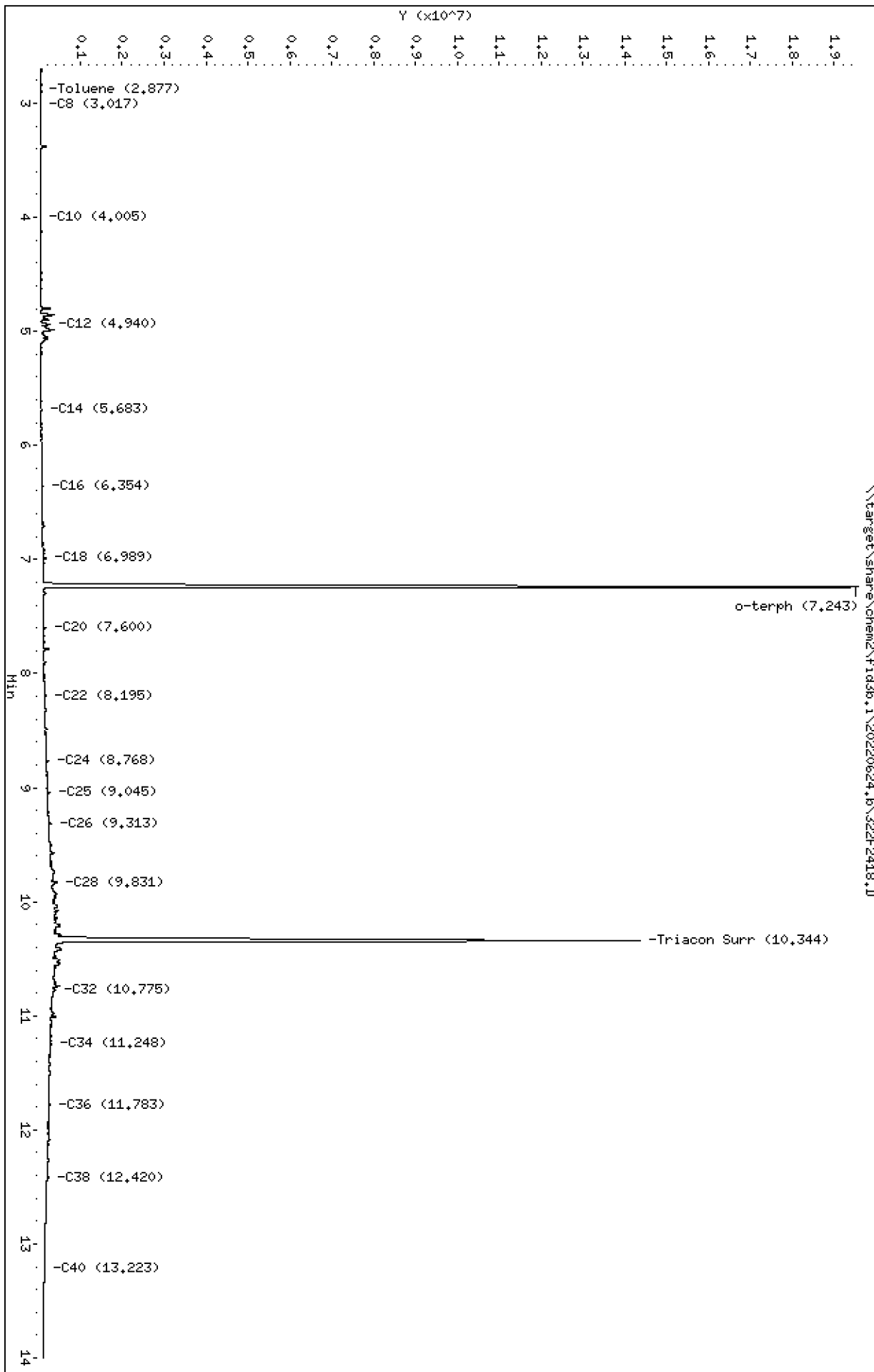
Column phase: RTX-1

Instrument: FID3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2418.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-19  
Client ID:  
Injection: 24-JUN-2022 15:03  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.877	0.019	7553	8307	WATPHG	(Tol-C12)	2124230	11.8
C8	3.017	0.006	16043	17045	WATPHD	(C12-C24)	12972344	75.2
C10	4.005	-0.005	11855	19650	WATPHM	(C24-C38)	53110389	427.8
C12	4.940	0.015	241738	241708	AK102	(C10-C25)	16216643	79.6
C14	5.683	-0.000	24196	38471	AK103	(C25-C36)	45038580	474.1 M
C16	6.354	-0.004	54229	77407	OR.DIES	(C10-C28)	27384869	134.0
C18	6.989	-0.003	122305	162627				
C20	7.600	-0.005	118455	135395				
C22	8.195	-0.005	131293	212739				
C24	8.768	-0.005	184063	307414				
C25	9.045	-0.005	223400	334718				
C26	9.313	-0.006	246641	465607				
C28	9.831	-0.004	404972	1010212	IT.DIES	(C10-C24)	14630777	71.9
C32	10.775	-0.004	363303	703647				
C34	11.248	-0.005	249494	532762	CREOSOT	(C12-C22)	8900120	173.0
Filter Peak	13.967	-0.005	57736	69004				
C36	11.783	-0.005	226435	765096	BUNKERC	(C10-C38)	67741166	892.2
o-terph	7.243	0.001	19522449	23023075	JET-A	(C10-C18)	5444116	31.6
Triacon Surr	10.344	0.000	13921068	17306019				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

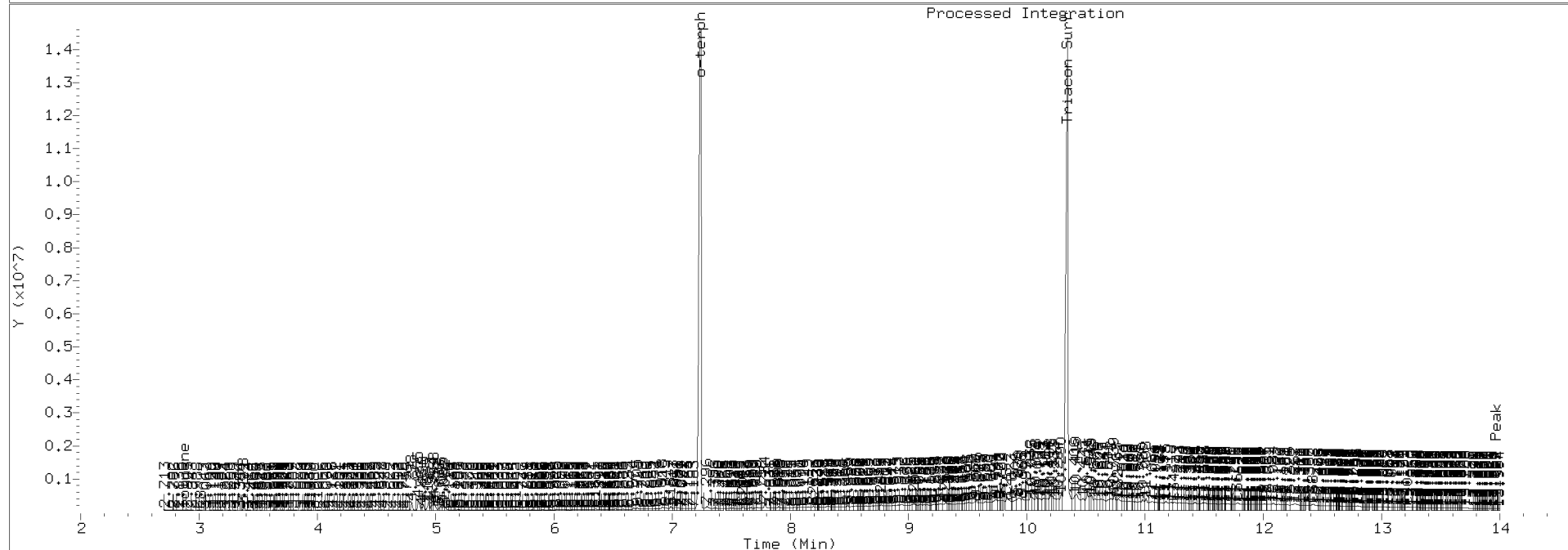
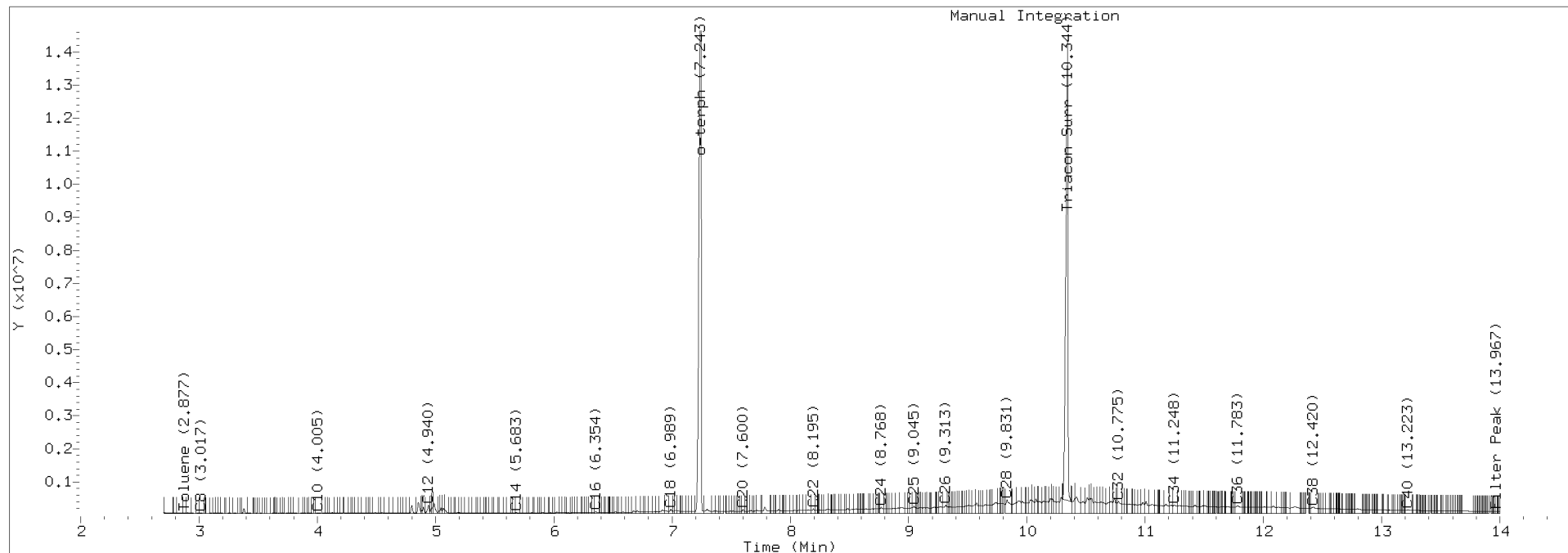
Surrogate	Area	Amount
o-Terphenyl	23023075	95.7
Triacontane	17306019	100.7

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2418.D Injection: 24-JUN-2022 15:03

Lab ID:22F0267-19







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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-20 A      SDG: 22F0267  
 Sampled: 06/14/22 15:05      Prepared: 06/21/22 11:11      File ID: 322F2435.D  
 % Solids: 86.39      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 21:07  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.79	U	2.71	5.79
RRO	Motor Oil Range Organics (C24-C38)	1	12.6		3.46	11.6

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.022	11.9	91.1	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,8\32F2435.D

Date: 24-JUN-2022 21:07

Client ID:

Sample Info: 22F0267-20

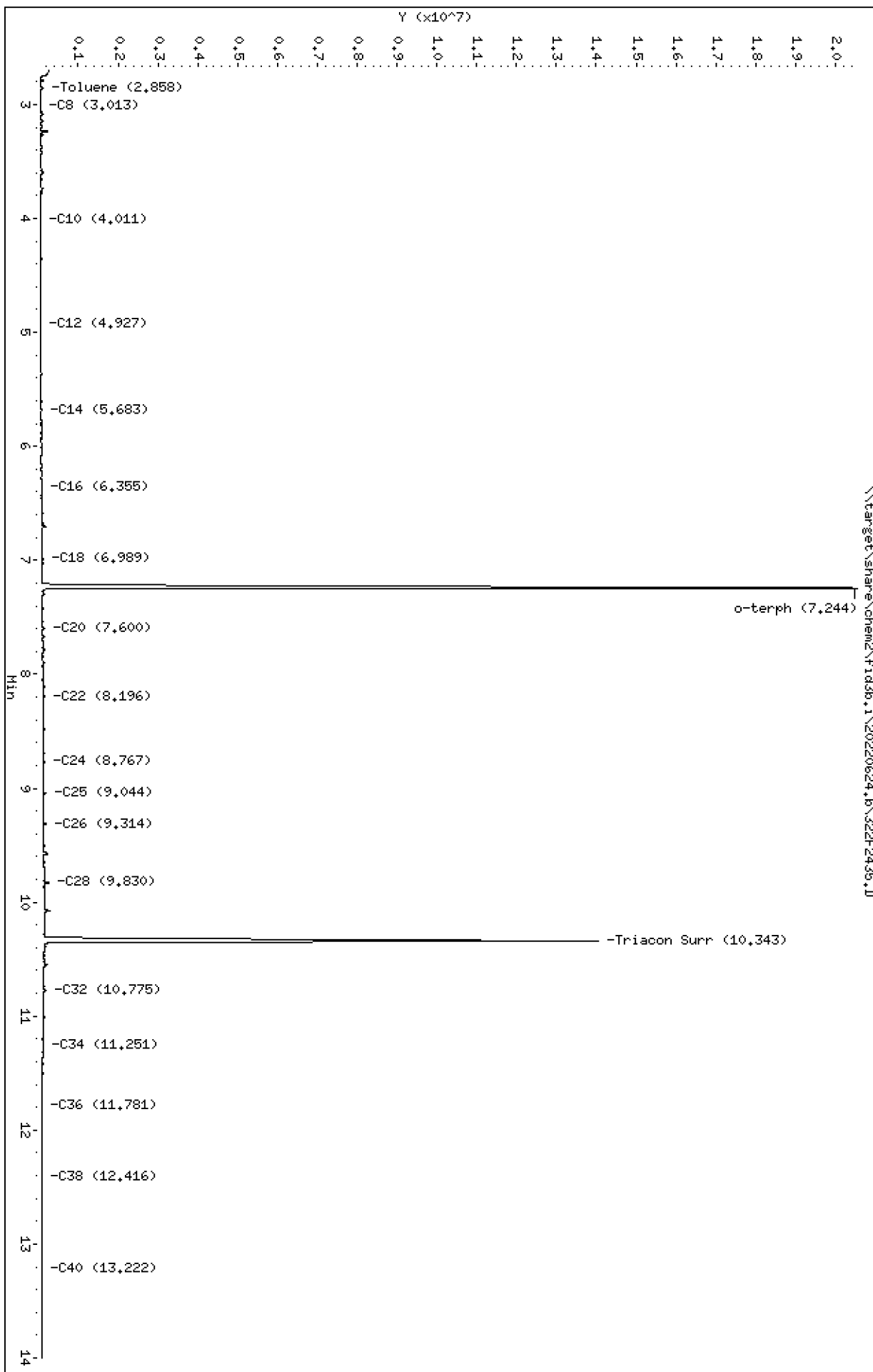
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2435.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-20  
Client ID:  
Injection: 24-JUN-2022 21:07  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.858	0.000	51711	52693	WATPHG	(Tol-C12)	1163097	6.5
C8	3.013	0.003	9620	11134	WATPHD	(C12-C24)	8096711	47.0
C10	4.011	0.000	9475	7687	WATPHM	(C24-C38)	13552828	109.2
C12	4.927	0.003	9020	16714	AK102	(C10-C25)	9021487	44.3
C14	5.683	-0.001	24527	41458	AK103	(C25-C36)	11790128	124.1
C16	6.355	-0.003	41139	50872	OR.DIES	(C10-C28)	13204663	64.6
C18	6.989	-0.003	77632	107148				
C20	7.600	-0.005	90576	106110				
C22	8.196	-0.005	93862	141457				
C24	8.767	-0.005	111708	185766				
C25	9.044	-0.007	150387	218441				
C26	9.314	-0.006	136849	200731				
C28	9.830	-0.005	222403	384524	IT.DIES	(C10-C24)	8360026	41.1
C32	10.775	-0.004	138088	227291				
C34	11.251	-0.002	78634	248060	CREOSOT	(C12-C22)	5908337	114.8
Filter Peak	13.971	-0.002	25891	5171				
C36	11.781	-0.006	48278	103082	BUNKERC	(C10-C38)	21912854	288.6
o-terph	7.244	0.003	20500269	24666140	JET-A	(C10-C18)	2707503	15.7
Triacon Surr	10.343	-0.001	14001401	18106798				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

Surrogate	Area	Amount
o-Terphenyl	24666140	102.5
Triacontane	18106798	105.4

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019



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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-21 A      SDG: 22F0267  
 Sampled: 06/14/22 15:05      Prepared: 06/21/22 11:00      File ID: 322F2419.D  
 % Solids: 87.07      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 15:24  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.06 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	5.81		2.67	5.71
RRO	Motor Oil Range Organics (C24-C38)	1	14.9		3.41	11.4

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	12.844	10.3	79.8	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2419.D

Date: 24-JUN-2022 15:24

Client ID:

Sample Info: 22F0267-21

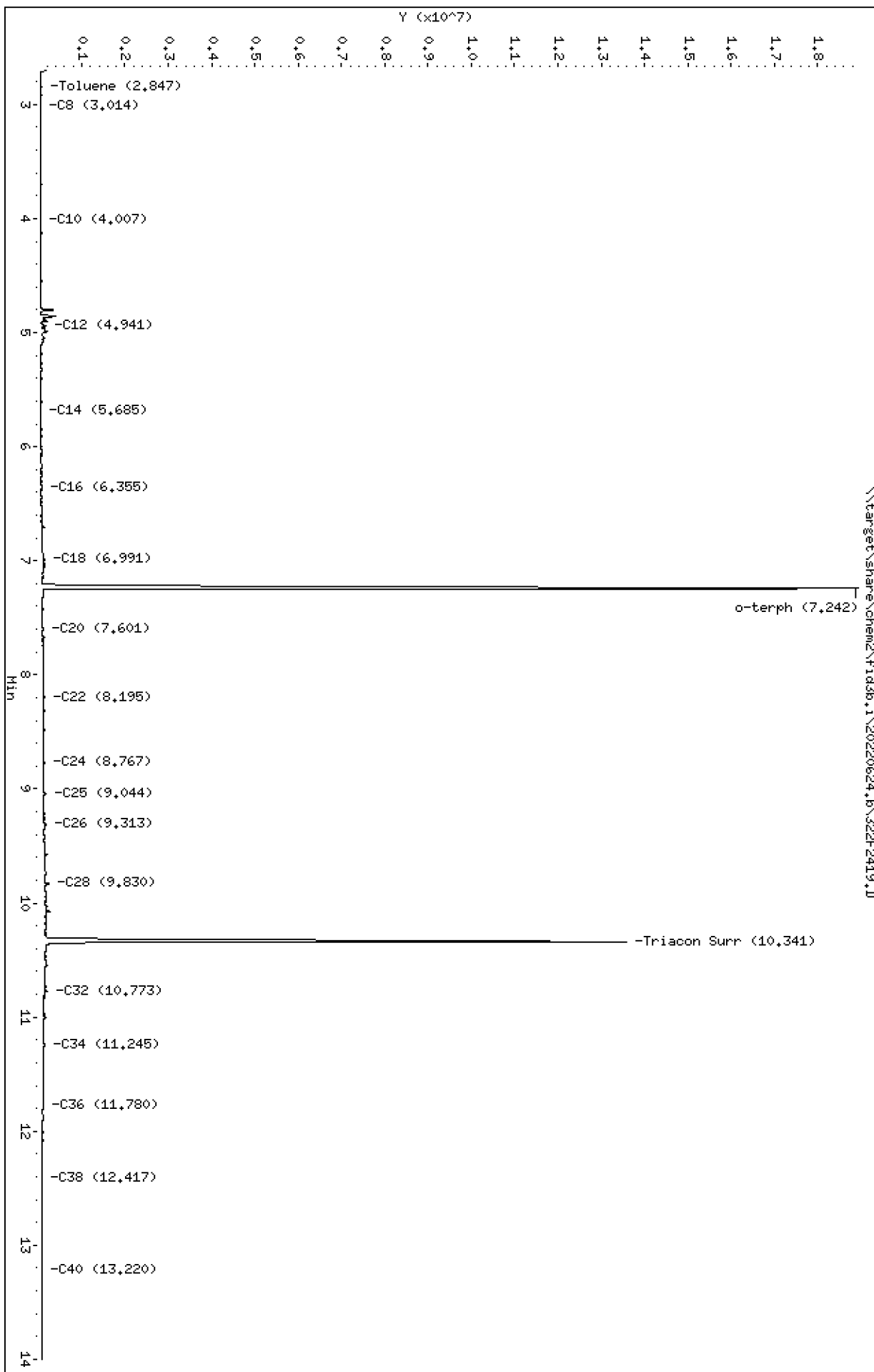
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2419.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-21  
Client ID:  
Injection: 24-JUN-2022 15:24  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.847	-0.011	17124	27422	WATPHG	(Tol-C12)	1527185	8.5
C8	3.014	0.004	3522	700	WATPHD	(C12-C24)	8773598	50.9
C10	4.007	-0.003	9033	8199	WATPHM	(C24-C38)	16221226	130.7
C12	4.941	0.016	125729	137044	AK102	(C10-C25)	10764115	52.8
C14	5.685	0.001	14667	28719	AK103	(C25-C36)	13894443	146.2
C16	6.355	-0.003	25343	34838	OR.DIES	(C10-C28)	15276377	74.8
C18	6.991	-0.001	95725	131496				
C20	7.601	-0.004	74374	112969				
C22	8.195	-0.006	81900	151265				
C24	8.767	-0.005	99723	166848				
C25	9.044	-0.006	118065	225567				
C26	9.313	-0.006	115573	208224				
C28	9.830	-0.005	205504	424172	IT.DIES	(C10-C24)	9996731	49.2
C32	10.773	-0.006	146579	249503				
C34	11.245	-0.008	91924	233568	CREOSOT	(C12-C22)	6394916	124.3
Filter Peak	13.977	0.005	23613	9439				
C36	11.780	-0.007	61041	182460	BUNKERC	(C10-C38)	26217957	345.3
o-terph	7.242	0.000	18890209	21620508	JET-A	(C10-C18)	4105120	23.9
Triacon Surr	10.341	-0.003	13529954	17021998				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

Surrogate	Area	Amount
o-Terphenyl	21620508	89.8
Triacontane	17021998	99.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019



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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-22 A      SDG: 22F0267  
 Sampled: 06/15/22 09:45      Prepared: 06/21/22 11:11      File ID: 322F2436.D  
 % Solids: 80.66      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 21:28  
 Batch: BKF0467      Sequence: SKF0314      Initial/Final: 10.04 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	5	32.5	D	14.4	30.9
RRO	Motor Oil Range Organics (C24-C38)	5	103	D	18.5	61.7

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.892	11.7	84.0	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2436.D

Date: 24-JUN-2022 21:28

Client ID:

Sample Info: 22F0267-22,5

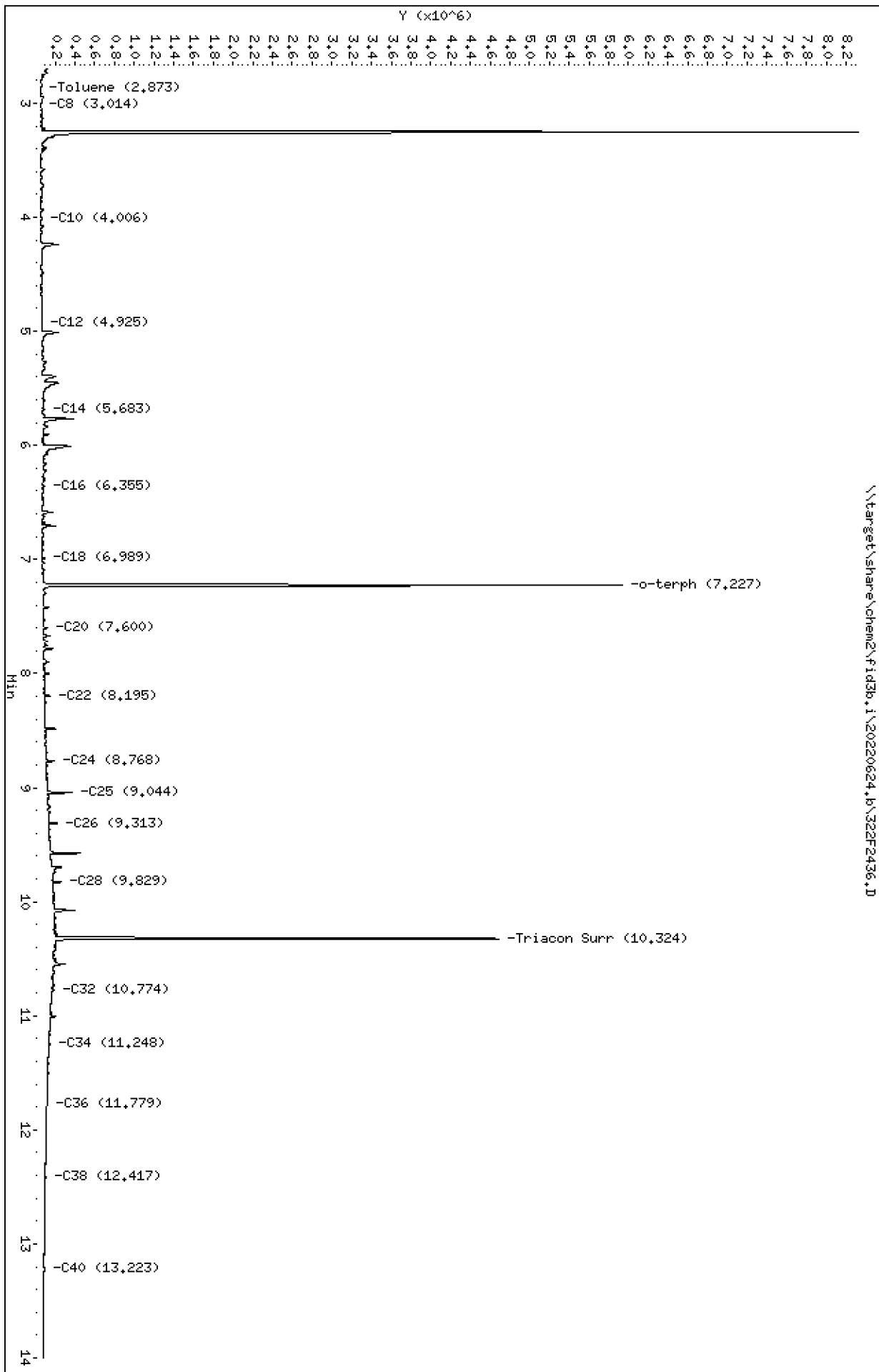
Instrument: fid3b,1

Operator: CTO

Column diameter: 0,25

Column phase: RTX-1

\\target\share\chem2\fid3b,1\20220624,b\322F2436.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2436.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-22  
Client ID:  
Injection: 24-JUN-2022 21:28  
Dilution Factor: 5  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.873	0.015	3857	1505	WATPHG	(Tol-C12)	8199091	45.7
C8	3.014	0.003	6253	8041	WATPHD	(C12-C24)	9089876	52.7
C10	4.006	-0.005	20579	25518	WATPHM	(C24-C38)	20631200	166.2
C12	4.925	0.000	16807	21421	AK102	(C10-C25)	10468592	51.4
C14	5.683	-0.001	44642	65676	AK103	(C25-C36)	18104885	190.6 M
C16	6.355	-0.003	35043	55663	OR.DIES	(C10-C28)	16062773	78.6
C18	6.989	-0.004	45237	54992				
C20	7.600	-0.005	63153	66525				
C22	8.195	-0.005	94710	107494				
C24	8.768	-0.005	135345	200762				
C25	9.044	-0.006	325337	336468				
C26	9.313	-0.007	171893	263737				
C28	9.829	-0.005	202134	408622	IT.DIES	(C10-C24)	9828235	48.3
C32	10.774	-0.005	136573	192331				
C34	11.248	-0.005	94048	244989	CREOSOT	(C12-C22)	7354184	142.9
Filter Peak	13.969	-0.003	29058	17383				
C36	11.779	-0.009	66619	179313	BUNKERC	(C10-C38)	30459434	401.2
o-terph	7.227	-0.015	5889723	4550528	JET-A	(C10-C18)	5630285	32.7
Triacon Surr	10.324	-0.020	4466716	3350451				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

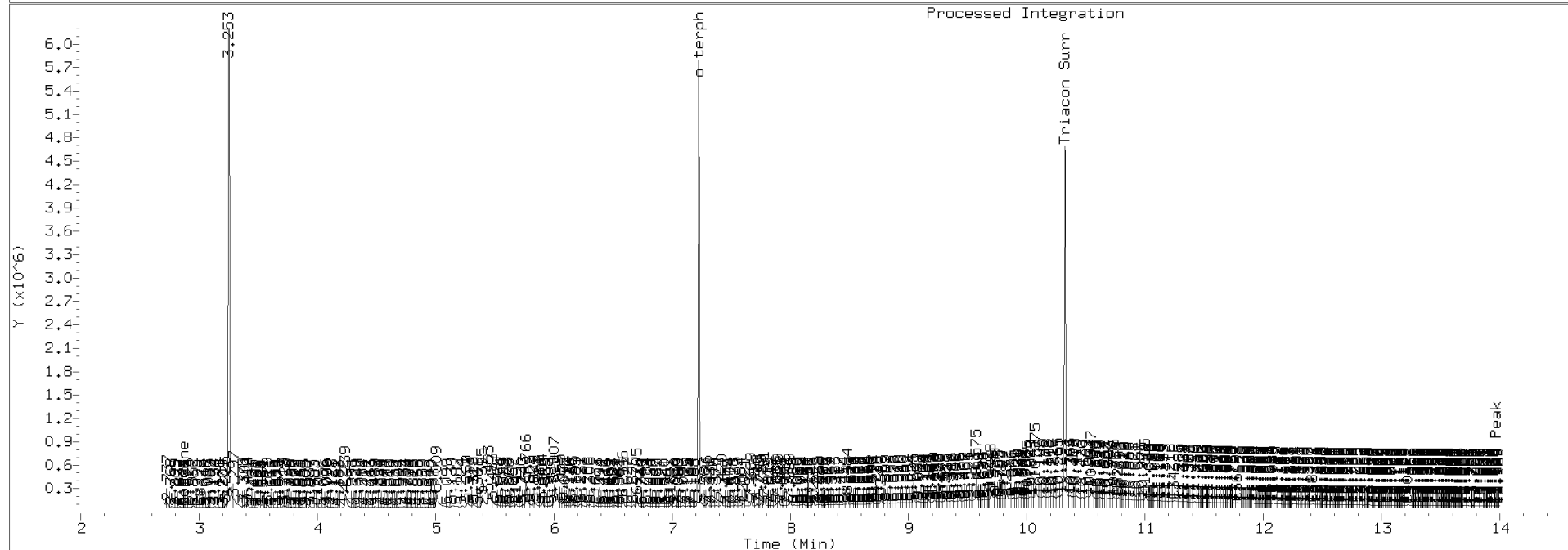
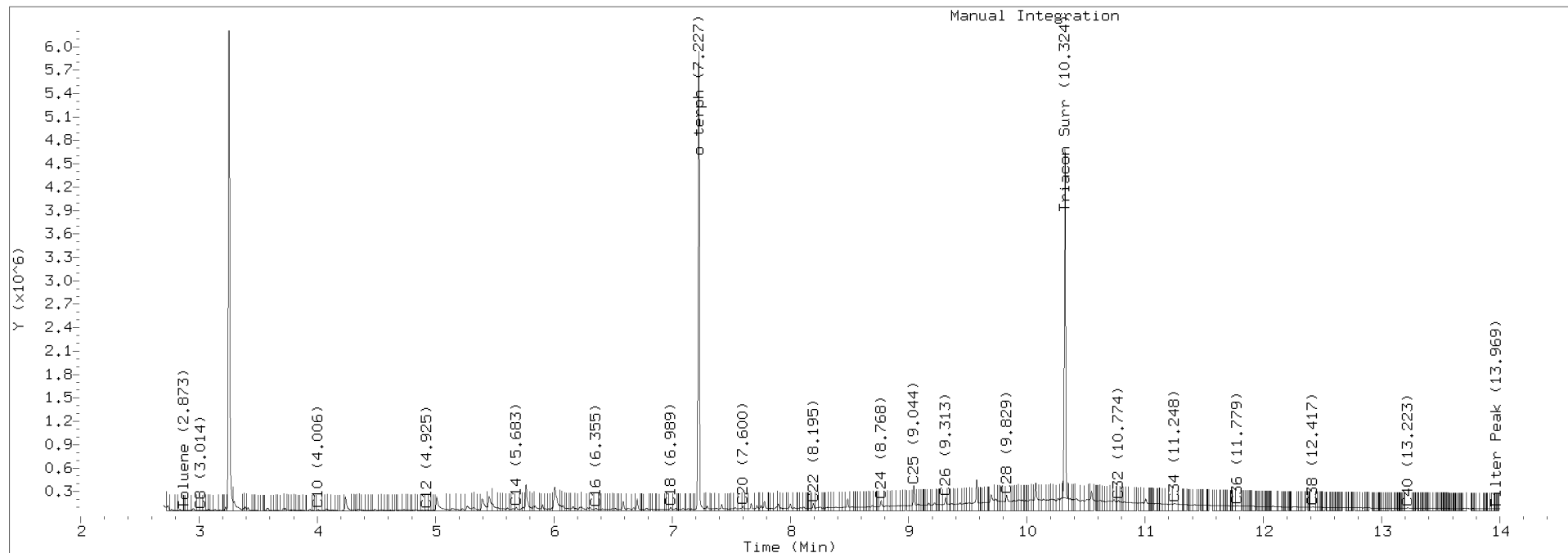
Surrogate	Area	Amount
o-Terphenyl	4550528	18.9
Triacontane	3350451	19.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2436.D Injection: 24-JUN-2022 21:28

Lab ID:22F0267-22





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

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-23 A      SDG: 22F0267  
 Sampled: 06/15/22 09:45      Prepared: 06/21/22 11:00      File ID: 322F2420.D  
 % Solids: 81.04      Preparation: EPA 3546 (Microwave)      Analyzed: 06/24/22 15:45  
 Batch: BKF0468      Sequence: SKF0314      Initial/Final: 10.01 g Wet / 1 mL  
 Instrument: FID3      Column: RTX-1      Calibration: FF00020  
 Cleanups: Silica Gel, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (mg/kg dry)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	10.3		2.88	6.16
RRO	Motor Oil Range Organics (C24-C38)	1	65.1		3.69	12.3

SURROGATES	ADDED: (mg/kg dry)	FOUND: (mg/kg dry)	% REC	QC LIMITS	Q
o-Terphenyl	13.868	12.5	90.2	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\32F2420.D

Date: 24-JUN-2022 15:45

Client ID:

Sample Info: 22F0267-23

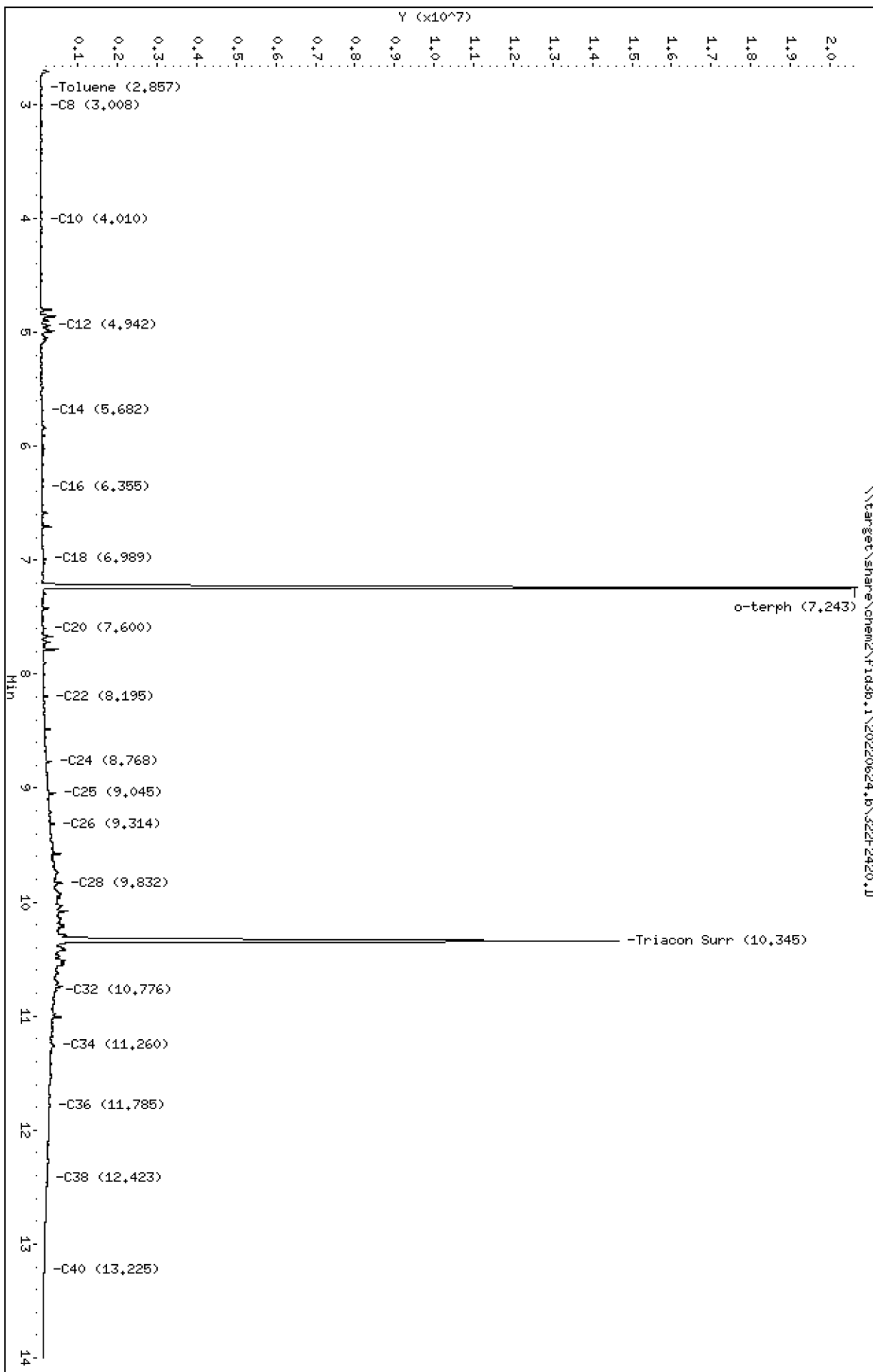
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2420.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: 22F0267-23  
Client ID:  
Injection: 24-JUN-2022 15:45  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.857	-0.001	33762	56700	WATPHG	(Tol-C12)	2354807	13.1
C8	3.008	-0.002	18449	17637	WATPHD	(C12-C24)	14438553	83.7
C10	4.010	-0.001	27378	37237	WATPHM	(C24-C38)	65602148	528.4
C12	4.942	0.017	250948	265014	AK102	(C10-C25)	18040669	88.5
C14	5.682	-0.001	56557	79932	AK103	(C25-C36)	56652639	596.3 M
C16	6.355	-0.003	66128	111279	OR.DIES	(C10-C28)	33057762	161.8
C18	6.989	-0.003	132207	159392				
C20	7.600	-0.005	122889	172394				
C22	8.195	-0.006	170706	209729				
C24	8.768	-0.004	261109	398664				
C25	9.045	-0.006	388057	731498				
C26	9.314	-0.006	354810	408152				
C28	9.832	-0.002	539416	1322837	IT.DIES	(C10-C24)	16134295	79.3
C32	10.776	-0.003	413487	514349				
C34	11.260	0.007	331192	935113	CREOSOT	(C12-C22)	10568439	205.4
Filter Peak	13.968	-0.004	52502	31352				
C36	11.785	-0.002	235506	728231	BUNKERC	(C10-C38)	81736443	1076.5
o-terph	7.243	0.002	20644588	24418543	JET-A	(C10-C18)	7169745	41.7
Triacon Surr	10.345	0.001	14110785	17548454				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

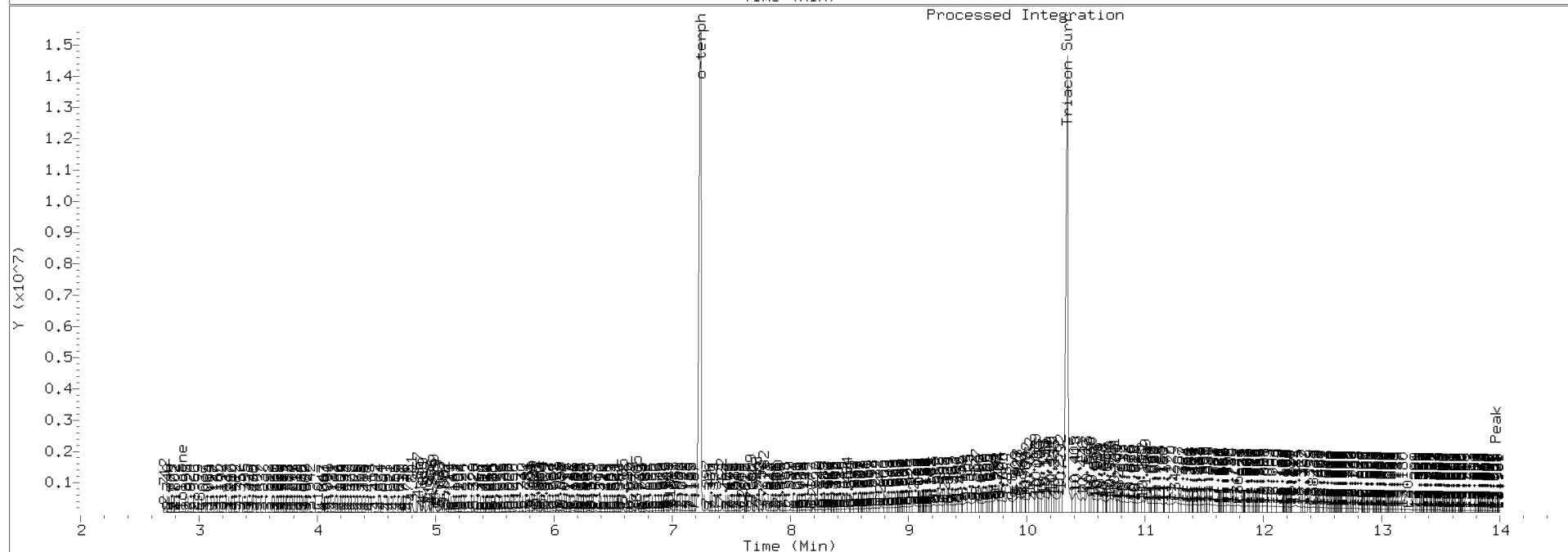
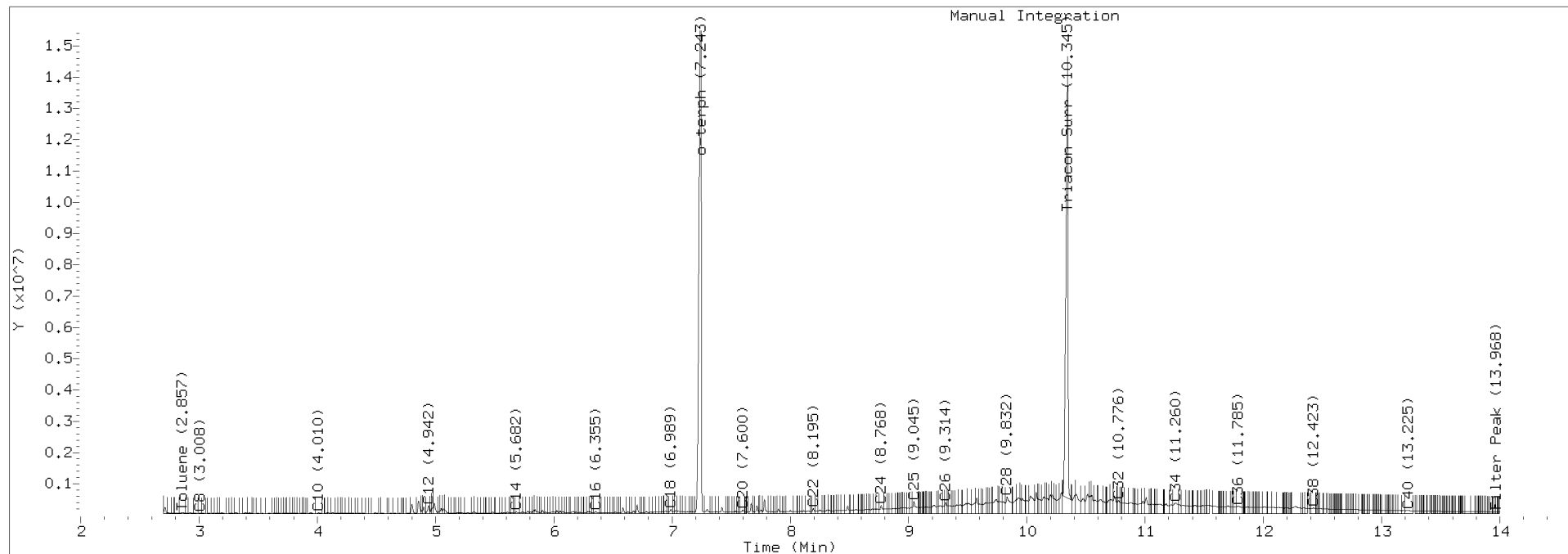
Surrogate	Area	Amount
o-Terphenyl	24418543	101.5
Triacontane	17548454	102.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2420.D Injection: 24-JUN-2022 15:45

Lab ID:22F0267-23





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-24 E

SDG: 22F0267

Sampled: 06/14/22 11:10

Prepared: 06/22/22 09:33

File ID: 422F2427.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 20:36

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.218	97.1	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2427.D

Date: 24-JUN-2022 20:36

Client ID:

Sample Info: 22F0267-24

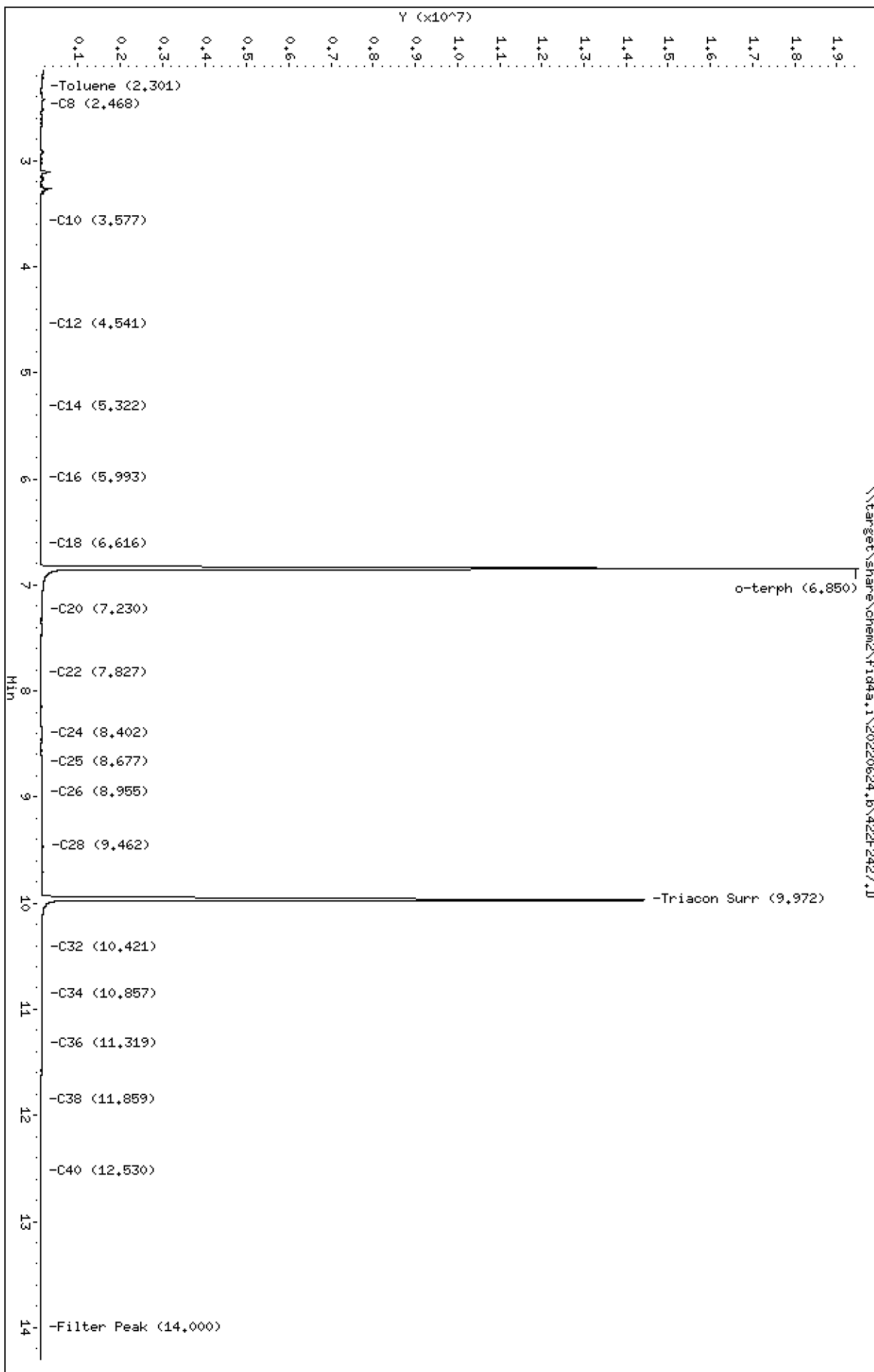
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2427.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-24  
Client ID:  
Injection: 24-JUN-2022 20:36  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

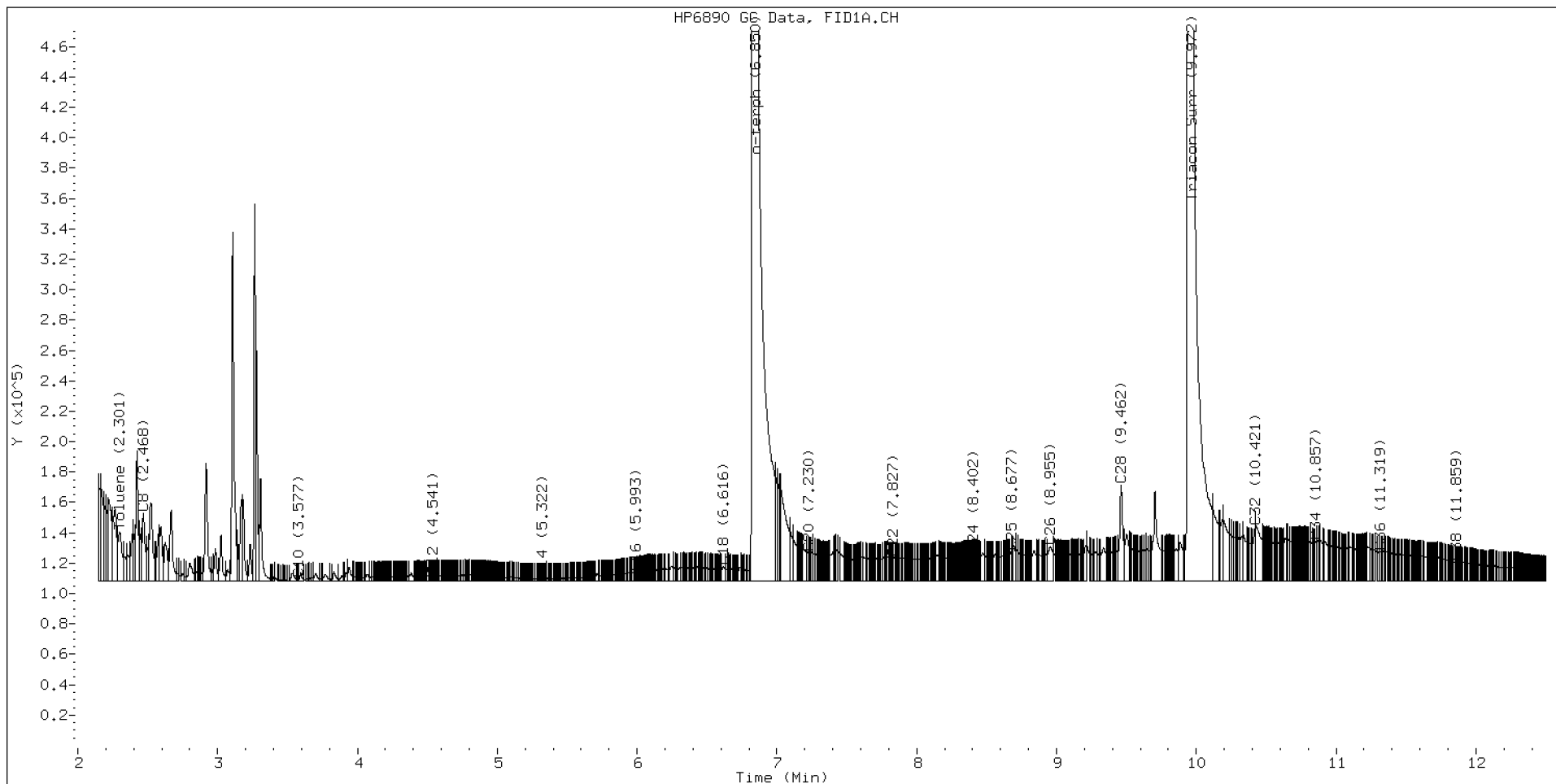
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.468	0.011	44788	60905	WATPHD	(C12-C24)	2214147	14.0
C10	3.577	-0.000	1284	346	WATPHM	(C24-C38)	4002949	30.2
C12	4.541	-0.003	3632	2122	AK102	(C10-C25)	2574839	13.6
C14	5.322	0.001	1565	593	AK103	(C25-C36)	3331199	33.7
C16	5.993	-0.001	5952	1756	OR.DIES	(C10-C28)	3548627	18.7
C18	6.616	-0.007	9512	14907				
C20	7.230	-0.000	18937	6582	JET-A	(C10-C18)	746594	4.3
C22	7.827	0.002	15333	8398				
C24	8.402	0.002	17648	7845				
C25	8.677	-0.000	19279	15719				
C26	8.955	0.007	23017	48384				
C28	9.462	-0.004	63185	103254				
C32	10.421	0.006	35536	37973				
C34	10.857	0.006	26127	20200				
Filter Peak	14.000	0.002	2157	728				
C36	11.319	0.002	19415	11531				
C38	11.859	-0.002	12791	5051				
C40	12.530	-0.003	6722	5873				
o-terph	6.850	-0.006	19404630	22231849				
Triacon Surr	9.972	-0.008	14321284	19364547	NAS DIES	(C10-C24)	2401258	12.7

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22231849	109.2
Triacontane	19364547	111.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-25 E

SDG: 22F0267

Sampled: 06/14/22 11:50

Prepared: 06/22/22 09:33

File ID: 422F2428.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 20:56

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.256		0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.328		0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.224	99.6	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2428.D

Date: 24-JUN-2022 20:56

Client ID:

Sample Info: 22F0267-25

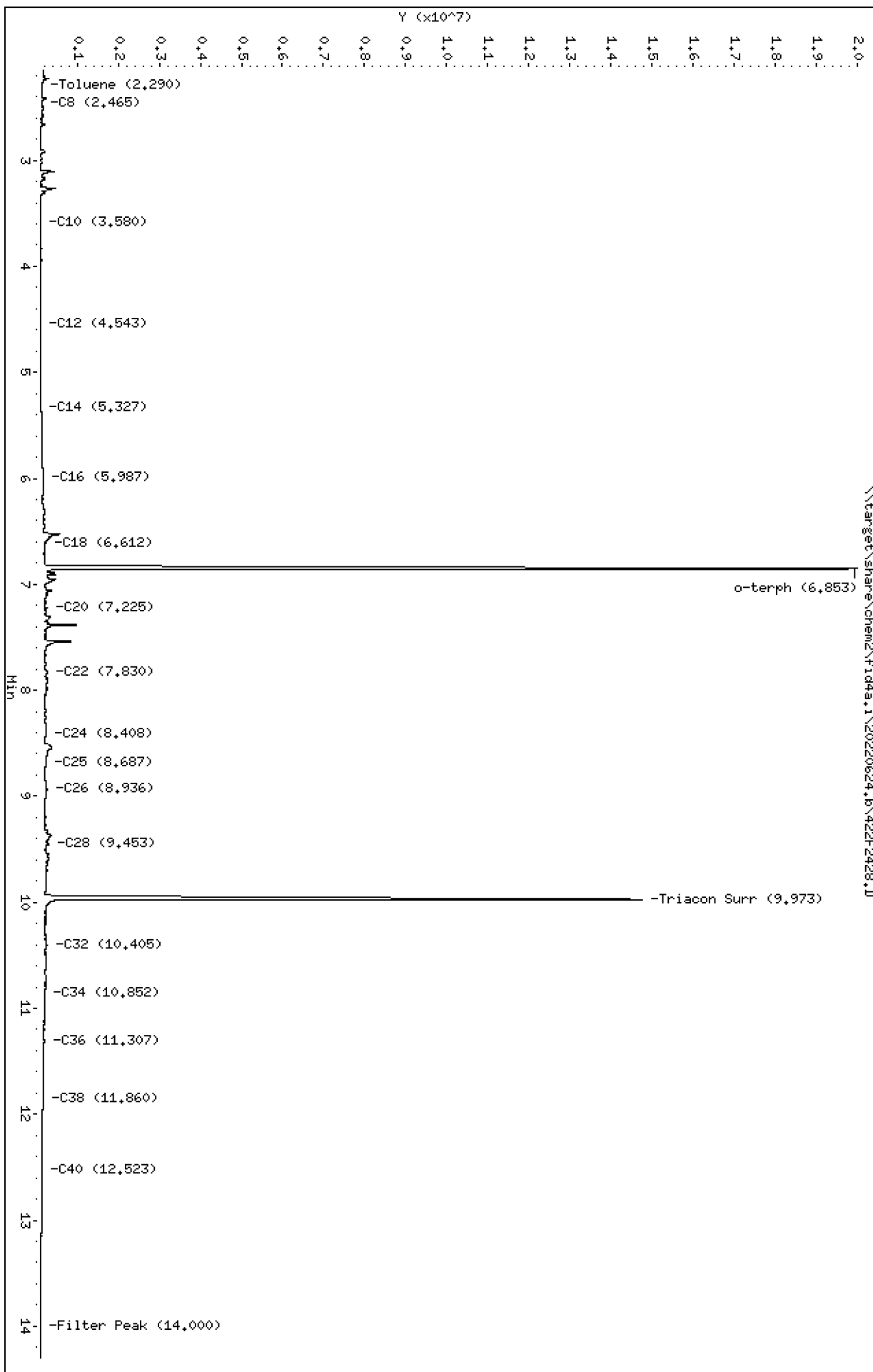
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2428.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-25  
Client ID:  
Injection: 24-JUN-2022 20:56  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

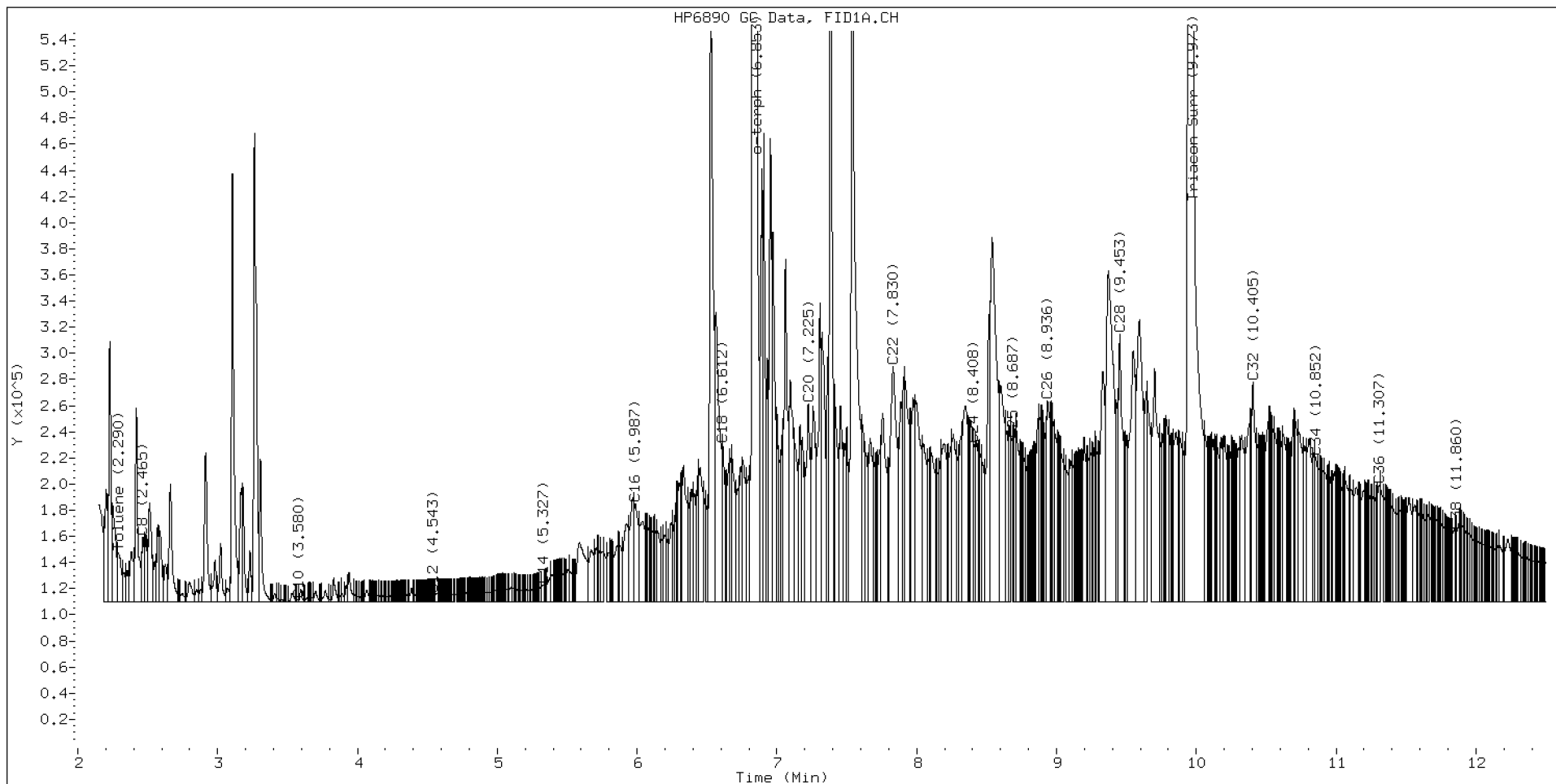
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.465	0.007	49430	57609	WATPHD	(C12-C24)	20292085	127.9
C10	3.580	0.004	1491	433	WATPHM	(C24-C38)	21764480	164.2
C12	4.543	-0.000	5848	2013	AK102	(C10-C25)	22509225	119.0
C14	5.327	0.005	13190	15761	AK103	(C25-C36)	17891337	180.9
C16	5.987	-0.007	74844	147405	OR.DIES	(C10-C28)	28909420	152.4
C18	6.612	-0.010	120142	164007				
C20	7.225	-0.005	151362	312267	JET-A	(C10-C18)	5726690	33.1
C22	7.830	0.005	180269	594717				
C24	8.408	0.009	120482	77857				
C25	8.687	0.010	124137	30975				
C26	8.936	-0.011	153613	266022				
C28	9.453	-0.013	205233	414466				
C32	10.405	-0.010	167921	304893				
C34	10.852	0.000	110740	137601				
Filter Peak	14.000	0.001	7041	2442				
C36	11.307	-0.010	89595	119975				
C38	11.860	-0.001	54346	13562				
C40	12.523	-0.010	32471	44496				
o-terph	6.853	-0.003	19892854	22818765				
Triacon Surr	9.973	-0.007	14665893	20047945	NAS DIES	(C10-C24)	20629090	109.3

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22818765	112.1
Triacontane	20047945	115.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-26 E

SDG: 22F0267

Sampled: 06/15/22 09:40

Prepared: 06/22/22 09:33

File ID: 422F2429.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 21:16

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.220	97.7	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2429.D

Date: 24-JUN-2022 21:16

Client ID:

Sample Info: 22F0267-26

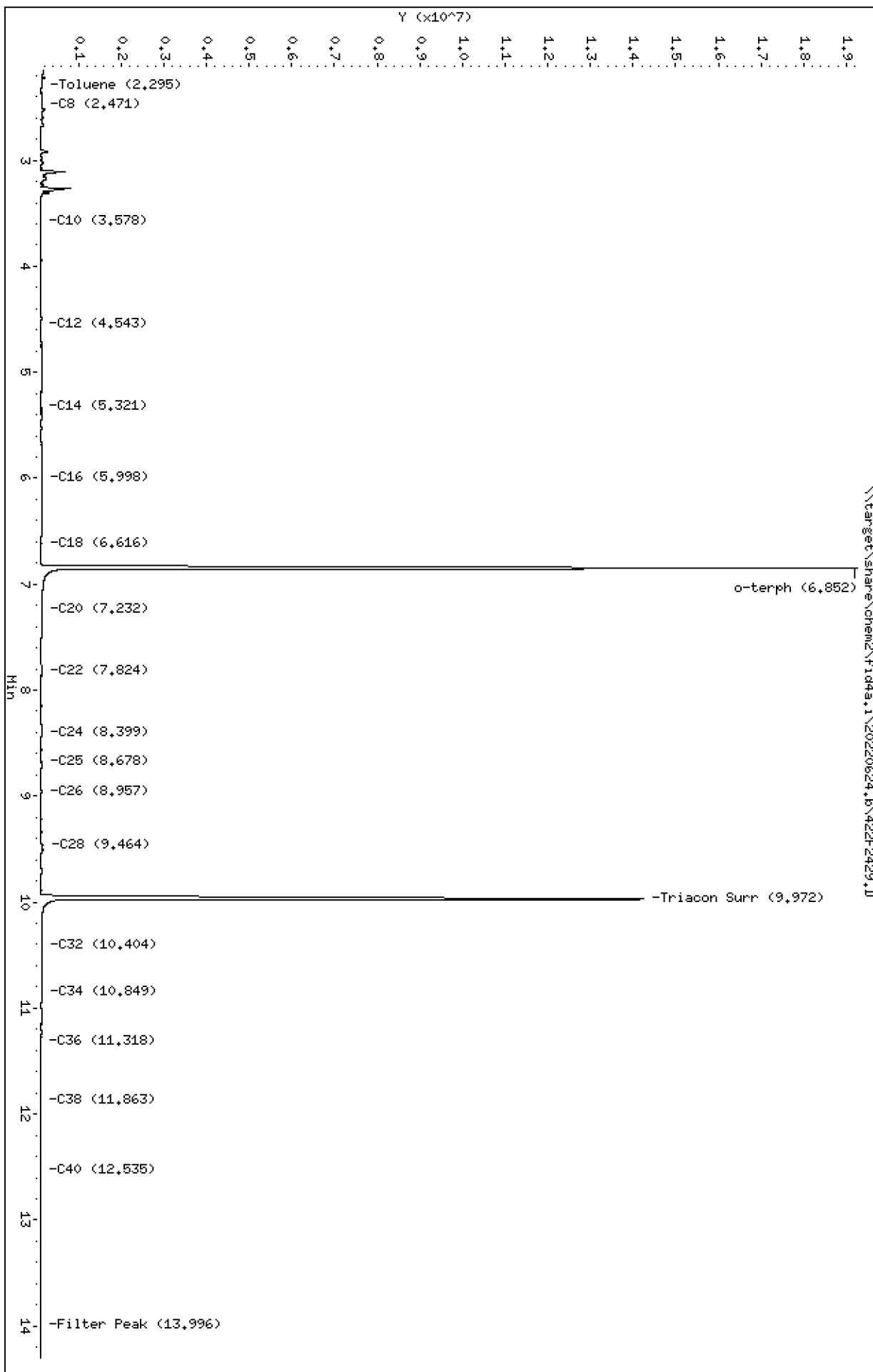
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2429.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-26  
Client ID:  
Injection: 24-JUN-2022 21:16  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

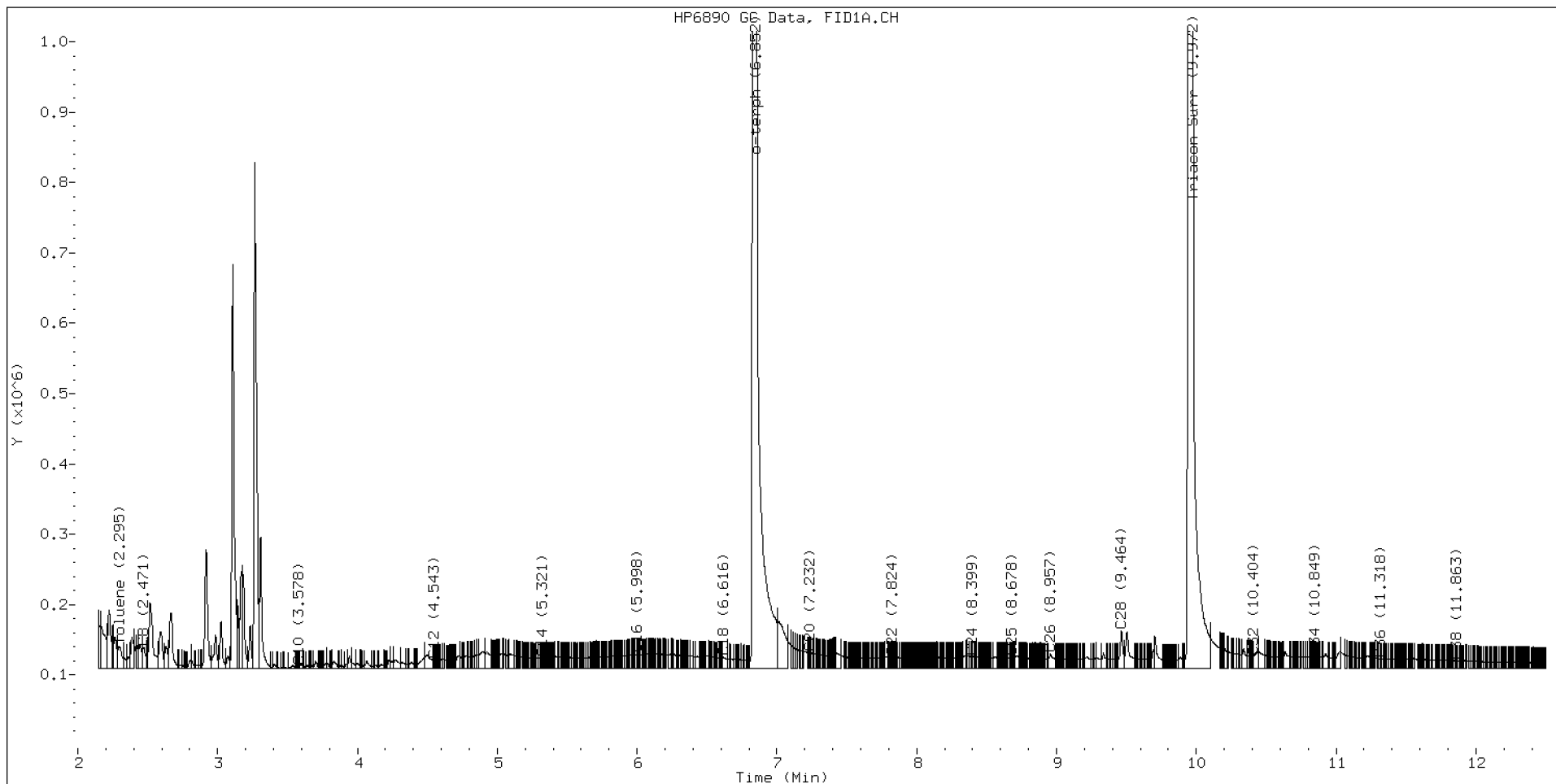
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.471	0.013	30733	45548	WATPHD	(C12-C24)	3736834	23.6
C10	3.578	0.002	3168	1061	WATPHM	(C24-C38)	2937084	22.2
C12	4.543	-0.000	12120	6632	AK102	(C10-C25)	4355051	23.0
C14	5.321	-0.001	15392	4530	AK103	(C25-C36)	2385848	24.1
C16	5.998	0.004	20645	4100	OR.DIES	(C10-C28)	5253326	27.7
C18	6.616	-0.007	16414	33868				
C20	7.232	0.002	22680	5647	JET-A	(C10-C18)	2532326	14.6
C22	7.824	-0.001	16440	3280				
C24	8.399	-0.000	17276	6837				
C25	8.678	0.001	16308	12001				
C26	8.957	0.010	20876	50179				
C28	9.464	-0.002	53185	82716				
C32	10.404	-0.011	17659	5285				
C34	10.849	-0.003	16367	5698				
Filter Peak	13.996	-0.003	4948	1965				
C36	11.318	0.001	14437	4302				
C38	11.863	0.002	11527	5140				
C40	12.535	0.002	8348	3296				
o-terph	6.852	-0.004	19150024	22376752				
Triacon Surr	9.972	-0.008	14134639	19322382	NAS DIES	(C10-C24)	4194268	22.2

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22376752	109.9
Triacontane	19322382	110.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





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

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-27 E

SDG: 22F0267

Sampled: 06/15/22 09:50

Prepared: 06/22/22 09:33

File ID: 422F2430.D

% Solids:

Preparation: EPA 3510C SepF

Analyzed: 06/24/22 21:36

Batch: BKF0451

Sequence: SKF0318

Initial/Final: 500 mL / 1 mL

Instrument: FID4

Column: RTX-1

Calibration: FA00054

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.226	100	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2430.D

Date: 24-JUN-2022 21:36

Client ID:

Sample Info: 22F0267-27

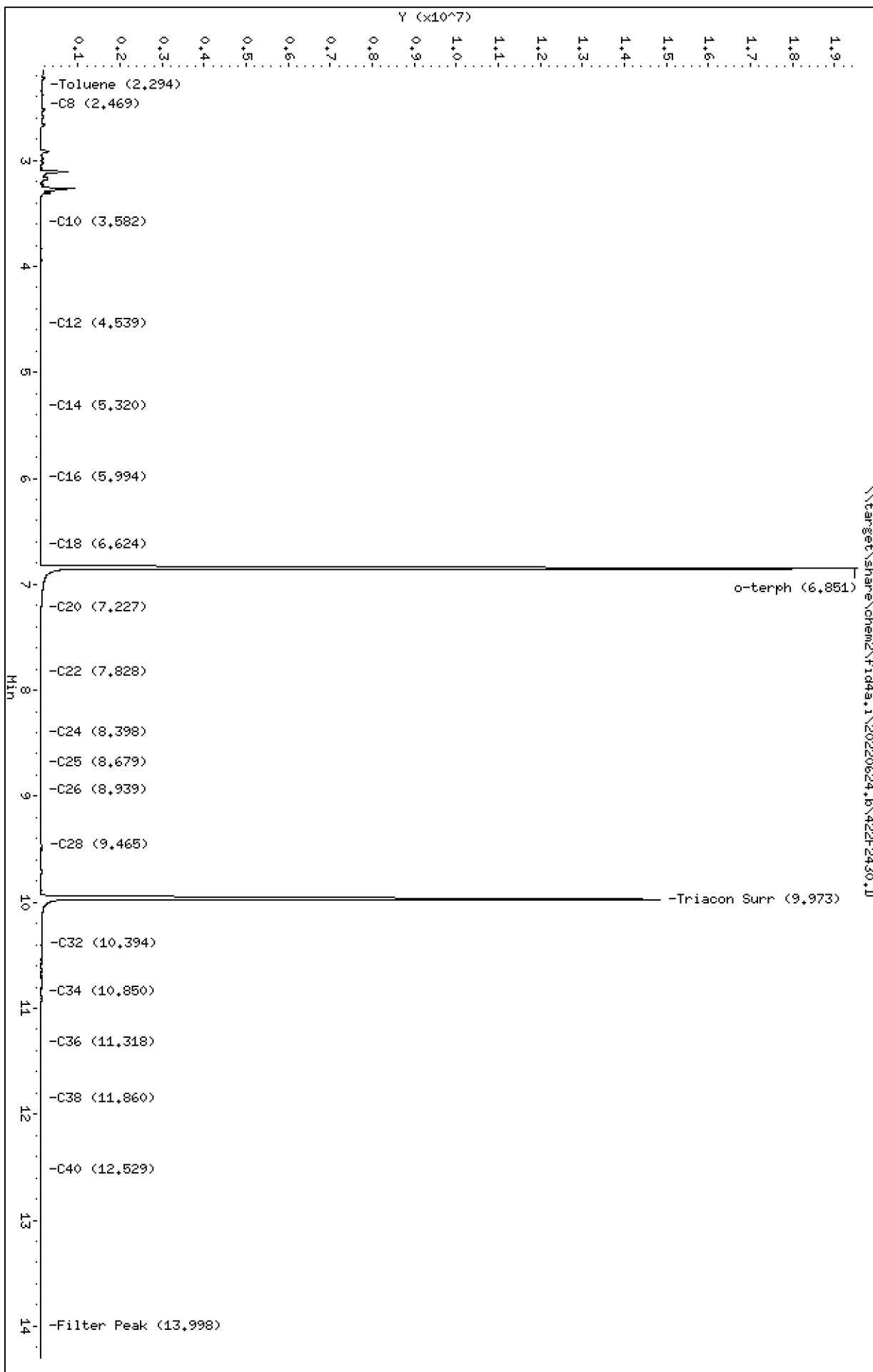
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2430.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: 22F0267-27  
Client ID:  
Injection: 24-JUN-2022 21:36  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

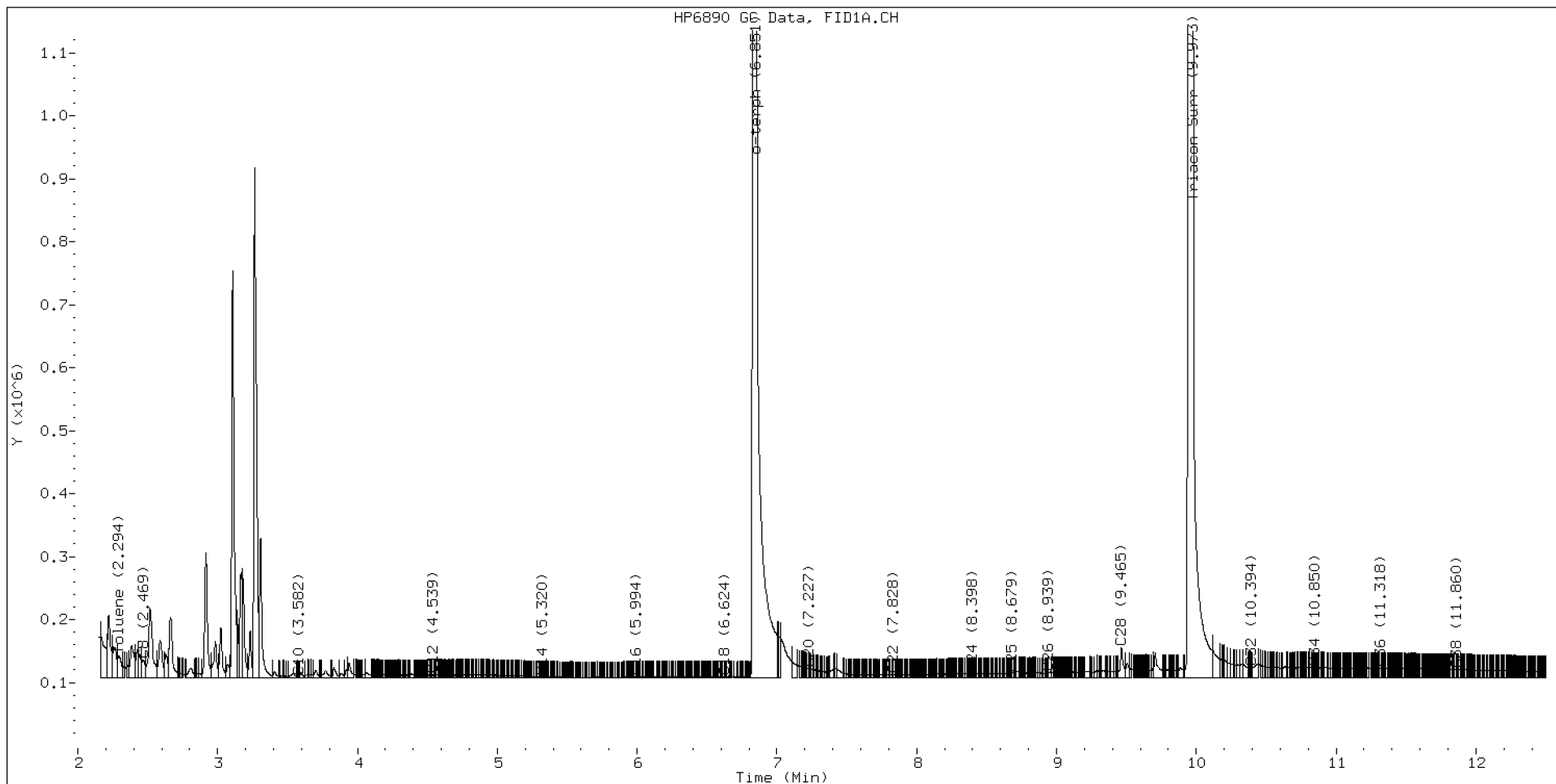
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.469	0.011	28202	44820	WATPHD	(C12-C24)	983763	6.2
C10	3.582	0.005	2805	553	WATPHM	(C24-C38)	2645088	20.0
C12	4.539	-0.004	4525	2895	AK102	(C10-C25)	1400007	7.4
C14	5.320	-0.001	1849	694	AK103	(C25-C36)	2131459	21.5
C16	5.994	-0.001	1786	674	OR.DIES	(C10-C28)	1937724	10.2
C18	6.624	0.001	1913	824				
C20	7.227	-0.003	15036	6655	JET-A	(C10-C18)	648803	3.7
C22	7.828	0.003	5586	1112				
C24	8.398	-0.001	7817	2307				
C25	8.679	0.002	7820	2322				
C26	8.939	-0.009	7950	2361				
C28	9.465	-0.001	47937	71770				
C32	10.394	-0.021	16781	12356				
C34	10.850	-0.001	16115	6398				
Filter Peak	13.998	-0.001	2390	570				
C36	11.318	0.000	15300	13554				
C38	11.860	-0.001	13404	7996				
C40	12.529	-0.003	10207	5577				
o-terph	6.851	-0.005	19431958	22962164				
Triacon Surr	9.973	-0.007	14734276	19944018	NAS DIES	(C10-C24)	1330893	7.1

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	22962164	112.8
Triacontane	19944018	114.5

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





**PREPARATION BATCH SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC SDG: 22F0267  
Client: GeoEngineers Project: RG Haley Site-Bellingham  
Batch: BKF0451 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-PW	22F0267-09	422F2422.D	06/22/22 09:33	
Z1A-6-PW	22F0267-10	422F2423.D	06/22/22 09:33	
Z1A-9-PW	22F0267-11	422F2424.D	06/22/22 09:33	
Z1A-12-PW	22F0267-12	422F2425.D	06/22/22 09:33	
DUP-1-PW	22F0267-15	422F2426.D	06/22/22 09:33	
Z1B-1-PW	22F0267-24	422F2427.D	06/22/22 09:33	
Z1B-2-PW	22F0267-25	422F2428.D	06/22/22 09:33	
Z1B-3-PW	22F0267-26	422F2429.D	06/22/22 09:33	
Z1B-4-PW	22F0267-27	422F2430.D	06/22/22 09:33	
Blank	BKF0451-BLK1	422F2419.D	06/22/22 09:33	
LCS	BKF0451-BS1	422F2420.D	06/22/22 09:33	
LCS Dup	BKF0451-BSD1	422F2421.D	06/22/22 09:33	



Batch: BKF0451

Prepared using: EPA 3510C SepF  
TPH NW (Extractables) low level in Water

Matrix: Water      Date Prepared: 6/22/22      Balance ID: \_\_\_\_\_      Set Up By: CO 6/22/22

**WO Comments**  
22F0267: Porewaters -Processing 6.7 L of sediment S520, Processing 10L Sediment S575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

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 (mL) Actual	Acid Clean (1:1) (1mL) Y/N	Silica Clean (1:1) (1mL) Y/N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
22F0267-09 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-10 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-11 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-12 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-15 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-24 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-25 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-26 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-27 E	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	

Batch QC

Lab Number	Initial (mL) Actual	Acid Clean (1:1) (1mL) Y/N	Silica Clean (1:1) (1mL) Y/N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
BKF0451-BLK1	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0451-BS1	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0451-BSD1	(500.000) <u>500</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	

AR Client ID verified By      6/22/22 Date      6/23/22 Preparation Reviewed By      Date      6-22-22 9:33 Extraction Date and Time





Batch: BKF0451

Prepared using: EPA 3510C SepF  
TPH NW (Extractables) low level in Water

**WO Comments**  
22F0267: Porewaters -Processing 6.7 L of sediment S520, Processing 10L Sediment S575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Steps	Reagents Used	Standard ID	Surrogates & Spike Standards Used				
	Station/Reagent		Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
KD 80-85°C ① 2 3 4 5 6 SE Analyst/Date 6/22/22	Separatory Funnel		Surrogate	P K004941 Exp: 05/25/2023	100µL	AF	DM
	Analyst: AF Date: 6/22/22		1125µg/mL				
TurboVap 1 2 3 4 ⑤ Analyst/Date 6/23/22	1:1 Sulfuric Acid/DI H2O	K003392	Spike	II K004939 Exp: 10/21/2022	100µL	AF	DM
	Methylene Chloride	K004645	15000µg/mL				
Vialing Analyst/Date 6/23/22	Anhydrous Sodium Sulfate	K005218	(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).  Added sodium sulfate K005082 sp 6/22/22				
	KD						
	Methylene Chloride	K004645					
	Vialing						
	Analyst: A Date: 6/23/22						
	Methylene Chloride	K004645					
	Concentrated Sulfuric Acid	N/A					
	0% Silica Gel	N/A					



Batch: BKF0451

Prepared using: EPA 3510C SepF  
TPH NW (Extractables) low level in Water

**WO Comments**

22F0267: Porewaters -Processing 6.7 L of sediment \$520. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

**Prep Instructions**

**SPECIAL INSTRUCTIONS:**

1. Add Sum/Spk.
2. Acidify with 1 pipet of 1:1 Sulfuric Acid.
3. Check pH.
4. Extract 2X with 30mL DCM.
5. KD at 80°.
6. TurboVap.
7. Acid/Silica Clean-ups? Y /  N
8. Vial in DCM.

Archive:  Y /  N



# Organic Extractions Laboratory Analyst Notes

Extraction Parameter: TPHD Extraction Batch 19KFB451

Total Solids Batch: MA Work Order(s): 22F0267

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 type="checkbox"/> Other (Details)=	
<b>Aqueous:</b>	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= <u>strong sulfur odor - 09,10,11,12</u>	<u>R 6/22/22</u>
<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=	



## PREPARATION BATCH SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC SDG: 22F0267  
Client: GeoEngineers Project: RG Haley Site-Bellingham  
Batch: BKF0467 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-MS	22F0267-01	322F2428.D	06/21/22 11:11	
Z1A-6-MS	22F0267-03	322F2429.D	06/21/22 11:11	
Z1A-9-MS	22F0267-05	322F2430.D	06/21/22 11:11	
Z1A-12-MS	22F0267-07	322F2431.D	06/21/22 11:11	
DUP-1-MS	22F0267-13	322F2432.D	06/21/22 11:11	
Z1B-1-MS	22F0267-16	322F2433.D	06/21/22 11:11	
Z1B-2-MS	22F0267-18	322F2434.D	06/21/22 11:11	
Z1B-3-MS	22F0267-20	322F2435.D	06/21/22 11:11	
Z1B-4-MS	22F0267-22	322F2436.D	06/21/22 11:11	
Blank	BKF0467-BLK1	322F2423.D	06/21/22 11:11	
LCS	BKF0467-BS1	322F2424.D	06/21/22 11:11	
LCS Dup	BKF0467-BSD1	322F2425.D	06/21/22 11:11	
Z1A-12-MS	BKF0467-MS1	322F2426.D	06/21/22 11:11	
Z1A-12-MS	BKF0467-MSD1	322F2427.D	06/21/22 11:11	





Batch: BKF0467

Prepared using: EPA 3546 (Microwave)

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

Matrix: Solid

Date Prepared: 06/21/22

Balance ID: B146462814 Set Up By: CTO 6/21/22

WO Comments

22F0267: Porewaters -Processing 6.7 L of sediment \$520. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups. Logged as separate samples with version for the cleanups</E>

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					
22F0267-01 A	(10.000)	<u>10.05</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-03 A	(10.000)	<u>10.01</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-05 A	(10.000)	<u>10.01</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-07 A	(10.000)	<u>10.03</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-13 A	(10.000)	<u>10.04</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-16 A	(10.000)	<u>10.03</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-18 A	(10.000)	<u>10.01</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-20 A	(10.000)	<u>10.04</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-22 A	(10.000)	<u>10.04</u>	(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					
BKF0467-BLK1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0467-BS1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0467-BSD1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0467-MS1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	Use 22F0267-07
BKF0467-MSD1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	Use 22F0267-07

Checked/Verified By: [Signature] Date: 06/21/22

Preparation Reviewed By: [Signature] Date: 06/22/22

Extraction Date and Time: 06/21/22 11:11



Batch: BKF0467

Prepared using: EPA 3546 (Microwave)

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

**WO Comments**  
22F0267: Porewaters -Processing 6.7 L of sediment S520. Processing 10L Sediment S575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Steps	Reagents Used	Surrogates & Spike Standards Used															
<b>Microwave</b> 1 2 3 Analyst/Date M/G 6/21/22	<b>Station/Reagent</b> <b>Standard ID</b> <b>Microwave</b> Analyst: <u>GT/M</u> Date: <u>6/21/22</u> Methylene Chloride <u>K444274</u> Anhydrous Sodium Sulfate <u>K445482</u> Neutral Glass Wool <u>K444141</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 <u>K004941</u> Exp: 05/25/2023</td> <td>100uL</td> <td>GT</td> <td>M</td> </tr> <tr> <td>Spike</td> <td>H <u>K004939</u> Exp: 10/21/2022</td> <td>100uL</td> <td>GT</td> <td>M</td> </tr> </tbody> </table>	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness	Surrogate	P <u>K004941</u> Exp: 05/25/2023	100uL	GT	M	Spike	H <u>K004939</u> Exp: 10/21/2022	100uL	GT	M
Type	Vial ID / Standard ID	Vol uL	Analyst	Witness													
Surrogate	P <u>K004941</u> Exp: 05/25/2023	100uL	GT	M													
Spike	H <u>K004939</u> Exp: 10/21/2022	100uL	GT	M													
<b>TurboVap</b> <b>Pre Acid/Silica Clean</b> 1 2 3 4 5 Analyst/Date M 6/22/22	<b>Vialing</b> Analyst: <u>M</u> Date: <u>6/22/22</u> Methylene Chloride <u>K444274</u> Concentrated Sulfuric Acid <u>N/A</u> 0% Silica Gel <u>N/A</u>	<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>															
<b>Vialing</b> Analyst/Date M 6/22/22																	



Batch: BKF0467

Prepared using: EPA 3546 (Microwave)

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

**WO Comments**  
22F0267: Forewaters -Processing 6.7 L of sediment \$520. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Instructions	
<p><b>SPECIAL INSTRUCTIONS:</b></p> <ol style="list-style-type: none"> <li>1. Weigh into 100mL beakers-dry with Sodium Sulfate.</li> <li>2. Transfer to microwave vessel.</li> <li>3. Add DCM to the vessel until the solvent is 1 inch above soil layer after homogenization.</li> <li>4. Add surr/spike.</li> <li>5. Microwave on appropriate power setting determined by # of samples.</li> <li>6. After microwave-Re-homogenize while hot then let cool 15 min. in Refridgerator 05. Re-homogenize while cool.</li> <li>7. Collect into turbo tube with sm. funnel containing glasswool and 1 inch sodium sulfate.</li> <li>8. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube.</li> <li>9. TurboVap.</li> <li>10. Acid/Silica Clean-up? = Y / <input type="checkbox"/> N</li> <li>11. Vial in DCM.</li> </ol> <p>A. Need Total Solids Y <input type="checkbox"/> N</p> <p>B. Archive/Freeze Y <input type="checkbox"/> N</p>	





Extraction Parameter: TPHD Extraction Batch BKFO467

Total Solids Batch: BKFO432 Work Order(s): 22F0267

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= 21.	<u>φ6/24/22</u>
<input checked="" type="checkbox"/> Standing Water Decanted (Not shared)= φ5, φ6, φ7, φ8, 16,	<u>φ6/24/22</u>
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input checked="" type="checkbox"/> Rocks (%+size) <sup>10.0%</sup> = φ1, φ2, φ5, φ6, φ7, φ8, 14, 16, 20, 22 <sup>20.0%</sup> = 17, 18, 19	<u>φ6/24/22</u>
<input checked="" type="checkbox"/> Organics (Leaves/sticks/grass)= <sup>20.0%</sup> = φ3, φ4.	<u>φ6/24/22</u>
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= φ3, φ4, φ5. fuel odor = φ8.	<u>φ6/24/22</u>
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input checked="" type="checkbox"/> Other (Details)= <sup>20.0%</sup> shell pieces = 23.	<u>φ6/24/22</u>
<b>Aqueous:</b>	
<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>φ6/24/22</u>
<input checked="" type="checkbox"/> Multiple Jars Y/N = φ1, φ2, φ3, φ5, φ7, 13, 16, 18, 22 = x2. (23, 29 x3)	<u>φ6/24/22</u>
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	





## PREPARATION BATCH SUMMARY

### NWTPH-Dx

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	Project: <u>RG Haley Site-Bellingham</u>
Batch: <u>BKF0468</u> Batch Matrix: <u>Solid</u>	Preparation: <u>EPA 3546 (Microwave)</u>

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-MS	22F0267-02	322F2410.D	06/21/22 11:00	
Z1A-6-MS	22F0267-04	322F2411.D	06/21/22 11:00	
Z1A-9-MS	22F0267-06	322F2412.D	06/21/22 11:00	
Z1A-12-MS	22F0267-08	322F2415.D	06/21/22 11:00	
DUP-1-MS	22F0267-14	322F2416.D	06/21/22 11:00	
Z1B-1-MS	22F0267-17	322F2417.D	06/21/22 11:00	
Z1B-2-MS	22F0267-19	322F2418.D	06/21/22 11:00	
Z1B-3-MS	22F0267-21	322F2419.D	06/21/22 11:00	
Z1B-4-MS	22F0267-23	322F2420.D	06/21/22 11:00	
Blank	BKF0468-BLK1	322F2407.D	06/21/22 11:00	
LCS	BKF0468-BS1	322F2408.D	06/21/22 11:00	
LCS Dup	BKF0468-BSD1	322F2409.D	06/21/22 11:00	
Z1A-9-MS	BKF0468-MS1	322F2413.D	06/21/22 11:00	
Z1A-9-MS	BKF0468-MSD1	322F2414.D	06/21/22 11:00	



Batch: BKF0468

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:With Acid Silica cleanups)

Matrix: Solid

Date Prepared: 06/21/22

Balance ID: 3146462814

Set Up By: CTO 6/21/22

WO Comments

22F0267: Porewaters -Processing 6.7 L of sediment S520, Processing 10L Sediment S575, <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

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) <input type="checkbox"/> Y <input type="checkbox"/> N	Silica Gel C/U (1:1) <input type="checkbox"/> Y <input type="checkbox"/> N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
22F0267-02 A	(10.000)	<u>10.01</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-04 A	(10.000)	<u>10.03</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-06 A	(10.000)	<u>10.05</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-08 A	(10.000)	<u>10.02</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-14 A	(10.000)	<u>10.04</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-17 A	(10.000)	<u>10.03</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-19 A	(10.000)	<u>10.02</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-21 A	(10.000)	<u>10.06</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
22F0267-23 A	(10.000)	<u>10.01</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	

Batch QC

Lab Number	Initial (g)		Acid C/U (1:1) <input type="checkbox"/> Y <input type="checkbox"/> N	Silica Gel C/U (1:1) <input type="checkbox"/> Y <input type="checkbox"/> N	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
	Target Wet: 10 (Wet)	Actual					
BKF0468-BLK1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0468-BS1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0468-BSD1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	
BKF0468-MS1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	Use 22F0267-06
BKF0468-MSD1	(10.000)	<u>10.00</u>	(1:1) Y/N	(1:1) Y/N	1 _____	1.0 _____	Use 22F0267-06

Y 06/21/22  
Client ID Verified By \_\_\_\_\_ Date \_\_\_\_\_

DM 6-22-22  
Preparation Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

06/21/22 11:00  
Extraction Date and Time \_\_\_\_\_



Batch: BKF0468

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:With Acid Silica cleanups)

**WO Comments**  
22F0267: Porewaters -Processing 6.7 L of sediment S520 Processing 10L, Sediment S575, <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups<E>

Prep Steps	Reagents Used	Standard ID	Surrogates & Spike Standards Used				
	Station/Reagent		Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
<b>Microwave</b> 1 2 3 CT 6/21/22 CT Analyst/Date	Microwave		Surrogate	P K004941 Exp: 05/23/2023	100µL	CT	✓
	Methylene Chloride	K444274	1125µg/mL				
<b>TurboVap</b> Pre Acid/Silica Clean 1 2 3 4 5 DM 6-22-22 DM Analyst/Date	Anhydrous Sodium Sulfate	K445482	Spike	11 K004939 Exp: 10/21/2022	100µL	CT	✓
	Neutral Glass Wool	K444441					
<b>Vialing</b> DM 6-22-22 DM Analyst/Date	Methylene Chloride	K004645	(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).				
	Concentrated Sulfuric Acid	K004702					
	0% Silica Gel	I006294					



Batch: BKF0468

Prepared using: EPA 3546 (Microwave)

TPH NW (Extractables) low level in Solid (Version:With Acid Silica cleanups)

**WO Comments**

22F0267: Porewaters -Processing 6.7 L of sediment \$520. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Instructions	
<p><b>SPECIAL INSTRUCTIONS:</b></p> <ol style="list-style-type: none"> <li>1. Weigh into 100mL beakers-dry with Sodium Sulfate.</li> <li>2. Transfer to microwave vessel.</li> <li>3. Add DCM to the vessel until the solvent is 1 inch above soil layer after homogenization.</li> <li>4. Add surr/spike.</li> <li>5. Microwave on appropriate power setting determined by # of samples.</li> <li>6. After microwave-Re-homogenize while hot then let cool 15 min. in Refridgerator 05. Re-homogenize while cool.</li> <li>7. Collect into turbo tube with sm. funnel containing glasswool and 1 Inch sodium sulfate.</li> <li>8. Add (2) 10mL DCM rinses to vessel and transfer to turbo tube.</li> <li>9. TurboVap.</li> <li>10. Acid/Silica Clean-up?=<input checked="" type="checkbox"/> Y <input type="checkbox"/> N.</li> <li>11. Vial in DCM.</li> </ol> <p>A. Need Total Solids Y<input checked="" type="checkbox"/> N</p> <p>B. Archive/Freeze<input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p>	





Extraction Parameter: TRHP Extraction Batch BCF0468

Total Solids Batch: BCF0432 Work Order(s): 22F0267

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input checked="" type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)= 21.	YB 6/24/22
<input checked="" type="checkbox"/> Standing Water Decanted (Not shared)= $\phi 5, \phi 6, \phi 7, \phi 8, 16,$	YB 6/24/22
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input checked="" type="checkbox"/> Rocks (%+size) $\frac{10.0\%}{\phi 1-4} = \phi 1, \phi 2, \phi 5, \phi 6, \phi 7, \phi 8, 14, 16, 22, 23$ $\frac{20.0\%}{\phi 1-7} = 17, 18, 19$	YB 6/24/22
<input checked="" type="checkbox"/> Organics (Leaves/sticks/grass)= $\frac{20.0\%}{\phi 1-7} = \phi 3, \phi 4$	YB 6/24/22
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= $\phi 3, \phi 4, \phi 5$ . fuel odor = $\phi 3$ .	YB 6/24/22
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input checked="" type="checkbox"/> Other (Details)= shell pieces $\frac{20.0\%}{\phi 1-7} = 23$ .	YB 6/24/22
<b>Aqueous:</b>	
<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	YB 6/24/22
<input checked="" type="checkbox"/> Multiple Jars Y/N = $\phi 1, \phi 2, \phi 3, \phi 5, \phi 7, 13, 16, 18, 22 = \times 2$ (23, 29 X 3)	YB 6/24/22
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



## CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Cleanup Batch: CKF0170

Cleanup Type: Sulfuric Acid

Cleanup Method: EPA 3665 Sulfuric Acid Cleanup - uL

Analysis: NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1B-1-MS	22F0267-17	322F2417.D	06/22/2022	
Z1A-6-MS	22F0267-04	322F2411.D	06/22/2022	
Z1A-9-MS	22F0267-06	322F2412.D	06/22/2022	
Z1A-12-MS	22F0267-08	322F2415.D	06/22/2022	
Z1A-3-MS	22F0267-02	322F2410.D	06/22/2022	
Matrix Spike Dup	BKF0468-MSD1	322F2414.D	06/22/2022	
Matrix Spike	BKF0468-MS1	322F2413.D	06/22/2022	
LCS Dup	BKF0468-BSD1	322F2409.D	06/22/2022	
Blank	BKF0468-BLK1	322F2407.D	06/22/2022	
Z1B-2-MS	22F0267-19	322F2418.D	06/22/2022	
Z1B-3-MS	22F0267-21	322F2419.D	06/22/2022	
Z1B-4-MS	22F0267-23	322F2420.D	06/22/2022	
DUP-1-MS	22F0267-14	322F2416.D	06/22/2022	
LCS	BKF0468-BS1	322F2408.D	06/22/2022	



**CLEANUP BENCH SHEET**

CKF0170

Matrix: Solid

Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL

Printed: 6/22/2022 10:09:57AM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
22F0267-23	A	Z1B-4-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-21	A	Z1B-3-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-08	A	Z1A-12-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-14	A	DUP-1-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-17	A	Z1B-1-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-19	A	Z1B-2-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-02	A	Z1A-3-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-04	A	Z1A-6-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-06	A	Z1A-9-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
BKF0468-MSD1	-	Matrix Spike Dup	-	1	1	-	6/22/2022	DDM	
BKF0468-MS1	-	Matrix Spike	-	1	1	-	6/22/2022	DDM	
BKF0468-BLK1	-	Blank	-	1	1	-	6/22/2022	DDM	
BKF0468-BS1	-	LCS	-	1	1	-	6/22/2022	DDM	
BKF0468-BSD1	-	LCS Dup	-	1	1	-	6/22/2022	DDM	



## CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Cleanup Batch: CKF0171

Cleanup Type: Silica Gel

Cleanup Method: EPA 3660C Silica Gel Cleanup - uL

Analysis: NWTPH-Dx

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-12-MS	22F0267-08	322F2415.D	06/22/2022	
LCS	BKF0468-BS1	322F2408.D	06/22/2022	
LCS Dup	BKF0468-BSD1	322F2409.D	06/22/2022	
Matrix Spike	BKF0468-MS1	322F2413.D	06/22/2022	
Matrix Spike Dup	BKF0468-MSD1	322F2414.D	06/22/2022	
Z1A-9-MS	22F0267-06	322F2412.D	06/22/2022	
Blank	BKF0468-BLK1	322F2407.D	06/22/2022	
DUP-1-MS	22F0267-14	322F2416.D	06/22/2022	
Z1A-3-MS	22F0267-02	322F2410.D	06/22/2022	
Z1A-6-MS	22F0267-04	322F2411.D	06/22/2022	
Z1B-4-MS	22F0267-23	322F2420.D	06/22/2022	
Z1B-3-MS	22F0267-21	322F2419.D	06/22/2022	
Z1B-2-MS	22F0267-19	322F2418.D	06/22/2022	
Z1B-1-MS	22F0267-17	322F2417.D	06/22/2022	





**CLEANUP BENCH SHEET**

CKF0171

Matrix: Solid

Cleanup using: Organics - EPA 3660C Silica Gel Cleanup - uL

Printed: 6/22/2022 10:11:05AM

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
22F0267-23	A	Z1B-4-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-21	A	Z1B-3-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-08	A	Z1A-12-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-14	A	DUP-1-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-17	A	Z1B-1-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-19	A	Z1B-2-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-02	A	Z1A-3-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-04	A	Z1A-6-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
22F0267-06	A	Z1A-9-MS	A 01	1	1	TPH NW (Extractables) low level	6/22/2022	DDM	
BKF0468-MSD1	-	Matrix Spike Dup	-	1	1	-	6/22/2022	DDM	
BKF0468-MS1	-	Matrix Spike	-	1	1	-	6/22/2022	DDM	
BKF0468-BLK1	-	Blank	-	1	1	-	6/22/2022	DDM	
BKF0468-BS1	-	LCS	-	1	1	-	6/22/2022	DDM	
BKF0468-BSD1	-	LCS Dup	-	1	1	-	6/22/2022	DDM	



**Form I**  
**METHOD BLANK DATA SHEET**  
**NWTPH-Dx**

<b>Blank</b>
--------------

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Water</u>	Laboratory ID:	<u>BKF0451-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>06/22/22 09:33</u>
Solids:		Preparation:	<u>EPA 3510C SepF</u>
Batch:	<u>BKF0451</u>	Sequence:	<u>SKF0318</u>
Instrument:	<u>FID4</u>	Column:	<u>RTX-1</u>
		File ID:	<u>422F2419.D</u>
		Analyzed:	<u>06/24/22 17:56</u>
		Initial/Final:	<u>500 mL / 1 mL</u>
		Calibration:	<u>FA00054</u>

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
RRO	Motor Oil Range Organics (C24-C38)	1	0.200	U	0.056	0.200
SURROGATES		ADDED (mg/L)	CONC. (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl		0.22500	0.197	87.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20220624,bl\422F2419.D

Date: 24-JUN-2022 17:56

Client ID:

Sample Info: BKF0451-BLK1

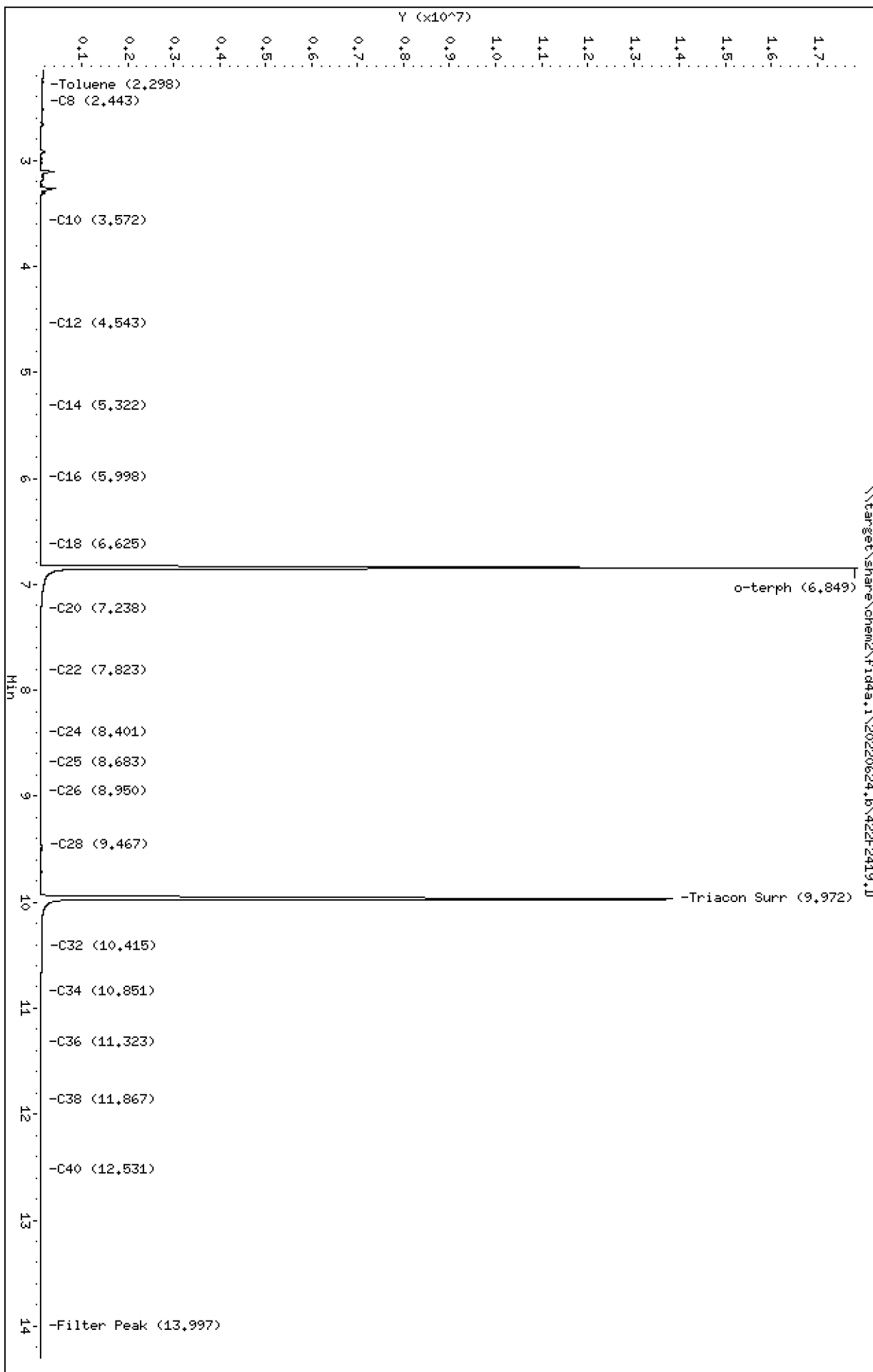
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2419.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: BKF0451-BLK1  
Client ID:  
Injection: 24-JUN-2022 17:56  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

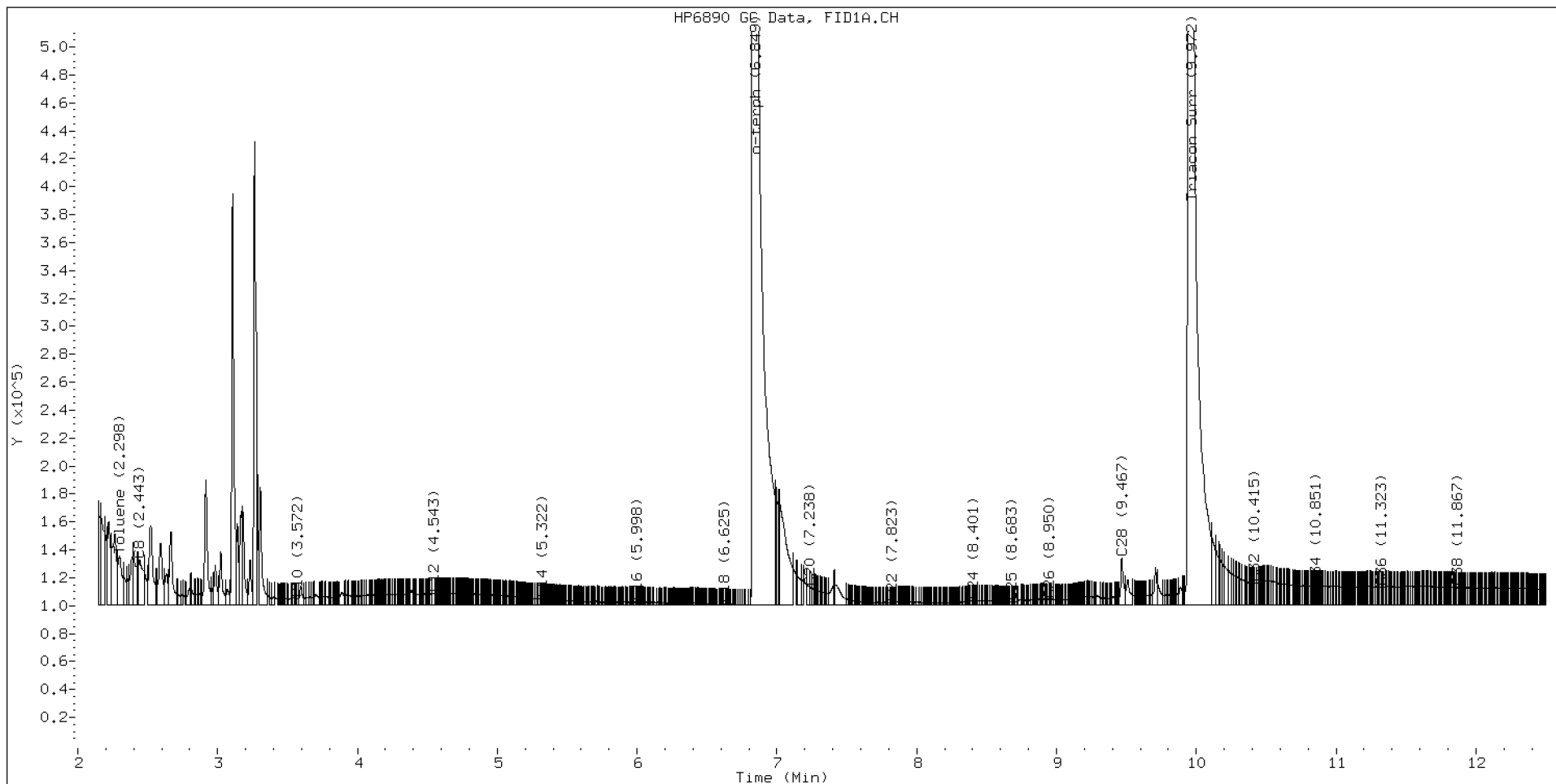
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.443	-0.015	32393	74109	WATPHD	(C12-C24)	1258321	7.9
C10	3.572	-0.005	4977	5316	WATPHM	(C24-C38)	2114715	16.0
C12	4.543	0.000	8561	9633	AK102	(C10-C25)	1736026	9.2
C14	5.322	0.000	4396	1514	AK103	(C25-C36)	1659938	16.8
C16	5.998	0.003	2715	1014	OR.DIES	(C10-C28)	2036367	10.7
C18	6.625	0.003	1209	548				
C20	7.238	0.008	12993	14519	JET-A	(C10-C18)	917399	5.3
C22	7.823	-0.002	1915	740				
C24	8.401	0.002	3483	1506				
C25	8.683	0.005	2512	727				
C26	8.950	0.003	4277	1470				
C28	9.467	0.001	34094	48698				
C32	10.415	0.000	15892	5531				
C34	10.851	-0.001	13653	4082				
Filter Peak	13.997	-0.002	10407	5149				
C36	11.323	0.006	12958	3232				
C38	11.867	0.006	12713	12563				
C40	12.531	-0.002	11925	7633				
o-terph	6.849	-0.007	17769941	20019689				
Triacon Surr	9.972	-0.008	13730227	17993071	NAS DIES	(C10-C24)	1704695	9.0

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	20019689	98.3
Triacontane	17993071	103.3

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





**Form I**  
**METHOD BLANK DATA SHEET**  
**NWTPH-Dx**

Blank
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Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BKF0467-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>06/21/22 11:11</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BKF0467</u>	Sequence:	<u>SKF0314</u>
Instrument:	<u>FID3</u>	Column:	<u>RTX-1</u>
		File ID:	<u>322F2423.D</u>
		Analyzed:	<u>06/24/22 16:49</u>
		Initial/Final:	<u>10 g / 1 mL</u>
		Calibration:	<u>FF00020</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	10.9	96.5	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2423.D

Date: 24-JUN-2022 16:49

Client ID:

Sample Info: BKF0467-BLK1

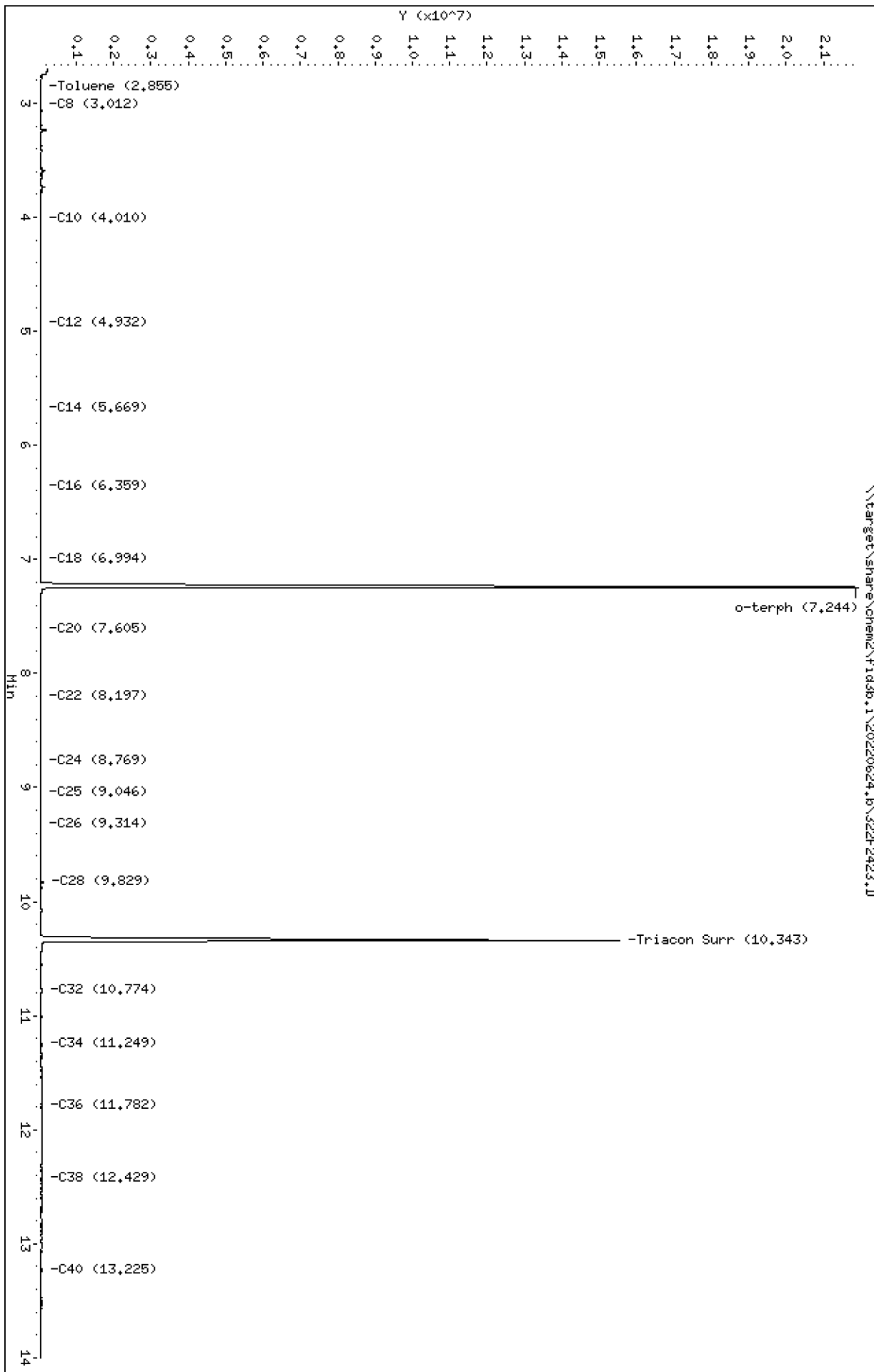
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2423.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0467-BLK1  
Client ID:  
Injection: 24-JUN-2022 16:49  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.855	-0.003	17205	29952	WATPHG	(Tol-C12)	1040060	5.8
C8	3.012	0.001	9258	14110	WATPHD	(C12-C24)	389199	2.3
C10	4.010	-0.000	6378	6598	WATPHM	(C24-C38)	2589258	20.9
C12	4.932	0.007	1563	527	AK102	(C10-C25)	573396	2.8
C14	5.669	-0.014	1220	1389	AK103	(C25-C36)	1930055	20.3
C16	6.359	0.001	1646	2203	OR.DIES	(C10-C28)	969837	4.7
C18	6.994	0.001	7810	8031				
C20	7.605	0.001	2555	2546				
C22	8.197	-0.004	3111	4112				
C24	8.769	-0.003	4859	6573				
C25	9.046	-0.004	6777	10571				
C26	9.314	-0.005	7949	13289				
C28	9.829	-0.006	68625	79020	IT.DIES	(C10-C24)	533329	2.6
C32	10.774	-0.004	46820	101497				
C34	11.249	-0.004	19002	25135	CREOSOT	(C12-C22)	285398	5.5
Filter Peak	13.977	0.005	17888	11600				
C36	11.782	-0.005	19910	7868	BUNKERC	(C10-C38)	3122587	41.1
o-terph	7.244	0.002	21887142	26127382	JET-A	(C10-C18)	274185	1.6
Triacon Surr	10.343	-0.001	15509140	19639186				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

Surrogate	Area	Amount
o-Terphenyl	26127382	108.6
Triacontane	19639186	114.3

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019





**Form I**  
**METHOD BLANK DATA SHEET**  
**NWTPH-Dx**

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Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Laboratory ID:	<u>BKF0468-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>06/21/22 11:00</u>
Solids:		Preparation:	<u>EPA 3546 (Microwave)</u>
Batch:	<u>BKF0468</u>	Sequence:	<u>SKF0314</u>
Instrument:	<u>FID3</u>	Column:	<u>RTX-1</u>
		Cleanups:	<u>Silica Gel, Sulfuric Acid</u>
		File ID:	<u>322F2407.D</u>
		Analyzed:	<u>06/24/22 11:10</u>
		Initial/Final:	<u>10 g / 1 mL</u>
		Calibration:	<u>FF00020</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	95.6	50 - 150	

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2407.D

Date: 24-JUN-2022 11:10

Client ID:

Sample Info: BKF0468-BLK1

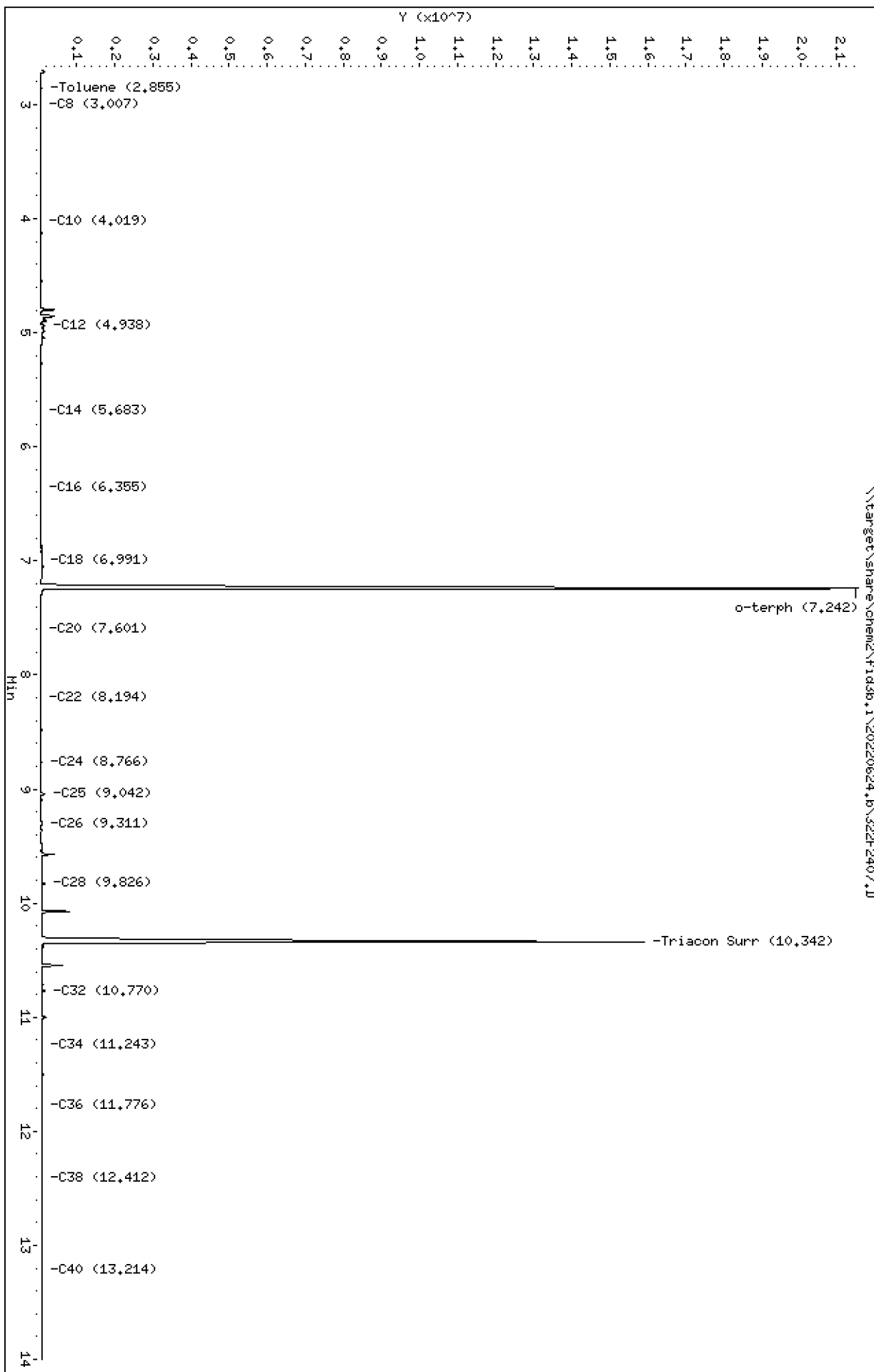
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2407.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0468-BLK1  
Client ID:  
Injection: 24-JUN-2022 11:10  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.855	-0.003	25168	29992	WATPHG	(Tol-C12)	1597631	8.9
C8	3.007	-0.004	4427	7145	WATPHD	(C12-C24)	1992761	11.6
C10	4.019	0.009	10482	11764	WATPHM	(C24-C38)	6737299	54.3
C12	4.938	0.014	102632	112706	AK102	(C10-C25)	3445598	16.9
C14	5.683	-0.000	4419	7636	AK103	(C25-C36)	5729074	60.3
C16	6.355	-0.003	5342	9994	OR.DIES	(C10-C28)	4718009	23.1
C18	6.991	-0.001	49071	63254				
C20	7.601	-0.004	3832	4188				
C22	8.194	-0.006	8204	9863				
C24	8.766	-0.006	20939	28869				
C25	9.042	-0.009	125227	123216				
C26	9.311	-0.009	37343	44651				
C28	9.826	-0.009	123331	120663	IT.DIES	(C10-C24)	3336363	16.4
C32	10.770	-0.009	106075	151849				
C34	11.243	-0.010	50595	104063	CREOSOT	(C12-C22)	1732143	33.7
Filter Peak	13.961	-0.011	21222	6356				
C36	11.776	-0.011	42036	114713	BUNKERC	(C10-C38)	10073662	132.7
o-terph	7.242	0.000	21468861	25895373	JET-A	(C10-C18)	2579814	15.0
Triacon Surr	10.342	-0.002	15863539	20659263				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

Surrogate	Area	Amount
o-Terphenyl	25895373	107.6
Triacontane	20659263	120.2

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019



**LCS / LCS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Analyzed: 06/24/22 18:16

Batch: BKF0451

Laboratory ID: BKF0451-BS1

Preparation: EPA 3510C SepF

Sequence Name: LCS

Initial/Final: 500 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	2.28		76.1	56 - 120

\* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Diesel Range Organics (C12-C24)	3.00	2.65		88.3	14.8	30	56 - 120

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2420.D

Date: 24-JUN-2022 18:16

Client ID:

Sample Info: BKF0451-BS1

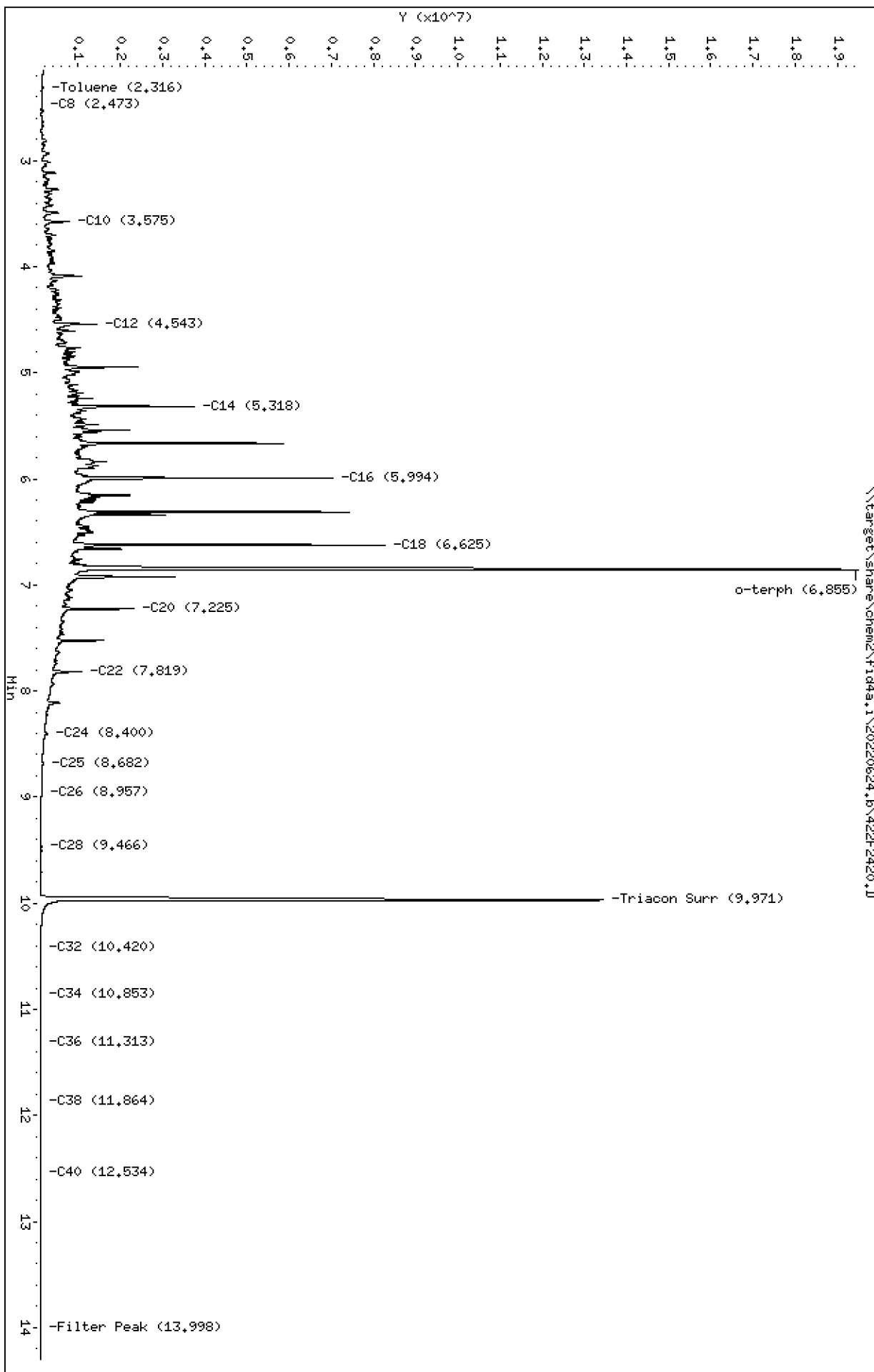
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2420.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: BKF0451-BS1  
Client ID:  
Injection: 24-JUN-2022 18:16  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

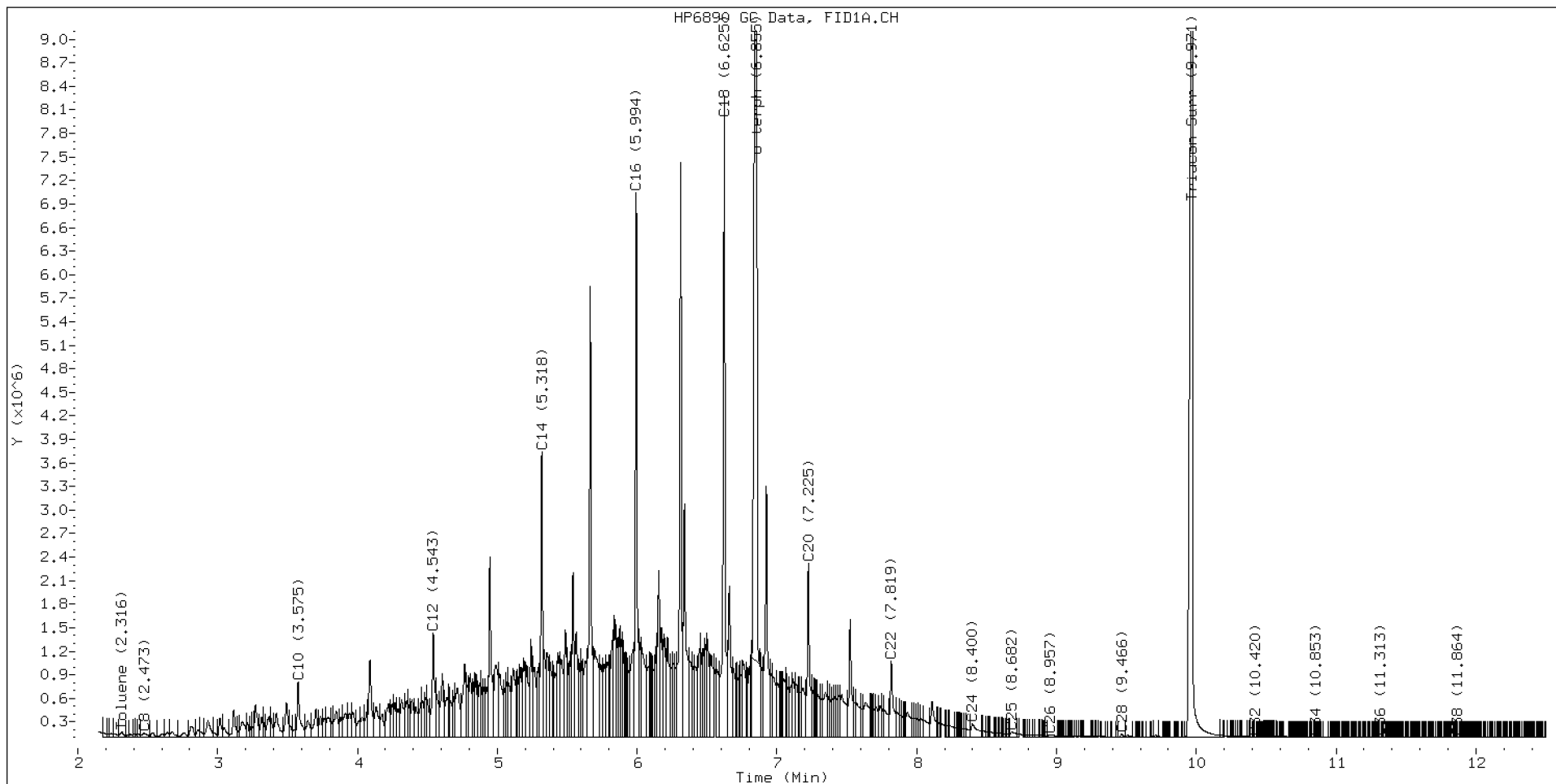
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.473	0.015	47182	132748	WATPHD	(C12-C24)	181162571	1142.0
C10	3.575	-0.001	695393	958668	WATPHM	(C24-C38)	1862033	14.0
C12	4.543	-0.000	1323860	1636164	AK102	(C10-C25)	200935897	1062.7
C14	5.318	-0.004	3633983	3299830	AK103	(C25-C36)	1242328	12.6
C16	5.994	-0.000	6939754	6039384	OR.DIES	(C10-C28)	201780806	1063.4
C18	6.625	0.002	8171624	7952205				
C20	7.225	-0.005	2212799	2473007	JET-A	(C10-C18)	149479382	863.1
C22	7.819	-0.006	967505	1412482				
C24	8.400	0.000	165422	529311				
C25	8.682	0.005	64893	176331				
C26	8.957	0.010	27984	85000				
C28	9.466	0.000	41582	48782				
C32	10.420	0.005	4968	2884				
C34	10.853	0.001	3230	956				
Filter Peak	13.998	-0.000	2179	532				
C36	11.313	-0.005	3364	2263				
C38	11.864	0.003	3118	1681				
C40	12.534	0.001	2664	1039				
o-terph	6.855	-0.001	18426464	19993626				
Triacon Surr	9.971	-0.009	13341670	17879412	NAS DIES	(C10-C24)	200419794	1062.3

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	19993626	98.2 M
Triacontane	17879412	102.6

M Indicates the peak was manually integrated

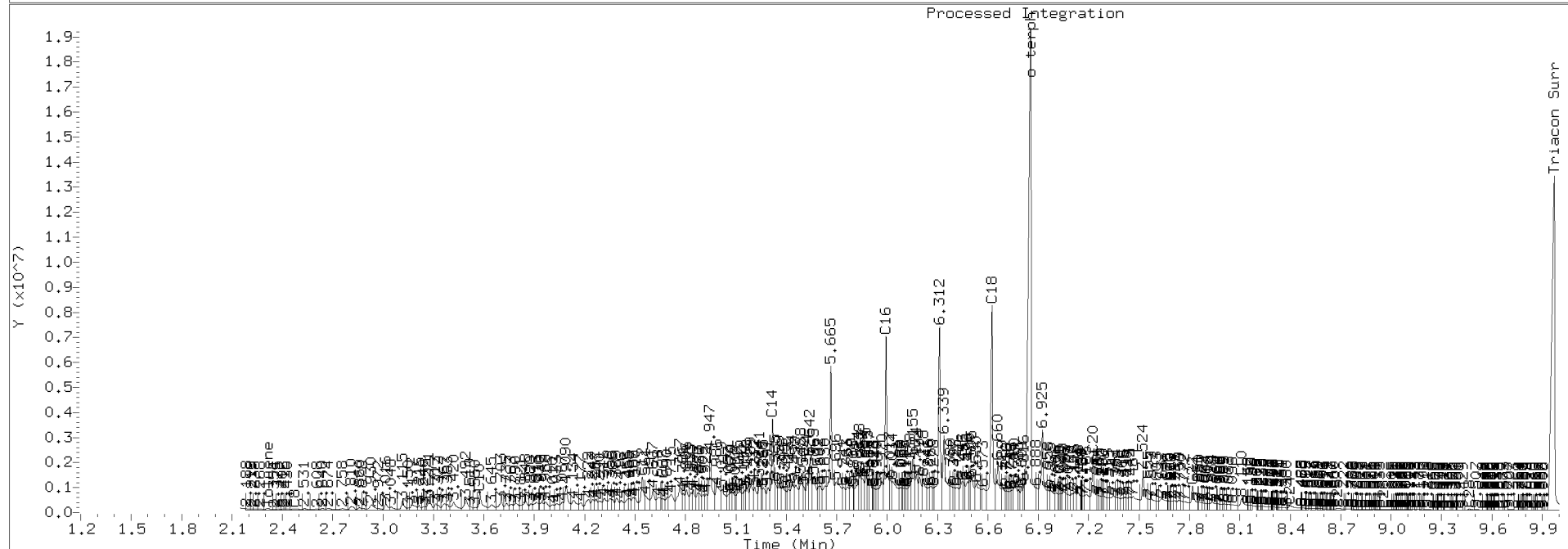
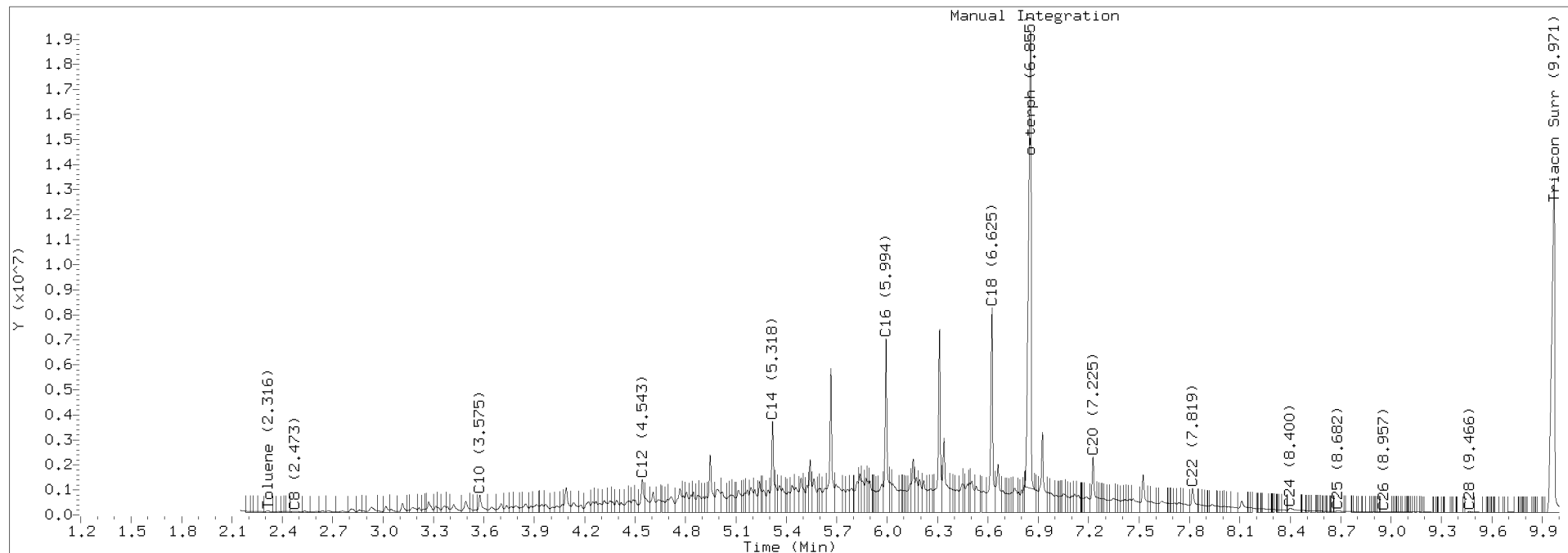
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2420.D Injection: 24-JUN-2022 18:16

Lab ID: BKF0451-BS1





Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2421.D

Date: 24-JUN-2022 18:36

Client ID:

Sample Info: BKF0451-BSM1

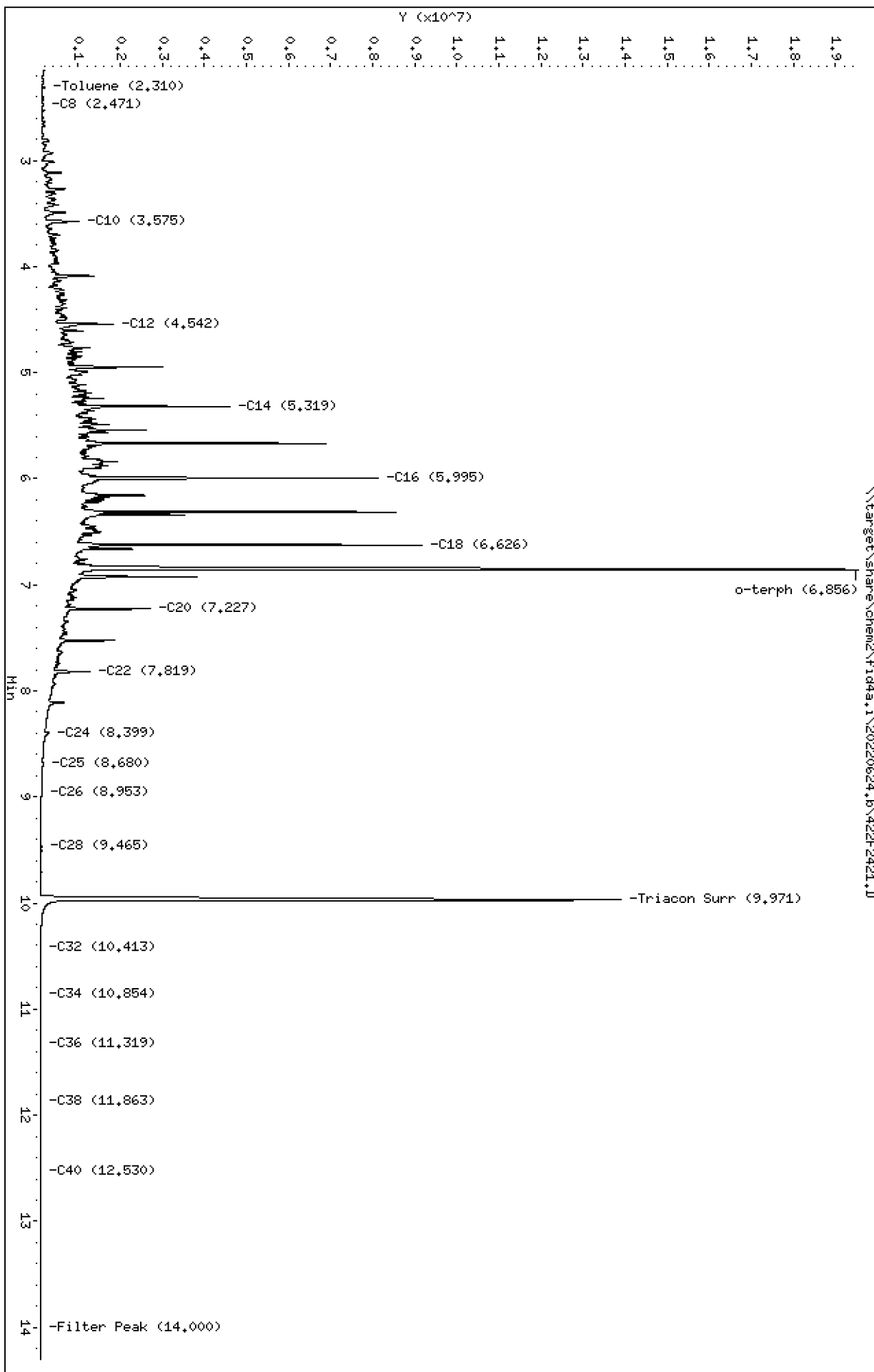
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2421.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: BKF0451-BSD1  
Client ID:  
Injection: 24-JUN-2022 18:36  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

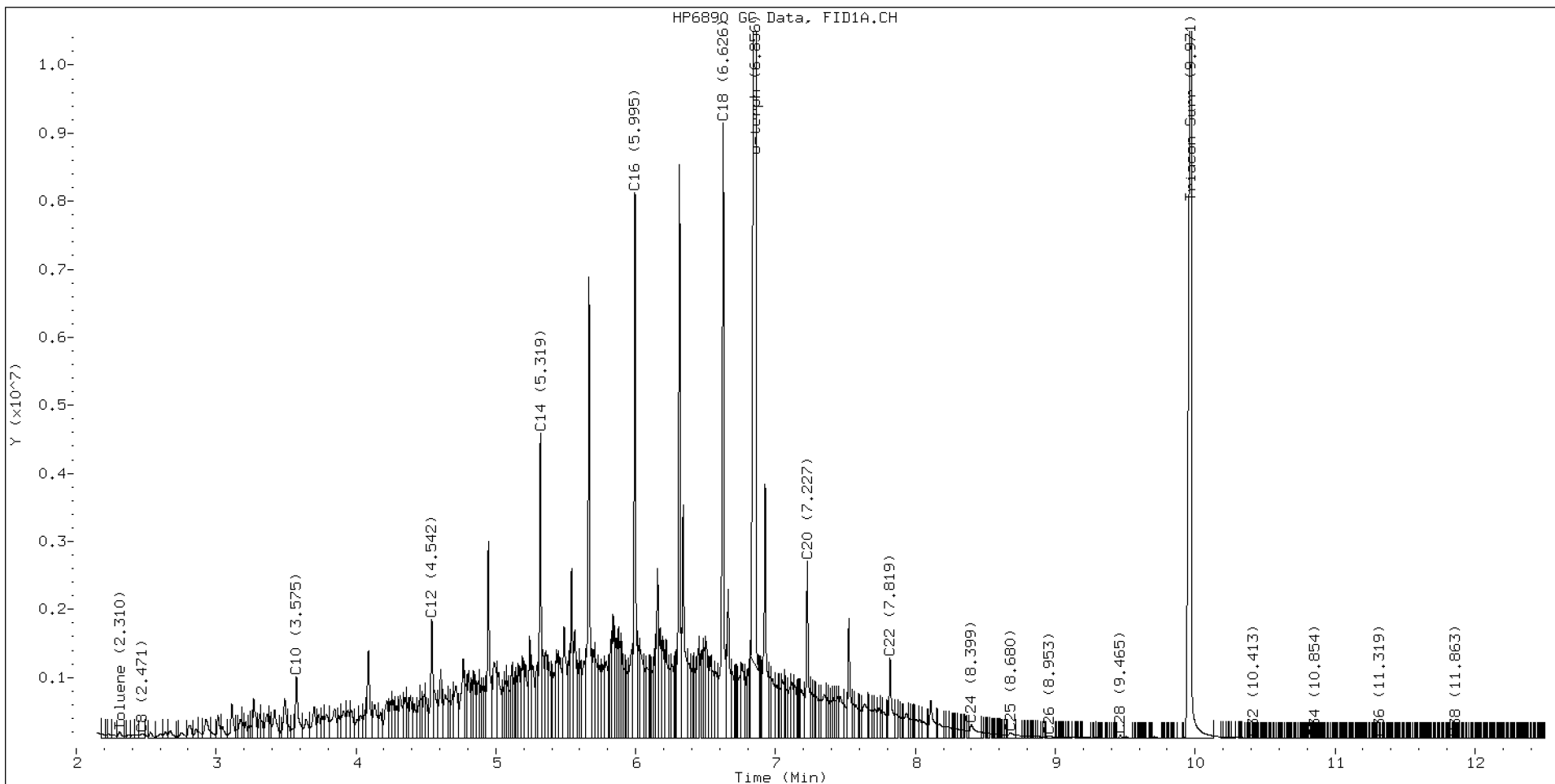
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.471	0.013	66230	148313	WATPHD	(C12-C24)	210021676	1323.9
C10	3.575	-0.002	908821	1315654	WATPHM	(C24-C38)	1956339	14.8
C12	4.542	-0.001	1738400	2076529	AK102	(C10-C25)	235665995	1246.4
C14	5.319	-0.003	4485966	3981196	AK103	(C25-C36)	1378183	13.9
C16	5.995	0.001	8012846	6927272	OR.DIES	(C10-C28)	236687036	1247.4
C18	6.626	0.003	9047070	9262716				
C20	7.227	-0.003	2597333	2803752	JET-A	(C10-C18)	177428223	1024.5
C22	7.819	-0.006	1174333	1683322				
C24	8.399	-0.000	198984	650894				
C25	8.680	0.002	76940	203643				
C26	8.953	0.006	32104	100614				
C28	9.465	-0.001	43131	52683				
C32	10.413	-0.002	4712	1168				
C34	10.854	0.002	2837	1127				
Filter Peak	14.000	0.002	2062	1062				
C36	11.319	0.002	3039	1487				
C38	11.863	0.002	2972	1021				
C40	12.530	-0.003	1999	297				
o-terph	6.856	-0.000	18344474	20544269				
Triacon Surr	9.971	-0.009	13777571	18531614	NAS DIES	(C10-C24)	235185120	1246.5

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	20544269	100.9 M
Triacontane	18531614	106.4

M Indicates the peak was manually integrated

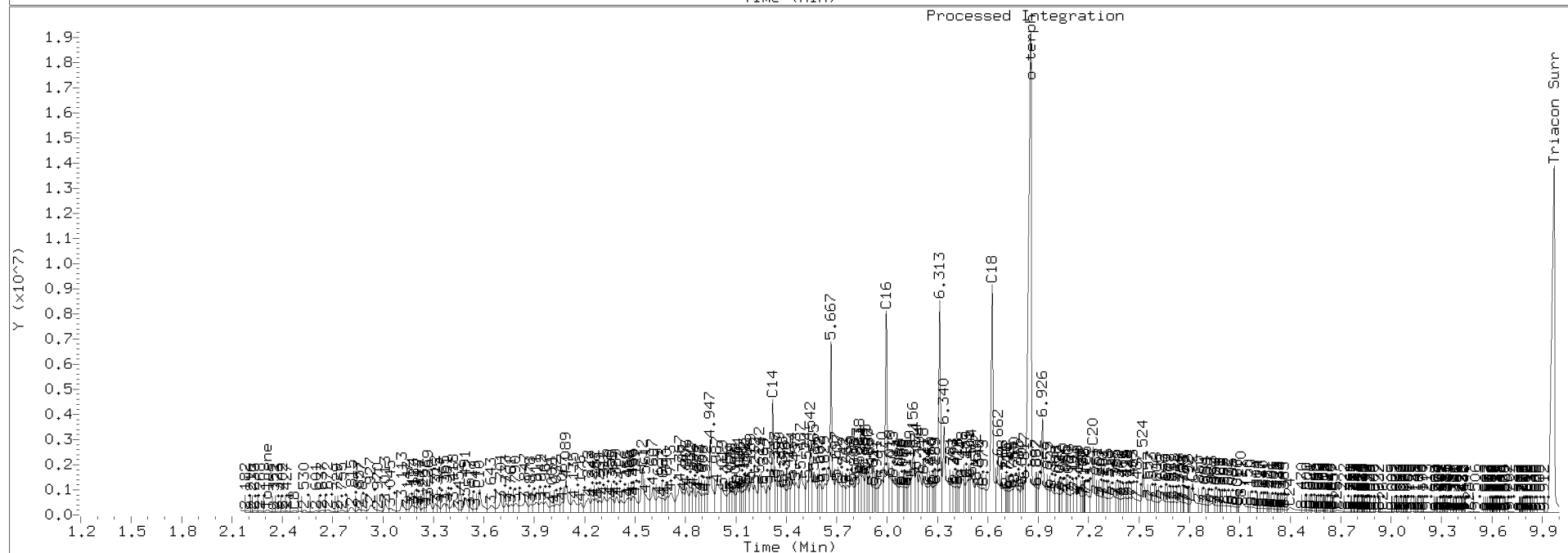
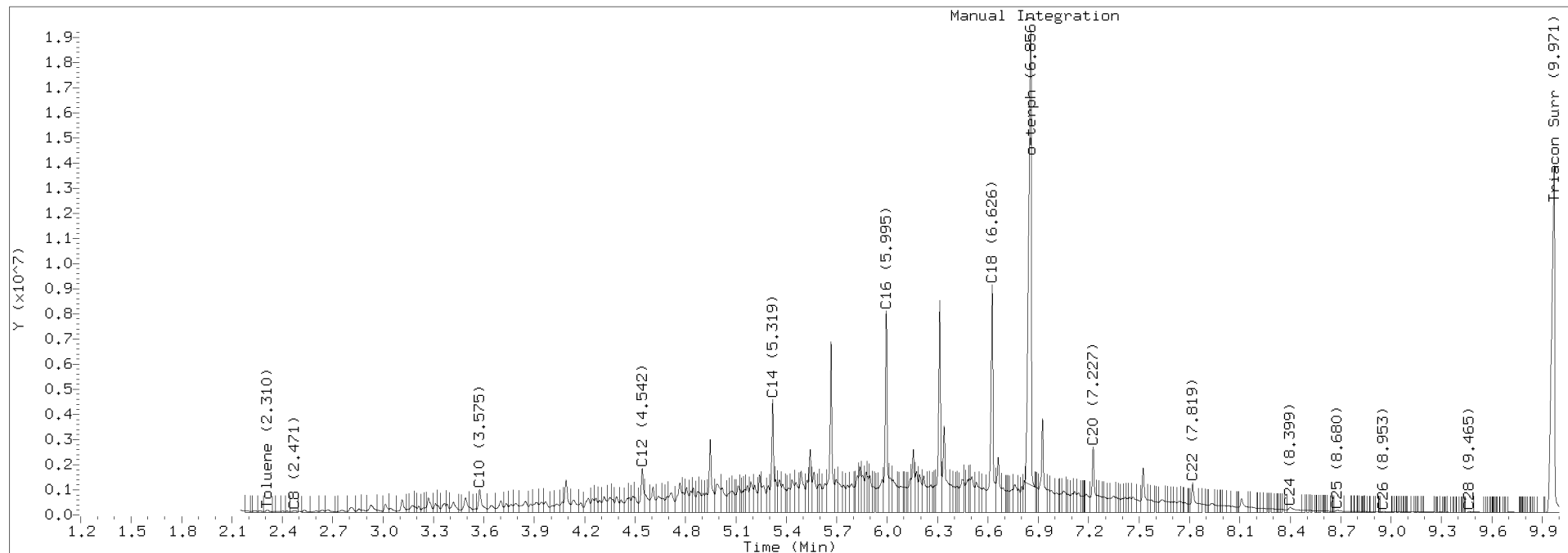
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2421.D Injection: 24-JUN-2022 18:36

Lab ID: BKF0451-BSD1





**LCS / LCS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Analyzed: 06/24/22 17:10

Batch: BKF0467

Laboratory ID: BKF0467-BS1

Preparation: EPA 3546 (Microwave)

Sequence Name: LCS

Initial/Final: 10 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	150	139		92.5	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	157		104	12.1	30	63 - 120

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2424.D

Date: 24-JUN-2022 17:10

Client ID:

Sample Info: BKF0467-BS1

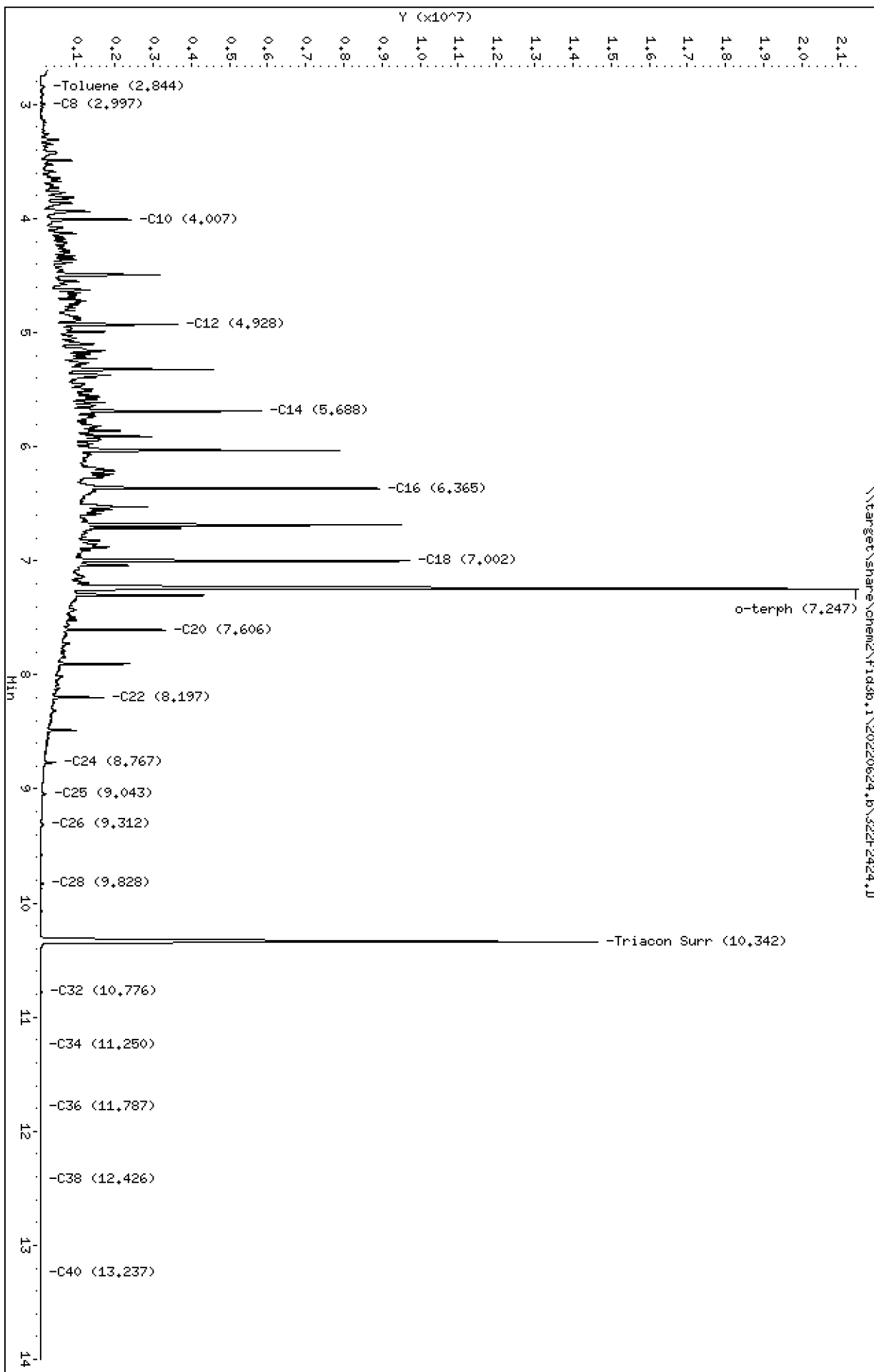
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2424.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0467-BS1  
Client ID:  
Injection: 24-JUN-2022 17:10  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.844	-0.014	122672	139009	WATPHG	(Tol-C12)	55409550	308.8
C8	2.997	-0.013	123640	104765	WATPHD	(C12-C24)	239260099	1387.6
C10	4.007	-0.003	2375169	2266891	WATPHM	(C24-C38)	2373835	19.1
C12	4.928	0.004	3608841	3566190	AK102	(C10-C25)	281749662	1382.6 M
C14	5.688	0.004	5791692	4920006	AK103	(C25-C36)	1396068	14.7
C16	6.365	0.007	8890822	8227182	OR.DIES	(C10-C28)	282653769	1383.6 M
C18	7.002	0.009	9669274	10126918				
C20	7.606	0.001	3270653	3296857				
C22	8.197	-0.003	1663466	1662456				
C24	8.767	-0.005	390539	405519				
C25	9.043	-0.007	142896	195428				
C26	9.312	-0.007	56075	106204				
C28	9.828	-0.006	64012	56142	IT.DIES	(C10-C24)	281046447	1382.0
C32	10.776	-0.003	32286	40522				
C34	11.250	-0.003	6619	10076	CREOSOT	(C12-C22)	231939168	4507.9
Filter Peak	13.972	-0.001	7783	4261				
C36	11.787	-0.001	7969	6278	BUNKERC	(C10-C38)	283420282	3732.8
o-terph	7.247	0.006	20489916	24767094	JET-A	(C10-C18)	219883309	1278.2
Triacon Surr	10.342	-0.001	14606574	18274794				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

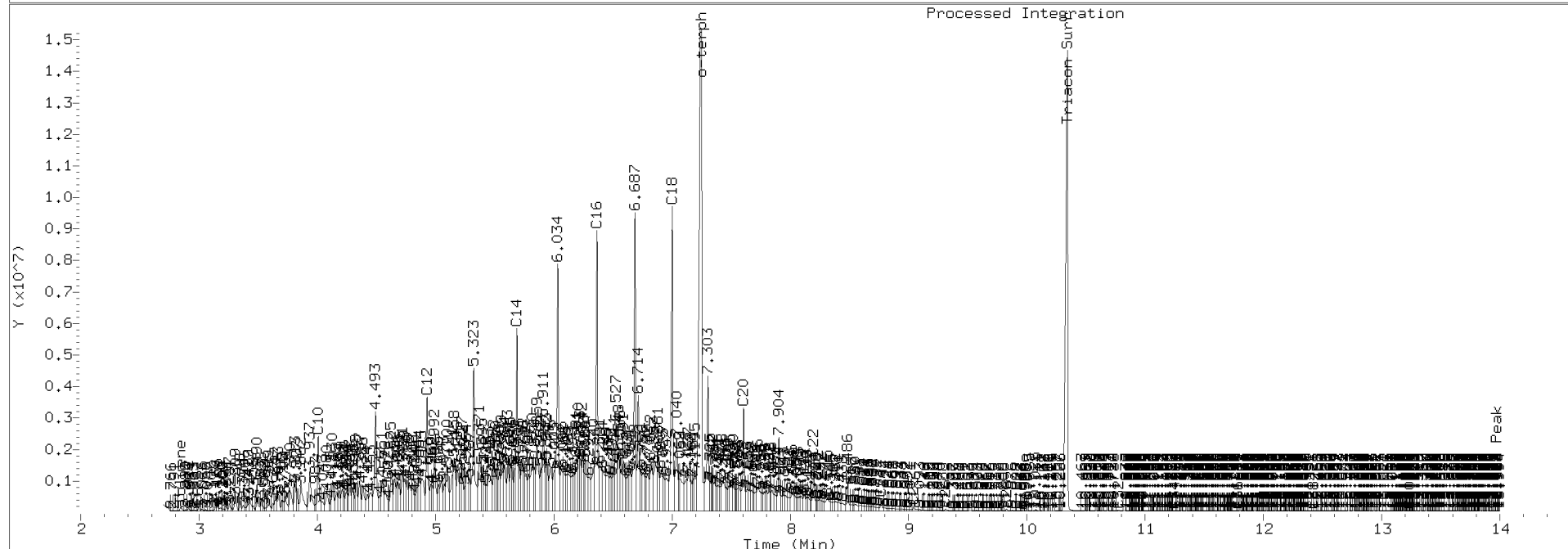
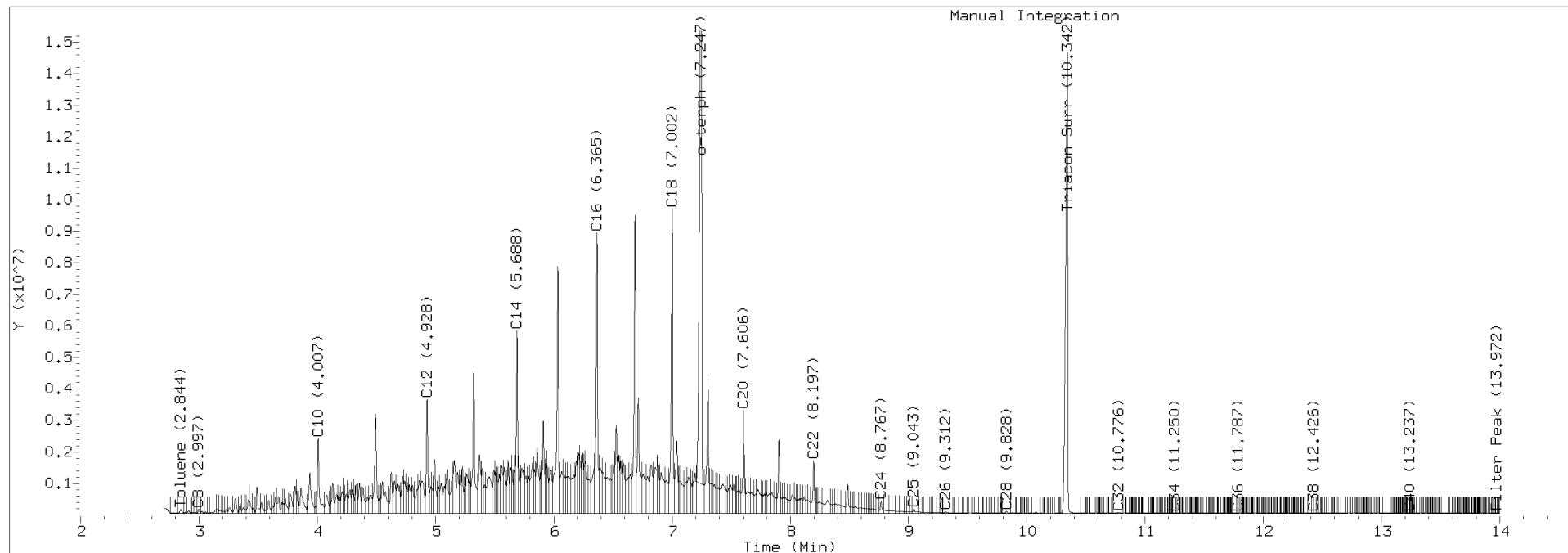
Surrogate	Area	Amount
o-Terphenyl	24767094	102.9
Triacontane	18274794	106.3

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2424.D Injection: 24-JUN-2022 17:10

Lab ID: BKF0467-BS1





Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2425.D

Date: 24-JUN-2022 17:32

Client ID:

Sample Info: BKF0467-BSM1

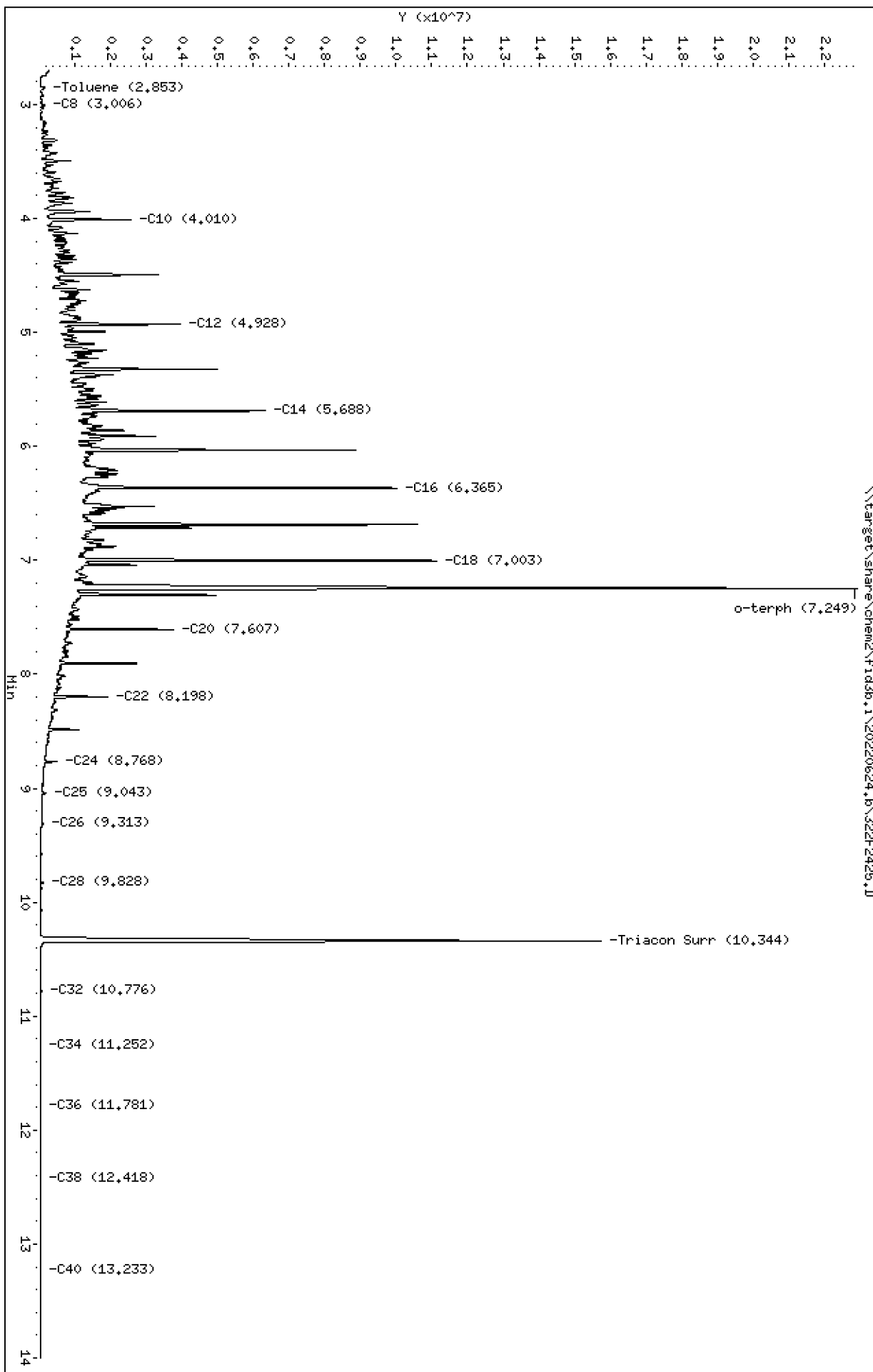
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2425.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0467-BSD1  
Client ID:  
Injection: 24-JUN-2022 17:32  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.853	-0.005	127884	142577	WATPHG	(Tol-C12)	59636670	332.3
C8	3.006	-0.005	115689	107785	WATPHD	(C12-C24)	269989981	1565.8
C10	4.010	-0.000	2532805	2533236	WATPHM	(C24-C38)	2583470	20.8
C12	4.928	0.004	3900963	3937867	AK102	(C10-C25)	315849132	1549.9 M
C14	5.688	0.005	6285689	6865621	AK103	(C25-C36)	1559905	16.4
C16	6.365	0.007	9954771	11986581	OR.DIES	(C10-C28)	316938353	1551.4 M
C18	7.003	0.010	11071122	11771337				
C20	7.607	0.002	3705346	3846934				
C22	8.198	-0.002	1890378	1890775				
C24	8.768	-0.005	454093	480503				
C25	9.043	-0.007	168465	231863				
C26	9.313	-0.007	68040	127960				
C28	9.828	-0.006	74937	63494	IT.DIES	(C10-C24)	315073809	1549.3
C32	10.776	-0.003	35581	42086				
C34	11.252	-0.001	6209	12768	CREOSOT	(C12-C22)	261556965	5083.6
Filter Peak	13.968	-0.004	7377	3297				
C36	11.781	-0.006	7469	6224	BUNKERC	(C10-C38)	317657279	4183.8
o-terph	7.249	0.008	21759289	27544709	JET-A	(C10-C18)	245383825	1426.4
Triacon Surr	10.344	0.000	15685189	20148313				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

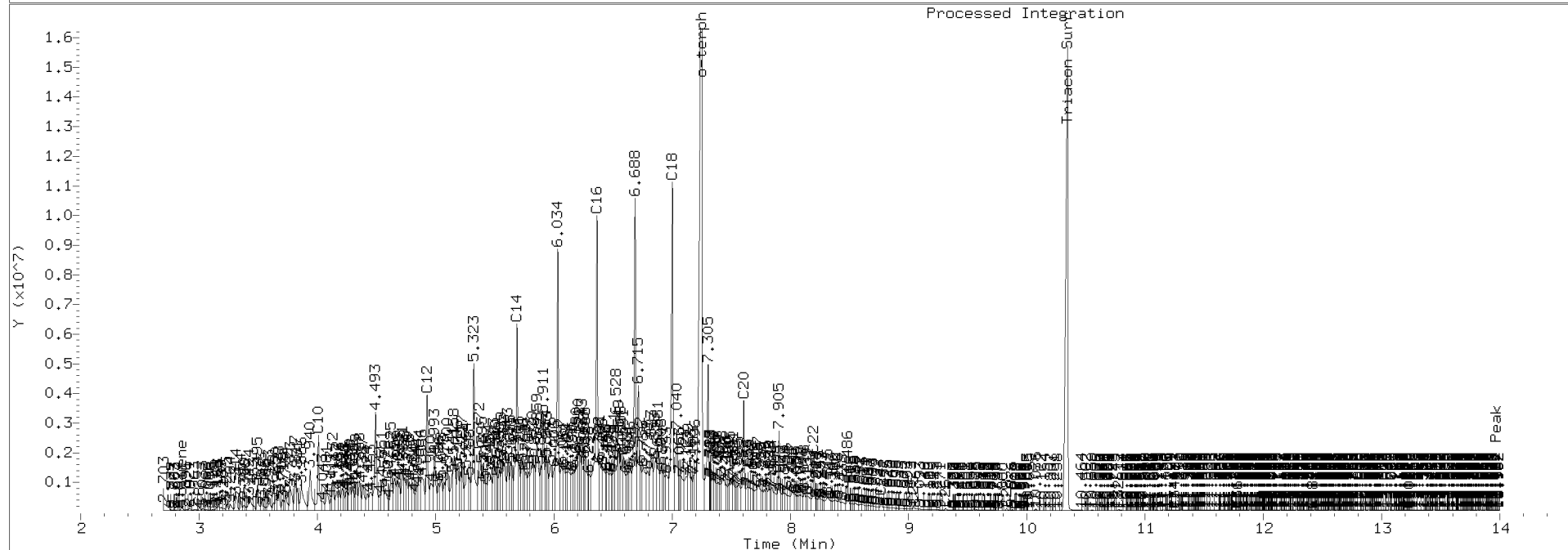
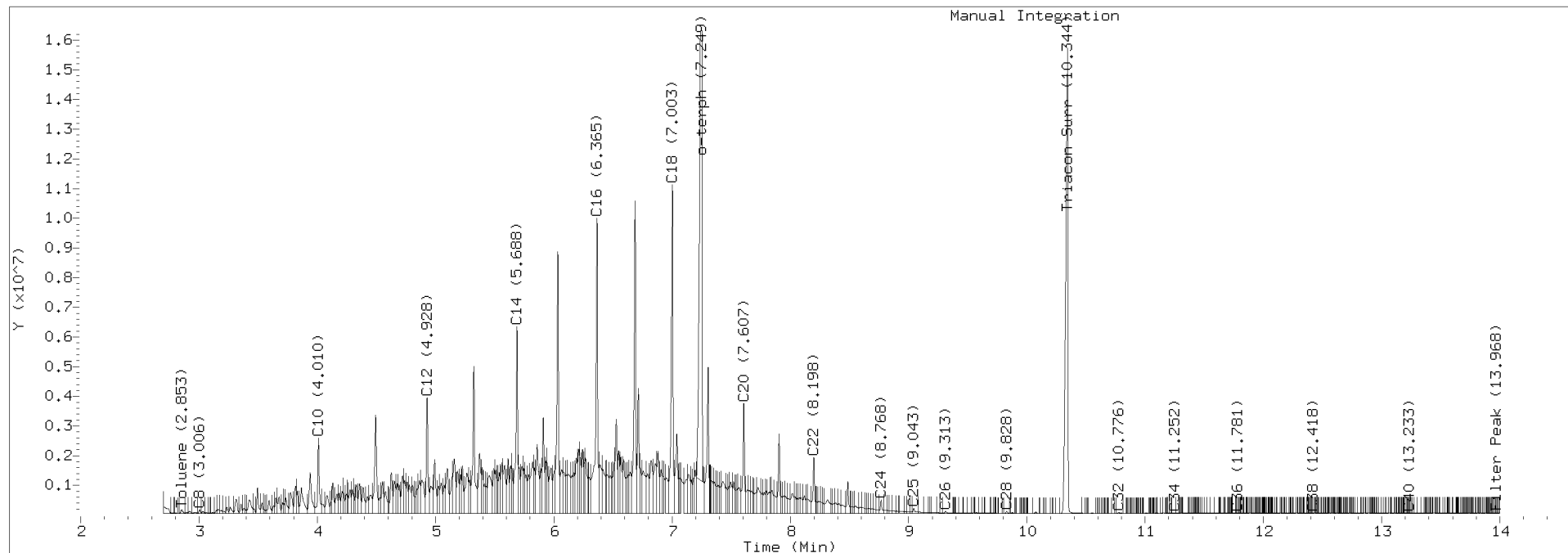
Surrogate	Area	Amount
o-Terphenyl	27544709	114.4
Triacontane	20148313	117.2

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2425.D Injection: 24-JUN-2022 17:32

Lab ID: BKF0467-BSD1





**LCS / LCS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Analyzed: 06/24/22 11:31

Batch: BKF0468

Laboratory ID: BKF0468-BS1

Preparation: EPA 3546 (Microwave)

Sequence Name: LCS

Initial/Final: 10 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	150	146		97.1	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	153		102	5.20	30	63 - 120

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2408.D

Date: 24-JUN-2022 11:31

Client ID:

Sample Info: BKF0468-BS1

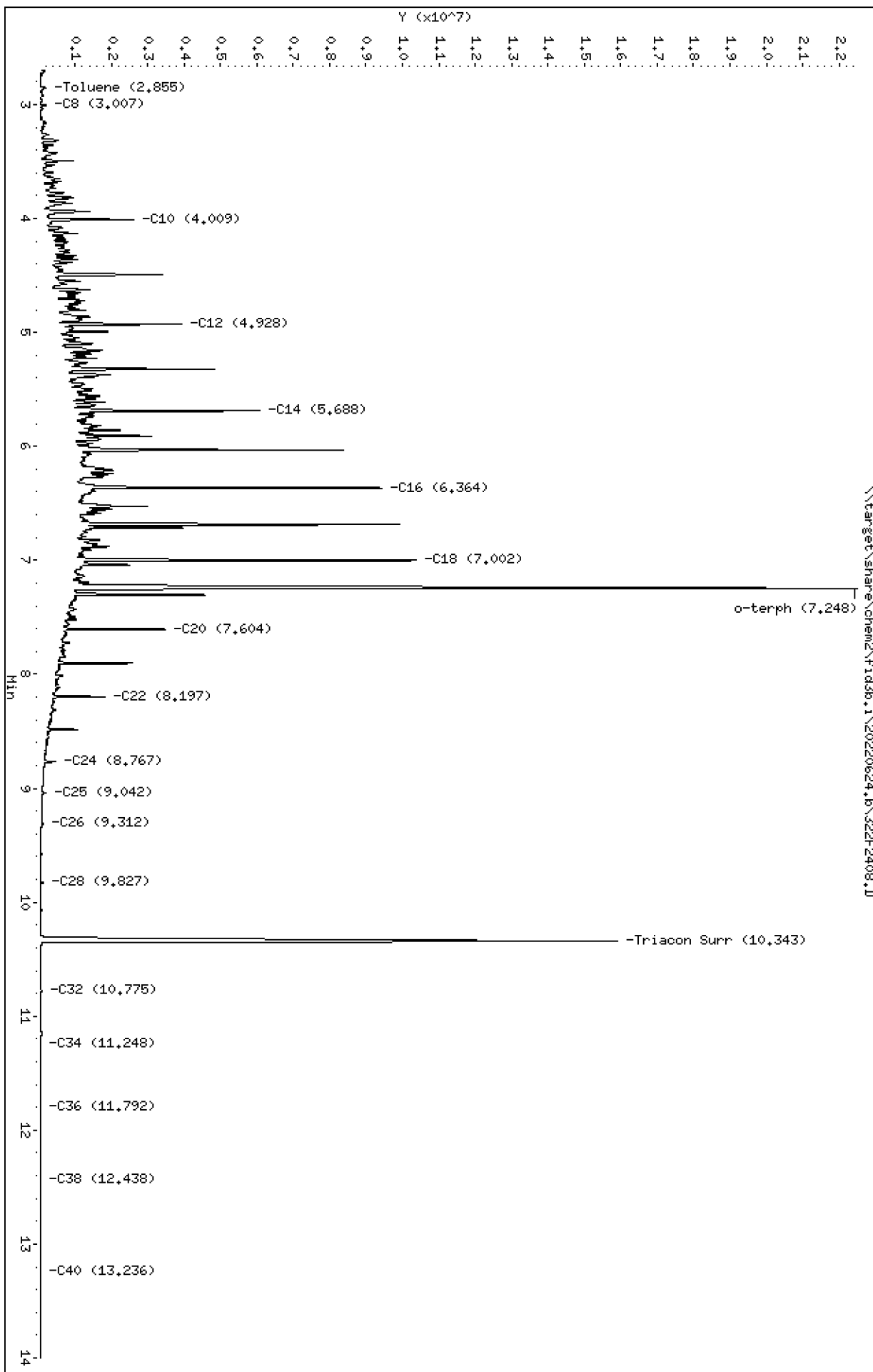
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2408.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0468-BS1  
Client ID:  
Injection: 24-JUN-2022 11:31  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.855	-0.003	141851	153770	WATPHG	(Tol-C12)	58622874	326.7
C8	3.007	-0.004	134041	112834	WATPHD	(C12-C24)	251132852	1456.5
C10	4.009	-0.001	2572426	2371335	WATPHM	(C24-C38)	3039921	24.5
C12	4.928	0.003	3869776	3870788	AK102	(C10-C25)	296640236	1455.7 M
C14	5.688	0.004	6018251	5293165	AK103	(C25-C36)	1919222	20.2
C16	6.364	0.006	9369165	8585758	OR.DIES	(C10-C28)	297753655	1457.5 M
C18	7.002	0.009	10313613	10400179				
C20	7.604	-0.001	3433940	3439821				
C22	8.197	-0.004	1770507	1667857				
C24	8.767	-0.006	427132	439521				
C25	9.042	-0.009	161699	228890				
C26	9.312	-0.008	67343	118500				
C28	9.827	-0.008	79213	73385	IT.DIES	(C10-C24)	295864641	1454.8
C32	10.775	-0.004	43608	59312				
C34	11.248	-0.005	11298	16914	CREOSOT	(C12-C22)	243405667	4730.8
Filter Peak	13.978	0.005	9543	6135				
C36	11.792	0.004	9834	4379	BUNKERC	(C10-C38)	298904563	3936.8
o-terph	7.248	0.006	21448772	26869834	JET-A	(C10-C18)	231688305	1346.8
Triacon Surr	10.343	-0.001	15864206	20653642				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

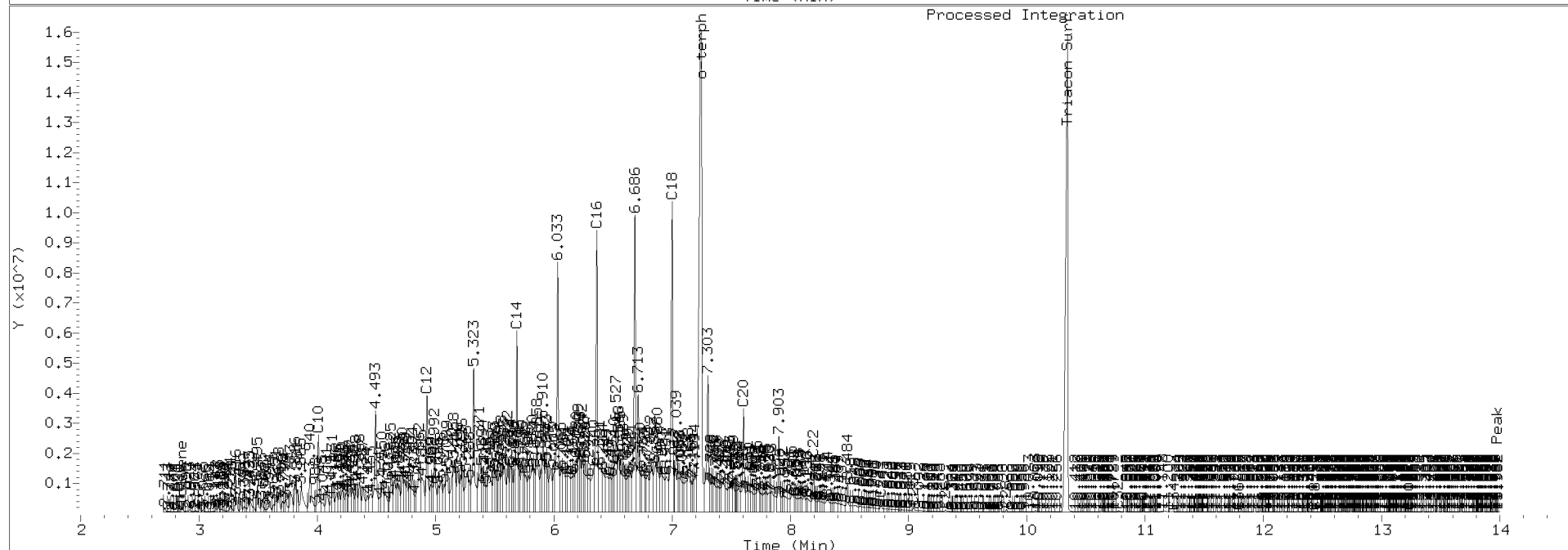
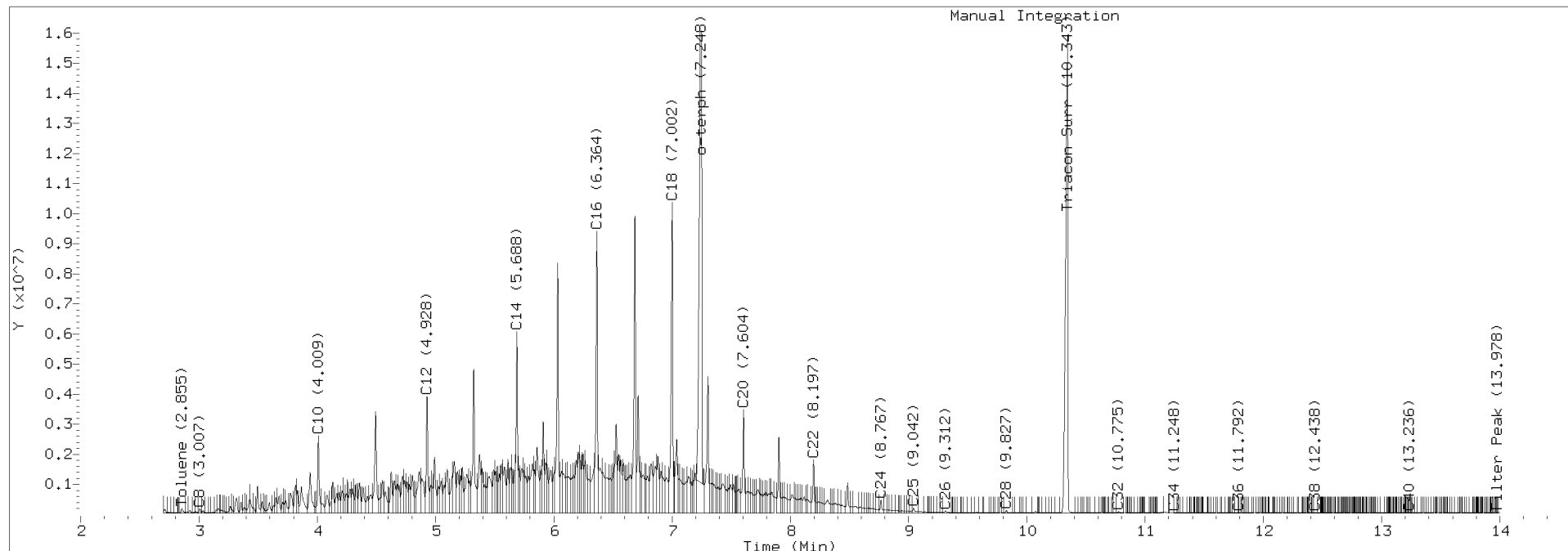
Surrogate	Area	Amount
o-Terphenyl	26869834	111.6
Triacontane	20653642	120.2

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2408.D Injection: 24-JUN-2022 11:31

Lab ID: BKF0468-BS1



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2409.D

Date: 24-JUN-2022 11:52

Client ID:

Sample Info: BKF0468-BSM1

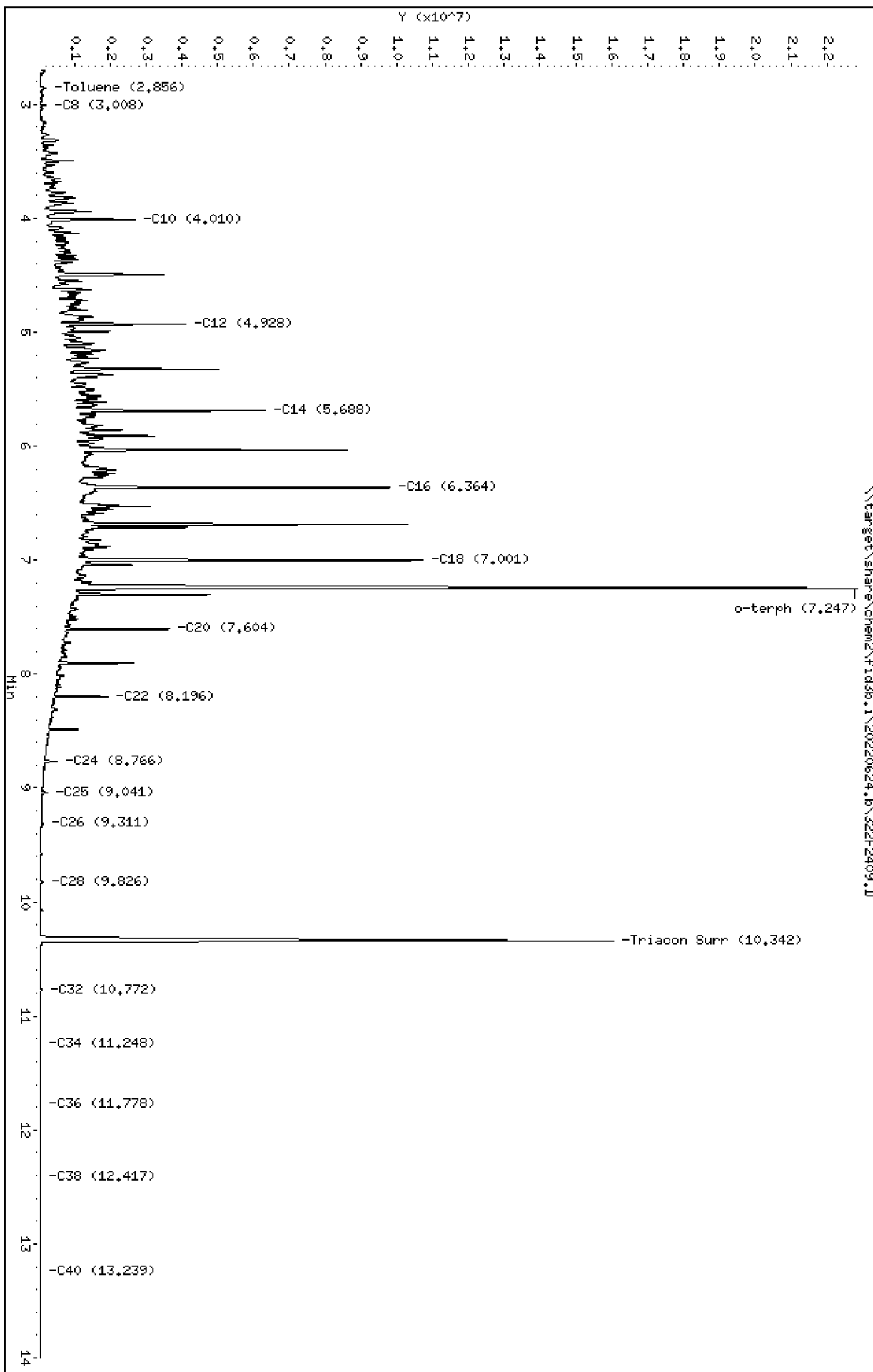
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2409.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0468-BSD1  
Client ID:  
Injection: 24-JUN-2022 11:52  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.856	-0.002	148795	155222	WATPHG	(Tol-C12)	61383741	342.1
C8	3.008	-0.002	138694	114610	WATPHD	(C12-C24)	264529046	1534.2
C10	4.010	-0.001	2655588	2498168	WATPHM	(C24-C38)	2950530	23.8
C12	4.928	0.003	4054657	4080089	AK102	(C10-C25)	312359018	1532.8 M
C14	5.688	0.004	6271921	6743252	AK103	(C25-C36)	1796839	18.9
C16	6.364	0.006	9764857	11693202	OR.DIES	(C10-C28)	313472276	1534.4 M
C18	7.001	0.009	10667053	10938589				
C20	7.604	-0.001	3592917	3695872				
C22	8.196	-0.005	1864886	1799790				
C24	8.766	-0.007	453398	461703				
C25	9.041	-0.009	178916	245978				
C26	9.311	-0.009	71053	93494				
C28	9.826	-0.009	80837	63829	IT.DIES	(C10-C24)	311477584	1531.6
C32	10.772	-0.007	42900	50727				
C34	11.248	-0.005	9141	25094	CREOSOT	(C12-C22)	256367057	4982.7
Filter Peak	13.971	-0.002	7978	2776				
C36	11.778	-0.009	8489	14664	BUNKERC	(C10-C38)	314428114	4141.2
o-terph	7.247	0.006	21738497	27408819	JET-A	(C10-C18)	243029354	1412.7
Triacon Surr	10.342	-0.002	15996316	21173167				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

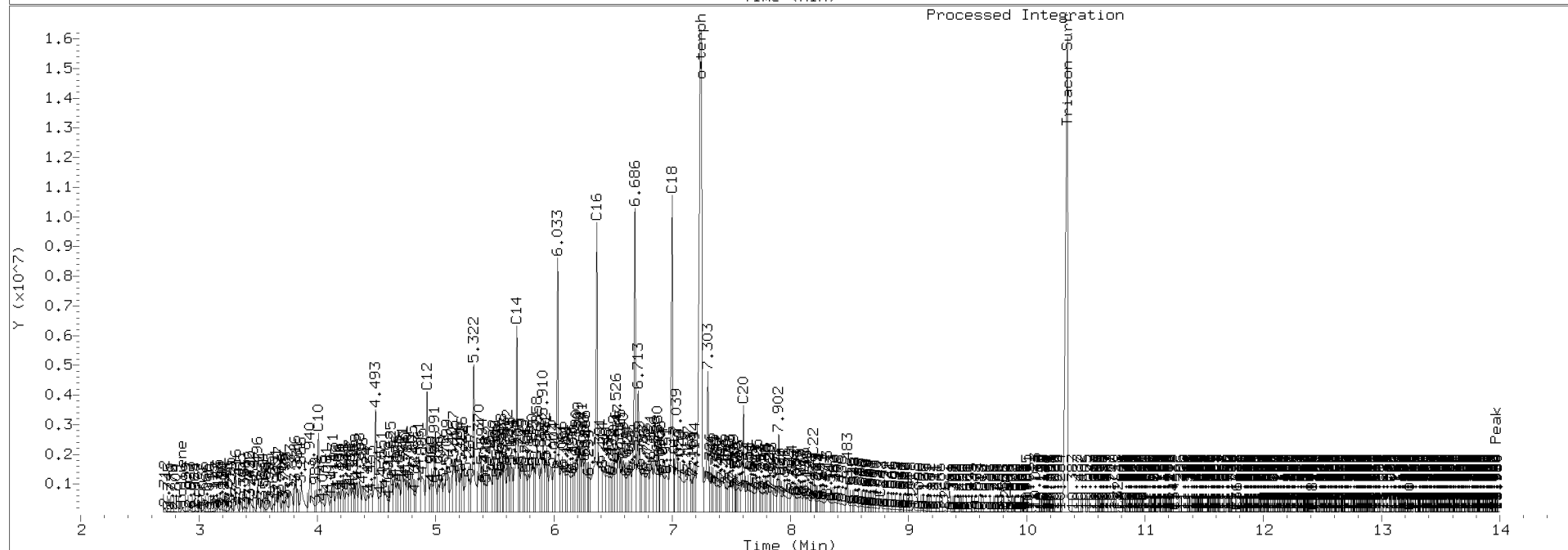
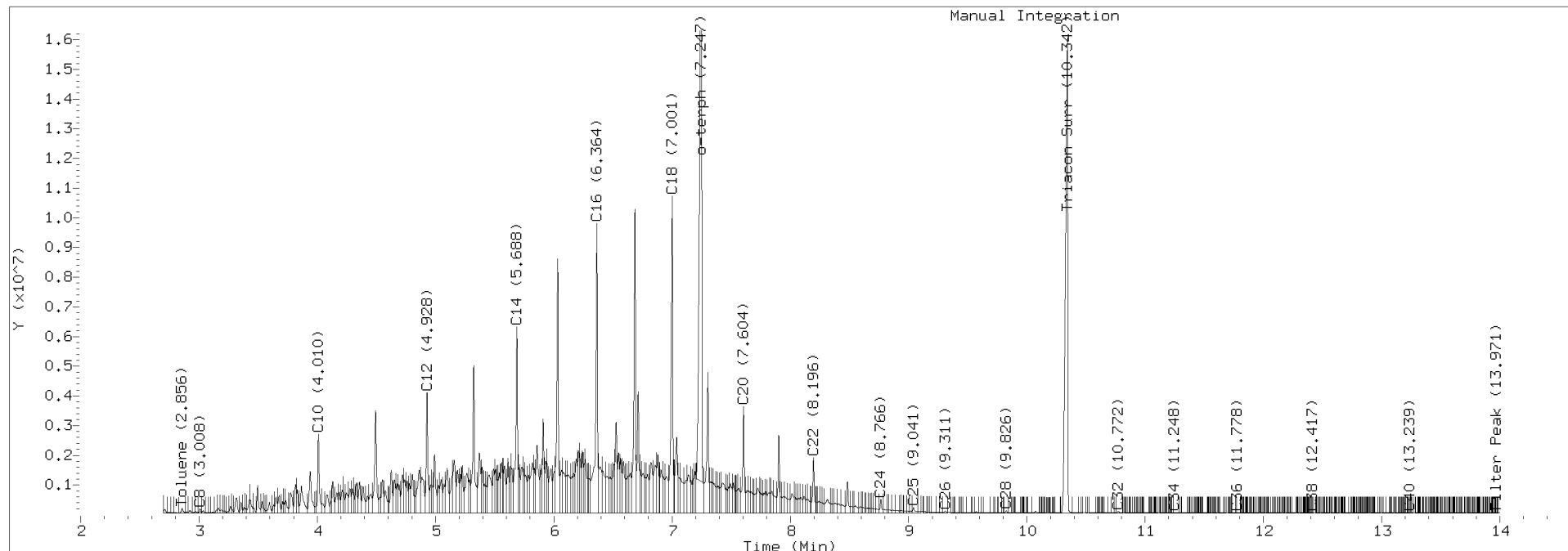
Surrogate	Area	Amount
o-Terphenyl	27408819	113.9
Triacontane	21173167	123.2

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2409.D Injection: 24-JUN-2022 11:52

Lab ID: BKF0468-BSD1





**MS / MS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/24/22 17:53</u>
Batch:	<u>BKF0467</u>	Laboratory ID:	<u>BKF0467-MS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>10 g / 1 mL</u>	Source Sample:	<u>Z1A-12-MS</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	180	293		640	*, E	192 *	63 - 120

\* Values outside of QC limits



**MS / MS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/24/22 18:14</u>
Batch:	<u>BKF0467</u>	Laboratory ID:	<u>BKF0467-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>Z1A-12-MS</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)	180	580	*, E	159 *	9.79	30	63 - 120

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2426.D

Date: 24-JUN-2022 17:53

Client ID:

Sample Info: BKF0467-HS1

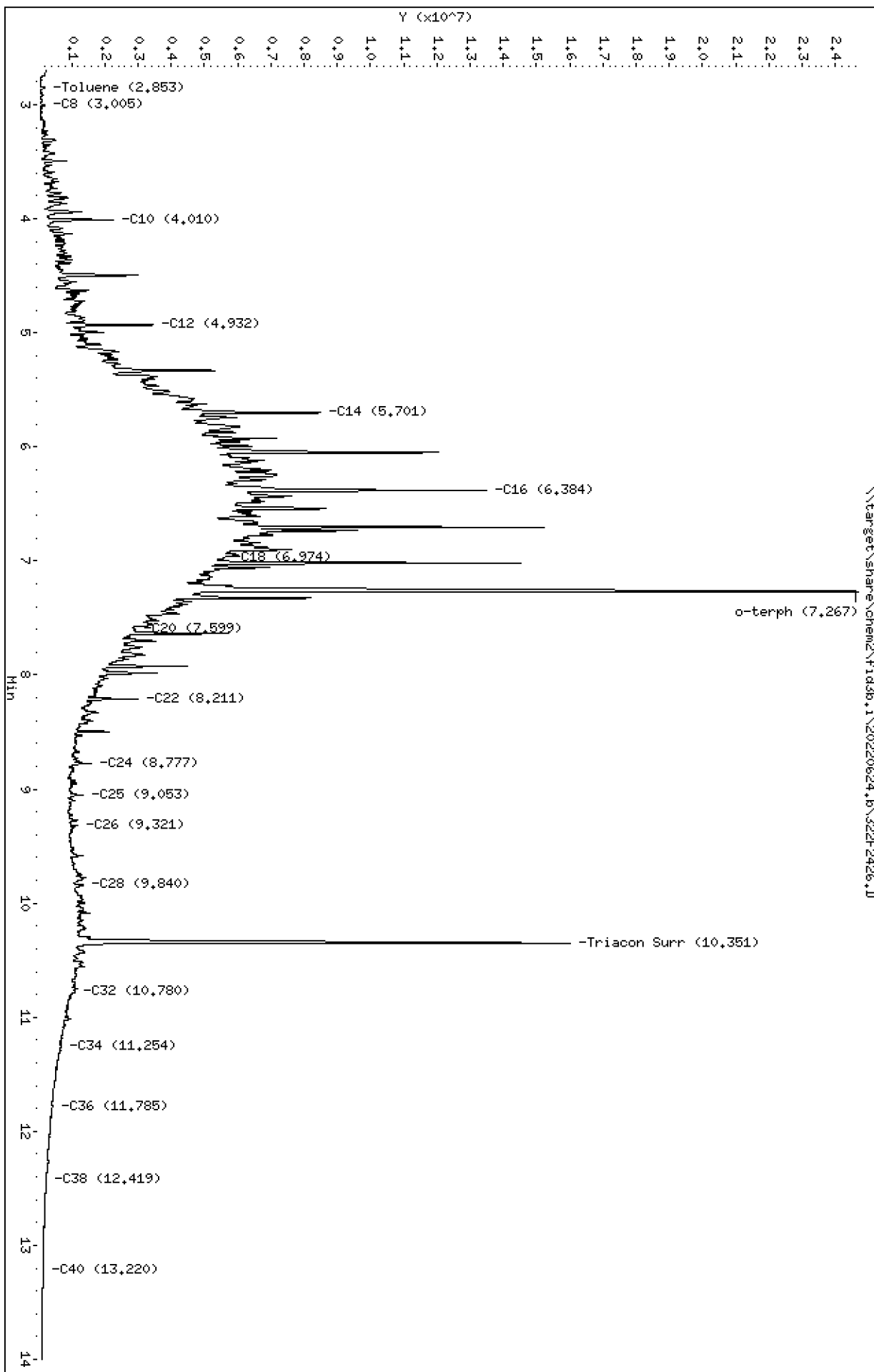
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2426.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0467-MS1  
Client ID:  
Injection: 24-JUN-2022 17:53  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.853	-0.005	131995	145335	WATPHG	(Tol-C12)	64169270	357.6
C8	3.005	-0.005	117199	96871	WATPHD	(C12-C24)	917993135	5324.0
C10	4.010	-0.000	2195921	2855186	WATPHM	(C24-C38)	167262355	1347.3
C12	4.932	0.007	3377678	4588475	AK102	(C10-C25)	977749209	4798.0 M
C14	5.701	0.017	8440106	16851125	AK103	(C25-C36)	149113209	1569.5 M
C16	6.384	0.025	13441359	32851679	OR.DIES	(C10-C28)	1028727003	5035.5 M
C18	6.974	-0.019	5542585	7372794				
C20	7.599	-0.006	2862612	3254729				
C22	8.211	0.010	2932186	3354679				
C24	8.777	0.005	1536633	2317012				
C25	9.053	0.002	1275973	2357091				
C26	9.321	0.001	1104721	1285099				
C28	9.840	0.005	1282020	3583887	IT.DIES	(C10-C24)	968228031	4761.0
C32	10.780	0.001	1028924	1362675				
C34	11.254	0.001	627308	1548006	CREOSOT	(C12-C22)	878261786	17069.7
Filter Peak	13.972	-0.000	39130	33086				
C36	11.785	-0.002	358802	1166277	BUNKERC	(C10-C38)	1135490386	14955.2
o-terph	7.267	0.025	19618242	24739431	JET-A	(C10-C18)	687319295	3995.4
Triacon Surr	10.351	0.007	14629055	17609927				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

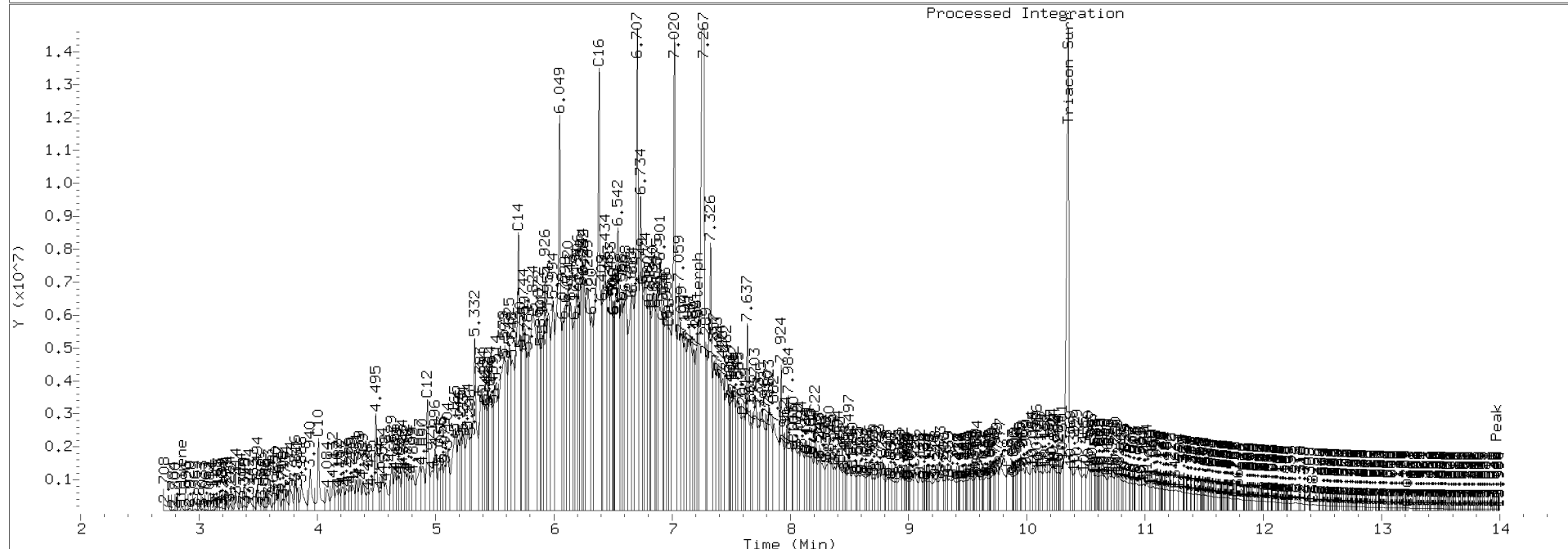
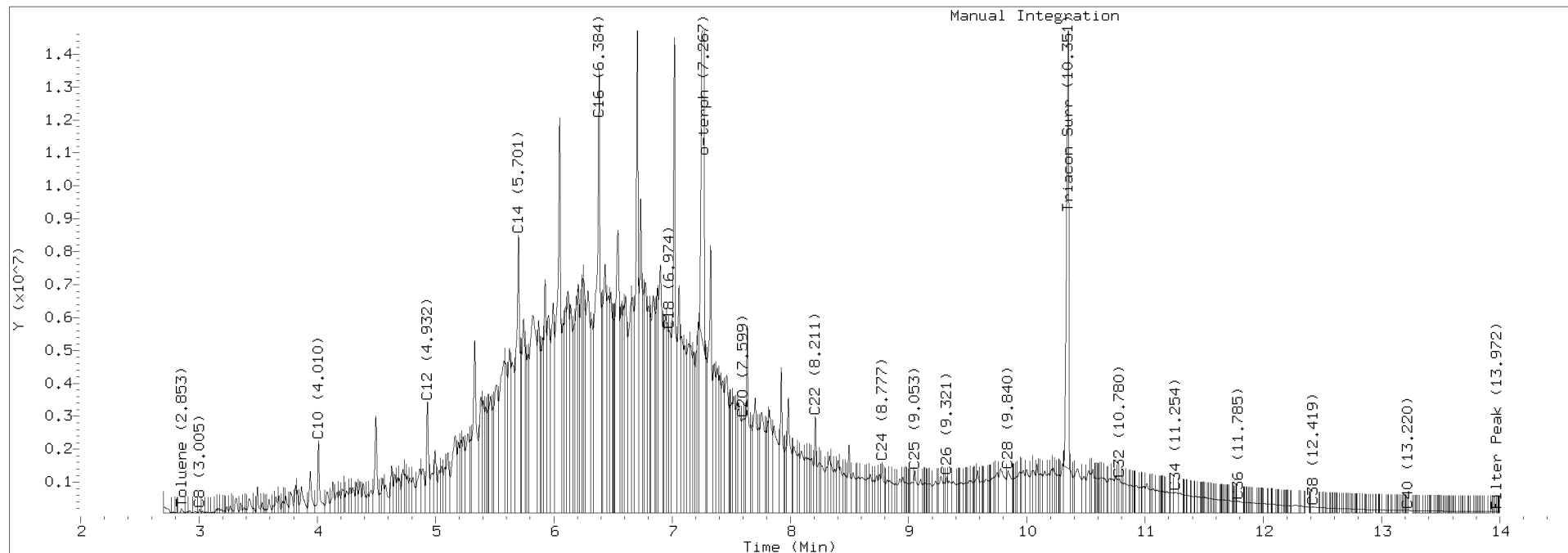
Surrogate	Area	Amount
o-Terphenyl	24739431	102.8
Triacontane	17609927	102.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2426.D Injection: 24-JUN-2022 17:53

Lab ID: BKF0467-MS1



Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2427.D

Date: 24-JUN-2022 18:14

Client ID:

Sample Info: BKF0467-HSD1

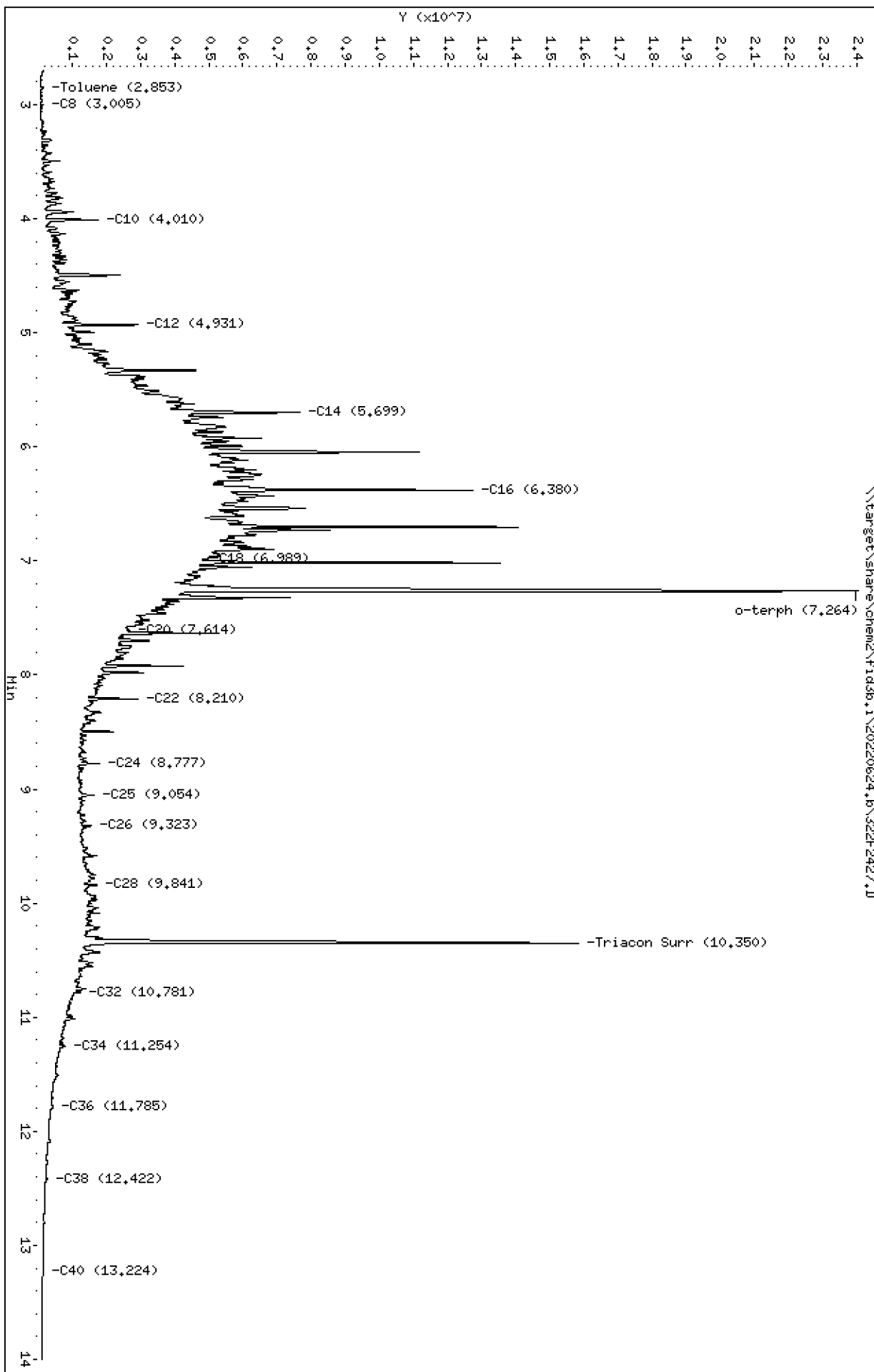
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2427.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0467-MSD1  
Client ID:  
Injection: 24-JUN-2022 18:14  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.853	-0.005	85882	90390	WATPHG	(Tol-C12)	49647396	276.7
C8	3.005	-0.005	63375	52228	WATPHD	(C12-C24)	832328325	4827.1
C10	4.010	-0.000	1707417	2184762	WATPHM	(C24-C38)	195068277	1571.3
C12	4.931	0.006	2840381	3705326	AK102	(C10-C25)	883635497	4336.1 M
C14	5.699	0.015	7607839	14514767	AK103	(C25-C36)	175429159	1846.5 M
C16	6.380	0.022	12683325	28791629	OR.DIES	(C10-C28)	950834212	4654.2 M
C18	6.989	-0.004	4759728	1425862				
C20	7.614	0.009	2610257	2189740				
C22	8.210	0.010	2864063	3471217				
C24	8.777	0.005	1713107	3180564				
C25	9.054	0.004	1549854	3272964				
C26	9.323	0.003	1490520	1670175				
C28	9.841	0.006	1656314	4862019	IT.DIES	(C10-C24)	871783928	4286.8
C32	10.781	0.002	1156439	1958885				
C34	11.254	0.000	707704	1747566	CREOSOT	(C12-C22)	787750338	15310.5
Filter Peak	13.980	0.008	39713	15859				
C36	11.785	-0.002	379095	1336876	BUNKERC	(C10-C38)	1066852204	14051.2
o-terph	7.264	0.023	19597095	24414422	JET-A	(C10-C18)	611409394	3554.1
Triacon Surr	10.350	0.006	14265359	16742524				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

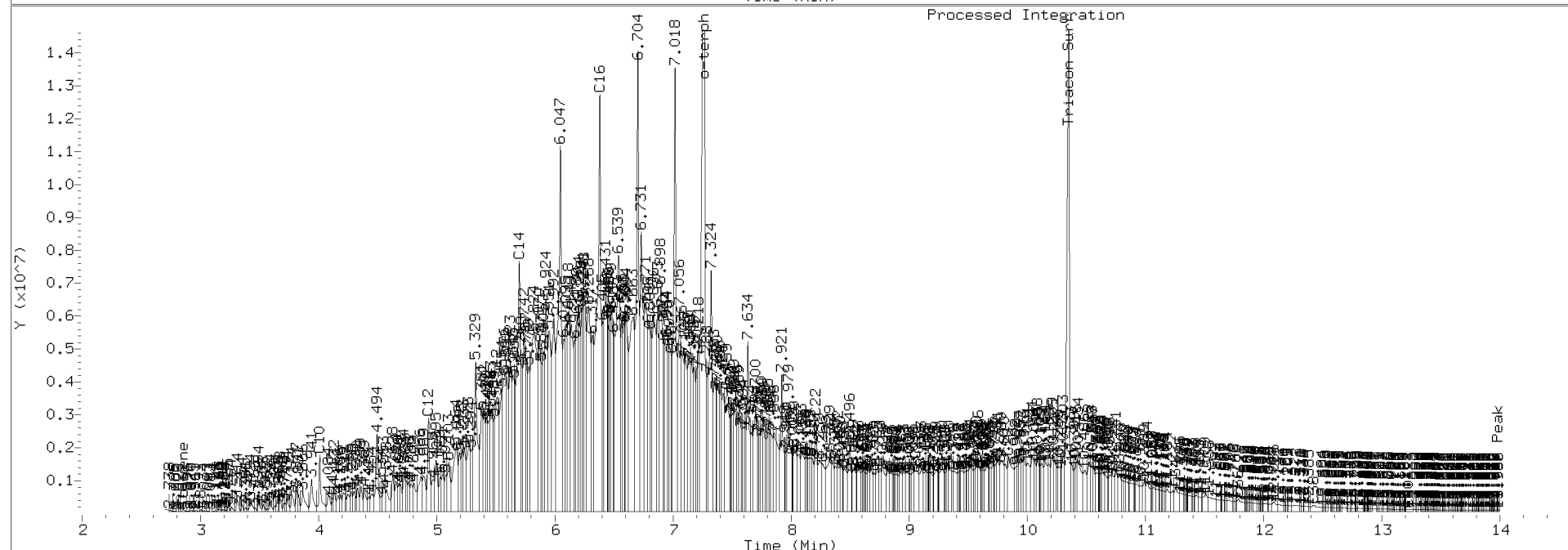
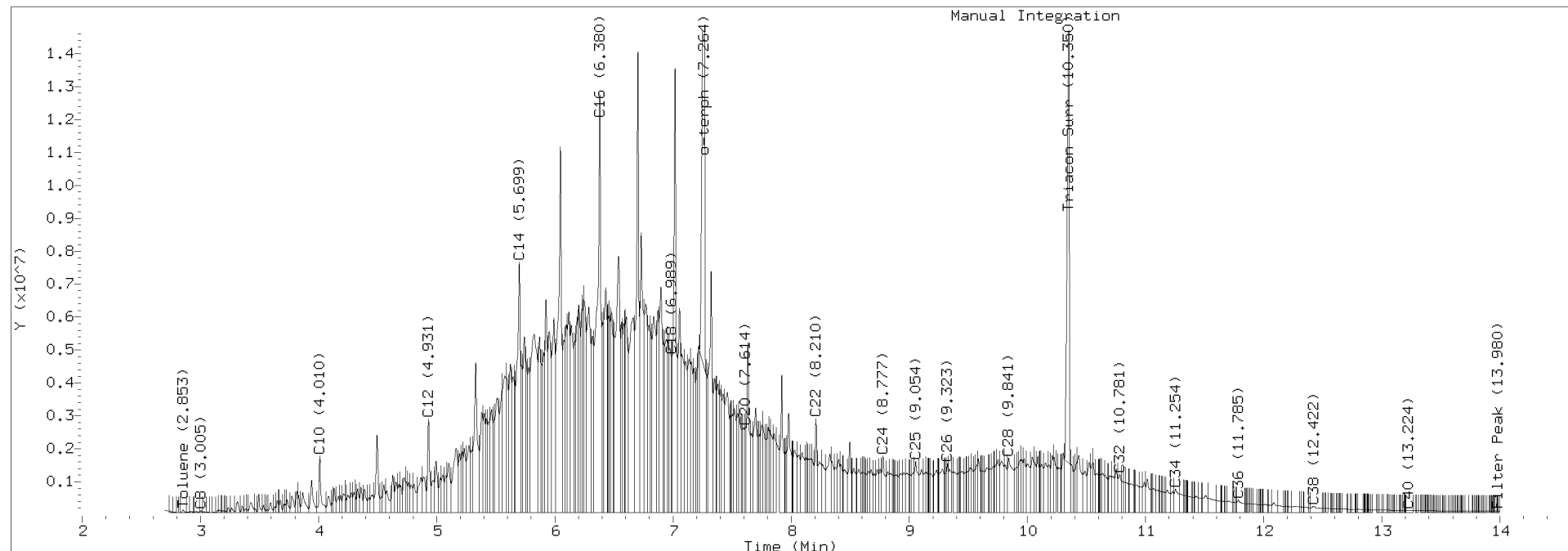
Surrogate	Area	Amount
o-Terphenyl	24414422	101.4
Triacontane	16742524	97.4

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2427.D Injection: 24-JUN-2022 18:14

Lab ID: BKF0467-MSD1





**MS / MS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/24/22 13:17</u>
Batch:	<u>BKF0468</u>	Laboratory ID:	<u>BKF0468-MS1</u>
Preparation:	<u>EPA 3546 (Microwave)</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>10 g / 1 mL</u>	Source Sample:	<u>Z1A-9-MS</u>

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	Q	MS CONCENTRATION (mg/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	191	56.8		205		77.5	63 - 120

\* Values outside of QC limits



**MS / MS DUPLICATE RECOVERY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/24/22 13:38</u>
Batch:	<u>BKF0468</u>	Laboratory ID:	<u>BKF0468-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>Z1A-9-MS</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)	191	187		68.4	8.91	30	63 - 120

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2413.D

Date: 24-JUN-2022 13:17

Client ID:

Sample Info: BKF0468-HS1

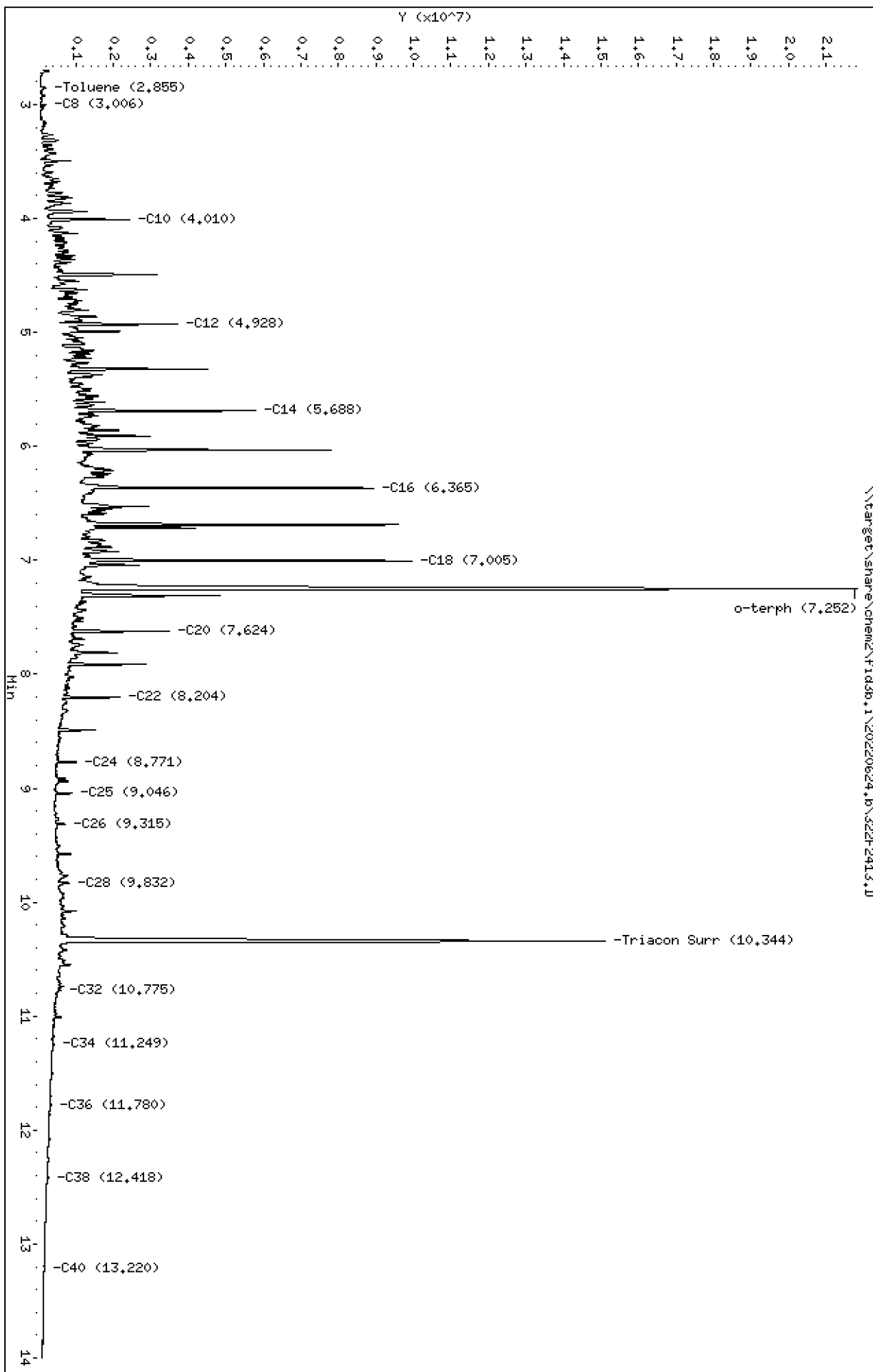
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2413.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0468-MS1  
Client ID:  
Injection: 24-JUN-2022 13:17  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc(mg per L)
Toluene	2.855	-0.004	149146	167659	WATPHG	(Tol-C12)	56008117	312.1
C8	3.006	-0.004	132185	105034	WATPHD	(C12-C24)	277460462	1609.2
C10	4.010	-0.001	2378096	2319157	WATPHM	(C24-C38)	87671519	706.2
C12	4.928	0.003	3648327	3949761	AK102	(C10-C25)	325596001	1597.8 M
C14	5.688	0.004	5724813	6155514	AK103	(C25-C36)	74539595	784.6 M
C16	6.365	0.007	8877580	10766734	OR.DIES	(C10-C28)	349567300	1711.1 M
C18	7.005	0.012	9897267	10718746				
C20	7.624	0.019	3446944	4087683				
C22	8.204	0.003	2126583	2210661				
C24	8.771	-0.001	947470	1430237				
C25	9.046	-0.004	823959	1169447				
C26	9.315	-0.004	672322	805046				
C28	9.832	-0.003	783251	1850838	IT.DIES	(C10-C24)	320376353	1575.4
C32	10.775	-0.004	558209	748021				
C34	11.249	-0.004	369983	818273	CREOSOT	(C12-C22)	259108215	5036.0
Filter Peak	13.966	-0.006	50671	32884				
C36	11.780	-0.007	285151	765921	BUNKERC	(C10-C38)	408047872	5374.3
o-terph	7.252	0.011	20575779	24928182	JET-A	(C10-C18)	224519457	1305.1
Triacon Surr	10.344	-0.000	14383531	18013325				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

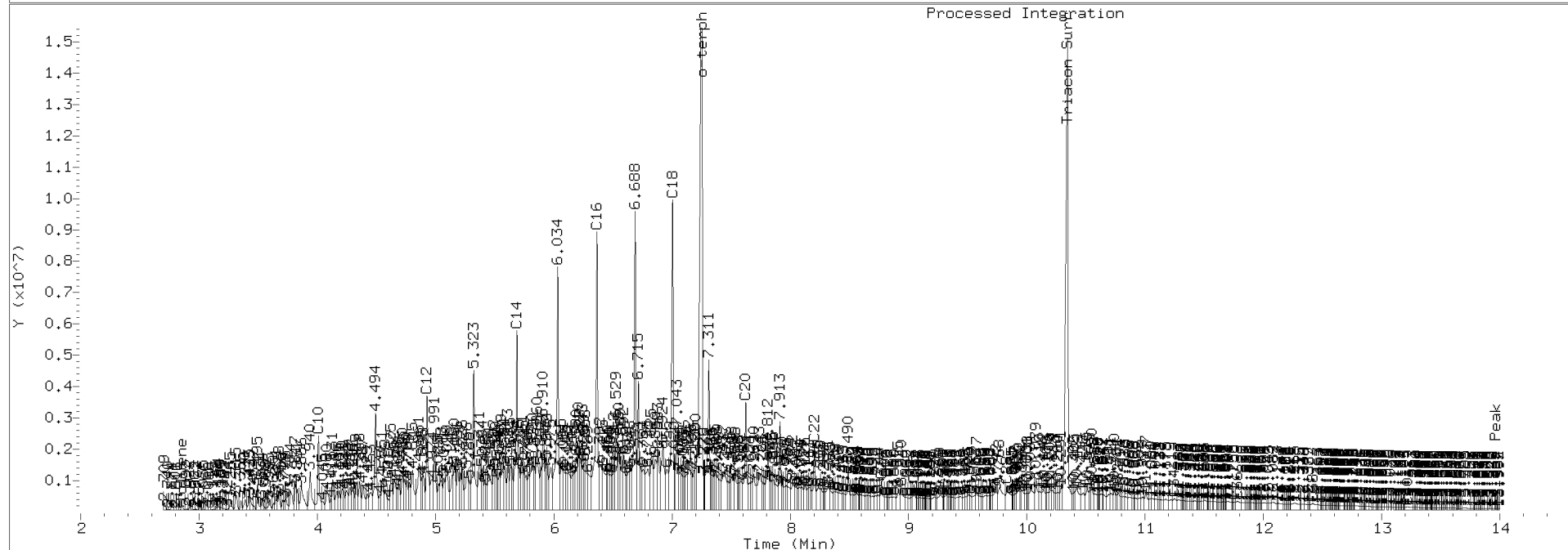
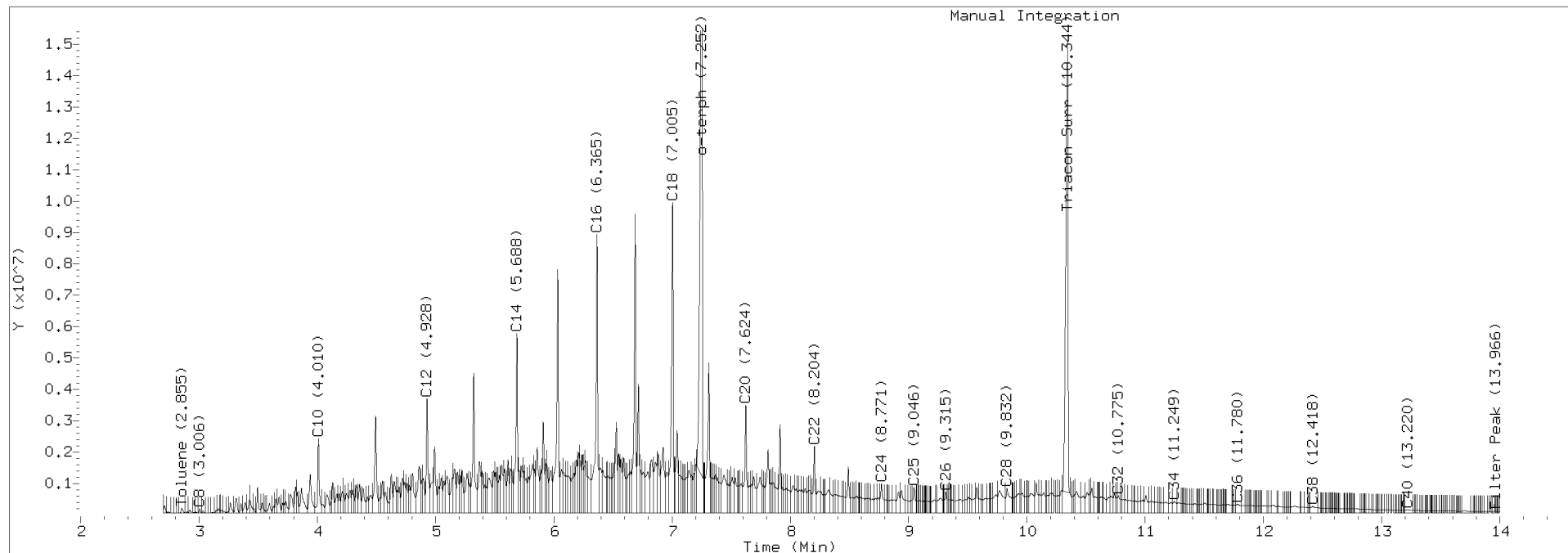
Surrogate	Area	Amount
o-Terphenyl	24928182	103.6
Triacontane	18013325	104.8

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2413.D Injection: 24-JUN-2022 13:17

Lab ID: BKF0468-MS1



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2414.D

Date: 24-JUN-2022 13:38

Client ID:

Sample Info: BKF0468-HSD1

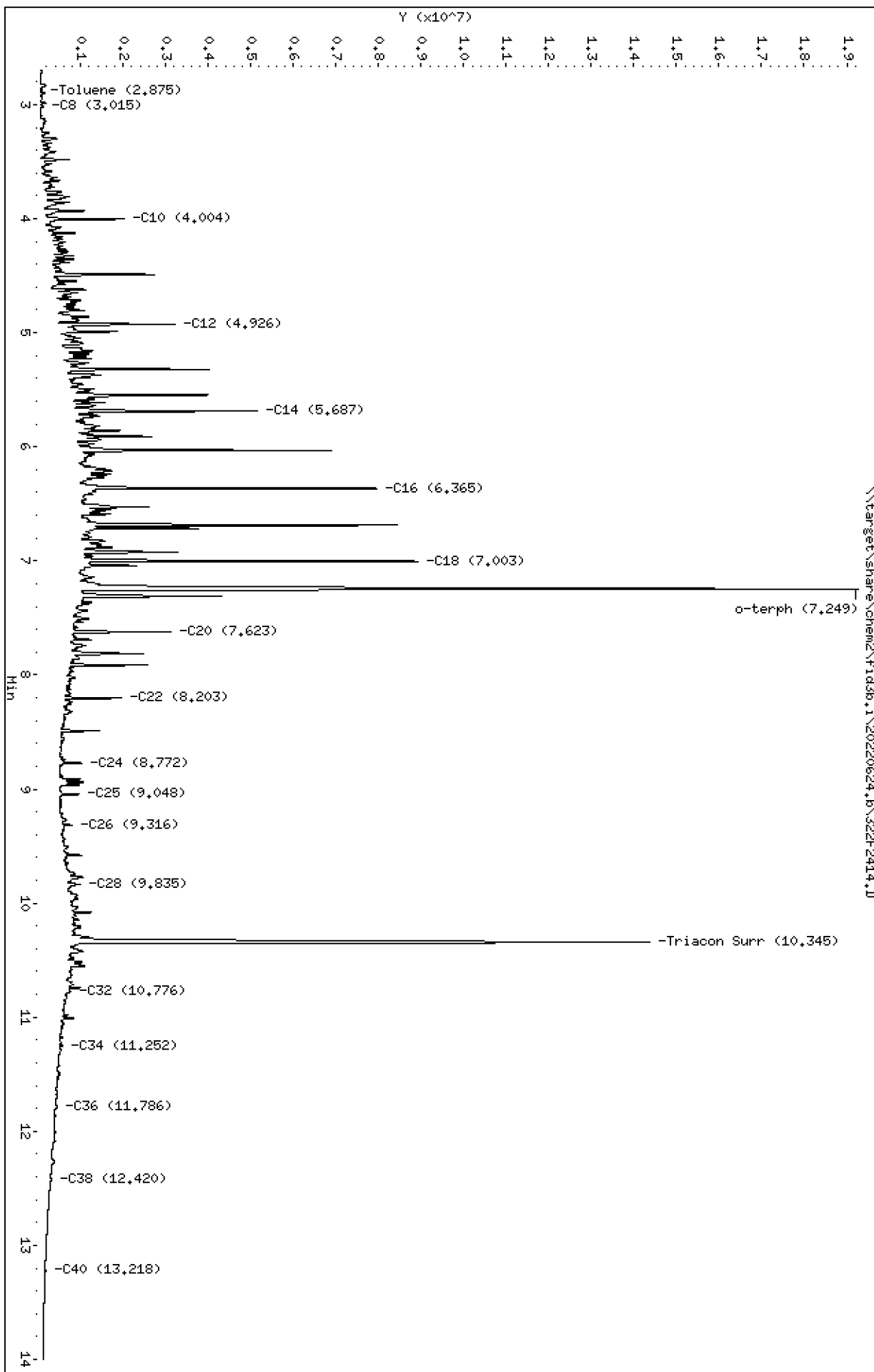
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2414.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: BKF0468-MSD1  
Client ID:  
Injection: 24-JUN-2022 13:38  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.875	0.017	35375	33614	WATPHG	(Tol-C12)	46804140	260.8
C8	3.015	0.004	76361	68636	WATPHD	(C12-C24)	253810973	1472.0
C10	4.004	-0.007	1971908	1968611	WATPHM	(C24-C38)	119261436	960.7
C12	4.926	0.002	3163144	3341720	AK102	(C10-C25)	295724420	1451.2 M
C14	5.687	0.003	5102970	5421377	AK103	(C25-C36)	102393732	1077.8 M
C16	6.365	0.007	7887593	9251552	OR.DIES	(C10-C28)	326492684	1598.1 M
C18	7.003	0.011	8862239	9220810				
C20	7.623	0.018	3071856	3675258				
C22	8.203	0.002	1891804	2050969				
C24	8.772	-0.000	952669	1546636				
C25	9.048	-0.003	897014	1807258				
C26	9.316	-0.003	750858	1057302				
C28	9.835	-0.000	934516	2485487	IT.DIES	(C10-C24)	289617115	1424.1
C32	10.776	-0.003	722390	845348				
C34	11.252	-0.001	508607	1041453	CREOSOT	(C12-C22)	235634353	4579.7
Filter Peak	13.972	-0.000	53952	26942				
C36	11.786	-0.001	396770	1034479	BUNKERC	(C10-C38)	408878551	5385.2
o-terph	7.249	0.007	18118365	21326389	JET-A	(C10-C18)	202711806	1178.4
Triacon Surr	10.345	0.001	13404716	15659383				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

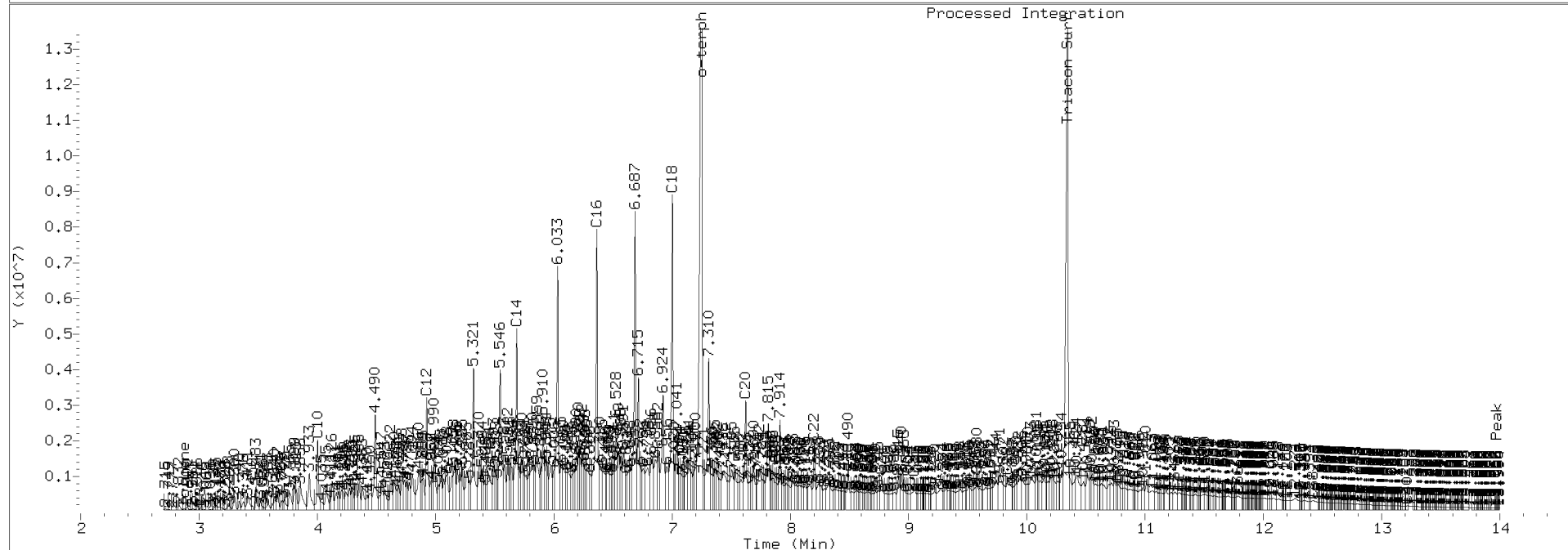
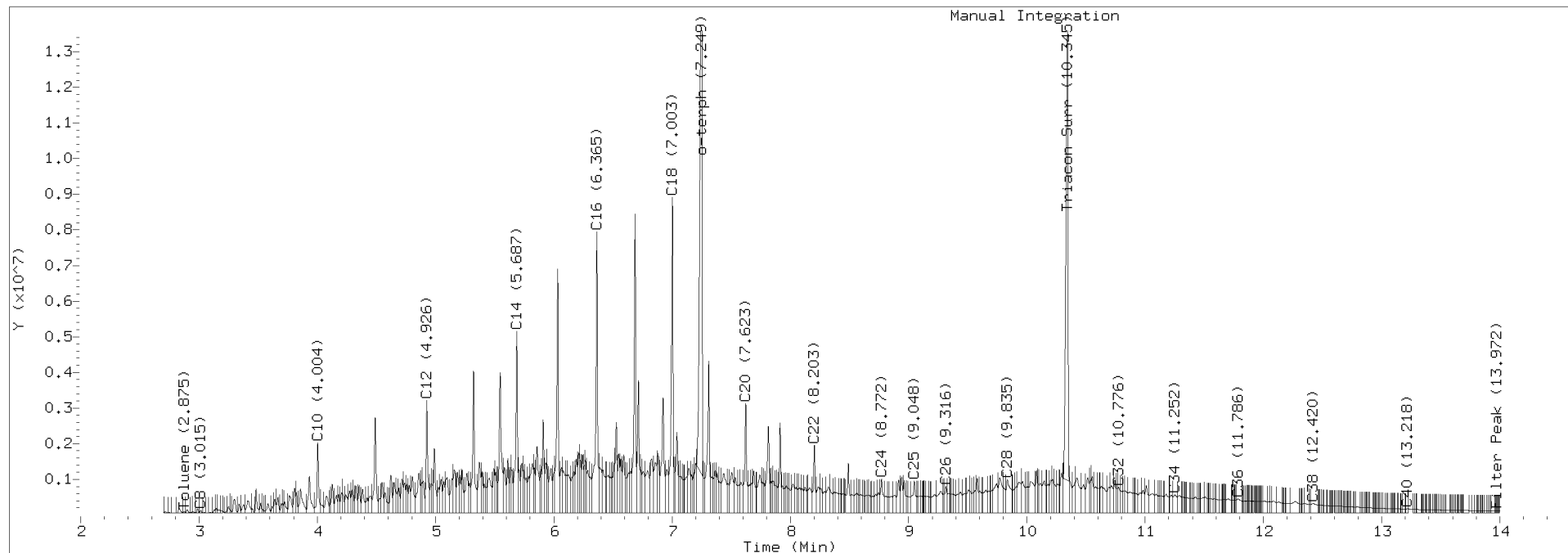
Surrogate	Area	Amount
o-Terphenyl	21326389	88.6
Triacontane	15659383	91.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2414.D Injection: 24-JUN-2022 13:38

Lab ID: BKF0468-MSD1









**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00013	Instrument:	FID4
Calibration Date:	01/06/2022	Column (1):	RTX-1

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc		Conc		Conc		Conc		Conc		Conc	



**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00013	Instrument:	FID4
Calibration Date:	01/06/2022	Column (1):	RTX-1

<b>COMPOUND</b>	<b>Mean RF</b>	<b>RF RSD</b>	<b>Linear COD</b>	<b>Quad COD</b>	<b>Limit Type &amp; Limit</b>	<b>Q</b>
Diesel Range Organics (C12-C24)	145750.5	5.6			RSD (20)	
Motor Oil Range Organics (C24-C38)	132579.1	4.9			RSD (20)	



ANALYSIS SEQUENCE

SKA0028

Instrument: FID4  
Calibration ID: FA00013

Printed: 1/7/2022 6:12:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-IBL1	QC		1		J002430			
SKA0028-IBL2	QC		2		J012751			
SKA0028-CAL1	QC		3		K000192			
SKA0028-CAL2	QC		4		K000193			
SKA0028-CAL3	QC		5		K000194			
SKA0028-CAL4	QC		6		K000195			
SKA0028-CAL5	QC		7		K000196			
SKA0028-CAL6	QC		8		J012752			
SKA0028-CAL7	QC		9		J011839			
SKA0028-CAL8	QC		10		J011838			
SKA0028-CAL9	QC		11		J011837			
SKA0028-CALA	QC		12		J011836			
SKA0028-CALB	QC		13		J011835			
SKA0028-CALC	QC		14		J010293			
SKA0028-SCV1	QC		15		J009677			
SKA0028-SCV2	QC		16		J012167			
SKA0028-CALD	QC		17		J012178			
SKA0028-CALE	QC		18		J012179			
SKA0028-CALF	QC		19		J012180			
SKA0028-CALG	QC		20		J012181			
SKA0028-CALH	QC		21		J012182			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



**ANALYSIS SEQUENCE**

**SKA0028**

Instrument: FID4  
Calibration ID: FA00013

**Printed: 1/7/2022 6:12:45PM**

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-CALI	QC		22		J009013			
SKA0028-SCV3	QC		23		J012184			

\_\_\_\_\_  
Samples Loaded By

\_\_\_\_\_  
Date

\_\_\_\_\_  
Data Processed By

\_\_\_\_\_  
Date



## GC LOG SUMMARY FOR DATABATCH - fid4a.i\20220106.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	06-JAN-2022	09:20	422A0601.D	1	RINSE	
2	06-JAN-2022	09:40	422A0602.D	1	RINSE	
3	06-JAN-2022	09:59	422A0603.D	1	SKA0028-IBL1	
4	06-JAN-2022	10:19	422A0604.D	1	SKA0028-IBL2	
5	06-JAN-2022	10:39	422A0605.D	1	SKA0028-ICV1	
6	06-JAN-2022	10:59	422A0606.D	1	SKA0028-ICV2	
7	06-JAN-2022	11:19	422A0607.D	1	BKA0056-BLK1	
8	06-JAN-2022	11:38	422A0608.D	1	BKA0056-BS1	
9	06-JAN-2022	11:58	422A0609.D	1	BKA0056-MRL1	
10	06-JAN-2022	12:18	422A0610.D	1	BKA0056-MRL2	
11	06-JAN-2022	12:38	422A0611.D	1	22A0041-01	
12	06-JAN-2022	12:58	422A0612.D	10	22A0041-01	
13	06-JAN-2022	13:17	422A0613.D	10	22A0041-02	
14	06-JAN-2022	13:37	422A0614.D	20	22A0041-01	
15	06-JAN-2022	13:57	422A0615.D	20	22A0041-02	
16	06-JAN-2022	14:17	422A0616.D	20	22A0041-03	
17	06-JAN-2022	14:37	422A0617.D	20	22A0041-04	
18	06-JAN-2022	14:56	422A0618.D	1	SKA0028-CCV1	
19	06-JAN-2022	15:16	422A0619.D	1	SKA0028-CCV2	
20	06-JAN-2022	17:04	422A0620.D	1	SKA0028-CAL1	
21	06-JAN-2022	17:24	422A0621.D	1	SKA0028-CAL2	
22	06-JAN-2022	17:44	422A0622.D	1	SKA0028-CAL3	
23	06-JAN-2022	18:04	422A0623.D	1	SKA0028-CAL4	
24	06-JAN-2022	18:23	422A0624.D	1	SKA0028-CAL5	
25	06-JAN-2022	18:43	422A0625.D	1	SKA0028-CAL6	
26	06-JAN-2022	19:03	422A0626.D	1	SKA0028-CAL7	
27	06-JAN-2022	19:23	422A0627.D	1	SKA0028-CAL8	
28	06-JAN-2022	19:43	422A0628.D	1	SKA0028-CAL9	
29	06-JAN-2022	20:02	422A0629.D	1	SKA0028-CALA	
30	06-JAN-2022	20:22	422A0630.D	1	SKA0028-CALB	
31	06-JAN-2022	20:42	422A0631.D	1	SKA0028-CALC	
32	06-JAN-2022	21:02	422A0632.D	1	SKA0028-SCV1	
33	06-JAN-2022	21:21	422A0633.D	1	SKA0028-SCV2	
34	06-JAN-2022	21:41	422A0634.D	1	SKA0028-CALD	
35	06-JAN-2022	22:01	422A0635.D	1	SKA0028-CALE	
36	06-JAN-2022	22:21	422A0636.D	1	SKA0028-CALF	
37	06-JAN-2022	22:40	422A0637.D	1	SKA0028-CALG	
38	06-JAN-2022	23:00	422A0638.D	1	SKA0028-CALH	
39	06-JAN-2022	23:20	422A0639.D	1	SKA0028-CALI	
40	06-JAN-2022	23:40	422A0640.D	1	SKA0028-SCV3	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 06-JAN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0920	422A0601.D	RINSE		1	NO MANUAL INTEGRATION
0940	422A0602.D	RINSE		1	NO MANUAL INTEGRATION
0959	422A0603.D	SKA0028-IBL1		1	Toluene,
1019	422A0604.D	SKA0028-IBL2		1	NO MANUAL INTEGRATION
1039	422A0605.D	SKA0028-ICV1		1	o-terph,
1059	422A0606.D	SKA0028-ICV2		1	Triacon Surr,
1119	422A0607.D	BKA0056-BLK1		1	NO MANUAL INTEGRATION
1138	422A0608.D	BKA0056-BS1		1	o-terph,
1158	422A0609.D	BKA0056-MRL1		1	o-terph, Triacon Surr,
1218	422A0610.D	BKA0056-MRL2		1	o-terph, Triacon Surr,
1238	422A0611.D	22A0041-01		1	o-terph,
1258	422A0612.D	22A0041-01		10	Triacon Surr,
1317	422A0613.D	22A0041-02		10	NO MANUAL INTEGRATION
1337	422A0614.D	22A0041-01		20	o-terph, Triacon Surr,
1357	422A0615.D	22A0041-02		20	o-terph, Triacon Surr,
1417	422A0616.D	22A0041-03		20	o-terph, Triacon Surr,
1437	422A0617.D	22A0041-04		20	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1456	422A0618.D	SKA0028-CCV1		1	o-terph,
1516	422A0619.D	SKA0028-CCV2		1	NO MANUAL INTEGRATION
1704	422A0620.D	SKA0028-CAL1		1	o-terph,
1724	422A0621.D	SKA0028-CAL2		1	o-terph,
1744	422A0622.D	SKA0028-CAL3		1	o-terph,
1804	422A0623.D	SKA0028-CAL4		1	o-terph,
1823	422A0624.D	SKA0028-CAL5		1	o-terph,
1843	422A0625.D	SKA0028-CAL6		1	o-terph,
1903	422A0626.D	SKA0028-CAL7		1	Triacon Surr,
1923	422A0627.D	SKA0028-CAL8		1	Triacon Surr,
1943	422A0628.D	SKA0028-CAL9		1	Triacon Surr,
2002	422A0629.D	SKA0028-CALA		1	Triacon Surr,
2022	422A0630.D	SKA0028-CALB		1	Triacon Surr,
2042	422A0631.D	SKA0028-CALC		1	Triacon Surr,
2102	422A0632.D	SKA0028-SCV1		1	NO MANUAL INTEGRATION
2121	422A0633.D	SKA0028-SCV2		1	NO MANUAL INTEGRATION
2141	422A0634.D	SKA0028-CALD		1	Triacon Surr,
2201	422A0635.D	SKA0028-CALE		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

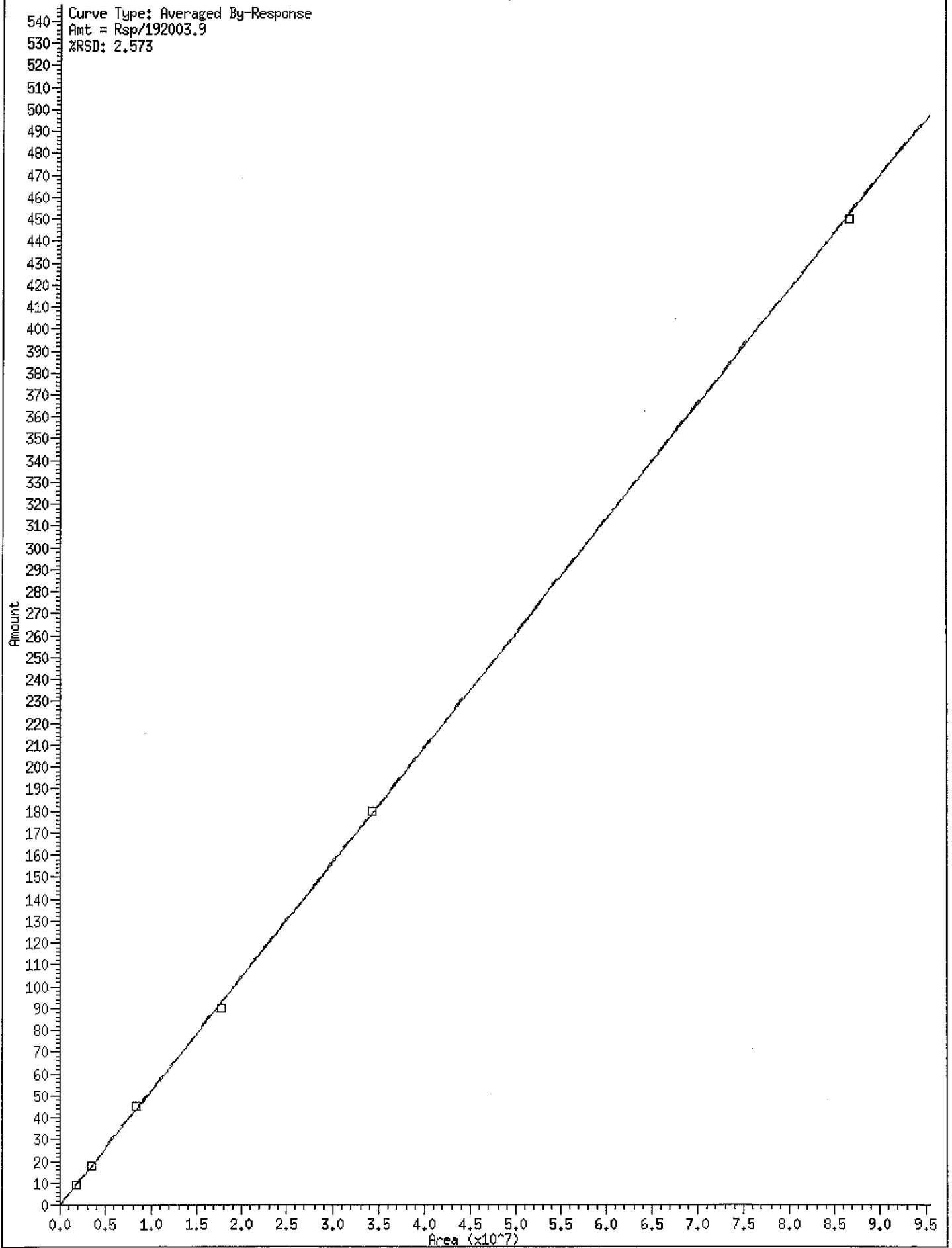
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2221	422A0636.D	SKA0028-CALF		1	Triacon Surr,
2240	422A0637.D	SKA0028-CALG		1	Triacon Surr,
2300	422A0638.D	SKA0028-CALH		1	Triacon Surr,
2320	422A0639.D	SKA0028-CALI		1	Triacon Surr,
2340	422A0640.D	SKA0028-SCV3		1	Triacon Surr,

Security Status Report

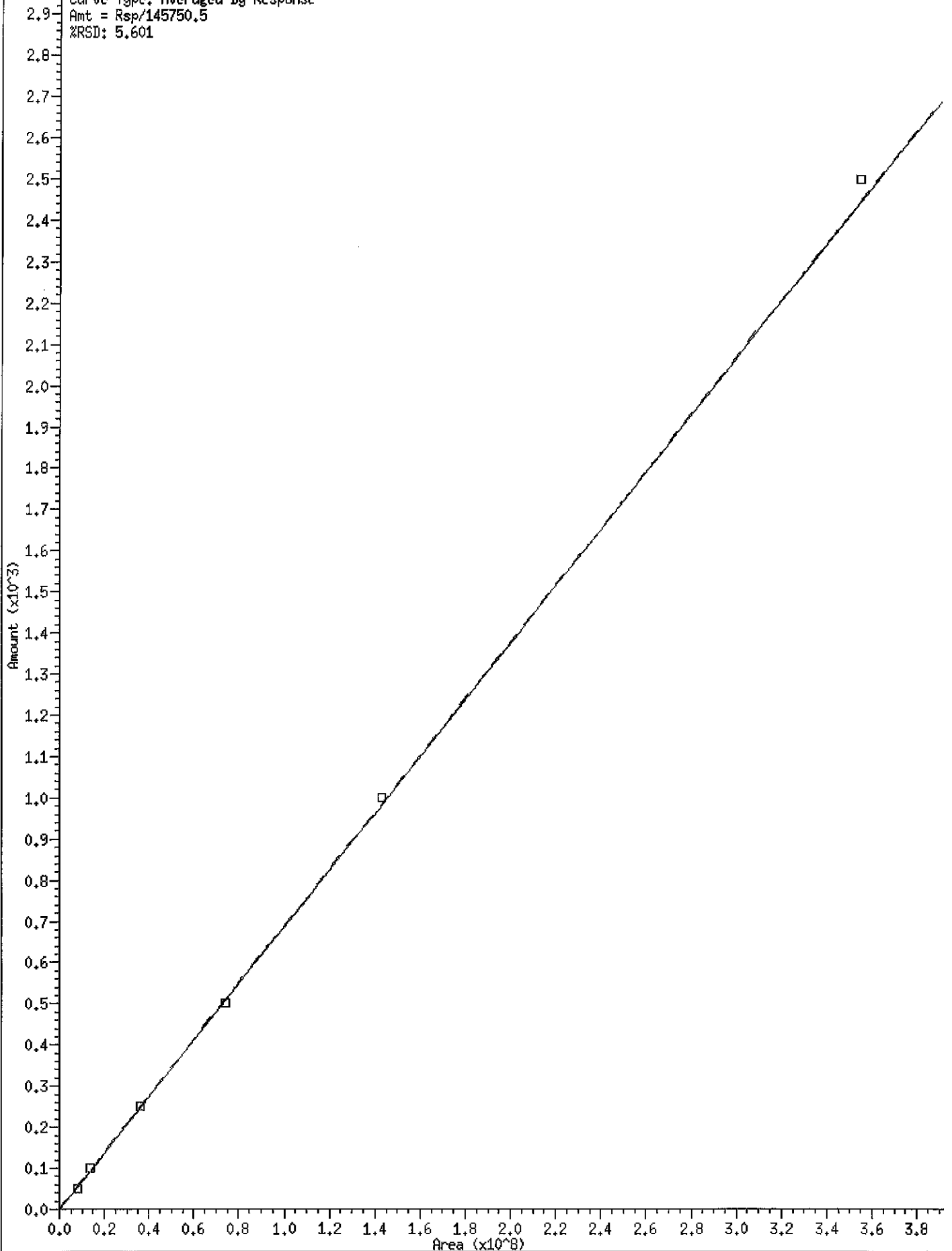
Date: 07-Jan-2022 18:09

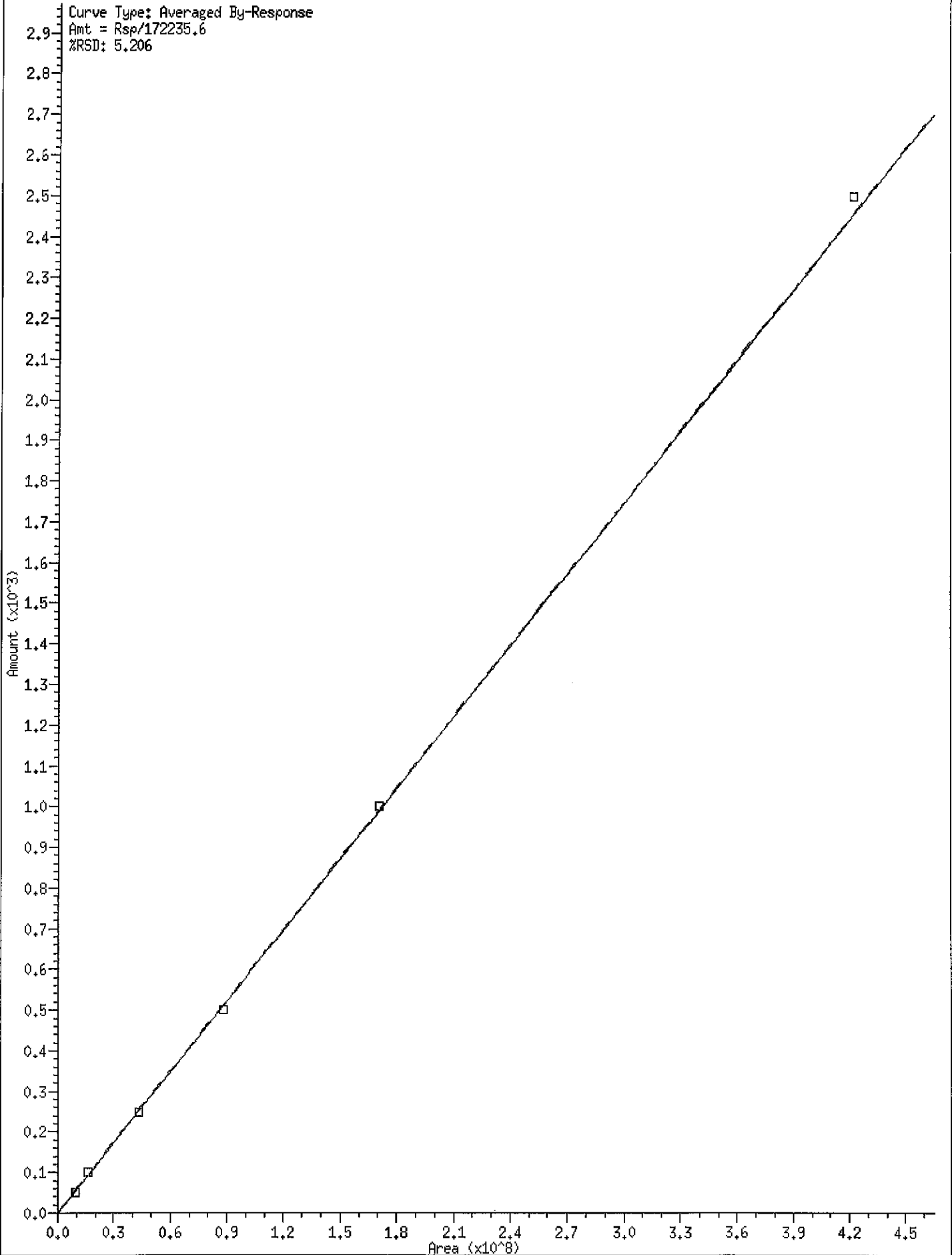
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422A0603.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0606.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0607.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0612.D	Data Locked	tokala,	07-Jan-2022	17:54
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8 o-terph

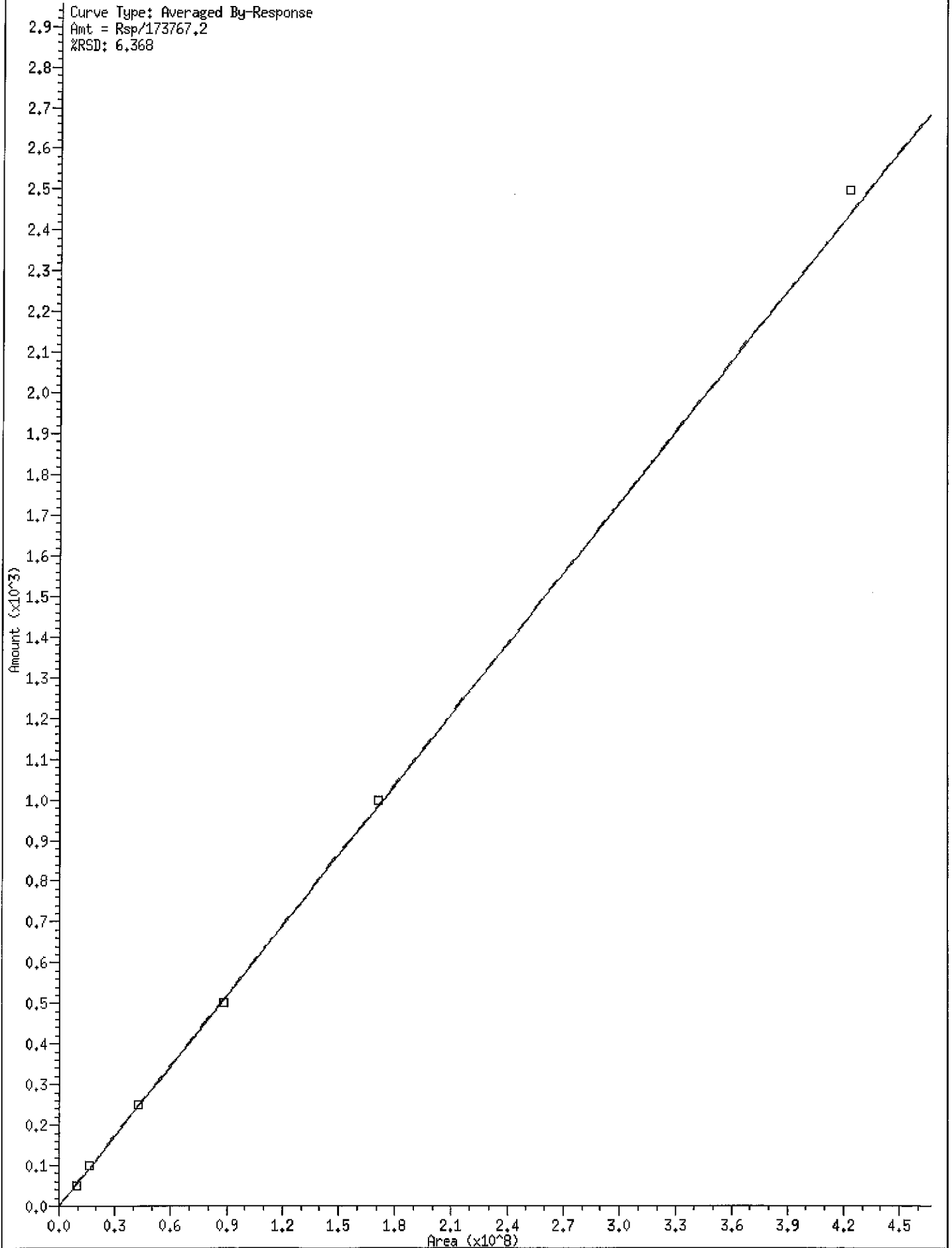


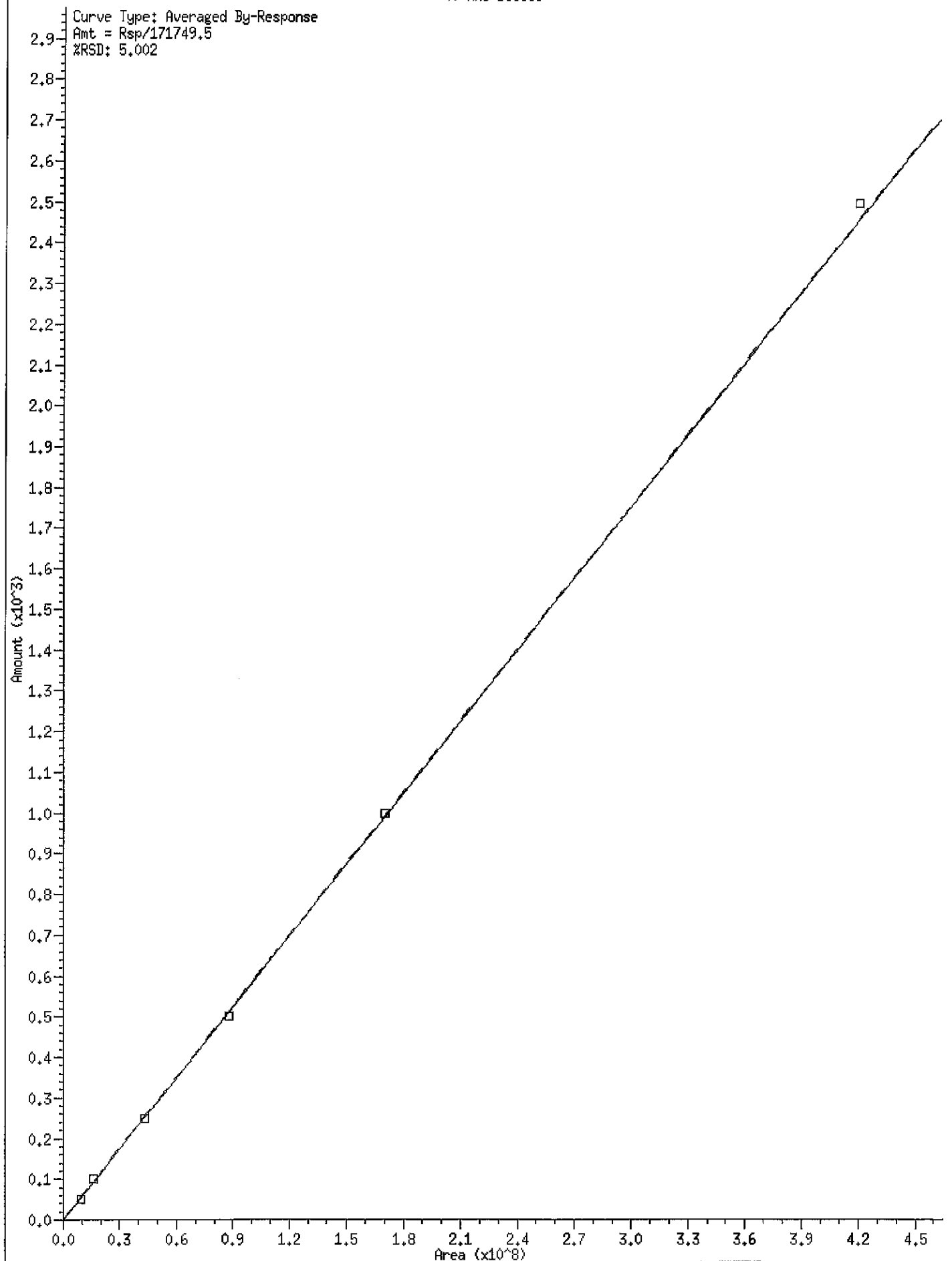
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%RSD: 5.601

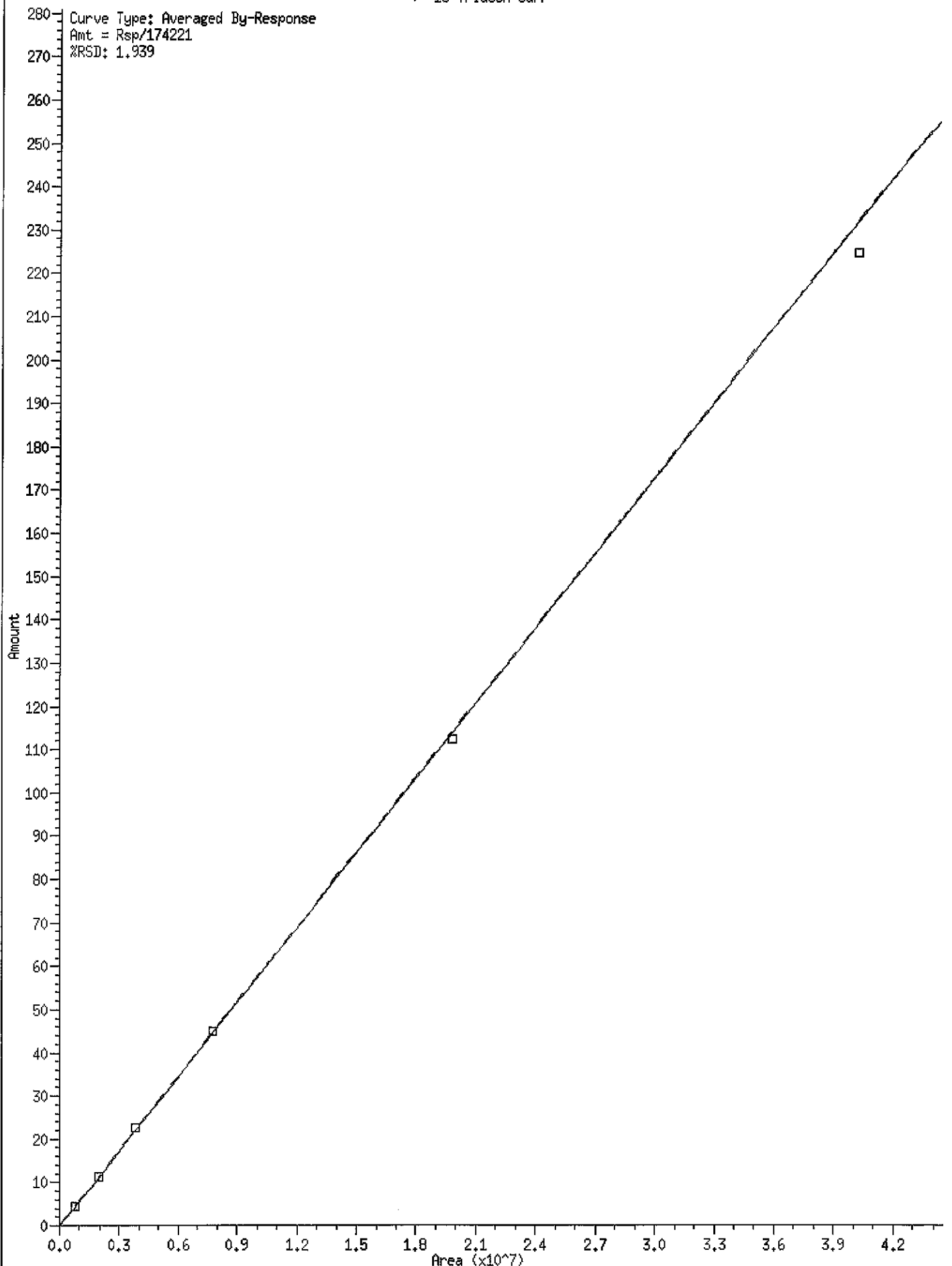




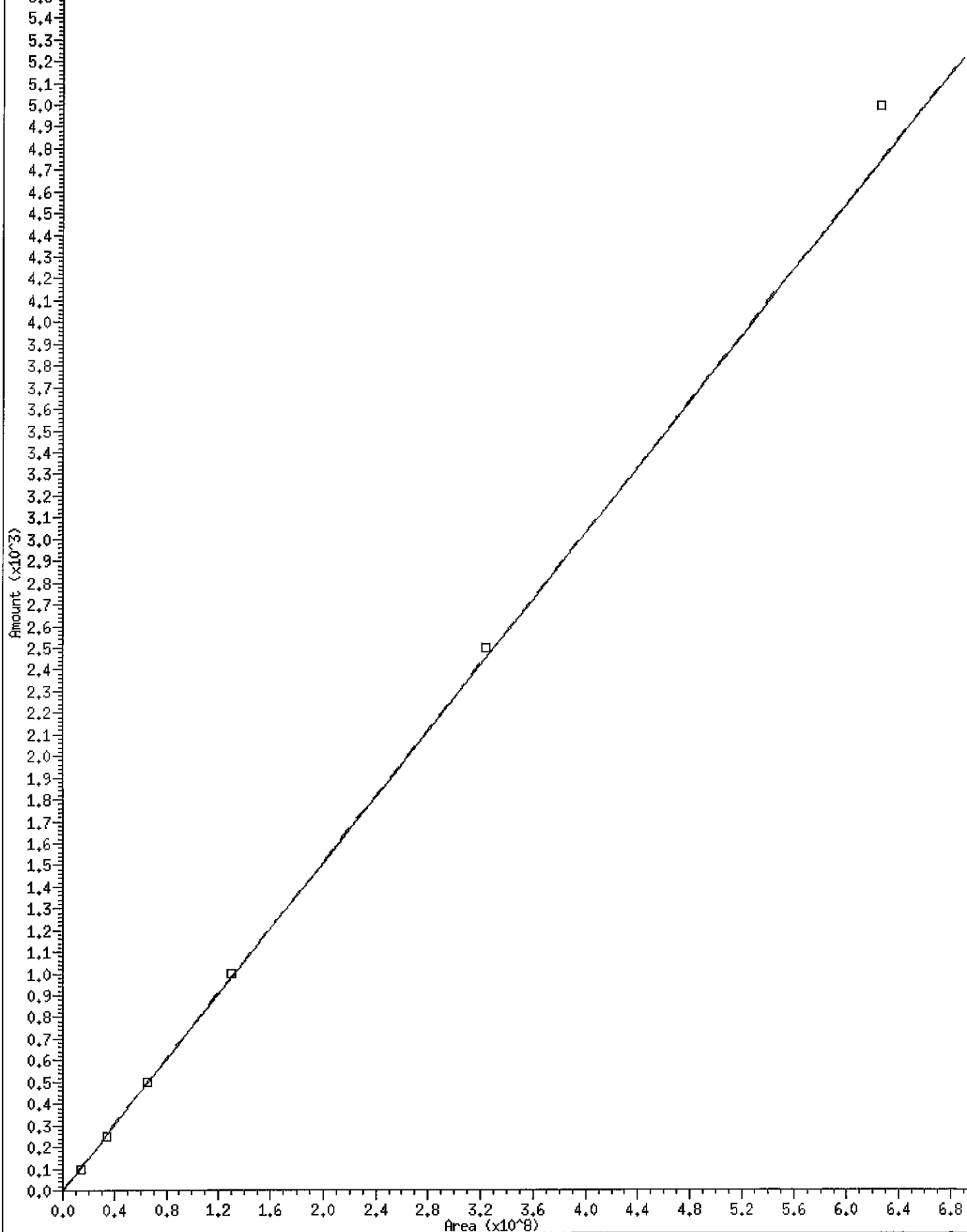


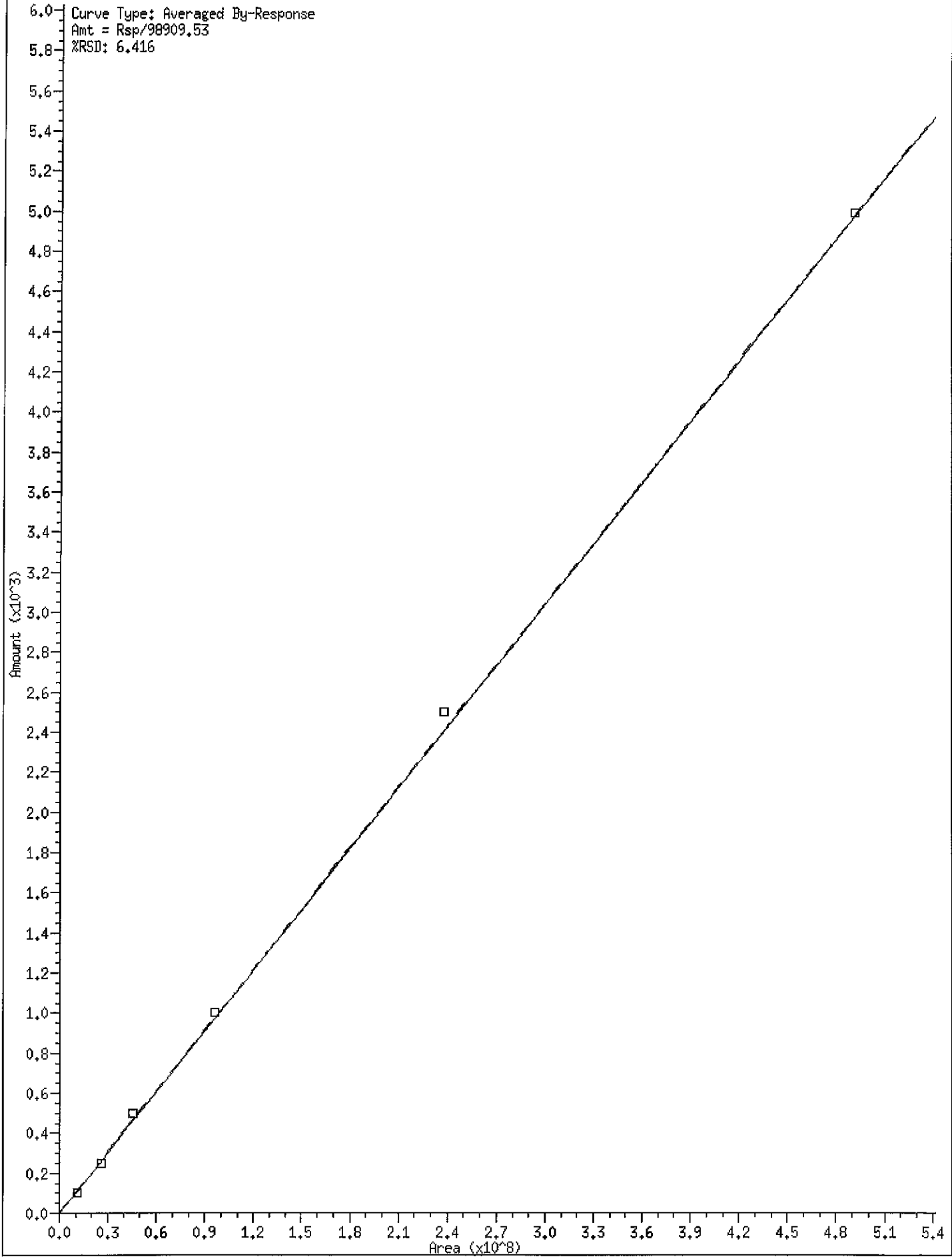






5.7 Curve Type: Averaged By-Response  
5.6 Amt = Rsp/132579.1  
5.5 %RSD: 4.906





ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

Diesel RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0620 422A0621 422A0622 422A0623 422A0624 422A0625
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 17:04 17:24 17:44 18:04 18:23 18:43

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.283	9.287	9.296	9.286	9.291	9.292	9.290	9.240-9.340	9.289	0.004
16 C32	9.733	9.728	9.728	9.726	9.729	9.731	9.730	9.680-9.780	9.729	0.002
17 C34	10.163	10.167	10.166	10.171	10.169	10.165	10.167	10.117-10.217	10.167	0.003
18 Filter Peak	13.972	13.972	13.971	13.969	13.977	13.974	13.973	13.873-14.073	13.973	0.003
19 C36	10.580	10.580	10.581	10.581	10.578	10.583	10.581	10.531-10.631	10.580	0.001
20 C38	10.991	10.991	10.988	10.991	10.988	10.988	10.989	10.939-11.039	10.989	0.002
21 C40	11.462	11.464	11.455	11.458	11.458	11.464	11.460	11.410-11.510	11.460	0.004
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\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

Motor Oil RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0626 422A0627 422A0628 422A0629 422A0630 422A0631
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 19:03 19:23 19:43 20:02 20:22 20:42

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_



ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.260	9.263	9.269	9.277	9.296	9.319	9.290	9.240-9.340	9.281	0.022
16 C32	9.725	9.726	9.731	9.731	9.731	9.734	9.730	9.680-9.780	9.730	0.004
17 C34	10.169	10.164	10.171	10.167	10.171	10.170	10.167	10.117-10.217	10.169	0.003
18 Filter Peak	13.974	13.970	13.970	13.976	13.973	13.976	13.973	13.873-14.073	13.973	0.002
19 C36	10.580	10.578	10.577	10.587	10.580	10.579	10.581	10.531-10.631	10.580	0.004
20 C38	10.985	10.990	10.987	10.988	10.995	10.994	10.989	10.939-11.039	10.990	0.004
21 C40	11.462	11.459	11.459	11.461	11.461	11.457	11.460	11.410-11.510	11.460	0.002
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\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

AK103 RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0634 422A0635 422A0636 422A0637 422A0638 422A0639
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 21:41 22:01 22:21 22:40 23:00 23:20

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.262	9.264	9.268	9.276	9.294	9.316	9.290	9.240-9.340	9.280	0.021
16 C32	9.727	9.733	9.727	9.728	9.737	9.730	9.730	9.680-9.780	9.730	0.004
17 C34	10.166	10.167	10.168	10.168	10.167	10.169	10.167	10.117-10.217	10.168	0.001
18 Filter Peak	13.971	13.973	13.971	13.971	13.972	13.974	13.973	13.873-14.073	13.972	0.001
19 C36	10.585	10.578	10.583	10.581	10.582	10.583	10.581	10.531-10.631	10.582	0.002
20 C38	10.986	10.983	10.988	10.990	10.991	10.992	10.989	10.939-11.039	10.988	0.003
21 C40	11.466	11.462	11.463	11.460	11.462	11.459	11.460	11.410-11.510	11.462	0.002
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	+++++	+++++

Data File: \\target\share\chem2\fid4a,1\20220106.b\42240603.D

Date: 06-JAN-2022 09:59

Client ID:

Sample Info: SKR0028-IBL1

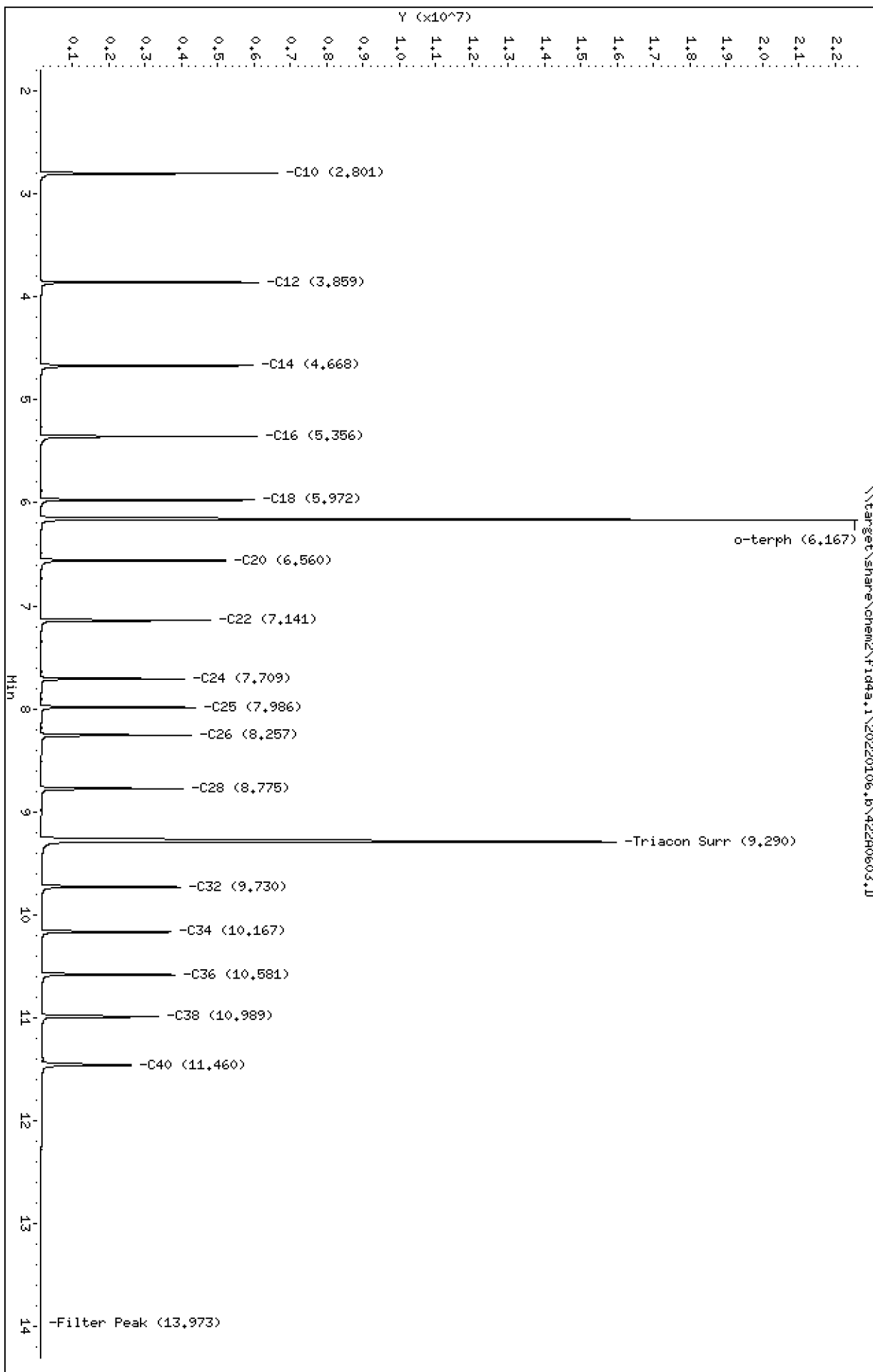
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0603.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL1  
Client ID:  
Injection: 06-JAN-2022 09:59  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

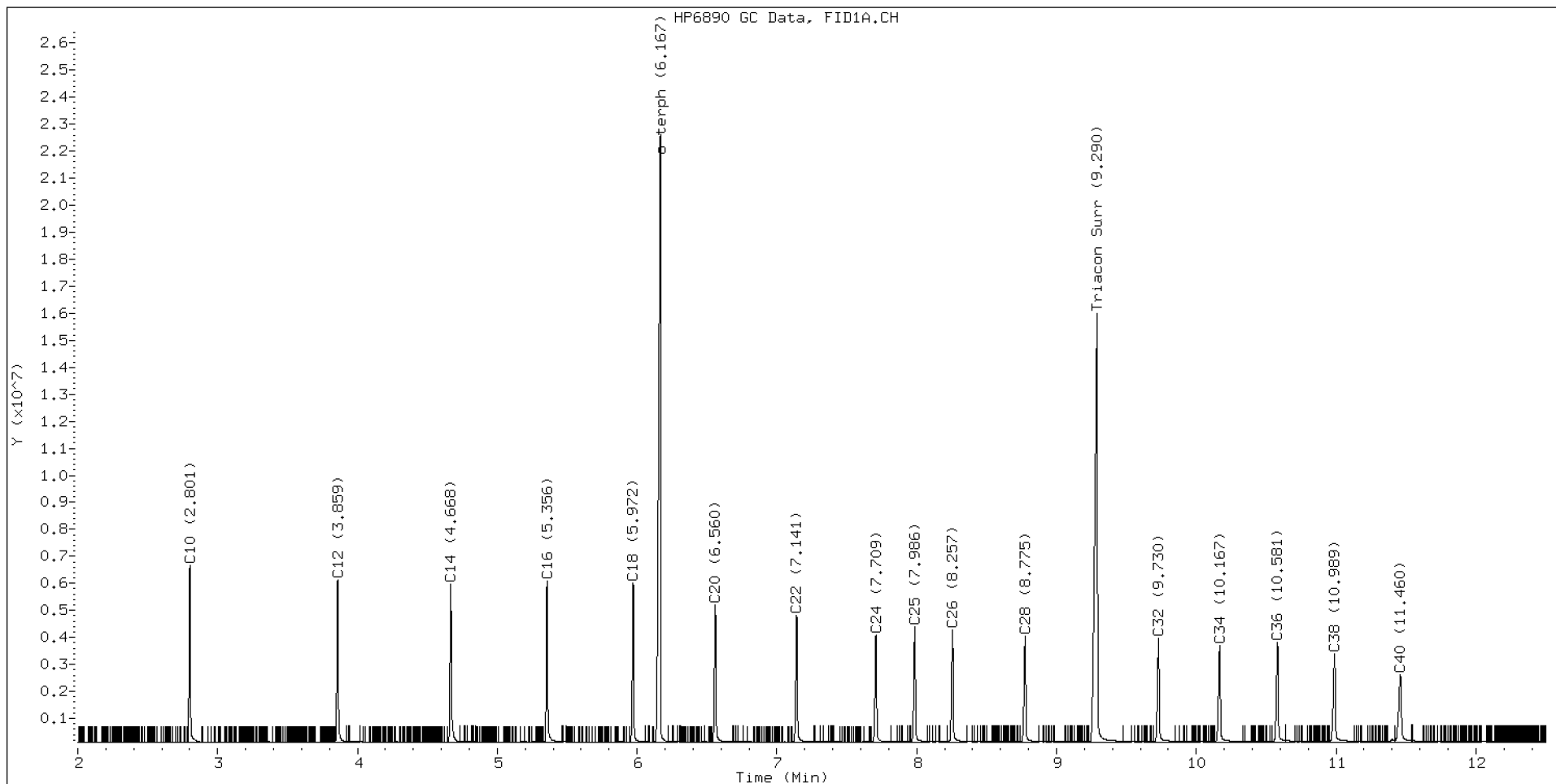
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	6713601	4039787	WATPHD	(C12-C24)	25039660	171.8
C10	2.801	0.000	6536883	4315633	WATPHM	(C24-C38)	28366853	214.0
C12	3.859	0.000	5996498	4131476	AK102	(C10-C25)	33798538	196.2
C14	4.668	0.000	5854462	4184820	AK103	(C25-C36)	23829494	240.9
C16	5.356	0.000	5963937	4127029	OR.DIES	(C10-C28)	45179025	260.0
C18	5.972	0.000	5885012	4061247				
C20	6.560	0.000	5093441	4004125				
C22	7.141	0.000	4686847	3888196				
C24	7.709	0.000	3978753	3286889				
C25	7.986	0.000	4279511	3648257				
C26	8.257	0.000	4166577	3725307				
C28	8.775	0.000	3937835	3595457				
C32	9.730	0.000	3839649	3755061				
C34	10.167	0.000	3575886	3656599				
Filter Peak	13.973	0.000	14079	6183				
C36	10.581	0.000	3708443	3634457				
C38	10.989	0.000	3260642	3846028				
C40	11.460	0.000	2490894	3636263				
o-terph	6.167	0.000	22482578	21984004				
Triacon Surr	9.290	0.000	15855592	21633183	NAS DIES	(C10-C24)	33658258	196.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	21984004	114.5
Triacontane	21633183	124.2

M Indicates the peak was manually integrated

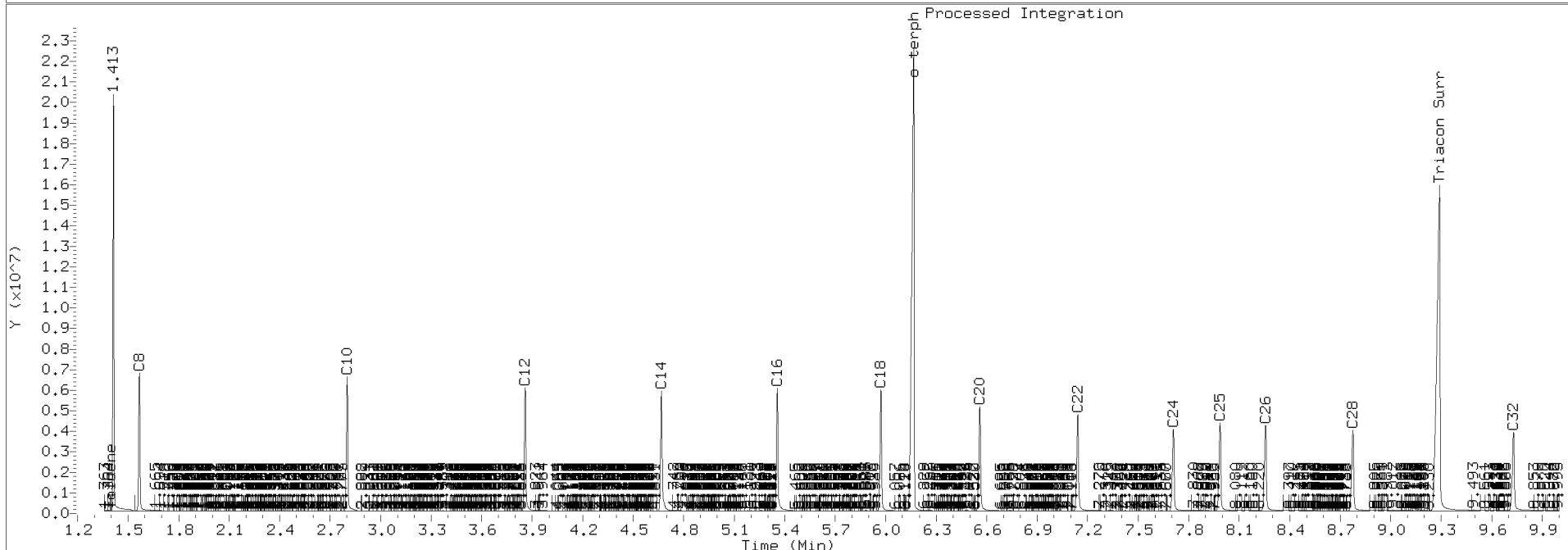
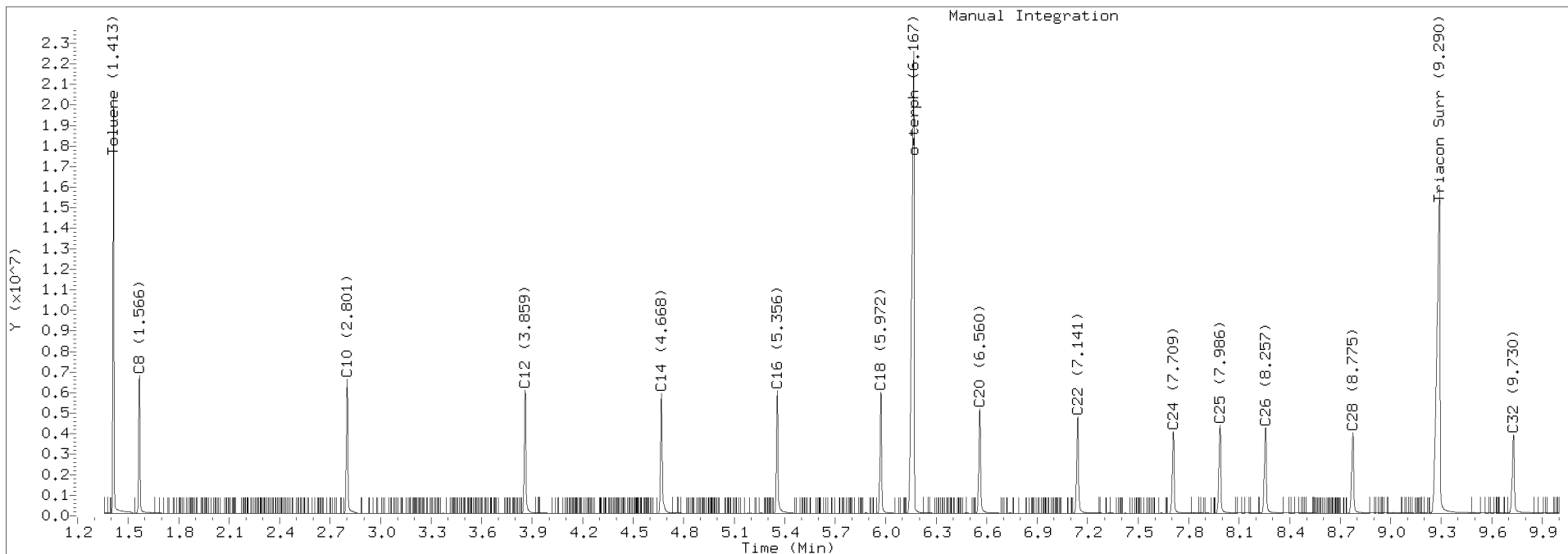
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0603.D Injection: 06-JAN-2022 09:59

Lab ID:SKA0028-IBL1



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240604.D

Date: 06-JAN-2022 10:19

Client ID:

Sample Info: SKR0028-IBL2

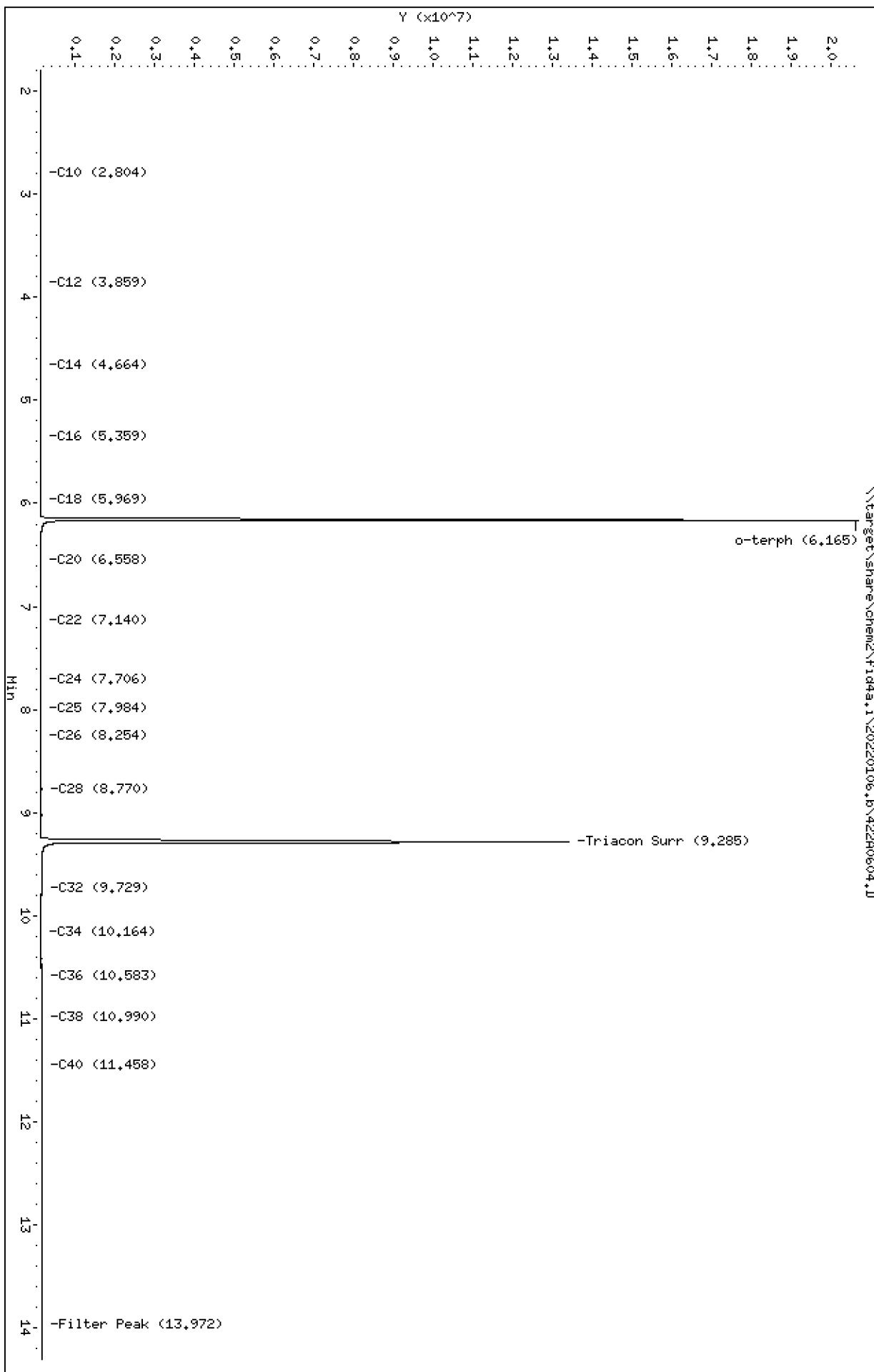
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0604.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL2  
Client ID:  
Injection: 06-JAN-2022 10:19  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

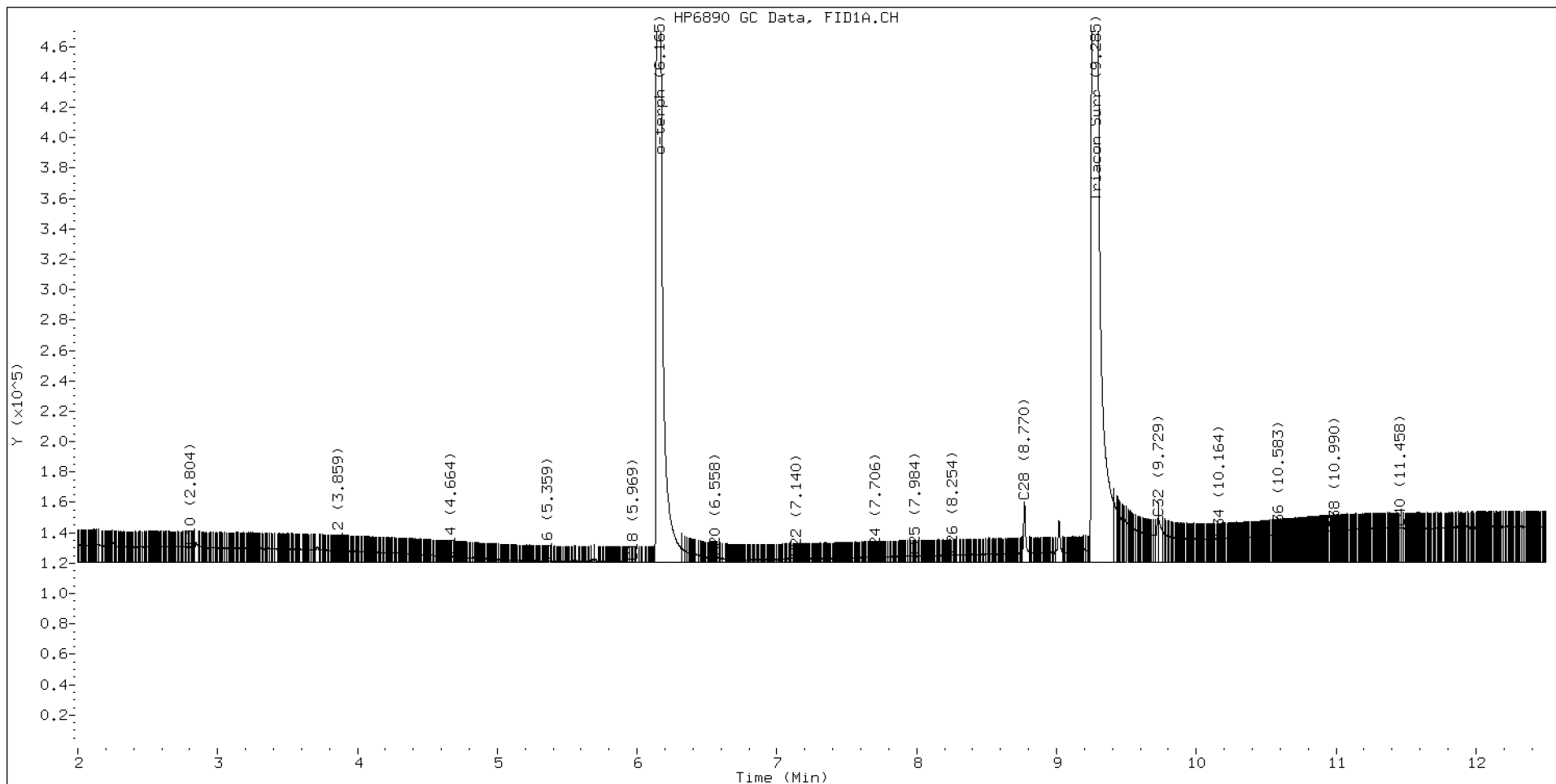
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.559	-0.008	19299	11444	WATPHD	(C12-C24)	622077	4.3
C10	2.804	0.003	10342	8454	WATPHM	(C24-C38)	2333932	17.6
C12	3.859	-0.000	7697	1914	AK102	(C10-C25)	1293098	7.5
C14	4.664	-0.004	4159	2417	AK103	(C25-C36)	1797549	18.2
C16	5.359	0.002	914	207	OR.DIES	(C10-C28)	1589947	9.1
C18	5.969	-0.003	462	129				
C20	6.558	-0.002	3676	1619				
C22	7.140	-0.001	2659	646				
C24	7.706	-0.003	3951	1720				
C25	7.984	-0.002	4536	2462				
C26	8.254	-0.004	5187	4697				
C28	8.770	-0.005	39782	48787				
C32	9.729	-0.001	29141	49217				
C34	10.164	-0.003	15846	10202				
Filter Peak	13.972	-0.001	22292	8869				
C36	10.583	0.001	18551	7386				
C38	10.990	0.001	21344	10622				
C40	11.458	-0.002	22810	13640				
o-terph	6.165	-0.002	20576644	20107672				
Triacon Surr	9.285	-0.004	13279811	16645751	NAS DIES	(C10-C24)	1251413	7.3

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	20107672	104.7
Triacotane	16645751	95.5

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240620.D

Date: 06-JAN-2022 17:04

Client ID:

Sample Info: SKR0028-CAL1

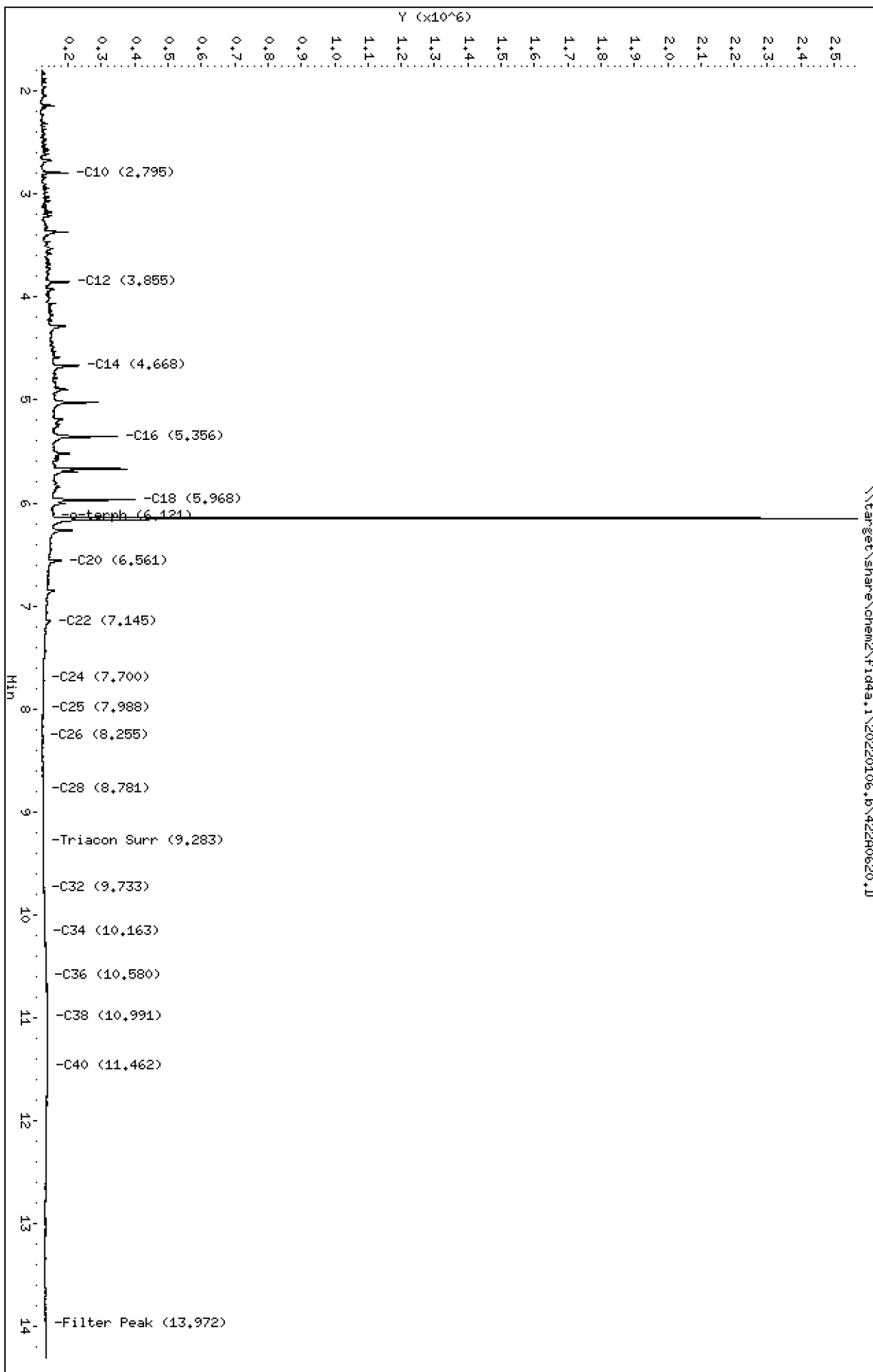
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0620.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL1  
Client ID:  
Injection: 06-JAN-2022 17:04  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

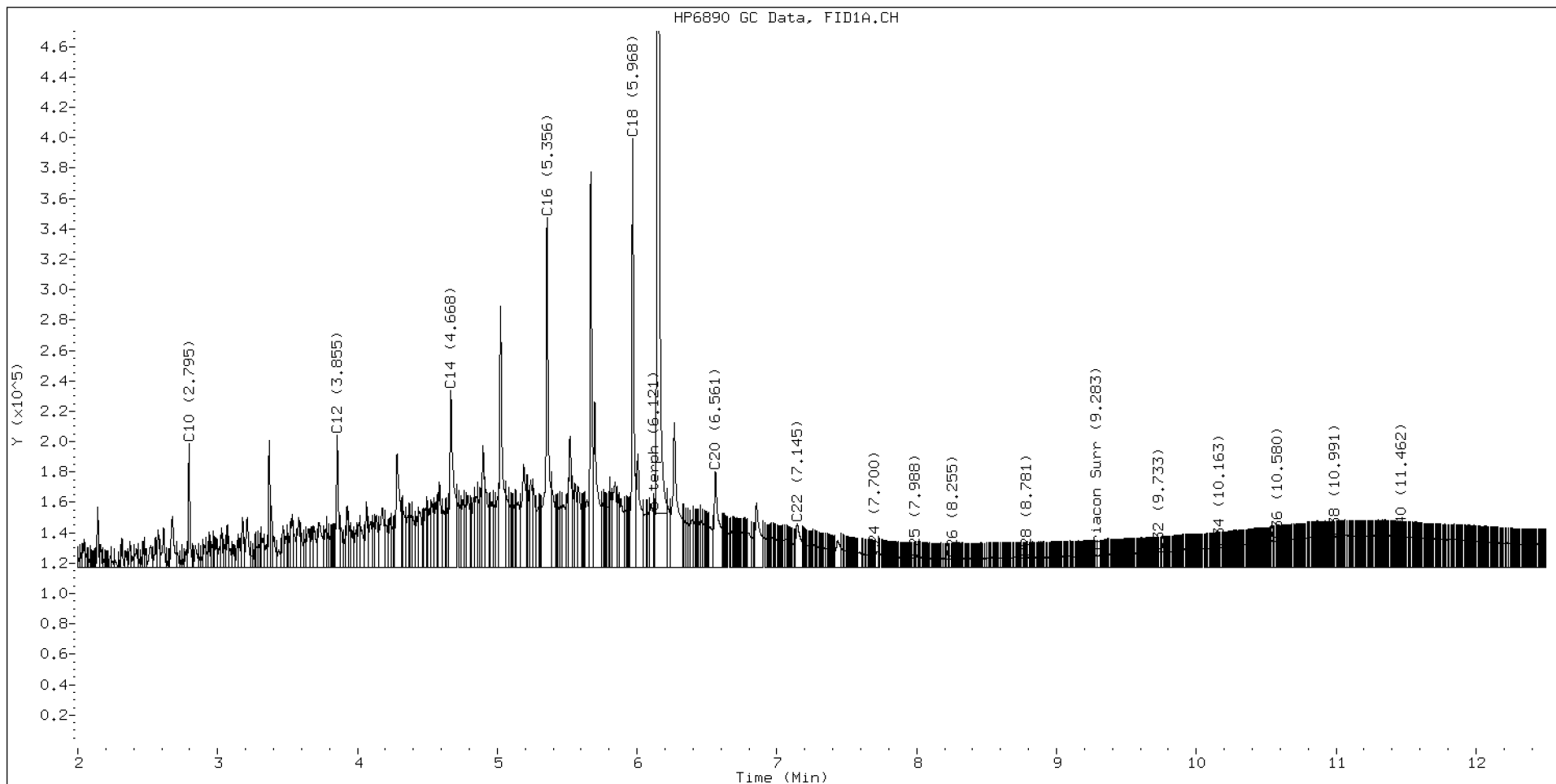
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.573	0.007	15338	20252	WATPHD	(C12-C24)	8028754	55.1
C10	2.795	-0.006	81672	65077	WATPHM	(C24-C38)	2037226	15.4
C12	3.855	-0.004	86965	104157	AK102	(C10-C25)	9339553	54.2
C14	4.668	-0.000	116967	216690	AK103	(C25-C36)	1483675	15.0
C16	5.356	-0.000	230714	351734	OR.DIES	(C10-C28)	9670423	55.7
C18	5.968	-0.004	282441	311477				
C20	6.561	0.001	63255	147690				
C22	7.145	0.004	29238	69293				
C24	7.700	-0.009	8237	3255				
C25	7.988	0.001	6644	1311				
C26	8.255	-0.002	5954	1181				
C28	8.781	0.005	6673	2975				
C32	9.733	0.003	10129	2011				
C34	10.163	-0.004	13326	7947				
Filter Peak	13.972	-0.001	14657	5117				
C36	10.580	-0.001	17688	3523				
C38	10.991	0.002	20312	5071				
C40	11.462	0.002	20702	9247				
o-terph	6.148	-0.019	2417598	1764034				
Triacon Surr	9.283	-0.006	8236	6415	NAS DIES	(C10-C24)	9264451	53.9

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1764034	9.2 M
Triacontane	6415	0.0

M Indicates the peak was manually integrated

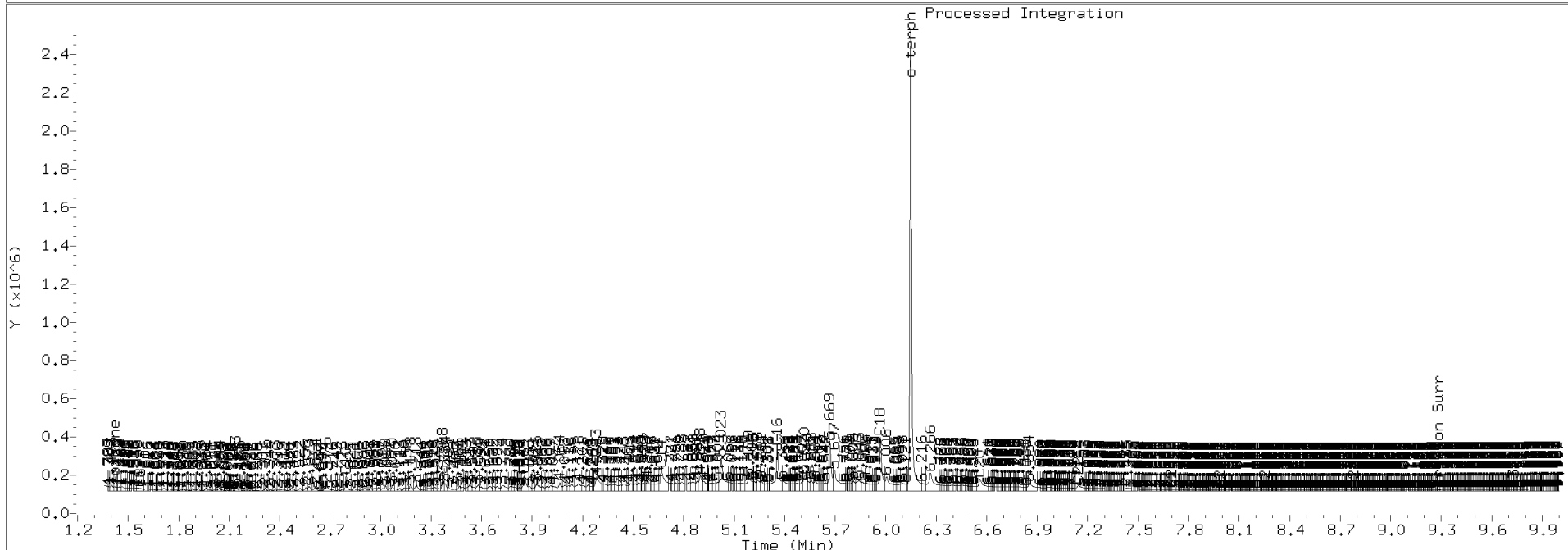
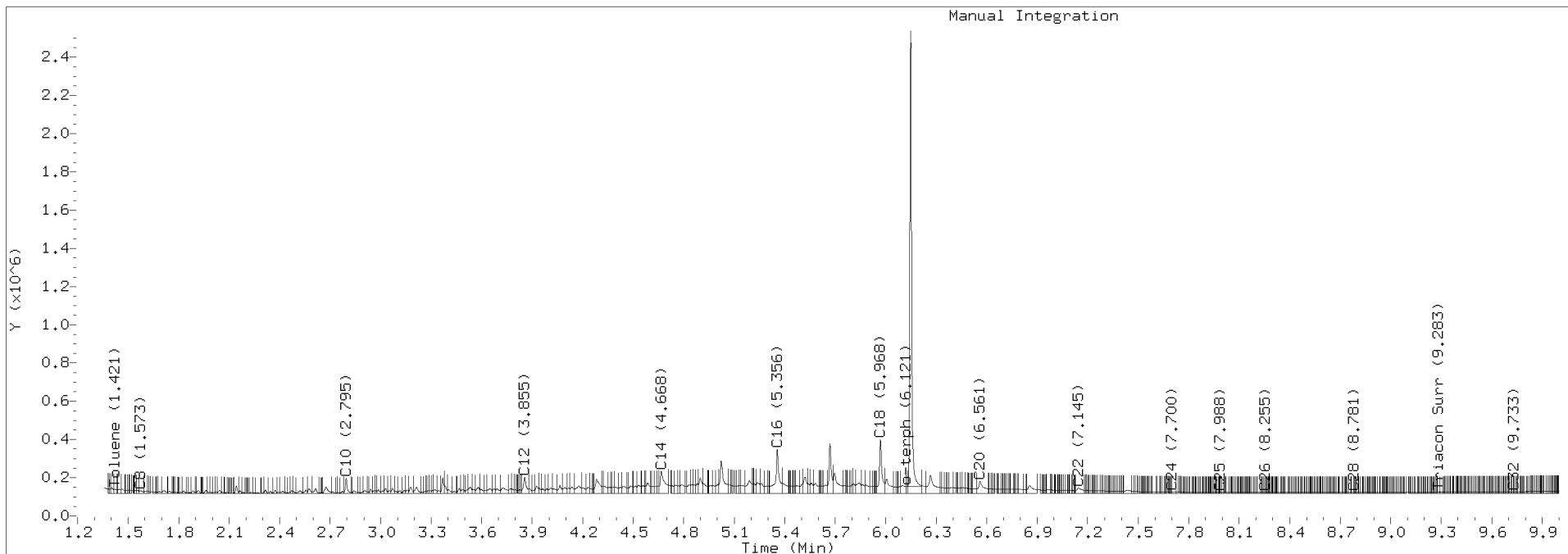
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0620.D Injection: 06-JAN-2022 17:04

Lab ID:SKA0028-CAL1



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240621.D

Date: 06-JAN-2022 17:24

Client ID:

Sample Info: SKR0028-CAL2

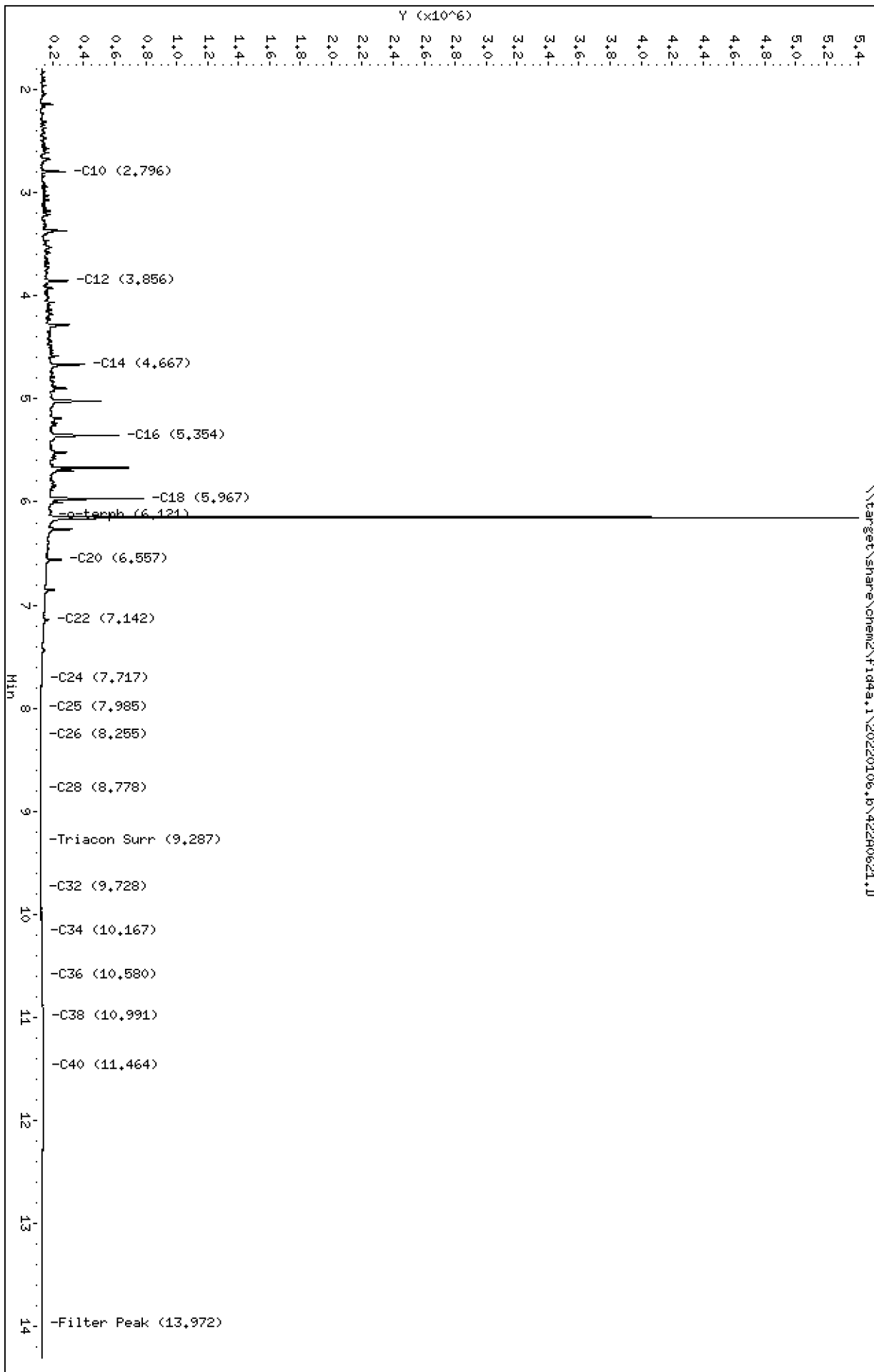
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0621.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL2  
Client ID:  
Injection: 06-JAN-2022 17:24  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.572	0.006	20786	18021	WATPHD	(C12-C24)	13661549	93.7
C10	2.796	-0.006	161152	124997	WATPHM	(C24-C38)	775894	5.9
C12	3.856	-0.003	179883	198743	AK102	(C10-C25)	15935433	92.5
C14	4.667	-0.001	282171	343474	AK103	(C25-C36)	446614	4.5
C16	5.354	-0.002	504309	583607	OR.DIES	(C10-C28)	15982185	92.0
C18	5.967	-0.005	660403	605900				
C20	6.557	-0.002	136222	204809				
C22	7.142	0.000	53551	109679				
C24	7.717	0.009	10621	25685				
C25	7.985	-0.001	2592	1028				
C26	8.255	-0.002	768	194				
C28	8.778	0.003	541	121				
C32	9.728	-0.001	2995	1187				
C34	10.167	-0.001	5541	2455				
Filter Peak	13.972	-0.001	6922	1721				
C36	10.580	-0.001	9867	3900				
C38	10.991	0.002	14550	8634				
C40	11.464	0.004	16024	4780				
o-terph	6.151	-0.016	5223845	3443943				
Triacon Surr	9.287	-0.002	1413	888	NAS DIES	(C10-C24)	15901683	92.6

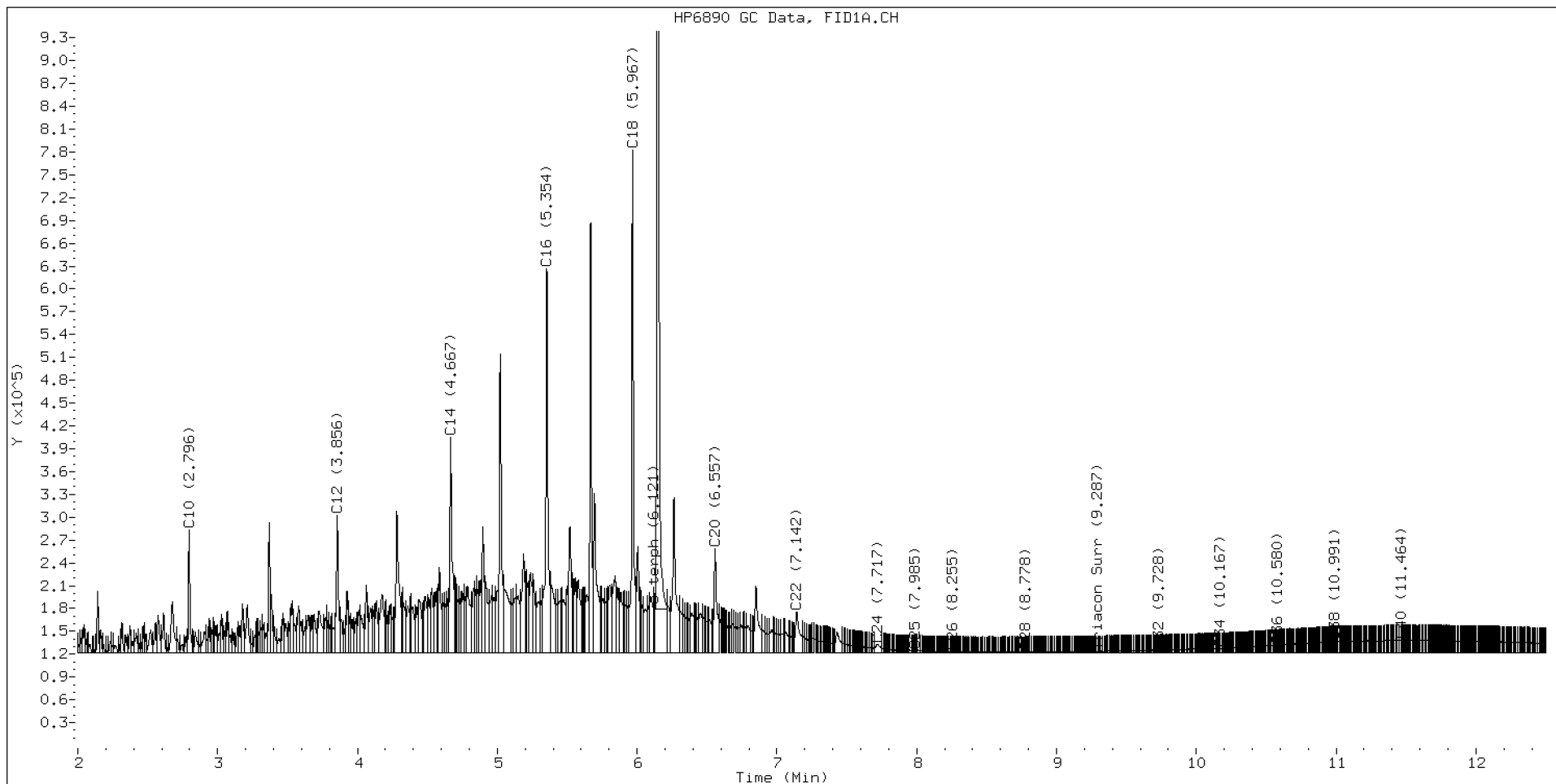
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	3443943	17.9 M
Triacontane	888	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

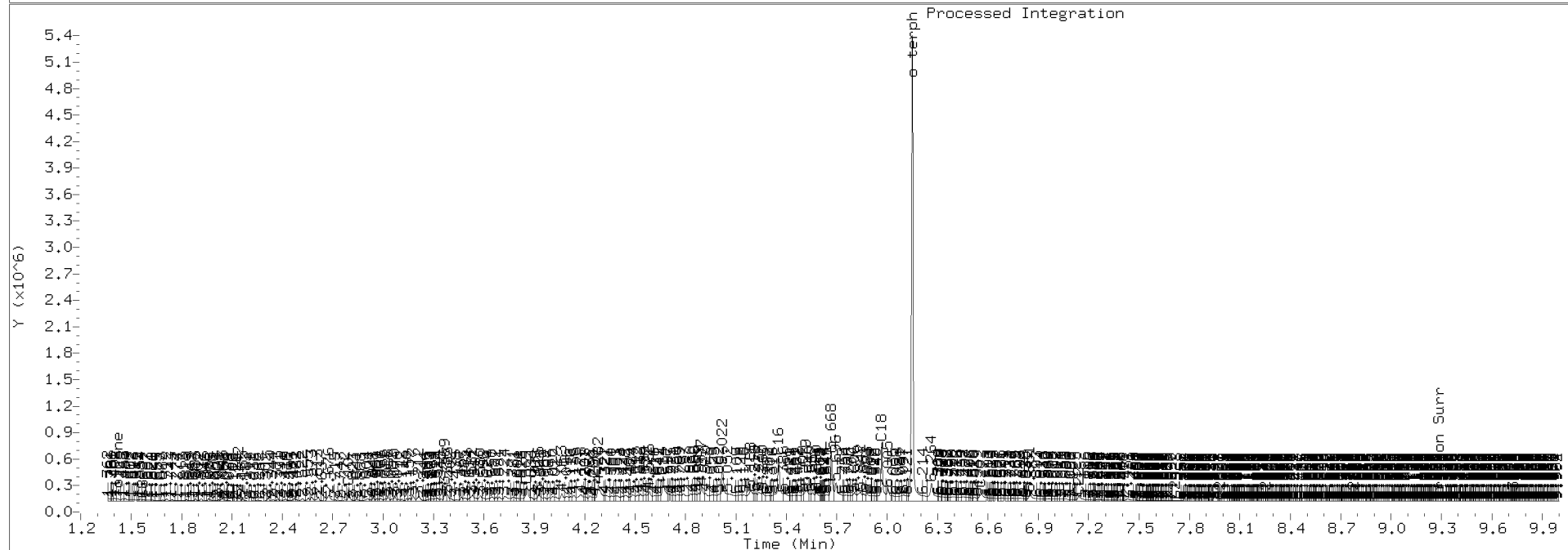
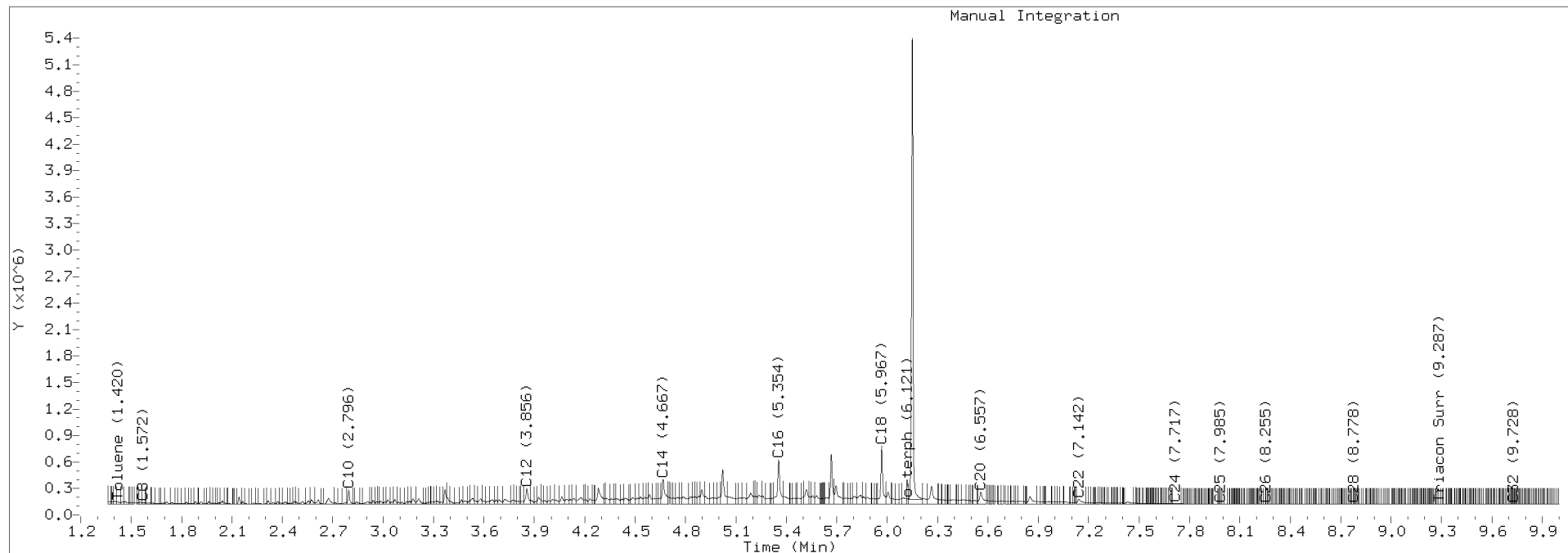




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0621.D Injection: 06-JAN-2022 17:24

Lab ID:SKA0028-CAL2



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240622.D

Date: 06-JAN-2022 17:44

Client ID:

Sample Info: SKR0028-CAL3

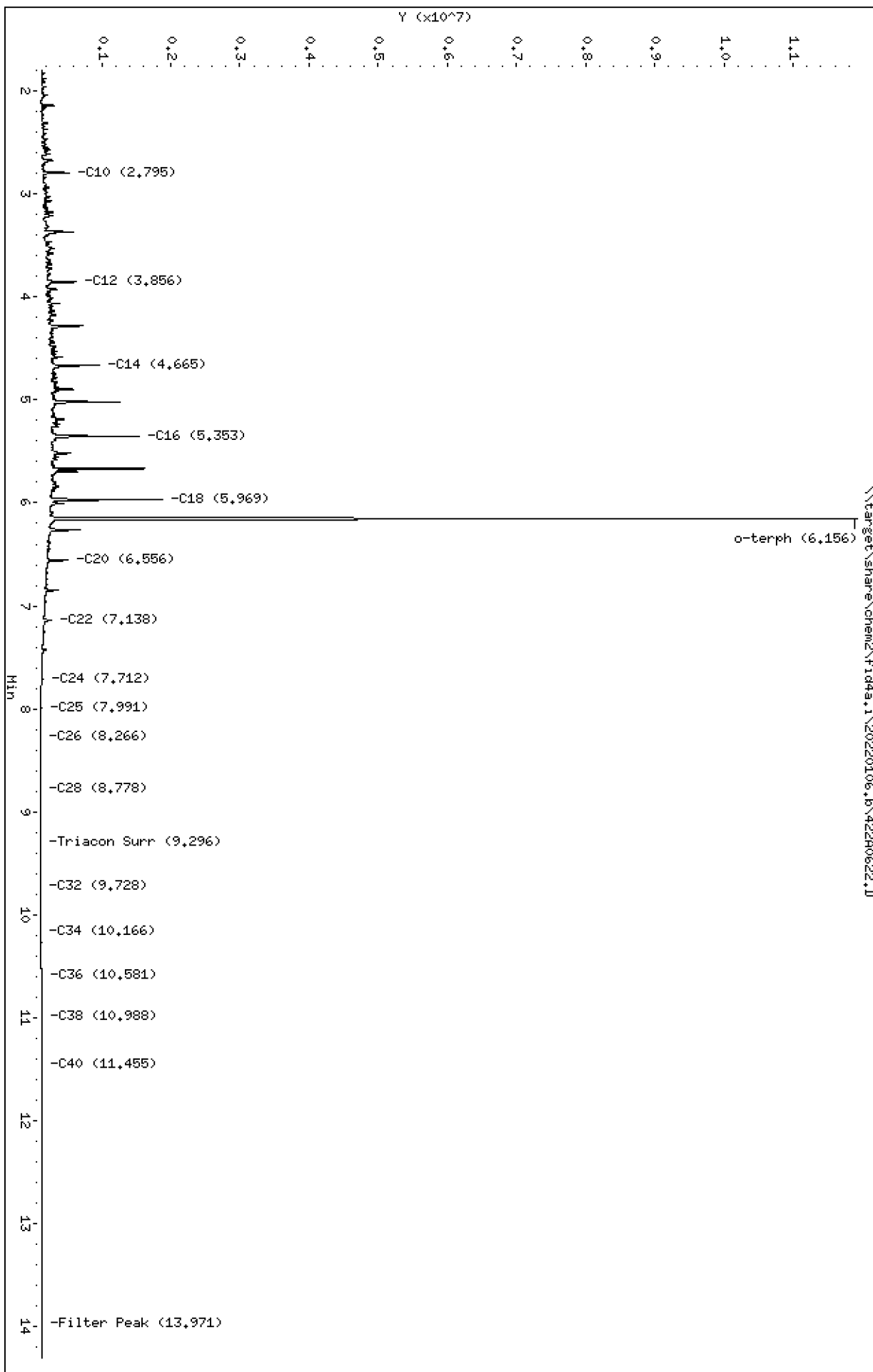
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0622.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL3  
Client ID:  
Injection: 06-JAN-2022 17:44  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

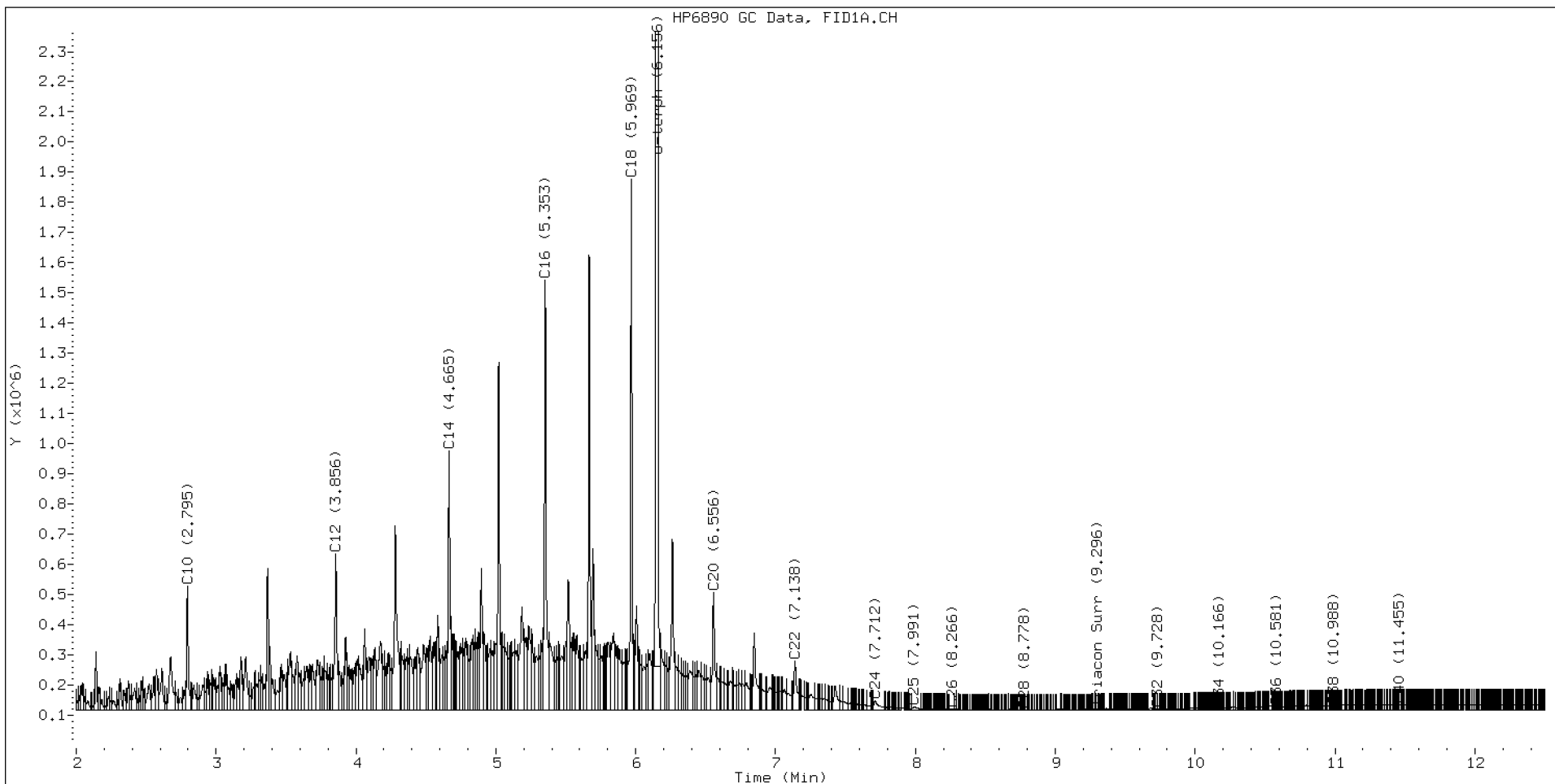
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.572	0.006	35638	34663	WATPHD	(C12-C24)	35852869	246.0
C10	2.795	-0.007	410179	344559	WATPHM	(C24-C38)	949048	7.2
C12	3.856	-0.003	515784	582152	AK102	(C10-C25)	42950156	249.4
C14	4.665	-0.003	858731	722985	AK103	(C25-C36)	560256	5.7
C16	5.353	-0.003	1423491	1292719	OR.DIES	(C10-C28)	43044005	247.7
C18	5.969	-0.003	1759462	1374486				
C20	6.556	-0.003	388025	471390				
C22	7.138	-0.003	163271	235444				
C24	7.712	0.003	29811	80694				
C25	7.991	0.004	10324	25743				
C26	8.266	0.009	3610	5486				
C28	8.778	0.003	883	249				
C32	9.728	-0.002	3716	916				
C34	10.166	-0.001	5965	1187				
Filter Peak	13.971	-0.002	17613	10511				
C36	10.581	-0.001	10913	4778				
C38	10.988	-0.001	14485	4331				
C40	11.455	-0.005	16101	9545				
o-terph	6.156	-0.011	11664546	8265436				
Triacon Surr	9.296	0.006	1660	1039	NAS DIES	(C10-C24)	42884704	249.7

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	8265436	43.0 M
Triacontane	1039	0.0

M Indicates the peak was manually integrated

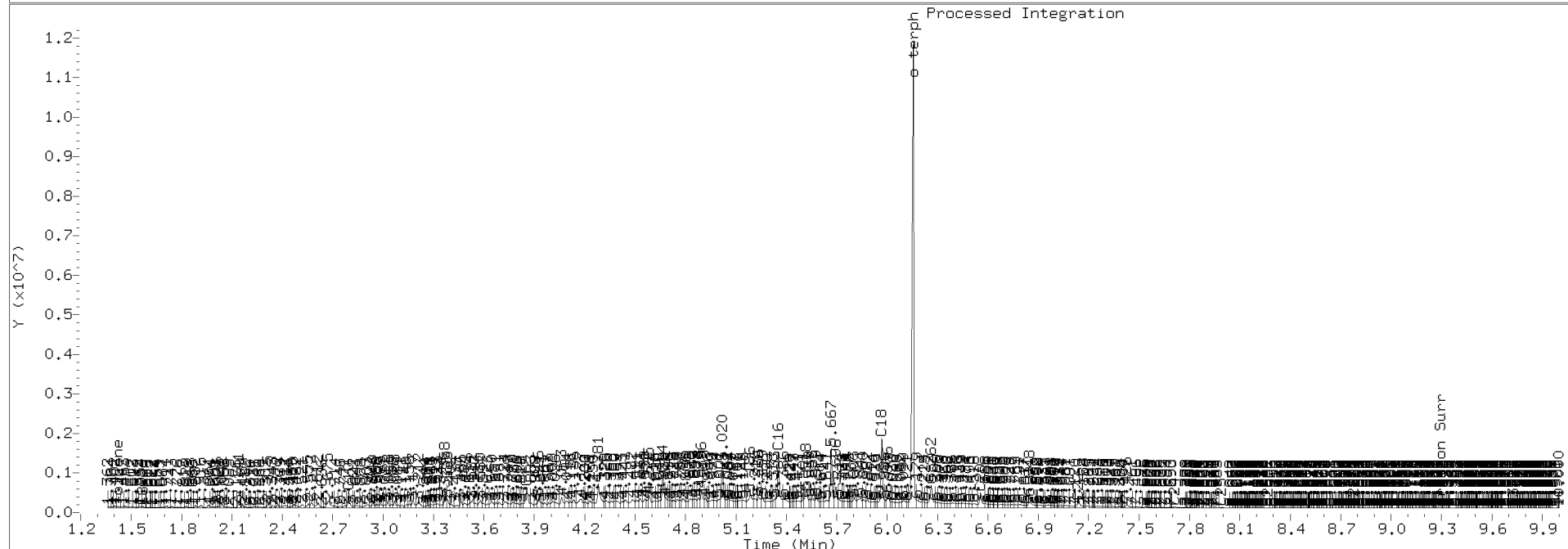
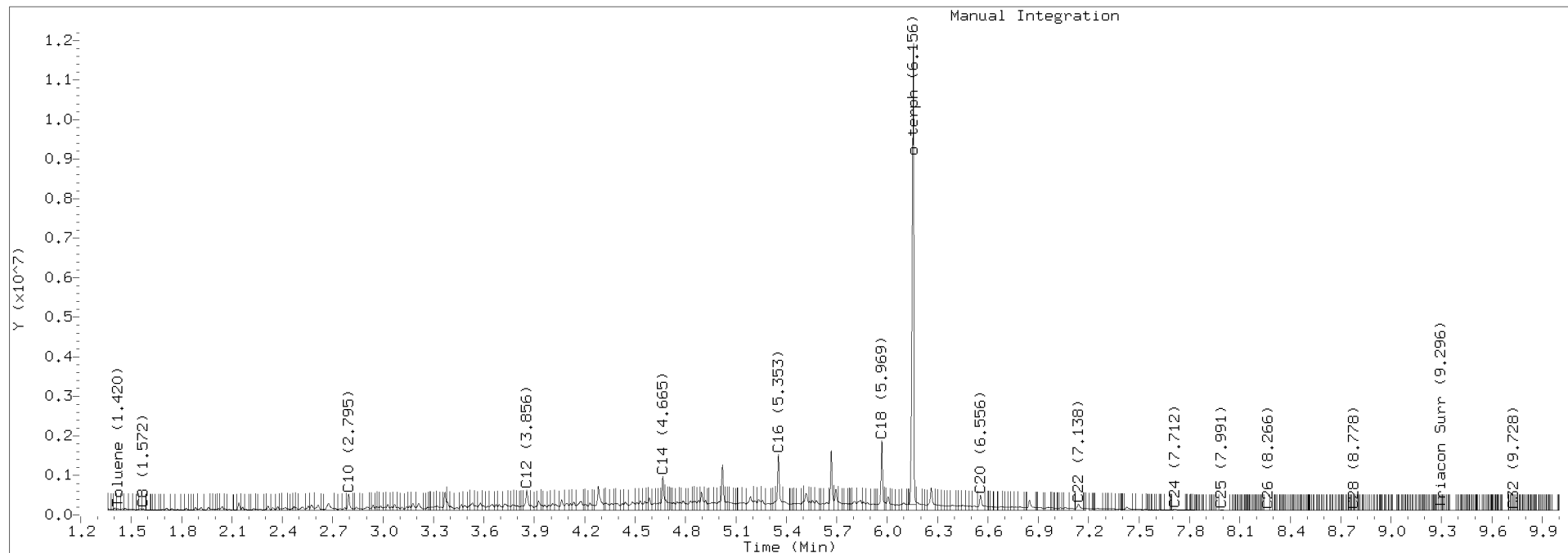
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0622.D Injection: 06-JAN-2022 17:44

Lab ID:SKA0028-CAL3



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240623.D

Date: 06-JAN-2022 18:04

Client ID:

Sample Info: SKR0028-CAL4

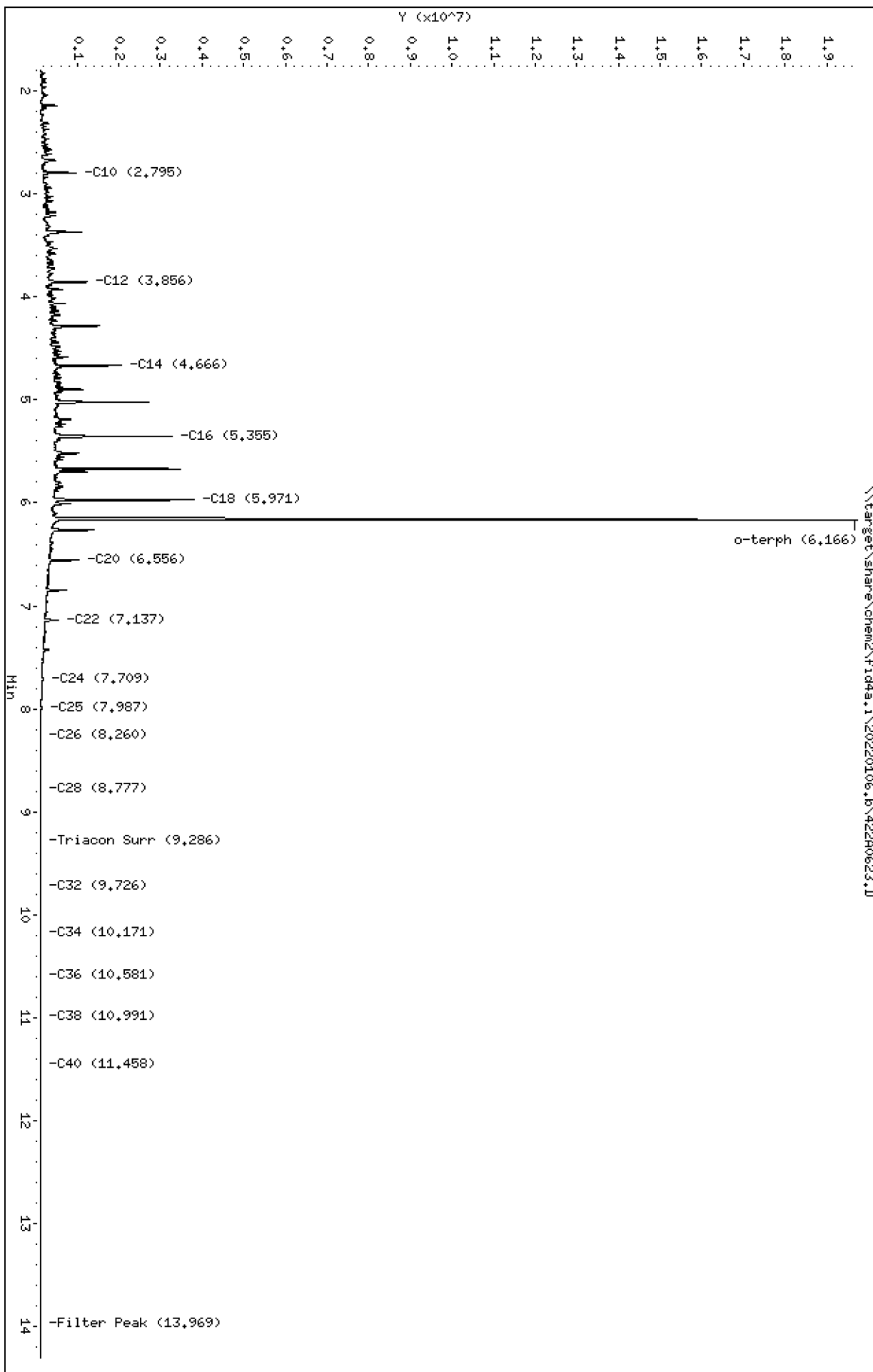
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0623.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL4  
Client ID:  
Injection: 06-JAN-2022 18:04  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.572	0.006	50289	35421	WATPHD	(C12-C24)	74169645	508.9
C10	2.795	-0.007	851047	675508	WATPHM	(C24-C38)	1011222	7.6
C12	3.856	-0.002	1123462	1175454	AK102	(C10-C25)	87851032	510.1
C14	4.666	-0.002	1930255	1490105	AK103	(C25-C36)	604622	6.1
C16	5.355	-0.002	3157304	3083911	OR.DIES	(C10-C28)	88156626	507.3
C18	5.971	-0.001	3669877	3275446				
C20	6.556	-0.003	918407	1037516				
C22	7.137	-0.004	411635	525361				
C24	7.709	0.000	77933	181190				
C25	7.987	0.001	28231	86033				
C26	8.260	0.003	11311	17999				
C28	8.777	0.002	2202	1181				
C32	9.726	-0.003	2133	701				
C34	10.171	0.004	4371	2128				
Filter Peak	13.969	-0.004	5408	2879				
C36	10.581	-0.001	7813	2332				
C38	10.991	0.002	11755	5790				
C40	11.458	-0.002	11828	4712				
o-terph	6.166	-0.002	19318669	17791123				
Triacon Surr	9.286	-0.003	1061	435	NAS DIES	(C10-C24)	87704342	510.7

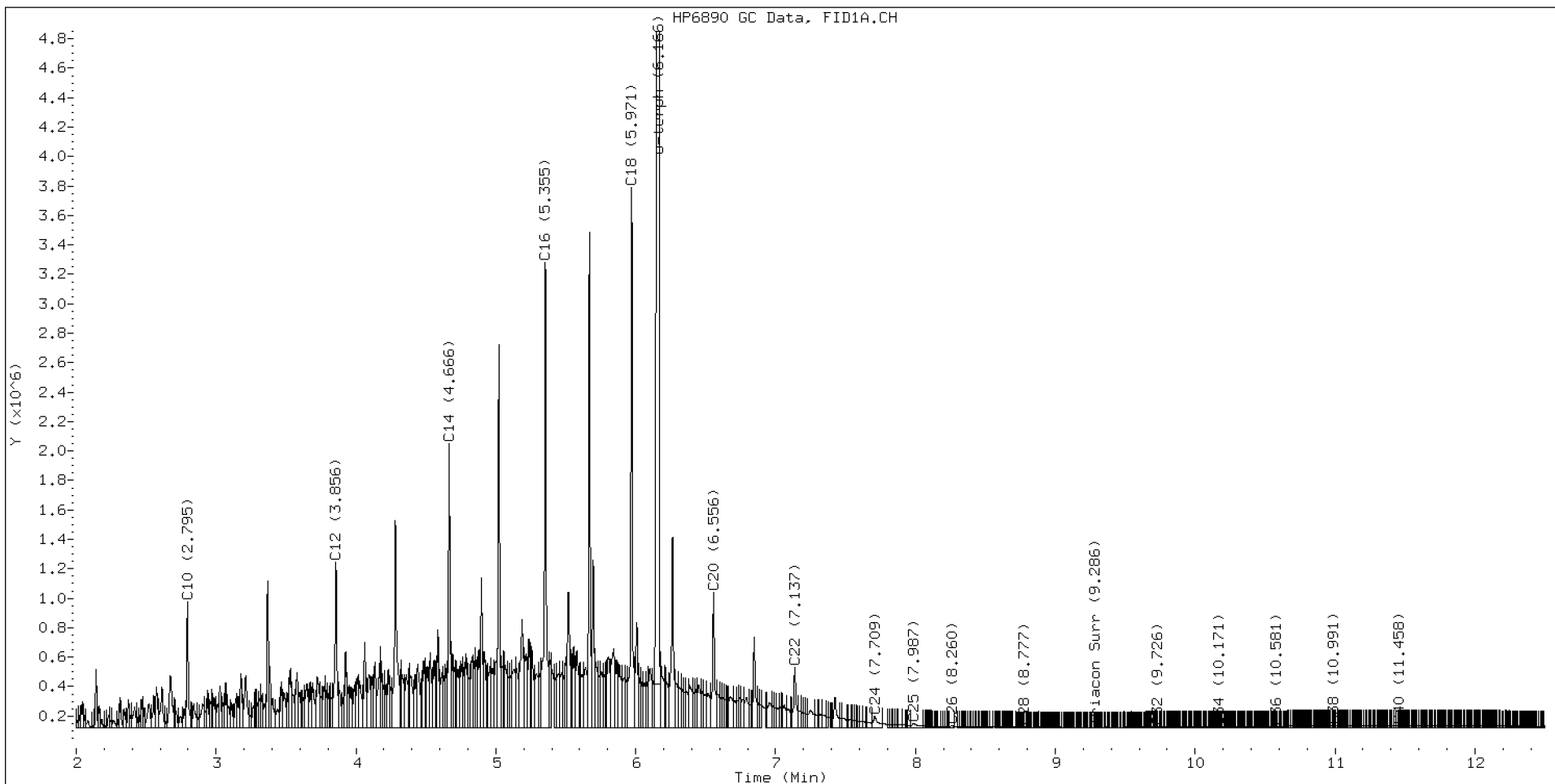
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	17791123	92.7 M
Triacontane	435	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

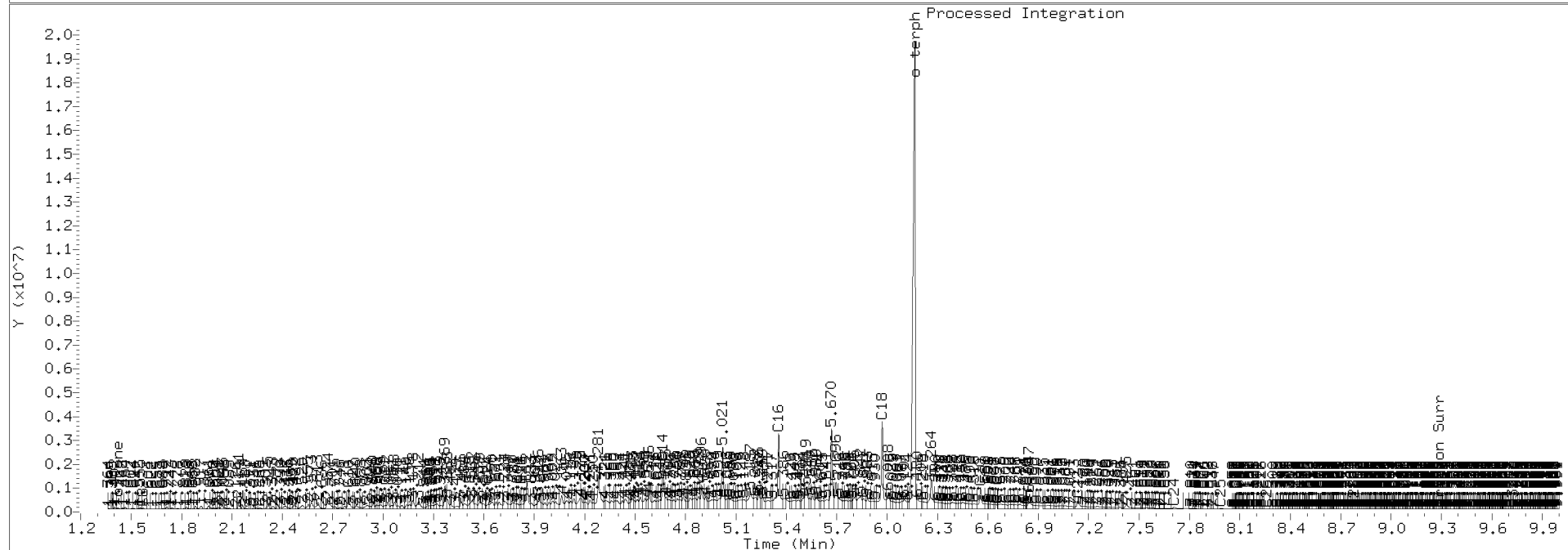
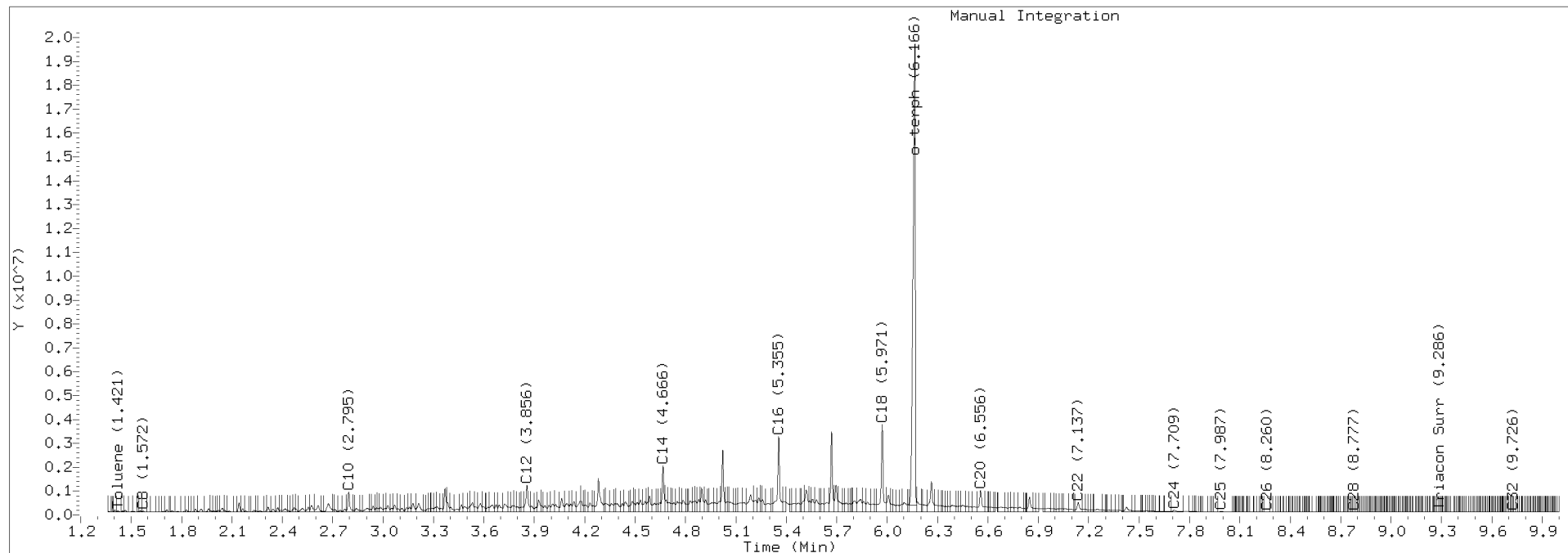




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0623.D Injection: 06-JAN-2022 18:04

Lab ID:SKA0028-CAL4



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240624.D

Date: 06-JAN-2022 18:23

Client ID:

Sample Info: SKR0028-CALS

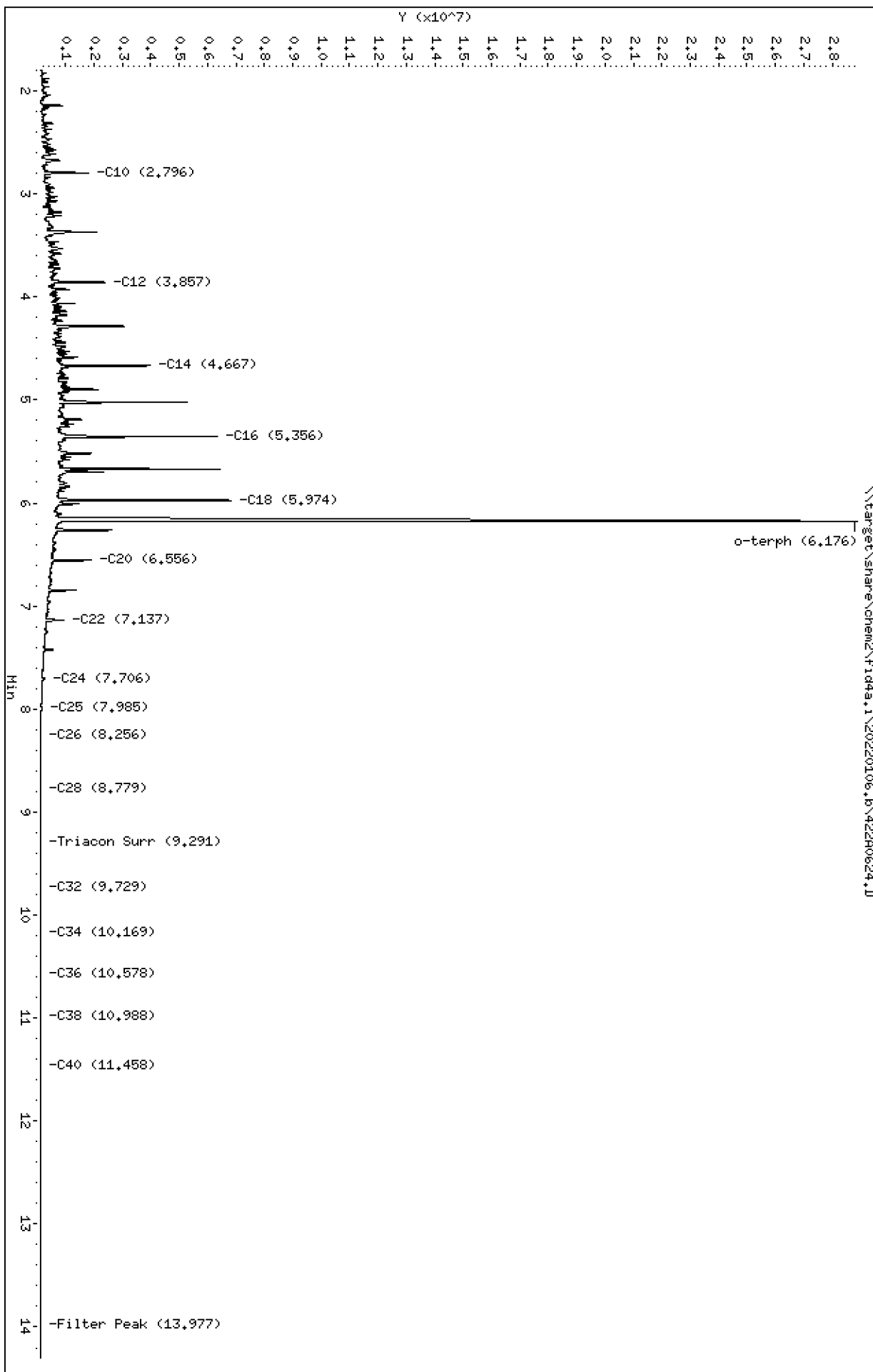
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0624.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL5  
Client ID:  
Injection: 06-JAN-2022 18:23  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

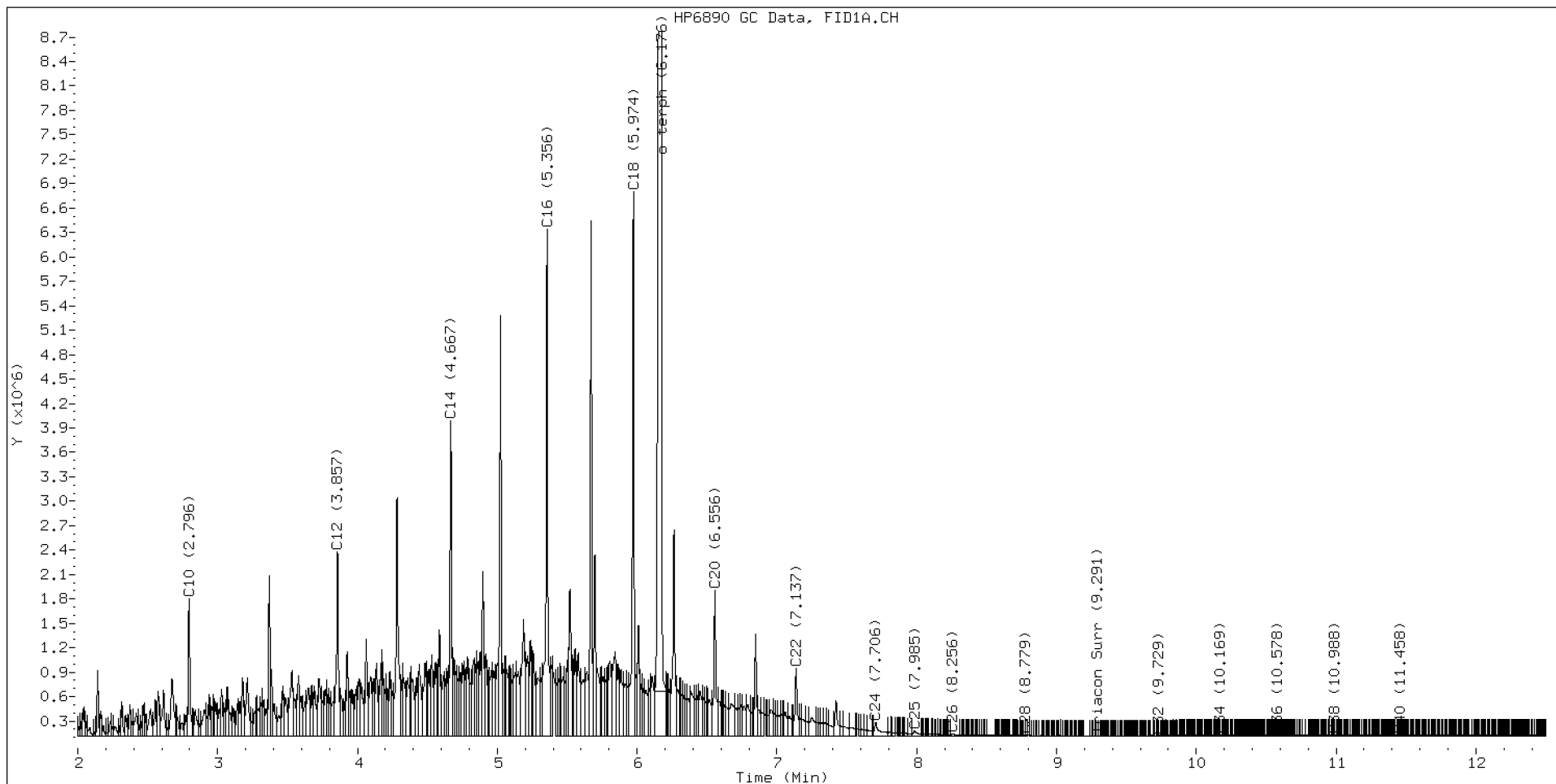
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.572	0.006	110978	82011	WATPHD	(C12-C24)	143059614	981.5
C10	2.796	-0.006	1681725	1354415	WATPHM	(C24-C38)	1228122	9.3
C12	3.857	-0.002	2259637	2417085	AK102	(C10-C25)	170586045	990.4
C14	4.667	-0.001	3871853	2951233	AK103	(C25-C36)	785072	7.9
C16	5.356	0.000	6222940	5914195	OR.DIES	(C10-C28)	171119000	984.8
C18	5.974	0.002	6685434	5816539				
C20	6.556	-0.003	1789628	1922636				
C22	7.137	-0.004	822372	959687				
C24	7.706	-0.002	163980	415588				
C25	7.985	-0.002	58487	130093				
C26	8.256	-0.001	22020	52987				
C28	8.779	0.003	3355	2205				
C32	9.729	-0.001	1594	532				
C34	10.169	0.002	3672	1245				
Filter Peak	13.977	0.004	14444	7636				
C36	10.578	-0.003	7675	2262				
C38	10.988	-0.001	10670	3695				
C40	11.458	-0.002	12076	7185				
o-terph	6.176	0.008	28225181	34250761				
Triacon Surr	9.291	0.001	609	333	NAS DIES	(C10-C24)	170364327	991.9

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	34250761	178.4 M
Triacontane	333	0.0

M Indicates the peak was manually integrated

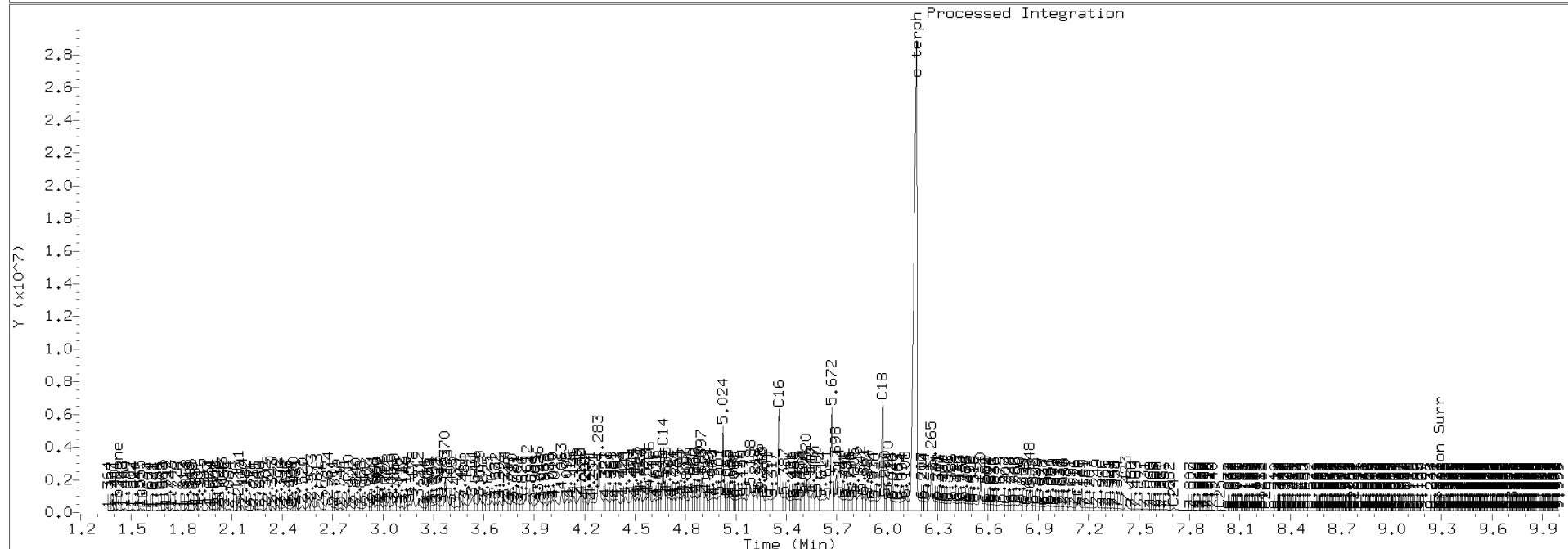
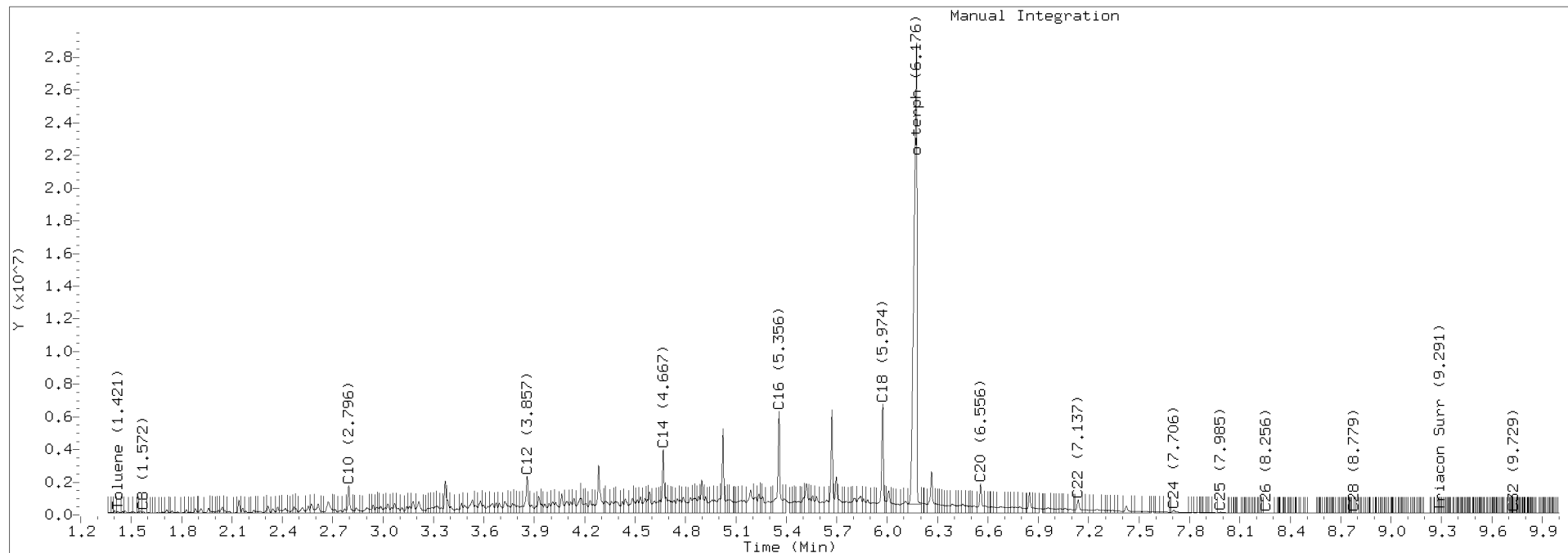
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0624.D Injection: 06-JAN-2022 18:23

Lab ID:SKA0028-CAL5



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240625.D

Date: 06-JAN-2022 18:43

Client ID:

Sample Info: SKR0028-CAL6

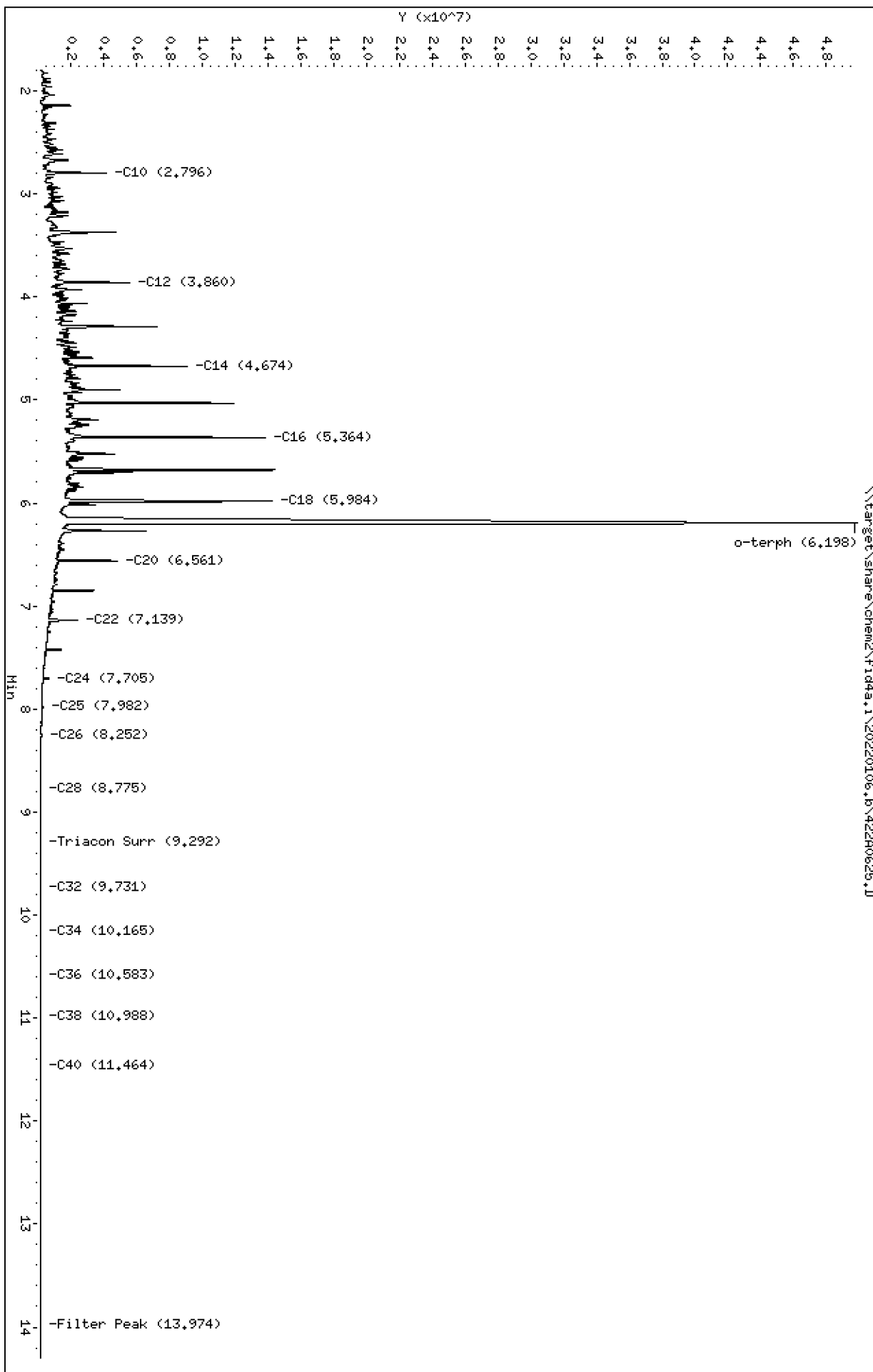
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0625.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL6  
Client ID:  
Injection: 06-JAN-2022 18:43  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.569	0.003	219608	155301	WATPHD	(C12-C24)	356255804	2444.3
C10	2.796	-0.005	3973287	3259521	WATPHM	(C24-C38)	2644074	19.9
C12	3.860	0.001	5440378	5886234	AK102	(C10-C25)	422948028	2455.6
C14	4.674	0.006	8960698	7404232	AK103	(C25-C36)	1737886	17.6
C16	5.364	0.008	13666519	14545296	OR.DIES	(C10-C28)	424411225	2442.4
C18	5.984	0.012	14095220	14858007				
C20	6.561	0.001	4708901	4277011				
C22	7.139	-0.003	2265394	2325119				
C24	7.705	-0.004	485940	1085400				
C25	7.982	-0.004	177459	377454				
C26	8.252	-0.005	69341	159437				
C28	8.775	-0.000	13167	13048				
C32	9.731	0.001	1236	658				
C34	10.165	-0.002	3039	1610				
Filter Peak	13.974	0.001	1082	341				
C36	10.583	0.001	5257	1306				
C38	10.988	-0.001	7186	2490				
C40	11.464	0.004	6548	1948				
o-terph	6.198	0.031	48259010	86873493				
Triacon Surr	9.292	0.002	1710	1041	NAS DIES	(C10-C24)	422198102	2458.2

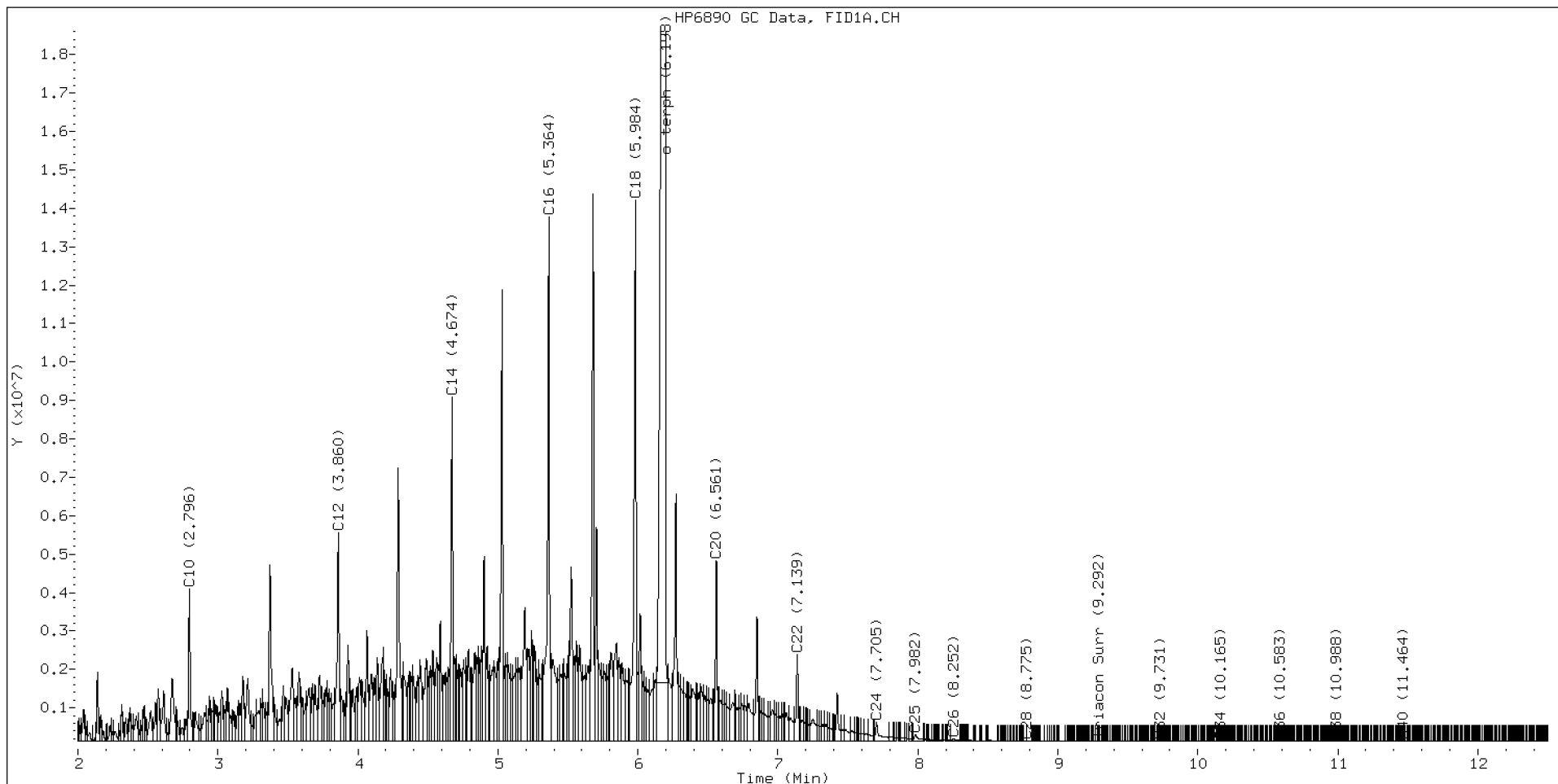
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	86873493	452.5 M
Triacontane	1041	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

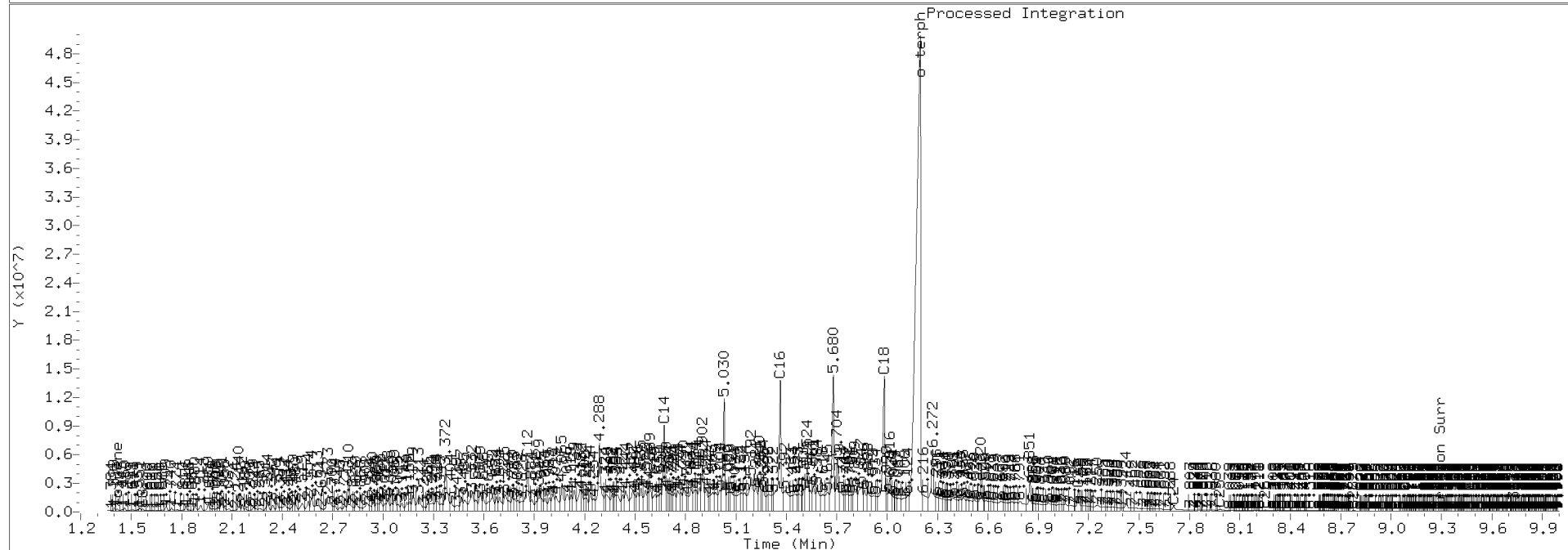
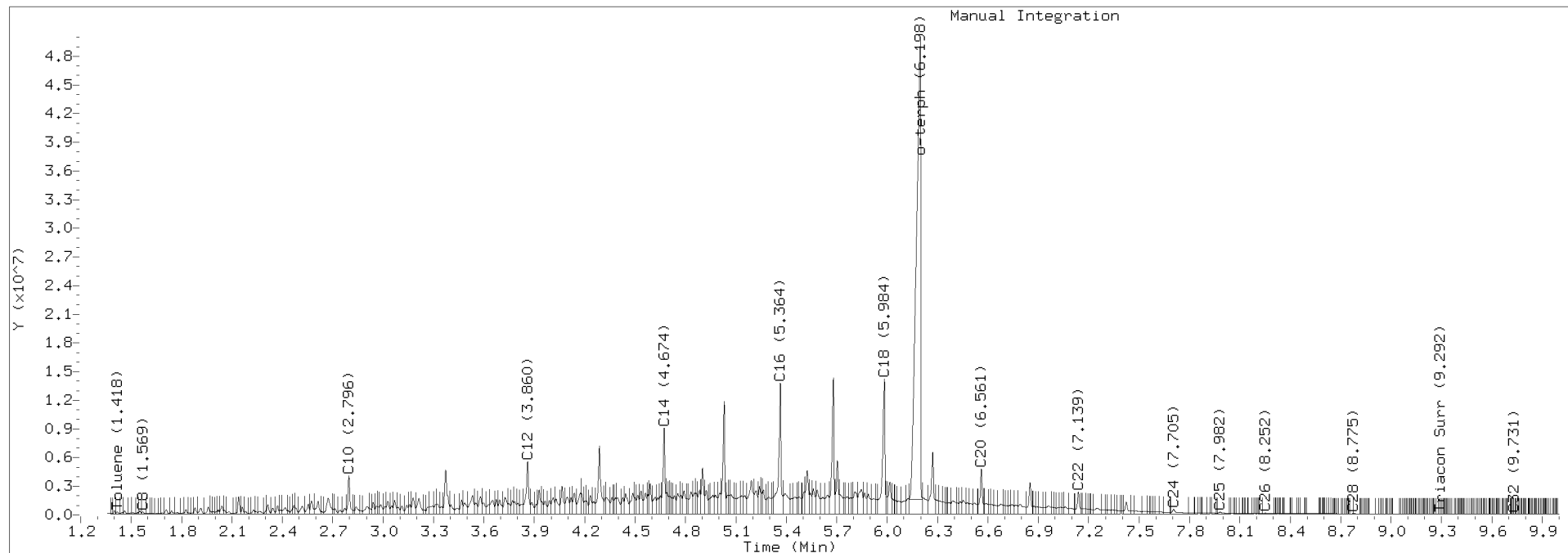




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0625.D Injection: 06-JAN-2022 18:43

Lab ID:SKA0028-CAL6



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240626.D

Date: 06-JAN-2022 19:03

Client ID:

Sample Info: SKR0028-CAL7

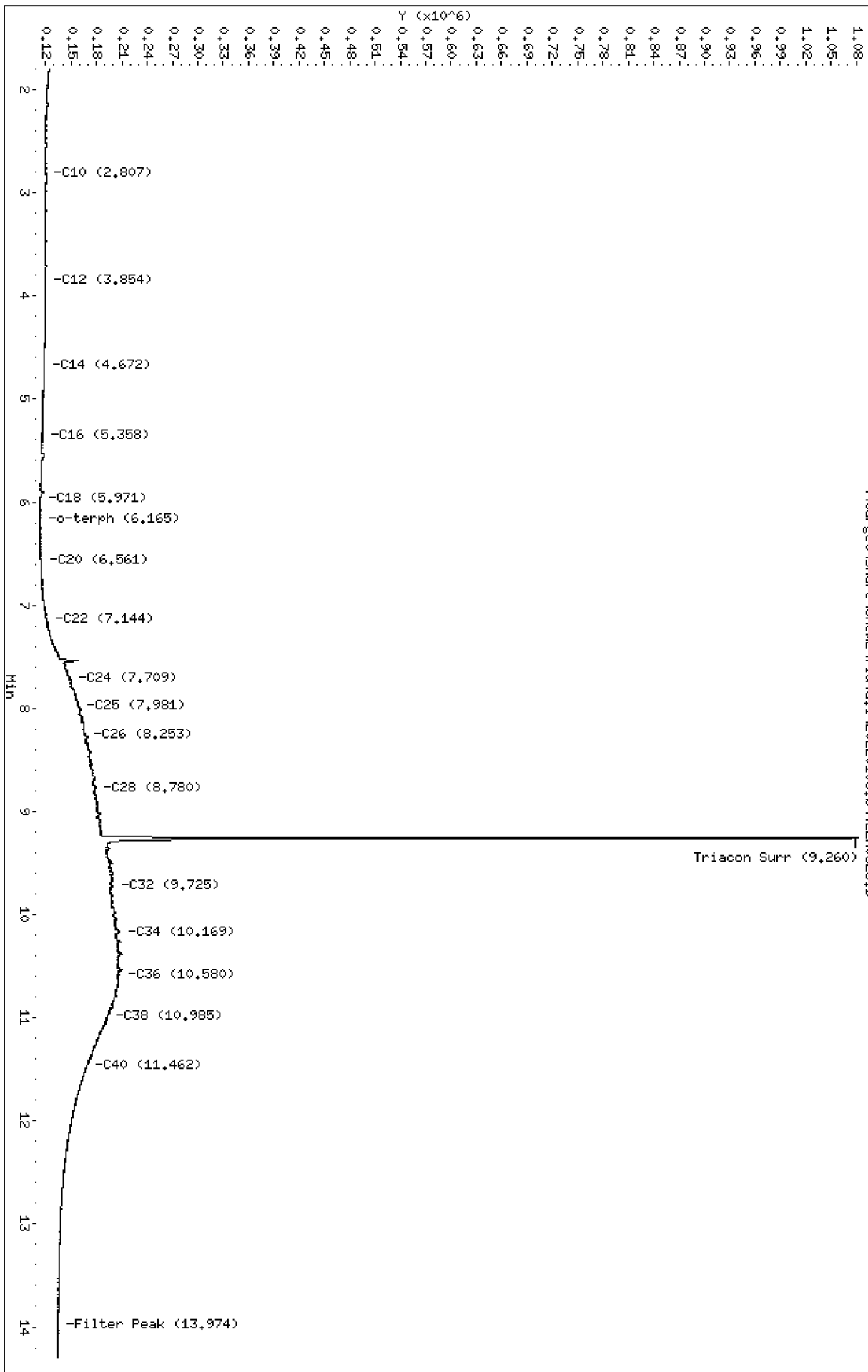
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106.b\42240626.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0626.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL7  
Client ID:  
Injection: 06-JAN-2022 19:03  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

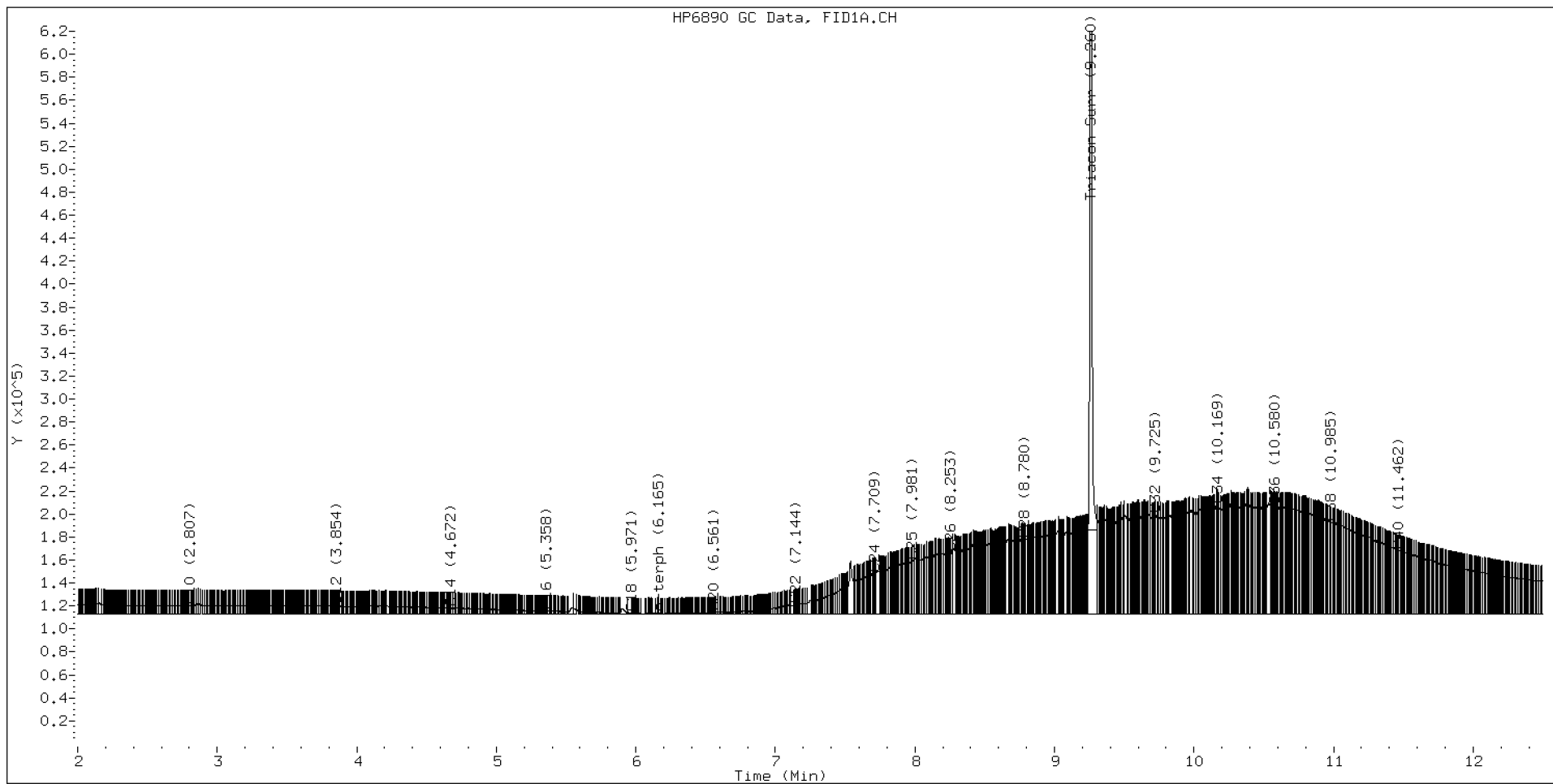
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17629	12134	WATPHD	(C12-C24)	1428990	9.8
C10	2.807	0.006	7315	5700	WATPHM	(C24-C38)	14418390	108.8
C12	3.854	-0.005	6863	3745	AK102	(C10-C25)	2314627	13.4
C14	4.672	0.004	4948	1225	AK103	(C25-C36)	11930212	120.6
C16	5.358	0.002	2549	743	OR.DIES	(C10-C28)	5302500	30.5
C18	5.971	-0.001	466	165				
C20	6.561	0.002	1433	294				
C22	7.144	0.002	8558	5362				
C24	7.709	-0.000	35231	7021				
C25	7.981	-0.005	45824	15837				
C26	8.253	-0.004	53409	34474				
C28	8.780	0.005	65326	35831				
C32	9.725	-0.005	86340	63871				
C34	10.169	0.002	95121	70488				
Filter Peak	13.974	0.001	21668	9718				
C36	10.580	-0.001	93623	60434				
C38	10.985	-0.004	79927	51632				
C40	11.462	0.002	55525	16626				
o-terph	6.165	-0.003	642	355				
Triacon Surr	9.260	-0.029	895649	780573	NAS DIES	(C10-C24)	1888344	11.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	355	0.0
Triacotane	780573	4.5 M

M Indicates the peak was manually integrated

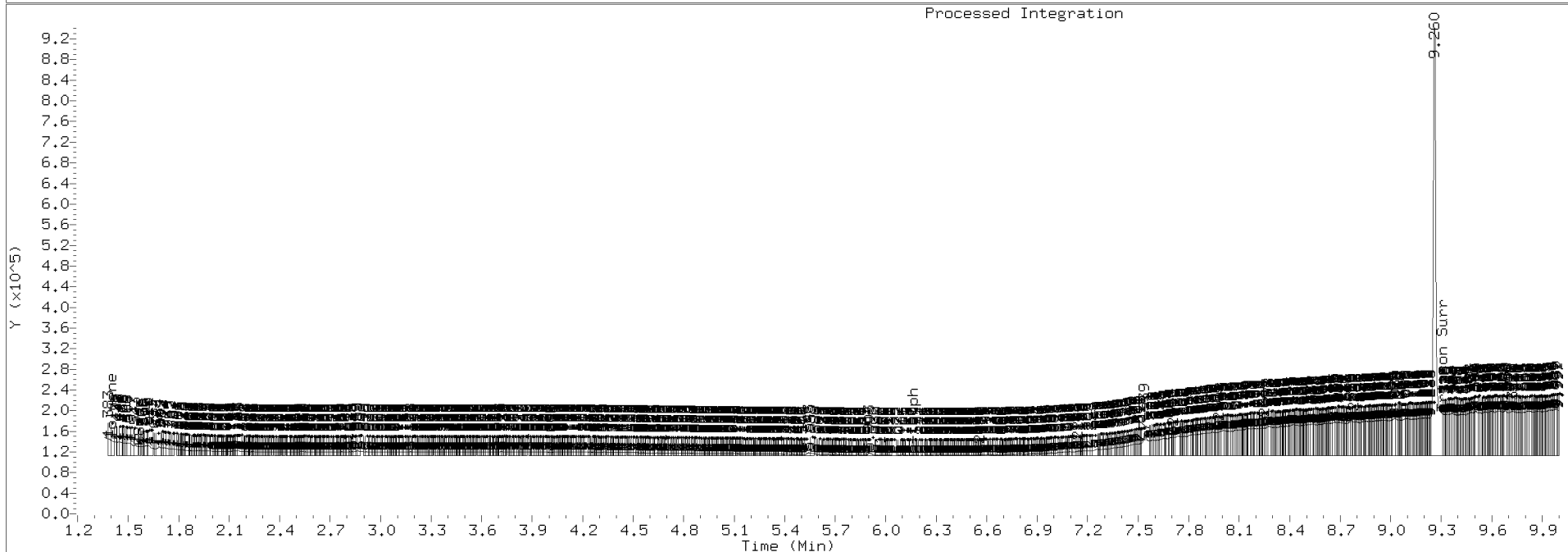
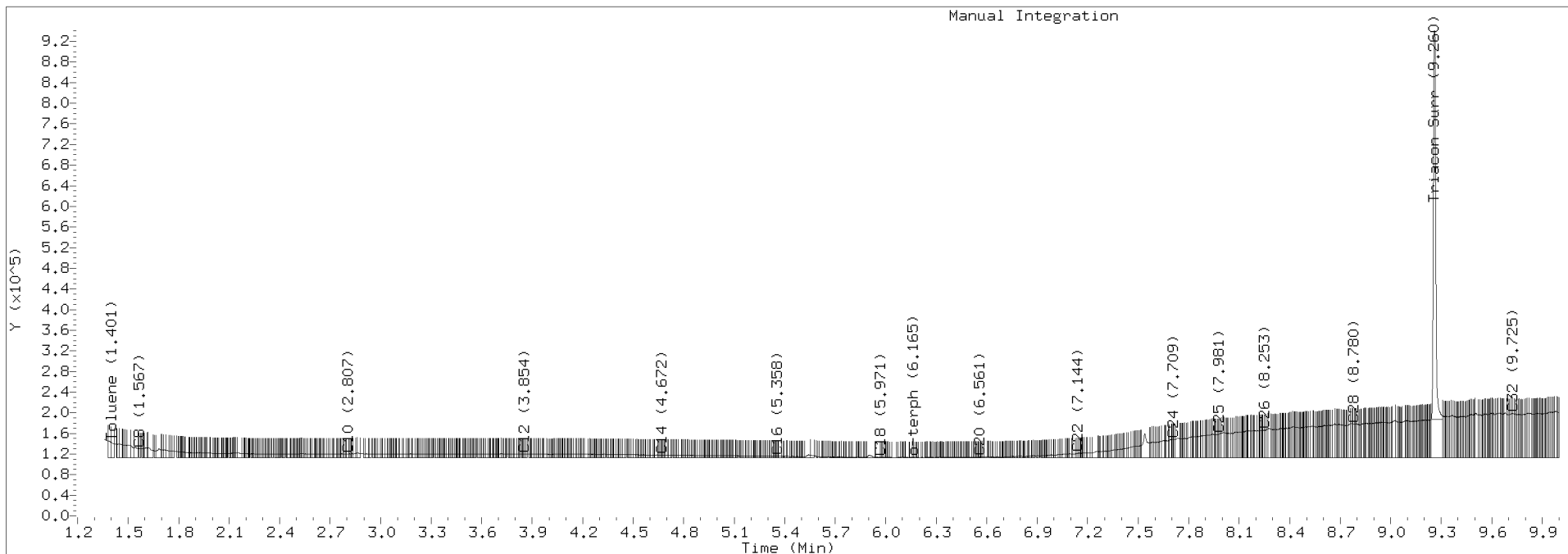
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0626.D Injection: 06-JAN-2022 19:03

Lab ID:SKA0028-CAL7



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240627.D

Date: 06-JAN-2022 19:23

Client ID:

Sample Info: SKR0028-CAL8

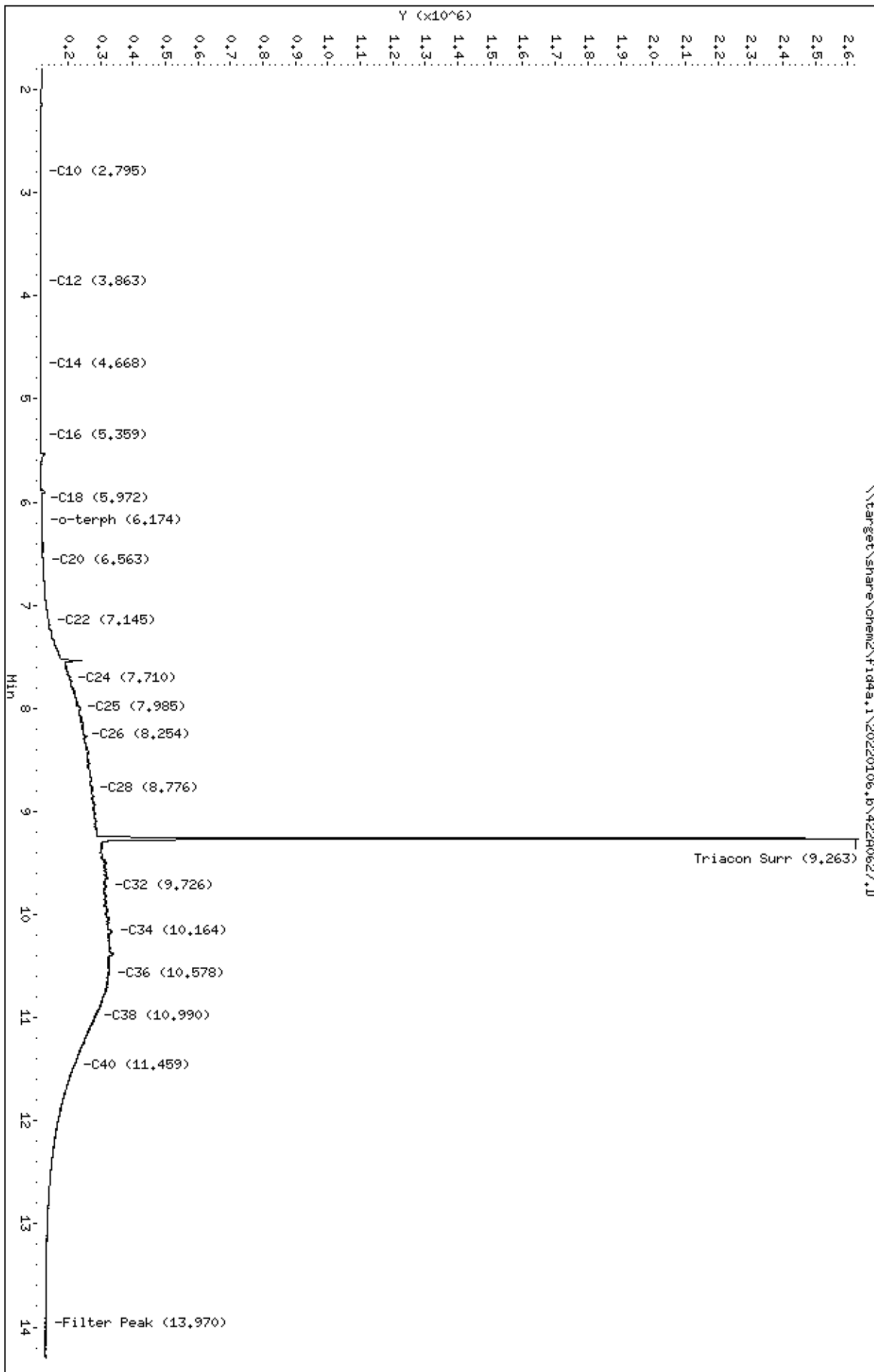
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0627.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL8  
Client ID:  
Injection: 06-JAN-2022 19:23  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10974	5451	WATPHD	(C12-C24)	2859083	19.6
C10	2.795	-0.006	709	310	WATPHM	(C24-C38)	33910212	255.8
C12	3.863	0.005	301	110	AK102	(C10-C25)	3974861	23.1
C14	4.668	-0.000	959	351	AK103	(C25-C36)	28362150	286.7
C16	5.359	0.003	1341	1255	OR.DIES	(C10-C28)	11300132	65.0
C18	5.972	-0.000	2547	737				
C20	6.563	0.004	8305	10153				
C22	7.145	0.004	24838	24382				
C24	7.710	0.001	89563	22309				
C25	7.985	-0.001	118154	98497				
C26	8.254	-0.003	131978	52511				
C28	8.776	0.001	158032	39436				
C32	9.726	-0.004	204424	200858				
C34	10.164	-0.003	219294	141700				
Filter Peak	13.970	-0.003	15114	5260				
C36	10.578	-0.003	210164	104564				
C38	10.990	0.001	167544	83266				
C40	11.459	-0.000	104690	57072				
o-terph	6.174	0.007	3070	1055				
Triacon Surr	9.263	-0.026	2341627	1948565	NAS DIES	(C10-C24)	2883231	16.8

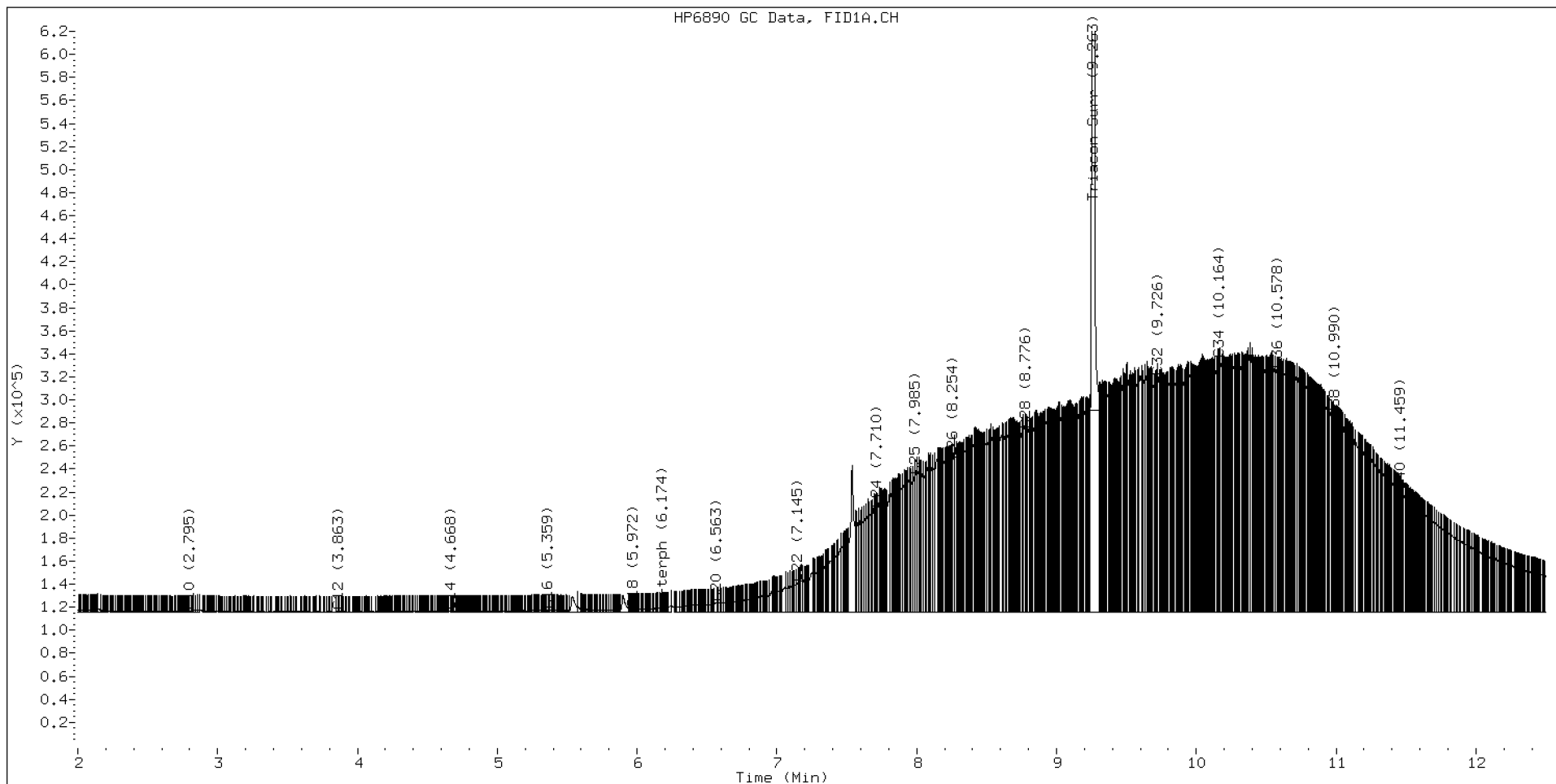
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1055	0.0
Triacontane	1948565	11.2 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

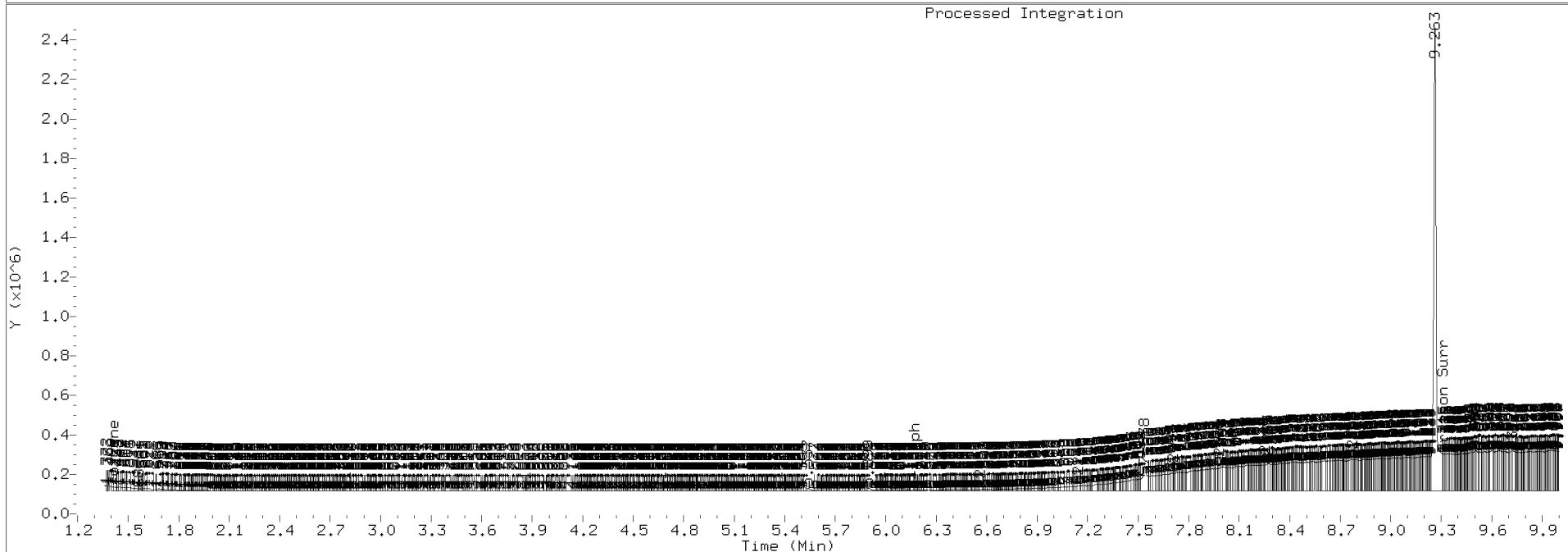
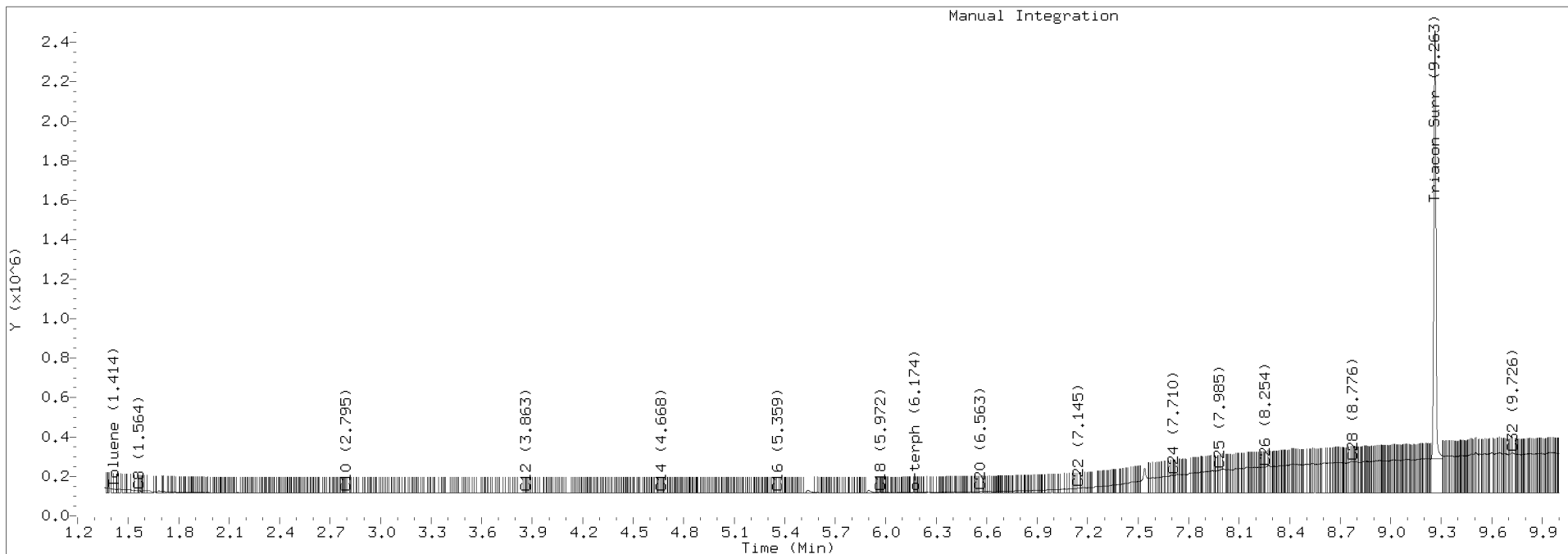




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0627.D Injection: 06-JAN-2022 19:23

Lab ID:SKA0028-CAL8



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240628.D

Date: 06-JAN-2022 19:43

Client ID:

Sample Info: SKR0028-CAL9

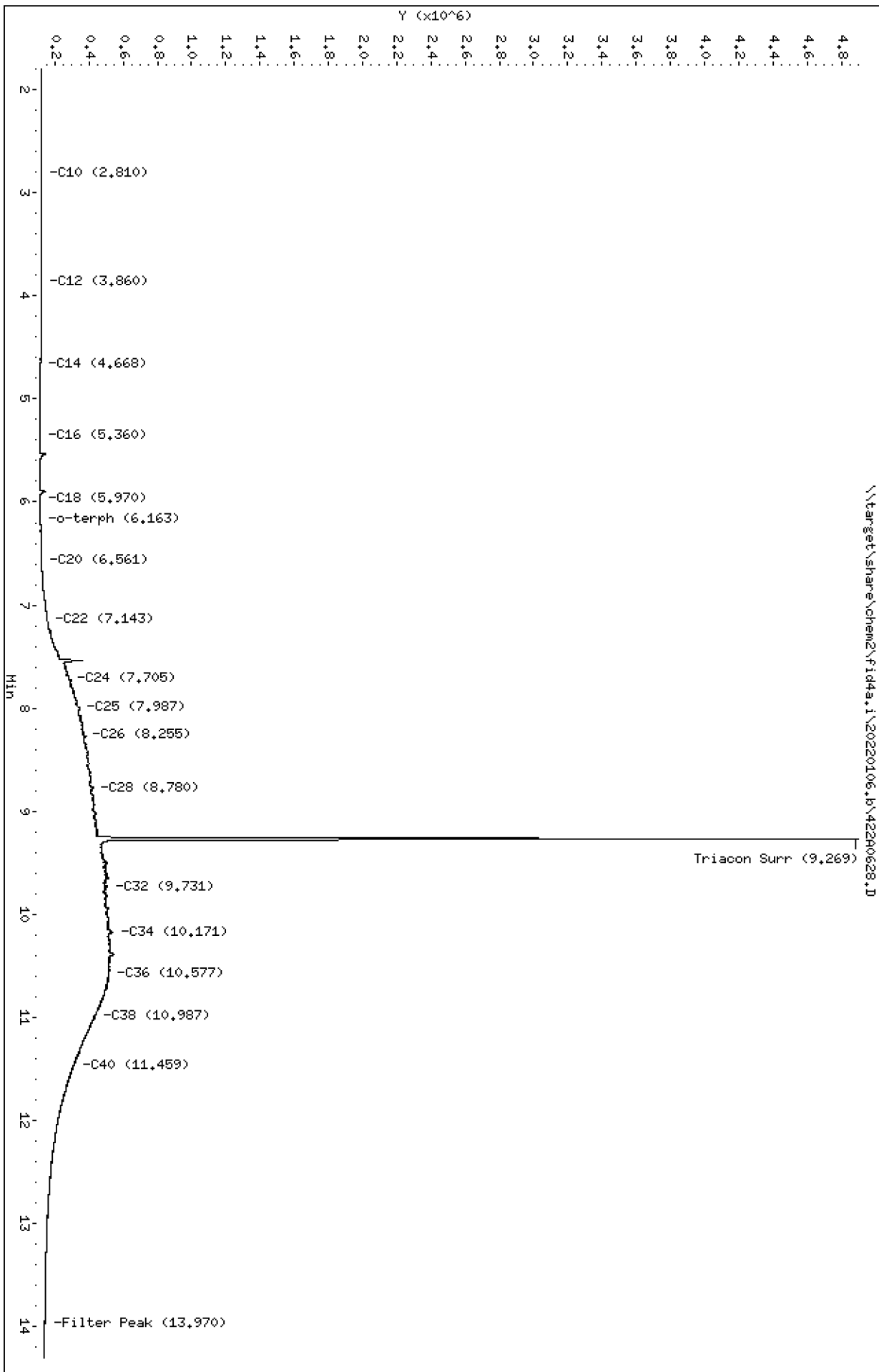
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0628.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL9  
Client ID:  
Injection: 06-JAN-2022 19:43  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

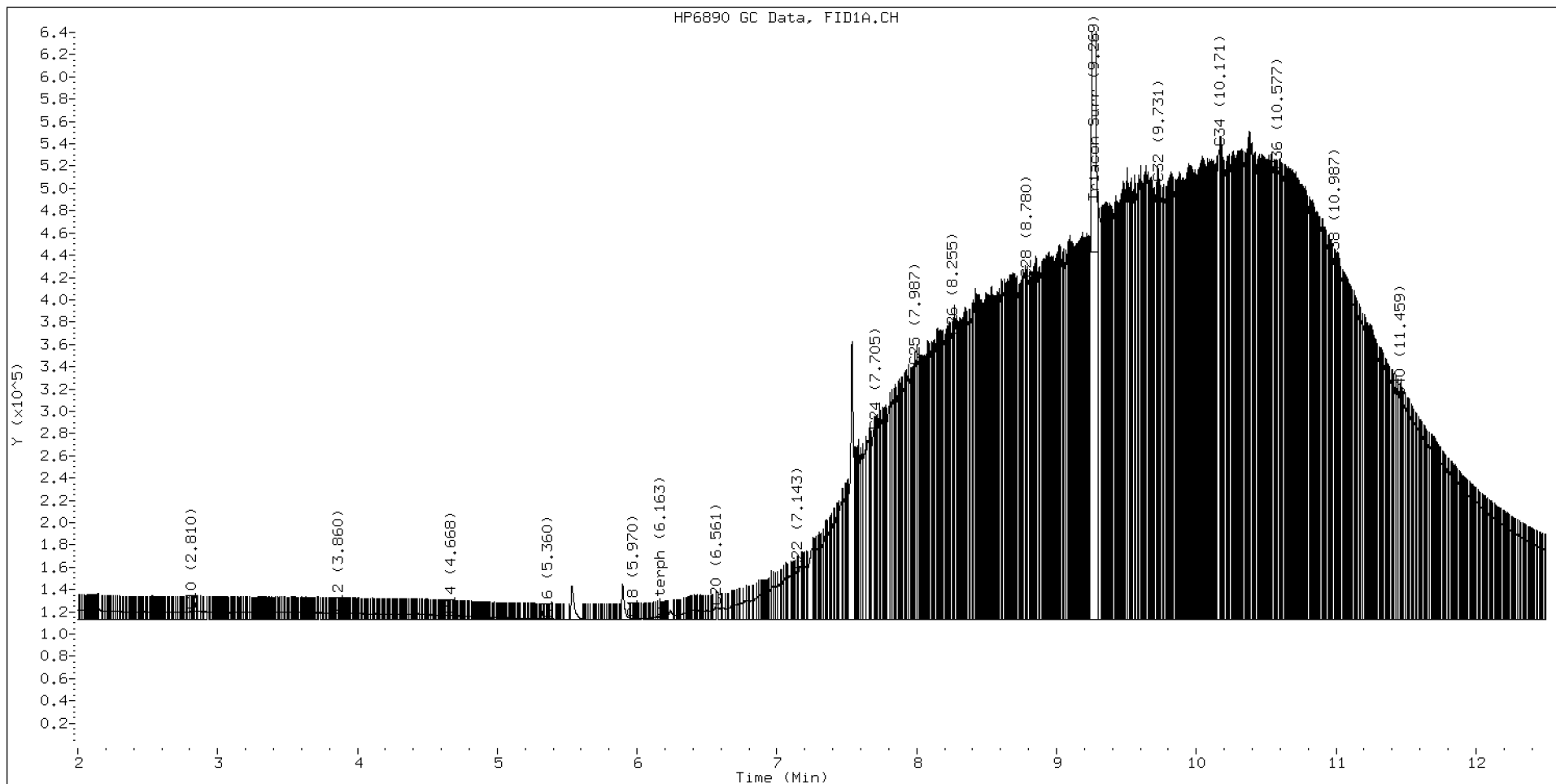
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.561	-0.005	18899	18490	WATPHD	(C12-C24)	5267715	36.1
C10	2.810	0.009	7809	6657	WATPHM	(C24-C38)	65361242	493.0
C12	3.860	0.002	6145	3630	AK102	(C10-C25)	7695397	44.7
C14	4.668	-0.000	3930	3869	AK103	(C25-C36)	54505288	551.1
C16	5.360	0.003	880	170	OR.DIES	(C10-C28)	21861512	125.8
C18	5.970	-0.002	1438	845				
C20	6.561	0.002	11665	15498				
C22	7.143	0.002	44022	42387				
C24	7.705	-0.003	169267	59011				
C25	7.987	0.001	227115	166595				
C26	8.255	-0.002	254374	63387				
C28	8.780	0.005	305712	121521				
C32	9.731	0.002	392327	135919				
C34	10.171	0.004	423466	189821				
Filter Peak	13.970	-0.003	28198	15418				
C36	10.577	-0.004	403448	160577				
C38	10.987	-0.002	321415	144011				
C40	11.459	-0.001	199069	49536				
o-terph	6.163	-0.004	2391	1211				
Triacon Surr	9.269	-0.021	4456889	3832767	NAS DIES	(C10-C24)	5689375	33.1

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1211	0.0
Triacontane	3832767	22.0 M

M Indicates the peak was manually integrated

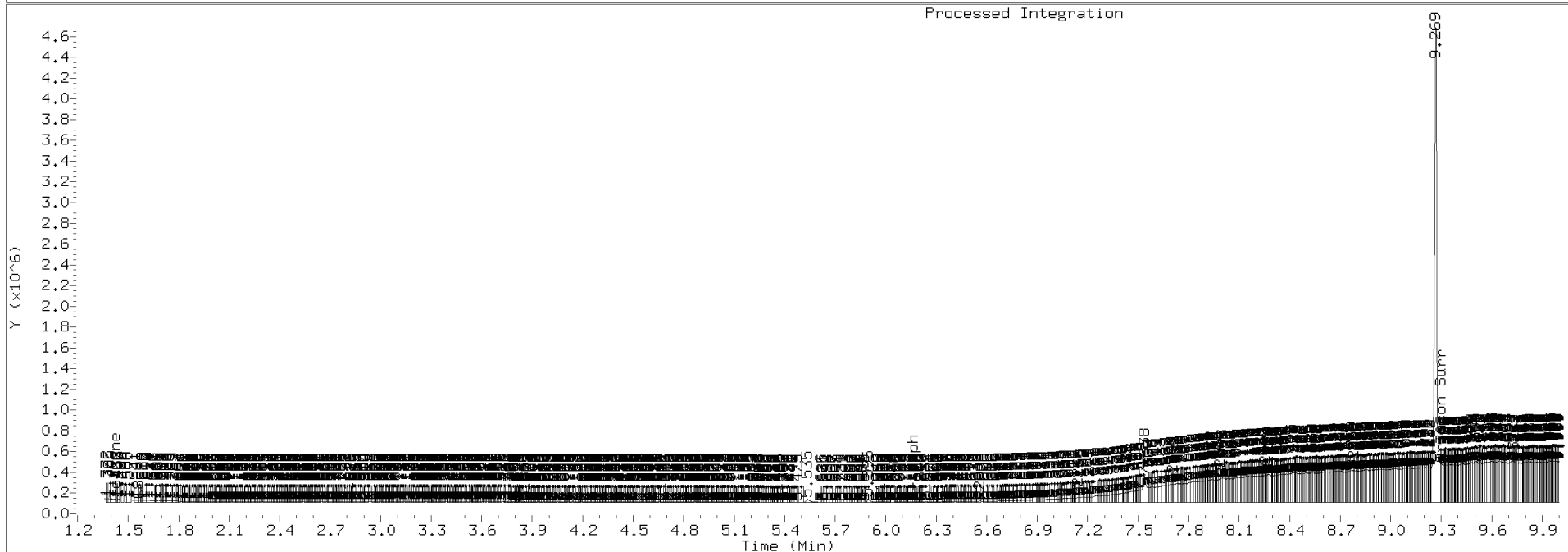
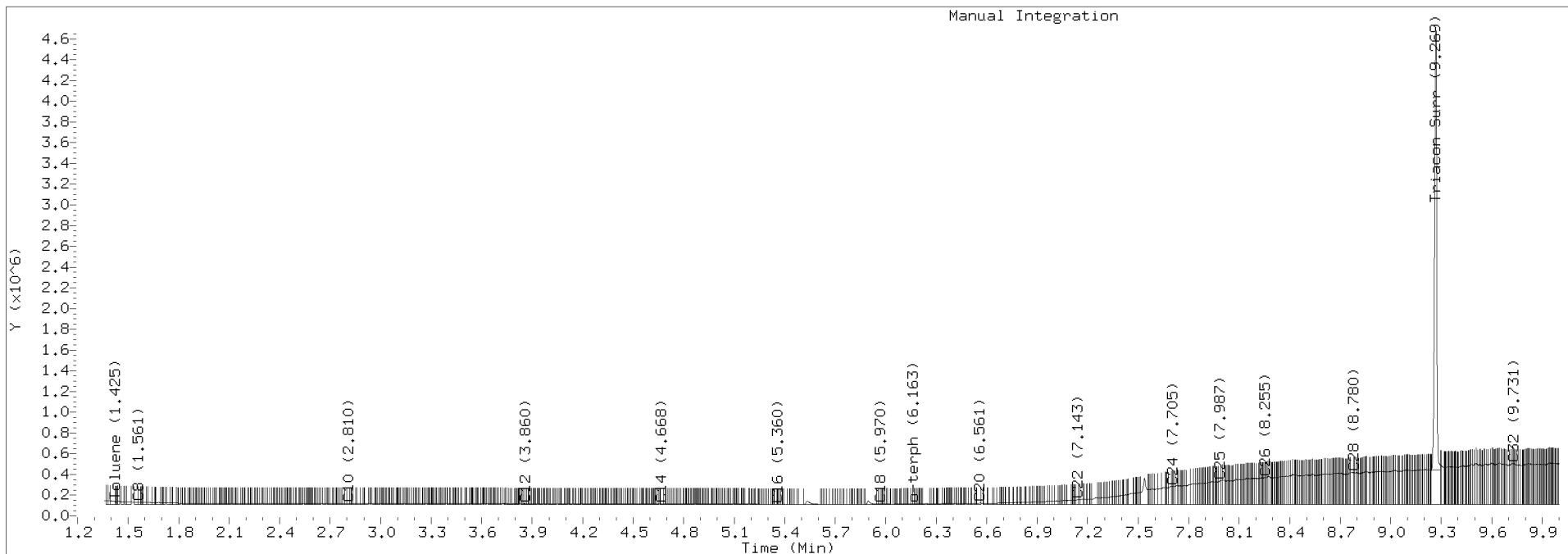
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0628.D Injection: 06-JAN-2022 19:43

Lab ID:SKA0028-CAL9



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240629.D

Date: 06-JAN-2022 20:02

Client ID:

Sample Info: SKR0028-CALA

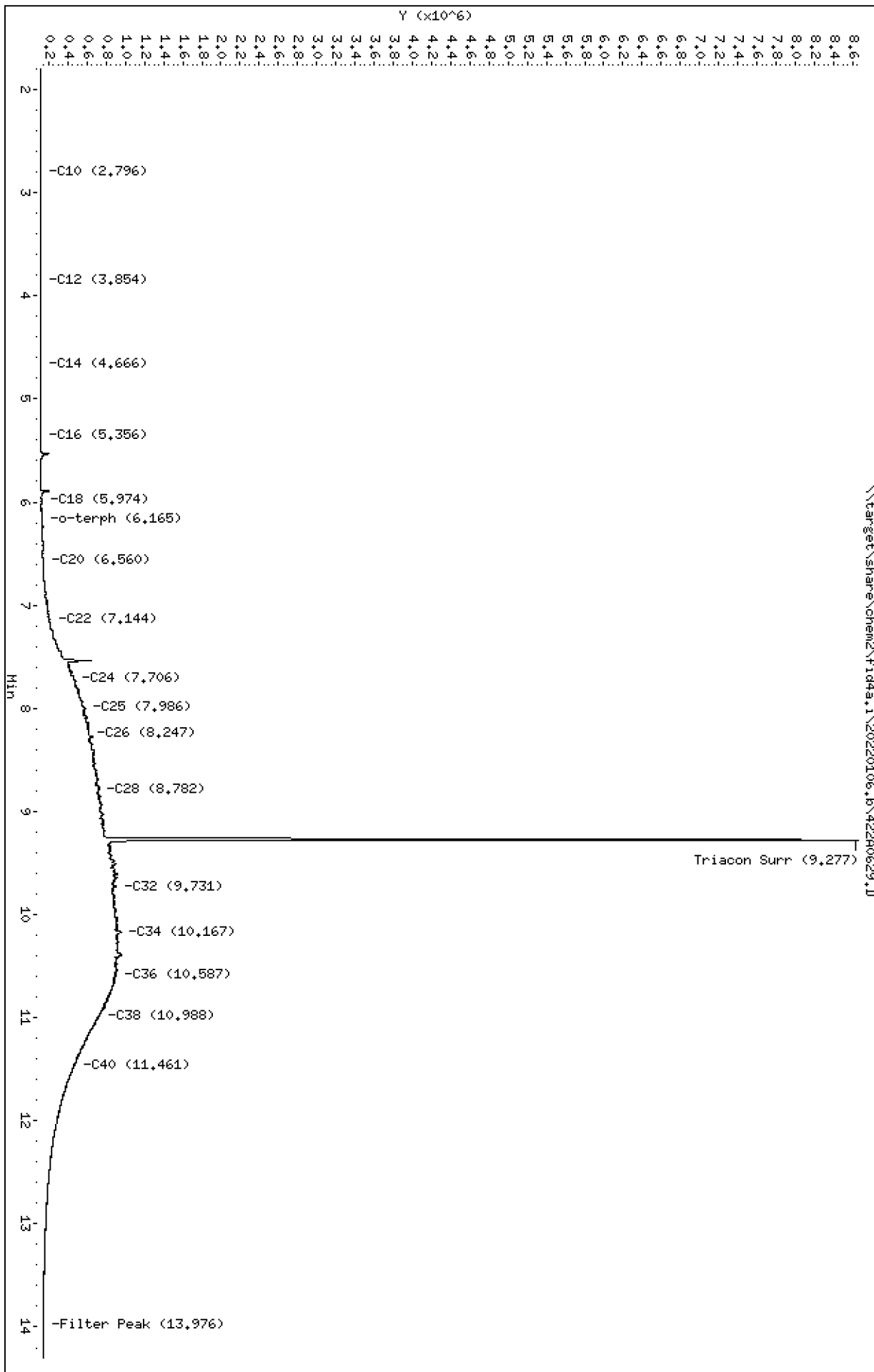
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0629.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALA  
Client ID:  
Injection: 06-JAN-2022 20:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	11101	8632	WATPHD	(C12-C24)	10727647	73.6
C10	2.796	-0.005	576	147	WATPHM	(C24-C38)	129320360	975.4
C12	3.854	-0.005	1107	956	AK102	(C10-C25)	14842212	86.2
C14	4.666	-0.002	2470	1298	AK103	(C25-C36)	108544248	1097.4
C16	5.356	-0.001	3529	1197	OR.DIES	(C10-C28)	43178118	248.5
C18	5.974	0.002	7530	7872				
C20	6.560	0.000	29424	44604				
C22	7.144	0.003	93274	142646				
C24	7.706	-0.003	342850	102299				
C25	7.986	0.000	451931	245156				
C26	8.247	-0.010	508762	377501				
C28	8.782	0.007	601806	120120				
C32	9.731	0.001	789145	579688				
C34	10.167	0.000	836380	250168				
Filter Peak	13.976	0.003	27826	13801				
C36	10.587	0.006	793648	511126				
C38	10.988	-0.001	611295	302860				
C40	11.461	0.002	351554	139850				
o-terph	6.165	-0.002	9745	4761				
Triacon Surr	9.277	-0.012	7887730	7740915	NAS DIES	(C10-C24)	10771308	62.7

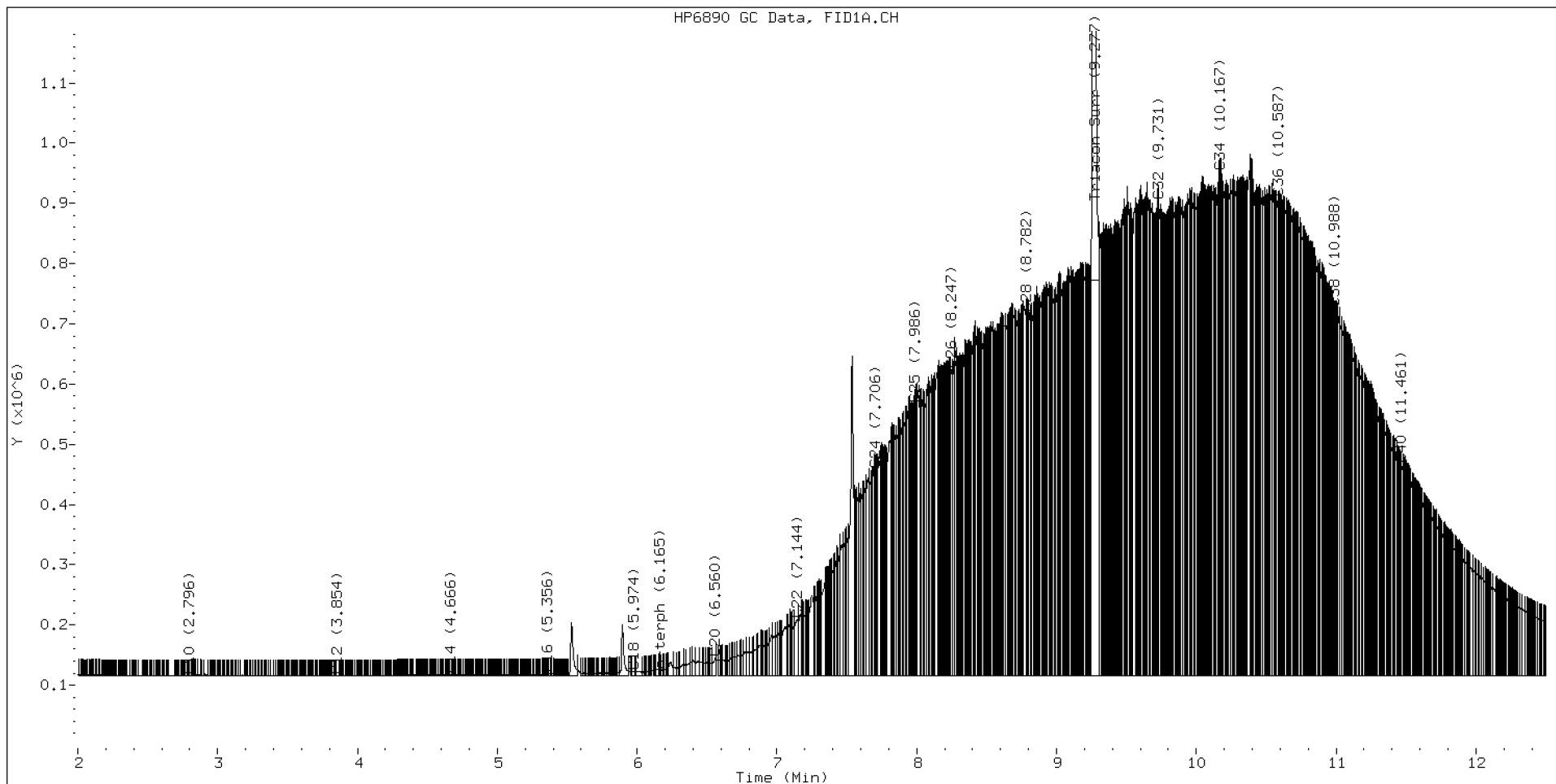
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	4761	0.0
Triacotane	7740915	44.4 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

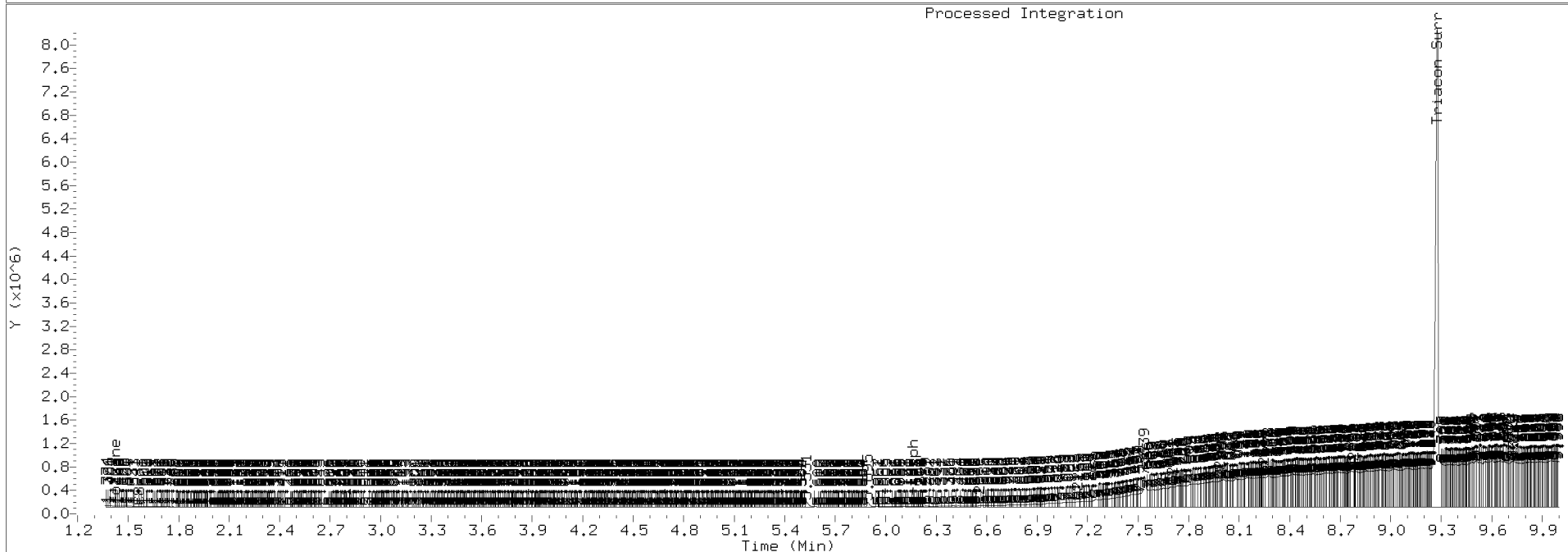
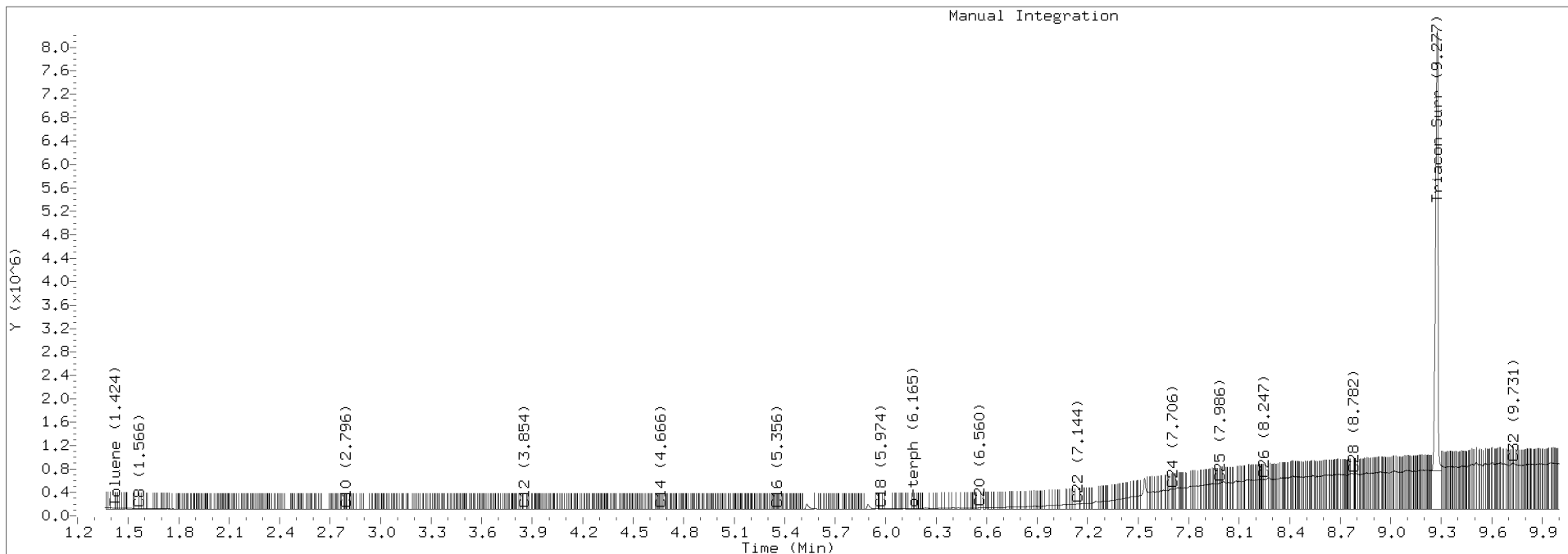




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0629.D Injection: 06-JAN-2022 20:02

Lab ID:SKA0028-CALA



Data File: \\target\share\chem2\fid4a,1\20220106.b\42240630.D

Date: 06-JAN-2022 20:22

Client ID:

Sample Info: SKR0028-CALB

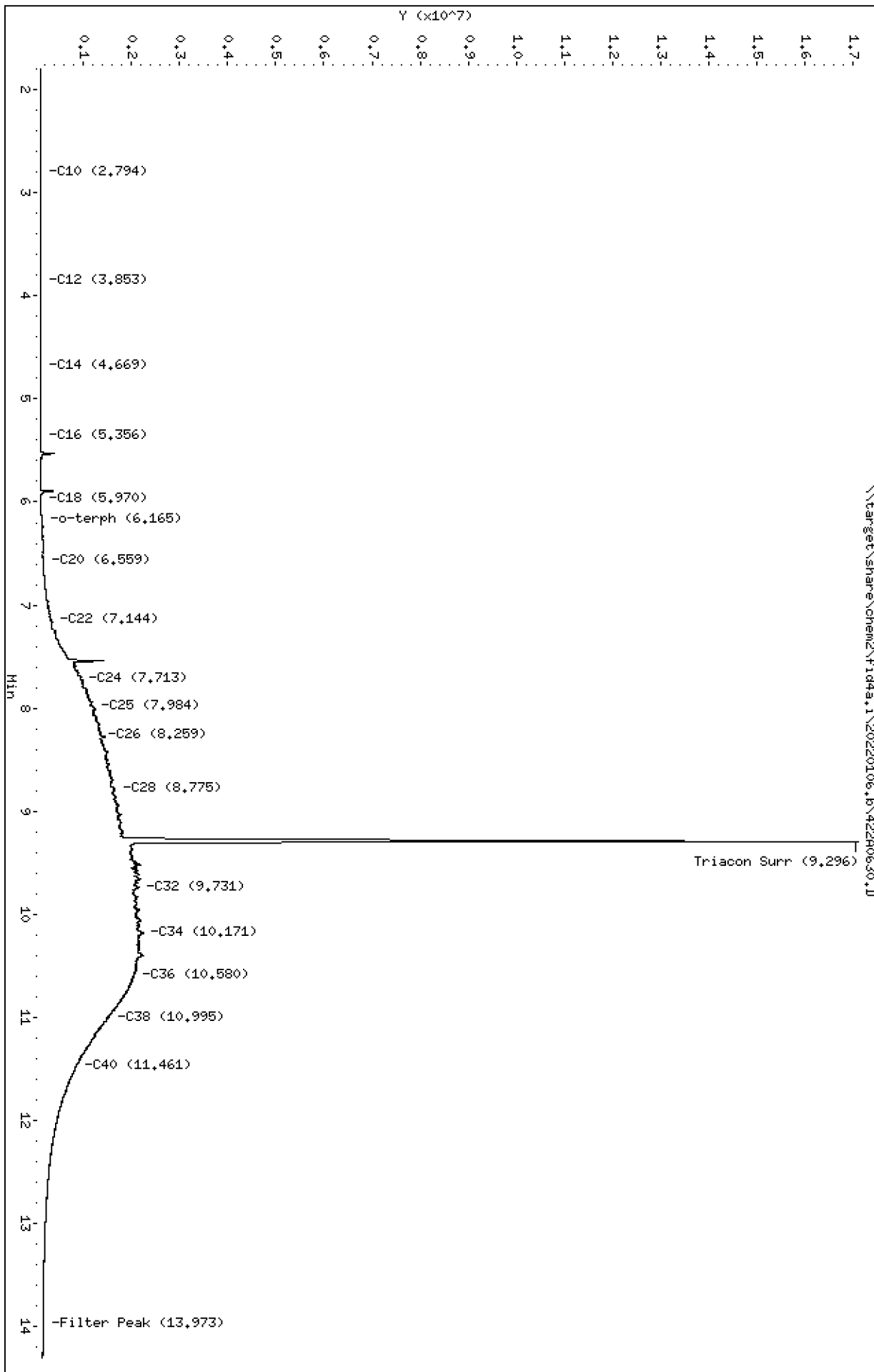
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106.b\42240630.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0630.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALB  
Client ID:  
Injection: 06-JAN-2022 20:22  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

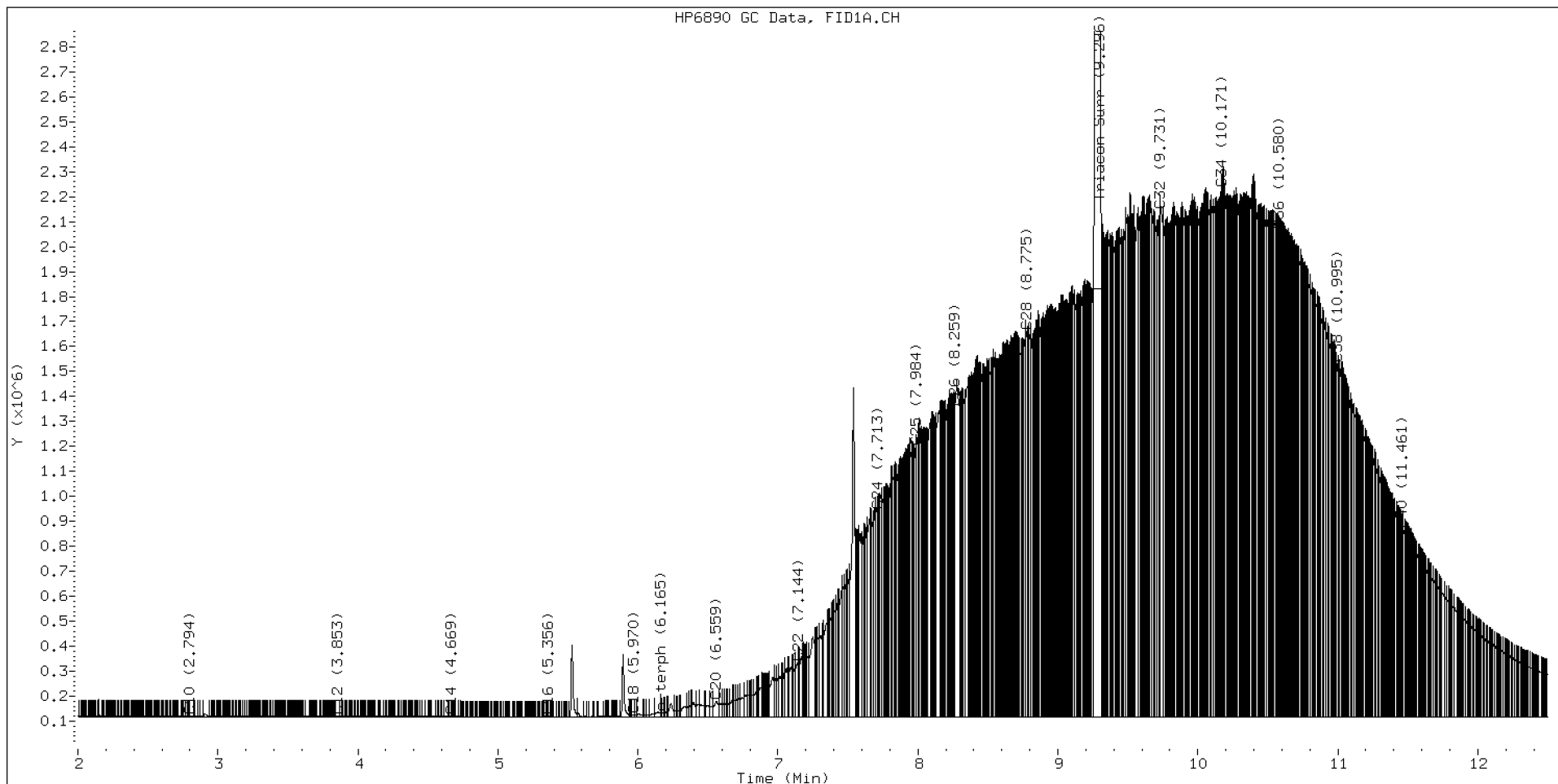
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.011	17258	4301	WATPHD	(C12-C24)	25178731	172.8
C10	2.794	-0.008	5092	3608	WATPHM	(C24-C38)	324449124	2447.2
C12	3.853	-0.006	5678	7022	AK102	(C10-C25)	35400273	205.5
C14	4.669	0.001	3839	758	AK103	(C25-C36)	273940795	2769.6
C16	5.356	-0.000	3278	2699	OR.DIES	(C10-C28)	105094526	604.8
C18	5.970	-0.002	10714	10162				
C20	6.559	-0.000	64664	142222				
C22	7.144	0.002	219141	252458				
C24	7.713	0.004	827562	247062				
C25	7.984	-0.003	1080011	687511				
C26	8.259	0.002	1238176	370748				
C28	8.775	-0.000	1545429	993360				
C32	9.731	0.001	2028162	997421				
C34	10.171	0.004	2118052	1355483				
Filter Peak	13.973	-0.000	48608	21788				
C36	10.580	-0.001	1948503	972417				
C38	10.995	0.006	1414419	841893				
C40	11.461	0.001	751652	187506				
o-terph	6.165	-0.002	15801	3901				
Triacon Surr	9.296	0.006	15269043	19868141	NAS DIES	(C10-C24)	25505234	148.5

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	3901	0.0
Triacotane	19868141	114.0 M

M Indicates the peak was manually integrated

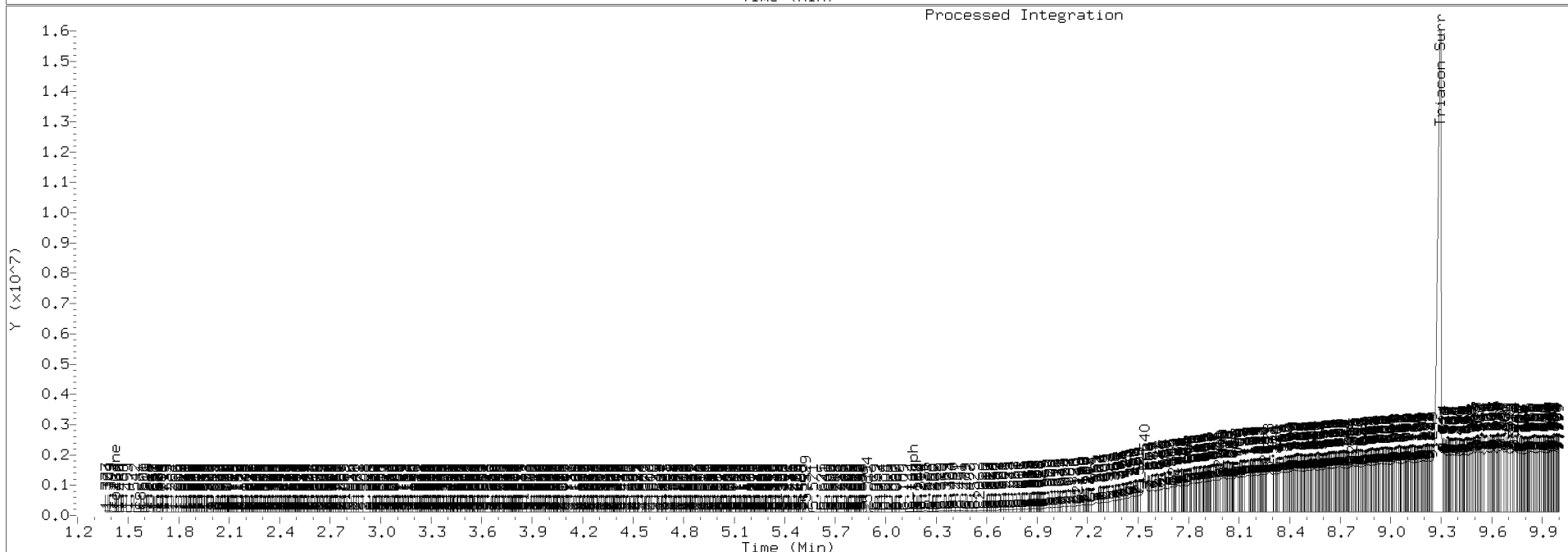
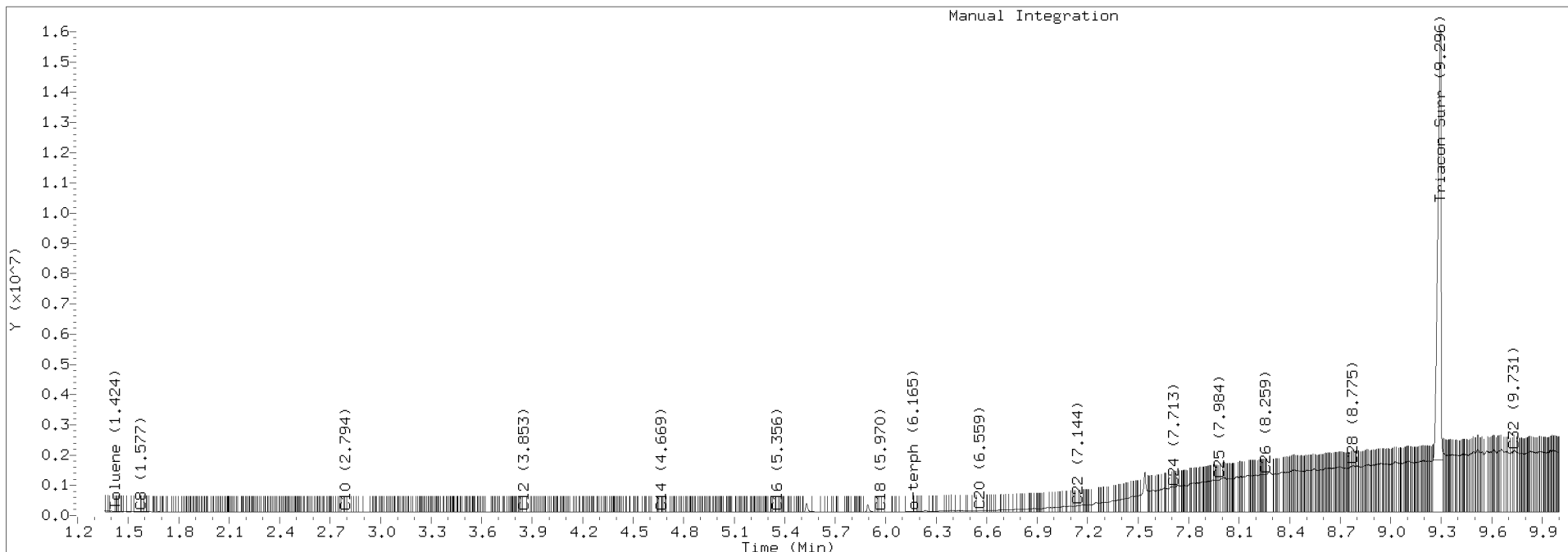
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0630.D Injection: 06-JAN-2022 20:22

Lab ID:SKA0028-CALB



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240631.D

Date: 06-JAN-2022 20:42

Client ID:

Sample Info: SKR0028-CALC

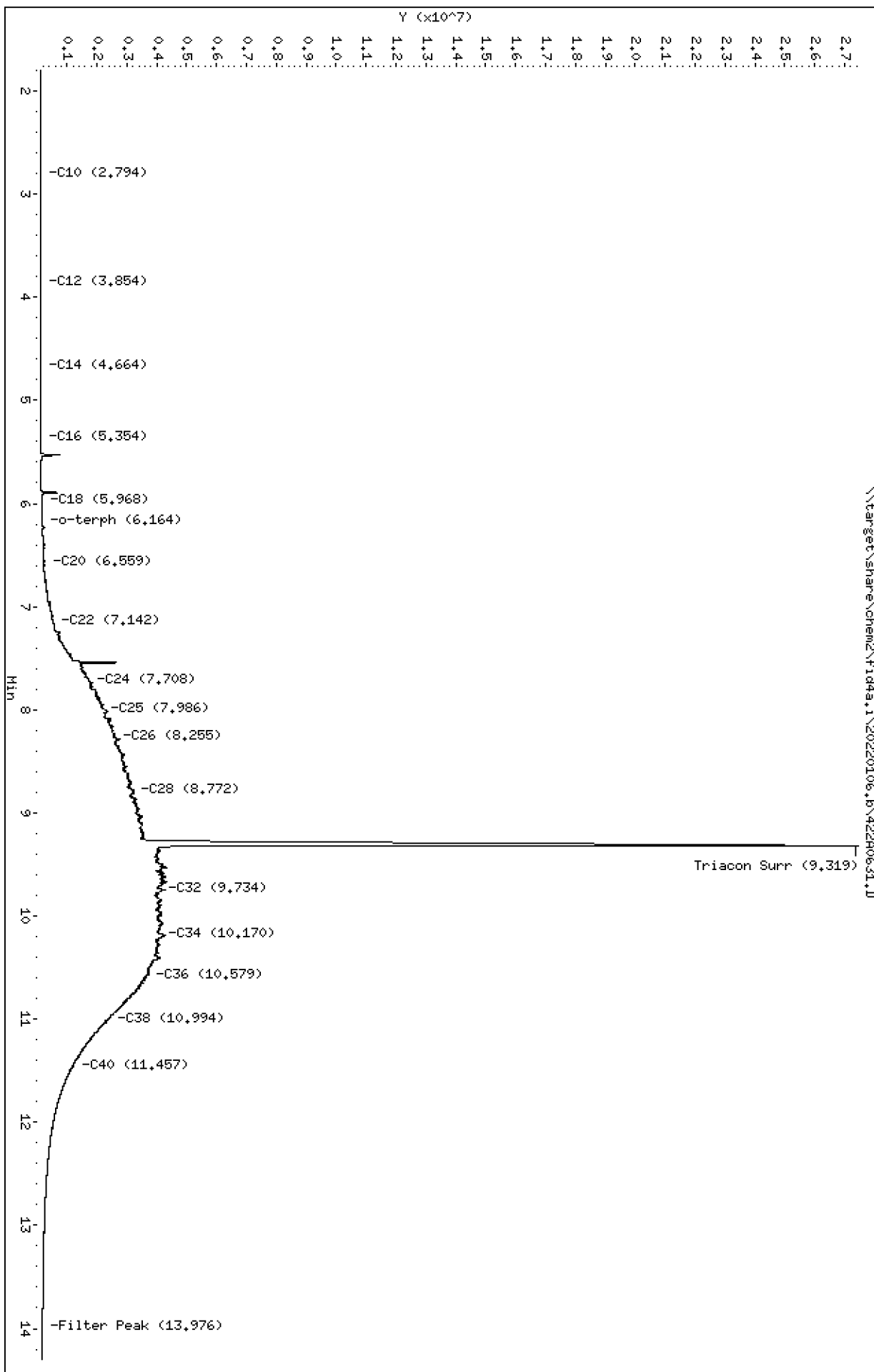
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0631.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALC  
Client ID:  
Injection: 06-JAN-2022 20:42  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	12437	6794	WATPHD	(C12-C24)	50023505	343.2
C10	2.794	-0.007	1603	1382	WATPHM	(C24-C38)	629138264	4745.4
C12	3.854	-0.004	5247	5695	AK102	(C10-C25)	69619933	404.2
C14	4.664	-0.004	10564	11502	AK103	(C25-C36)	540174647	5461.3
C16	5.354	-0.002	16087	34954	OR.DIES	(C10-C28)	208310669	1198.8
C18	5.968	-0.004	32949	39919				
C20	6.559	-0.000	138972	310447				
C22	7.142	0.001	427301	781717				
C24	7.708	-0.001	1605305	638932				
C25	7.986	-0.000	2072035	718075				
C26	8.255	-0.002	2467694	982346				
C28	8.772	-0.004	3074685	1975887				
C32	9.734	0.005	3999709	2176432				
C34	10.170	0.003	3982476	2371685				
Filter Peak	13.976	0.003	62326	40134				
C36	10.579	-0.003	3557173	2116083				
C38	10.994	0.006	2297213	1137312				
C40	11.457	-0.003	1081035	1006449				
o-terph	6.164	-0.003	41429	10336				
Triacon Surr	9.319	0.029	23838567	40429932	NAS DIES	(C10-C24)	50155994	292.0

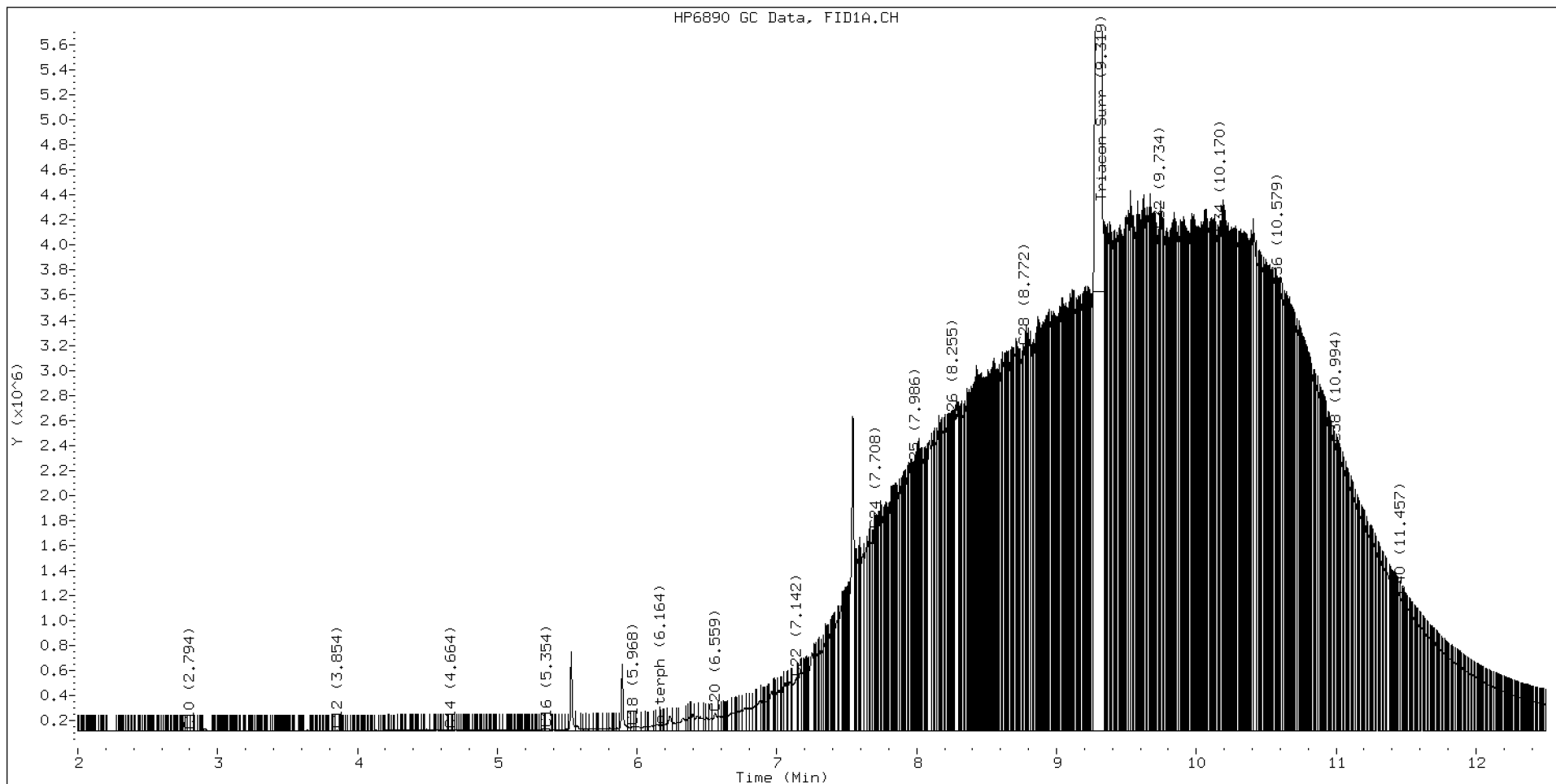
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	10336	0.1
Triacontane	40429932	232.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

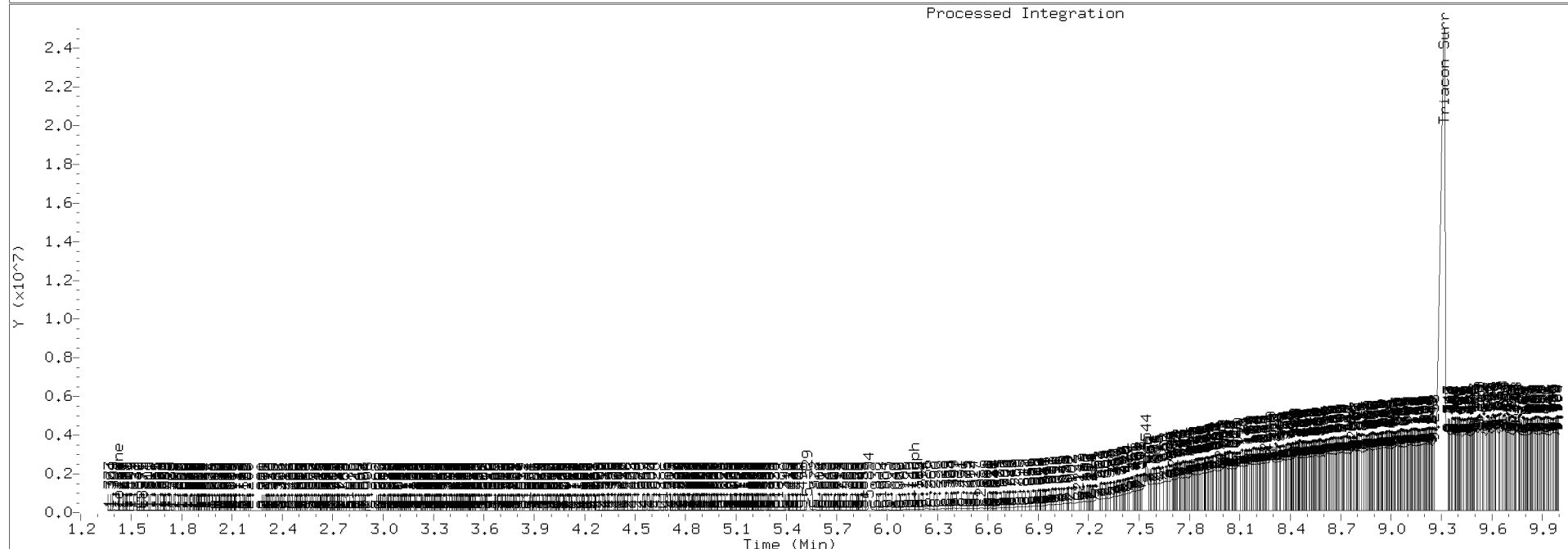
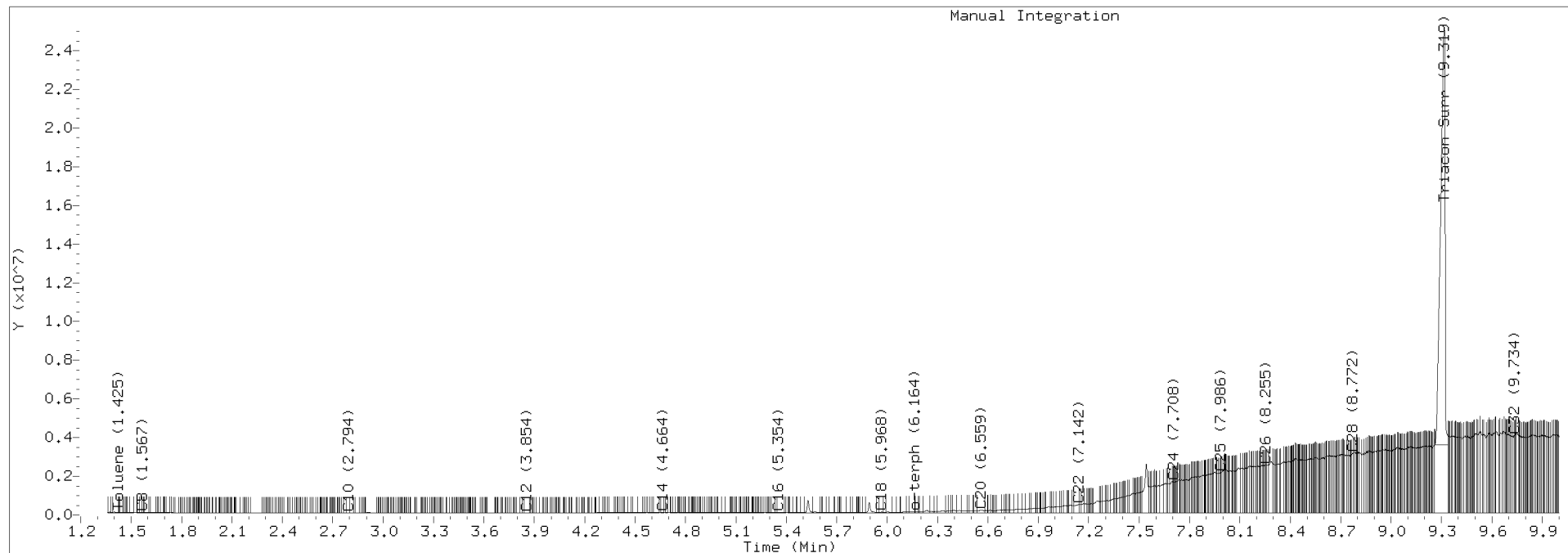




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0631.D Injection: 06-JAN-2022 20:42

Lab ID:SKA0028-CALC



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240632.D

Date: 06-JAN-2022 21:02

Client ID:

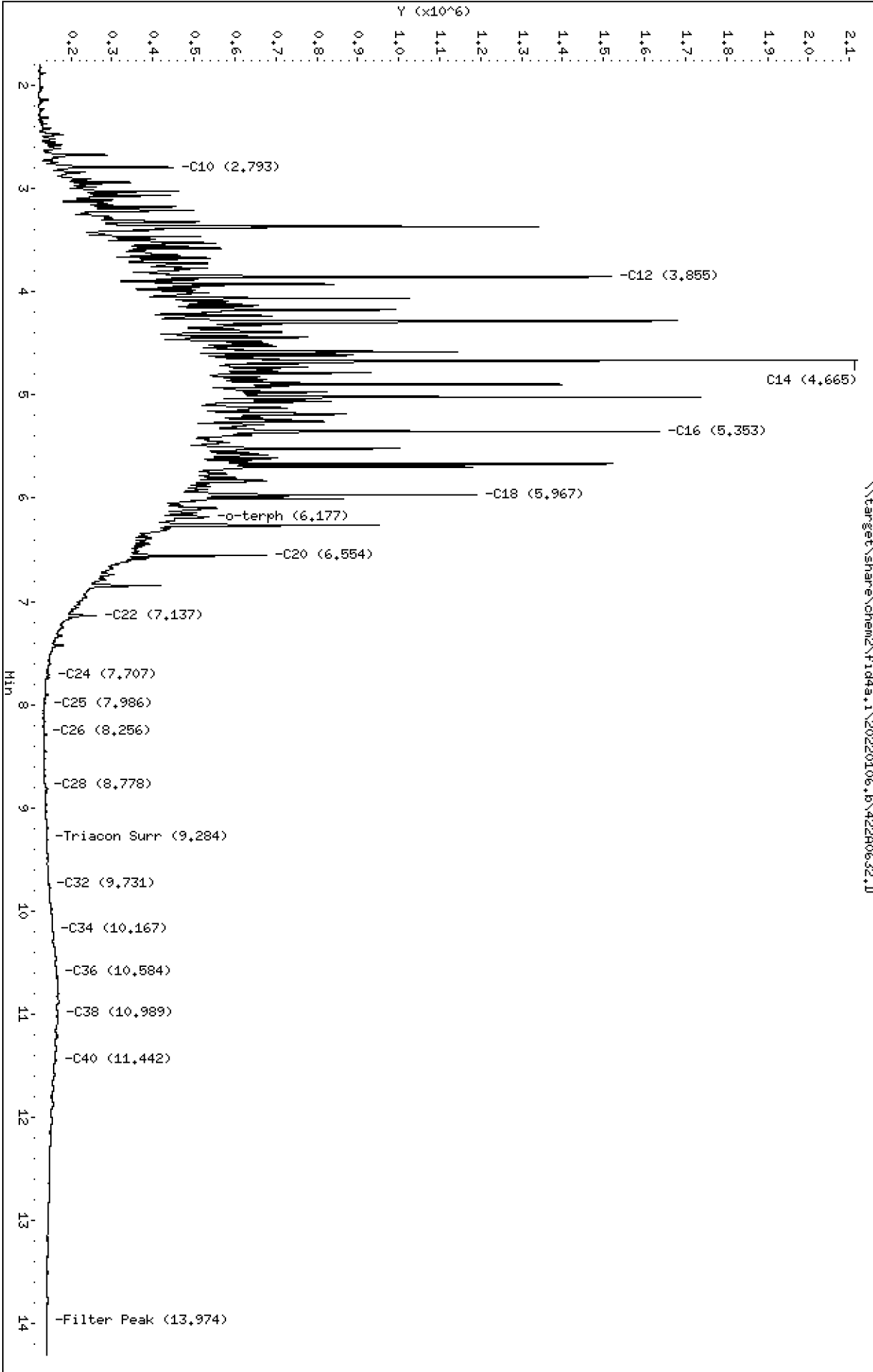
Sample Info: SKR0028-SCV1

Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0632.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV1  
Client ID:  
Injection: 06-JAN-2022 21:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

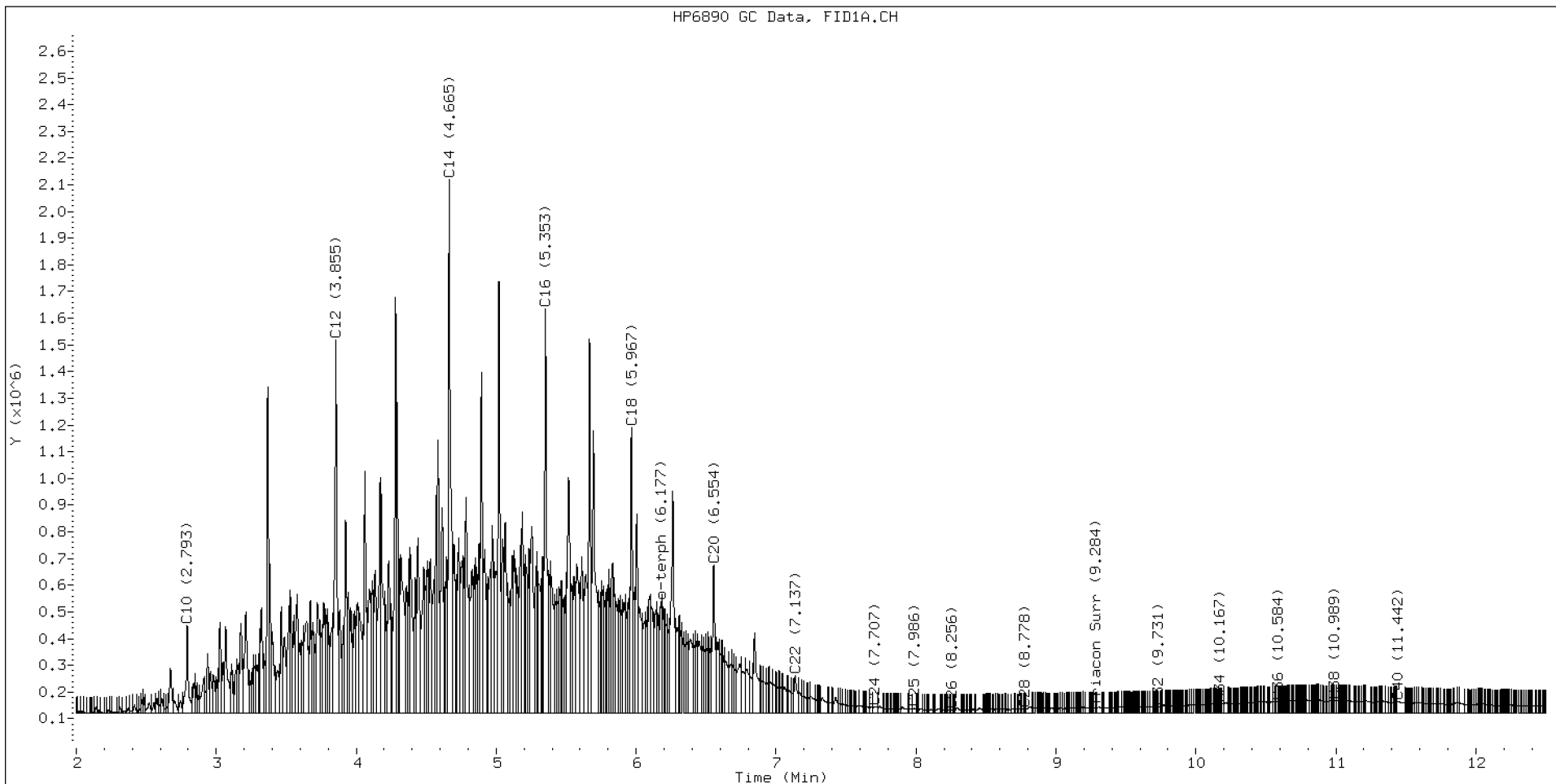
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.554	-0.012	13447	19907	WATPHD	(C12-C24)	81818326	561.4
C10	2.793	-0.008	328700	402623	WATPHM	(C24-C38)	4903930	37.0
C12	3.855	-0.003	1398359	1541786	AK102	(C10-C25)	98237239	570.4
C14	4.665	-0.003	1998212	2275704	AK103	(C25-C36)	3617447	36.6
C16	5.353	-0.003	1514409	1842028	OR.DIES	(C10-C28)	98957633	569.5
C18	5.967	-0.005	1069816	1029152				
C20	6.554	-0.005	555197	666071				
C22	7.137	-0.004	141564	207118				
C24	7.707	-0.002	25196	52303				
C25	7.986	-0.000	18136	25237				
C26	8.256	-0.001	12963	11391				
C28	8.778	0.002	15805	6221				
C32	9.731	0.002	24227	8392				
C34	10.167	-0.000	33488	11671				
Filter Peak	13.974	0.001	19683	11641				
C36	10.584	0.003	44128	15372				
C38	10.989	0.001	46492	34691				
C40	11.442	-0.018	43094	144180				
o-terph	6.177	0.010	416300	426651				
Triacon Surr	9.284	-0.006	19261	10418	NAS DIES	(C10-C24)	98063156	571.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	426651	2.2
Triacontane	10418	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



Data File: \\target\share\chem2\fid4a,1\20220106,b\42280633.D

Date: 06-JAN-2022 21:21

Client ID:

Sample Info: SKR0028-SCV2

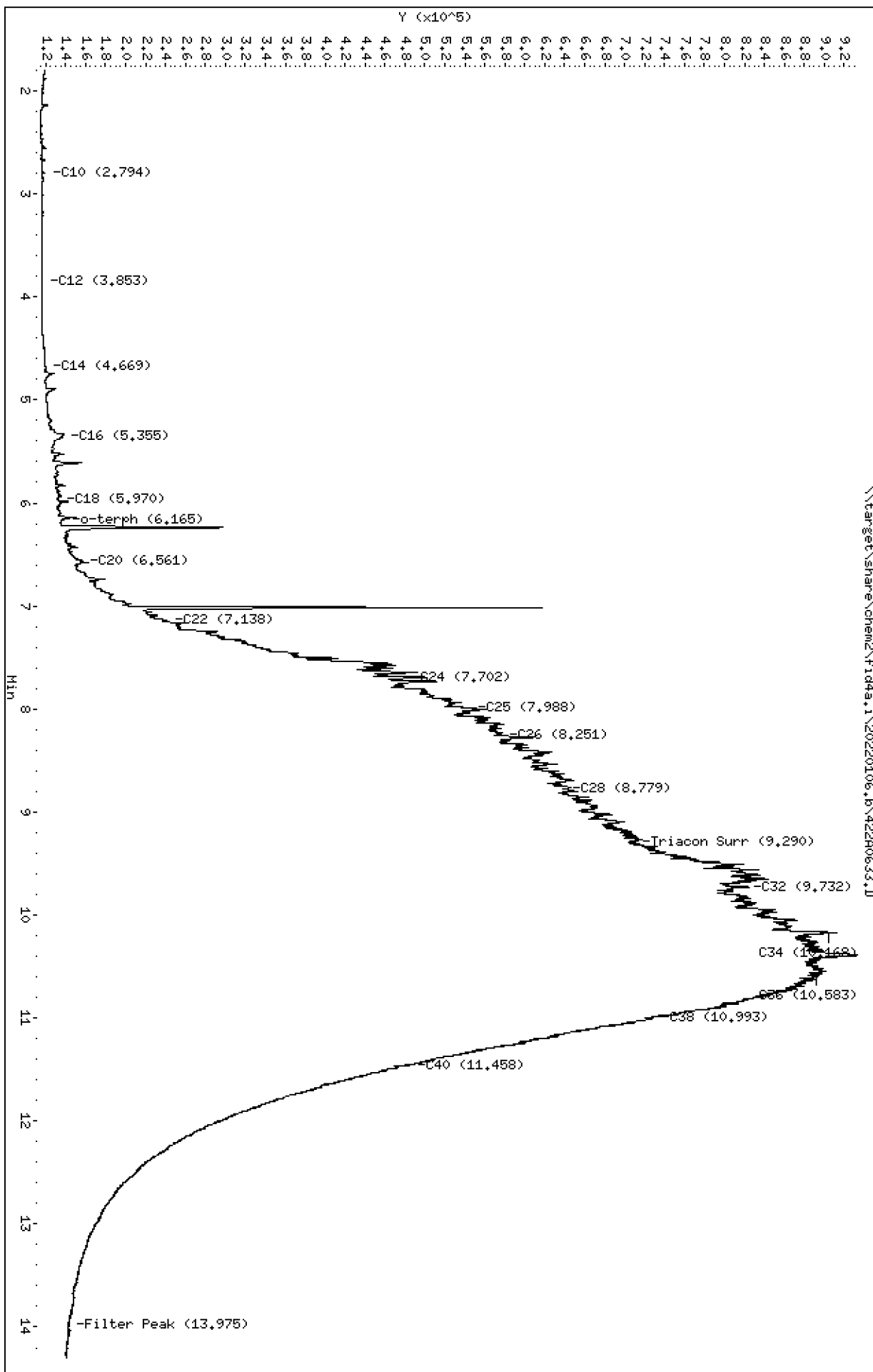
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0633.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV2  
Client ID:  
Injection: 06-JAN-2022 21:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

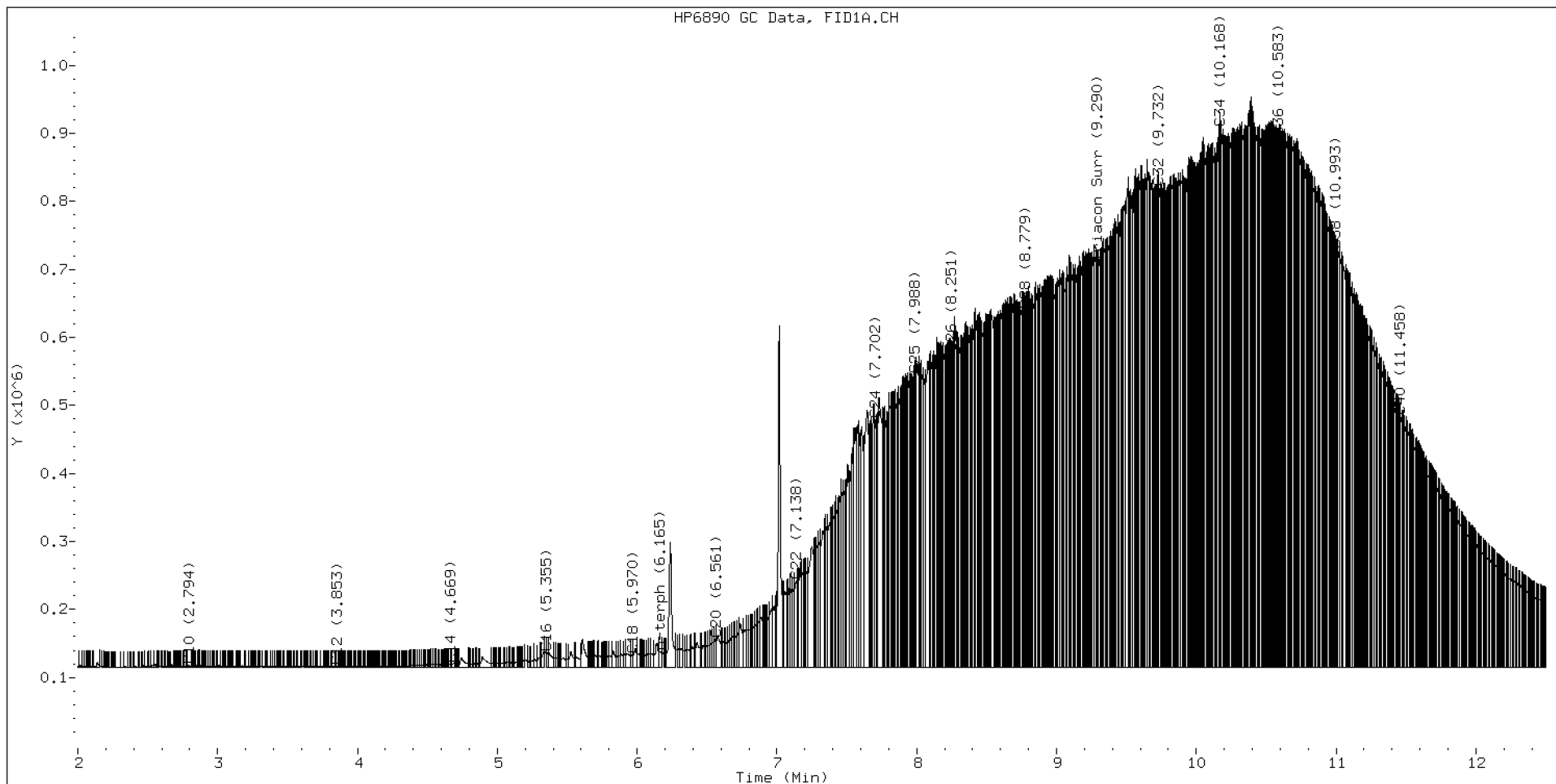
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.571	0.005	9397	3234	WATPHD	(C12-C24)	14056895	96.4
C10	2.794	-0.008	3468	3249	WATPHM	(C24-C38)	119954259	904.8
C12	3.853	-0.006	1998	1502	AK102	(C10-C25)	18142709	105.3
C14	4.669	0.001	4718	2557	AK103	(C25-C36)	98929750	1000.2
C16	5.355	-0.002	21381	13437	OR.DIES	(C10-C28)	43590146	250.9
C18	5.970	-0.003	18024	5393				
C20	6.561	0.002	41385	47221				
C22	7.138	-0.003	126282	164868				
C24	7.702	-0.007	364294	249450				
C25	7.988	0.002	429789	170231				
C26	8.251	-0.006	461561	275289				
C28	8.779	0.003	524231	157049				
C32	9.732	0.002	706043	454955				
C34	10.168	0.001	792309	274623				
Filter Peak	13.975	0.002	27946	6956				
C36	10.583	0.002	779610	310190				
C38	10.993	0.004	614371	153291				
C40	11.458	-0.002	369218	346346				
o-terph	6.165	-0.002	22790	28222				
Triacon Surr	9.290	-0.000	594134	295766	NAS DIES	(C10-C24)	14144817	82.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	28222	0.1
Triacotane	295766	1.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022





Data File: \\target\share\chem2\fid4a,1\20220106,b\42280634.D

Date: 06-JAN-2022 21:41

Client ID:

Sample Info: SKR0028-CALD

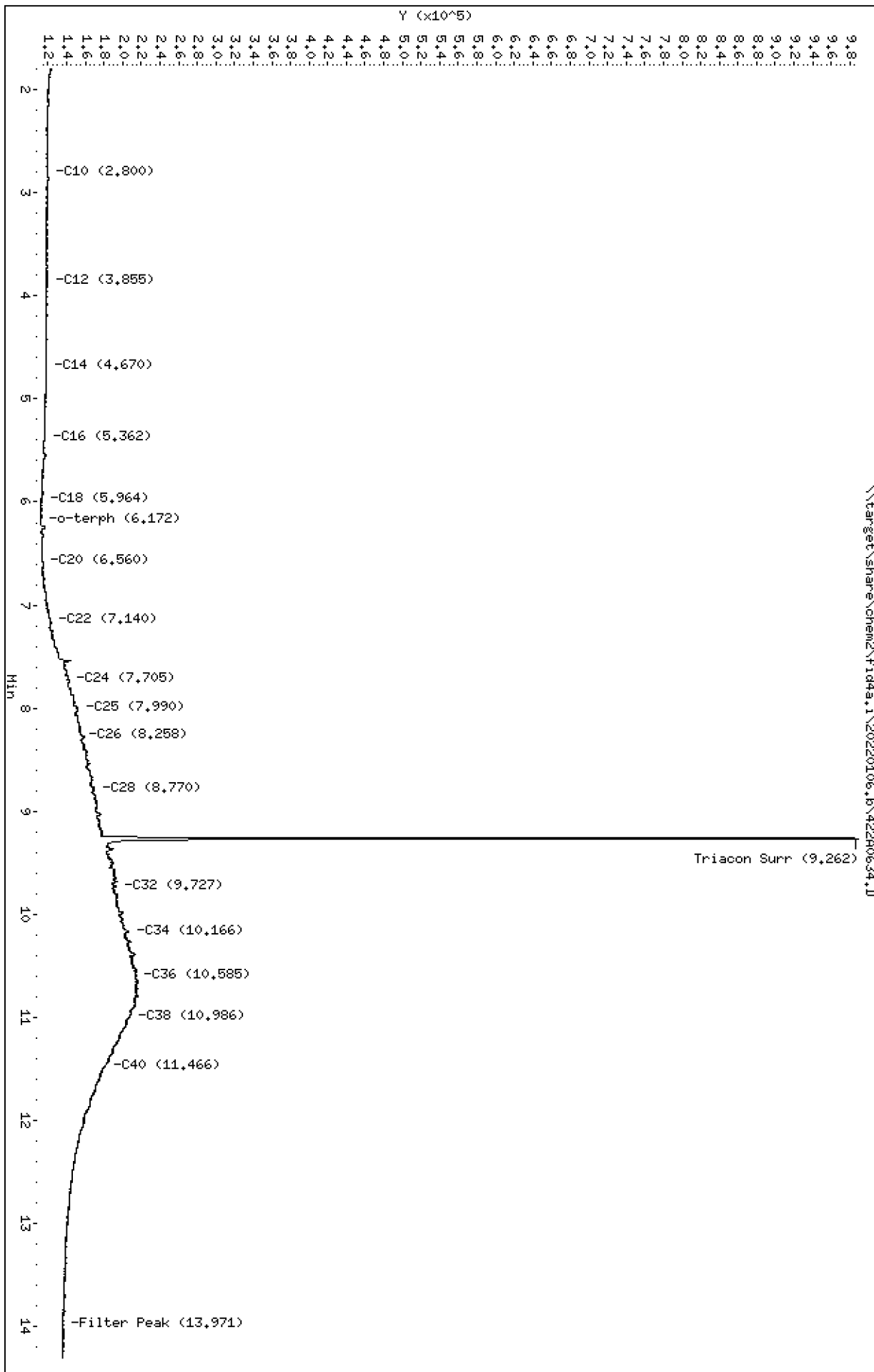
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0634.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALD  
Client ID:  
Injection: 06-JAN-2022 21:41  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

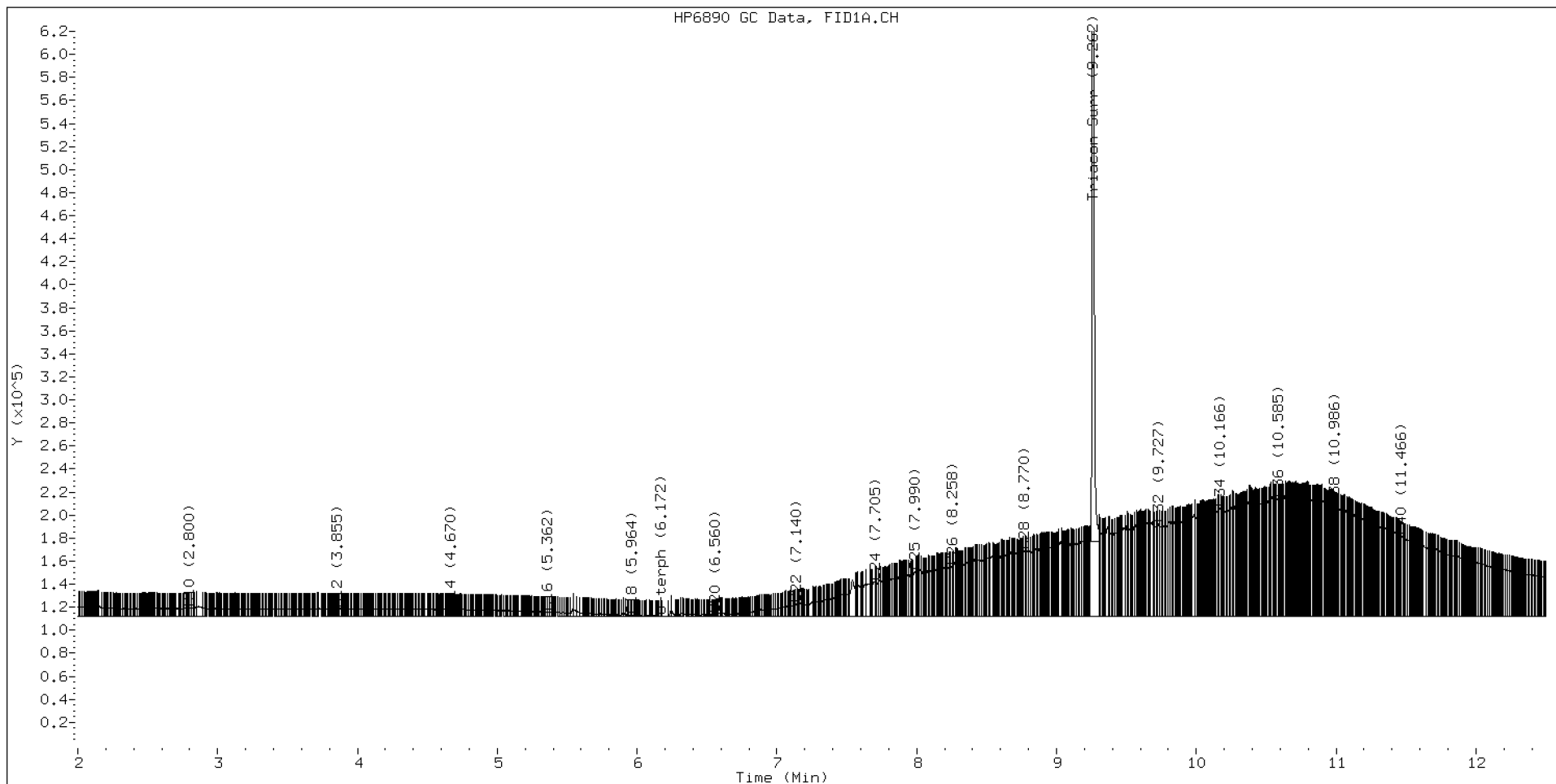
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17146	19314	WATPHD	(C12-C24)	1474779	10.1
C10	2.800	-0.002	6919	1375	WATPHM	(C24-C38)	13771790	103.9
C12	3.855	-0.003	6785	3685	AK102	(C10-C25)	2234932	13.0
C14	4.670	0.002	6048	2401	AK103	(C25-C36)	10945533	110.7
C16	5.362	0.006	3993	2753	OR.DIES	(C10-C28)	4695847	27.0
C18	5.964	-0.008	893	555				
C20	6.560	-0.000	1925	933				
C22	7.140	-0.001	10540	7151				
C24	7.705	-0.004	29831	19074				
C25	7.990	0.003	39026	43181				
C26	8.258	0.001	43157	10746				
C28	8.770	-0.005	57286	39691				
C32	9.727	-0.003	80921	56092				
C34	10.166	-0.001	93902	74517				
Filter Peak	13.971	-0.002	23966	5967				
C36	10.585	0.004	101870	25421				
C38	10.986	-0.003	96118	43017				
C40	11.466	0.007	69773	58785				
o-terph	6.172	0.005	280	151				
Triacon Surr	9.262	-0.028	812213	727031	NAS DIES	(C10-C24)	1904331	11.1

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	151	0.0
Triacontane	727031	4.2 M

M Indicates the peak was manually integrated

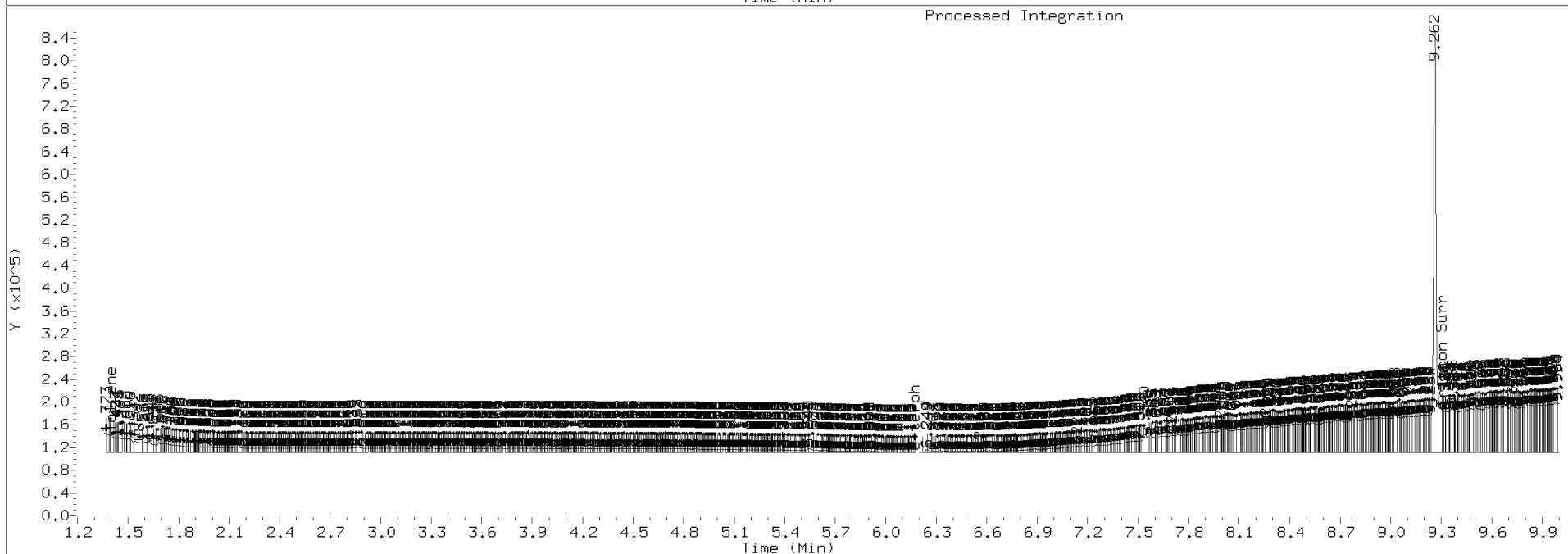
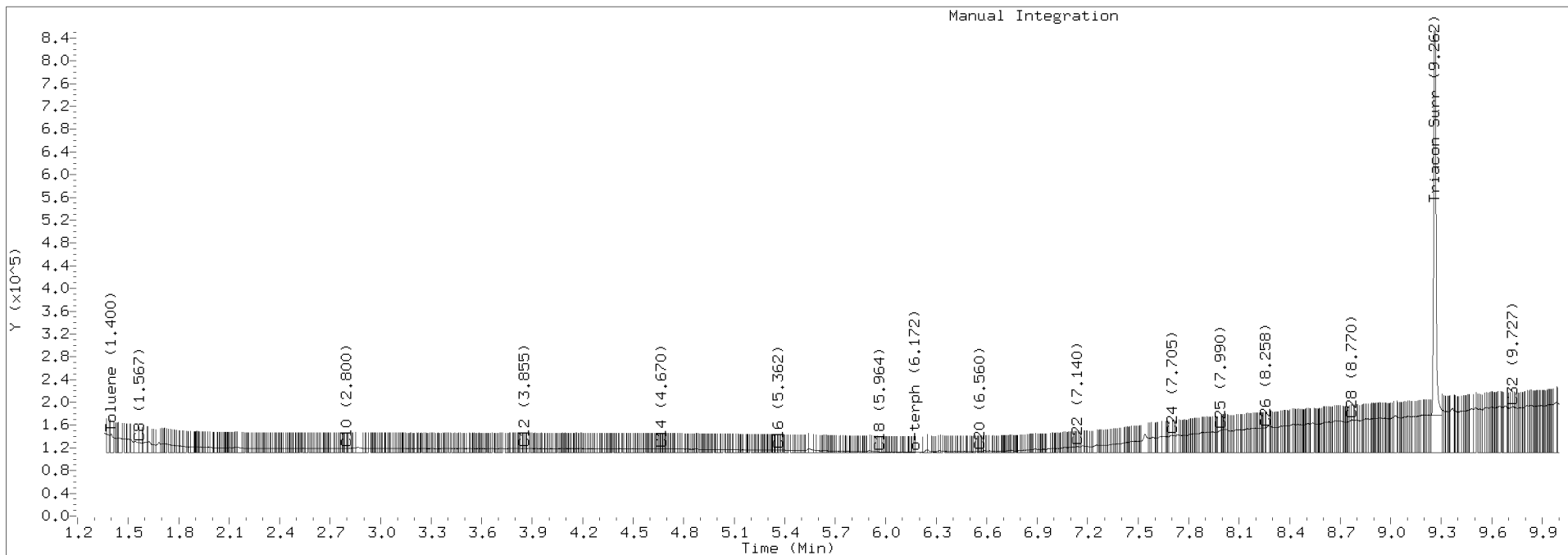
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0634.D Injection: 06-JAN-2022 21:41

Lab ID:SKA0028-CALD



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240635.D

Date: 06-JAN-2022 22:01

Client ID:

Sample Info: SKR0028-CALE

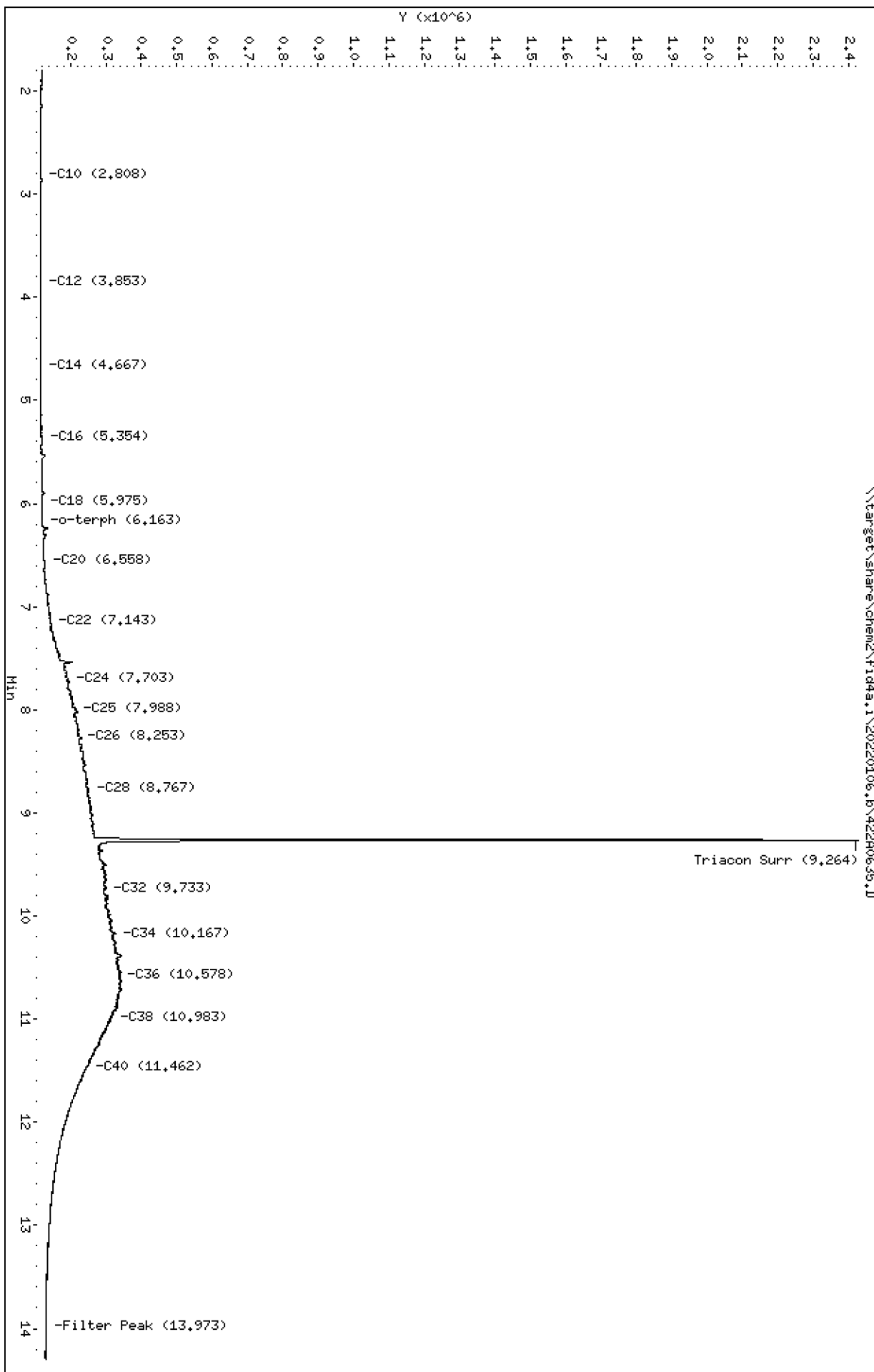
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0635.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALE  
Client ID:  
Injection: 06-JAN-2022 22:01  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

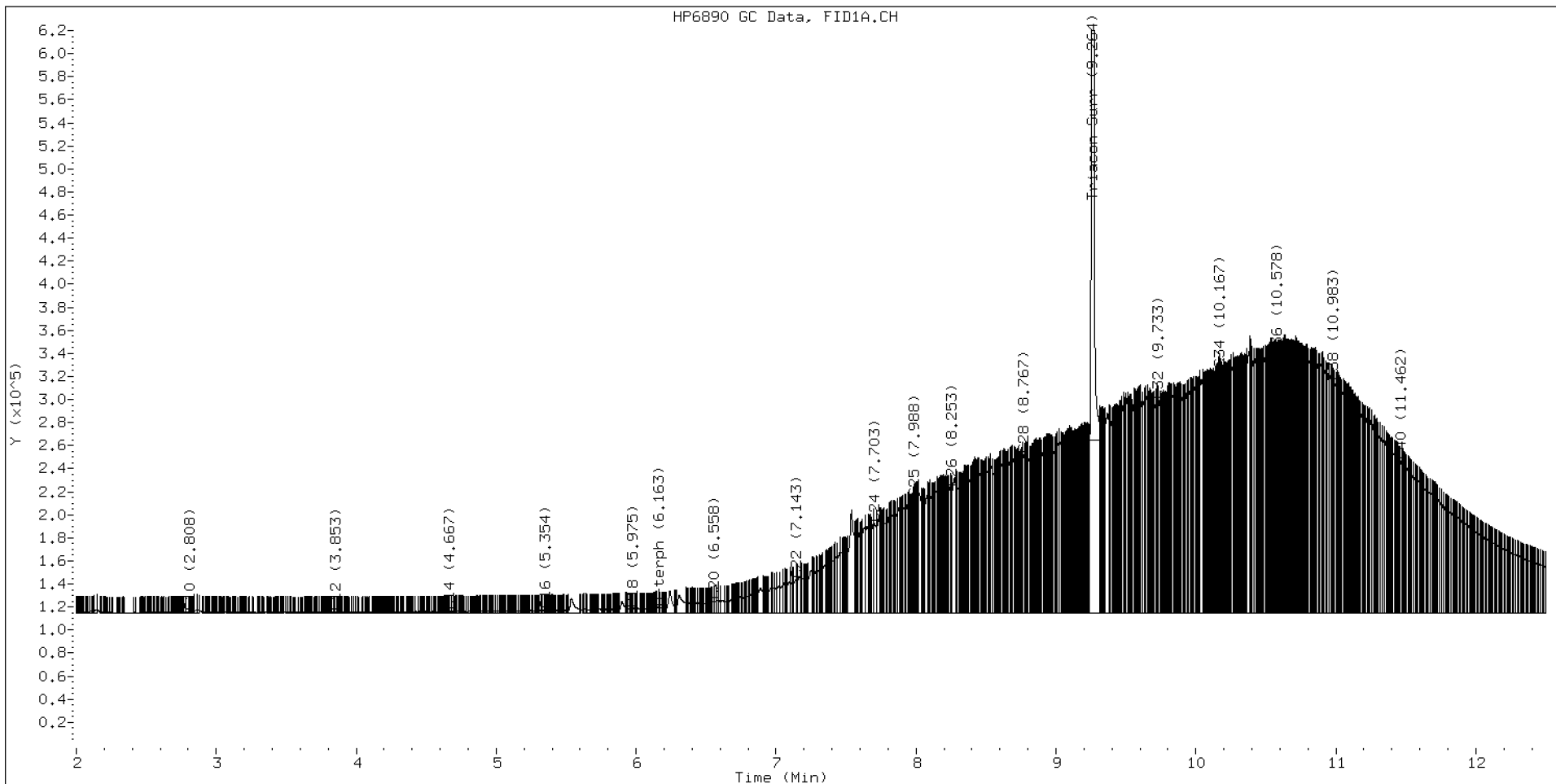
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.010	8719	1728	WATPHD	(C12-C24)	2929726	20.1
C10	2.808	0.007	730	310	WATPHM	(C24-C38)	31748804	239.5
C12	3.853	-0.006	795	616	AK102	(C10-C25)	3824694	22.2
C14	4.667	-0.001	1277	1021	AK103	(C25-C36)	25645540	259.3
C16	5.354	-0.002	2070	507	OR.DIES	(C10-C28)	9965738	57.4
C18	5.975	0.003	3530	1724				
C20	6.558	-0.002	10355	11106				
C22	7.143	0.001	29007	34388				
C24	7.703	-0.005	77178	83297				
C25	7.988	0.002	98914	48889				
C26	8.253	-0.005	108103	48204				
C28	8.767	-0.009	136834	155381				
C32	9.733	0.004	184014	127408				
C34	10.167	-0.000	211495	52618				
Filter Peak	13.973	0.000	14730	5087				
C36	10.578	-0.003	222240	77716				
C38	10.983	-0.005	200745	129371				
C40	11.462	0.002	131317	97270				
o-terph	6.163	-0.004	4526	2639				
Triacon Surr	9.264	-0.025	2163427	1840060	NAS DIES	(C10-C24)	2959772	17.2

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	2639	0.0
Triacotane	1840060	10.6 M

M Indicates the peak was manually integrated

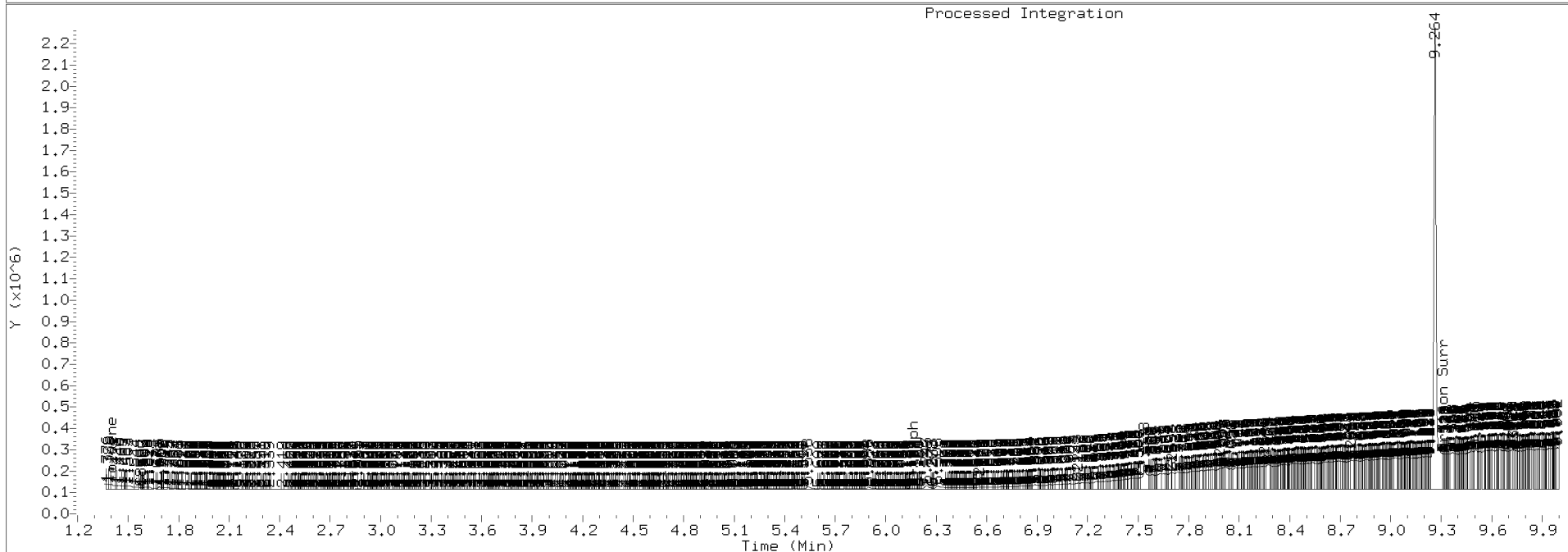
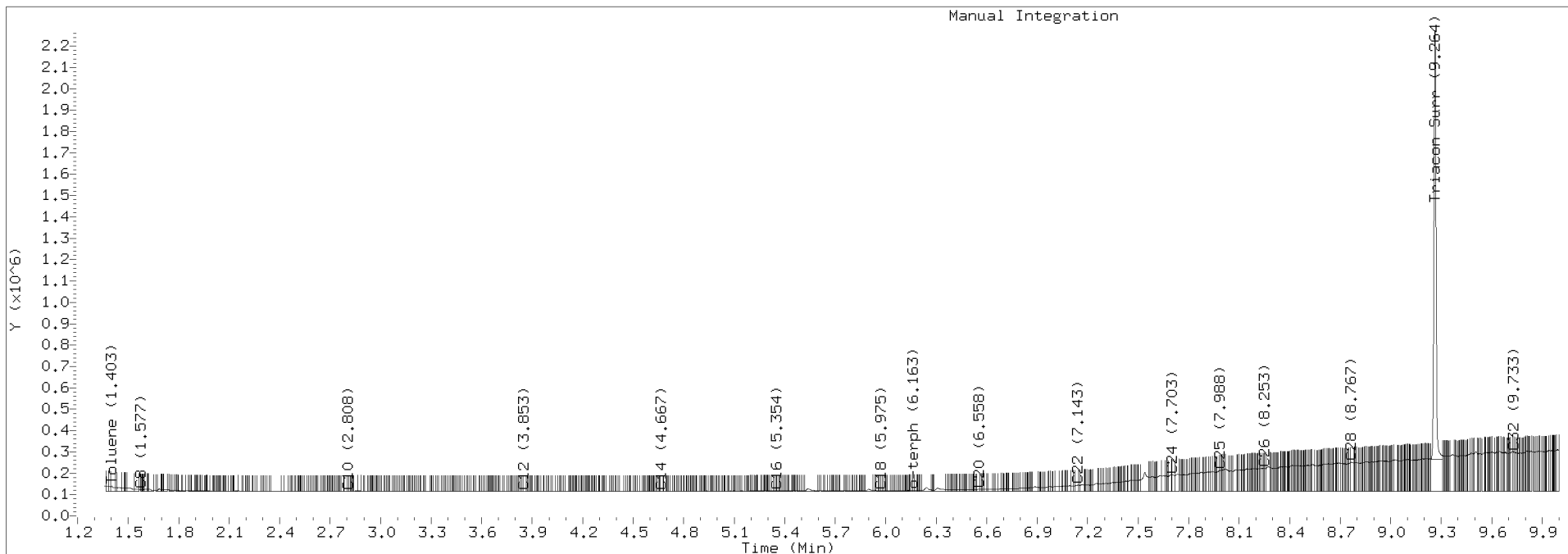
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0635.D Injection: 06-JAN-2022 22:01

Lab ID:SKA0028-CALE





Data File: \\target\share\chem2\fid4a,1\20220106.b\42240636.D

Date: 06-JAN-2022 22:21

Client ID:

Sample Info: SKR0028-CALF

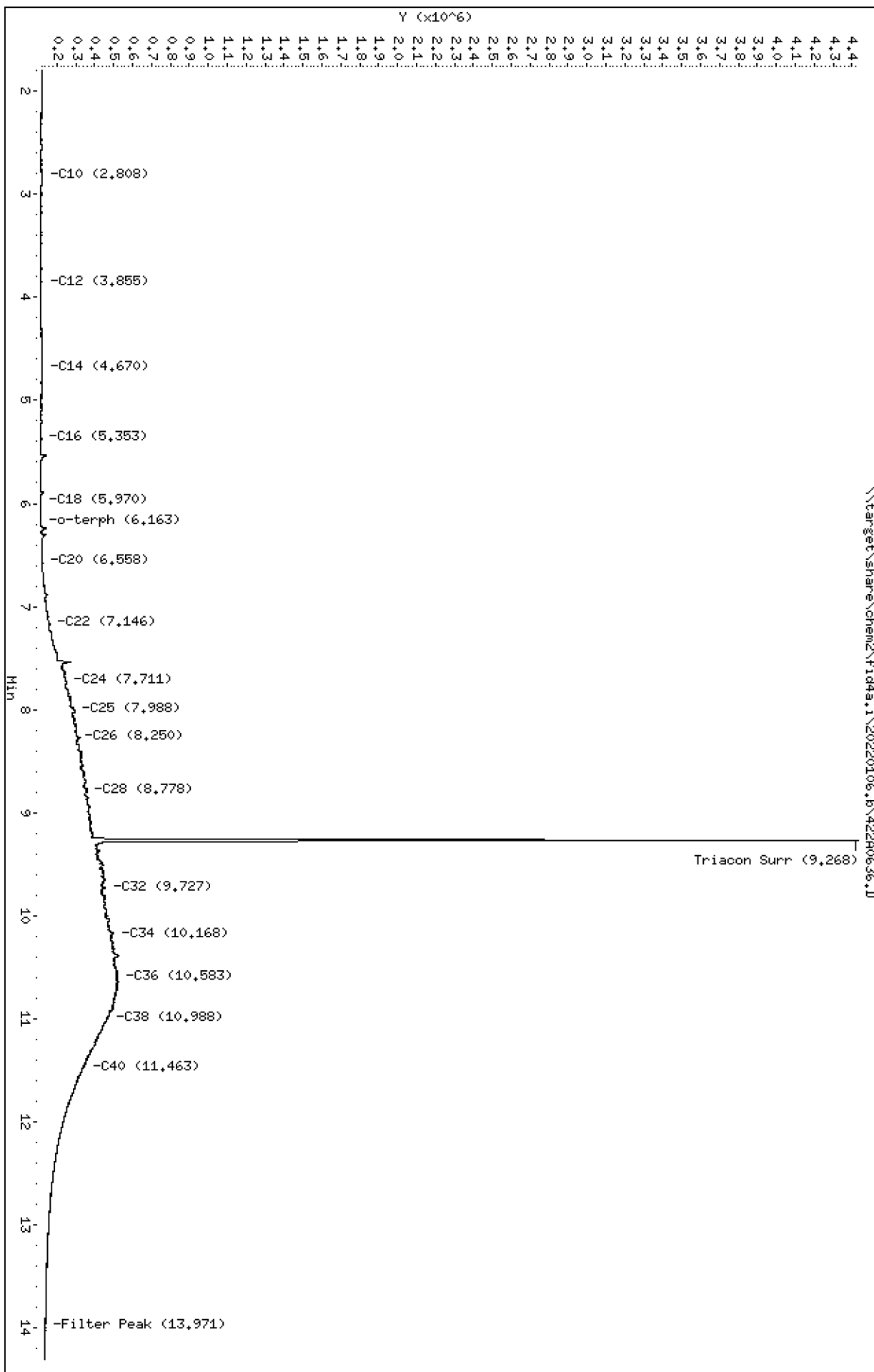
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0636.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALF  
Client ID:  
Injection: 06-JAN-2022 22:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

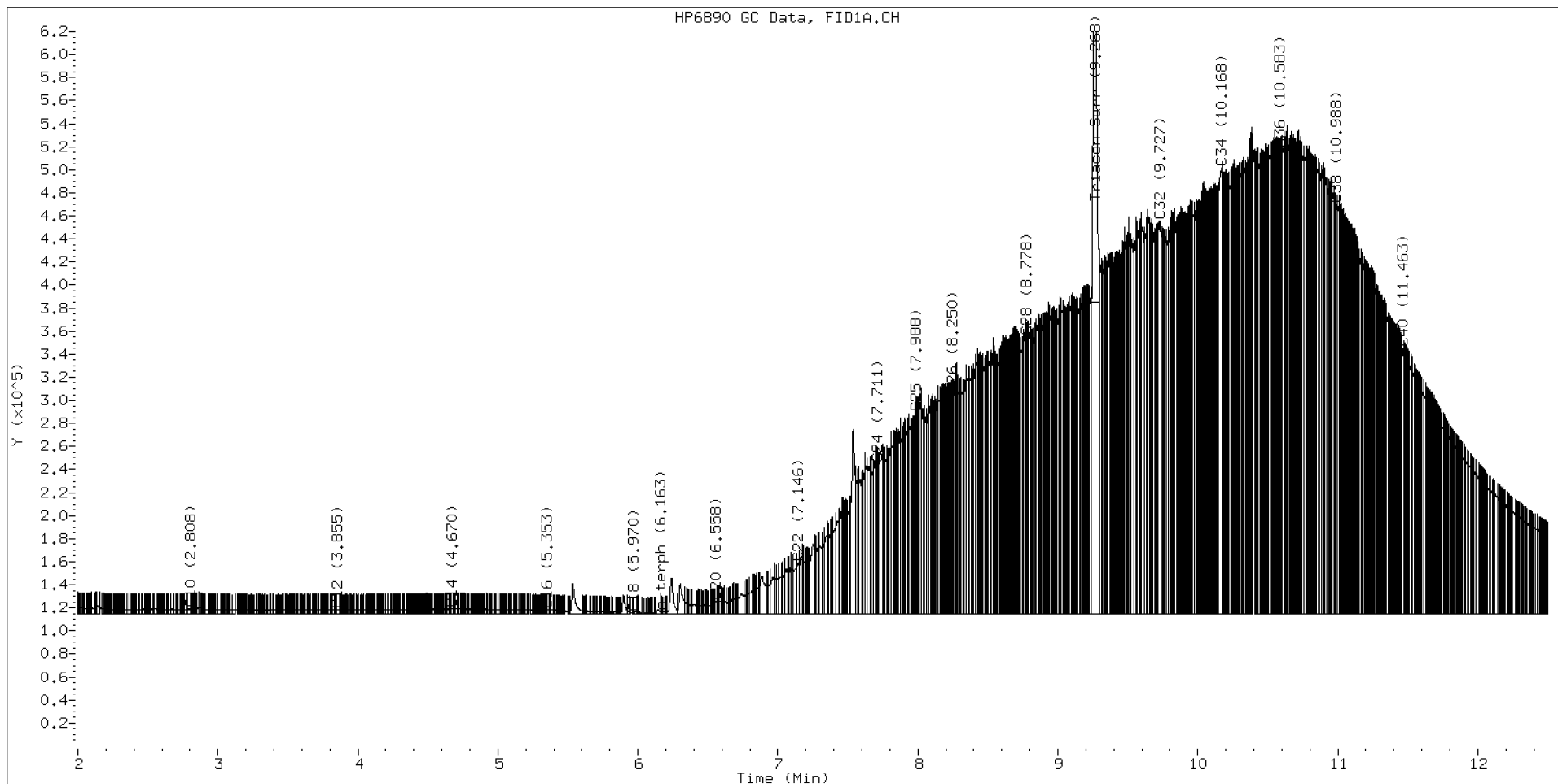
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.588	0.022	14154	9065	WATPHD	(C12-C24)	4637647	31.8
C10	2.808	0.006	3982	972	WATPHM	(C24-C38)	56653473	427.3
C12	3.855	-0.004	3786	3993	AK102	(C10-C25)	6441039	37.4
C14	4.670	0.002	4050	2404	AK103	(C25-C36)	45729418	462.3
C16	5.353	-0.004	3118	761	OR.DIES	(C10-C28)	17026229	98.0
C18	5.970	-0.002	794	203				
C20	6.558	-0.001	10478	9728				
C22	7.146	0.005	44045	65456				
C24	7.711	0.002	130061	38666				
C25	7.988	0.002	174343	60325				
C26	8.250	-0.007	189683	56662				
C28	8.778	0.003	240756	95966				
C32	9.727	-0.003	340946	614753				
C34	10.168	0.001	386820	624600				
Filter Peak	13.971	-0.002	25087	9932				
C36	10.583	0.002	402993	240743				
C38	10.988	-0.000	355088	281638				
C40	11.463	0.003	229950	158804				
o-terph	6.163	-0.005	2082	1126				
Triacon Surr	9.268	-0.022	4048608	3404066	NAS DIES	(C10-C24)	4860533	28.3

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1126	0.0
Triacotane	3404066	19.5 M

M Indicates the peak was manually integrated

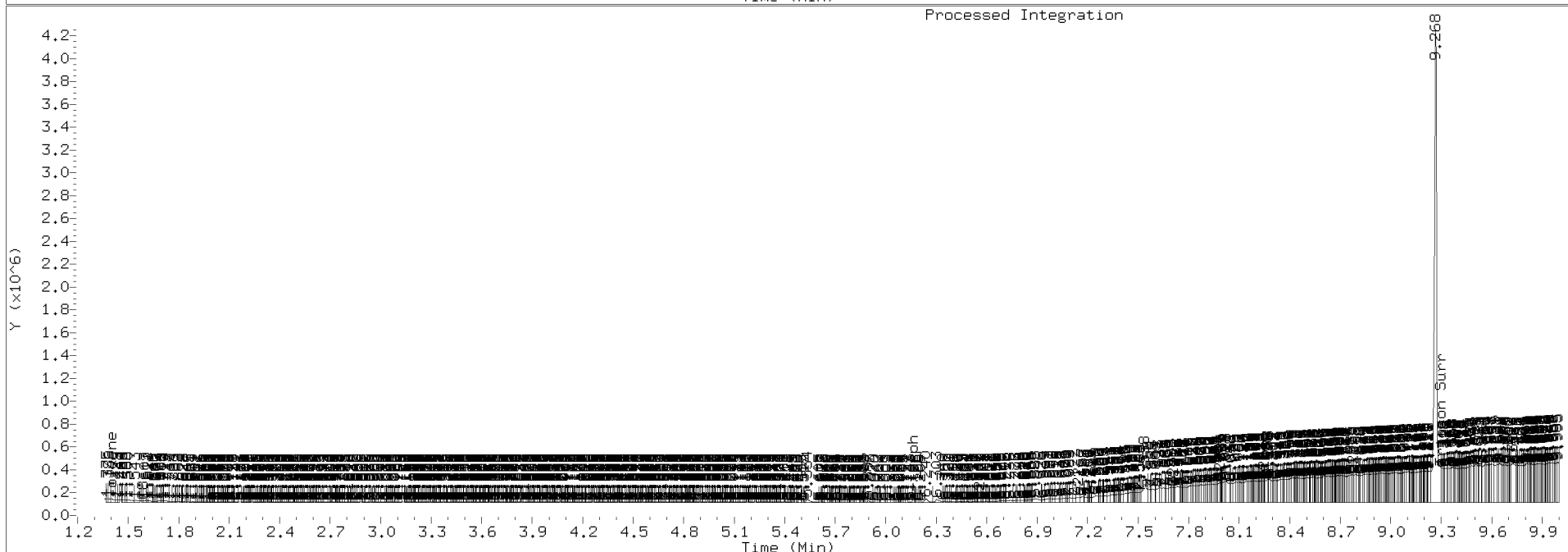
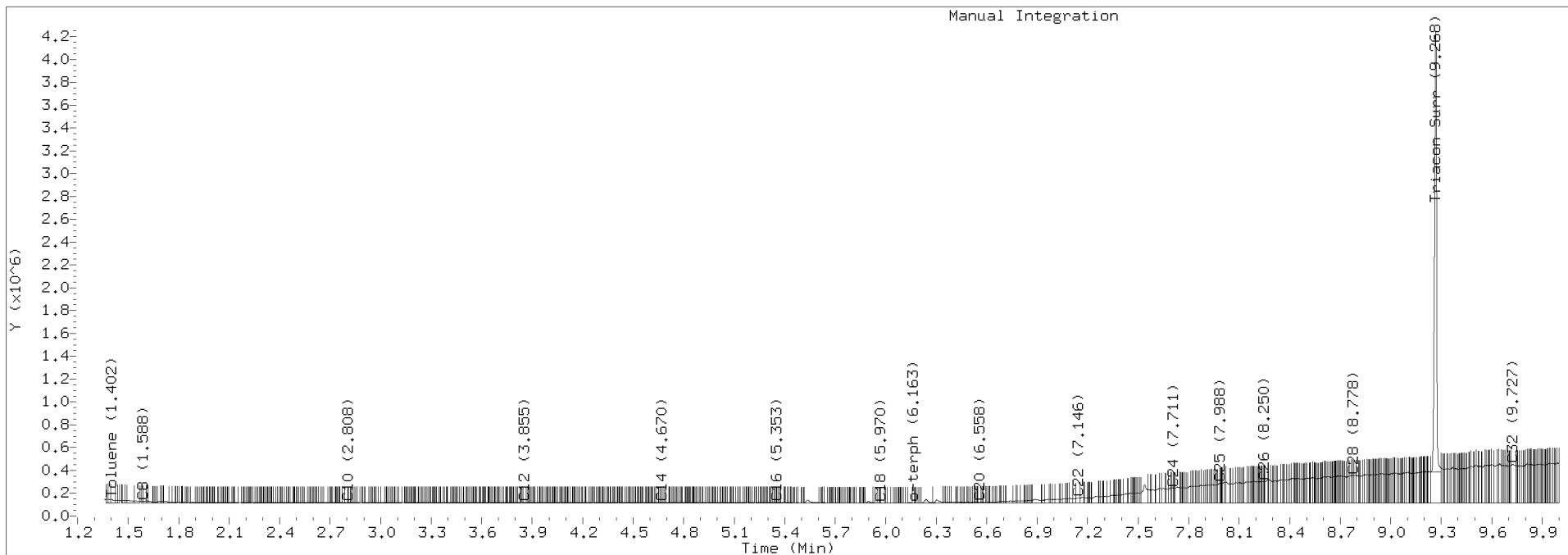
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0636.D Injection: 06-JAN-2022 22:21

Lab ID:SKA0028-CALF



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240637.D

Date: 06-JAN-2022 22:40

Client ID:

Sample Info: SKR0028-CALG

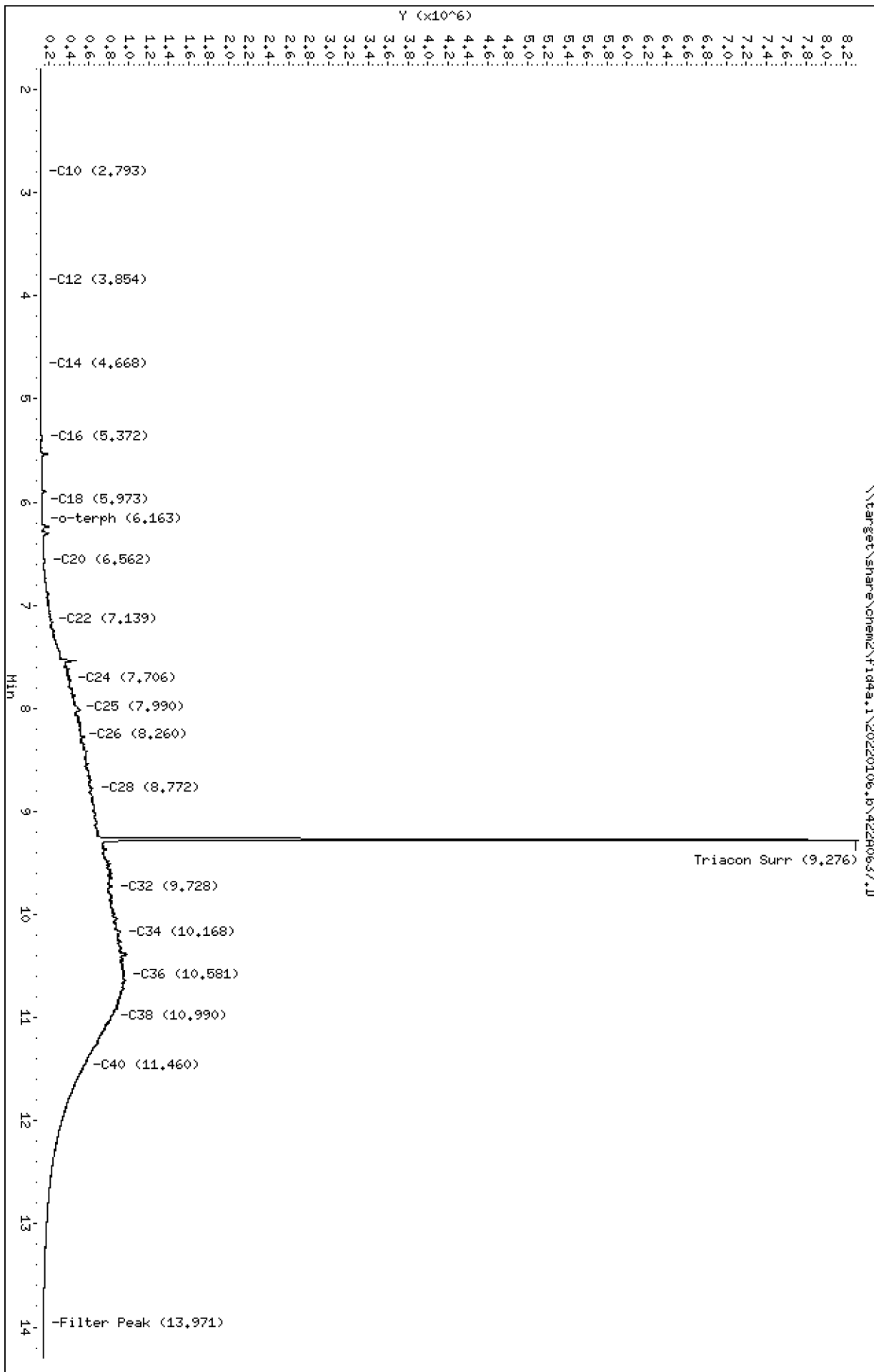
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0637.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALG  
Client ID:  
Injection: 06-JAN-2022 22:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

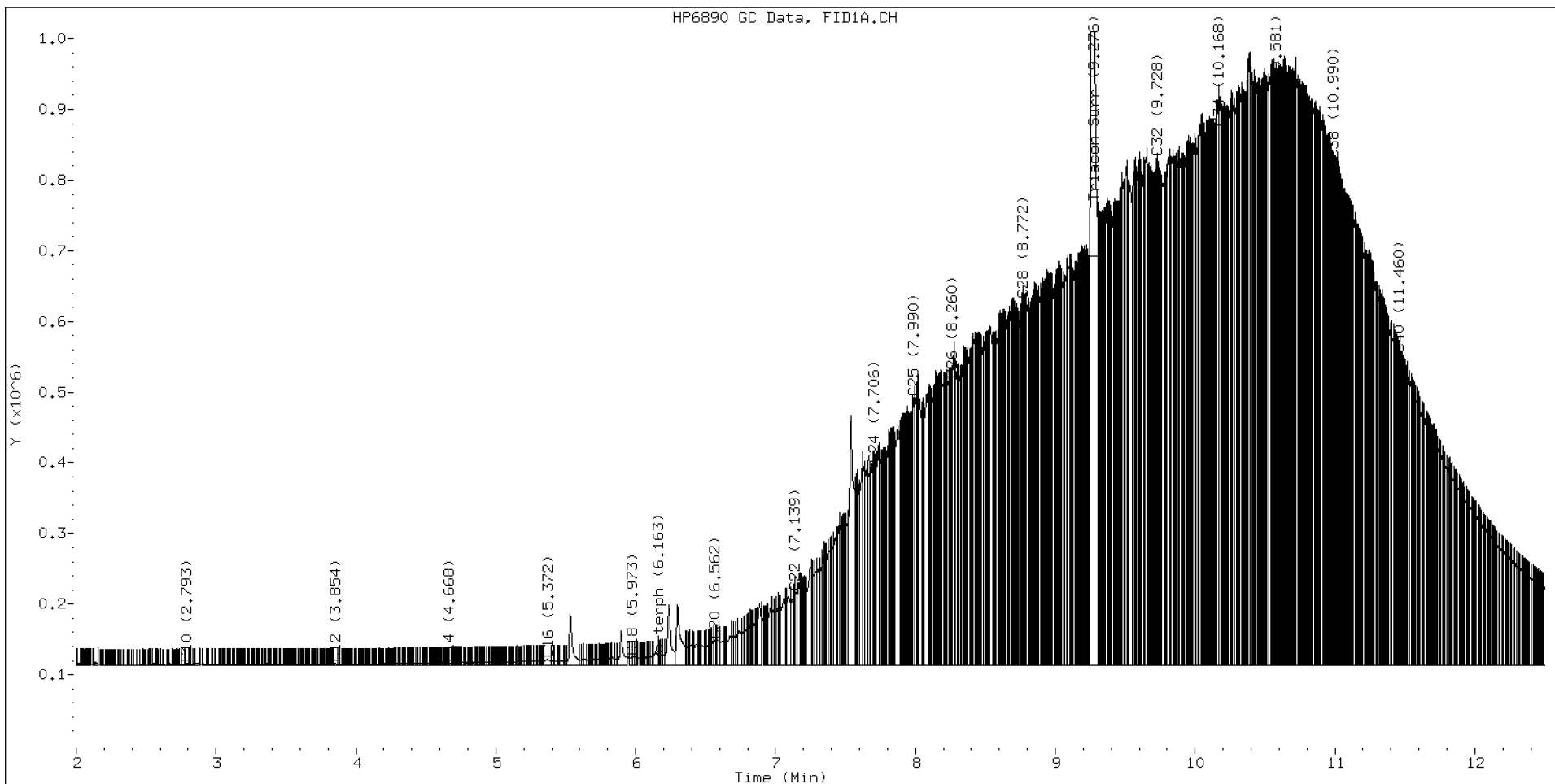
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10251	8037	WATPHD	(C12-C24)	10669048	73.2
C10	2.793	-0.009	2989	2545	WATPHM	(C24-C38)	118912028	896.9
C12	3.854	-0.004	3129	3369	AK102	(C10-C25)	14106045	81.9
C14	4.668	-0.000	3674	726	AK103	(C25-C36)	96301748	973.6
C16	5.372	0.016	8563	21003	OR.DIES	(C10-C28)	36905977	212.4
C18	5.973	0.001	11679	12084				
C20	6.562	0.002	35663	24640				
C22	7.139	-0.002	103298	79290				
C24	7.706	-0.003	284447	224436				
C25	7.990	0.004	378257	277820				
C26	8.260	0.003	403438	120714				
C28	8.772	-0.004	516982	255803				
C32	9.728	-0.002	718410	459925				
C34	10.168	0.001	803384	239993				
Filter Peak	13.971	-0.002	27761	6898				
C36	10.581	-0.000	834404	331494				
C38	10.990	0.001	714197	317894				
C40	11.460	0.001	440399	153485				
o-terph	6.163	-0.004	14672	10827				
Triacon Surr	9.276	-0.014	7631149	7112816	NAS DIES	(C10-C24)	10776583	62.7

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	10827	0.1
Triacontane	7112816	40.8 M

M Indicates the peak was manually integrated

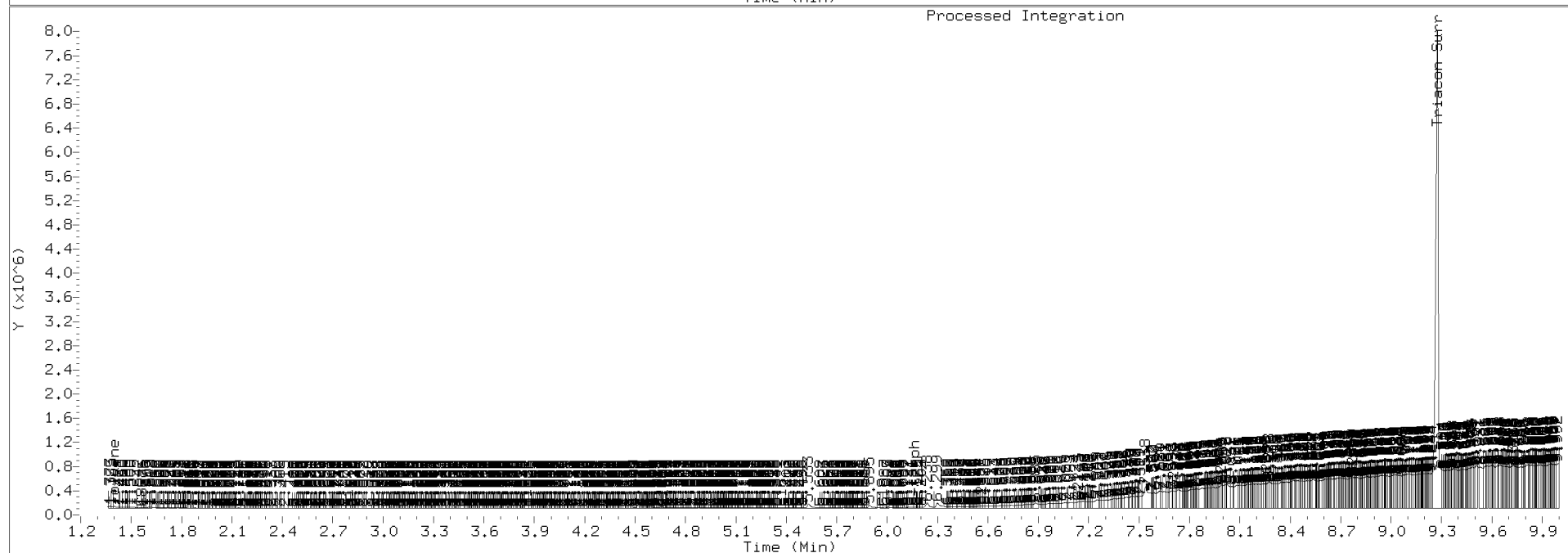
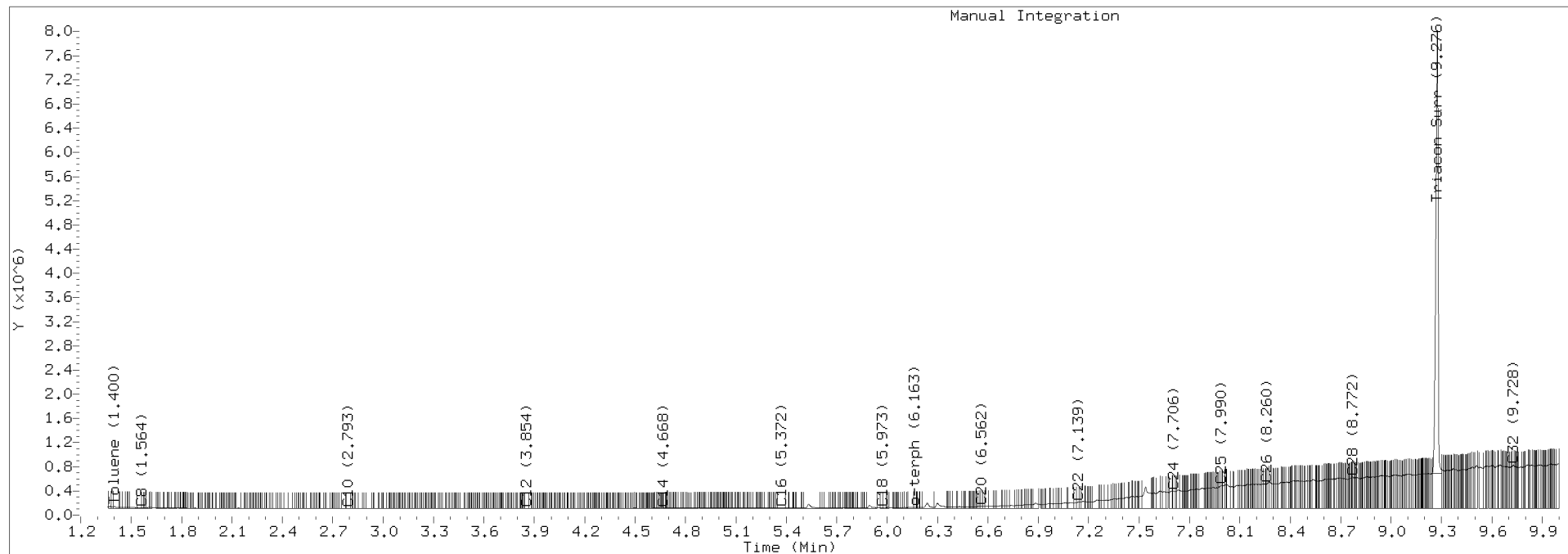
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0637.D Injection: 06-JAN-2022 22:40

Lab ID:SKA0028-CALG





Data File: \\target\share\chem2\fid4a,1\20220106.b\42240638.D

Date: 06-JAN-2022 23:00

Client ID:

Sample Info: SKR0028-CALLH

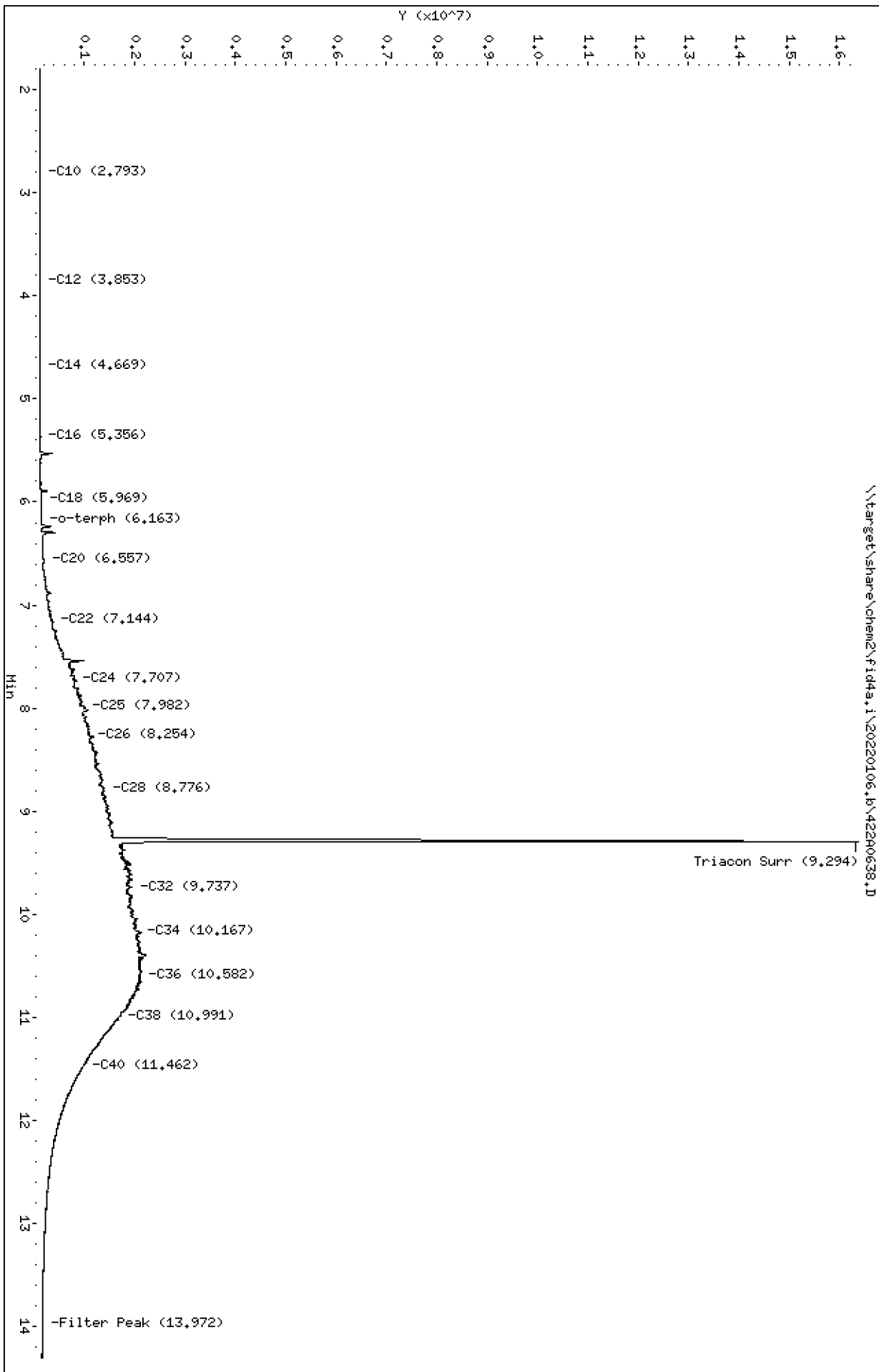
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106.b\42240638.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0638.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALH  
Client ID:  
Injection: 06-JAN-2022 23:00  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

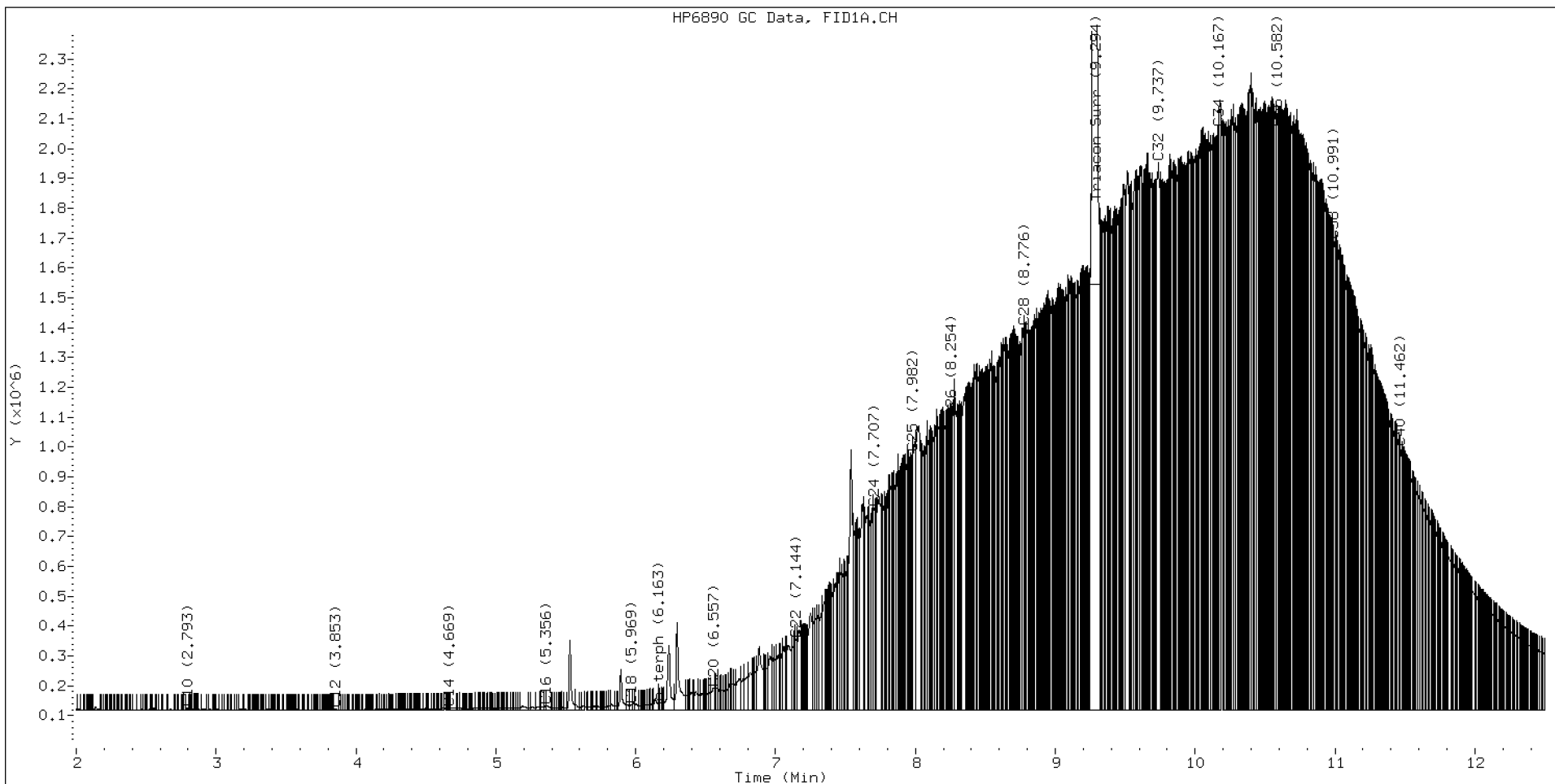
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.550	-0.016	15003	25686	WATPHD	(C12-C24)	24361681	167.1
C10	2.793	-0.008	5806	4253	WATPHM	(C24-C38)	289674025	2184.9
C12	3.853	-0.006	4910	5292	AK102	(C10-C25)	32275990	187.4
C14	4.669	0.001	5973	2906	AK103	(C25-C36)	237850338	2404.7
C16	5.356	-0.001	13540	11261	OR.DIES	(C10-C28)	87712919	504.8
C18	5.969	-0.003	19481	20038				
C20	6.557	-0.003	74936	126475				
C22	7.144	0.003	236942	186098				
C24	7.707	-0.002	677766	469515				
C25	7.982	-0.005	863746	542351				
C26	8.254	-0.003	976816	340522				
C28	8.776	0.000	1285059	822854				
C32	9.737	0.008	1833990	3204593				
C34	10.167	-0.001	1975729	1066182				
Filter Peak	13.972	-0.001	47695	14242				
C36	10.582	0.001	1998401	1188859				
C38	10.991	0.002	1575341	1017575				
C40	11.462	0.002	881216	482236				
o-terph	6.163	-0.004	24484	15319				
Triacon Surr	9.294	0.004	14822727	18477737	NAS DIES	(C10-C24)	24461975	142.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	15319	0.1
Triacontane	18477737	106.1 M

M Indicates the peak was manually integrated

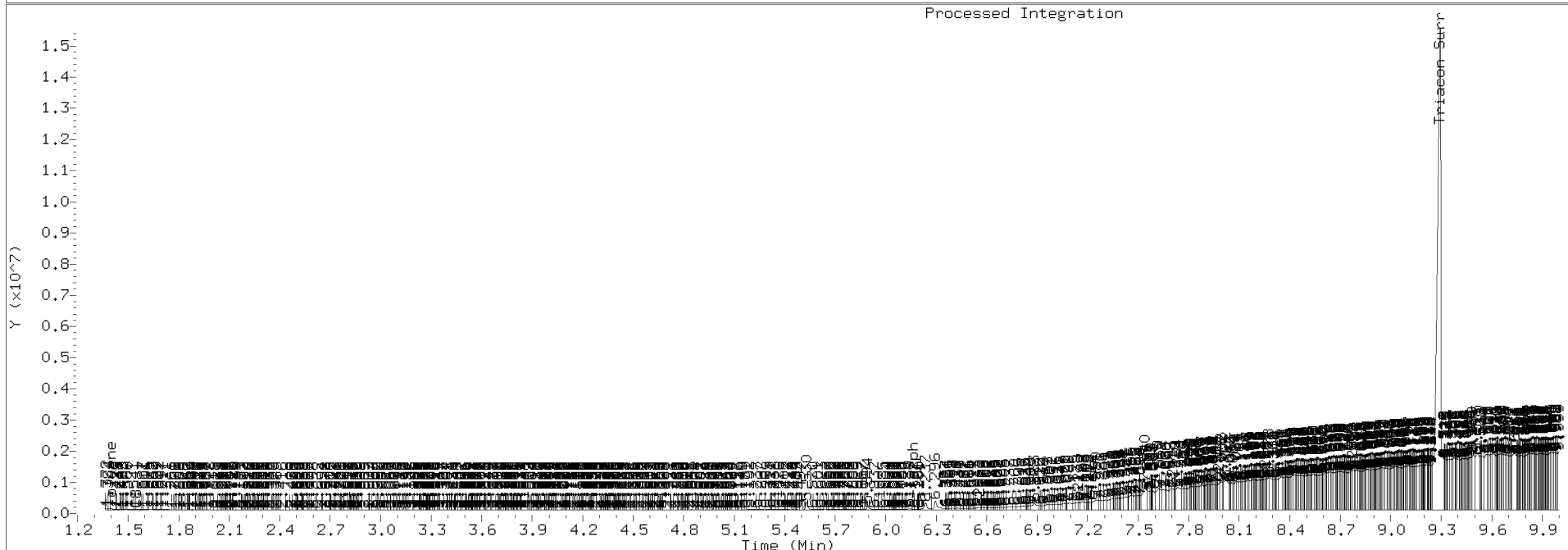
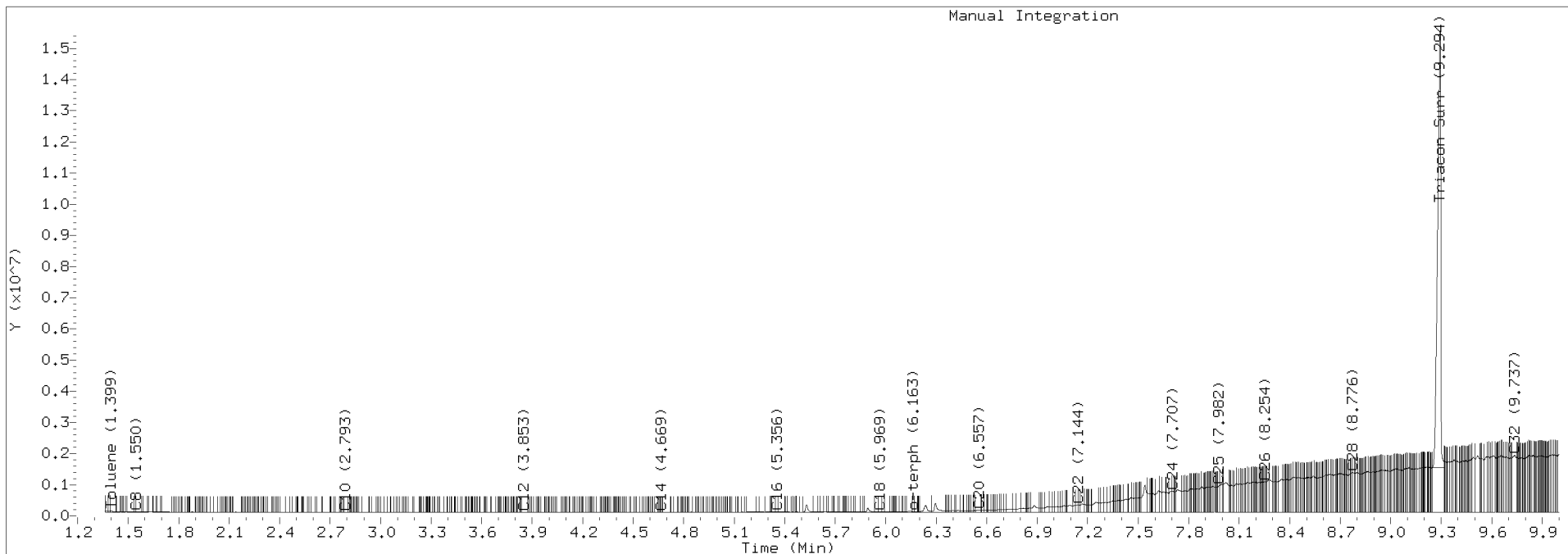
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0638.D Injection: 06-JAN-2022 23:00

Lab ID:SKA0028-CALH



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240639.D

Date: 06-JAN-2022 23:20

Client ID:

Sample Info: SKR0028-CALI

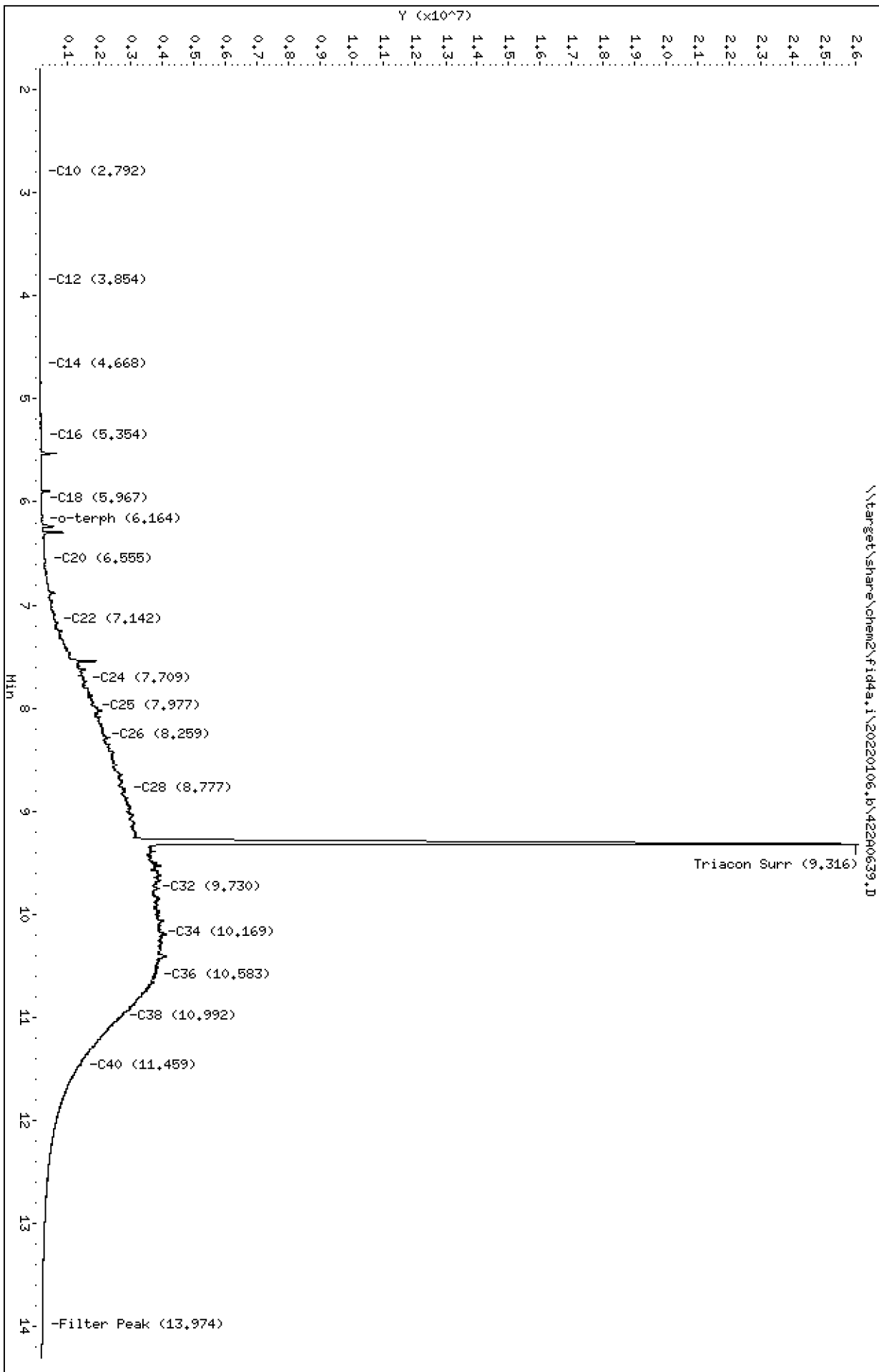
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106\_b\42240639.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0639.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALI  
Client ID:  
Injection: 06-JAN-2022 23:20  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

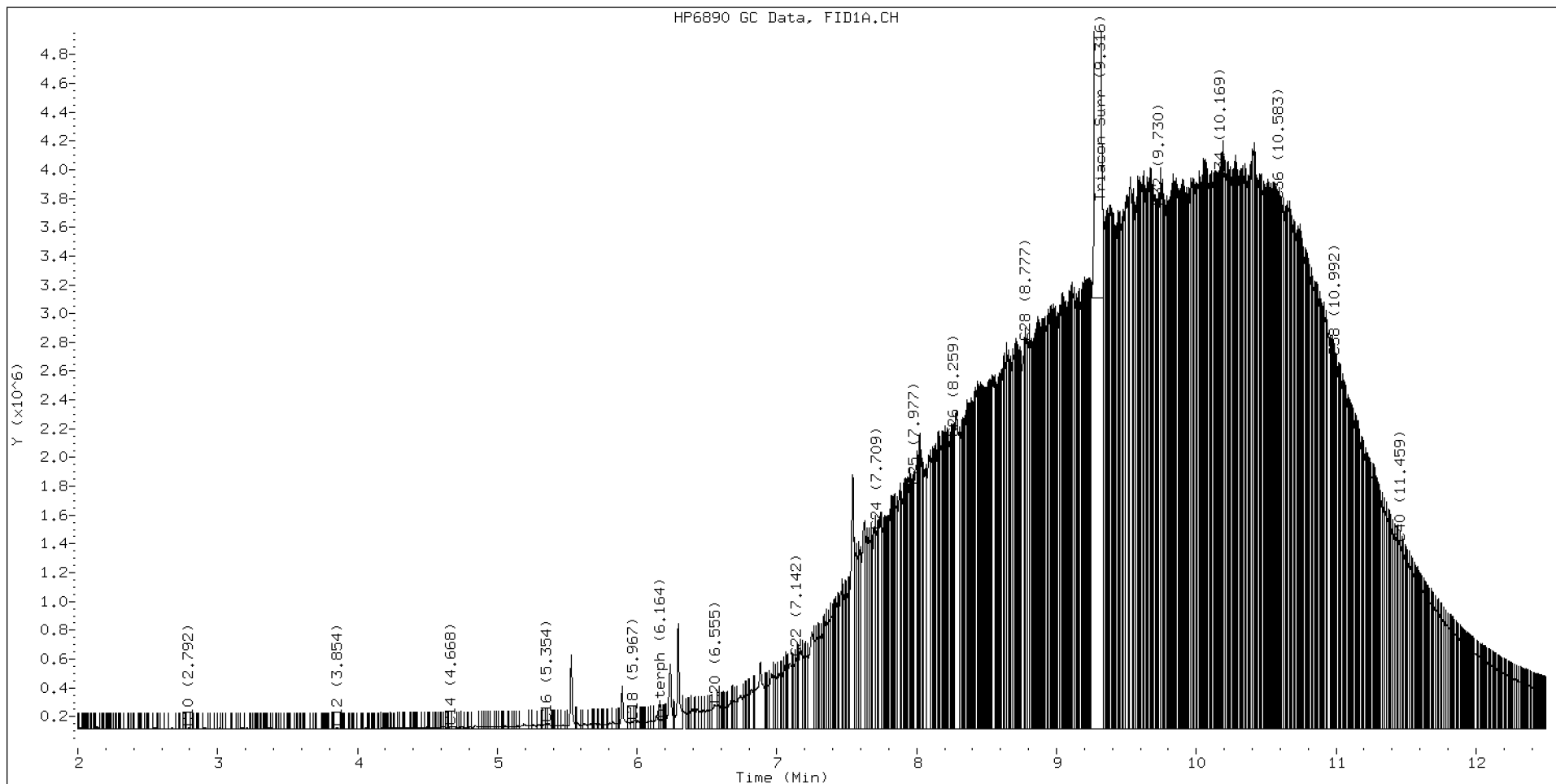
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	11725	6933	WATPHD	(C12-C24)	51665018	354.5
C10	2.792	-0.009	11749	9511	WATPHM	(C24-C38)	580345070	4377.3
C12	3.854	-0.005	12714	17010	AK102	(C10-C25)	67592612	392.4
C14	4.668	-0.000	16107	18663	AK103	(C25-C36)	492594942	4980.3
C16	5.354	-0.003	36148	36162	OR.DIES	(C10-C28)	183451140	1055.7
C18	5.967	-0.005	54500	58780				
C20	6.555	-0.004	168086	345395				
C22	7.142	0.001	496825	426514				
C24	7.709	-0.000	1380379	821529				
C25	7.977	-0.009	1684832	419304				
C26	8.259	0.002	2021095	604905				
C28	8.777	0.001	2684125	1195563				
C32	9.730	0.001	3627512	1086662				
C34	10.169	0.001	3804924	1327718				
Filter Peak	13.974	0.001	71473	21315				
C36	10.583	0.001	3665808	1277336				
C38	10.992	0.003	2584308	1280144				
C40	11.459	-0.000	1288075	1197871				
o-terph	6.164	-0.003	64420	50439				
Triacon Surr	9.316	0.026	22993117	39002952	NAS DIES	(C10-C24)	51959316	302.5

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	50439	0.3
Triacotane	39002952	223.9 M

M Indicates the peak was manually integrated

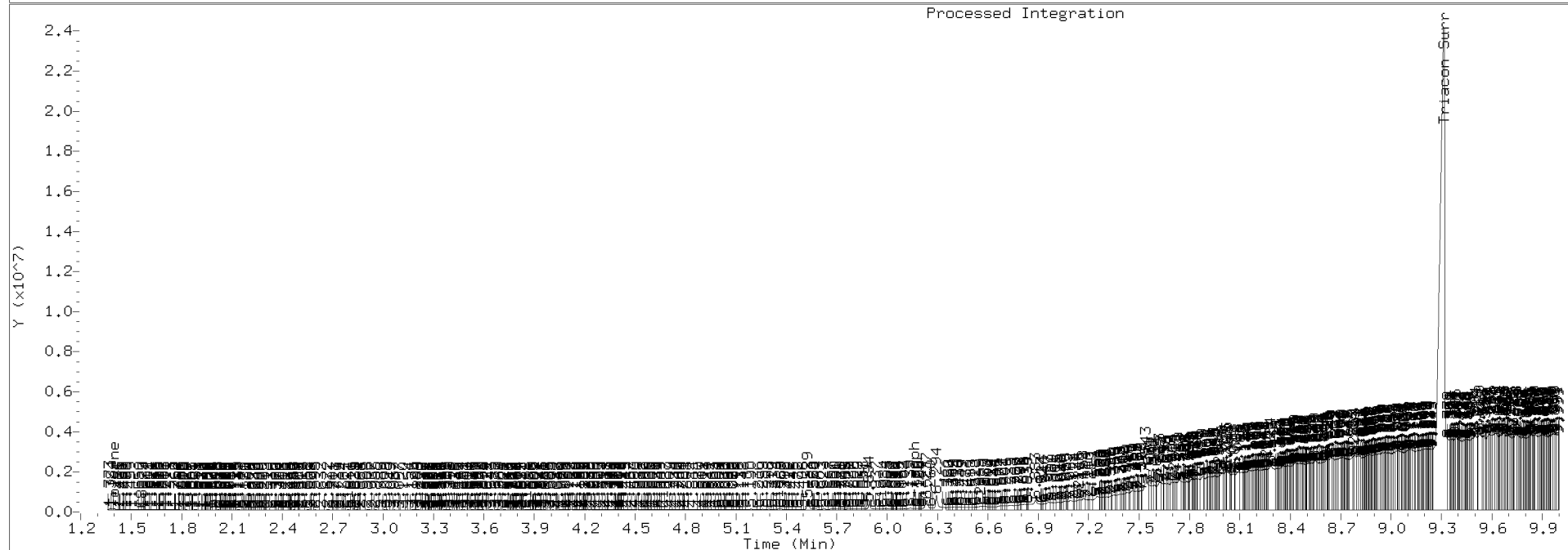
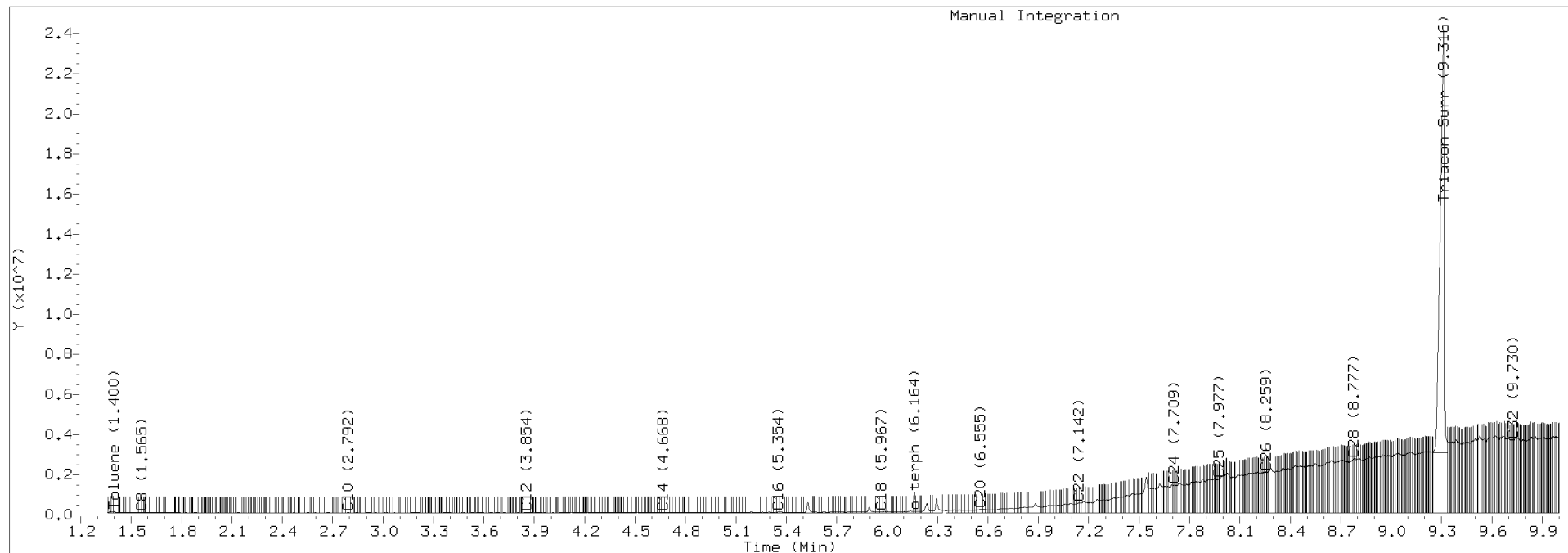
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0639.D Injection: 06-JAN-2022 23:20

Lab ID:SKA0028-CALI





Data File: \\target\share\chem2\fid4a,1\20220106,b\42280640.D

Date: 06-JAN-2022 23:40

Client ID:

Sample Info: SKR0028-SCV3

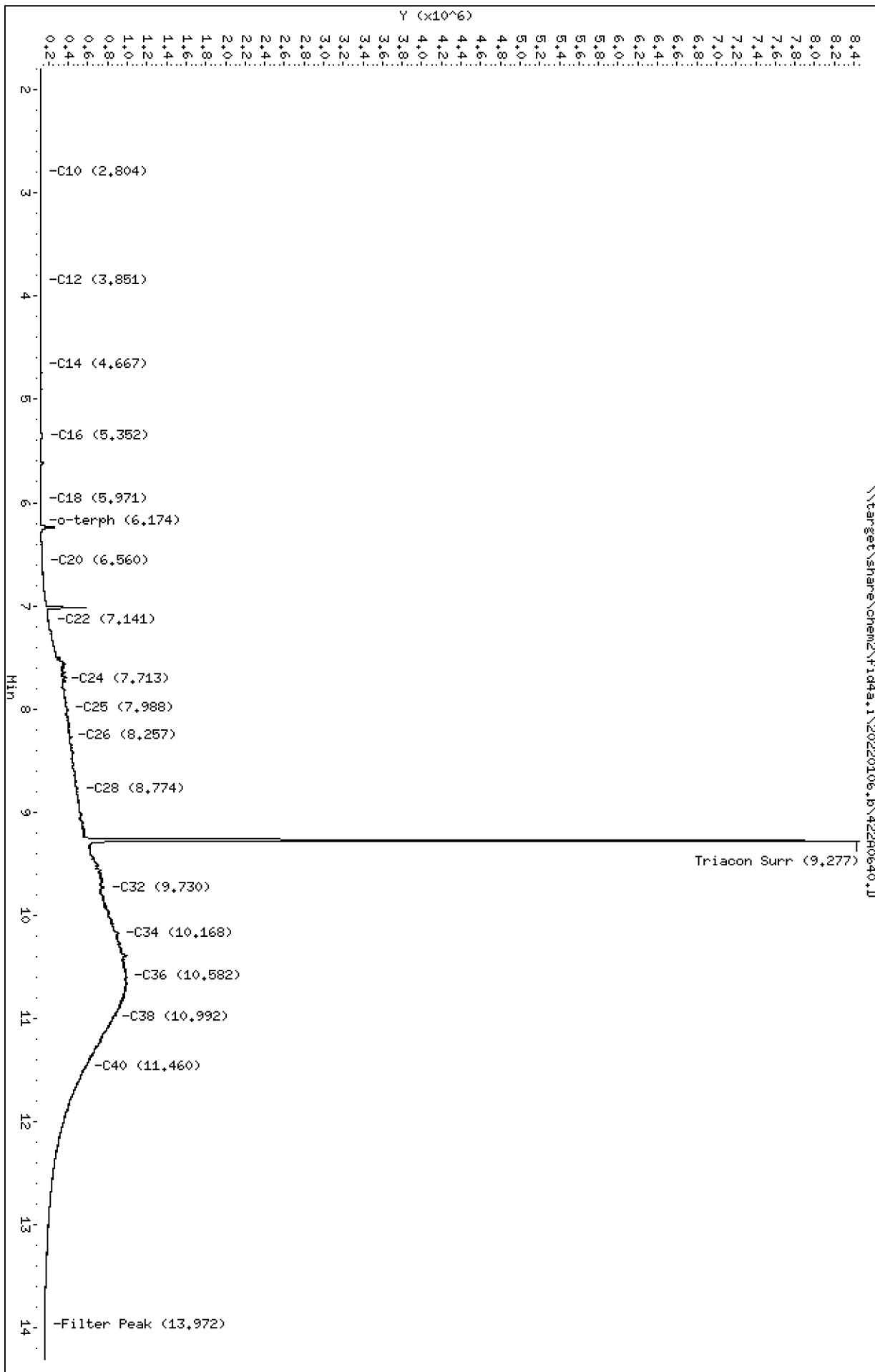
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0640.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV3  
Client ID:  
Injection: 06-JAN-2022 23:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

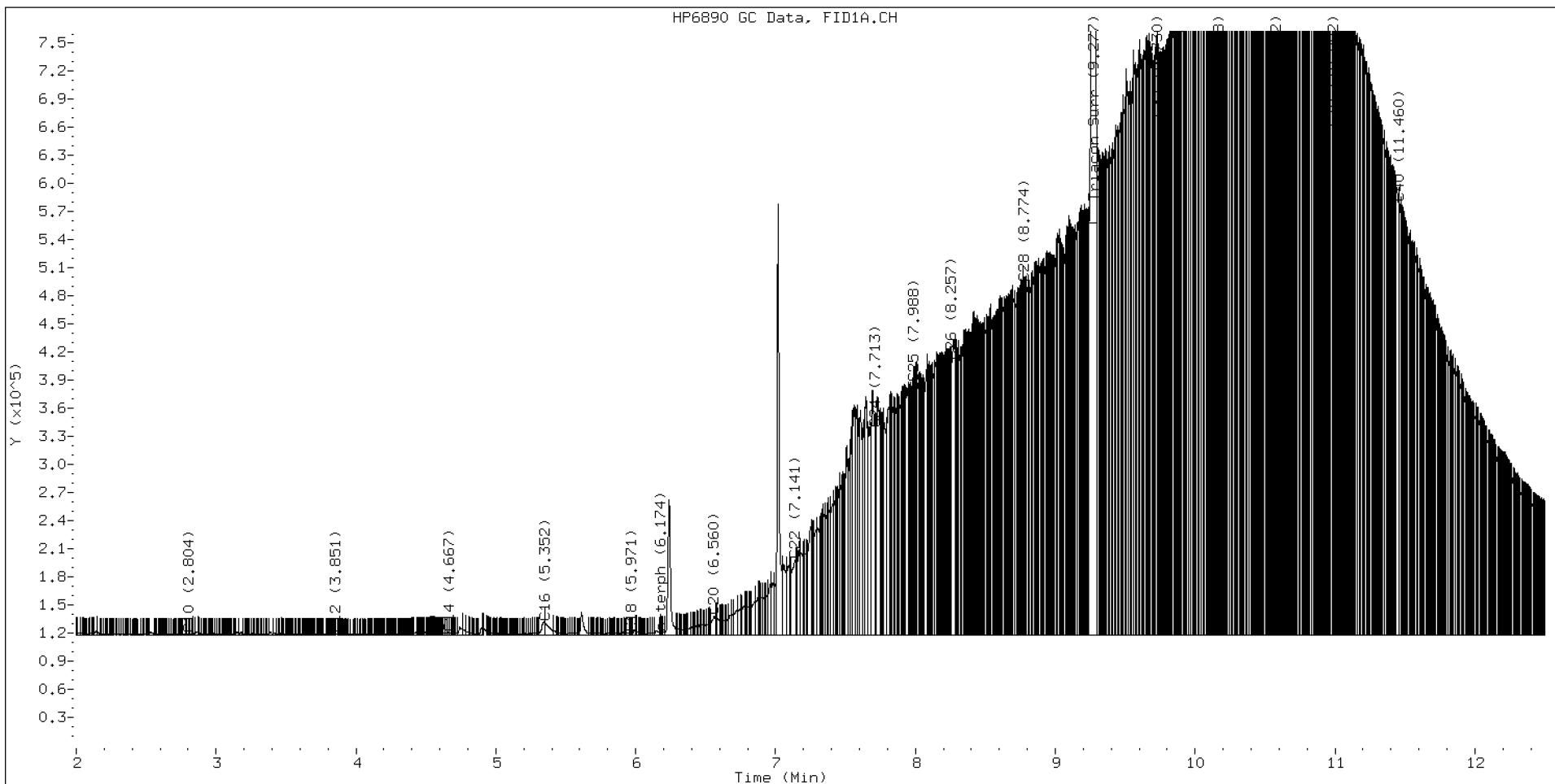
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	10365	9390	WATPHD	(C12-C24)	8234302	56.5
C10	2.804	0.003	643	178	WATPHM	(C24-C38)	105151101	793.1
C12	3.851	-0.008	703	353	AK102	(C10-C25)	10715206	62.2
C14	4.667	-0.001	2250	441	AK103	(C25-C36)	83158236	840.8
C16	5.352	-0.005	13074	30853	OR.DIES	(C10-C28)	27148572	156.2
C18	5.971	-0.001	2056	1103				
C20	6.560	0.000	19188	37853				
C22	7.141	-0.001	79210	165645				
C24	7.713	0.004	220193	54885				
C25	7.988	0.002	269226	184162				
C26	8.257	-0.001	291878	87241				
C28	8.774	-0.001	375908	167319				
C32	9.730	0.000	638880	408276				
C34	10.168	0.001	789241	274861				
Filter Peak	13.972	-0.001	40486	34016				
C36	10.582	0.000	869081	432796				
C38	10.992	0.003	735926	146906				
C40	11.460	0.000	461343	320017				
o-terph	6.174	0.007	2337	668				
Triacon Surr	9.277	-0.013	7897642	7651039	NAS DIES	(C10-C24)	8285201	48.2

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	668	0.0
Triacotane	7651039	43.9 M

M Indicates the peak was manually integrated

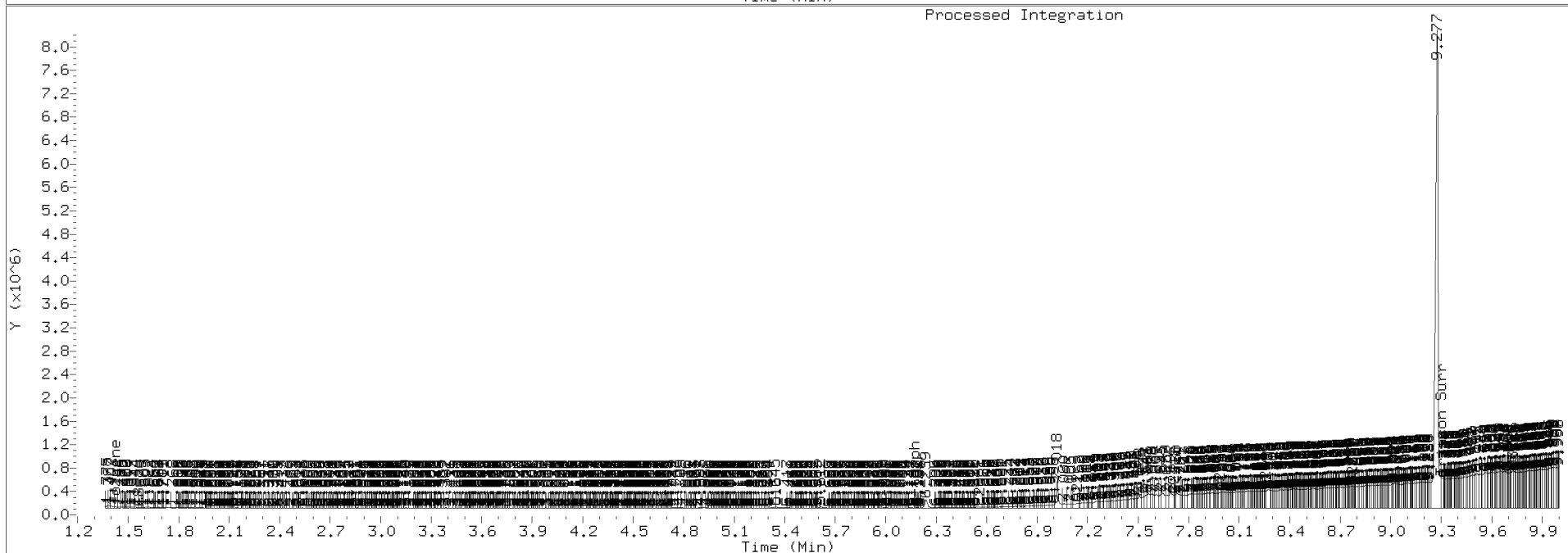
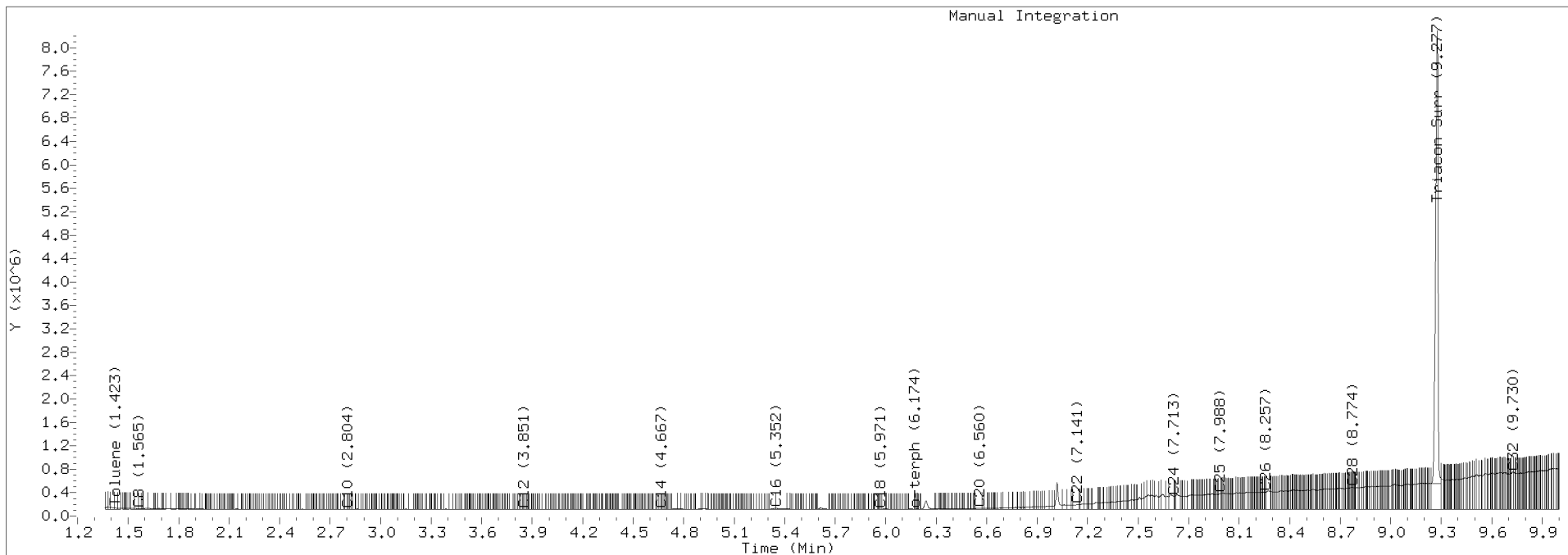
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0640.D Injection: 06-JAN-2022 23:40

Lab ID:SKA0028-SCV3















**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00031	Instrument:	FID3
Calibration Date:	01/10/2022	Column (1):	RTX-1

<b>COMPOUND</b>	<b>Mean RF</b>	<b>RF RSD</b>	<b>Linear COD</b>	<b>Quad COD</b>	<b>Limit Type &amp; Limit</b>	<b>Q</b>
Diesel Range Organics (C12-C24)	172426.7	2.8			RSD (20)	
o-Terphenyl	240679.3	2.6			RSD (20)	



## GC LOG SUMMARY FOR DATABATCH - fid3b.i\20220110.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	10-JAN-2022	17:17	322A1001.D	1	RINSE	
2	10-JAN-2022	17:37	322A1002.D	1	RINSE	
3	10-JAN-2022	17:57	322A1003.D	1	SKA0077-IBL1	
4	10-JAN-2022	18:17	322A1004.D	1	SKA0077-IBL2	
5	10-JAN-2022	18:36	322A1005.D	1	SKA0077-CAL1	
6	10-JAN-2022	18:56	322A1006.D	1	SKA0077-CAL2	
7	10-JAN-2022	19:16	322A1007.D	1	SKA0077-CAL3	
8	10-JAN-2022	19:36	322A1008.D	1	SKA0077-CAL4	
9	10-JAN-2022	19:56	322A1009.D	1	SKA0077-CAL5	
10	10-JAN-2022	20:16	322A1010.D	1	SKA0077-CAL6	
11	10-JAN-2022	20:36	322A1011.D	1	SKA0077-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220110.b

ARI Job No.: RINS Method: i\20220110.b\FID3TPH.m Instrument: fid3b.i Date: 10-JAN-2022

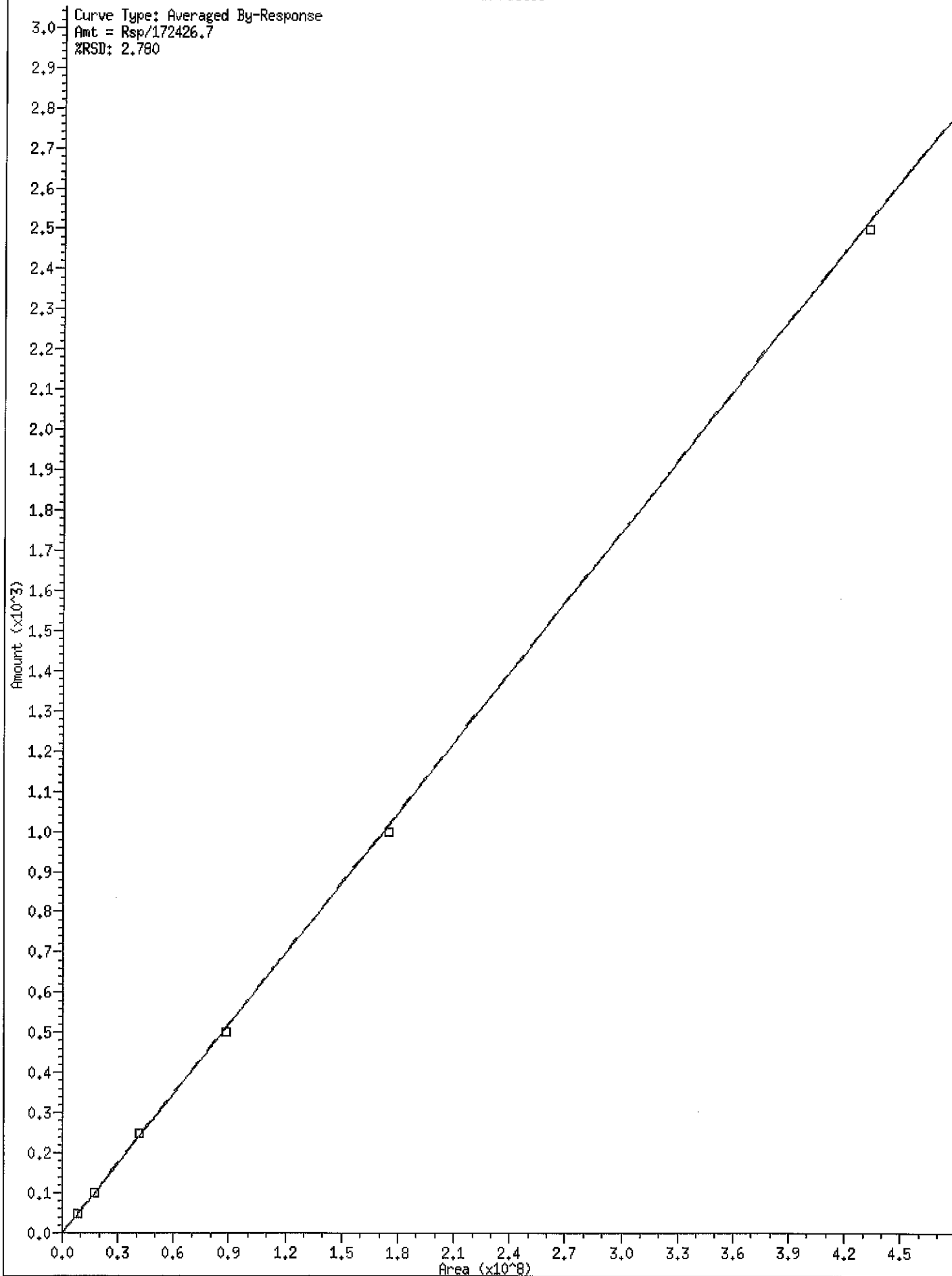
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1717	322A1001.D	RINSE		1	NO MANUAL INTEGRATION
1737	322A1002.D	RINSE		1	NO MANUAL INTEGRATION
1757	322A1003.D	SKA0077-IBL1		1	NO MANUAL INTEGRATION
1817	322A1004.D	SKA0077-IBL2		1	NO MANUAL INTEGRATION
1836	322A1005.D	SKA0077-CAL1		1	o-terph,
1856	322A1006.D	SKA0077-CAL2		1	o-terph,
1916	322A1007.D	SKA0077-CAL3		1	o-terph,
1936	322A1008.D	SKA0077-CAL4		1	o-terph,
1956	322A1009.D	SKA0077-CAL5		1	o-terph,
2016	322A1010.D	SKA0077-CAL6		1	o-terph,
2036	322A1011.D	SKA0077-SCV1		1	NO MANUAL INTEGRATION

Security Status Report

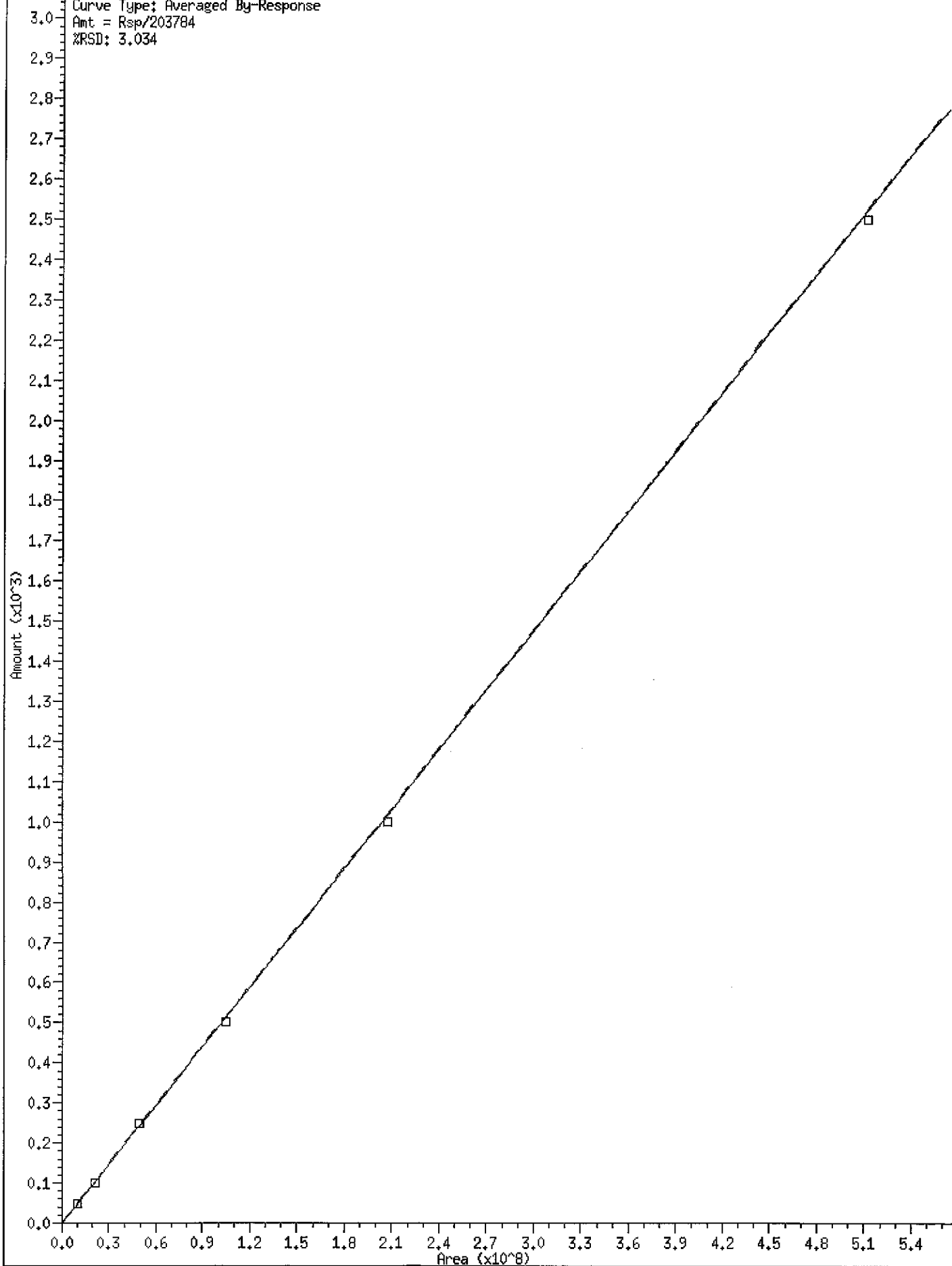
Date: 12-Jan-2022 13:58

322A1001.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1002.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1003.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1004.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1005.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1006.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1007.D	Data Locked	victoria, 12-Jan-2022 13:58
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322A1009.D	Data Locked	victoria, 12-Jan-2022 13:58
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322A1011.D	Data Locked	victoria, 12-Jan-2022 13:58

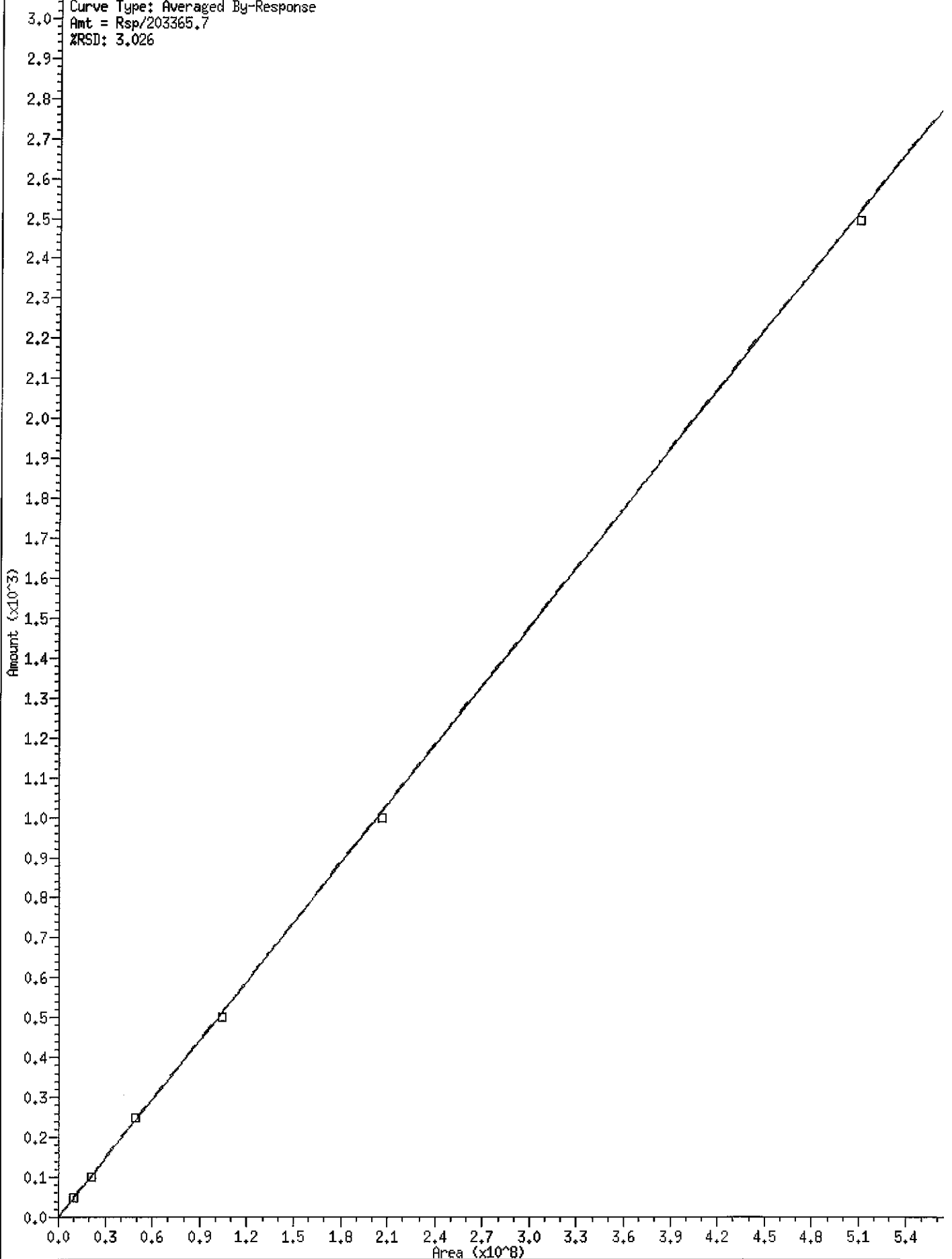
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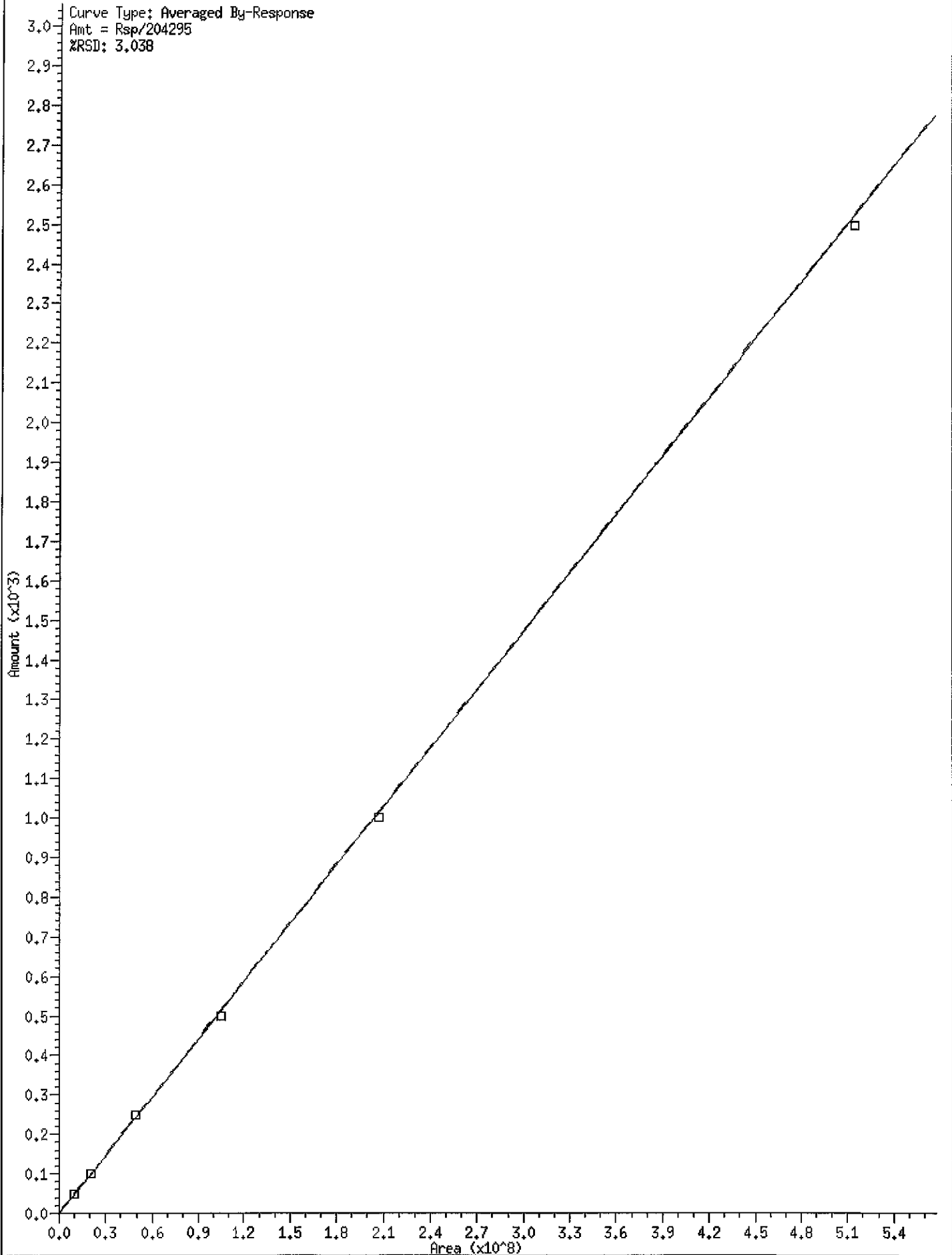
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%RSD: 3.034



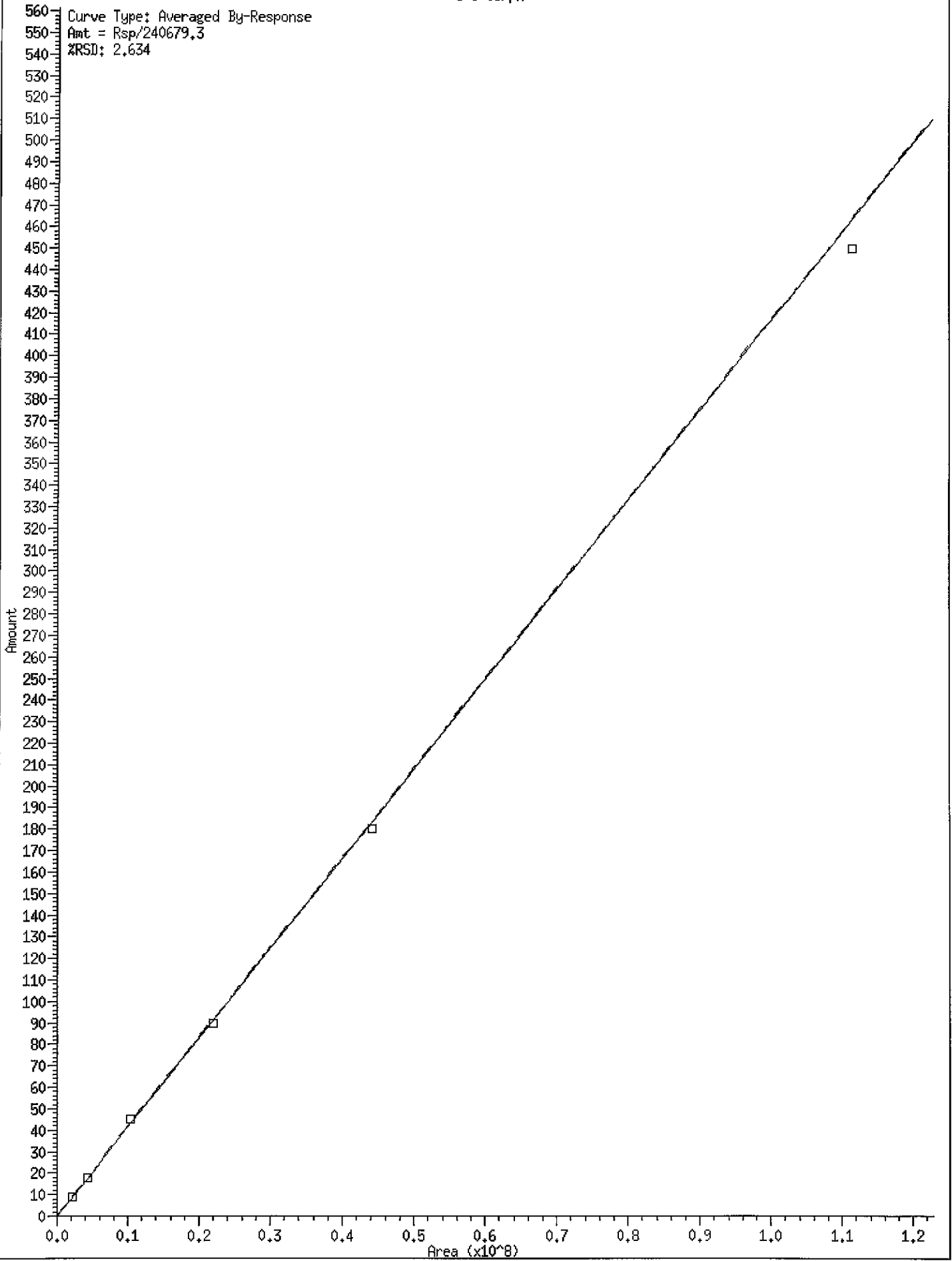
Curve Type: Averaged By-Response  
Amt = Rsp/203365.7  
%RSD: 3.026







\* 8 o-terph



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20220110.b\FID3TPH.m
Batch File: \\target\share\chem2\fid3b.i\20220110.b
Inst ID: fid3b.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 322A1005 322A1006 322A1007 322A1008 322A1009 322A1010
INJ. DATE: 10-JAN-2022 10-JAN-2022 10-JAN-2022 10-JAN-2022 10-JAN-2022 10-JAN-2022
INJ. TIME: 18:36 18:56 19:16 19:36 19:56 20:16

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28, and Triacon Surr.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20220110.b\FID3TPH.m  
 Batch File: \\target\share\chem2\fid3b.i\20220110.b  
 Inst ID: fid3b.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
17 C34	11.329	11.326	11.333	11.331	11.330	11.334	11.330	11.280-11.380	11.330	0.003
18 Filter Peak	13.874	13.873	13.873	13.870	13.874	13.873	13.870	13.770-13.970	13.873	0.001
19 C36	11.877	11.867	11.872	11.874	11.875	11.876	11.875	11.825-11.925	11.873	0.004
20 C38	12.530	12.524	12.528	12.532	12.532	12.526	12.528	12.478-12.578	12.529	0.003
21 C40	13.353	13.346	13.353	13.350	13.353	13.348	13.352	13.302-13.402	13.350	0.003
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
40 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
37 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	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 IT. Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

Data File: \\target\share\chem2\fid3b.1\20220110.8\32281003.D

Date: 10-JAN-2022 17:57

Client ID:

Sample Info: SKR0077-IBL1

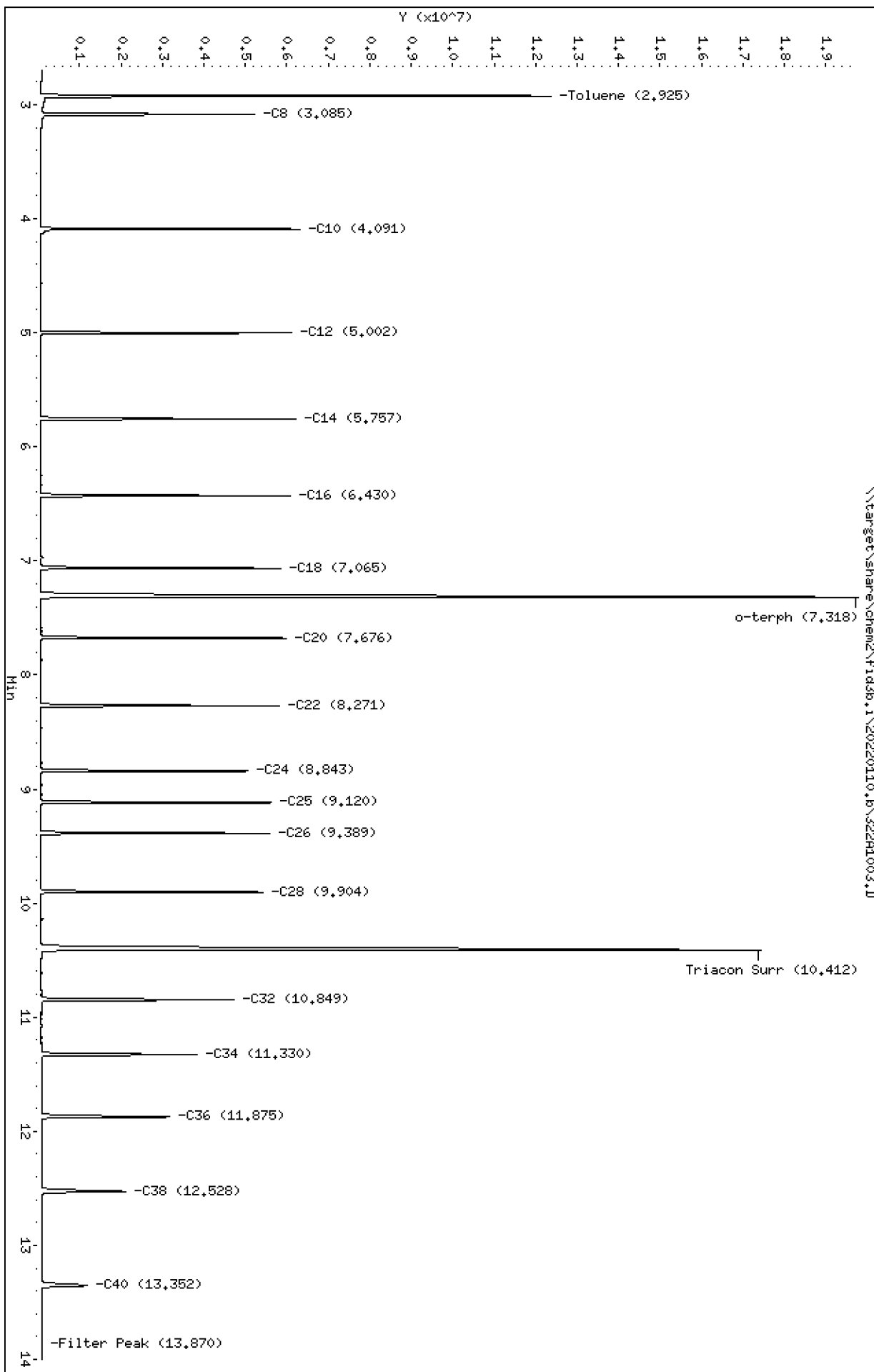
Column phase: RTX-1

Instrument: fid3b.1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1003.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-IBL1  
Client ID:  
Injection: 10-JAN-2022 17:57  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.925	0.000	12296633	10138102	WATPHG	(Tol-C12)	23642094	131.8
C8	3.085	0.000	5162225	4151524	WATPHD	(C12-C24)	26160637	151.7
C10	4.091	0.000	6240002	4430950	WATPHM	(C24-C38)	28728913	203.8
C12	5.002	0.000	6070195	4392279	AK102	(C10-C25)	35152806	172.5
C14	5.757	0.000	6161794	4404397	AK103	(C25-C36)	25241214	265.7
C16	6.430	0.000	6030950	4305959	OR.DIES	(C10-C28)	48109427	235.5
C18	7.065	0.000	5791185	4343461				
C20	7.676	0.000	5918340	4355228				
C22	8.271	0.000	5773670	4391984				
C24	8.843	0.000	5009271	3828398				
C25	9.120	0.000	5568264	4252539				
C26	9.389	0.000	5525145	4316520				
C28	9.904	0.000	5357876	4234362	IT.DIES	(C10-C24)	35086433	172.5
C32	10.849	0.000	4670262	3935695				
C34	11.330	0.000	3766461	3546780				
Filter Peak	13.870	0.000	18283	20521				
C36	11.875	0.000	3100922	3471880				
o-terph	7.318	0.000	19727401	23651353				
Triacon Surr	10.412	0.000	17372178	24003751				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

Surrogate	Area	Amount
o-Terphenyl	23651353	98.3
Triacontane	24003751	117.2

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

Data File: \\target\share\chem2\fid3b,1\20220110,8\32281004.D

Date: 10-JAN-2022 18:17

Client ID:

Sample Info: SKR0077-IBL2

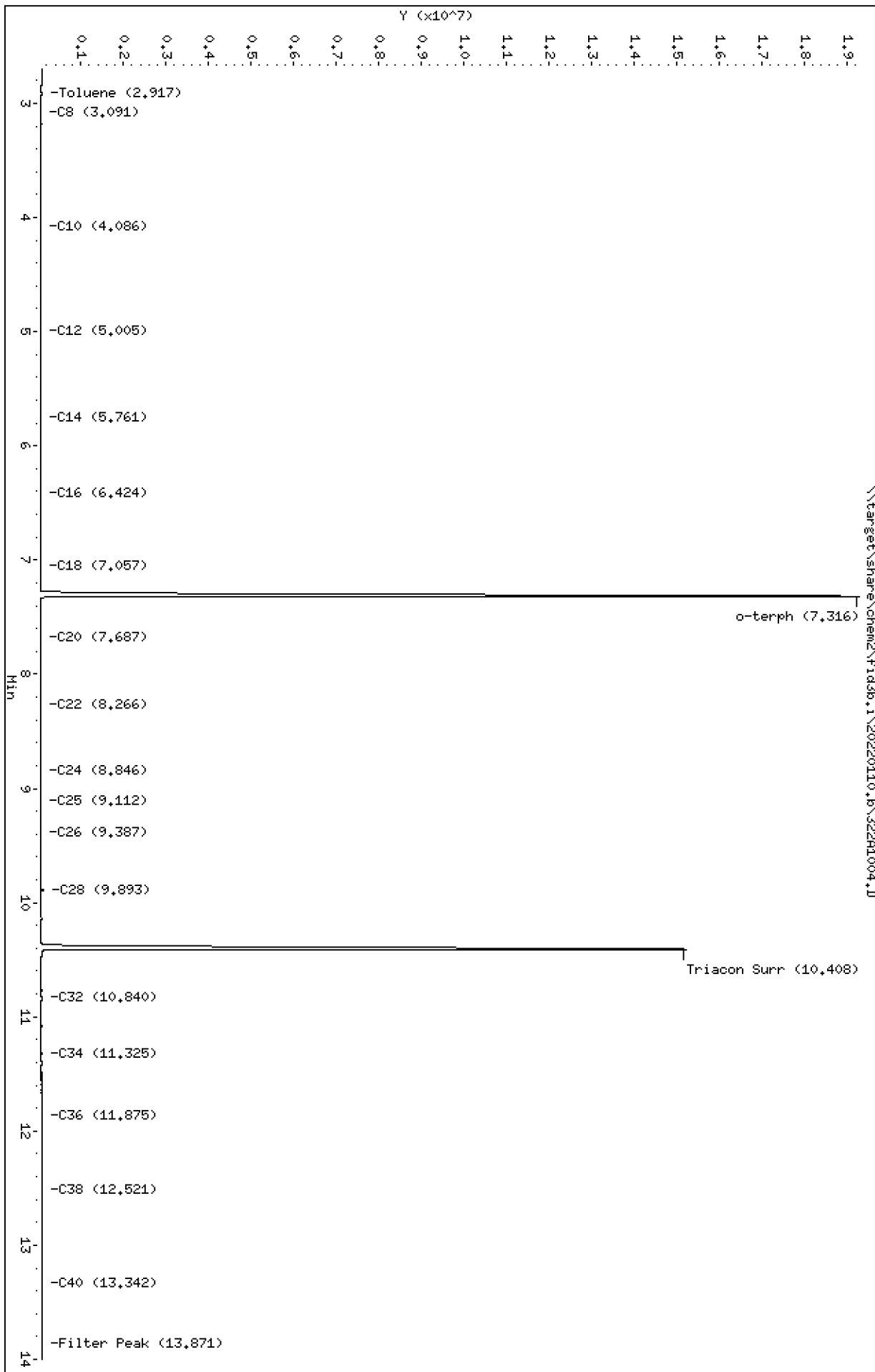
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1004.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-IBL2  
Client ID:  
Injection: 10-JAN-2022 18:17  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.917	-0.007	20467	37648	WATPHG	(Tol-C12)	766644	4.3
C8	3.091	0.005	12495	15641	WATPHD	(C12-C24)	546354	3.2
C10	4.086	-0.006	5266	1049	WATPHM	(C24-C38)	2221421	15.8
C12	5.005	0.003	3907	1529	AK102	(C10-C25)	799486	3.9
C14	5.761	0.003	4282	4696	AK103	(C25-C36)	1568506	16.5
C16	6.424	-0.006	3903	3211	OR.DIES	(C10-C28)	973894	4.8
C18	7.057	-0.007	3739	3103				
C20	7.687	0.011	1903	2868				
C22	8.266	-0.005	951	499				
C24	8.846	0.003	1099	317				
C25	9.112	-0.007	2074	1774				
C26	9.387	-0.002	3002	1837				
C28	9.893	-0.011	68422	55051	IT.DIES	(C10-C24)	785165	3.9
C32	10.840	-0.009	47835	76182				
C34	11.325	-0.005	16342	22422				
Filter Peak	13.871	0.002	17734	12370				
C36	11.875	0.000	18176	24530				
o-terph	7.316	-0.002	19246329	23310870				
Triacon Surr	10.408	-0.004	15173286	19469005				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

Surrogate	Area	Amount
o-Terphenyl	23310870	96.9
Triacontane	19469005	95.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022



Data File: \\target\share\chem2\fid3b,1\20220110,8\32281005.D

Date: 10-JAN-2022 18:36

Client ID:

Sample Info: SKR0077-CAL1

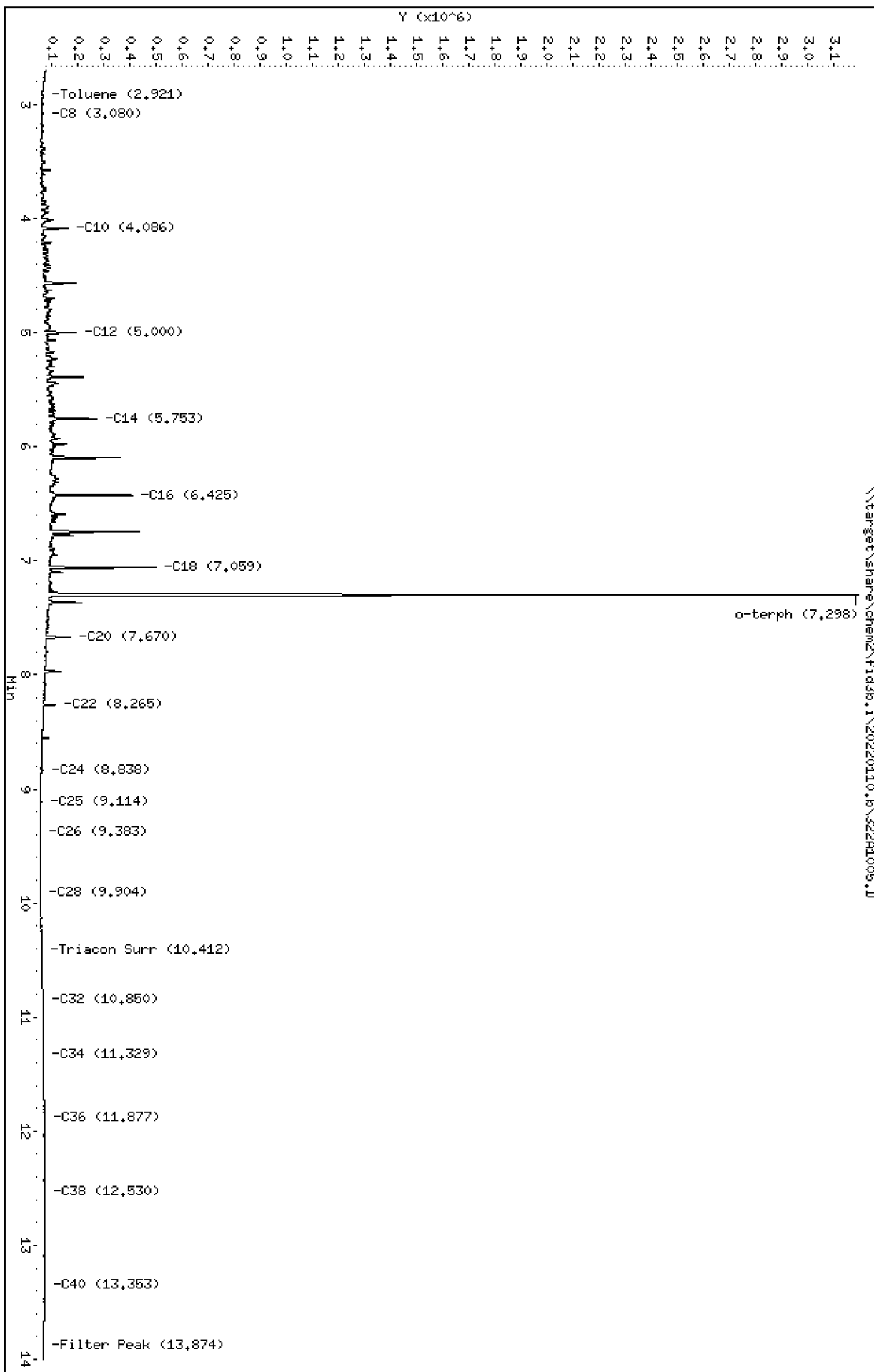
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1005.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL1  
Client ID:  
Injection: 10-JAN-2022 18:36  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.921	-0.003	11851	17507	WATPHG	(Tol-C12)	2068632	11.5
C8	3.080	-0.005	11699	14373	WATPHD	(C12-C24)	8327060	48.3
C10	4.086	-0.005	103154	83132	WATPHM	(C24-C38)	1456190	10.3
C12	5.000	-0.003	138992	126654	AK102	(C10-C25)	9799087	48.1 M
C14	5.753	-0.004	216201	212000	AK103	(C25-C36)	952376	10.0
C16	6.425	-0.004	352097	374099	OR.DIES	(C10-C28)	9824550	48.1 M
C18	7.059	-0.006	440173	332209				
C20	7.670	-0.006	115443	114768				
C22	8.265	-0.007	57732	57209				
C24	8.838	-0.005	11353	13540				
C25	9.114	-0.006	3416	3934				
C26	9.383	-0.006	1155	466				
C28	9.904	-0.000	1200	524	IT.DIES	(C10-C24)	9785787	48.1
C32	10.850	0.001	8555	5119				
C34	11.329	-0.001	11484	4000				
Filter Peak	13.874	0.004	12176	4858				
C36	11.877	0.002	13485	7402				
o-terph	7.298	-0.020	3098664	2132152				
Triacon Surr	10.412	-0.000	4280	2555				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

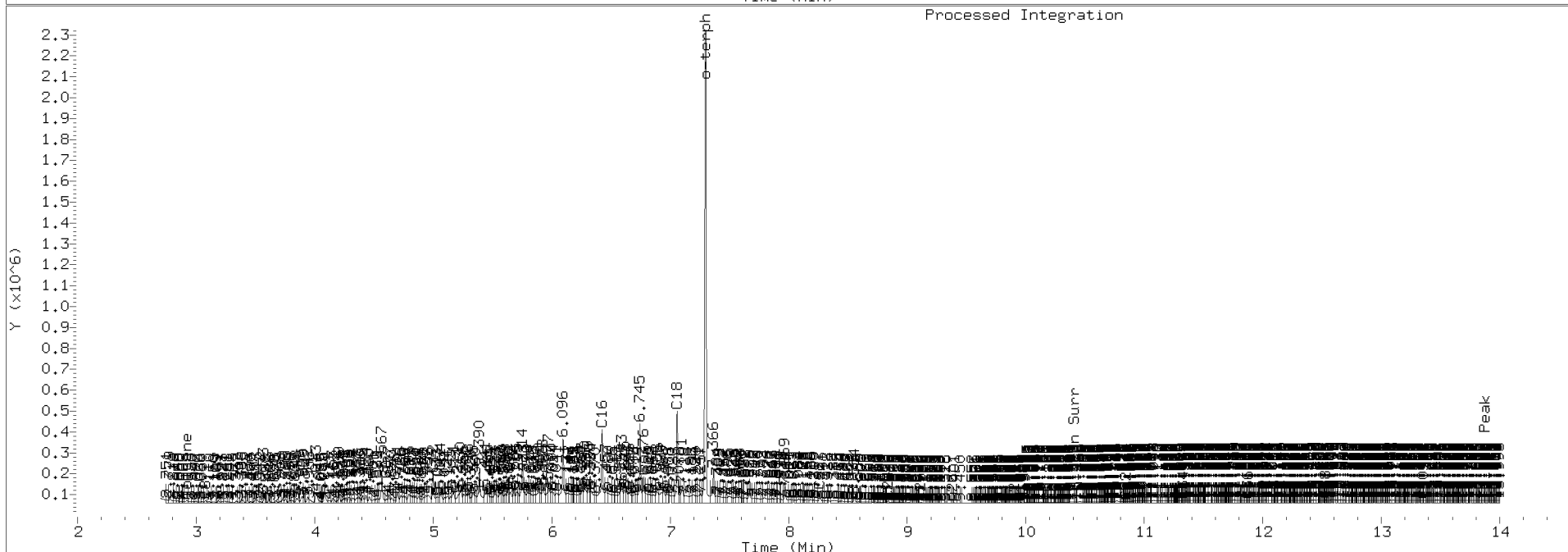
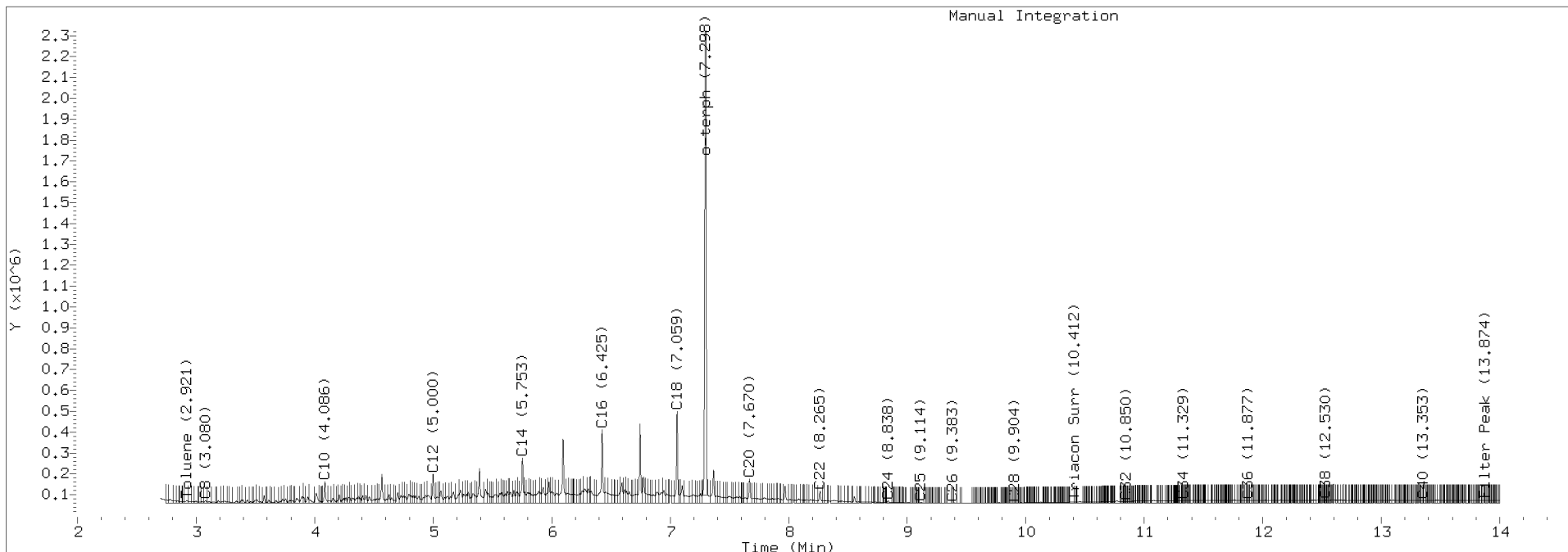
Surrogate	Area	Amount
o-Terphenyl	2132152	8.9
Triacontane	2555	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1005.D Injection: 10-JAN-2022 18:36

Lab ID:SKA0077-CAL1



Data File: \\target\share\chem2\fid3b,1\20220110,8\32281006.D

Date: 10-JAN-2022 18:56

Client ID:

Sample Info: SKR0077-CAL2

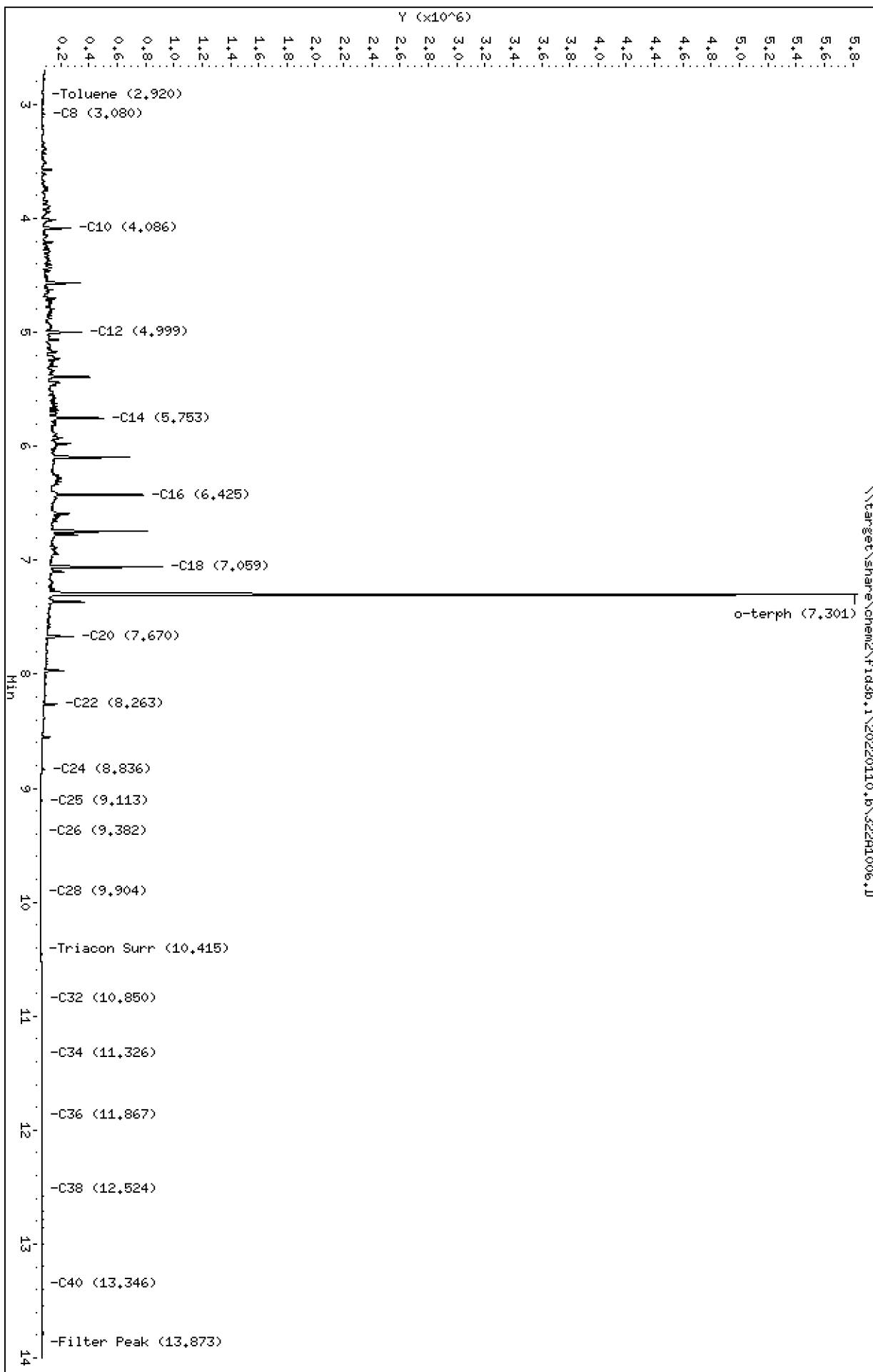
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1006.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL2  
Client ID:  
Injection: 10-JAN-2022 18:56  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.920	-0.005	23332	31111	WATPHG	(Tol-C12)	4846497	27.0
C8	3.080	-0.005	24662	33822	WATPHD	(C12-C24)	17656359	102.4
C10	4.086	-0.005	214156	181203	WATPHM	(C24-C38)	1475962	10.5
C12	4.999	-0.003	292230	268981	AK102	(C10-C25)	20995256	103.0 M
C14	5.753	-0.004	448442	447539	AK103	(C25-C36)	938466	9.9
C16	6.425	-0.004	725611	628696	OR.DIES	(C10-C28)	21031073	102.9 M
C18	7.059	-0.006	860408	676731				
C20	7.670	-0.007	235066	235529				
C22	8.263	-0.008	118783	120243				
C24	8.836	-0.007	24635	27572				
C25	9.113	-0.007	7915	9113				
C26	9.382	-0.007	2548	2079				
C28	9.904	-0.000	1052	631	IT.DIES	(C10-C24)	20968687	103.1
C32	10.850	0.002	8310	3307				
C34	11.326	-0.003	11401	16102				
Filter Peak	13.873	0.003	14174	4235				
C36	11.867	-0.008	13660	17641				
o-terph	7.301	-0.017	5698023	4276557				
Triacon Surr	10.415	0.002	3871	959				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

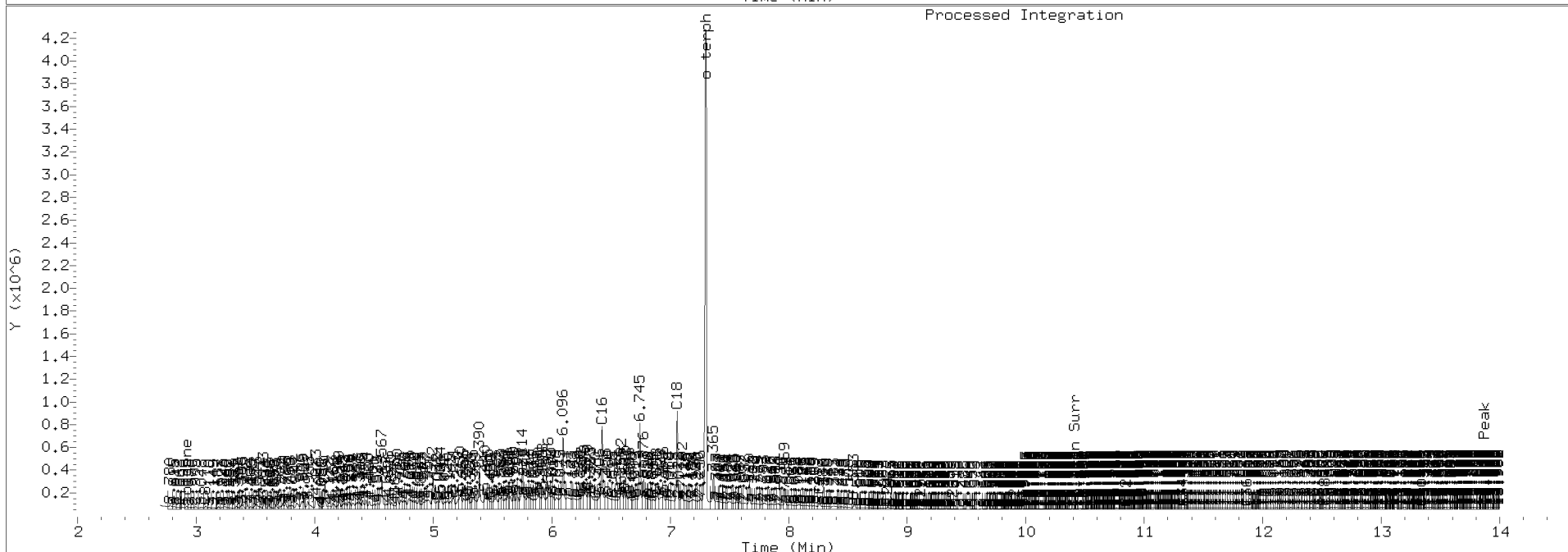
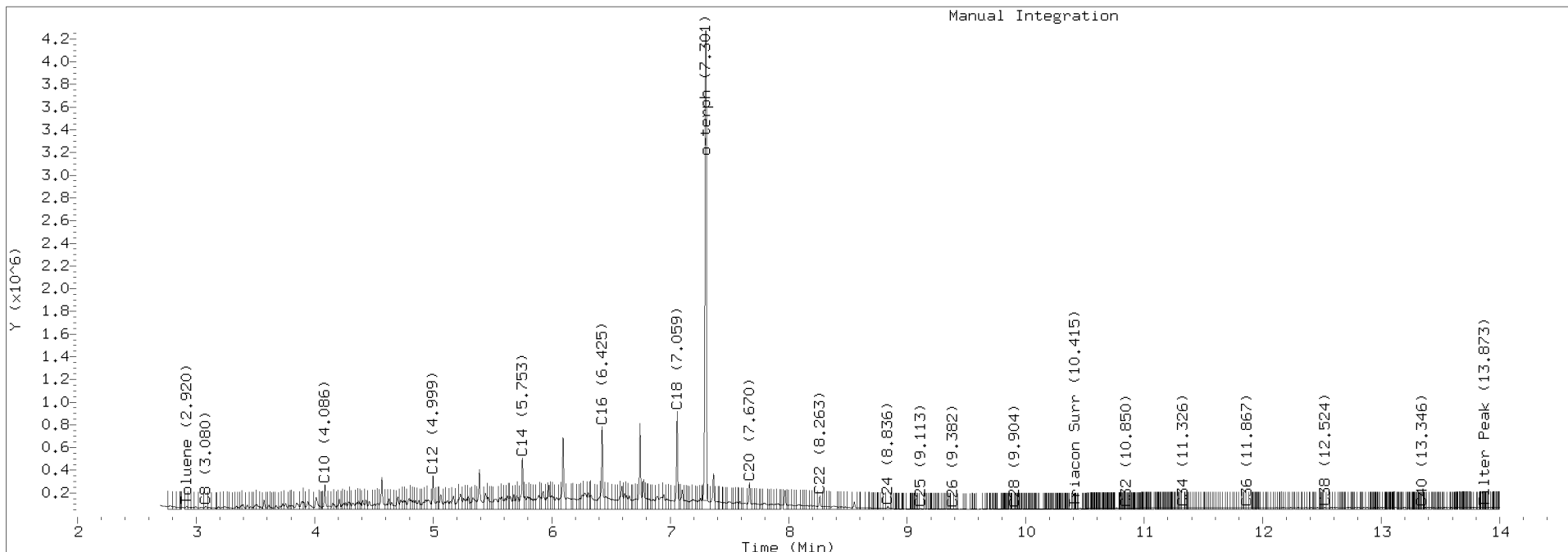
Surrogate	Area	Amount
o-Terphenyl	4276557	17.8
Triacontane	959	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1006.D Injection: 10-JAN-2022 18:56

Lab ID:SKA0077-CAL2



Data File: \\target\share\chem2\fid3b,1\20220110,8\322841007.D

Date: 10-JAN-2022 19:16

Client ID:

Sample Info: SKR0077-CAL3

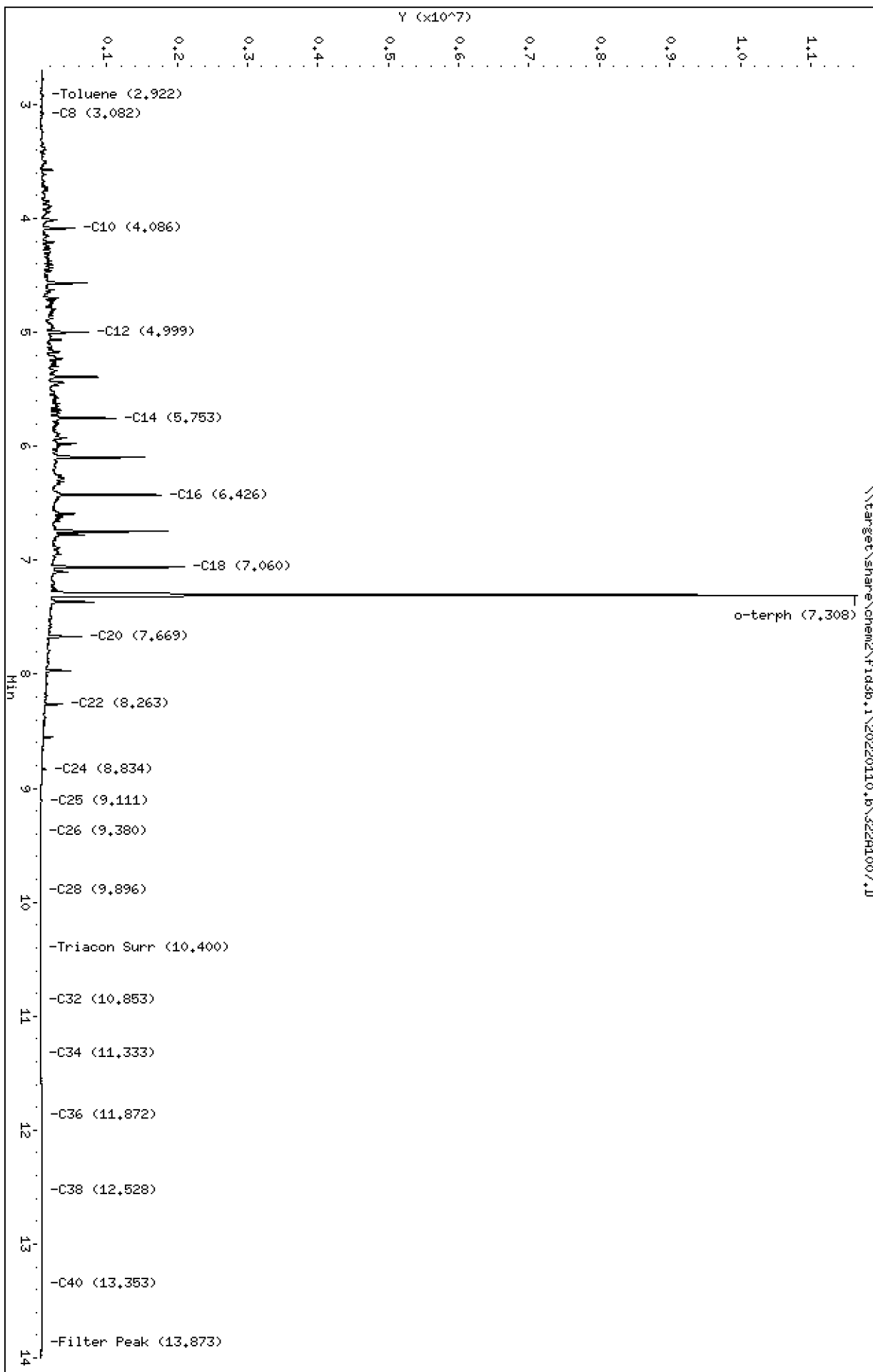
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1007.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL3  
Client ID:  
Injection: 10-JAN-2022 19:16  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.922	-0.003	30594	34967	WATPHG	(Tol-C12)	10009591	55.8
C8	3.082	-0.004	35361	38597	WATPHD	(C12-C24)	41542750	240.9
C10	4.086	-0.005	492789	400522	WATPHM	(C24-C38)	1222085	8.7
C12	4.999	-0.003	687581	616443	AK102	(C10-C25)	49014323	240.5 M
C14	5.753	-0.004	1071660	1036745	AK103	(C25-C36)	740750	7.8
C16	6.426	-0.004	1722684	1830414	OR.DIES	(C10-C28)	49111660	240.4 M
C18	7.060	-0.005	2042746	1638968				
C20	7.669	-0.007	575338	590969				
C22	8.263	-0.009	302794	277982				
C24	8.834	-0.009	68205	78262				
C25	9.111	-0.009	23884	31490				
C26	9.380	-0.009	8233	8060				
C28	9.896	-0.008	916	844	IT.DIES	(C10-C24)	48906059	240.5
C32	10.853	0.005	5992	2385				
C34	11.333	0.004	8867	4424				
Filter Peak	13.873	0.003	9910	4438				
C36	11.872	-0.003	10566	5779				
o-terph	7.308	-0.010	11437181	10416712				
Triacon Surr	10.400	-0.012	2180	1799				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

Surrogate	Area	Amount
o-Terphenyl	10416712	43.3
Triacontane	1799	0.0

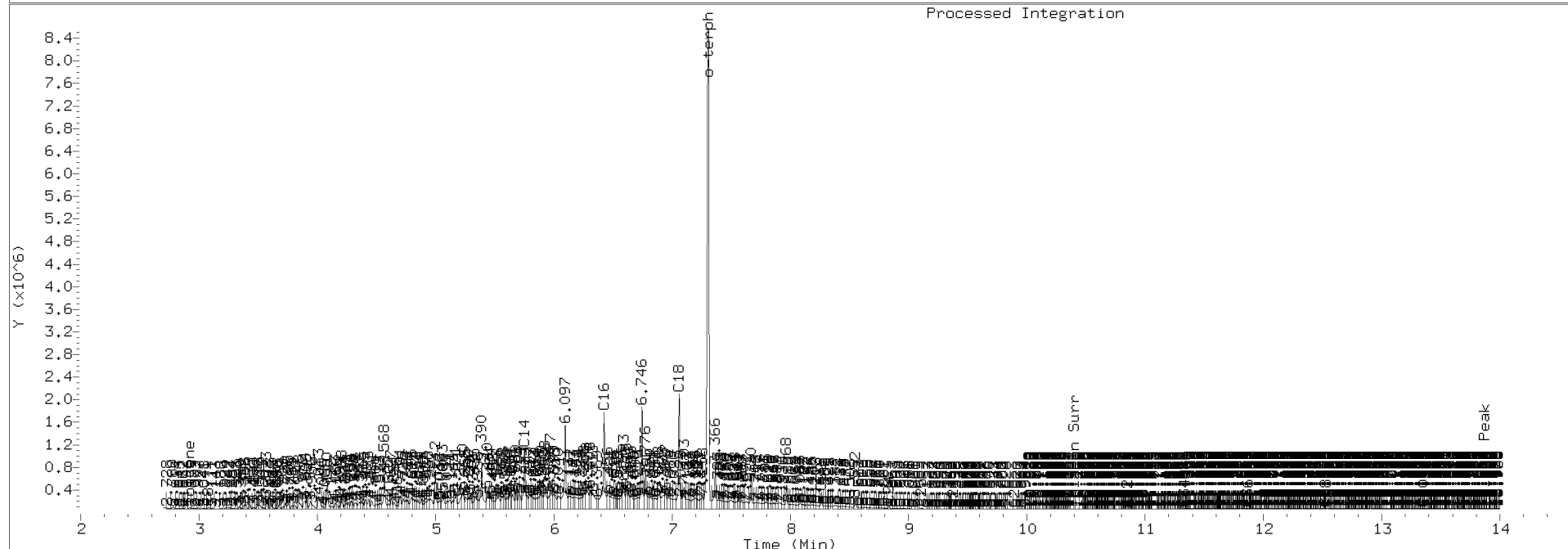
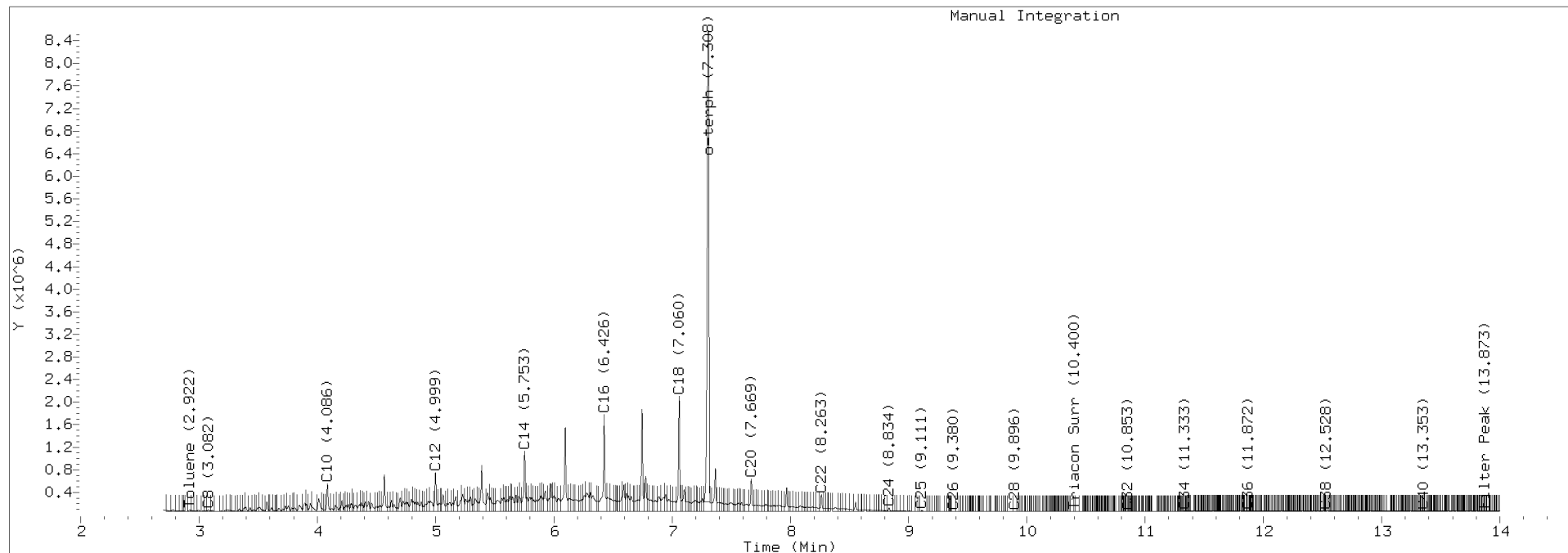
Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022



TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1007.D Injection: 10-JAN-2022 19:16

Lab ID:SKA0077-CAL3



Data File: \\target\share\chem2\fid3b,1\20220110,8\322841008.D

Date: 10-JAN-2022 19:36

Client ID:

Sample Info: SKR0077-CAL4

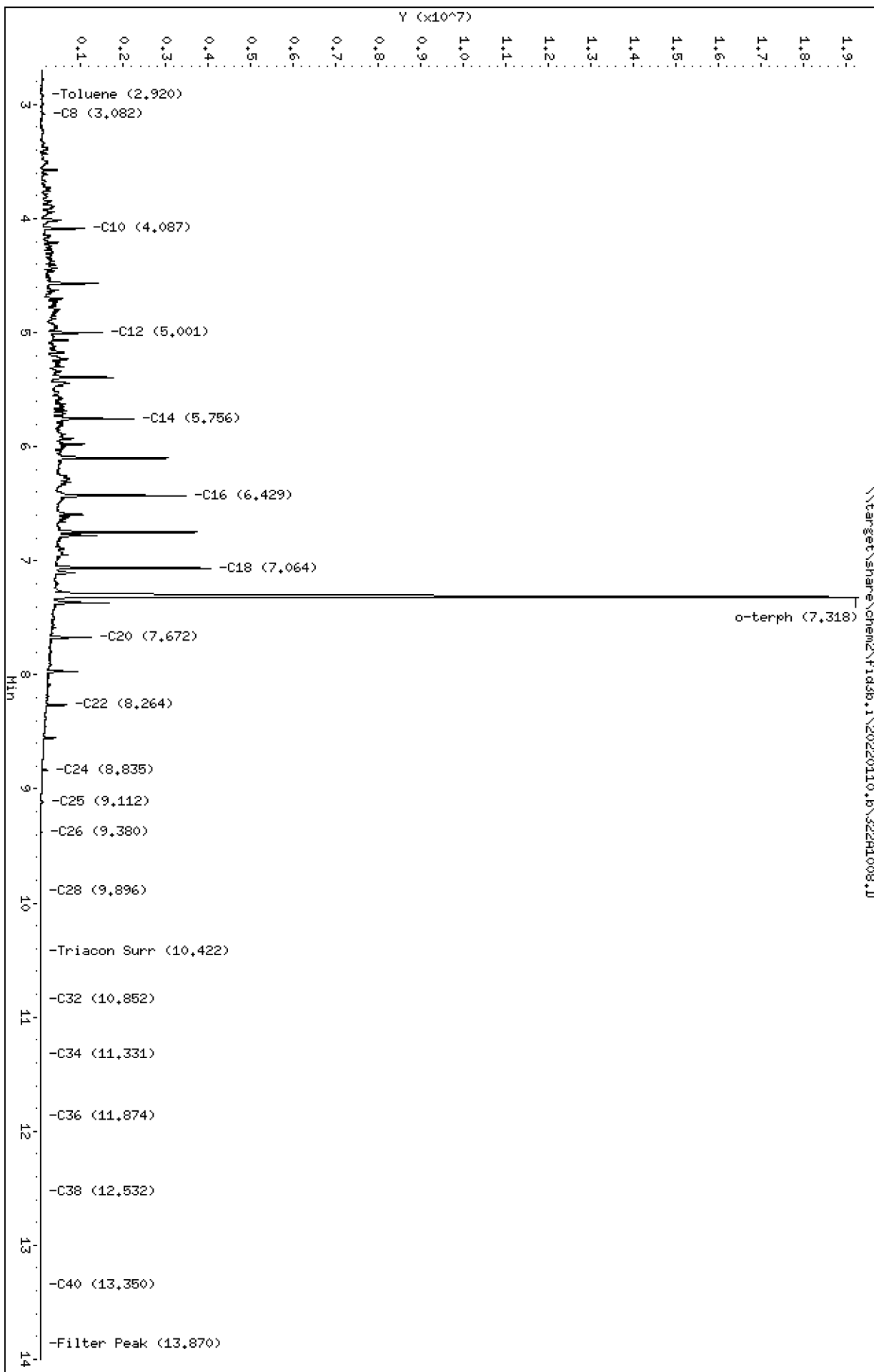
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1008.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL4  
Client ID:  
Injection: 10-JAN-2022 19:36  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.920	-0.005	64867	63644	WATPHG	(Tol-C12)	21559480	120.1
C8	3.082	-0.004	81223	78470	WATPHD	(C12-C24)	88097195	510.9
C10	4.087	-0.004	1034441	857256	WATPHM	(C24-C38)	1499765	10.6
C12	5.001	-0.001	1443883	1315313	AK102	(C10-C25)	104131643	511.0 M
C14	5.756	-0.001	2204859	2203452	AK103	(C25-C36)	854672	9.0
C16	6.429	-0.001	3430180	3808039	OR.DIES	(C10-C28)	104384142	510.9 M
C18	7.064	-0.001	3992480	3453850				
C20	7.672	-0.005	1208777	1221242				
C22	8.264	-0.007	626892	606447				
C24	8.835	-0.008	146905	156080				
C25	9.112	-0.008	53680	78371				
C26	9.380	-0.009	19602	21246				
C28	9.896	-0.008	2031	1793	IT.DIES	(C10-C24)	103886242	510.8
C32	10.852	0.004	5309	1060				
C34	11.331	0.001	8291	4128				
Filter Peak	13.870	0.000	10792	3224				
C36	11.874	-0.001	10299	5122				
o-terph	7.318	0.000	18908880	22024863				
Triacon Surr	10.422	0.009	1668	931				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

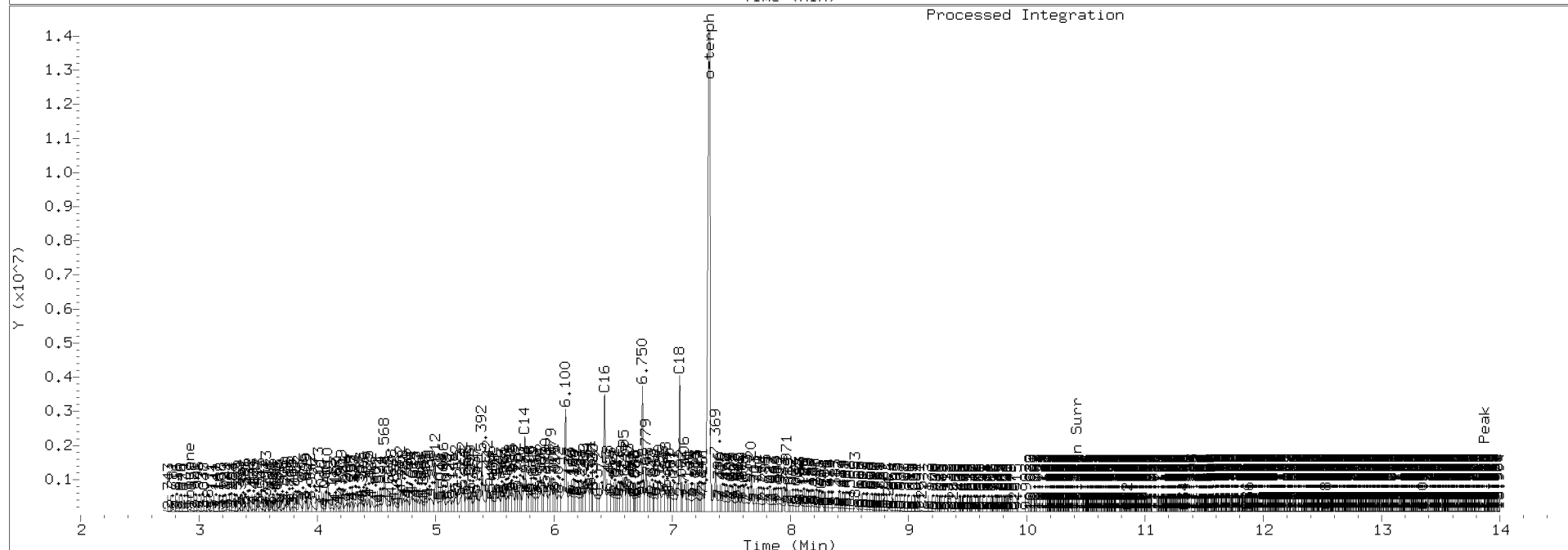
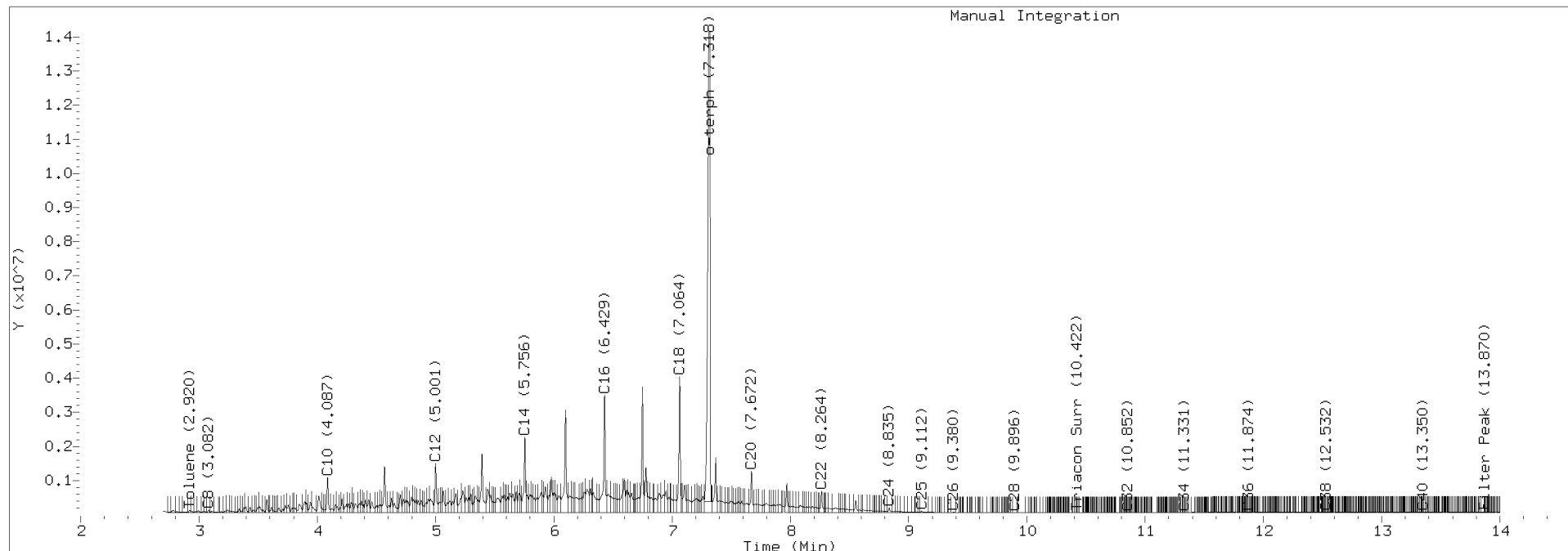
Surrogate	Area	Amount
o-Terphenyl	22024863	91.5
Triacontane	931	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1008.D Injection: 10-JAN-2022 19:36

Lab ID:SKA0077-CAL4



Data File: \\target\share\chem2\fid3b,1\20220110,8\322841009.D

Date: 10-JAN-2022 19:56

Client ID:

Sample Info: SKR0077-CALS

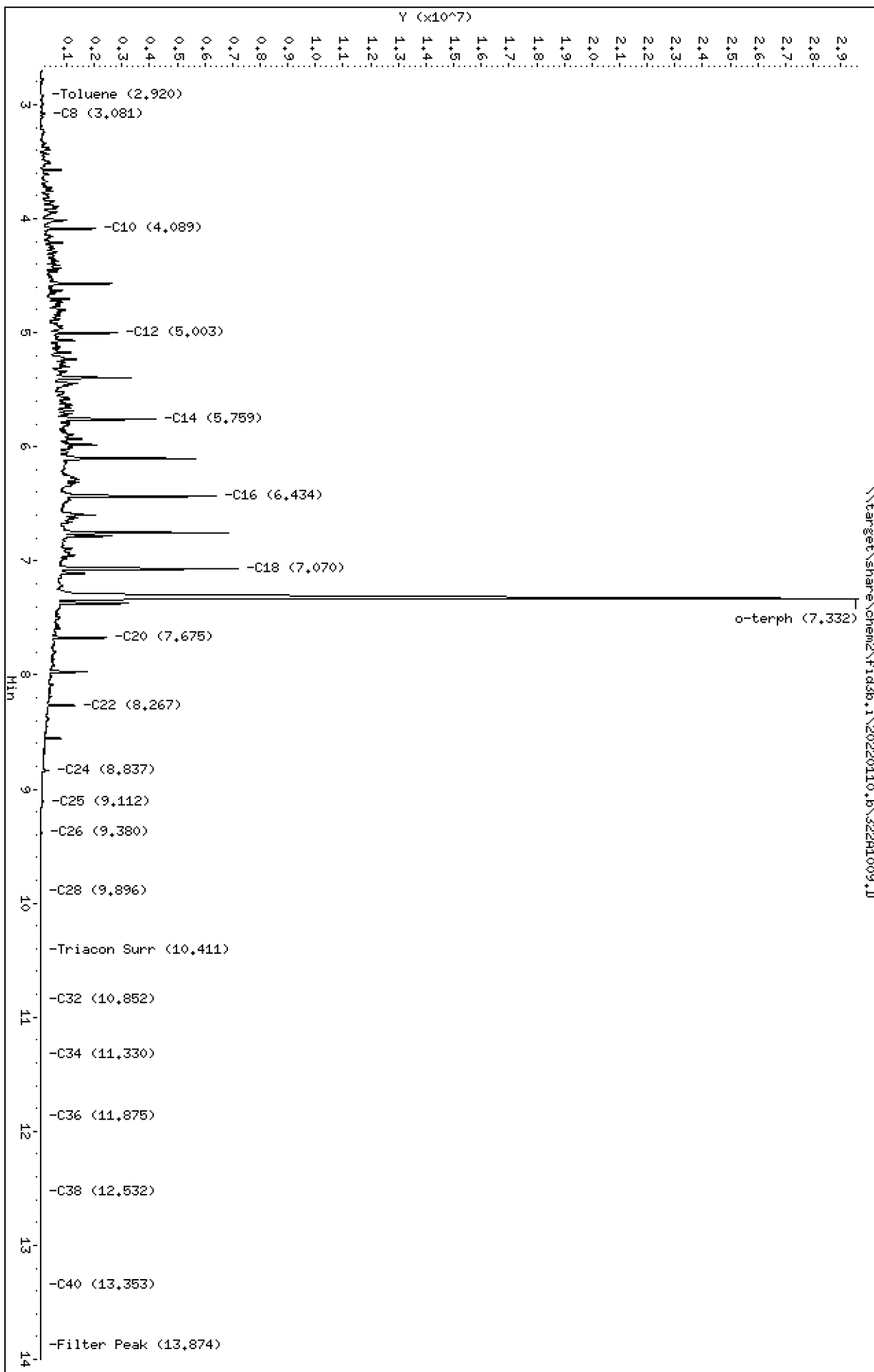
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1009.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL5  
Client ID:  
Injection: 10-JAN-2022 19:56  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.920	-0.004	114026	97149	WATPHG	(Tol-C12)	41899060	233.5
C8	3.081	-0.004	151492	129642	WATPHD	(C12-C24)	175188900	1016.0
C10	4.089	-0.003	1995655	1676461	WATPHM	(C24-C38)	1791717	12.7
C12	5.003	0.001	2767800	2602136	AK102	(C10-C25)	206767101	1014.6 M
C14	5.759	0.002	4175316	4405704	AK103	(C25-C36)	1029048	10.8
C16	6.434	0.004	6361906	7628521	OR.DIES	(C10-C28)	207382695	1015.1 M
C18	7.070	0.006	7148707	7142100				
C20	7.675	-0.002	2389118	2481399				
C22	8.267	-0.004	1258273	1252590				
C24	8.837	-0.006	313289	323370				
C25	9.112	-0.008	117118	155549				
C26	9.380	-0.008	44862	49038				
C28	9.896	-0.008	5675	6104	IT.DIES	(C10-C24)	206268753	1014.3
C32	10.852	0.003	3565	1940				
C34	11.330	0.001	5879	3780				
Filter Peak	13.874	0.004	6068	2422				
C36	11.875	-0.000	7581	7798				
o-terph	7.332	0.014	28885547	44150095				
Triacon Surr	10.411	-0.001	625	177				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

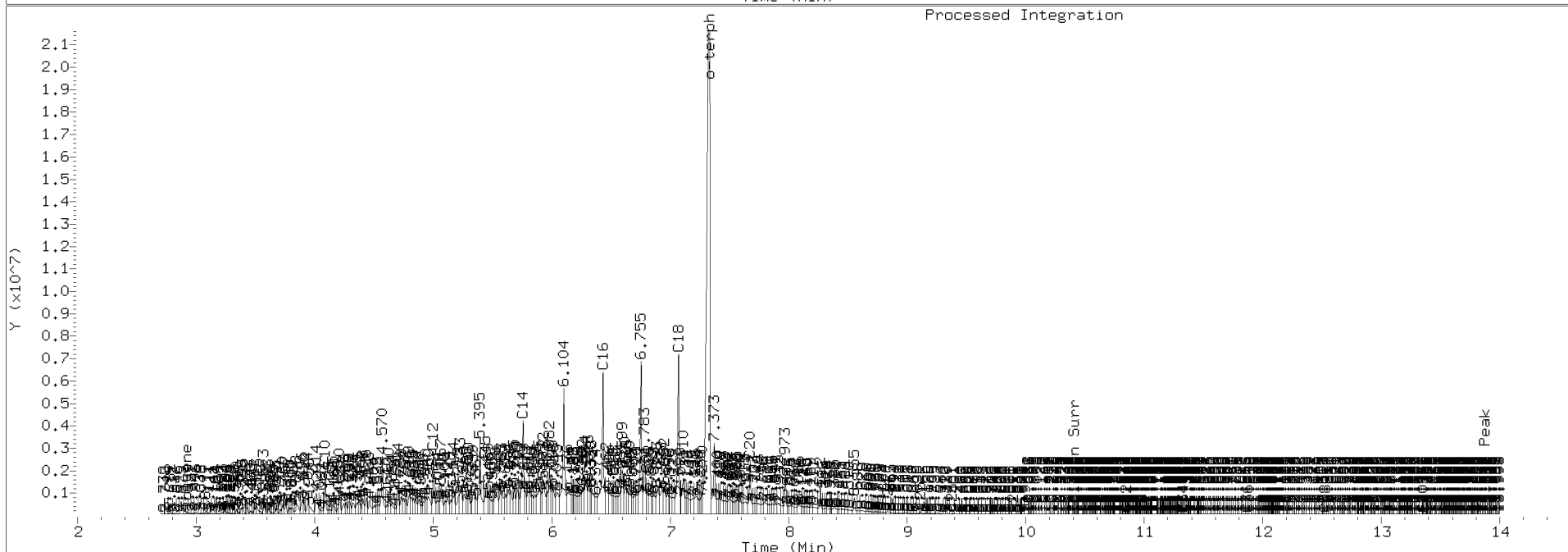
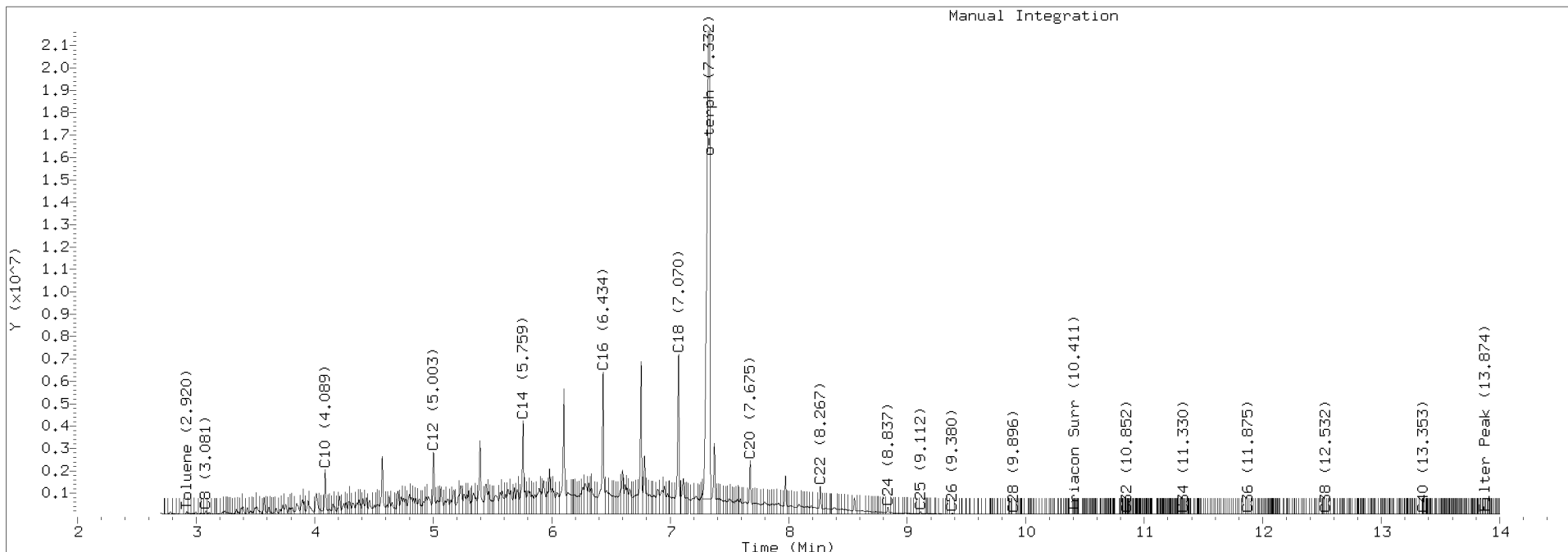
Surrogate	Area	Amount
o-Terphenyl	44150095	183.4
Triacontane	177	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1009.D Injection: 10-JAN-2022 19:56

Lab ID:SKA0077-CAL5



Data File: \\target\share\chem2\fid3b,1\20220110,8\32281010.D

Date: 10-JAN-2022 20:16

Client ID:

Sample Info: SKR0077-CAL6

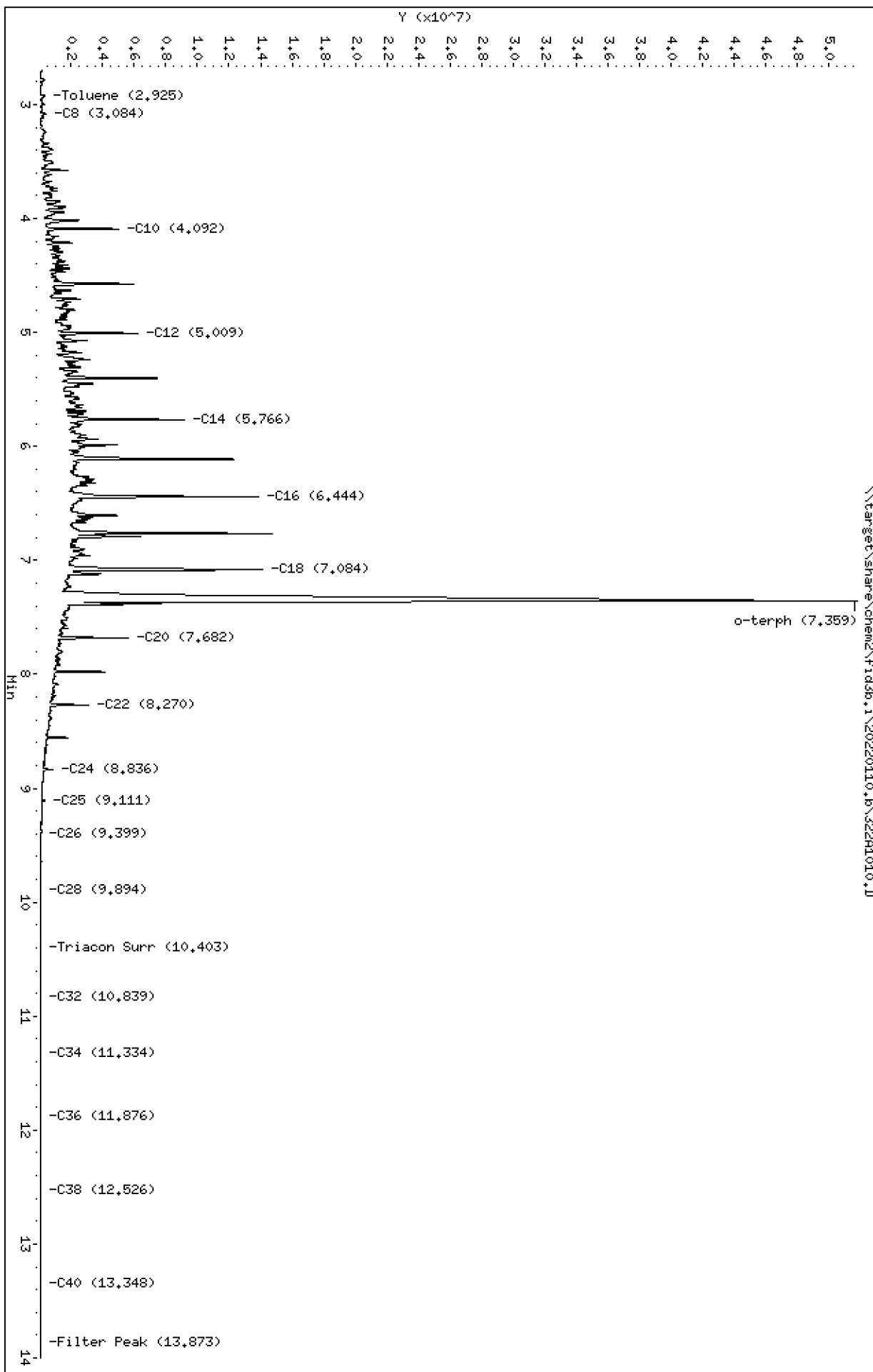
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1010.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-CAL6  
Client ID:  
Injection: 10-JAN-2022 20:16  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.925	0.001	251646	269079	WATPHG	(Tol-C12)	105158274	586.0
C8	3.084	-0.001	312714	325918	WATPHD	(C12-C24)	434752620	2521.4
C10	4.092	0.001	4983772	4237053	WATPHM	(C24-C38)	3532527	25.1
C12	5.009	0.006	6196973	6693516	AK102	(C10-C25)	514205599	2523.3 M
C14	5.766	0.009	9099861	11032653	AK103	(C25-C36)	1989502	20.9
C16	6.444	0.014	13769077	18805681	OR.DIES	(C10-C28)	515927328	2525.4 M
C18	7.084	0.019	14043697	19049655				
C20	7.682	0.006	5590517	6121291				
C22	8.270	-0.001	3007020	2961033				
C24	8.836	-0.007	775295	775696				
C25	9.111	-0.009	298835	420694				
C26	9.399	0.010	34608	60903				
C28	9.894	-0.010	17969	22984	IT.DIES	(C10-C24)	512816022	2521.6
C32	10.839	-0.009	2116	2823				
C34	11.334	0.004	3340	992				
Filter Peak	13.873	0.003	4925	1465				
C36	11.876	0.001	4358	1721				
o-terph	7.359	0.041	50258271	111646044				
Triacon Surr	10.403	-0.009	391	337				

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

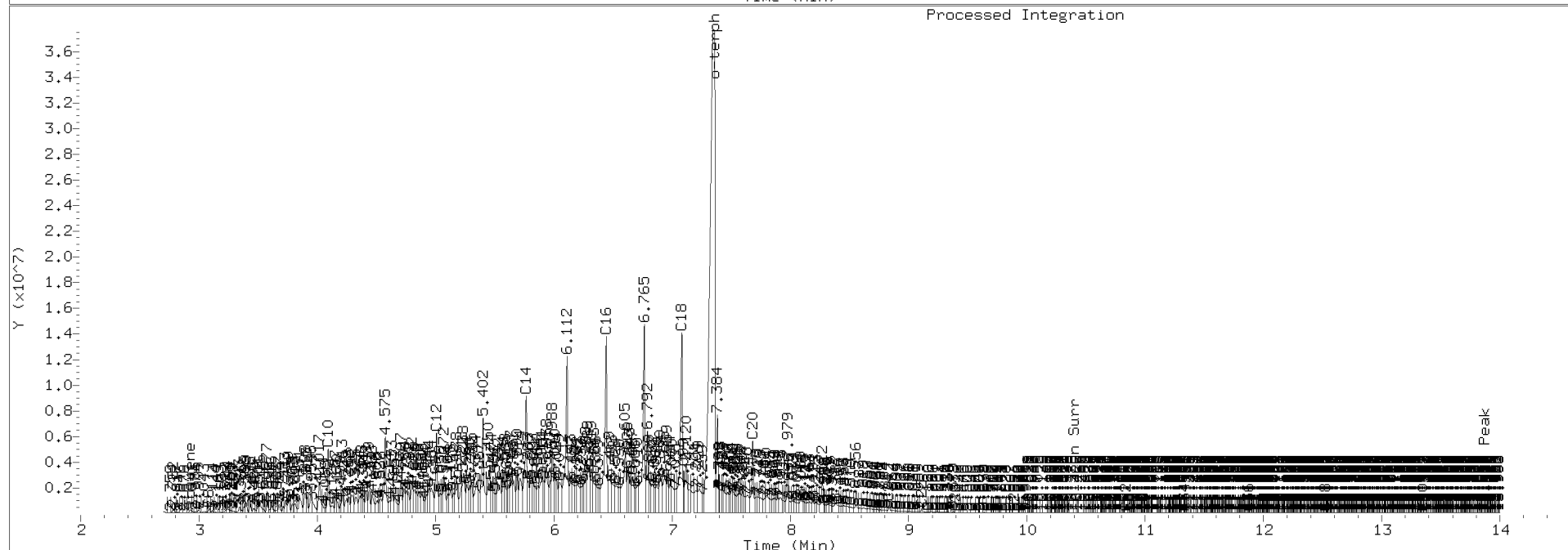
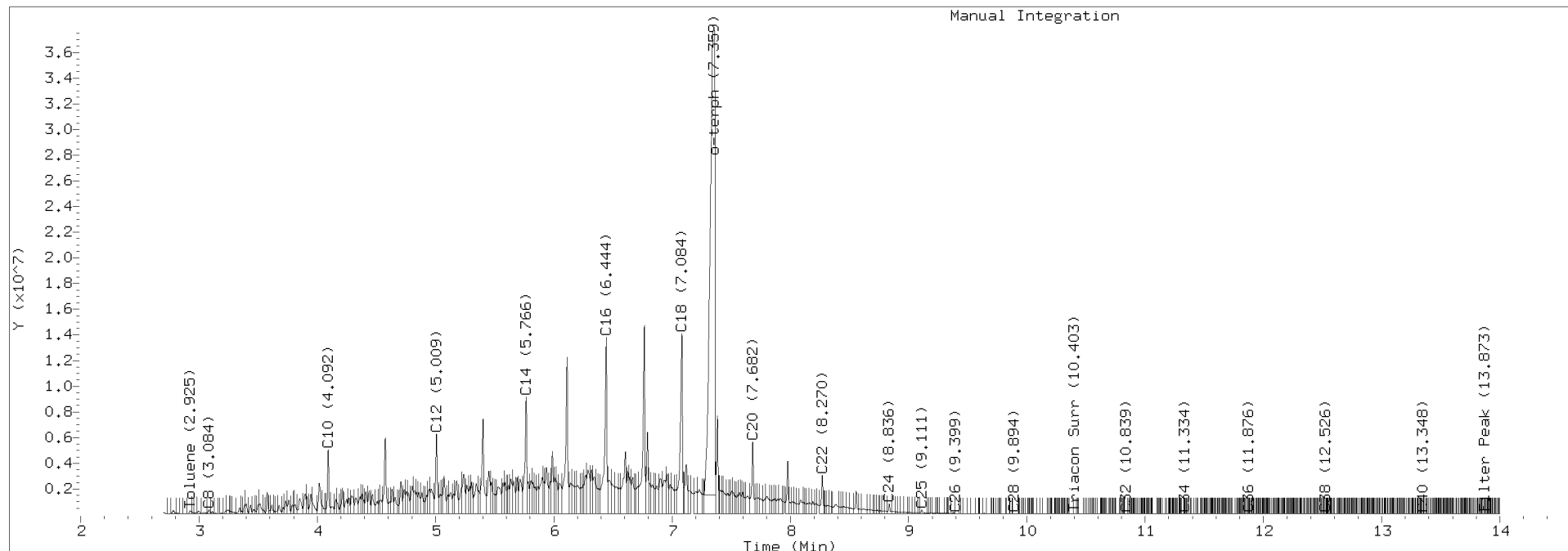
Surrogate	Area	Amount
o-Terphenyl	111646044	463.9
Triacontane	337	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022

TPH Manual Integrations Report

Datafile: FID3B, 20220110.b/322A1010.D Injection: 10-JAN-2022 20:16

Lab ID:SKA0077-CAL6



Data File: \\target\share\chem2\fid3b,1\20220110,8\32281011.D

Date: 10-JAN-2022 20:36

Client ID:

Sample Info: SKR0077-SCW1

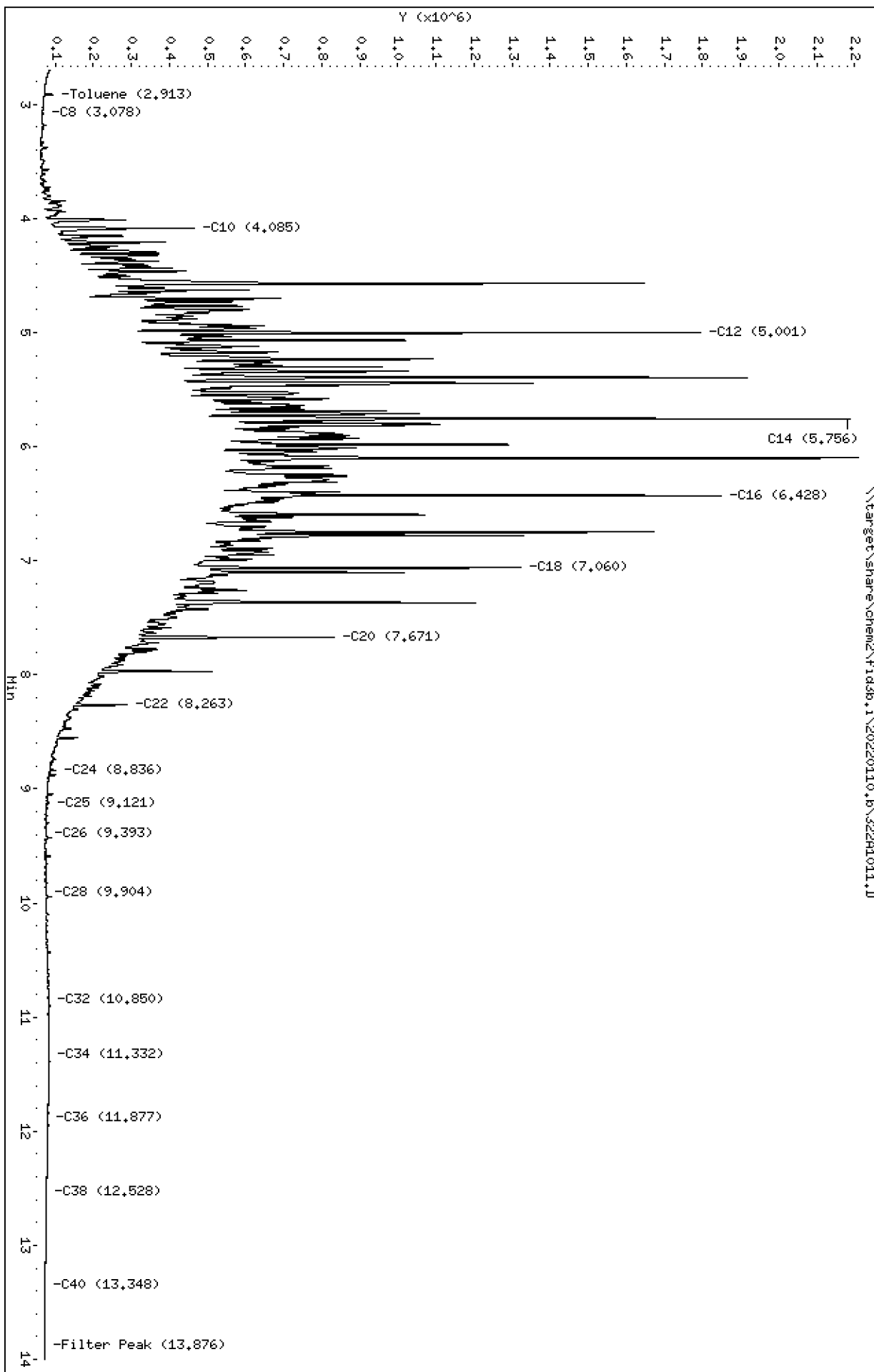
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1011.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-SCV1  
Client ID:  
Injection: 10-JAN-2022 20:36  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.913	-0.011	31311	48402	WATPHG	(Tol-C12)	19016904	106.0
C8	3.078	-0.007	7170	12081	WATPHD	(C12-C24)	99362282	576.3
C10	4.085	-0.006	404752	369124	WATPHM	(C24-C38)	36582228	26.0
C12	5.001	-0.001	1733837	1638943	AK102	(C10-C25)	117568777	576.9
C14	5.756	-0.001	2124863	2493647	AK103	(C25-C36)	2894433	30.5
C16	6.428	-0.001	1789095	2293707	OR.DIES	(C10-C28)	118319934	579.2
C18	7.060	-0.005	1259843	1599642				
C20	7.671	-0.005	771260	922090				
C22	8.263	-0.008	226830	271701				
C24	8.836	-0.007	38575	45494				
C25	9.121	0.001	20356	33890				
C26	9.393	0.005	14694	9958				
C28	9.904	0.000	15029	19734	IT.DIES	(C10-C24)	117371827	577.1
C32	10.850	0.001	20355	10097				
C34	11.332	0.002	21437	11744				
Filter Peak	13.876	0.006	10457	7779				
C36	11.877	0.002	19452	4848				
o-terph	----							
Triacon Surr	----							

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022



GC LOG SUMMARY FOR DATABATCH - fid3b.i\20211215.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	15-DEC-2021	16:42	321L1501.D	1	RINSE	
2	15-DEC-2021	17:02	321L1502.D	1	RINSE	
3	15-DEC-2021	17:22	321L1503.D	1	SEQ-IBL1	
4	15-DEC-2021	17:42	321L1504.D	1	SEQ-IBL2	
5	15-DEC-2021	18:02	321L1505.D	1	SEQ-ICV1	
6	15-DEC-2021	18:22	321L1506.D	1	SEQ-ICV2	
7	15-DEC-2021	19:04	321L1507.D	1	SJL0220-CAL1	
8	15-DEC-2021	19:24	321L1508.D	1	SJL0220-CAL2	
9	15-DEC-2021	19:44	321L1509.D	1	SJL0220-CAL3	
10	15-DEC-2021	20:04	321L1510.D	1	SJL0220-CAL4	
11	15-DEC-2021	20:24	321L1511.D	1	SJL0220-CAL5	
12	15-DEC-2021	20:43	321L1512.D	1	SJL0220-CAL6	
13	15-DEC-2021	21:03	321L1513.D	1	SJL0220-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20211215.b

ARI Job No.: RINS Method: i\20211215.b\FID3TPH.m Instrument: fid3b.i Date: 15-DEC-2021

Time Filename LabID ClientId DF Manually Integrated Compounds

1642 321L1501.D RINSE 1 NO MANUAL INTEGRATION

1702 321L1502.D RINSE 1 NO MANUAL INTEGRATION

1722 321L1503.D SEQ-IBL1 1 NO MANUAL INTEGRATION

1742 321L1504.D SEQ-IBL2 1 NO MANUAL INTEGRATION

1802 321L1505.D SEQ-ICV1 1 o-terph,

1822 321L1506.D SEQ-ICV2 1 Triacon Surr,

1904 321L1507.D SJL0220-CAL1 1 Triacon Surr,

1924 321L1508.D SJL0220-CAL2 1 Triacon Surr,

1944 321L1509.D SJL0220-CAL3 1 Triacon Surr,

2004 321L1510.D SJL0220-CAL4 1 Triacon Surr,

2024 321L1511.D SJL0220-CAL5 1 Triacon Surr,

2043 321L1512.D SJL0220-CAL6 1 Triacon Surr,

2067 321L1513.D SJL0220-SCV1 1 NO MANUAL INTEGRATION

Security Status Report

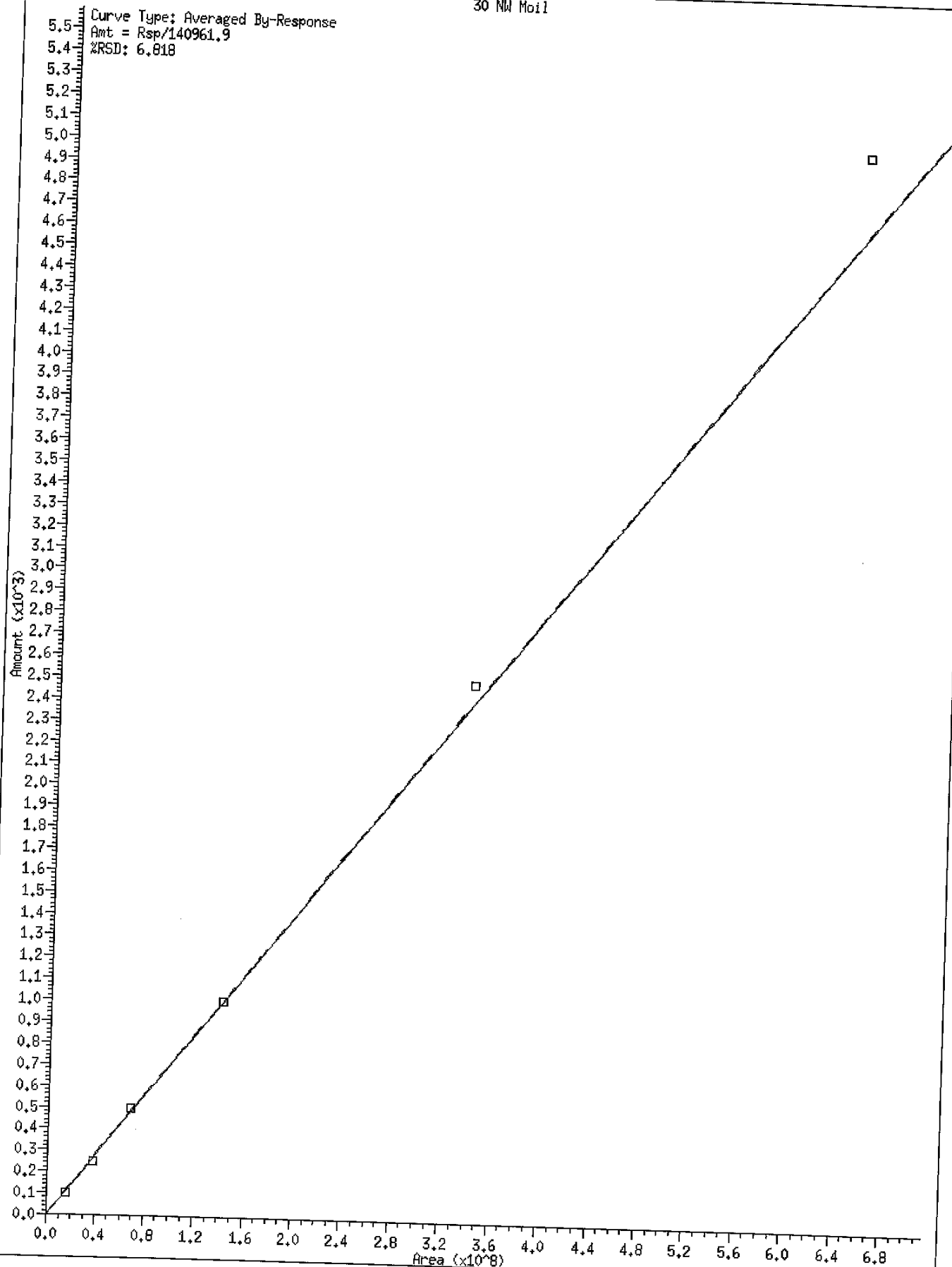
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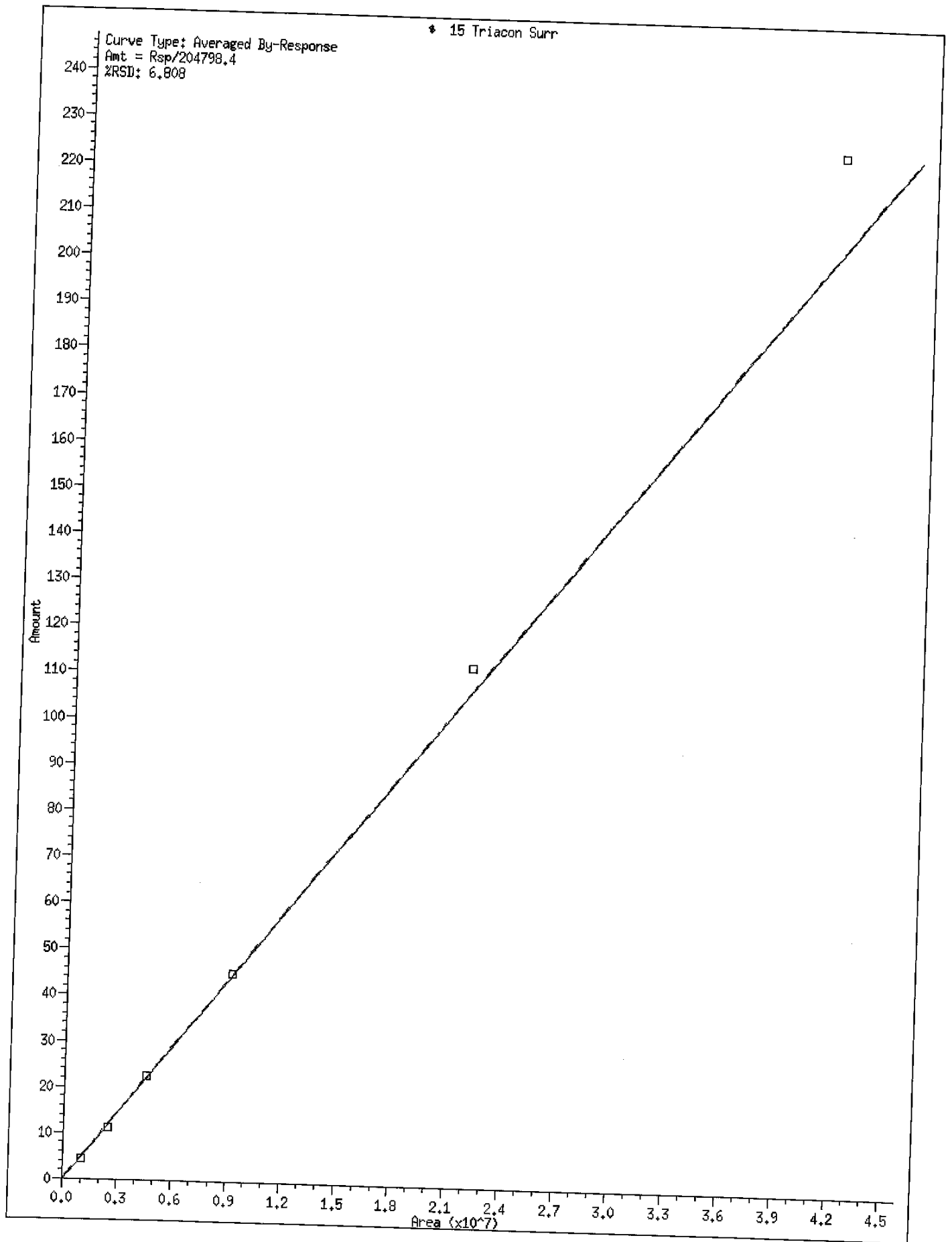
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321L1512.D	Data Locked	tokala,	17-Dec-2021	15:14
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30 NW Moil

Curve Type: Averaged By-Response  
Amt = Rsp/140961.9  
%RSD: 6.818





ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20211215.b\FID3TPH.m  
 Batch File: \\target\share\chem2\fid3b.i\20211215.b  
 Inst ID: fid3b.i

ID	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
FILENAME:	321L1507	321L1508	321L1509	321L1510	321L1511	321L1512				
INJ. DATE:	15-DEC-2021	15-DEC-2021	15-DEC-2021	15-DEC-2021	15-DEC-2021	15-DEC-2021				
INJ. TIME:	19:04	19:24	19:44	20:04	20:24	20:43				
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	2.938	2.929	2.930	2.925	2.928	2.926	2.933	2.833-3.033	2.929	0.005
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.015	0.965-1.065	+++++	+++++
2 C8	3.099	3.087	3.084	3.105	3.102	3.103	3.093	2.993-3.193	3.097	0.009
3 C10	4.104	4.100	4.105	4.102	4.092	4.091	4.097	4.047-4.147	4.099	0.006
4 C12	+++++	+++++	5.004	5.002	5.003	5.003	5.008	4.958-5.058	5.003	0.001
5 C14	5.759	5.757	5.757	5.756	5.756	5.756	5.763	5.713-5.813	5.757	0.001
6 C16	+++++	6.431	6.430	6.428	6.428	6.428	6.436	6.386-6.486	6.429	0.001
7 C18	7.064	7.063	7.063	7.061	7.062	7.063	7.072	7.022-7.122	7.063	0.001
8 o-terph	7.324	7.324	7.324	7.341	7.309	7.310	7.325	7.275-7.375	7.322	0.011
9 C20	7.684	7.677	7.676	7.676	7.675	7.676	7.684	7.634-7.734	7.678	0.003
10 C22	8.279	8.281	8.279	8.278	8.279	8.281	8.280	8.230-8.330	8.280	0.001
11 C24	8.848	8.842	8.850	8.844	8.846	8.850	8.852	8.802-8.902	8.847	0.004
12 C25	9.134	9.130	9.128	9.132	9.131	9.143	9.130	9.080-9.180	9.133	0.005
13 C26	9.409	9.409	9.398	9.389	9.393	9.400	9.399	9.349-9.449	9.400	0.008
14 C28	9.924	9.915	9.913	9.916	9.913	9.910	9.914	9.864-9.964	9.915	0.005
15 Triacon Surr	10.390	10.396	10.401	10.411	10.428	10.451	10.423	10.373-10.473	10.413	0.023
16 C32	10.862	10.868	10.851	10.856	10.863	10.855	10.861	10.811-10.911	10.859	0.006

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_  
 Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20211215.b\FID3TPH.m  
Batch File: \\target\share\chem2\fid3b.i\20211215.b  
Inst ID: fid3b.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
17 C34	11.341	11.341	11.345	11.341	11.355	11.343	11.343	11.293-11.393	11.344	0.006
18 Filter Peak	13.875	13.860	13.867	13.867	13.868	13.871	13.867	13.767-13.967	13.868	0.005
19 C36	11.890	11.892	11.891	11.895	11.891	11.890	11.892	11.842-11.942	11.892	0.002
20 C38	12.555	12.555	12.547	12.547	12.544	12.545	12.551	12.501-12.601	12.549	0.005
21 C40	13.382	13.380	13.382	13.391	13.389	13.382	13.384	13.334-13.434	13.384	0.005
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
40 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
37 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	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 IT. Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

Data File: \\target\share\chem2\fid3b,1\20211215,8\32111503.D

Date: 15-DEC-2021 17:22

Client ID:

Sample Info: SEQ-IBL1

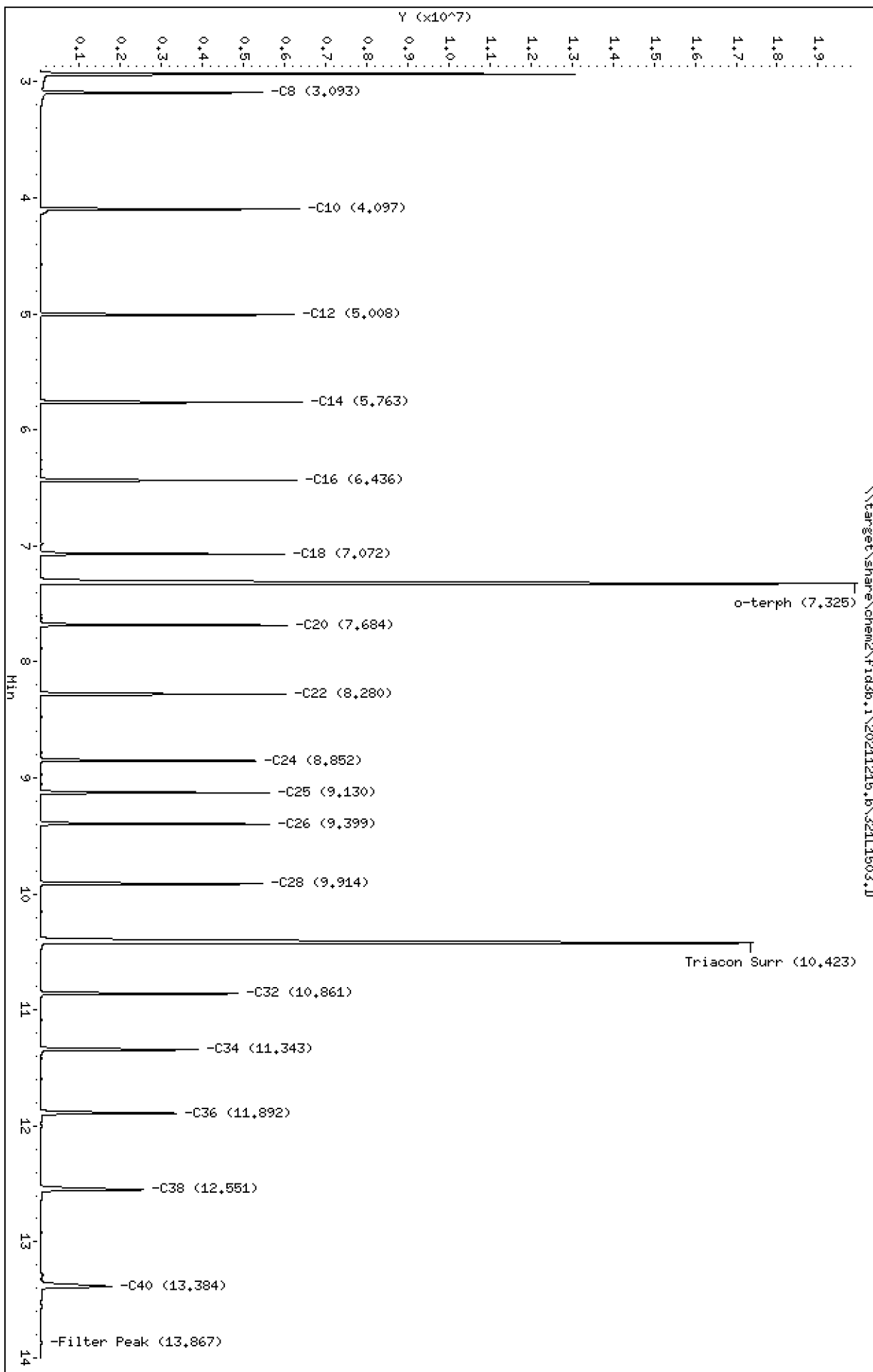
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1503.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SEQ-IBL1  
Client ID:  
Injection: 15-DEC-2021 17:22  
Dilution Factor: 1  
RT Std: 321L1503.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.933	0.000	13030248	10350986	WATPHG	(Tol-C12)	24026729	133.9
C8	3.093	0.000	5394973	4198225	WATPHD	(C12-C24)	26423806	167.8
C10	4.097	0.000	6299127	4507431	WATPHM	(C24-C38)	28960880	205.5
C12	5.008	0.000	6164005	4471612	AK102	(C10-C25)	35507627	189.6
C14	5.763	0.000	6365143	4468335	AK103	(C25-C36)	25049457	263.7
C16	6.436	0.000	6237415	4348445	OR.DIES	(C10-C28)	48480851	258.2
C18	7.072	0.000	5928949	4401691				
C20	7.684	0.000	6002544	4430052				
C22	8.280	0.000	5962165	4468284				
C24	8.852	0.000	5244954	3881900				
C25	9.130	0.000	5587461	4307270				
C26	9.399	0.000	5563678	4358595				
C28	9.914	0.000	5411495	4279765	IT.DIES	(C10-C24)	35459835	189.7
C32	10.861	0.000	4812802	3996336				
C34	11.343	0.000	3847766	3622271				
Filter Peak	13.867	0.000	18762	61846				
C36	11.892	0.000	3288302	3795360				
o-terph	7.325	0.000	19895536	24028812				
Triacon Surr	10.423	0.000	17358569	24376601				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	24028812	109.5
Triacontane	24376601	119.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021

Data File: \\target\share\chem2\FID3b,1\20211215,6\32111504.D

Date: 15-DEC-2021 17:42

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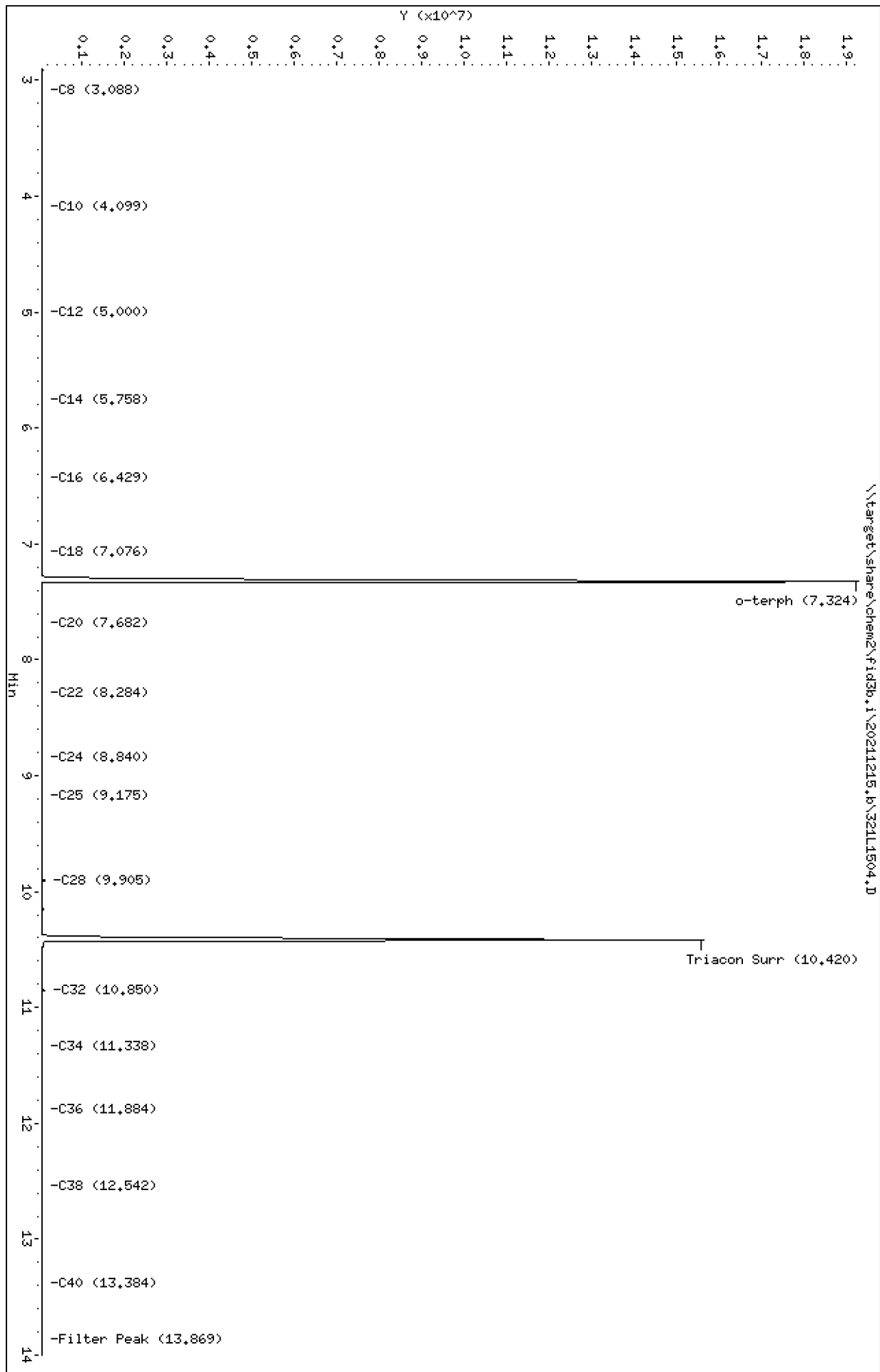
Sample Info: SEQ-IBL2

Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1504.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SEQ-IBL2  
Client ID:  
Injection: 15-DEC-2021 17:42  
Dilution Factor: 1  
RT Std: 321L1503.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.955	0.022	9303	12212	WATPHG	(Tol-C12)	335787	1.9
C8	3.088	-0.006	9232	18289	WATPHD	(C12-C24)	172810	1.1
C10	4.099	0.002	3774	3374	WATPHM	(C24-C38)	1226494	8.7
C12	5.000	-0.008	1484	1383	AK102	(C10-C25)	229679	1.2
C14	5.758	-0.006	4139	5799	AK103	(C25-C36)	824232	8.7
C16	6.429	-0.006	1407	1139	OR.DIES	(C10-C28)	280133	1.5
C18	7.076	0.004	1615	1004				
C20	7.682	-0.002	2609	1635				
C22	8.284	0.004	2341	1379				
C24	8.840	-0.012	1574	1232				
C25	9.175	0.045	1457	1446				
C26	----							
C28	9.905	-0.009	65720	45751	IT.DIES	(C10-C24)	228641	1.2
C32	10.850	-0.011	51337	51883				
C34	11.338	-0.006	9555	18003				
Filter Peak	13.869	0.003	13256	3304				
C36	11.884	-0.007	11886	15689				
o-terph	7.324	-0.001	19227674	22871763				
Triacon Surr	10.420	-0.003	15593782	19612327				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	22871763	104.2
Triacontane	19612327	95.8

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



Data File: \\target\share\chem2\fid3b,1\20211215,8\32111507.D

Date: 15-DEC-2021 19:04

Client ID:

Sample Info: S.L0220-CAL1

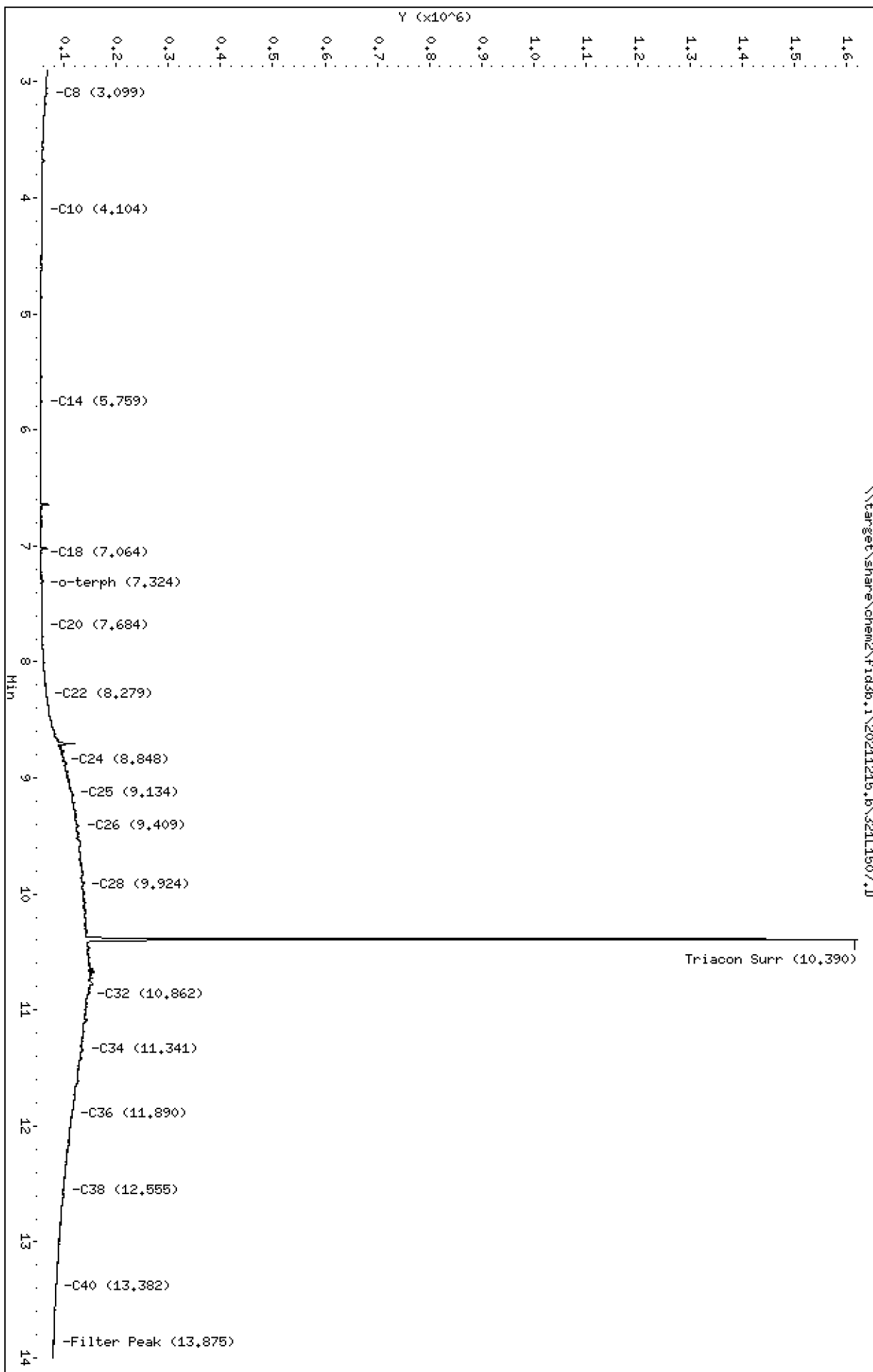
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1507.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-CAL1  
Client ID:  
Injection: 15-DEC-2021 19:04  
Dilution Factor: 1  
RT Std: 321L1503.D

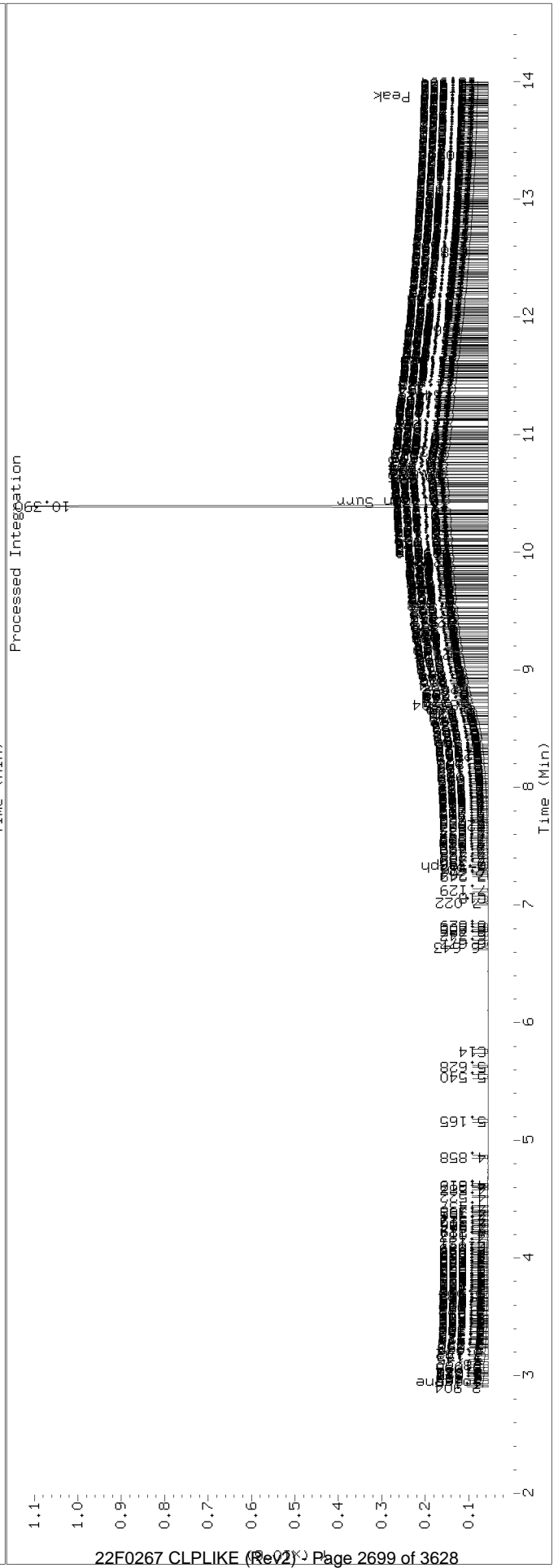
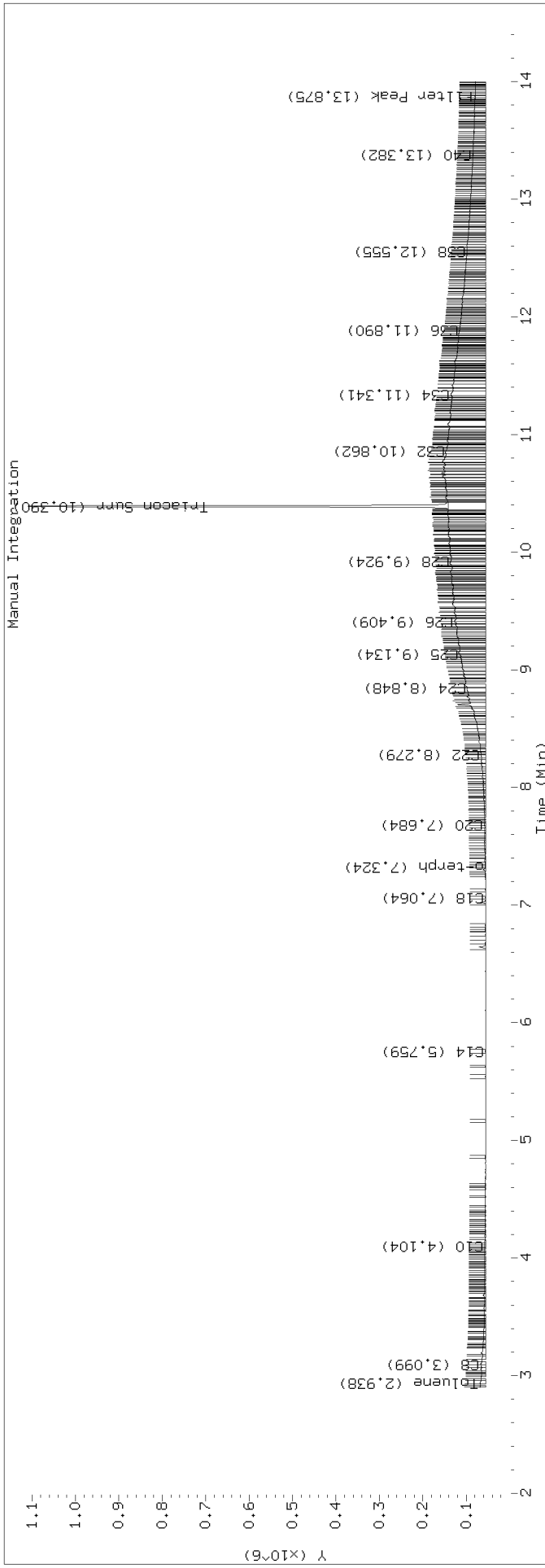
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.938	0.005	13668	23925	WATPHG	(Tol-C12)	373585	2.1
C8	3.099	0.006	12519	17846	WATPHD	(C12-C24)	1285295	8.2
C10	4.104	0.006	3371	3414	WATPHM	(C24-C38)	15620799	110.8
C12	----					AK102 (C10-C25)	1873076	10.0
C14	5.759	-0.005	1963	2561	AK103	(C25-C36)	13211164	139.1 M
C16	----				OR.DIES	(C10-C28)	5481780	29.2
C18	7.064	-0.008	1385	1495				
C20	7.684	0.000	3696	4152				
C22	8.279	-0.000	10867	2168				
C24	8.848	-0.005	42782	12804				
C25	9.134	0.004	60054	20954				
C26	9.409	0.010	72524	66495				
C28	9.924	0.010	81009	16189	IT.DIES	(C10-C24)	1325854	7.1
C32	10.862	0.001	91584	45613				
C34	11.341	-0.002	80907	196720				
Filter Peak	13.875	0.009	25200	26142				
C36	11.890	-0.001	60785	27196				
o-terph	7.324	-0.000	1709	1384				
Triacon Surr	10.390	-0.033	1478998	1006022				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	1384	0.0
Triacontane	1006022	4.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



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Date: 15-DEC-2021 19:24

Client ID:

Sample Info: S.L0220-CAL2

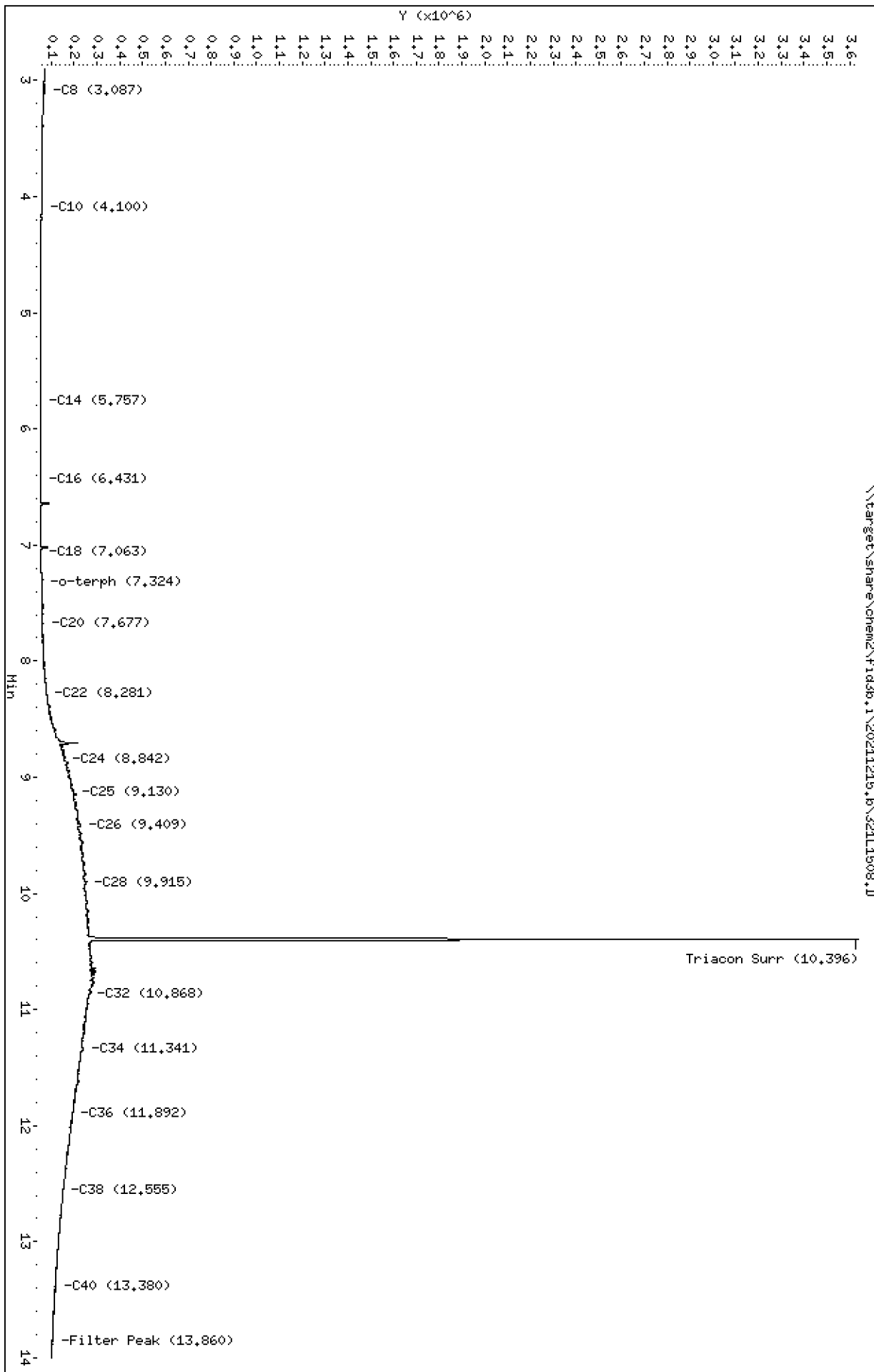
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Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1508.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

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Client ID:  
Injection: 15-DEC-2021 19:24  
Dilution Factor: 1  
RT Std: 321L1503.D

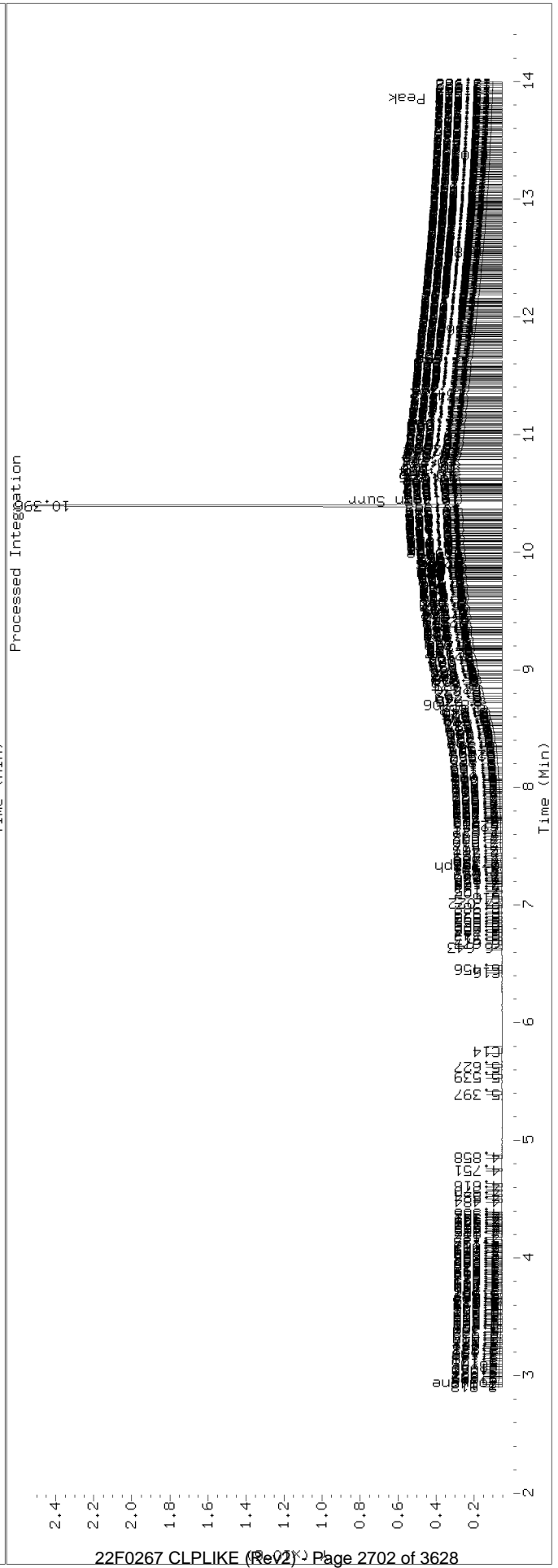
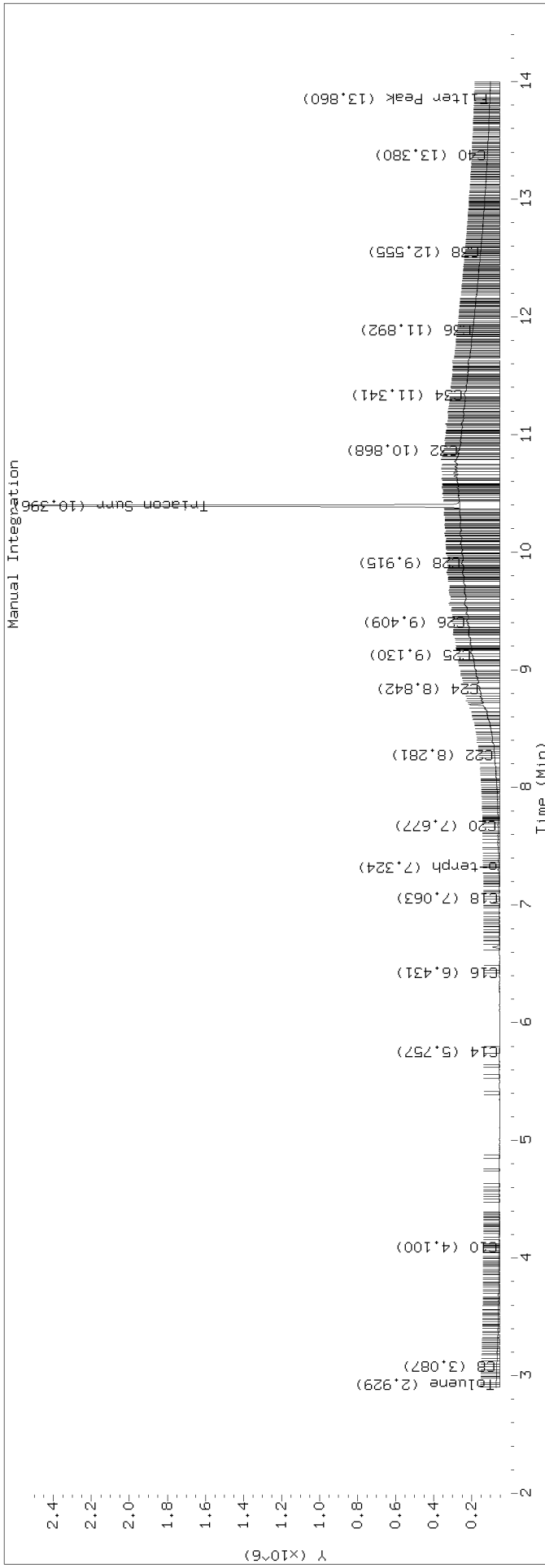
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.929	-0.004	18712	13007	WATPHG	(Tol-C12)	612962	3.4
C8	3.087	-0.007	16360	21324	WATPHD	(C12-C24)	3205506	20.4
C10	4.100	0.003	3700	2152	WATPHM	(C24-C38)	37033340	262.7
C12	----				AK102	(C10-C25)	4649567	24.8
C14	5.757	-0.006	2449	3365	AK103	(C25-C36)	31173076	328.1 M
C16	6.431	-0.005	1946	1692	OR.DIES	(C10-C28)	13703965	73.0
C18	7.063	-0.008	2785	2981				
C20	7.677	-0.007	9143	14851				
C22	8.281	0.001	26868	30430				
C24	8.842	-0.011	104342	62208				
C25	9.130	0.000	145387	170962				
C26	9.409	0.010	173559	168458				
C28	9.915	0.001	198322	118287	IT.DIES	(C10-C24)	3266652	17.5
C32	10.868	0.007	213326	116657				
C34	11.341	-0.003	188186	323317				
Filter Peak	13.860	-0.007	51358	43278				
C36	11.892	0.001	140753	91343				
o-terph	7.324	-0.001	4151	1829				
Triacon Surr	10.396	-0.027	3376665	2444247				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	1829	0.0
Triacontane	2444247	11.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



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Date: 15-DEC-2021 19:44

Client ID:

Sample Info: S.L0220-CAL3

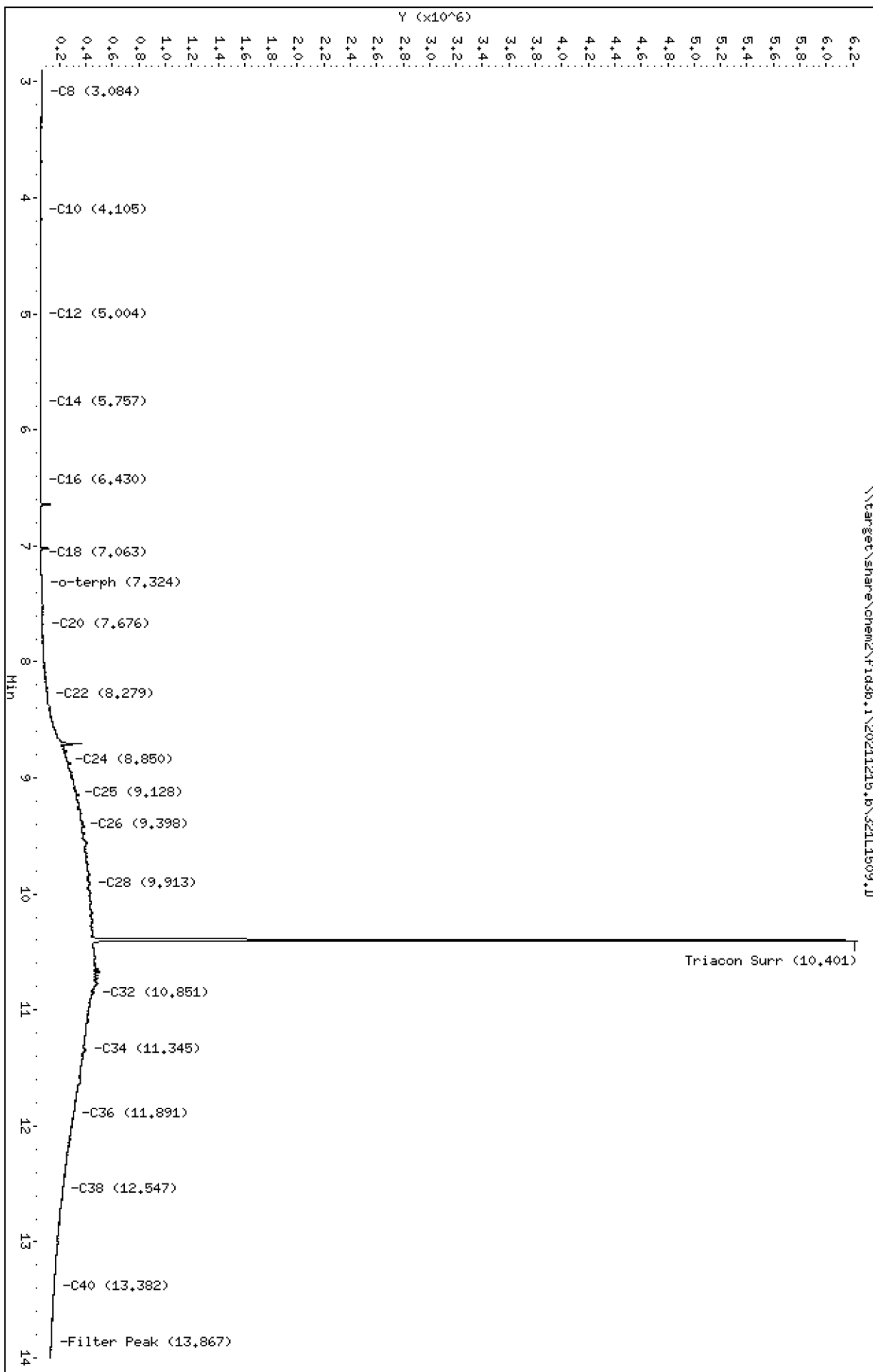
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1509.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-CAL3  
Client ID:  
Injection: 15-DEC-2021 19:44  
Dilution Factor: 1  
RT Std: 321L1503.D

FID:3B RESULTS

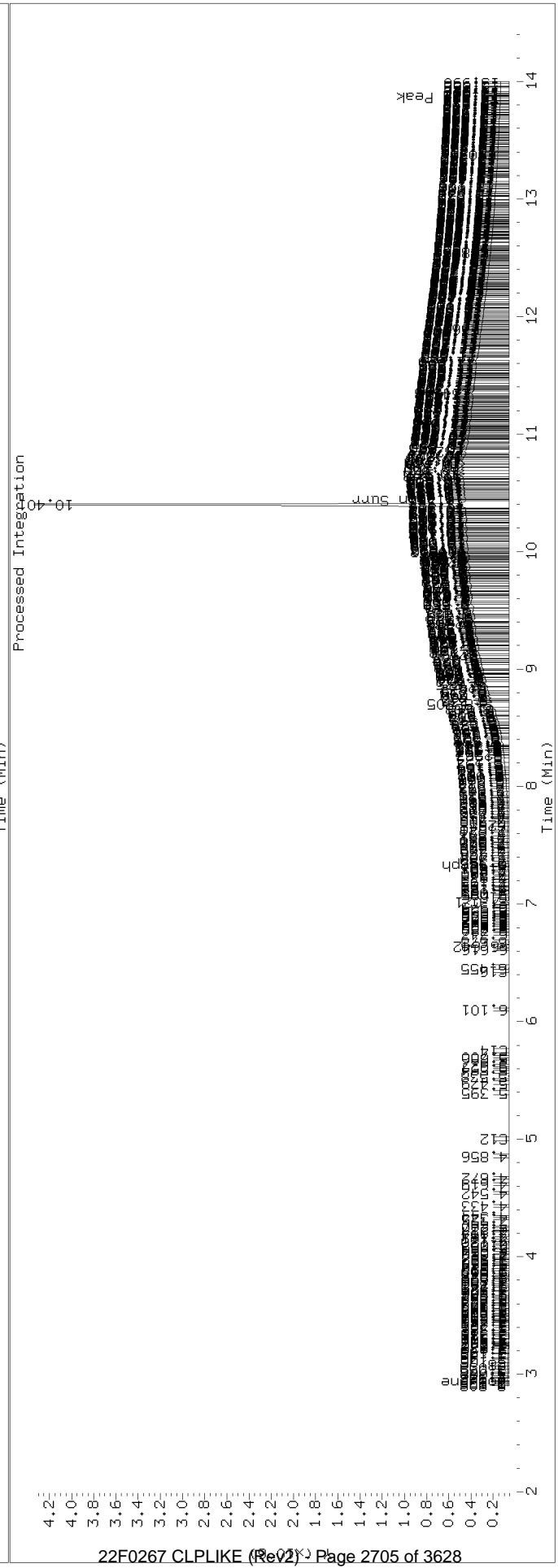
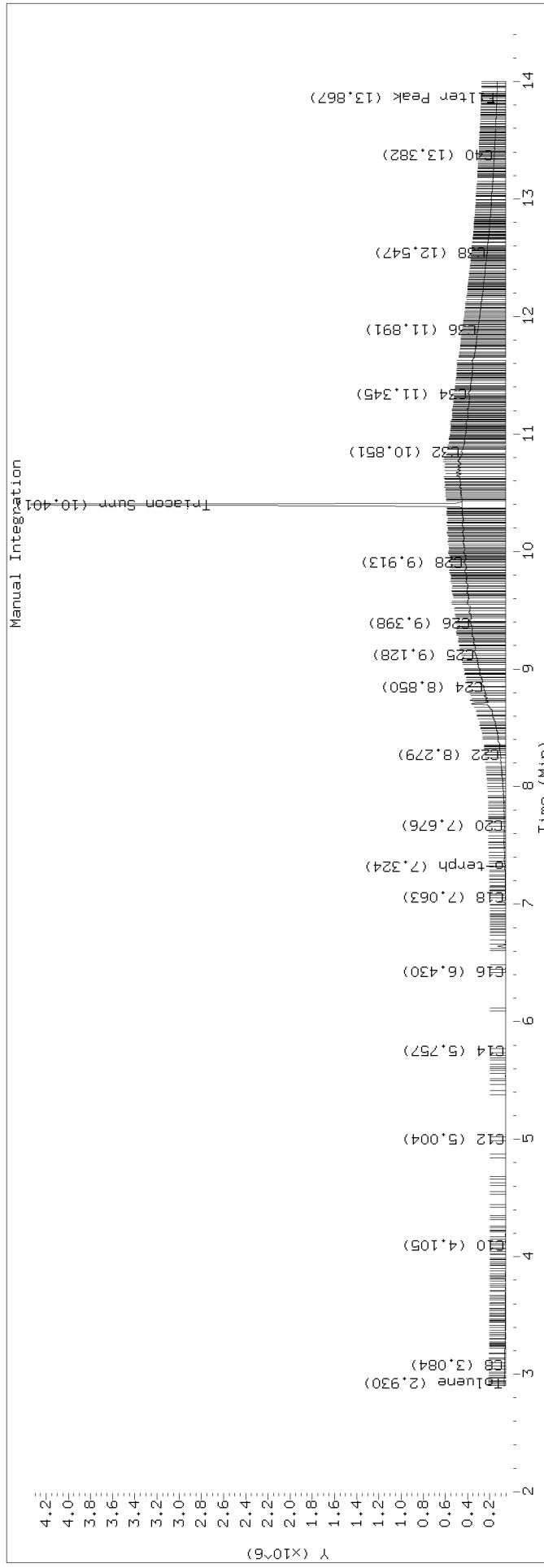
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.930	-0.004	15106	7412	WATPHG	(Tol-C12)	372026	2.1
C8	3.084	-0.010	12710	17158	WATPHD	(C12-C24)	5913006	37.5
C10	4.105	0.007	2616	2024	WATPHM	(C24-C38)	67486092	478.8
C12	5.004	-0.005	1198	1231	AK102	(C10-C25)	8666634	46.3
C14	5.757	-0.006	2500	3170	AK103	(C25-C36)	57011604	600.1 M
C16	6.430	-0.006	3178	2780	OR.DIES	(C10-C28)	25231249	134.4
C18	7.063	-0.009	4123	4669				
C20	7.676	-0.008	16082	24931				
C22	8.279	-0.001	48861	48452				
C24	8.850	-0.002	193754	57977				
C25	9.128	-0.002	273092	321920				
C26	9.398	-0.001	309706	92713				
C28	9.913	-0.001	373537	111888	IT.DIES	(C10-C24)	5953144	31.9
C32	10.851	-0.010	403032	807382				
C34	11.345	0.001	339249	301887				
Filter Peak	13.867	0.000	79659	47425				
C36	11.891	-0.000	251897	87958				
o-terph	7.324	-0.001	7134	3511				
Triacon Surr	10.401	-0.022	5787294	4573498				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	3511	0.0
Triacontane	4573498	22.3

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021





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Date: 15-DEC-2021 20:04

Client ID:

Sample Info: S.L0220-CAL4

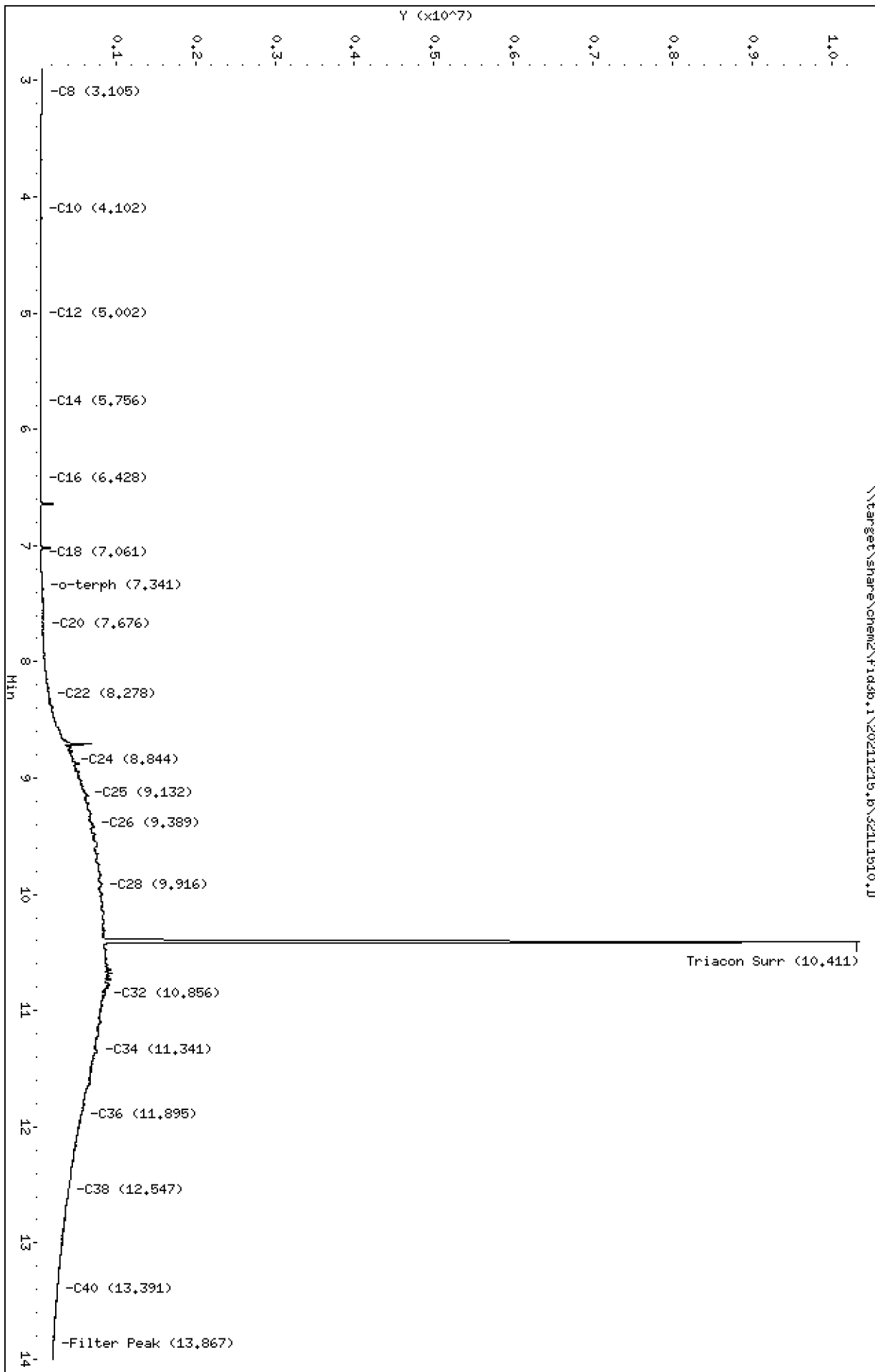
Column phase: RTX-1

Instrument: fid3b.1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1510.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-CAL4  
Client ID:  
Injection: 15-DEC-2021 20:04  
Dilution Factor: 1  
RT Std: 321L1503.D

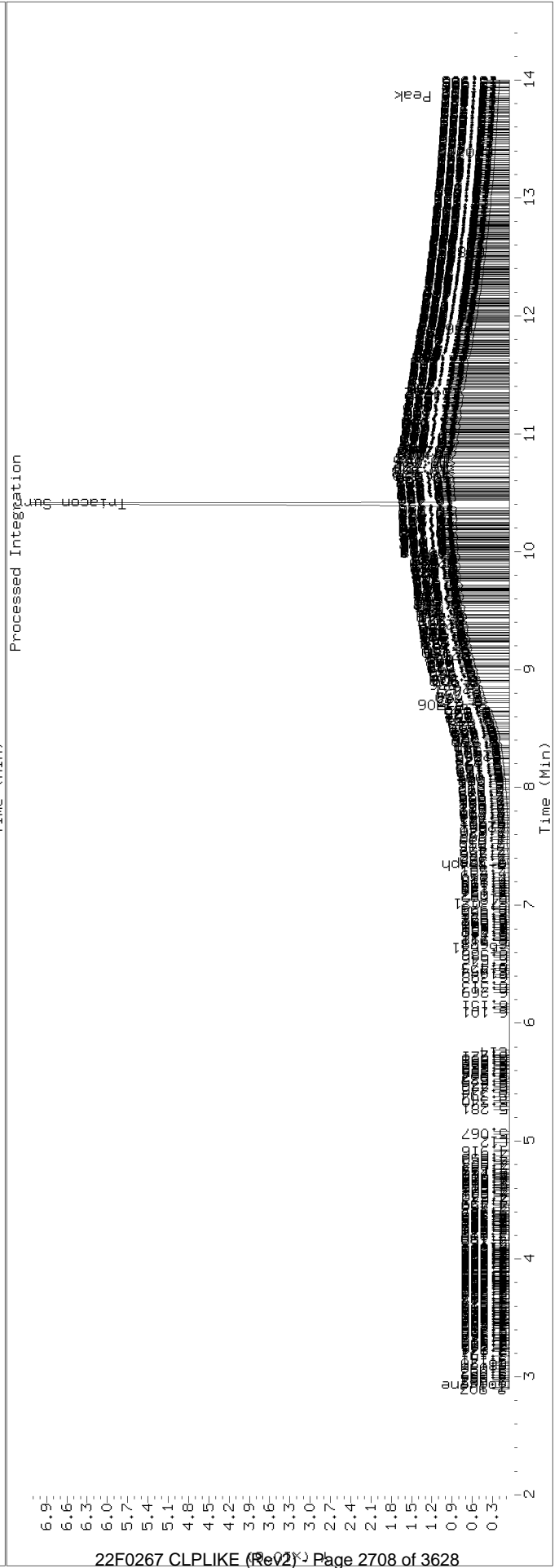
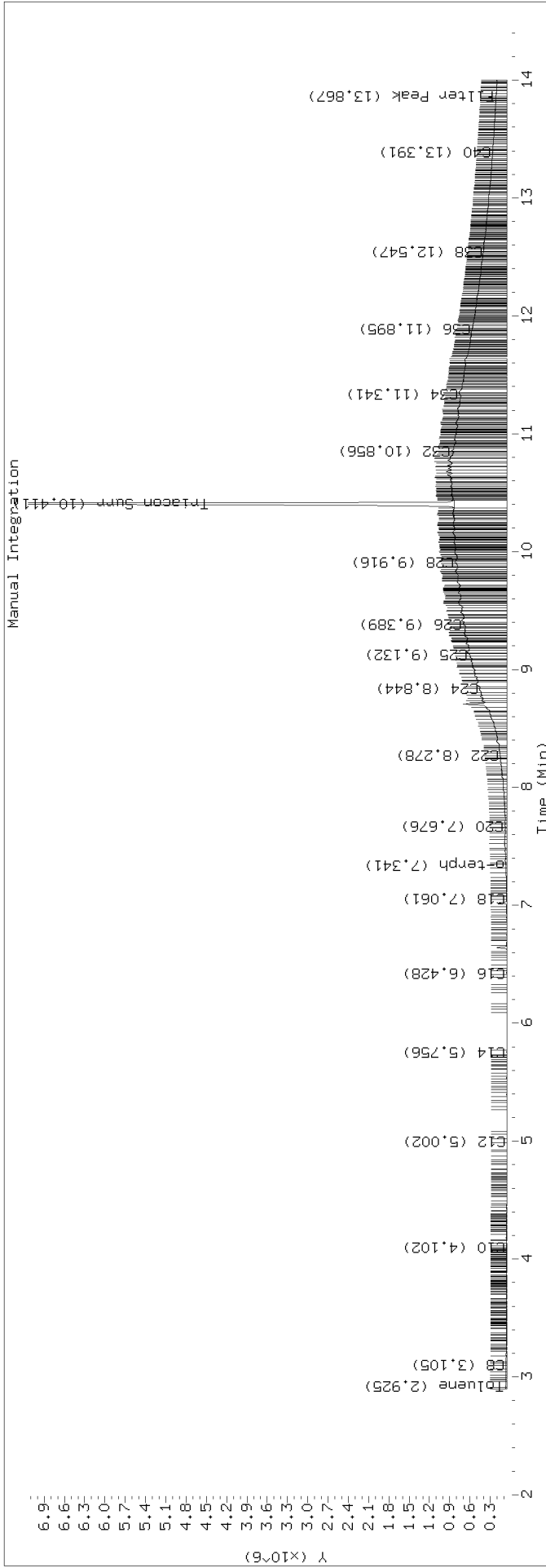
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.925	-0.008	19458	47154	WATPHG	(Tol-C12)	666176	3.7
C8	3.105	0.012	13442	14528	WATPHD	(C12-C24)	12258703	77.8
C10	4.102	0.005	5527	5999	WATPHM	(C24-C38)	140461090	996.4
C12	5.002	-0.006	2671	2947	AK102	(C10-C25)	17629664	94.2
C14	5.756	-0.007	4680	5020	AK103	(C25-C36)	119151109	1254.1 M
C16	6.428	-0.008	6623	5625	OR.DIES	(C10-C28)	52556353	280.0
C18	7.061	-0.010	7918	9165				
C20	7.676	-0.008	31990	44782				
C22	8.278	-0.002	100870	114575				
C24	8.844	-0.008	403943	319950				
C25	9.132	0.002	561878	630678				
C26	9.389	-0.010	651403	543574				
C28	9.916	0.002	761482	417856	IT.DIES	(C10-C24)	12394234	66.3
C32	10.856	-0.004	815633	879772				
C34	11.341	-0.003	705110	489004				
Filter Peak	13.867	0.001	160508	182160				
C36	11.895	0.003	513636	332022				
o-terph	7.341	0.016	17975	26708				
Triacon Surr	10.411	-0.013	9516205	9180352				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	26708	0.1
Triacontane	9180352	44.8

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



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Date: 15-DEC-2021 20:24

Client ID:

Sample Info: S.L0220-CAL5

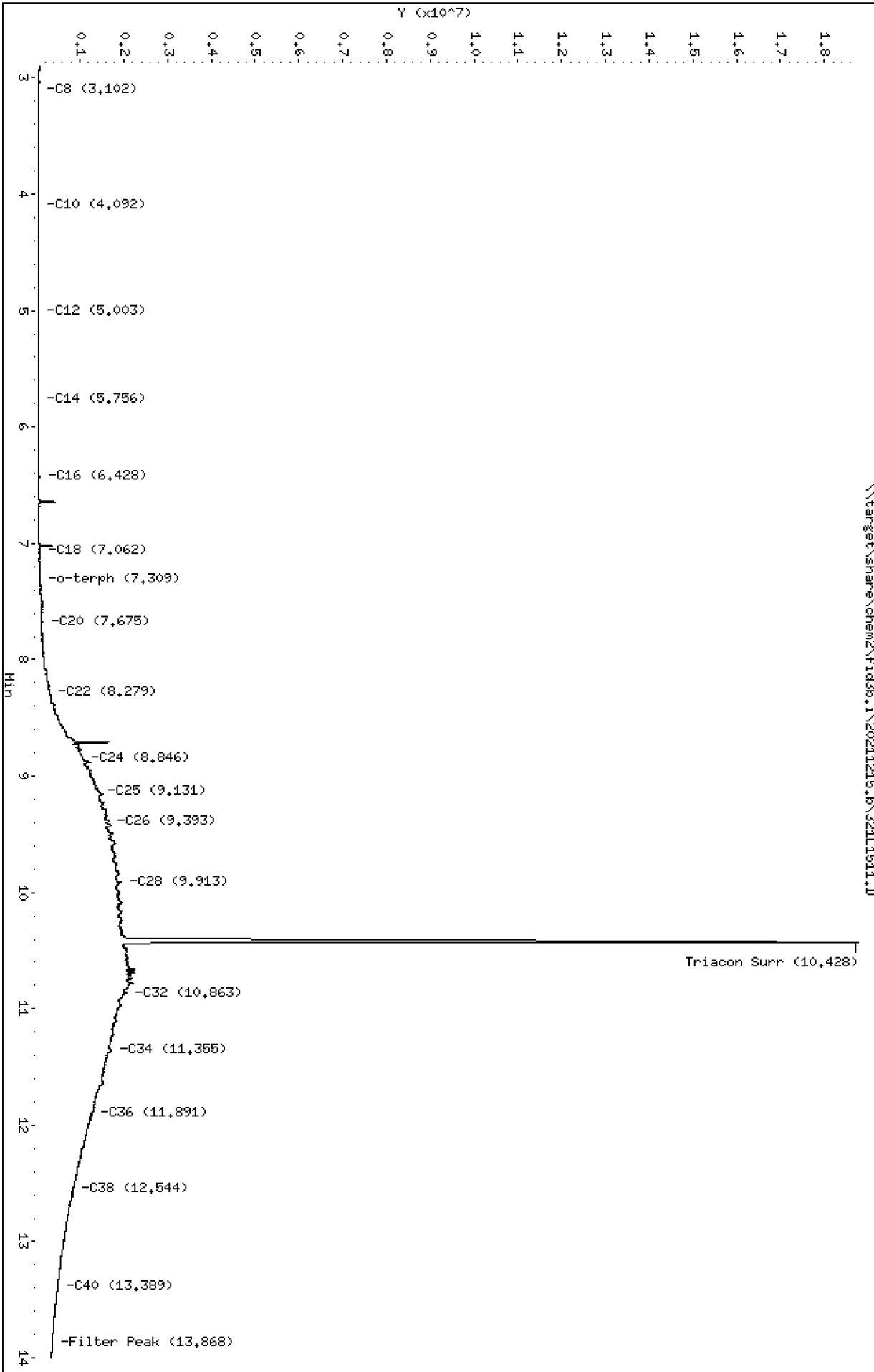
Column phase: RTX-1

Instrument: fid3b.1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1511.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-CAL5  
Client ID:  
Injection: 15-DEC-2021 20:24  
Dilution Factor: 1  
RT Std: 321L1503.D

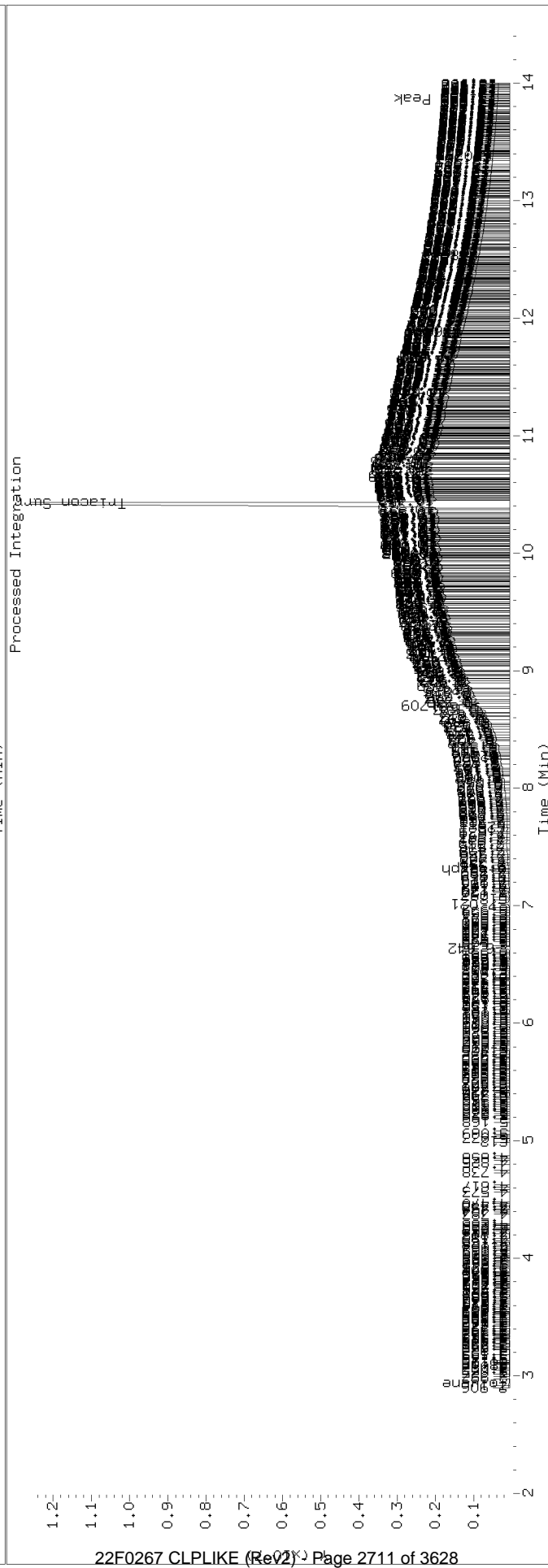
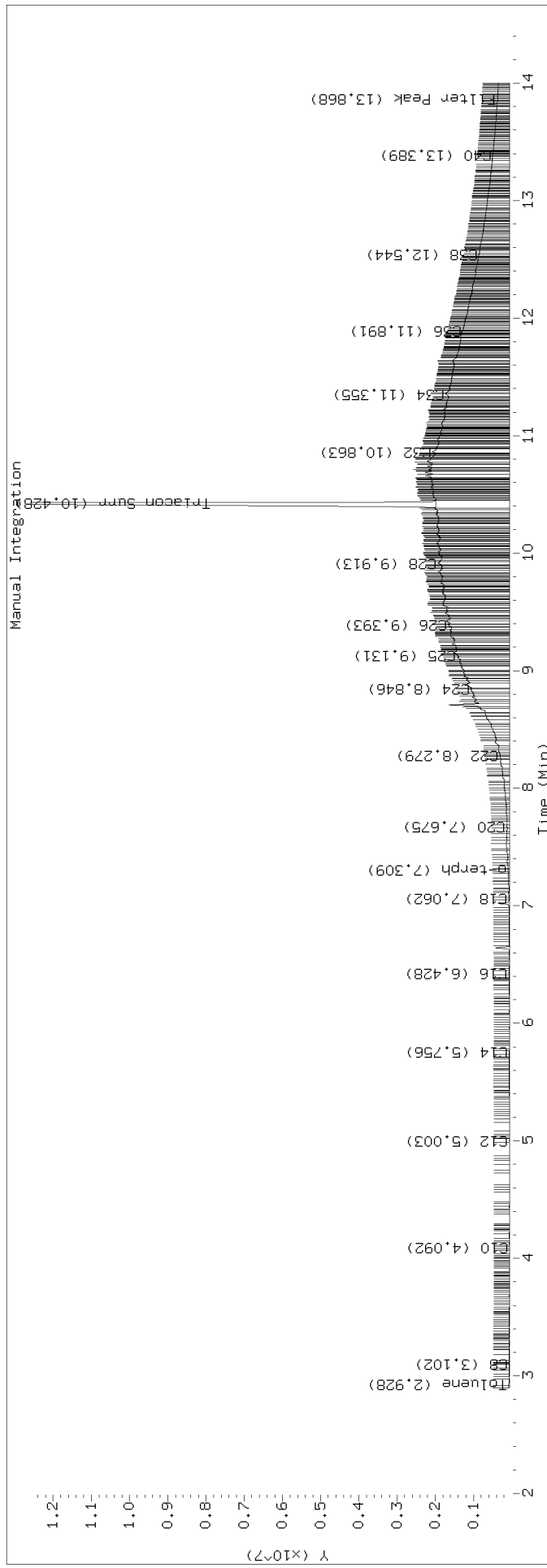
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.928	-0.006	22977	57672	WATPHG	(Tol-C12)	459303	2.6
C8	3.102	0.008	11940	4160	WATPHD	(C12-C24)	30447549	193.4
C10	4.092	-0.006	2919	2406	WATPHM	(C24-C38)	339347636	2407.4
C12	5.003	-0.006	4432	3552	AK102	(C10-C25)	43321288	231.4
C14	5.756	-0.007	11364	12586	AK103	(C25-C36)	288902869	3040.9 M
C16	6.428	-0.008	18864	18757	OR.DIES	(C10-C28)	129902259	692.0
C18	7.062	-0.010	20018	22858				
C20	7.675	-0.009	78897	110998				
C22	8.279	-0.001	250456	173756				
C24	8.846	-0.007	1006794	648322				
C25	9.131	0.001	1369879	1142666				
C26	9.393	-0.006	1604141	1105345				
C28	9.913	-0.001	1872453	2660667	IT.DIES	(C10-C24)	30520155	163.3
C32	10.863	0.002	2008200	4400747				
C34	11.355	0.012	1674739	2536490				
Filter Peak	13.868	0.002	312701	217842				
C36	11.891	-0.001	1225290	427327				
o-terph	7.309	-0.016	36015	26502				
Triacon Surr	10.428	0.004	16788055	21940077				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	26502	0.1
Triacontane	21940077	107.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



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Date: 15-DEC-2021 20:43

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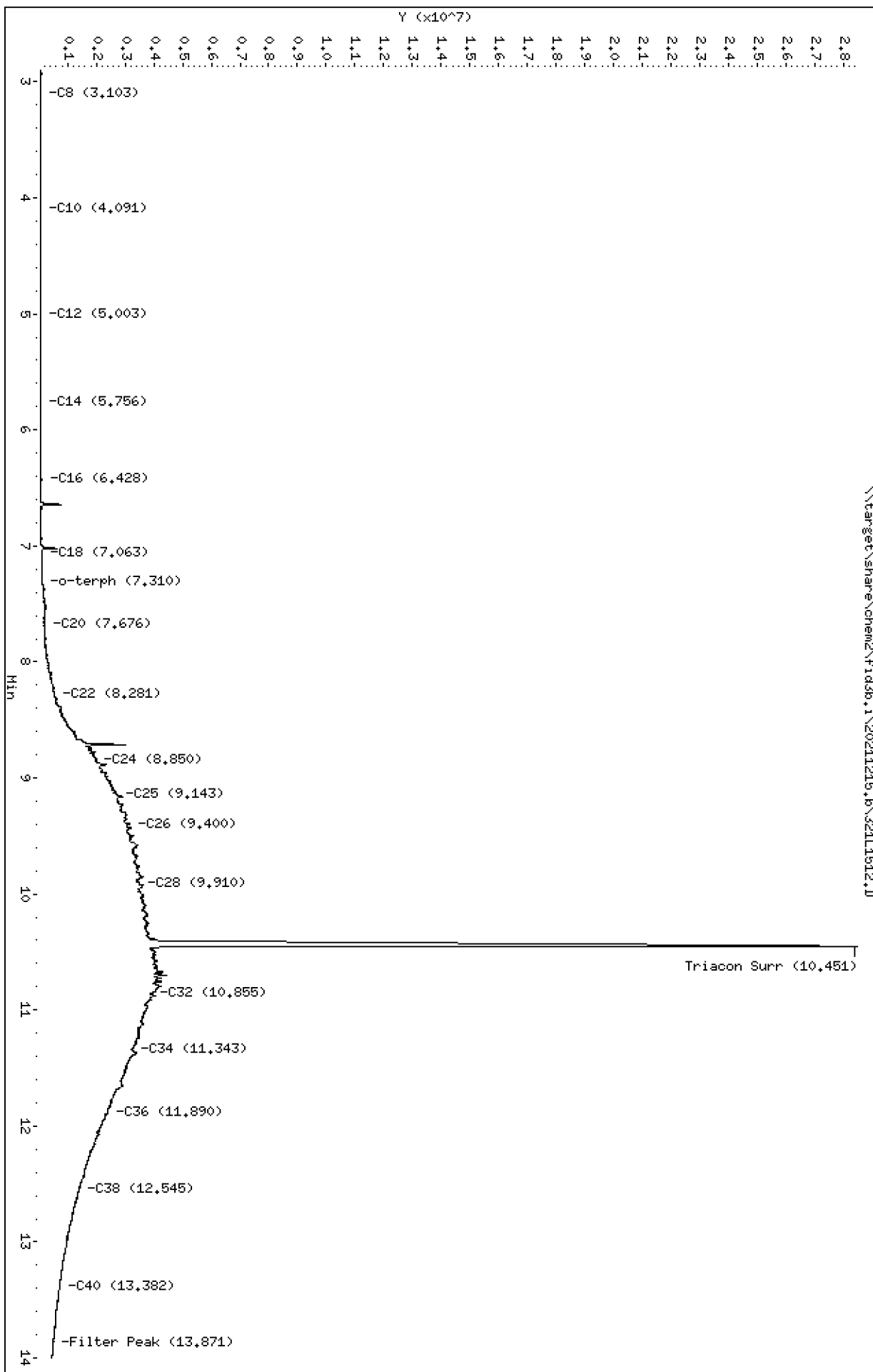
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1512.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-CAL6  
Client ID:  
Injection: 15-DEC-2021 20:43  
Dilution Factor: 1  
RT Std: 321L1503.D

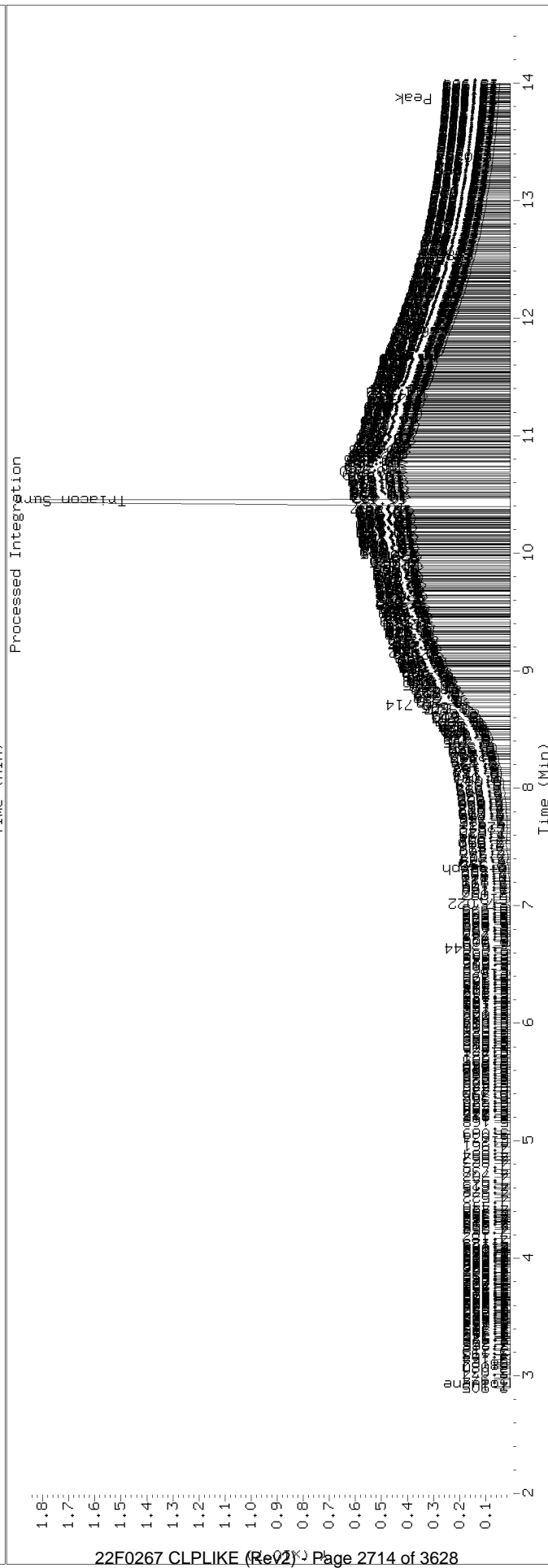
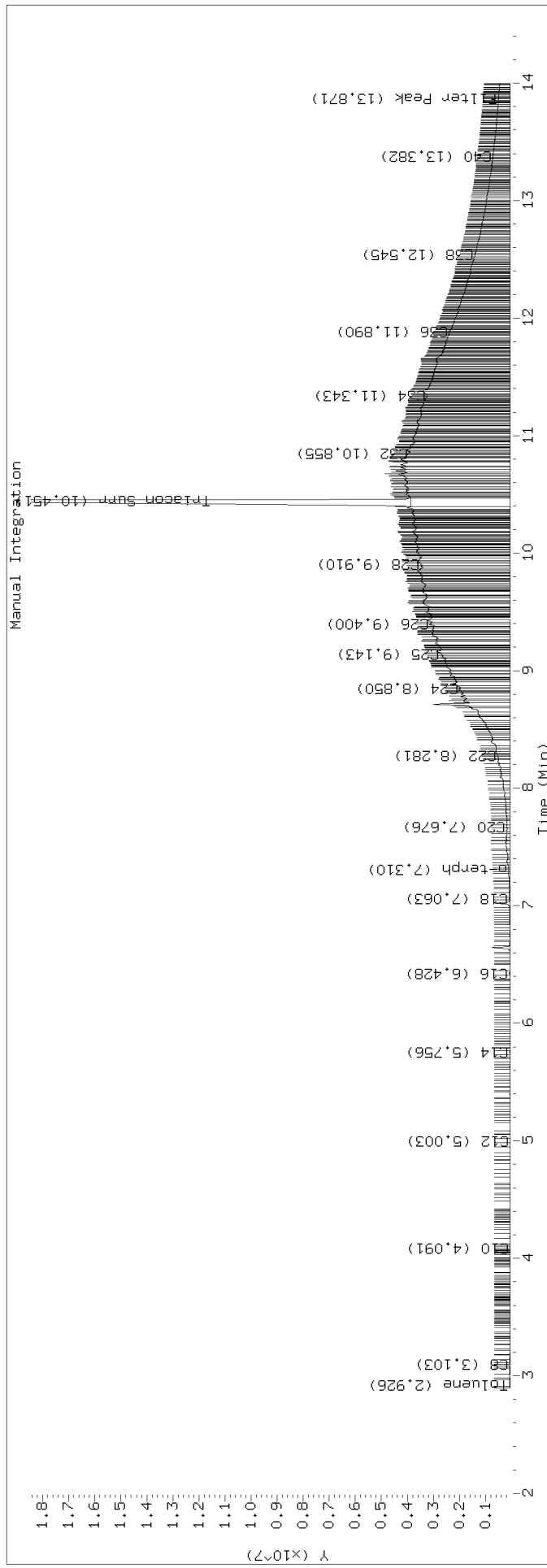
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.926	-0.007	32291	67066	WATPHG	(Tol-C12)	624409	3.5
C8	3.103	0.010	14695	13059	WATPHD	(C12-C24)	59963817	380.8
C10	4.091	-0.006	4907	4774	WATPHM	(C24-C38)	651287486	4620.3
C12	5.003	-0.005	9058	7353	AK102	(C10-C25)	84525361	451.4
C14	5.756	-0.007	20430	22862	AK103	(C25-C36)	562053144	5915.9 M
C16	6.428	-0.008	36565	37572	OR.DIES	(C10-C28)	243458624	1296.9
C18	7.063	-0.009	38149	42427				
C20	7.676	-0.008	151774	221080				
C22	8.281	0.001	489687	242808				
C24	8.850	-0.002	1931265	1250891				
C25	9.143	0.013	2674350	3017121				
C26	9.400	0.001	3079040	3033147				
C28	9.910	-0.004	3443957	3413414	IT.DIES	(C10-C24)	60115991	321.6
C32	10.855	-0.006	3883197	2313437				
C34	11.343	-0.000	3204757	1754669				
Filter Peak	13.871	0.005	444645	110996				
C36	11.890	-0.002	2345901	1959036				
o-terph	7.310	-0.014	69410	54720				
Triacon Surr	10.451	0.028	24615926	41774882				

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	54720	0.2
Triacontane	41774882	204.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



Data File: \\target\share\chem2\fid3b,1\20211215,8\32111513.D

Date: 15-DEC-2021 21:03

Client ID:

Sample Info: S.LI0220-SCV1

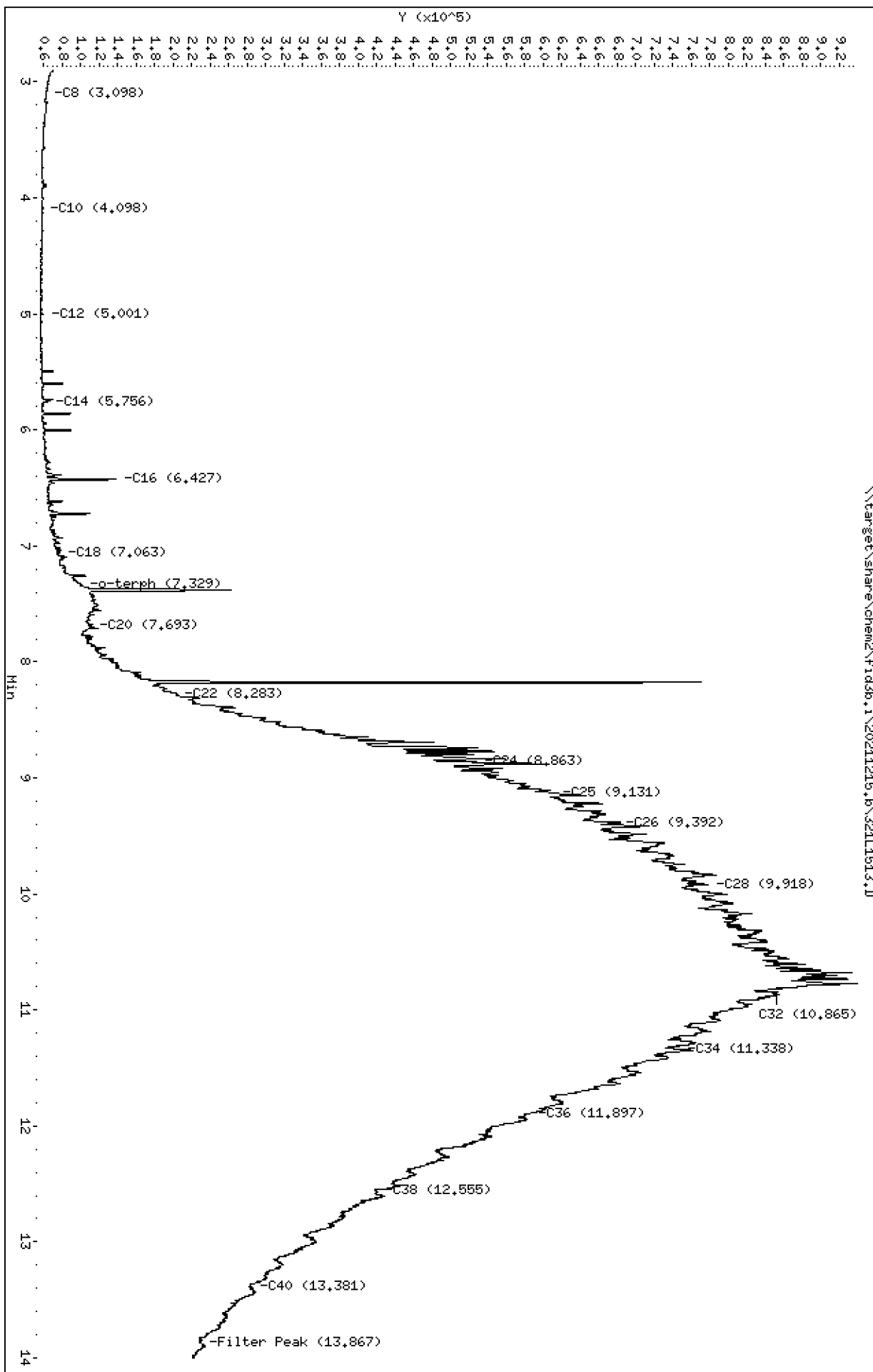
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211215.b/321L1513.D  
Method: 20211215.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 12/17/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:15-DEC-2021

ARI ID: SJL0220-SCV1  
Client ID:  
Injection: 15-DEC-2021 21:03  
Dilution Factor: 1  
RT Std: 321L1503.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.952	0.018	9417	3750	WATPHG	(Tol-C12)	248375	1.4
C8	3.098	0.004	6129	3961	WATPHD	(C12-C24)	17215958	109.3
C10	4.098	0.001	1937	1330	WATPHM	(C24-C38)	138528795	982.7
C12	5.001	-0.007	2329	1951	AK102	(C10-C25)	22499584	120.2
C14	5.756	-0.007	8135	6174	AK103	(C25-C36)	116390503	1225.1
C16	6.427	-0.009	82159	71234	OR.DIES	(C10-C28)	55844661	297.5
C18	7.063	-0.009	21226	23128				
C20	7.693	0.008	54531	53447				
C22	8.283	0.003	146821	73293				
C24	8.863	0.010	470449	451657				
C25	9.131	0.001	555779	166044				
C26	9.392	-0.007	624225	339311				
C28	9.918	0.003	721062	817604	IT.DIES	(C10-C24)	17253378	92.3
C32	10.865	0.004	798388	517052				
C34	11.338	-0.006	689962	477850				
Filter Peak	13.867	0.000	173280	95013				
C36	11.897	0.005	528215	315034				
o-terph	7.329	0.004	43797	105432				
Triacon Surr	----							

Range Times: NW Diesel(5.058 - 8.902) NW Gas(2.883 - 5.058) NW M.Oil(8.902 - 12.601)  
AK102(4.047 - 9.080) AK103(9.080 - 11.942) Jet A(4.047 - 7.122)

Surrogate	Area	Amount
o-Terphenyl	105432	0.5
Triacontane	0	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	140961.9	15-DEC-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



### ANALYSIS SEQUENCE

<b>SJK0251</b>
----------------

Instrument: FID3  
Calibration ID: EK00053

Printed: 11/19/2021 12:25:39PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SJK0251-IBL1	QC		1		J002430			
SJK0251-IBL2	QC		2		J008172			
SJK0251-CAL1	QC		3		J012178			
SJK0251-CAL2	QC		4		J012179			
SJK0251-CAL3	QC		5		J012180			
SJK0251-CAL4	QC		6		J012181			
SJK0251-CAL5	QC		7		J012182			
SJK0251-CAL6	QC		8		J009013			
SJK0251-SCV1	QC		9		J012184			

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Samples Loaded By

Date

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Data Processed By

Date

## GC LOG SUMMARY FOR DATABATCH - fid3b.i\20211117.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	17-NOV-2021	13:58	321K1701.D	1	RINSE	
2	17-NOV-2021	14:18	321K1702.D	1	RINSE	
3	17-NOV-2021	14:38	321K1703.D	1	SJK0251-IBL1	
4	17-NOV-2021	14:58	321K1704.D	1	SJK0251-IBL2	
5	17-NOV-2021	15:18	321K1705.D	1	SJK0251-CAL1	
6	17-NOV-2021	15:38	321K1706.D	1	SJK0251-CAL2	
7	17-NOV-2021	15:58	321K1707.D	1	SJK0251-CAL3	
8	17-NOV-2021	16:18	321K1708.D	1	SJK0251-CAL4	
9	17-NOV-2021	16:38	321K1709.D	1	SJK0251-CAL5	
10	17-NOV-2021	16:58	321K1710.D	1	SJK0251CAL6	
11	17-NOV-2021	17:18	321K1711.D	1	SJK0251-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20211117.b

ARI Job No.: RINS Method: i\20211117.b\FID3TPH.m Instrument: fid3b.i Date: 17-NOV-2021

Time Filename LabID ClientId DF Manually Integrated Compounds

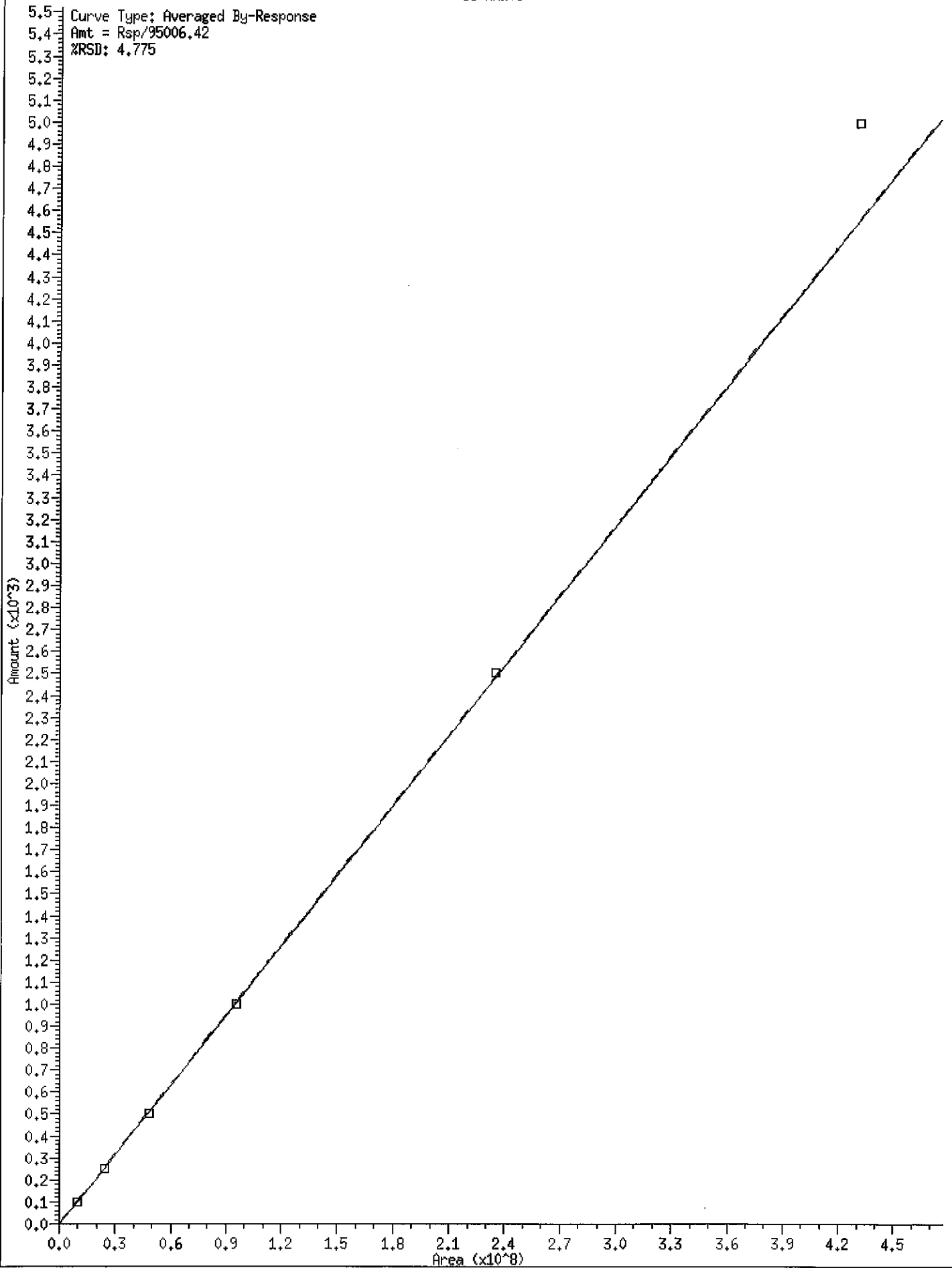
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1458	321K1704.D	SJK0251-IBL2		1	NO MANUAL INTEGRATION
1518	321K1705.D	SJK0251-CAL1		1	Triacon Surr,
1538	321K1706.D	SJK0251-CAL2		1	Triacon Surr,
1558	321K1707.D	SJK0251-CAL3		1	Triacon Surr,
1618	321K1708.D	SJK0251-CAL4		1	Triacon Surr,
1638	321K1709.D	SJK0251-CAL5		1	Triacon Surr,
1658	321K1710.D	SJK0251CAL6		1	Triacon Surr,
1718	321K1711.D	SJK0251-SCV1		1	Triacon Surr,
1513	321K1712.D			1	NO MANUAL INTEGRATION

Security Status Report

Date: 19-Nov-2021 12:24

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321K1712.D	Data Locked	tokala,	19-NOV-2021	12:14





ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20211117.b\FID3TPH.m  
Batch File: \\target\share\chem2\fid3b.i\20211117.b  
Inst ID: fid3b.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT06	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
FILENAME:	321K1705	321K1706	321K1707	321K1708	321K1709	321K1710	321K1710	321K1710				
INJ. DATE:	17-NOV-2021	17-NOV-2021	17-NOV-2021	17-NOV-2021	17-NOV-2021	17-NOV-2021	17-NOV-2021	17-NOV-2021				
INJ. TIME:	15:18	15:38	15:58	16:18	16:38	16:58	16:58	16:58				
Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV	
1 Toluene	2.943	2.947	2.945	2.938	2.926	2.924	2.934	2.934	2.834-3.034	2.937	0.010	
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.015	1.015	0.965-1.065	+++++	+++++	
2 C8	3.090	3.093	3.088	3.105	3.104	3.104	3.094	3.094	2.994-3.194	3.097	0.008	
3 C10	4.121	4.110	4.112	4.113	4.113	4.112	4.110	4.110	4.060-4.160	4.113	0.004	
4 C12	5.022	5.023	5.024	5.024	5.024	5.024	5.025	5.025	4.975-5.075	5.023	0.001	
5 C14	5.778	5.778	5.778	5.777	5.778	5.777	5.781	5.781	5.731-5.831	5.778	0.001	
6 C16	6.448	6.449	6.450	6.450	6.450	6.450	6.455	6.455	6.405-6.505	6.449	0.001	
7 C18	7.089	7.087	7.086	7.086	7.086	7.087	7.093	7.093	7.043-7.143	7.087	0.001	
8 o-terph	+++++	+++++	+++++	+++++	+++++	+++++	7.345	7.345	7.295-7.395	+++++	+++++	
9 C20	7.706	7.706	7.703	7.702	7.702	7.702	7.706	7.706	7.656-7.756	7.703	0.002	
10 C22	8.302	8.303	8.302	8.302	8.306	8.304	8.302	8.302	8.252-8.352	8.303	0.001	
11 C24	8.867	8.868	8.888	8.870	8.876	8.878	8.876	8.876	8.826-8.926	8.875	0.008	
12 C25	9.147	9.158	9.160	9.148	9.156	9.160	9.154	9.154	9.104-9.204	9.155	0.006	
13 C26	9.439	9.414	9.428	9.426	9.418	9.422	9.424	9.424	9.374-9.474	9.425	0.009	
14 C28	9.942	9.936	9.935	9.936	9.942	9.933	9.939	9.939	9.889-9.989	9.937	0.004	
15 Triacon Surr	10.420	10.426	10.431	10.438	10.456	10.477	10.447	10.447	10.397-10.497	10.441	0.022	
16 C32	10.880	10.883	10.883	10.886	10.891	10.895	10.890	10.890	10.840-10.940	10.886	0.006	

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_  
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid3b.i\20211117.b\FID3TPH.m  
 Batch File: \\target\share\chem2\fid3b.i\20211117.b  
 Inst ID: fid3b.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
17 C34	11.375	11.375	11.382	11.379	11.379	11.382	11.379	11.329-11.429	11.379	0.003
18 Filter Peak	13.942	13.951	13.941	13.945	13.941	13.947	13.949	13.849-14.049	13.944	0.004
19 C36	11.937	11.935	11.934	11.930	11.934	11.935	11.935	11.885-11.985	11.934	0.002
20 C38	12.608	12.607	12.603	12.610	12.605	12.606	12.607	12.557-12.657	12.606	0.002
21 C40	13.460	13.458	13.458	13.452	13.452	13.469	13.459	13.409-13.509	13.458	0.006
29 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.899	0.849-0.949	+++++	+++++
40 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
37 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	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 IT. Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++

Data File: \\target\share\chem2\fid3b.1\20211117.8\321K1703.D

Date: 17-NOV-2021 14:38

Client ID:

Sample Info: SJK0261-IBL1

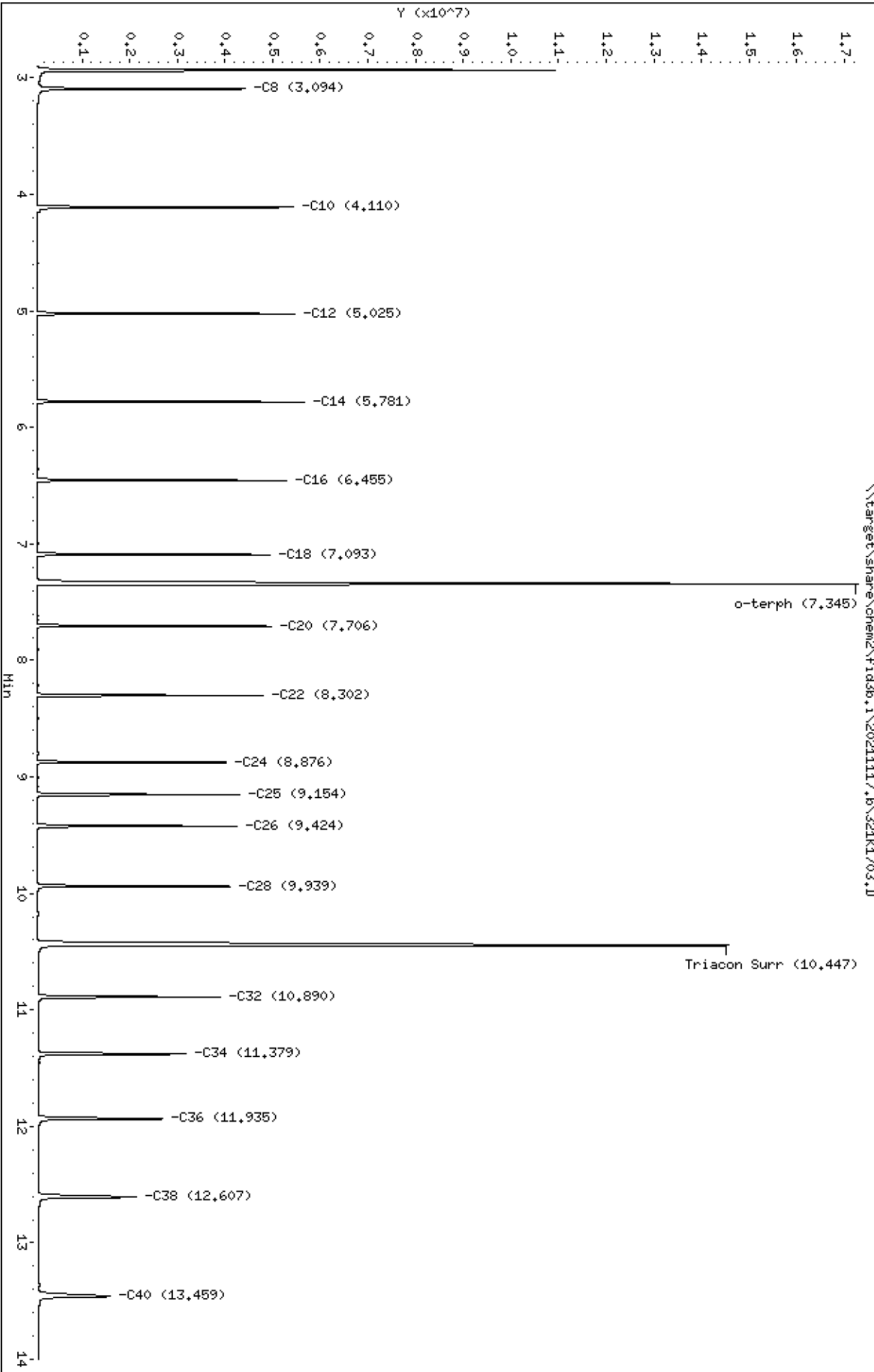
Column phase: RTX-1

Instrument: fid3b.1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1703.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-IBL1  
Client ID:  
Injection: 17-NOV-2021 14:38  
Dilution Factor: 1  
RT Std: 321K1703.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.934	0.000	10868843	9027095	WATPHG	(Tol-C12)	21131379	117.8
C8	3.094	0.000	4376811	3882987	WATPHD	(C12-C24)	20807567	132.1
C10	4.110	0.000	5384676	3949813	WATPHM	(C24-C38)	25001928	202.9
C12	5.025	0.000	5399467	3782086	AK102	(C10-C25)	28744882	153.5
C14	5.781	0.000	5612647	3684817	AK103	(C25-C36)	20884485	219.8
C16	6.455	0.000	5238337	3500076	OR.DIES	(C10-C28)	38399431	204.5
C18	7.093	0.000	4891020	3490773				
C20	7.706	0.000	4921346	3459257				
C22	8.302	0.000	4738208	3381111				
C24	8.876	0.000	3967761	2832073				
C25	9.154	0.000	4253625	3122162				
C26	9.424	0.000	4203792	3182438				
C28	9.939	0.000	4054657	3128367	IT.DIES	(C10-C24)	28677583	153.4
C32	10.890	0.000	3842068	3353825				
C34	11.379	0.000	3116088	3035726				
Filter Peak	13.949	0.000	30434	65015				
C36	11.935	0.000	2644106	3209148				
o-terph	7.345	0.000	17230749	18986586				
Triacon Surr	10.447	0.000	14509825	18394791				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	18986586	86.5
Triacontane	18394791	110.6

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021

Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1704.D

Date: 17-NOV-2021 14:58

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Sample Info: SJK0261-IBL2

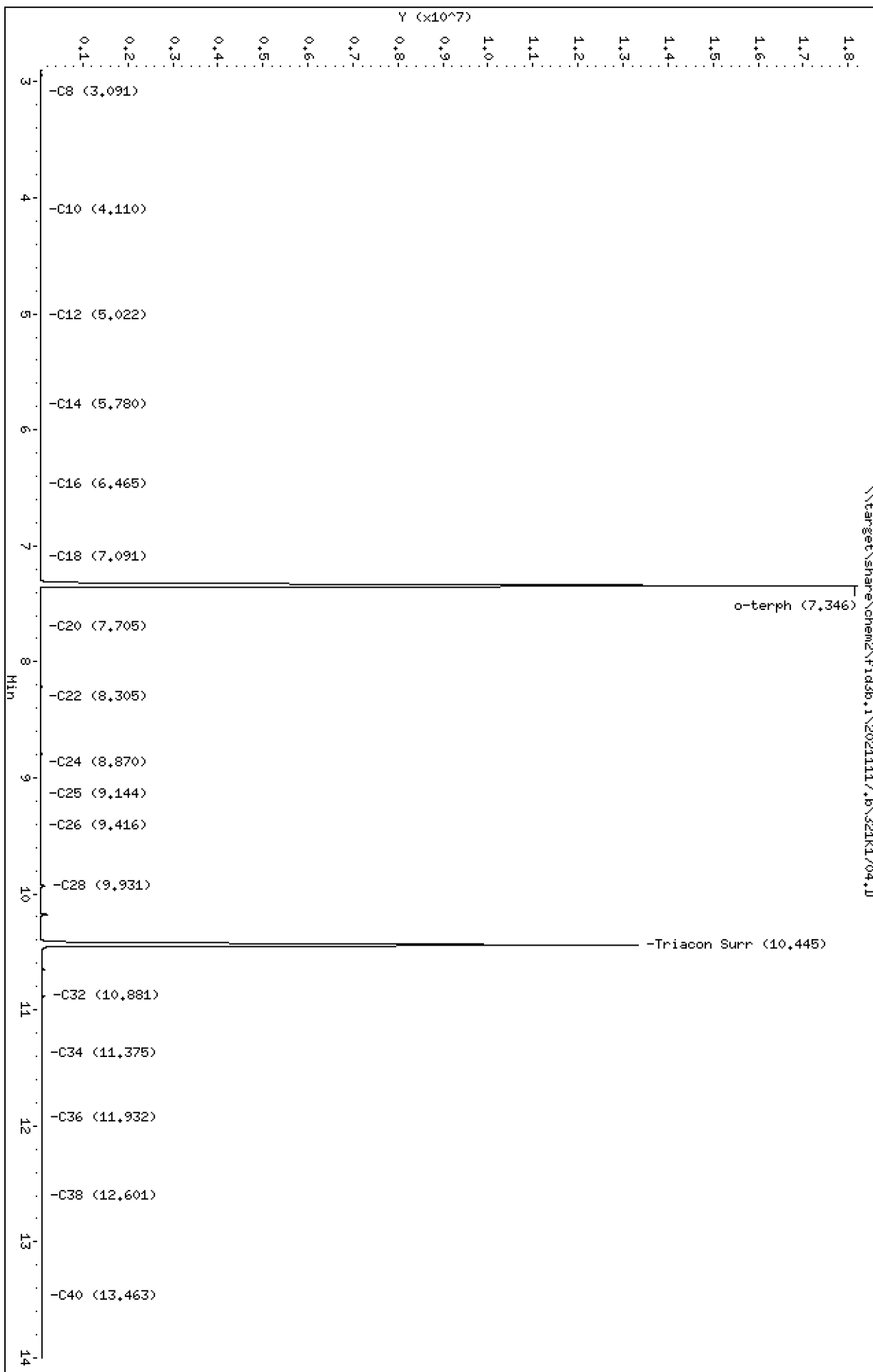
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1704.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-IBL2  
Client ID:  
Injection: 17-NOV-2021 14:58  
Dilution Factor: 1  
RT Std: 321K1703.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.945	0.011	16870	30721	WATPHG	(Tol-C12)	751150	4.2
C8	3.091	-0.003	11161	2785	WATPHD	(C12-C24)	330501	2.1
C10	4.110	0.000	12781	13298	WATPHM	(C24-C38)	3131669	25.4
C12	5.022	-0.003	4294	4572	AK102	(C10-C25)	616395	3.3
C14	5.780	-0.001	4271	6172	AK103	(C25-C36)	2314227	24.4
C16	6.465	0.009	1412	554	OR.DIES	(C10-C28)	862983	4.6
C18	7.091	-0.001	983	1073				
C20	7.705	-0.001	3108	2764				
C22	8.305	0.003	739	517				
C24	8.870	-0.006	1931	2617				
C25	9.144	-0.010	3029	3276				
C26	9.416	-0.007	3675	4385				
C28	9.931	-0.008	86939	74452	IT.DIES	(C10-C24)	598215	3.2
C32	10.881	-0.009	96985	146251				
C34	11.375	-0.004	20082	10020				
Filter Peak	13.955	0.007	21999	9876				
C36	11.932	-0.003	22008	8779				
o-terph	7.346	0.001	18147399	20965162				
Triacon Surr	10.445	-0.002	13279659	16122885				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	20965162	95.5
Triacontane	16122885	96.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021

Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1705.D

Date: 17-NOV-2021 15:18

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Sample Info: SJK0261-CALL

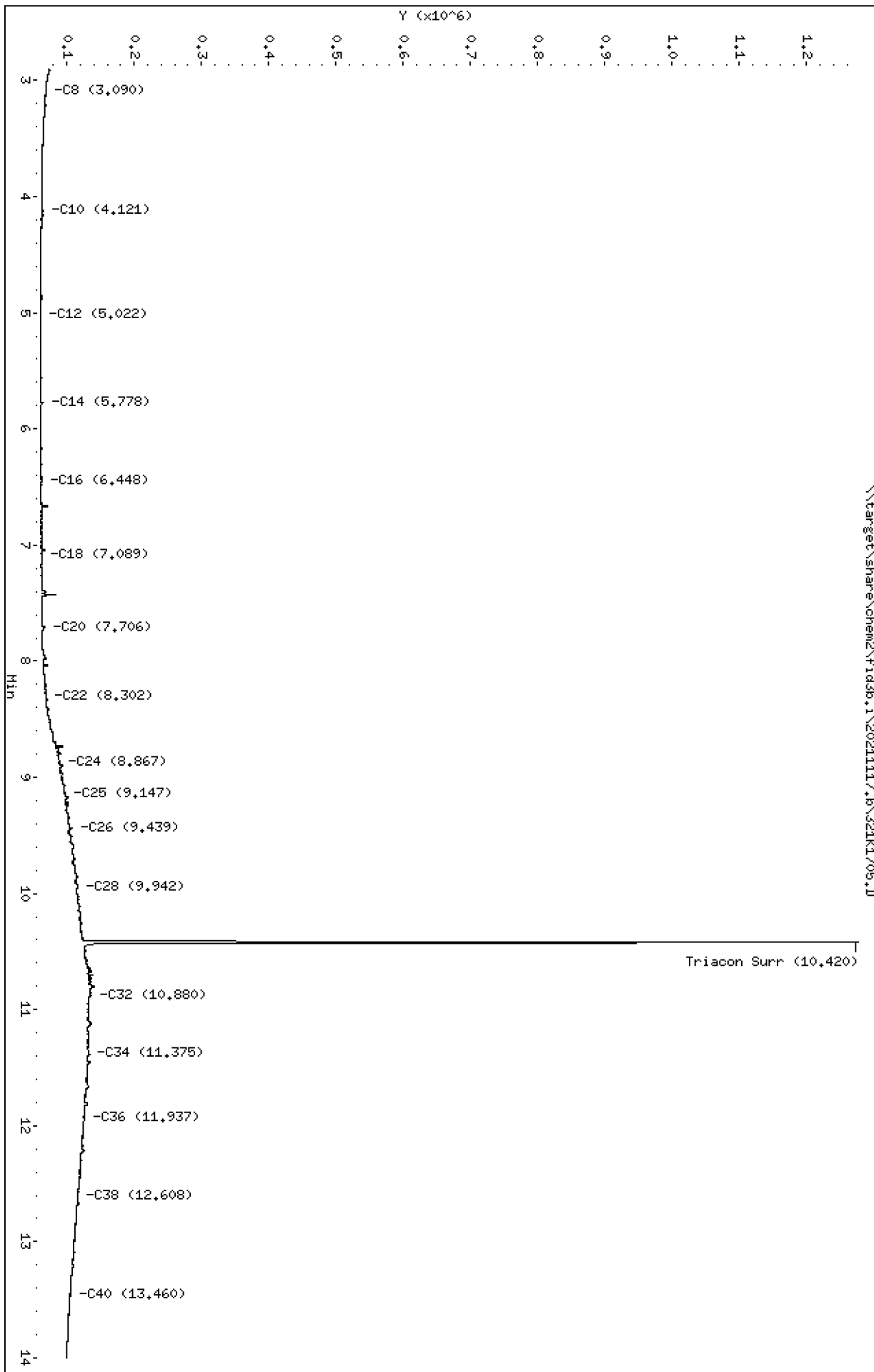
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

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Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

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Client ID:  
Injection: 17-NOV-2021 15:18  
Dilution Factor: 1  
RT Std: 321K1703.D

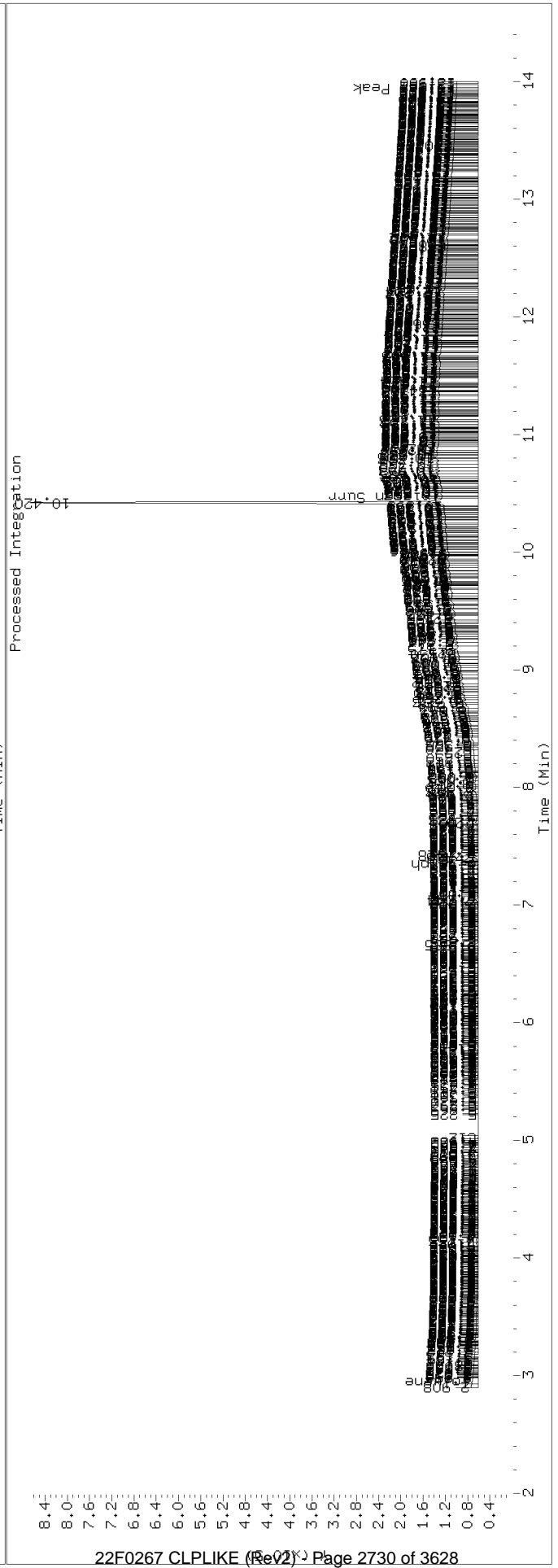
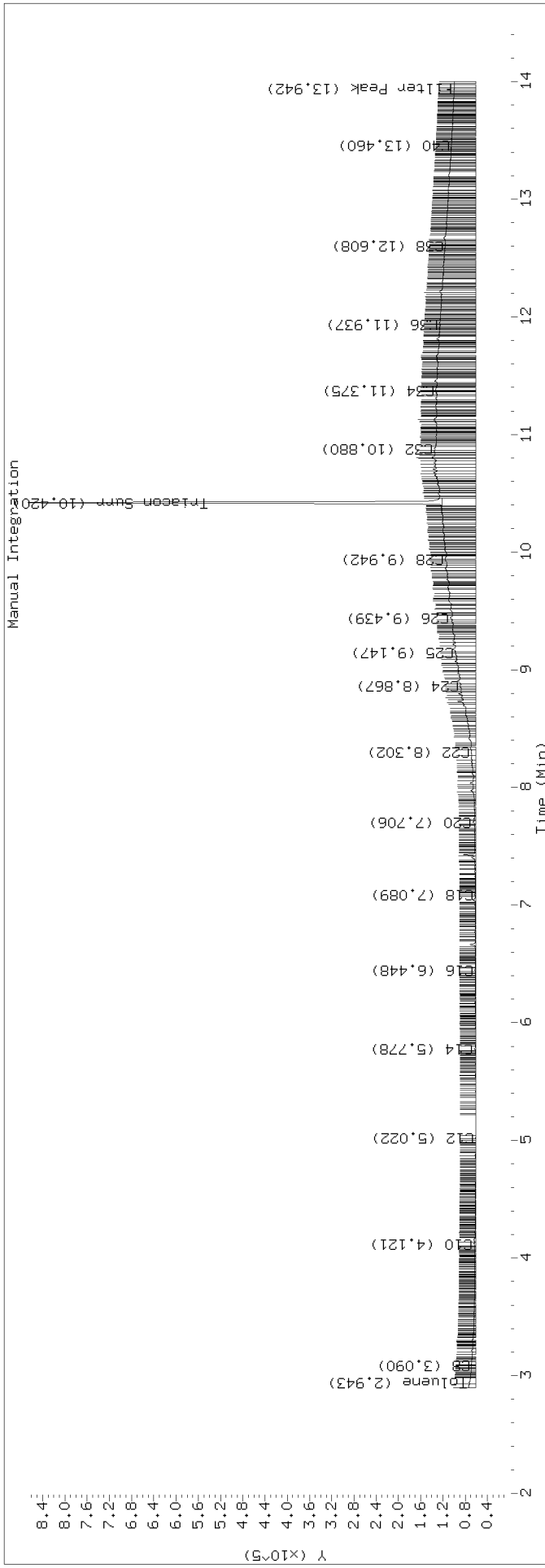
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.943	0.009	11942	32747	WATPHG	(Tol-C12)	297849	1.7
C8	3.090	-0.004	7922	3545	WATPHD	(C12-C24)	960660	6.1
C10	4.121	0.011	3558	4578	WATPHM	(C24-C38)	12555775	101.9
C12	5.022	-0.003	506	433	AK102	(C10-C25)	1330482	7.1
C14	5.778	-0.003	3062	3158	AK103	(C25-C36)	10009172	105.4 M
C16	6.448	-0.008	1735	2025	OR.DIES	(C10-C28)	3612788	19.2
C18	7.089	-0.003	1700	1433				
C20	7.706	-0.000	5376	6318				
C22	8.302	-0.000	8621	22583				
C24	8.867	-0.009	28194	23533				
C25	9.147	-0.007	37002	27369				
C26	9.439	0.016	46108	103120				
C28	9.942	0.002	54854	10962	IT.DIES	(C10-C24)	1001255	5.4
C32	10.880	-0.010	75066	125050				
C34	11.375	-0.003	72151	25098				
Filter Peak	13.942	-0.007	38719	34733				
C36	11.937	0.002	65231	32269				
o-terph	----							
Triacon Surr	10.420	-0.027	1154757	781311				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	781311	4.7

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



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Date: 17-NOV-2021 15:38

Client ID:

Sample Info: SJK0261-CAL2

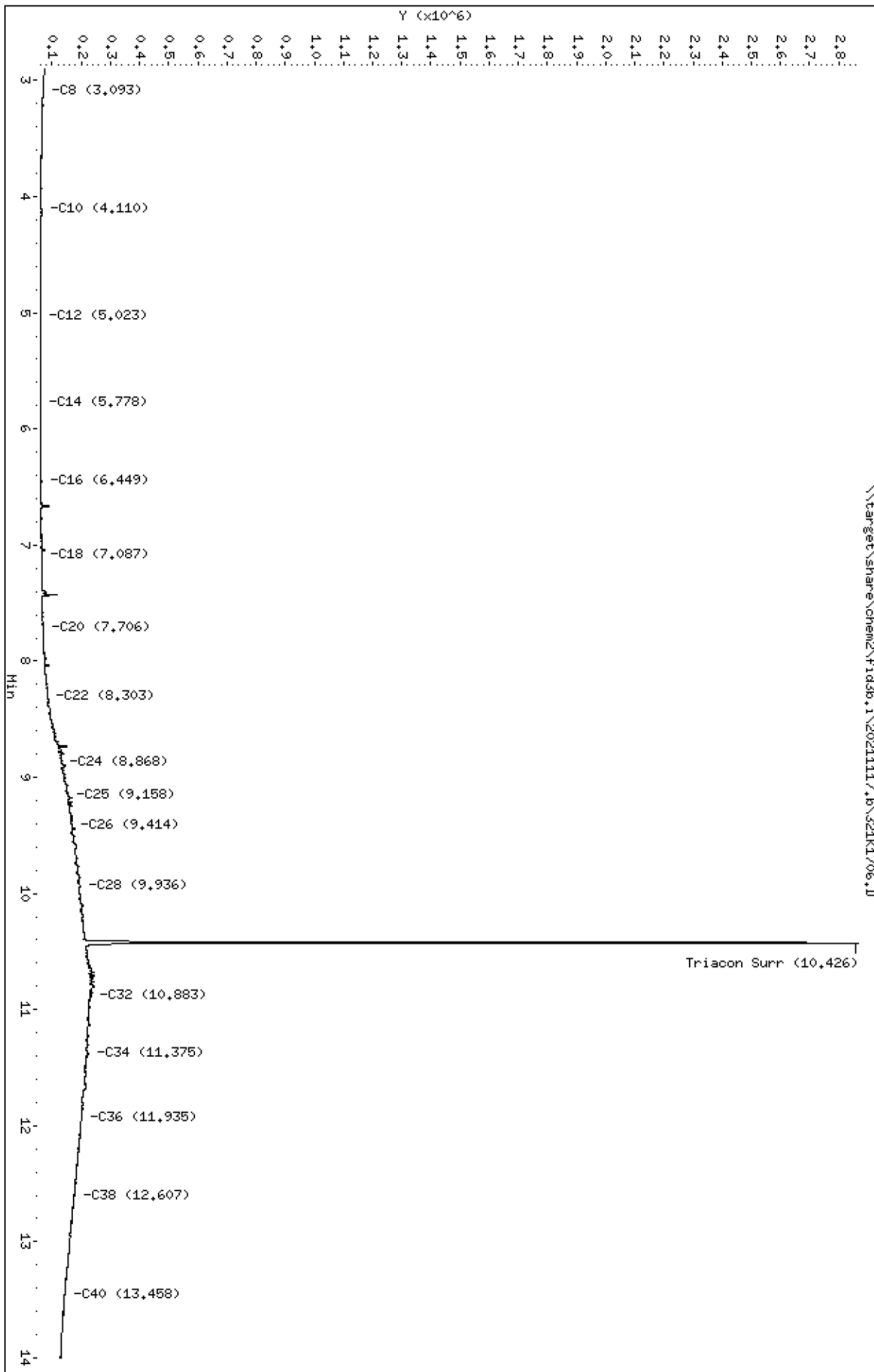
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

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Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-CAL2  
Client ID:  
Injection: 17-NOV-2021 15:38  
Dilution Factor: 1  
RT Std: 321K1703.D

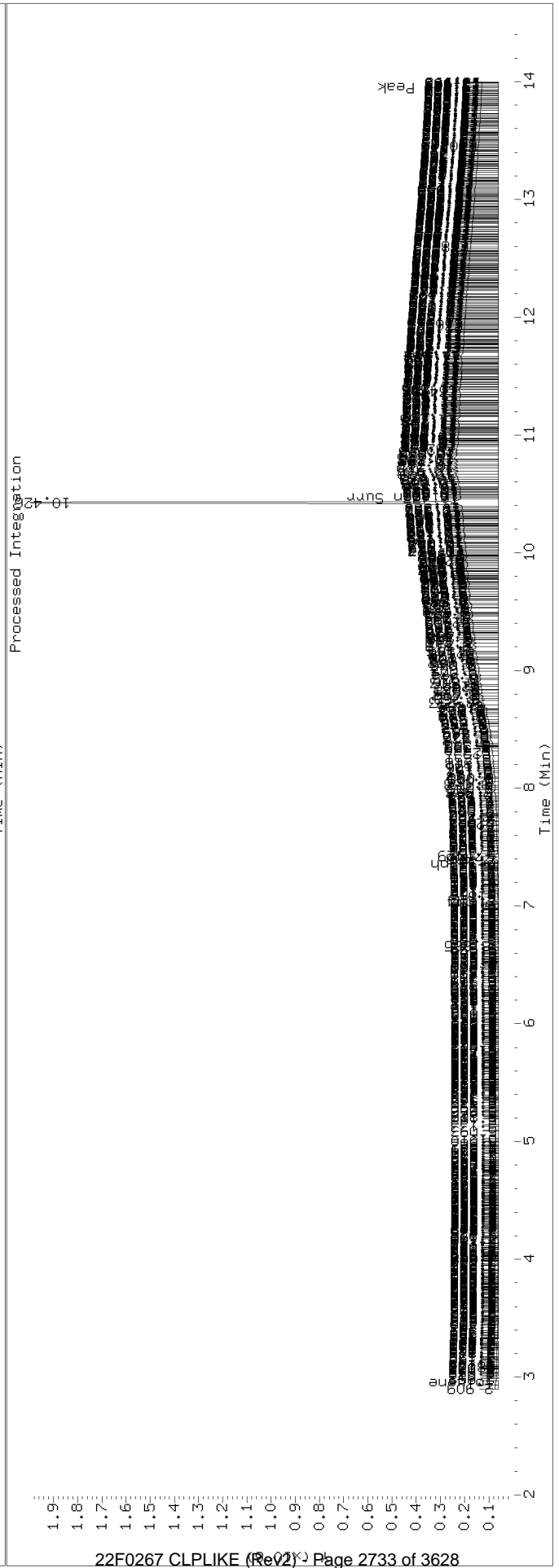
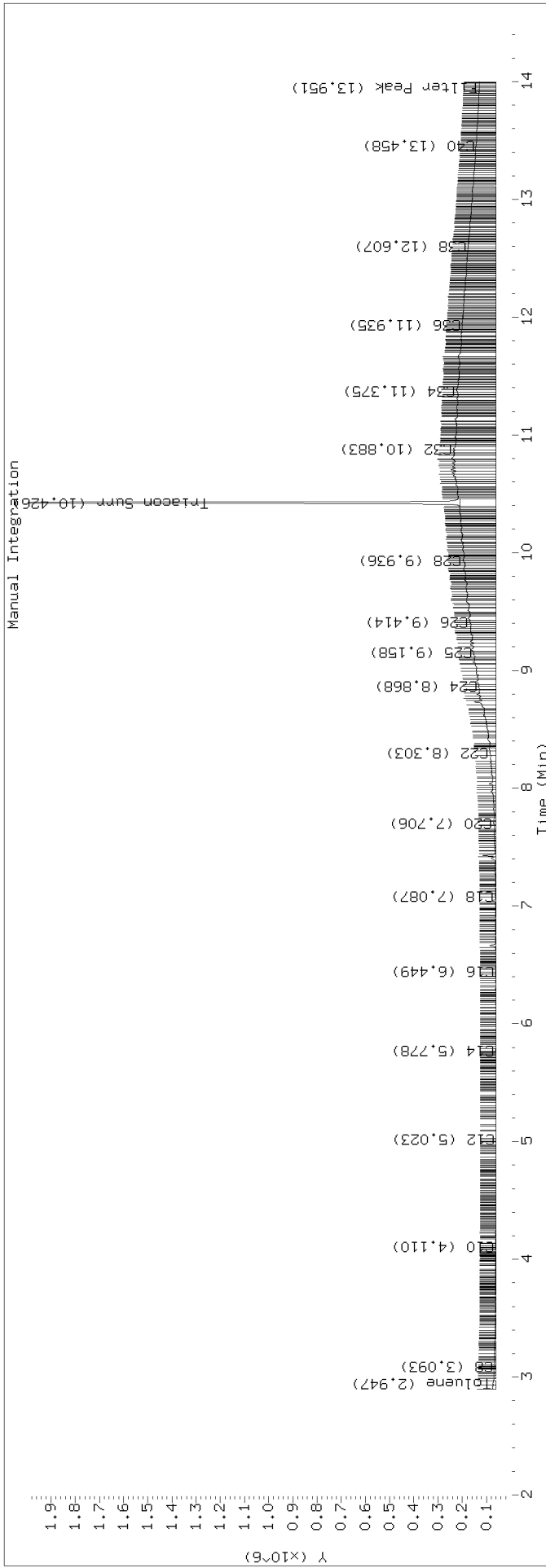
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.947	0.013	13076	24054	WATPHG	(Tol-C12)	308323	1.7
C8	3.093	-0.002	7854	1958	WATPHD	(C12-C24)	2700408	17.1
C10	4.110	-0.000	2493	1781	WATPHM	(C24-C38)	30065432	244.0
C12	5.023	-0.003	874	566	AK102	(C10-C25)	3653229	19.5
C14	5.778	-0.004	2102	1833	AK103	(C25-C36)	24252318	255.3 M
C16	6.449	-0.006	3291	3145	OR.DIES	(C10-C28)	9678092	51.6
C18	7.087	-0.006	3818	4888				
C20	7.706	-0.000	11088	15848				
C22	8.303	0.001	25510	61431				
C24	8.868	-0.008	72309	57094				
C25	9.158	0.004	94100	51593				
C26	9.414	-0.009	110643	97728				
C28	9.936	-0.004	138056	68286	IT.DIES	(C10-C24)	2746303	14.7
C32	10.883	-0.008	176401	318946				
C34	11.375	-0.004	163490	201970				
Filter Peak	13.951	0.002	69079	41328				
C36	11.935	-0.000	139545	55717				
o-terph	----							
Triacon Surr	10.426	-0.021	2659170	1919816				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	1919816	11.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1707.D

Date: 17-NOV-2021 15:58

Client ID:

Sample Info: SJK0261-CAL3

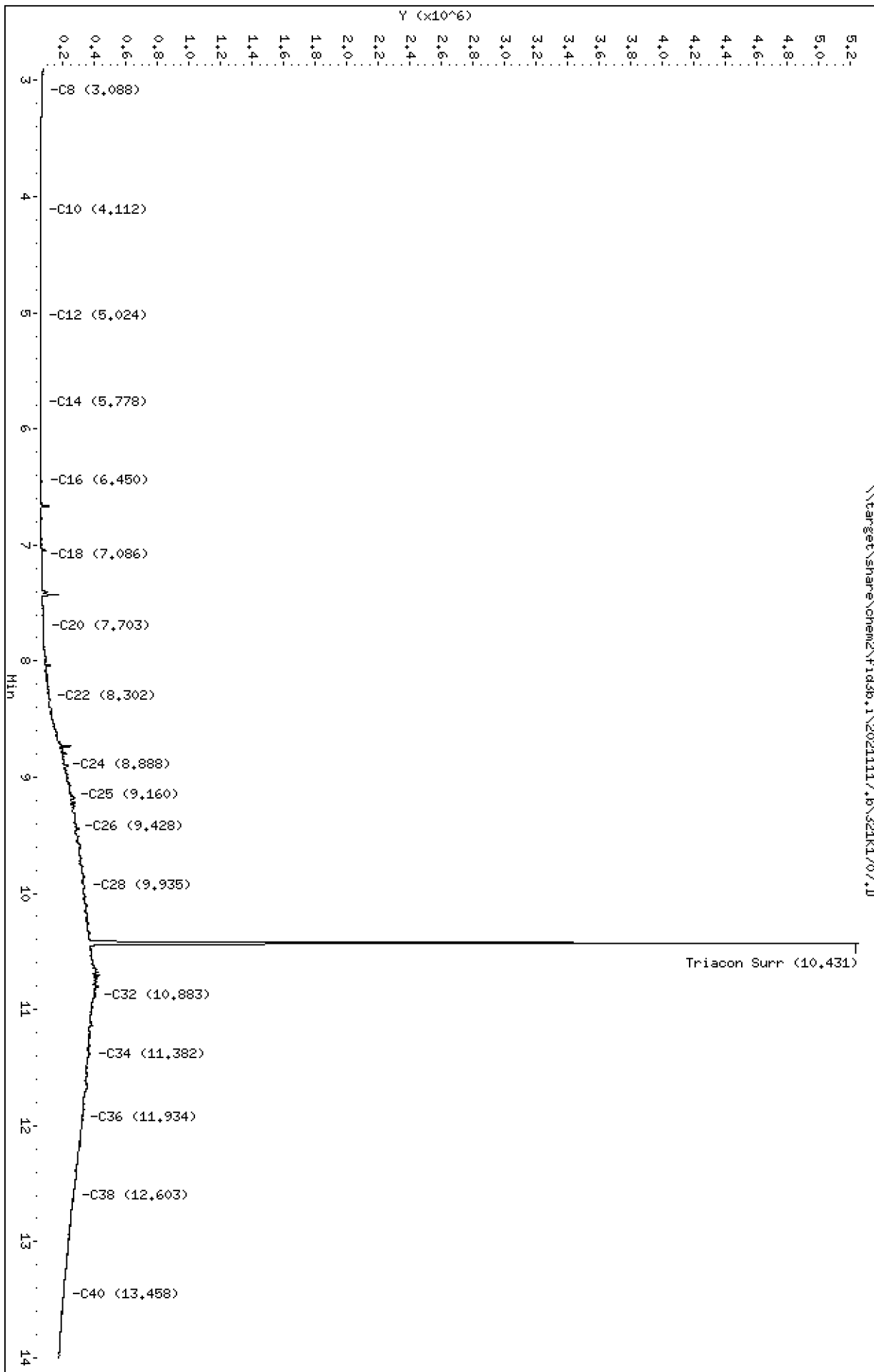
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1707.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-CAL3  
Client ID:  
Injection: 17-NOV-2021 15:58  
Dilution Factor: 1  
RT Std: 321K1703.D

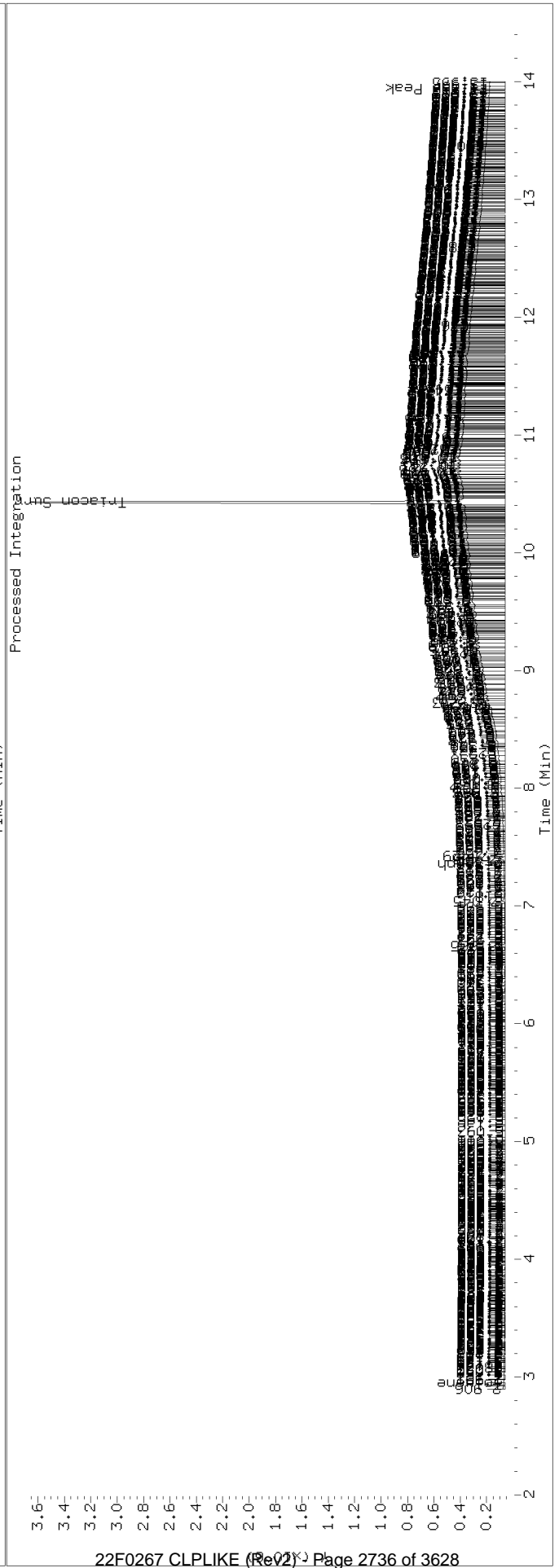
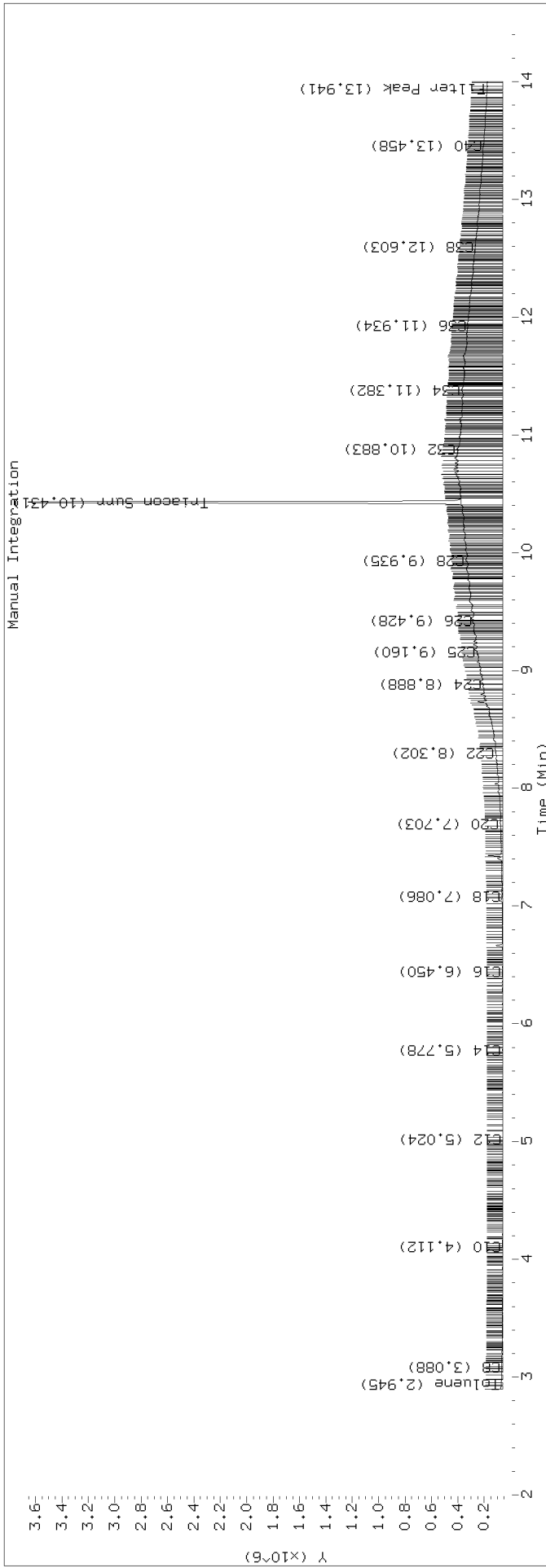
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.945	0.011	13146	11404	WATPHG	(Tol-C12)	264730	1.5
C8	3.088	-0.006	7143	1422	WATPHD	(C12-C24)	5553697	35.3
C10	4.112	0.002	2536	1726	WATPHM	(C24-C38)	59353450	481.6
C12	5.024	-0.001	1457	1005	AK102	(C10-C25)	7427436	39.7
C14	5.778	-0.003	3721	3603	AK103	(C25-C36)	48312025	508.5 M
C16	6.450	-0.005	5477	4968	OR.DIES	(C10-C28)	19791113	105.4
C18	7.086	-0.007	6857	8120				
C20	7.703	-0.003	20249	43553				
C22	8.302	0.000	53792	130570				
C24	8.888	0.012	151427	95907				
C25	9.160	0.006	197181	165684				
C26	9.428	0.005	222556	66462				
C28	9.935	-0.005	282267	317974	IT.DIES	(C10-C24)	5595637	29.9
C32	10.883	-0.007	347996	478336				
C34	11.382	0.004	313250	202130				
Filter Peak	13.941	-0.007	119059	158654				
C36	11.934	-0.001	265000	118909				
o-terph	----							
Triacon Surr	10.431	-0.016	4874320	3839243				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	3839243	23.1

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021





Data File: \\target\share\chem2\fid3b.1\20211117.8\321K1708.D

Date: 17-NOV-2021 16:18

Client ID:

Sample Info: SJK0261-CAL4

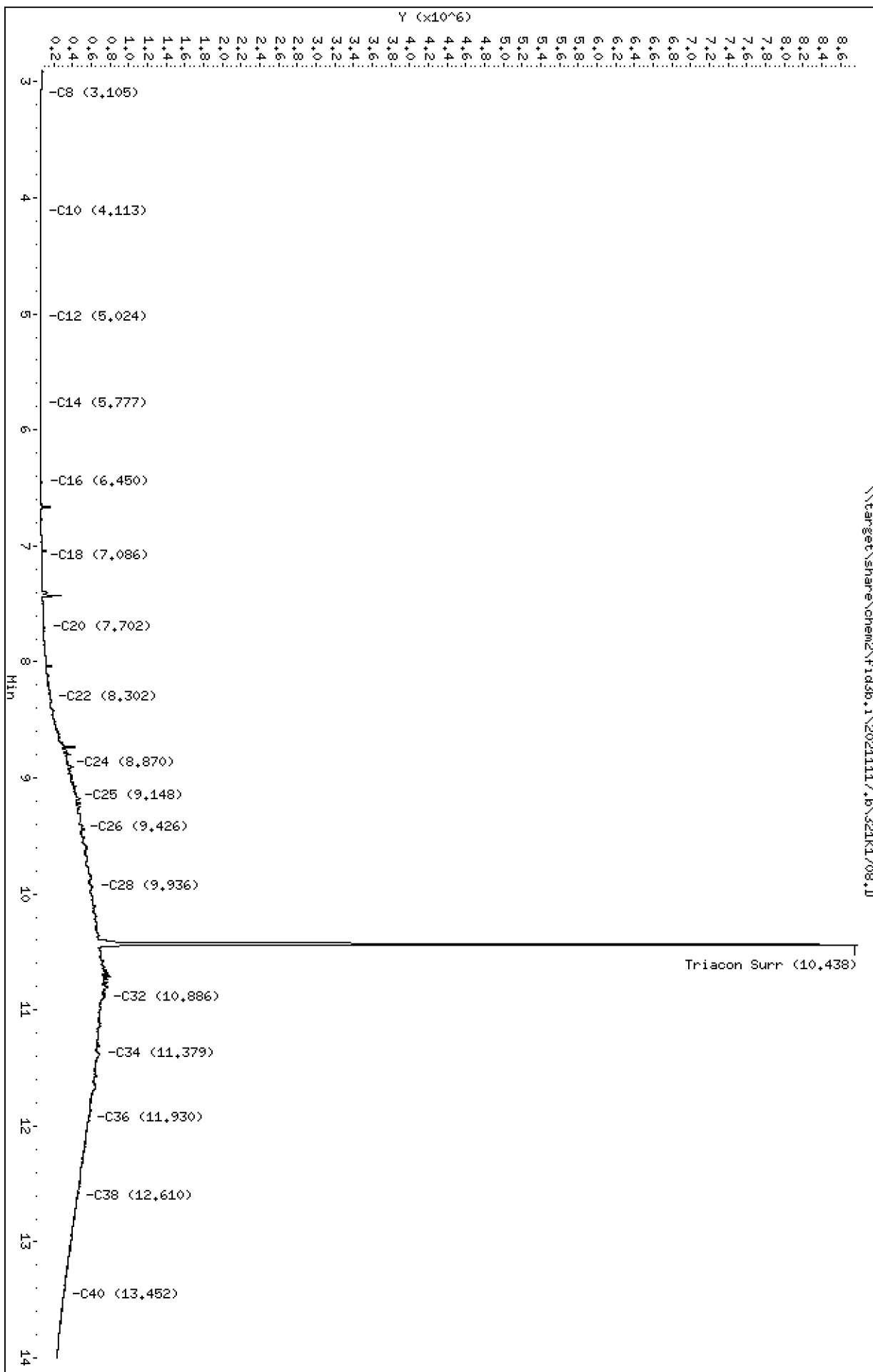
Column phase: RTX-1

Instrument: fid3b.1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1708.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-CAL4  
Client ID:  
Injection: 17-NOV-2021 16:18  
Dilution Factor: 1  
RT Std: 321K1703.D

FID:3B RESULTS

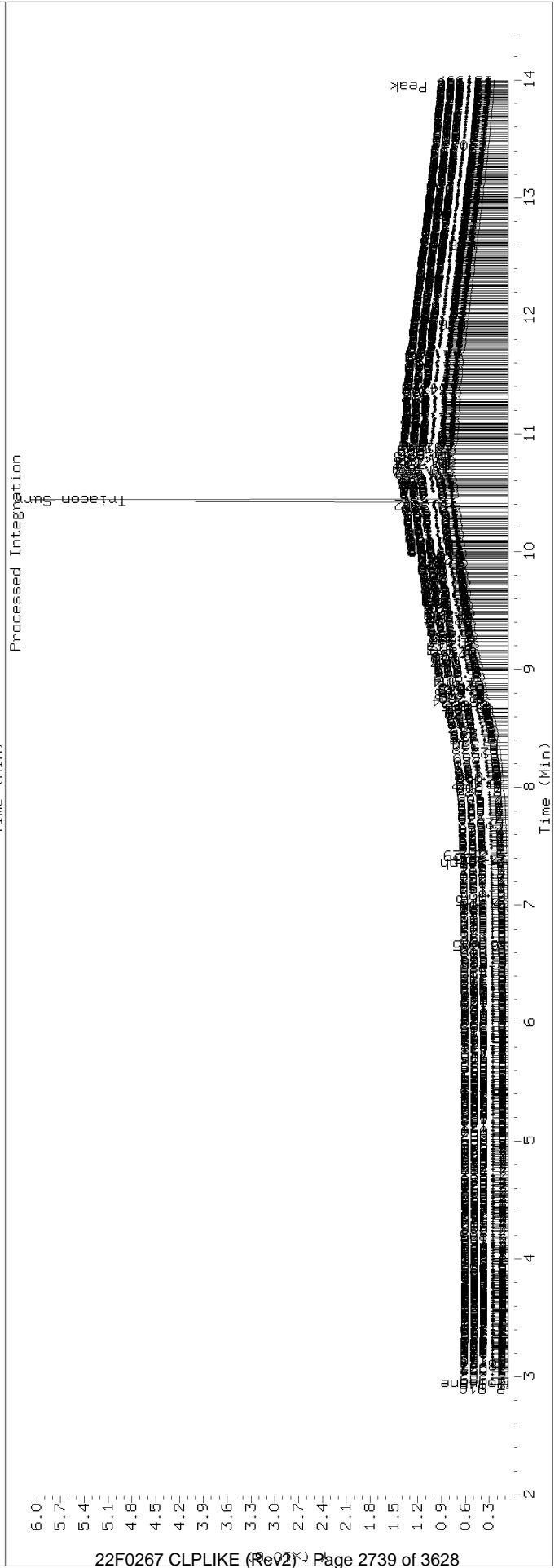
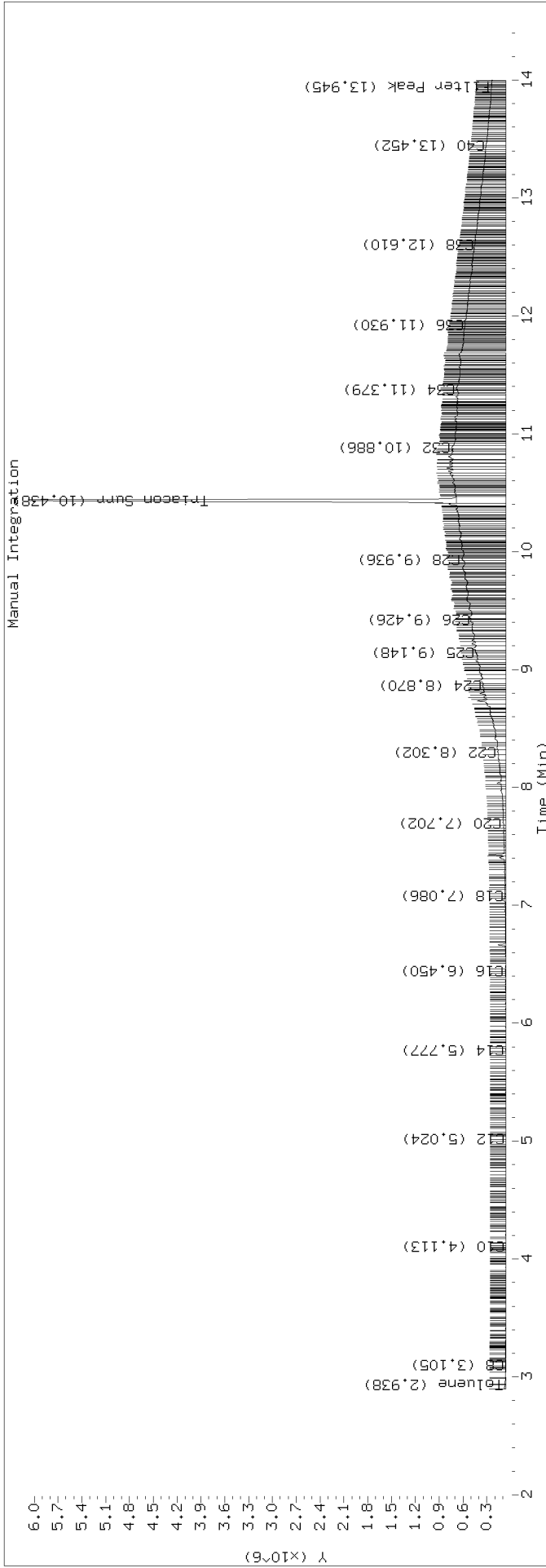
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.938	0.004	13468	3358	WATPHG	(Tol-C12)	283321	1.6
C8	3.105	0.011	7225	12855	WATPHD	(C12-C24)	10898248	69.2
C10	4.113	0.003	2763	2343	WATPHM	(C24-C38)	116334830	944.0
C12	5.024	-0.001	2772	1985	AK102	(C10-C25)	14582078	77.9
C14	5.777	-0.004	6044	5780	AK103	(C25-C36)	95490612	1005.1 M
C16	6.450	-0.006	10509	9523	OR.DIES	(C10-C28)	38665362	206.0
C18	7.086	-0.006	13279	15244				
C20	7.702	-0.004	38184	84434				
C22	8.302	0.000	104002	258239				
C24	8.870	-0.006	290063	186886				
C25	9.148	-0.006	380922	281736				
C26	9.426	0.003	434138	65107				
C28	9.936	-0.003	558334	763409	IT.DIES	(C10-C24)	10940927	58.5
C32	10.886	-0.004	683321	1179509				
C34	11.379	0.000	624385	371388				
Filter Peak	13.945	-0.004	180132	89740				
C36	11.930	-0.005	513251	281751				
o-terph	----							
Triacon Surr	10.438	-0.009	8101136	7651987				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	7651987	46.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021

TPH Manual Integrations Report



Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1709.D

Date: 17-NOV-2021 16:38

Client ID:

Sample Info: SJK0261-CAL5

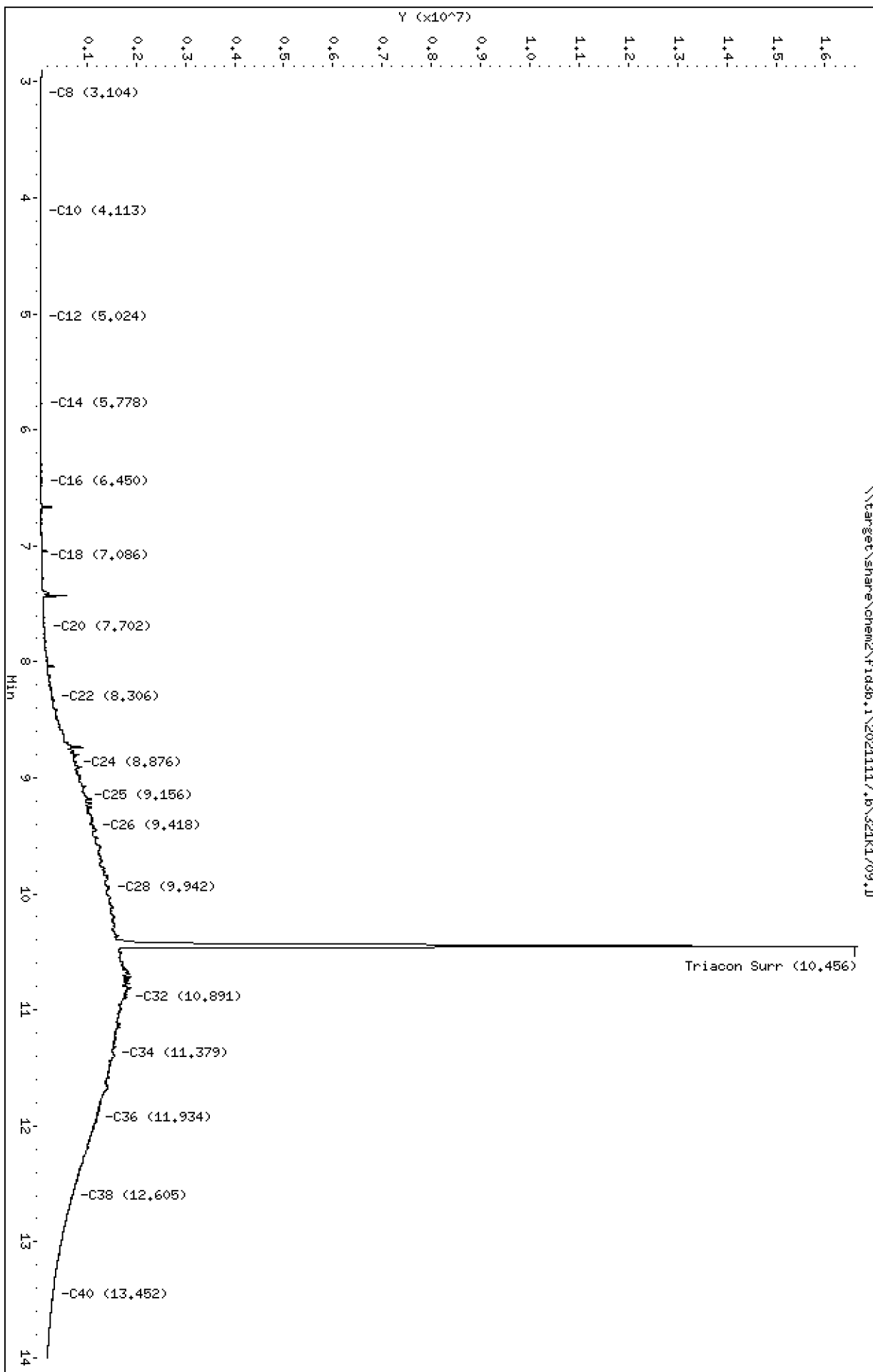
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1709.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-CAL5  
Client ID:  
Injection: 17-NOV-2021 16:38  
Dilution Factor: 1  
RT Std: 321K1703.D

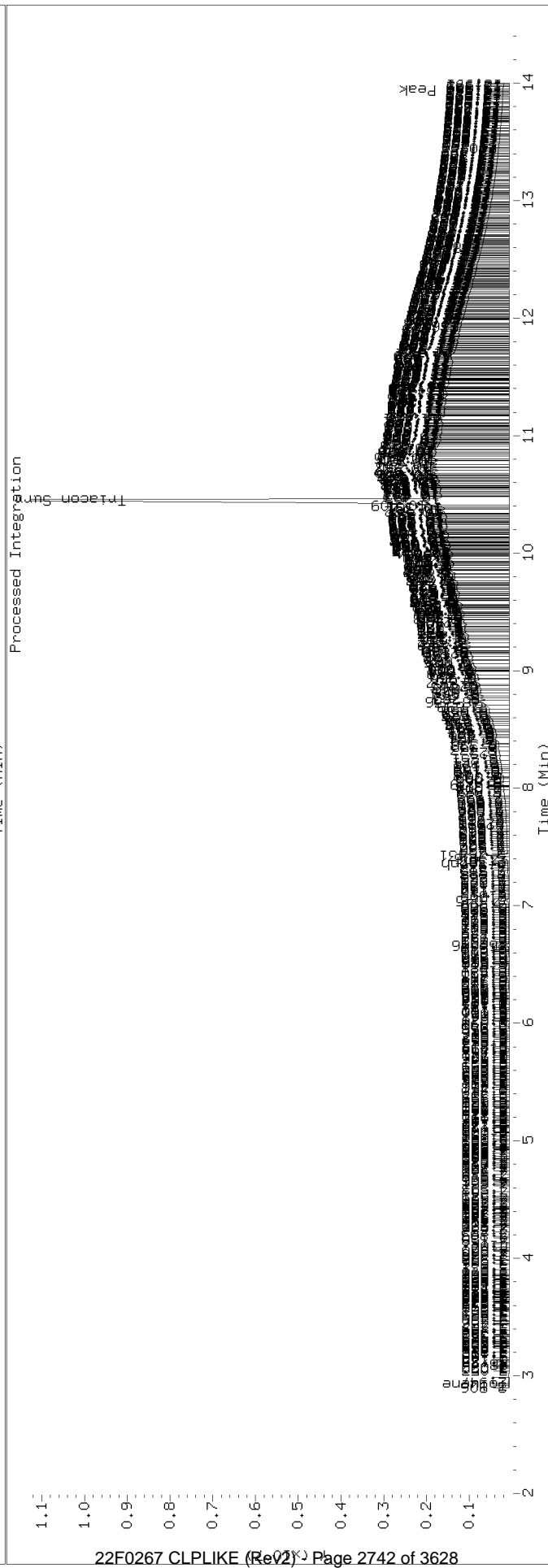
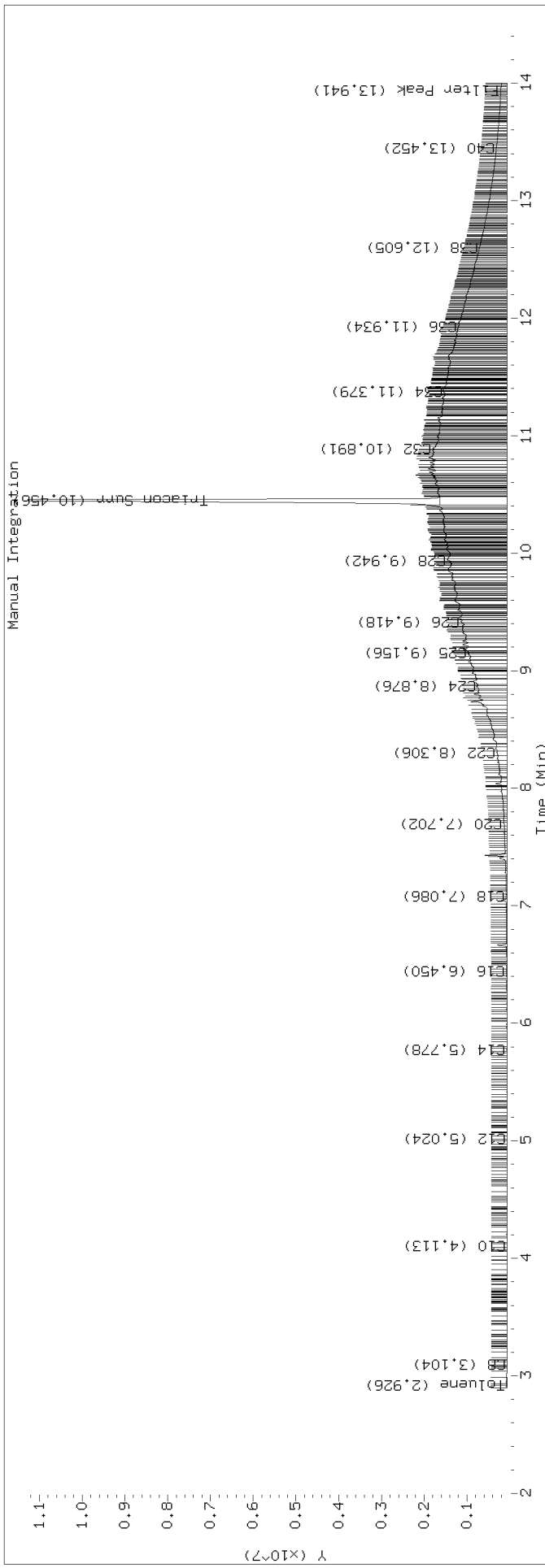
FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.926	-0.008	16205	11731	WATPHG	(Tol-C12)	336166	1.9
C8	3.104	0.009	7468	11340	WATPHD	(C12-C24)	25801901	163.8
C10	4.113	0.003	4507	5388	WATPHM	(C24-C38)	276914483	2247.0
C12	5.024	-0.001	6784	4969	AK102	(C10-C25)	33881653	181.0
C14	5.778	-0.003	14913	13910	AK103	(C25-C36)	235373217	2477.4 M
C16	6.450	-0.006	25052	23623	OR.DIES	(C10-C28)	93786332	499.6
C18	7.086	-0.006	28402	30838				
C20	7.702	-0.004	83859	134616				
C22	8.306	0.004	242824	598584				
C24	8.876	-0.001	695361	380284				
C25	9.156	0.002	913124	228016				
C26	9.418	-0.006	1087980	1338331				
C28	9.942	0.003	1404989	1798133	IT.DIES	(C10-C24)	25881721	138.5
C32	10.891	0.001	1742609	2811698				
C34	11.379	0.000	1480045	443037				
Filter Peak	13.941	-0.007	146111	116251				
C36	11.934	-0.001	1144455	625151				
o-terph	----							
Triacon Surr	10.456	0.009	15020623	19290804				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	19290804	116.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021



Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1710.D

Date: 17-NOV-2021 16:58

Client ID:

Sample Info: SJK02610AL6

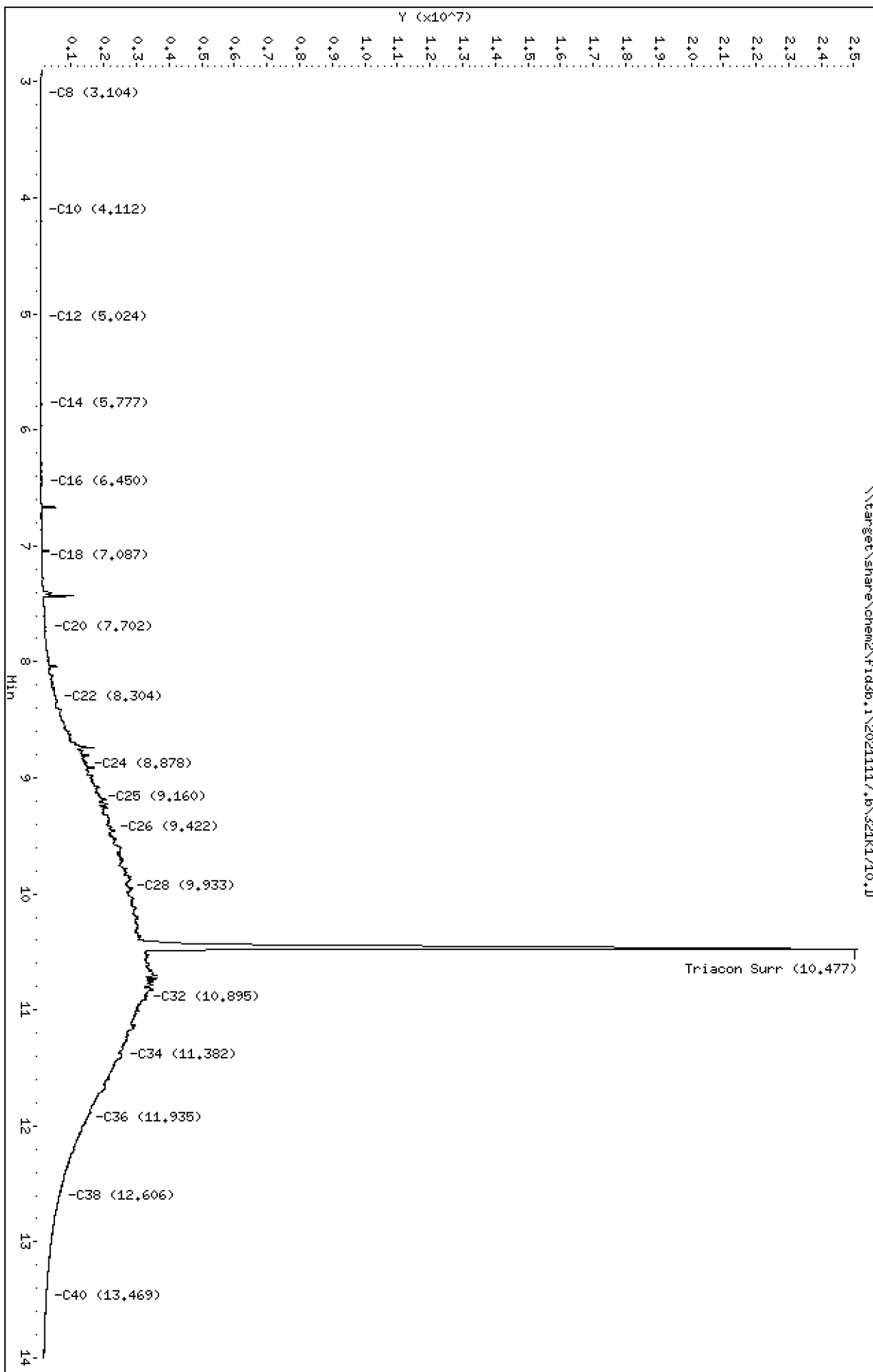
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1710.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251CAL6  
Client ID:  
Injection: 17-NOV-2021 16:58  
Dilution Factor: 1  
RT Std: 321K1703.D

FID:3B RESULTS

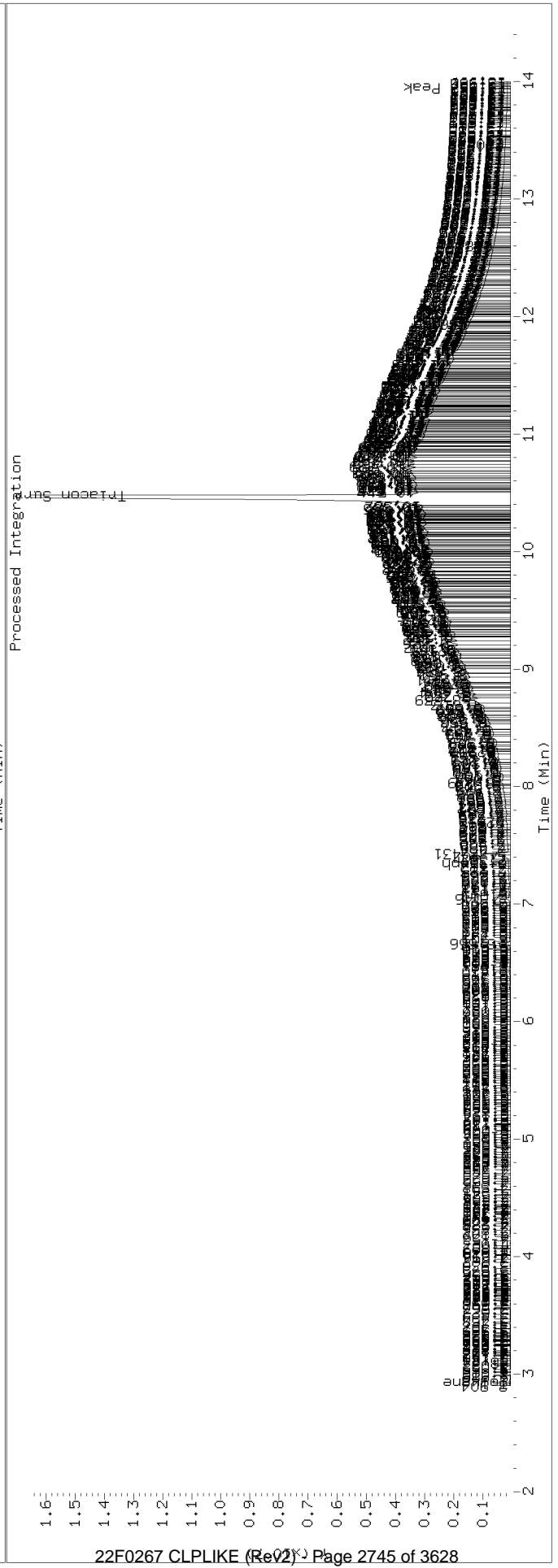
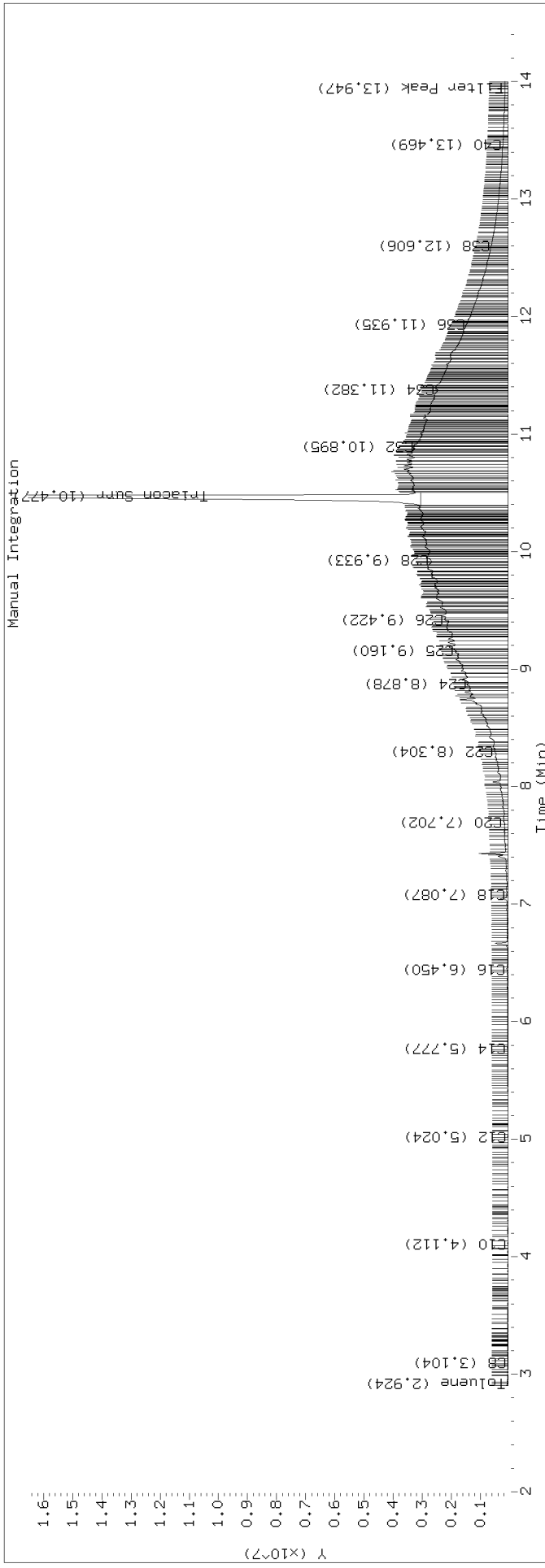
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.924	-0.009	22945	17727	WATPHG	(Tol-C12)	663928	3.7
C8	3.104	0.010	12077	19852	WATPHD	(C12-C24)	49701061	315.6
C10	4.112	0.001	9436	12210	WATPHM	(C24-C38)	482889815	3918.4
C12	5.024	-0.001	13264	9302	AK102	(C10-C25)	65224475	348.4
C14	5.777	-0.004	27850	26804	AK103	(C25-C36)	433367980	4561.5 M
C16	6.450	-0.005	47097	45274	OR.DIES	(C10-C28)	184041382	980.4
C18	7.087	-0.006	49512	50974				
C20	7.702	-0.004	154133	244135				
C22	8.304	0.002	461561	227884				
C24	8.878	0.002	1376955	753120				
C25	9.160	0.006	1819291	1254086				
C26	9.422	-0.001	2173352	2263208				
C28	9.933	-0.006	2680803	2926029	IT.DIES	(C10-C24)	49849782	266.7
C32	10.895	0.005	3202683	640036				
C34	11.382	0.004	2482137	2078987				
Filter Peak	13.947	-0.002	105390	62787				
C36	11.935	-0.000	1428178	986778				
o-terph	----							
Triacon Surr	10.477	0.031	22042166	40032204				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	40032204	240.6

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021





Data File: \\target\share\chem2\FID3b,1\20211117,8\321K1711.D

Date: 17-NOV-2021 17:18

Client ID:

Sample Info: SJK0261-SCV1

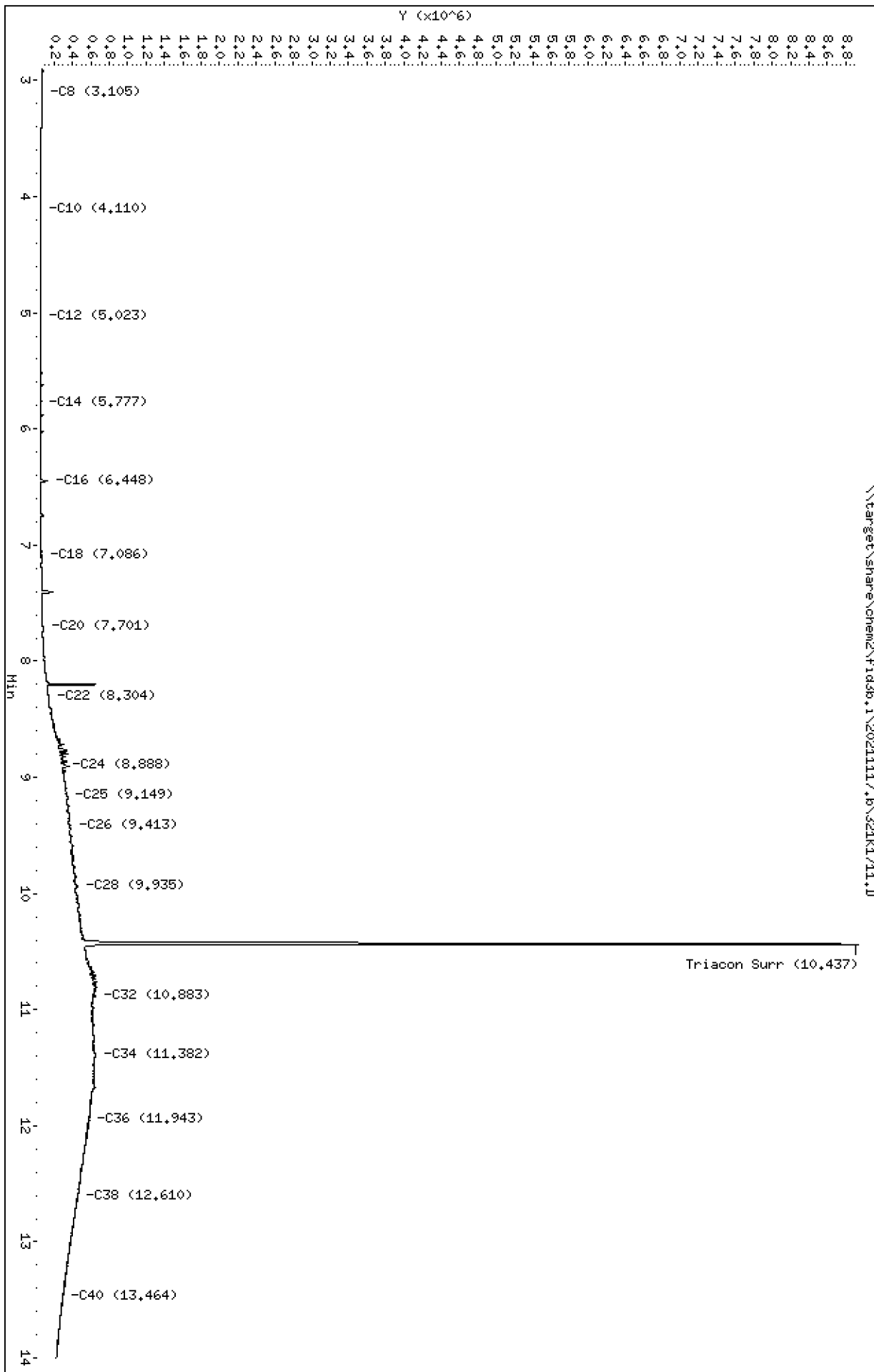
Column phase: RTX-1

Instrument: FID3b,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20211117.b/321K1711.D  
Method: 20211117.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 11/19/2021  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:12-NOV-2021 M.Oil:12-NOV-2021

ARI ID: SJK0251-SCV1  
Client ID:  
Injection: 17-NOV-2021 17:18  
Dilution Factor: 1  
RT Std: 321K1703.D

FID:3B RESULTS

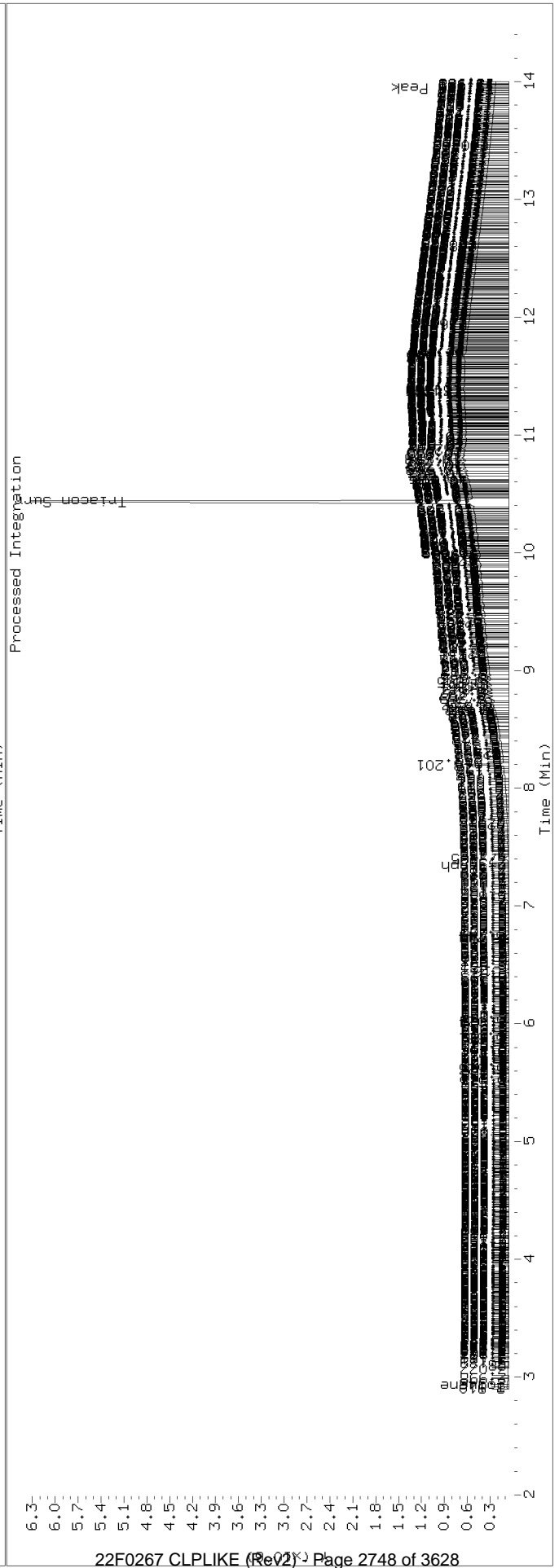
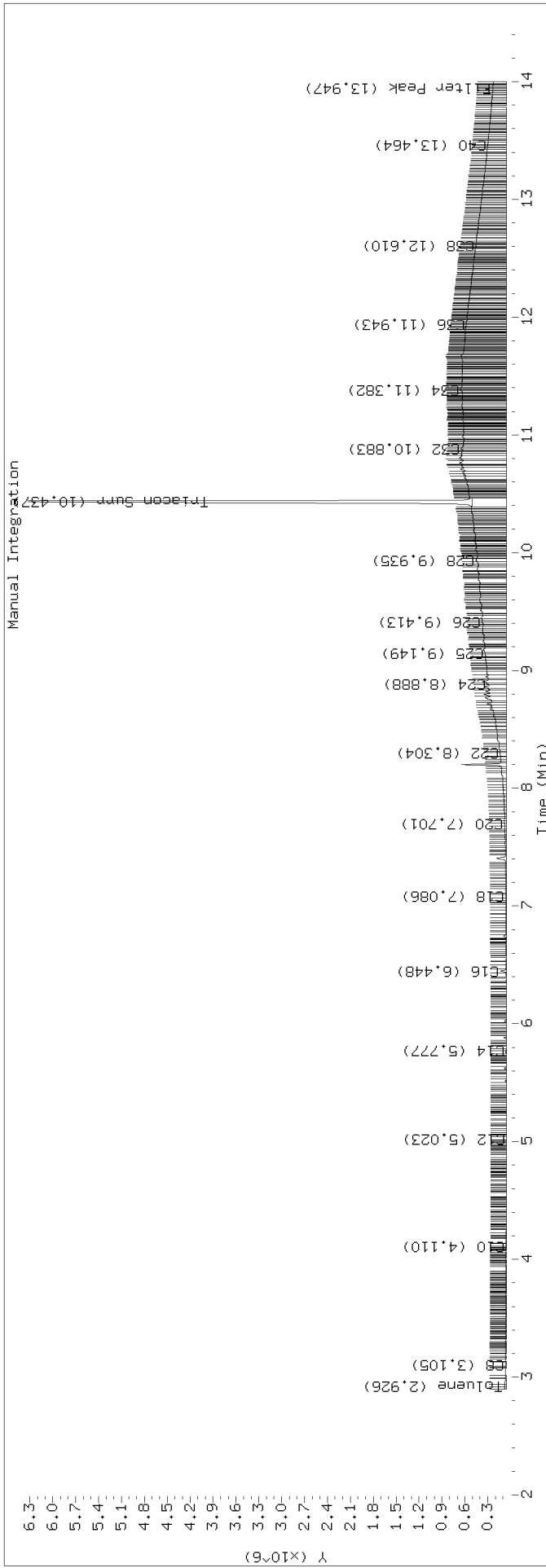
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.926	-0.008	23257	23959	WATPHG	(Tol-C12)	497654	2.8
C8	3.105	0.011	11362	20683	WATPHD	(C12-C24)	9244276	58.7
C10	4.110	-0.000	3805	1670	WATPHM	(C24-C38)	100947771	819.1
C12	5.023	-0.003	989	958	AK102	(C10-C25)	12141744	64.8
C14	5.777	-0.004	4056	2924	AK103	(C25-C36)	79682216	838.7 M
C16	6.448	-0.007	79344	58261	OR.DIES	(C10-C28)	29476264	157.0
C18	7.086	-0.007	9677	12631				
C20	7.701	-0.005	25974	36331				
C22	8.304	0.002	84400	45988				
C24	8.888	0.011	252196	229099				
C25	9.149	-0.004	281050	181179				
C26	9.413	-0.010	321416	285812				
C28	9.935	-0.004	399704	587559	IT.DIES	(C10-C24)	9328299	49.9
C32	10.883	-0.007	596979	616193				
C34	11.382	0.003	601109	268230				
Filter Peak	13.947	-0.002	177701	106257				
C36	11.943	0.007	523945	261542				
o-terph	----							
Triacon Surr	10.437	-0.010	8429814	7890749				

Range Times: NW Diesel(5.075 - 8.926) NW Gas(2.884 - 5.075) NW M.Oil(8.926 - 12.657)  
AK102(4.060 - 9.104) AK103(9.104 - 11.985) Jet A(4.060 - 7.143)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	7890749	47.4

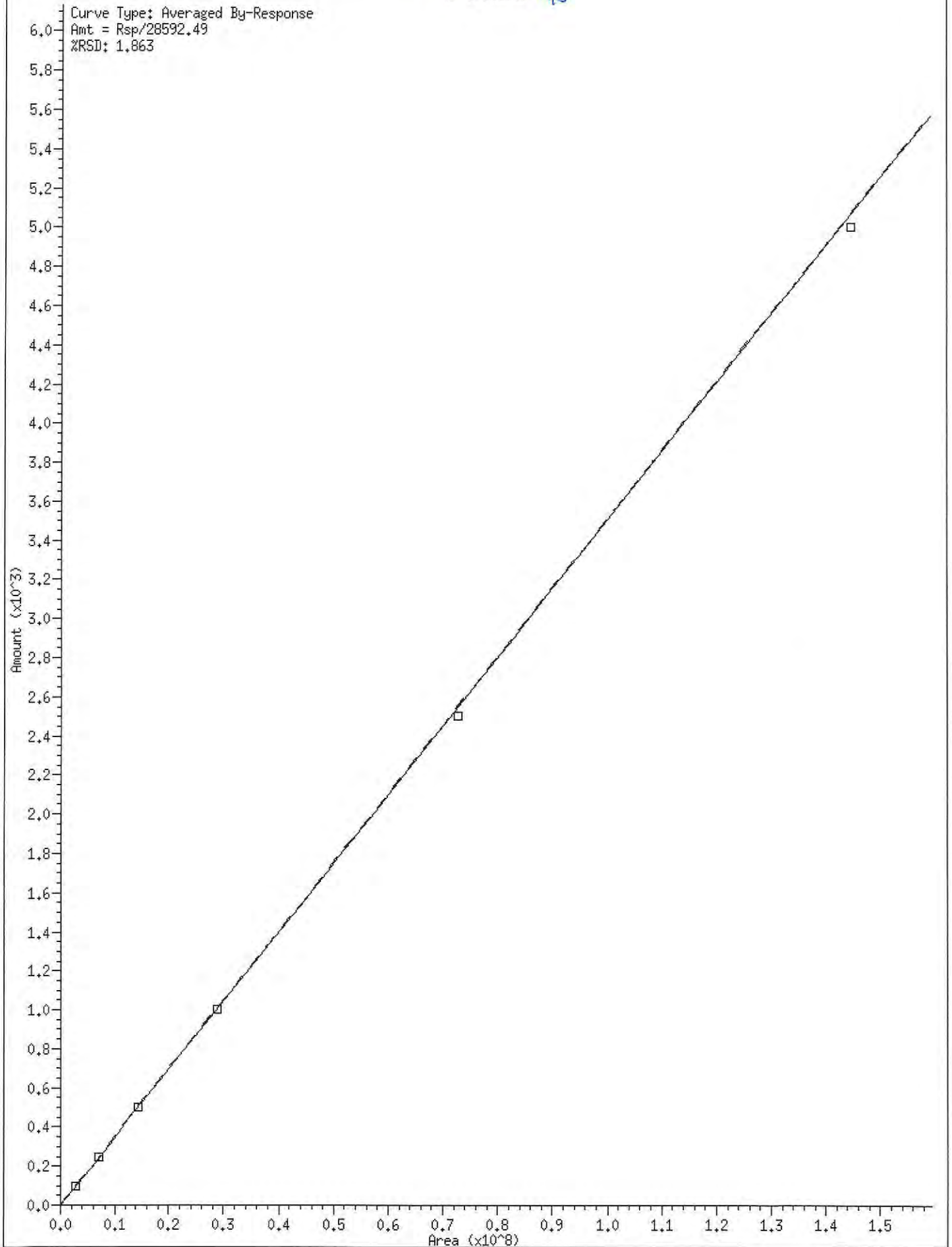
Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	157473.4	12-NOV-2021
Motor Oil	123236.8	12-NOV-2021
AK102	187237.1	12-NOV-2021
AK103	95006.4	17-NOV-2021
OR Diesel	187730.0	12-NOV-2021
IT Diesel	186908.1	12-NOV-2021

TPH Manual Integrations Report



FA00031

37 Creosote A/S





**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00054	Instrument:	FID4
Calibration Date:	01/31/2022	Column (1):	RTX-1

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Motor Oil Range Organics (C24-C38)	100	144183.9	250	135640.8	500	130722.5	1000	129320.4	5000	125827.6	2500	129779.6





**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00054	Instrument:	FID4
Calibration Date:	01/31/2022	Column (1):	RTX-1

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Diesel Range Organics (C12-C24)	50	148882.4	100	147074	250	171635.1	500	161283	1000	162430.4	2500	160525.3
o-Terphenyl	9	166611.4	18	193915.6	45	214247.7	90	212078.6	180	216862.8	450	218088.5









**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FA00054	Instrument:	FID4
Calibration Date:	01/31/2022	Column (1):	RTX-1

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Diesel Range Organics (C12-C24)	158638.4	5.8			RSD (20)	
Diesel Range Organics (C12-C24)	158638.4	5.8			RSD (20)	
Motor Oil Range Organics (C24-C38)	132579.1	4.9			RSD (20)	
Jet-A Range Organics (C10-C18)		0.0			RSD (20)	
Bunker C Range Organics (C10-C38)	59438.64	6.9			RSD (20)	
o-Terphenyl	203634.1	9.9			RSD (20)	



## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	20-JAN-2022	10:32	422A2001.D	1	RINSE	
2	20-JAN-2022	10:51	422A2002.D	1	RINSE	
3	20-JAN-2022	11:11	422A2003.D	1	SKA0208-IBL1	
4	20-JAN-2022	11:31	422A2004.D	1	SKA0208-IBL2	
5	20-JAN-2022	11:51	422A2005.D	1	SKA0208-CAL1	
6	20-JAN-2022	12:11	422A2006.D	1	SKA0208-CAL2	
7	20-JAN-2022	12:30	422A2007.D	1	SKA0208-CAL3	
8	20-JAN-2022	12:50	422A2008.D	1	SKA0208-CAL4	
9	20-JAN-2022	13:10	422A2009.D	1	SKA0208-CAL5	
10	20-JAN-2022	13:30	422A2010.D	1	SKA0208-CAL6	
11	20-JAN-2022	13:50	422A2011.D	1	SKA0208-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 20-JAN-2022

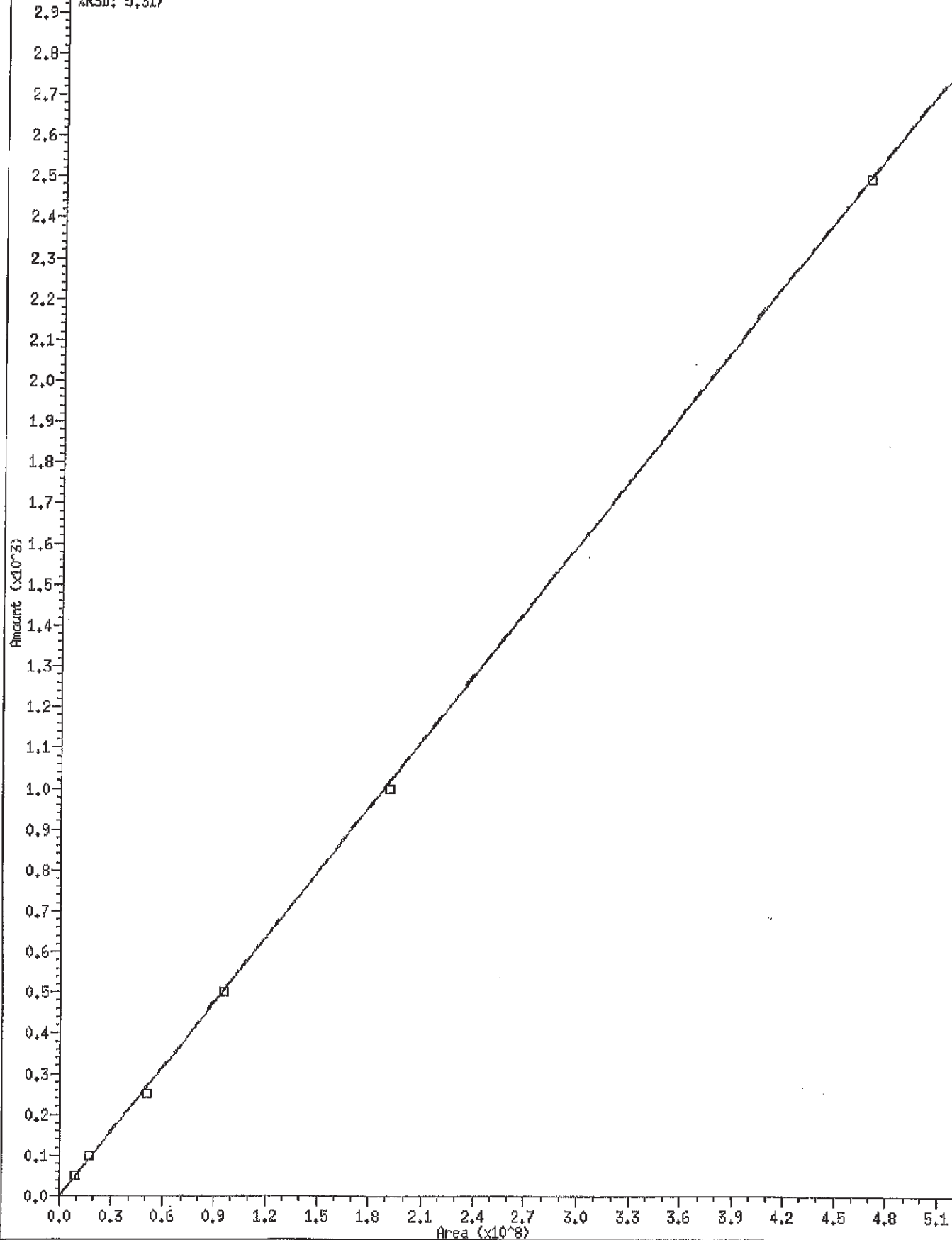
Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
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1051	422A2002.D RINSE			1	NO MANUAL INTEGRATION
1111	422A2003.D SKA0208-IBL1			1	NO MANUAL INTEGRATION
1131	422A2004.D SKA0208-IBL2			1	NO MANUAL INTEGRATION
1151	422A2005.D SKA0208-CAL1			1	o-terph,
1211	422A2006.D SKA0208-CAL2			1	o-terph,
1230	422A2007.D SKA0208-CAL3			1	o-terph,
1250	422A2008.D SKA0208-CAL4			1	o-terph,
1310	422A2009.D SKA0208-CAL5			1	o-terph,
1330	422A2010.D SKA0208-CAL6			1	o-terph,
1350	422A2011.D SKA0208-SCV1			1	NO MANUAL INTEGRATION

Security Status Report

Date: 31-Jan-2022 12:44

422A2001.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2002.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2003.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2004.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2005.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2006.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2007.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2008.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2009.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2010.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2011.D	Data Locked	victoria, 28-Jan-2022 13:52

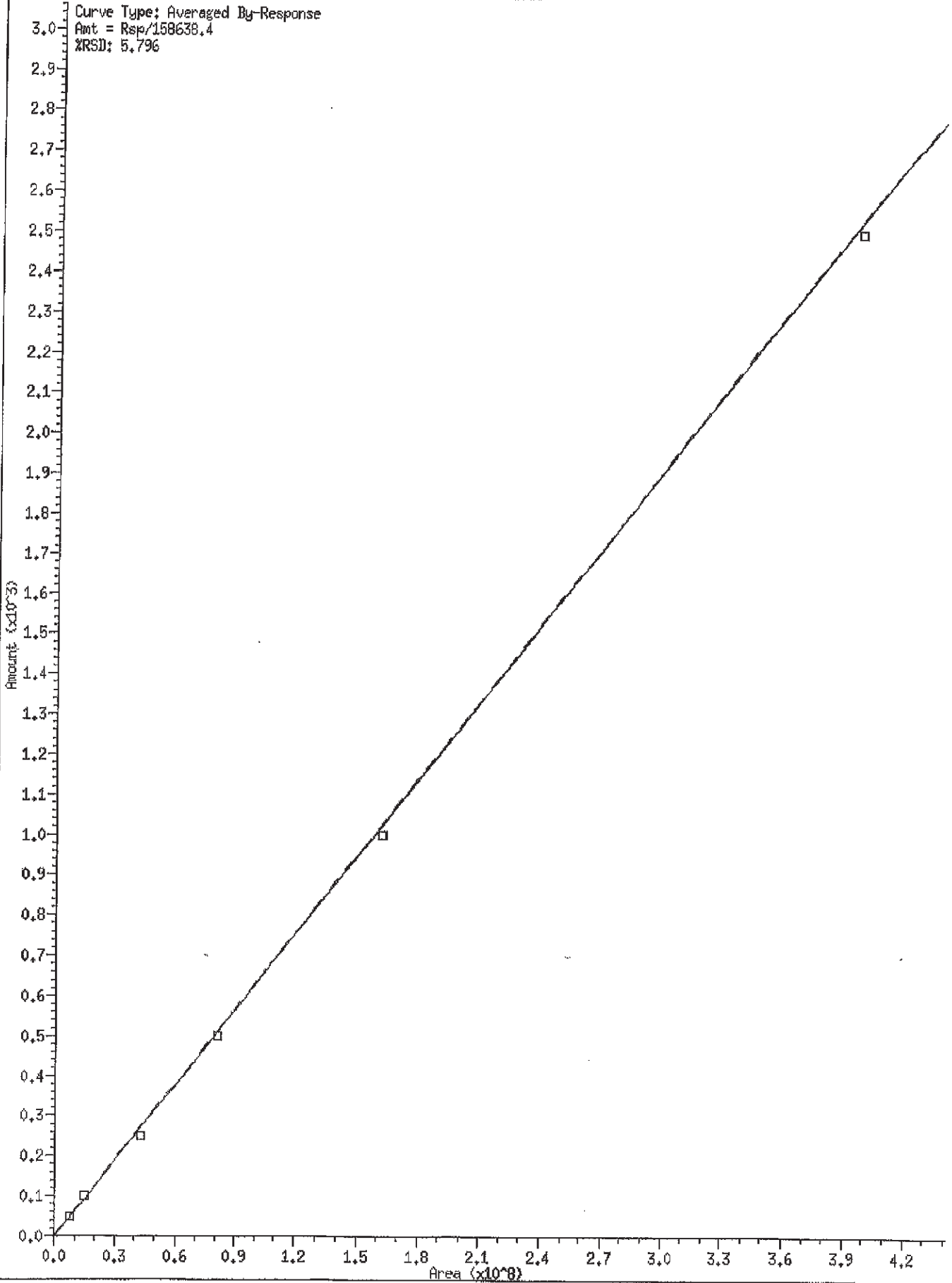
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Amt = Rsp/188673.2  
%RSD: 5.317

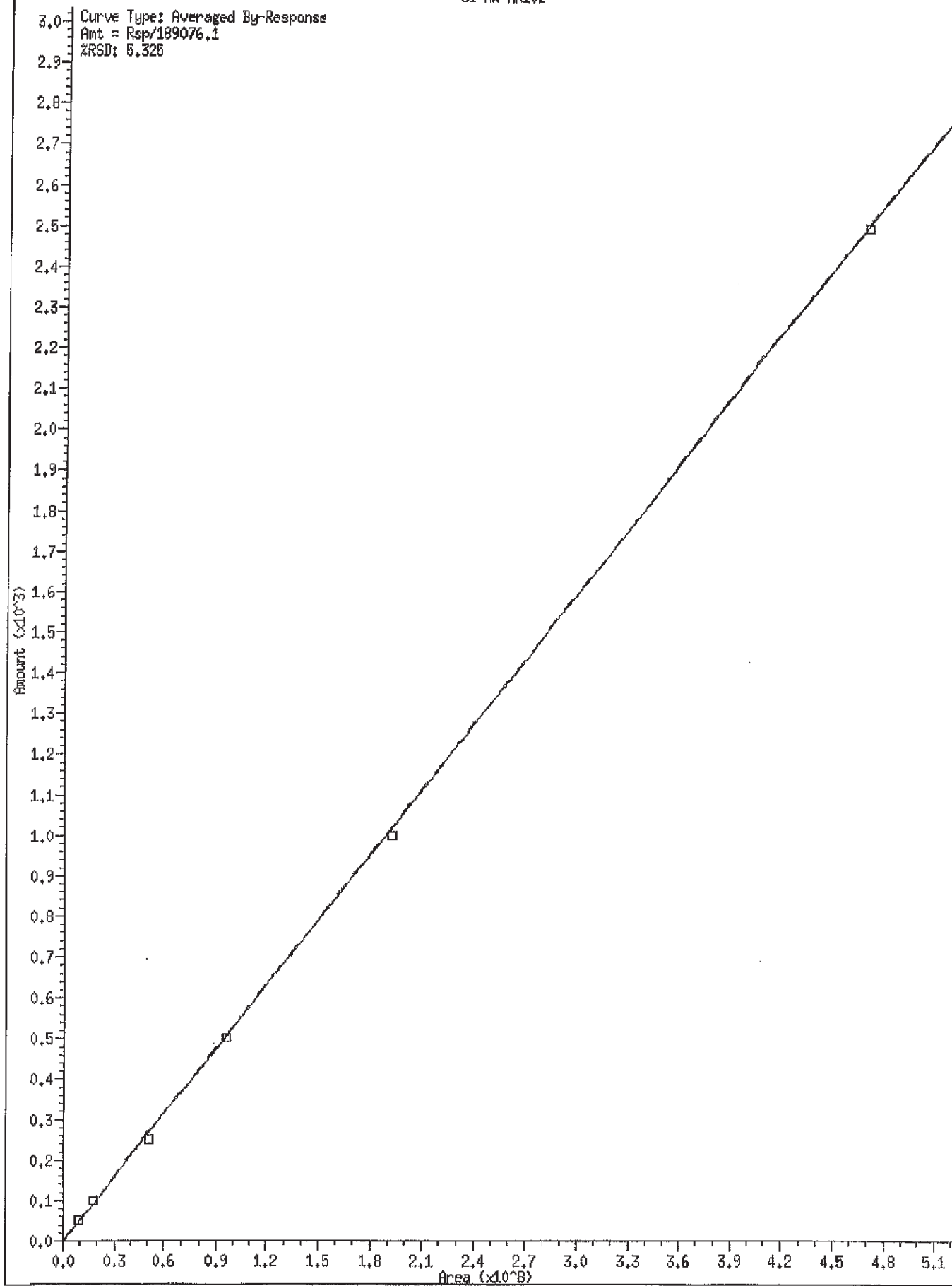




29 NW Diesel

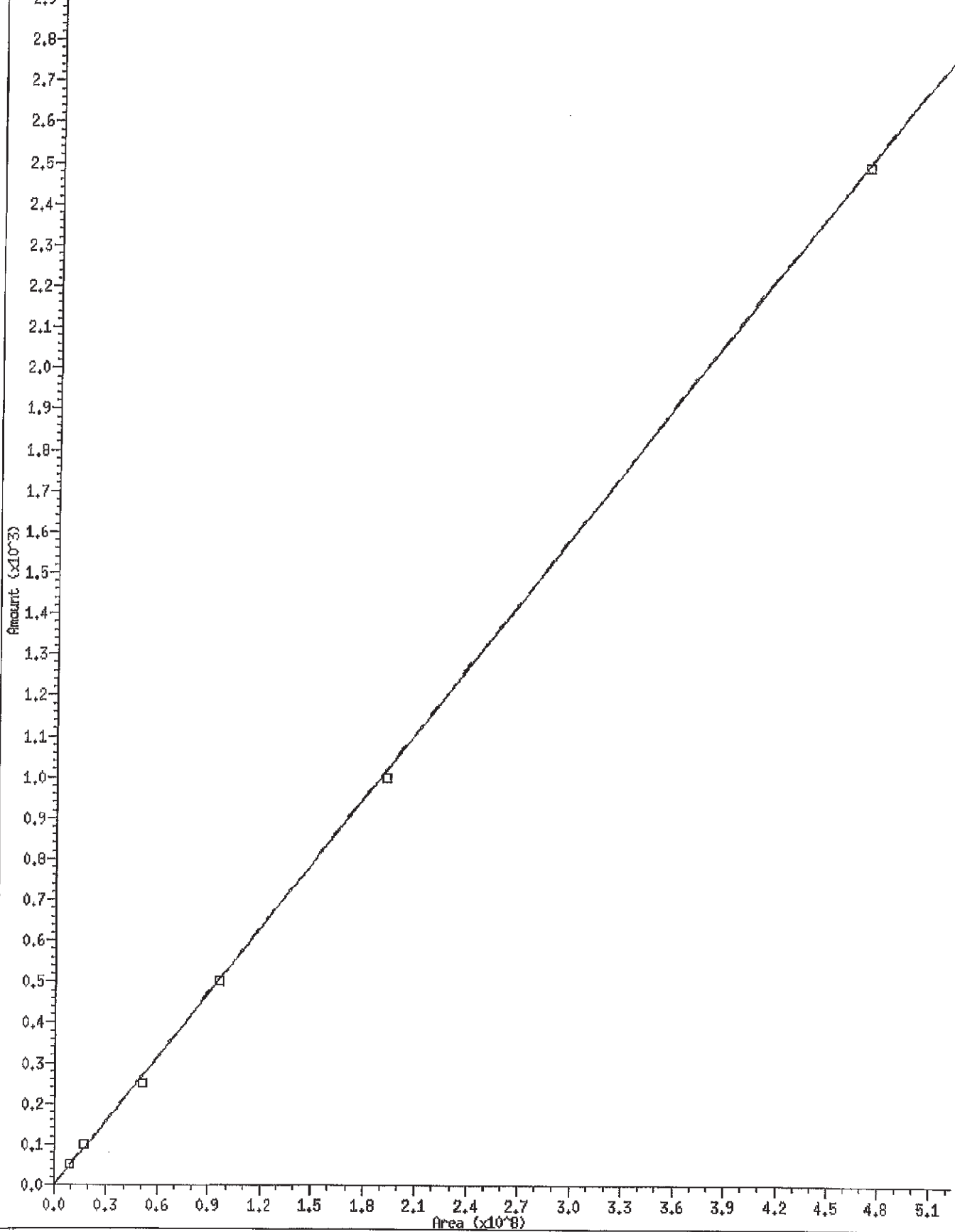
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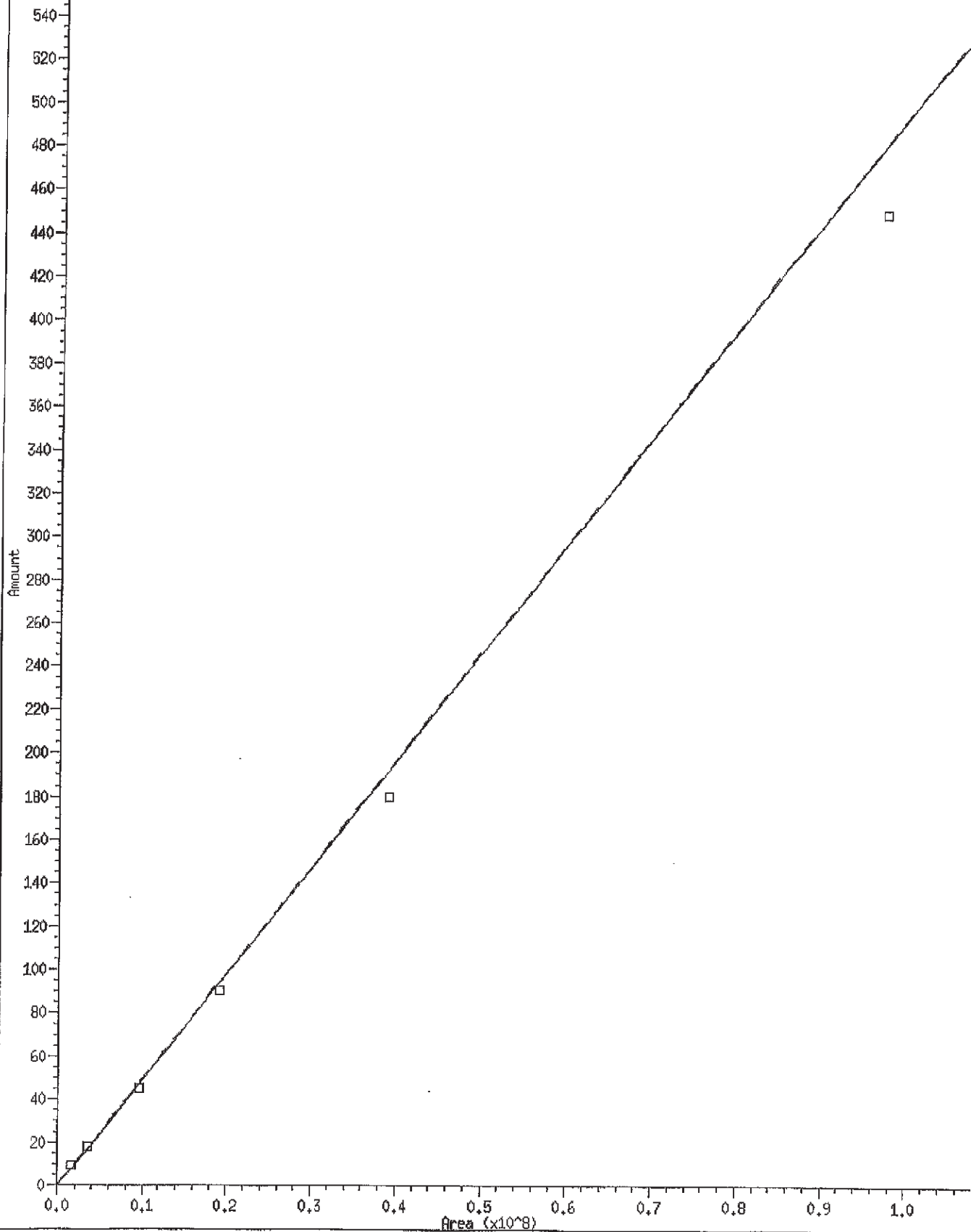
39 OR Diesel

Curve Type: Averaged By-Response  
Amt = Rsp/189743  
%RSD: 5,249



\* 8 o-terph

Curve Type: Averaged By-Response  
Amt = Resp/203634.1  
%RSD: 9.902



ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220120.b  
Inst ID: fid4a.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08
FILENAME:	422A2003	422A2004	422A2005	422A2006	422A2007	422A2008	422A2009	422A2010
INJ. DATE:	20-JAN-2022	20-JAN-2022	20-JAN-2022	20-JAN-2022	20-JAN-2022	20-JAN-2022	20-JAN-2022	20-JAN-2022
INJ. TIME:	11:11	11:31	11:51	12:11	12:30	12:50	13:10	13:30

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.395	1.393	1.389	1.400	1.389	1.389	1.389	1.394	1.395	1.295-1.495	1.392	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	1.543	1.540	1.535	1.552	1.536	1.536	1.536	1.542	1.543	1.443-1.643	1.540	0.006
3 C10	2.787	2.785	2.783	2.783	2.783	2.783	2.784	2.786	2.787	2.737-2.837	2.784	0.002
4 C12	3.848	3.848	3.844	3.845	3.844	3.845	3.847	3.851	3.848	3.798-3.898	3.847	0.003
5 C14	4.657	4.657	4.653	4.654	4.654	4.655	4.658	4.664	4.657	4.607-4.707	4.657	0.003
6 C16	5.345	5.347	5.340	5.341	5.342	5.344	5.347	5.355	5.345	5.295-5.395	5.345	0.005
7 C18	5.962	5.956	5.954	5.956	5.958	5.960	5.965	5.975	5.962	5.912-6.012	5.961	0.007
8 o-terph	6.155	6.154	6.133	6.137	6.146	6.154	6.165	6.191	6.155	6.105-6.205	6.154	0.018
9 C20	6.548	6.545	6.543	6.542	6.543	6.543	6.545	6.551	6.548	6.498-6.598	6.545	0.003
10 C22	7.130	7.128	7.123	7.123	7.123	7.123	7.124	7.127	7.130	7.080-7.180	7.125	0.003
11 C24	7.697	7.695	7.695	7.694	7.691	7.690	7.690	7.691	7.697	7.647-7.747	7.693	0.003
12 C25	7.974	7.976	7.972	7.970	7.968	7.968	7.967	7.966	7.974	7.924-8.024	7.970	0.004
13 C26	8.244	8.243	8.242	8.244	8.240	8.238	8.237	8.236	8.244	8.194-8.294	8.241	0.003
14 C28	8.763	8.757	8.764	8.765	8.765	8.759	8.767	8.756	8.763	8.713-8.813	8.762	0.004

Reviewer 1 \_\_\_\_\_  
Reviewer 2 \_\_\_\_\_

Date: \_\_\_\_\_  
Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220120.b  
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
\$ 15 Triacon Surr	9.277	9.273	9.273	9.280	9.275	9.286	9.266	9.273	9.277	9.227-9.327	9.276	0.006
16 C32	9.717	9.711	9.713	9.720	9.711	9.709	9.718	9.706	9.717	9.667-9.767	9.713	0.005
17 C34	10.155	10.156	10.147	10.153	10.158	10.154	10.156	10.161	10.155	10.105-10.205	10.155	0.004
18 Filter Peak	13.962	13.962	13.963	13.963	13.962	13.960	13.960	13.961	13.962	13.862-14.062	13.962	0.001
19 C36	10.568	10.567	10.572	10.567	10.567	10.573	10.563	10.567	10.568	10.518-10.618	10.568	0.003
20 C38	10.974	10.980	10.978	10.975	10.973	10.970	10.975	10.978	10.974	10.924-11.024	10.975	0.003
21 C40	11.438	11.438	11.441	11.440	11.441	11.434	11.439	11.440	11.438	11.388-11.488	11.439	0.002
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 Moll	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	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\20220120,6\42282003.D

Date: 20-JAN-2022 11:11

Client ID:

Sample Info: SKR0208-IBL1

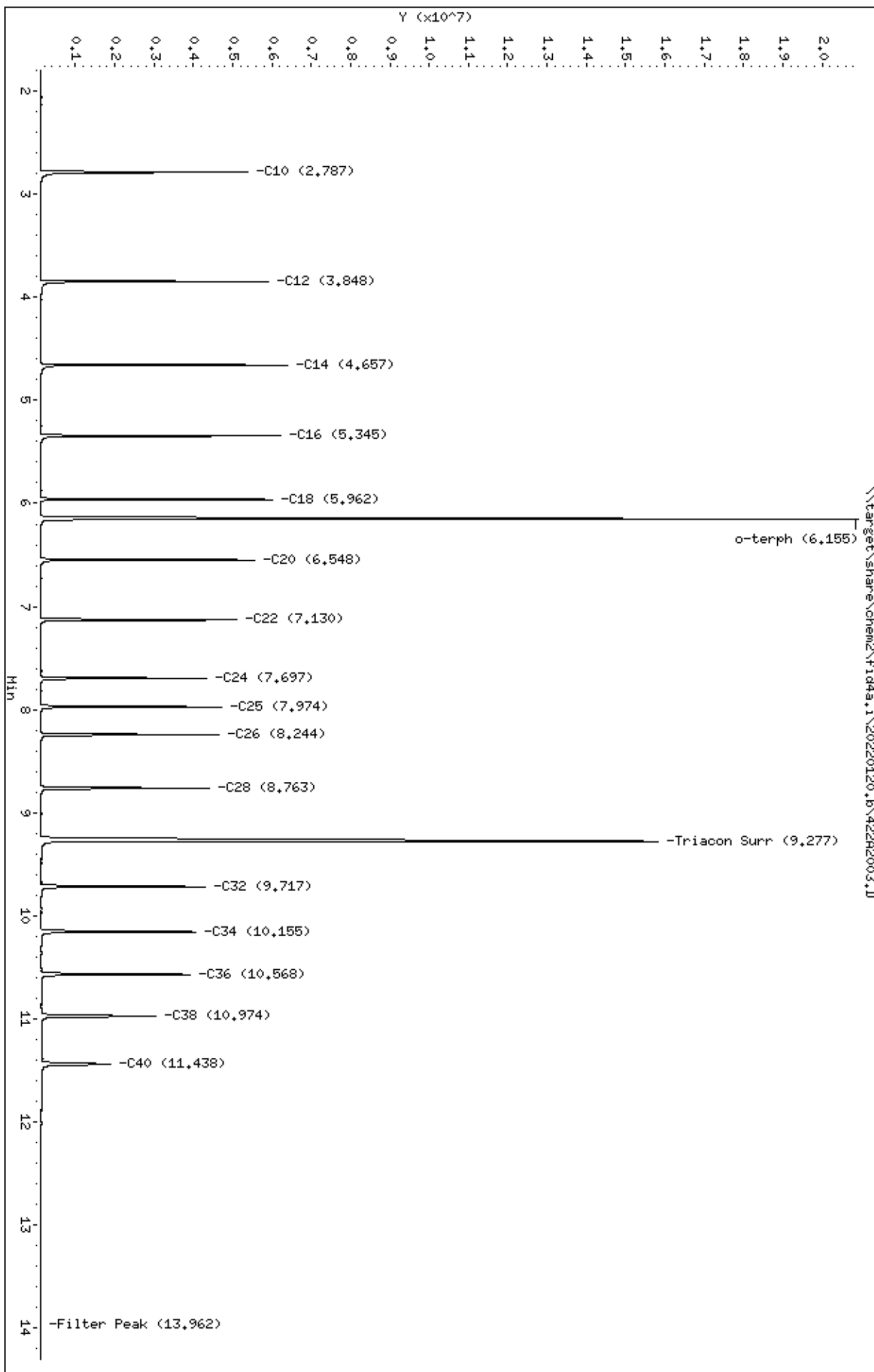
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2003.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-IBL1  
Client ID:  
Injection: 20-JAN-2022 11:11  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.543	0.000	5560015	3947616	WATPHD	(C12-C24)	23617052	148.9
C10	2.787	0.000	5257595	4154719	WATPHM	(C24-C38)	27587850	208.1
C12	3.848	0.000	5795256	4012752	AK102	(C10-C25)	32327943	171.0
C14	4.657	0.000	6275090	3977443	AK103	(C25-C36)	23810222	240.7
C16	5.345	0.000	6103254	3896081	OR.DIES	(C10-C28)	43679867	230.2
C18	5.962	0.000	5903807	3840006				
C20	6.548	0.000	5462588	3811770				
C22	7.130	0.000	4979358	3790620				
C24	7.697	0.000	4232069	3304139				
C25	7.974	0.000	4626242	3678752				
C26	8.244	0.000	4539215	3752840				
C28	8.763	0.000	4290214	3737829				
C32	9.717	0.000	4178760	3963601				
C34	10.155	0.000	3931080	3725805				
Filter Peak	13.962	0.000	15777	8644				
C36	10.568	0.000	3821518	3732386				
C38	10.974	0.000	2949989	3352397				
C40	11.438	0.000	1790104	2604261				
o-terph	6.155	0.000	20813166	20730774				
Triacon Surr	9.277	0.000	15699693	21934844	NAS DIES	(C10-C24)	32260091	171.0

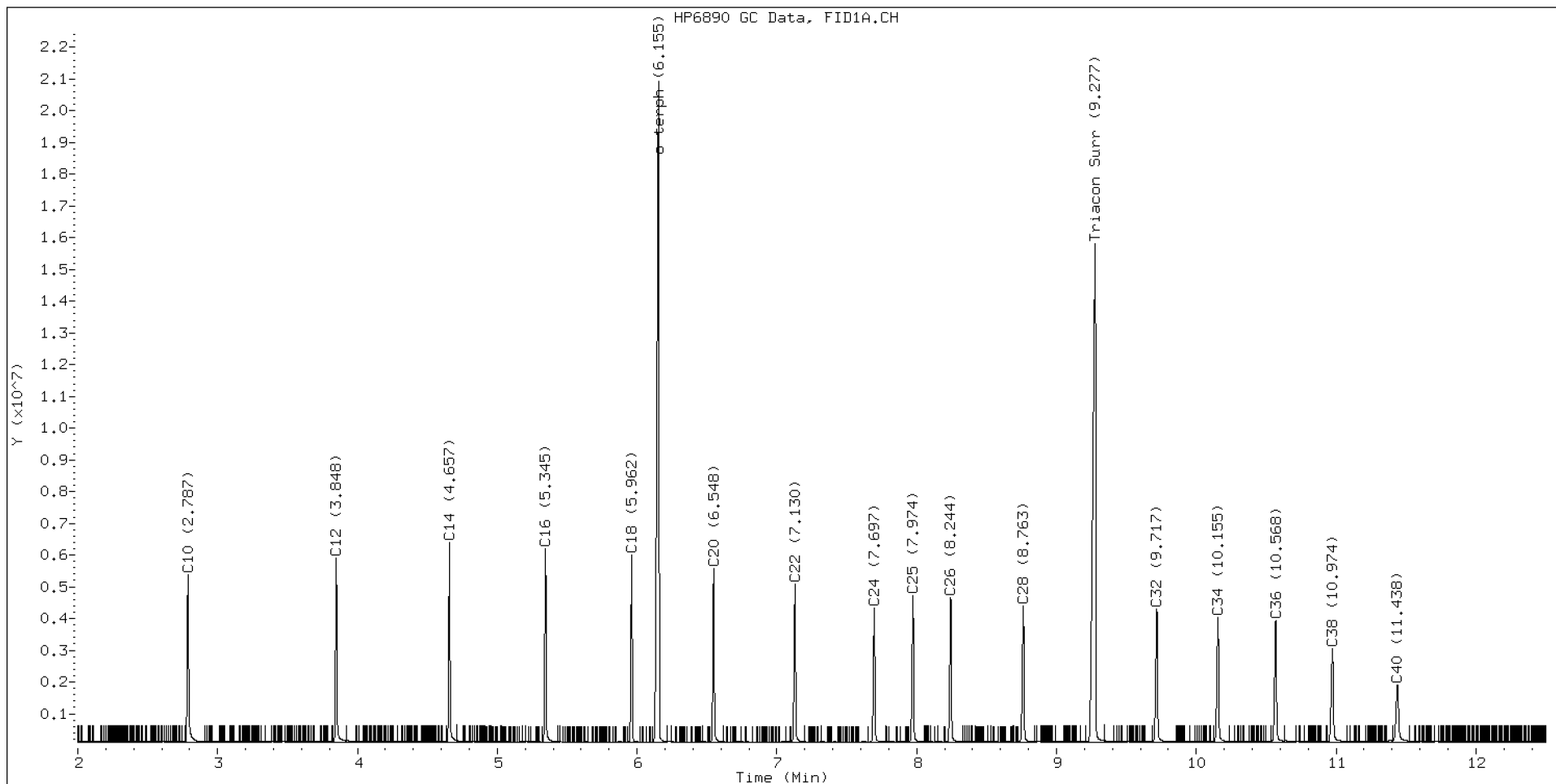
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	20730774	101.8
Triacontane	21934844	125.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282004.D

Date: 20-JAN-2022 11:31

Client ID:

Sample Info: SKR0208-IBL2

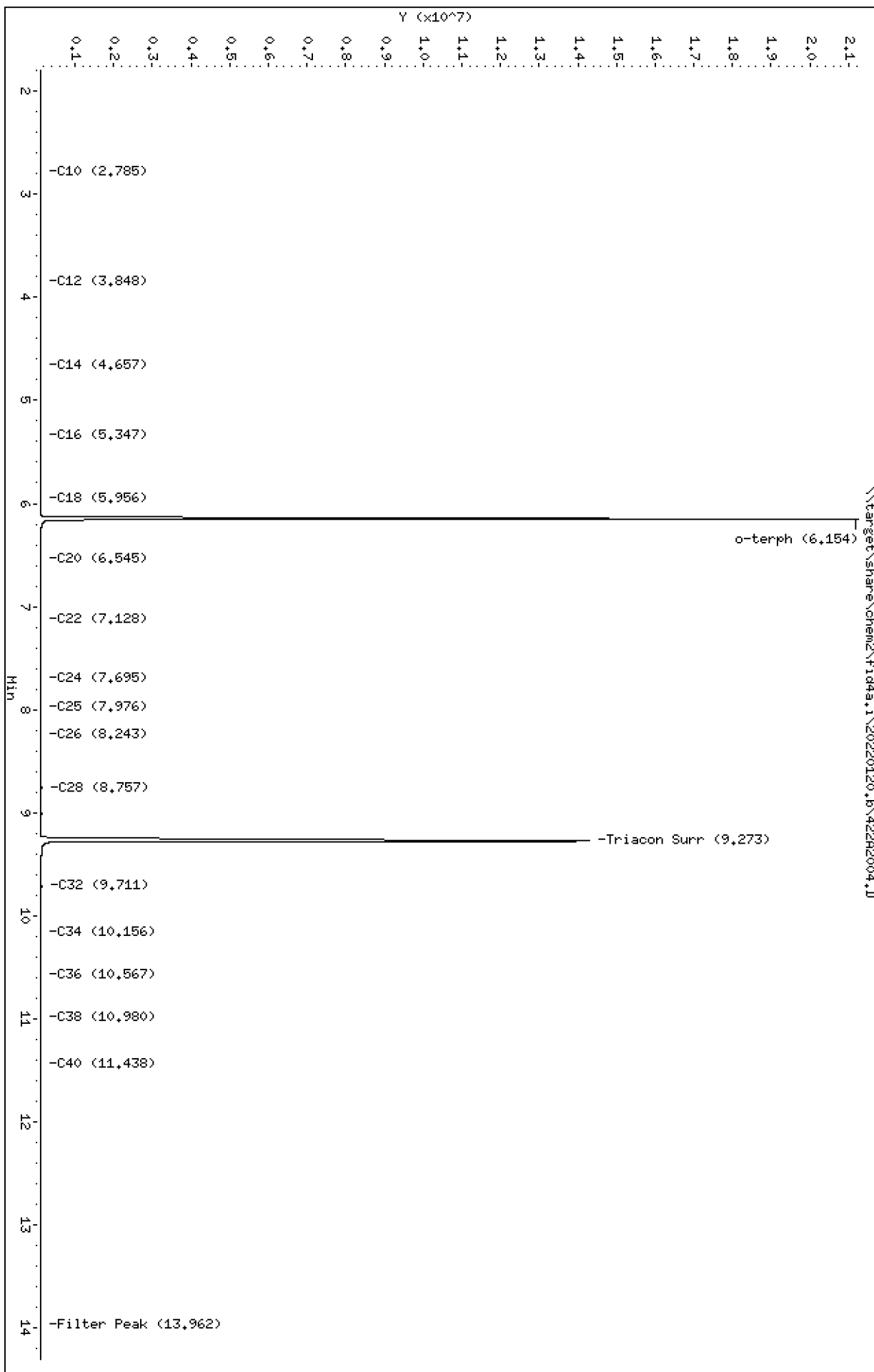
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2004.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-IBL2  
Client ID:  
Injection: 20-JAN-2022 11:31  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

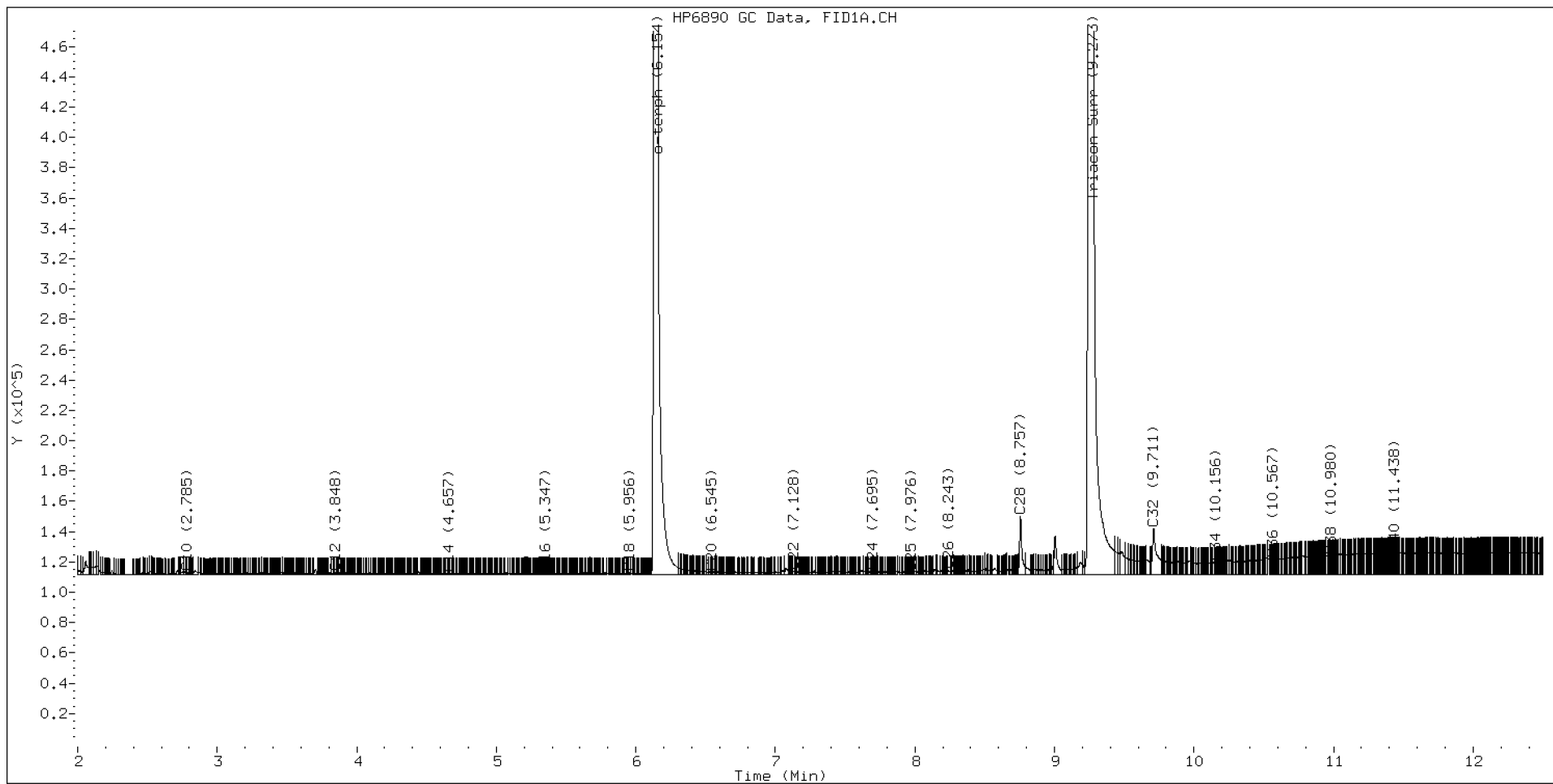
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.540	-0.003	15479	14810	WATPHD	(C12-C24)	298978	1.9
C10	2.785	-0.003	1495	786	WATPHM	(C24-C38)	1251776	9.4
C12	3.848	-0.000	1344	663	AK102	(C10-C25)	392294	2.1
C14	4.657	-0.001	1157	339	AK103	(C25-C36)	955410	9.7
C16	5.347	0.002	1328	496	OR.DIES	(C10-C28)	565052	3.0
C18	5.956	-0.006	1363	1047				
C20	6.545	-0.003	1608	397				
C22	7.128	-0.002	2457	1762				
C24	7.695	-0.002	2125	1126				
C25	7.976	0.002	1991	477				
C26	8.243	-0.001	2719	3771				
C28	8.757	-0.007	38550	47130				
C32	9.711	-0.007	30192	67900				
C34	10.156	0.001	8378	4977				
Filter Peak	13.962	-0.001	7511	4039				
C36	10.567	-0.001	10258	2046				
C38	10.980	0.006	12853	4480				
C40	11.438	-0.000	14608	4362				
o-terph	6.154	-0.001	21141491	20862500				
Triacon Surr	9.273	-0.004	14181219	18420470	NAS DIES	(C10-C24)	374770	2.0

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	20862500	102.5
Triacontane	18420470	105.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



Data File: \\target\share\chem2\fid4a,1\20220120,b\42282005.D

Date: 20-JAN-2022 11:51

Client ID:

Sample Info: SKR0208-CAL1

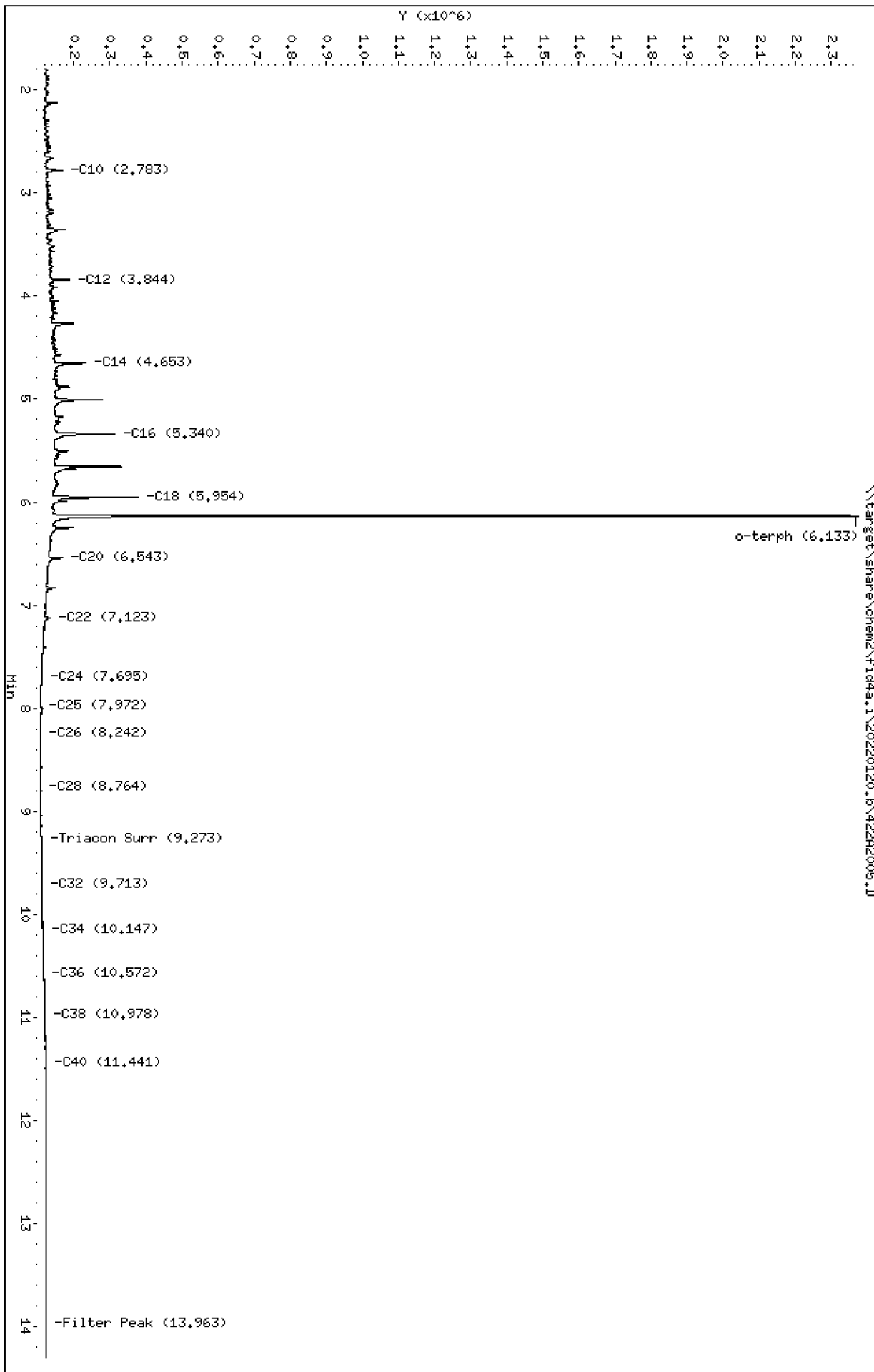
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2005.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL1  
Client ID:  
Injection: 20-JAN-2022 11:51  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

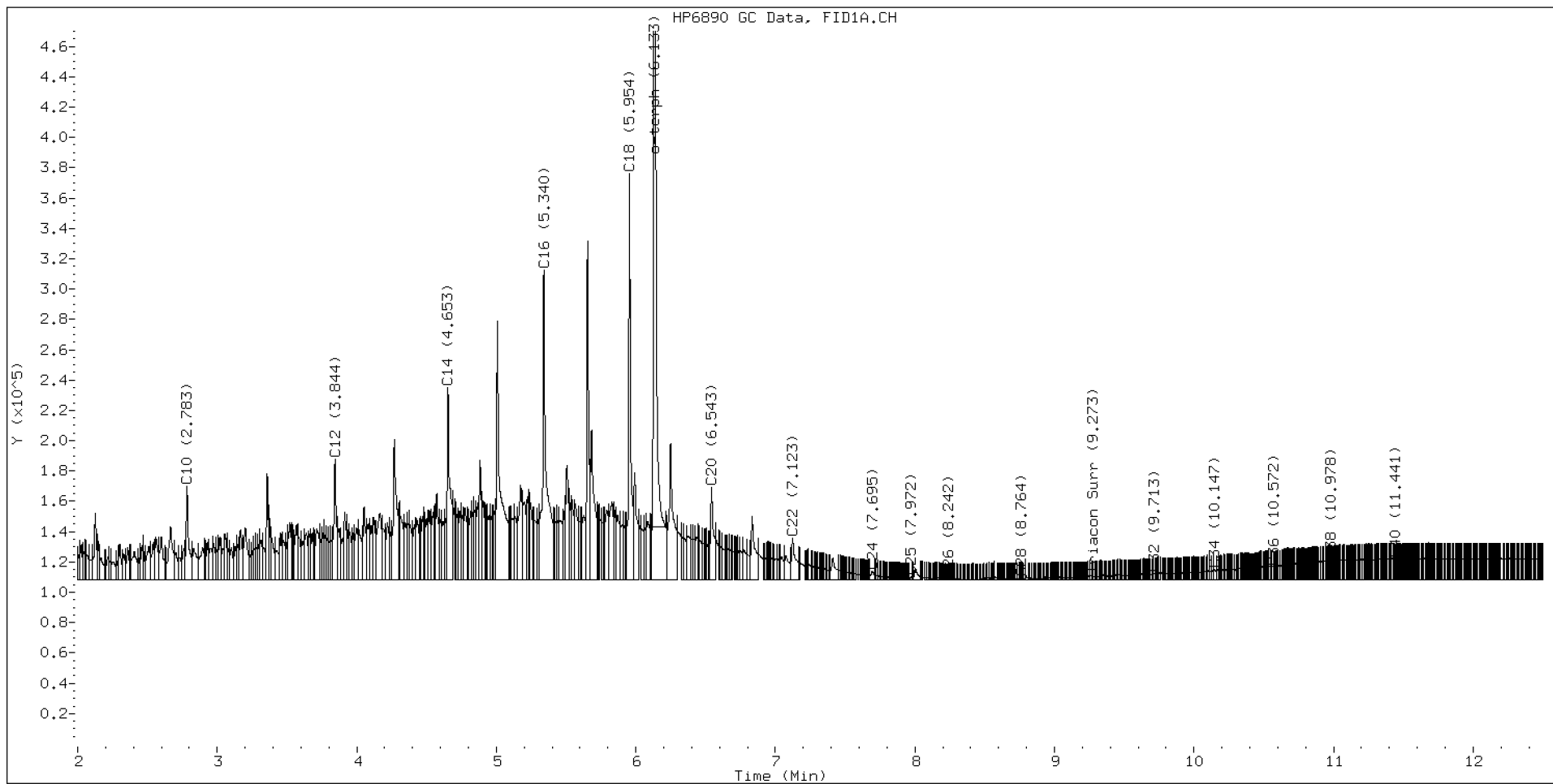
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.535	-0.008	27708	30045	WATPHD	(C12-C24)	7444121	46.9
C10	2.783	-0.004	61539	83608	WATPHM	(C24-C38)	767210	5.8
C12	3.844	-0.004	79540	103209	AK102	(C10-C25)	9159711	48.4
C14	4.653	-0.004	126464	188042	AK103	(C25-C36)	482448	4.9
C16	5.340	-0.005	204117	392474	OR.DIES	(C10-C28)	9209141	48.5
C18	5.954	-0.007	268242	283820				
C20	6.543	-0.006	61351	95012				
C22	7.123	-0.007	27453	56580				
C24	7.695	-0.002	5379	8568				
C25	7.972	-0.002	1900	2385				
C26	8.242	-0.002	725	374				
C28	8.764	0.001	1235	294				
C32	9.713	-0.004	4459	4594				
C34	10.147	-0.008	7029	7616				
Filter Peak	13.963	0.000	14649	5098				
C36	10.572	0.003	8505	3791				
C38	10.978	0.003	12334	4290				
C40	11.441	0.003	13915	4805				
o-terph	6.133	-0.022	2231788	1499503				
Triacon Surr	9.273	-0.004	2529	1233	NAS DIES	(C10-C24)	9143618	48.5

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	1499503	7.4 M
Triacontane	1233	0.0

M Indicates the peak was manually integrated

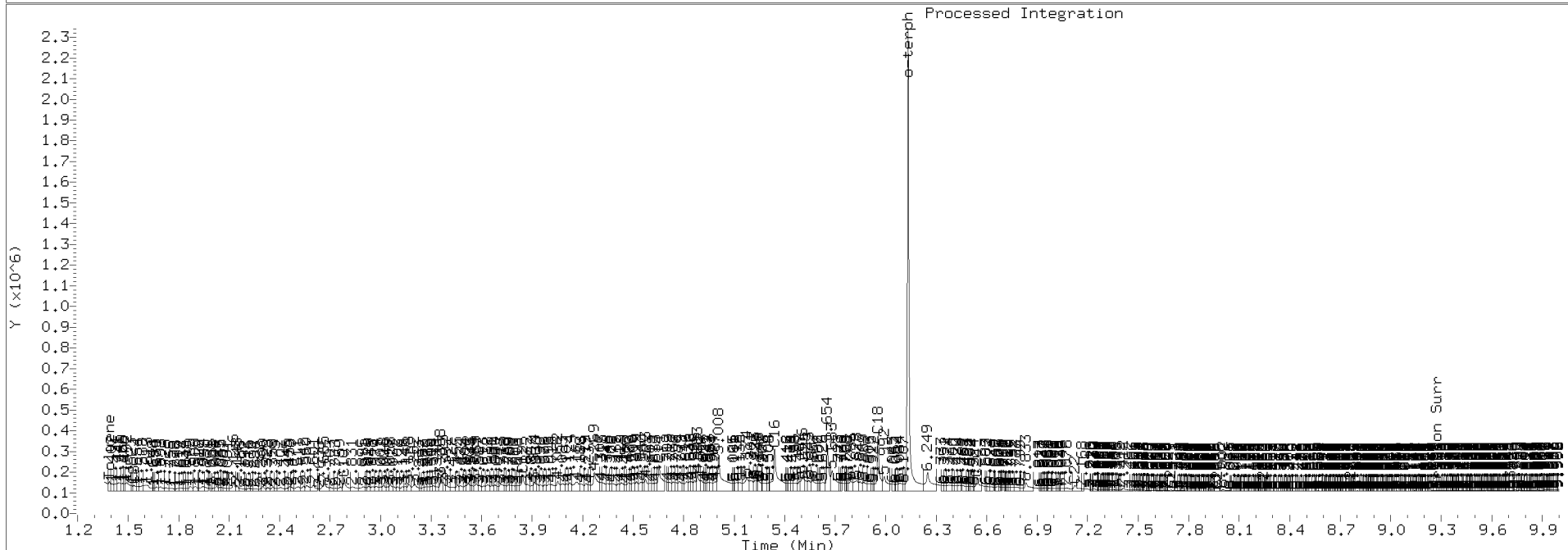
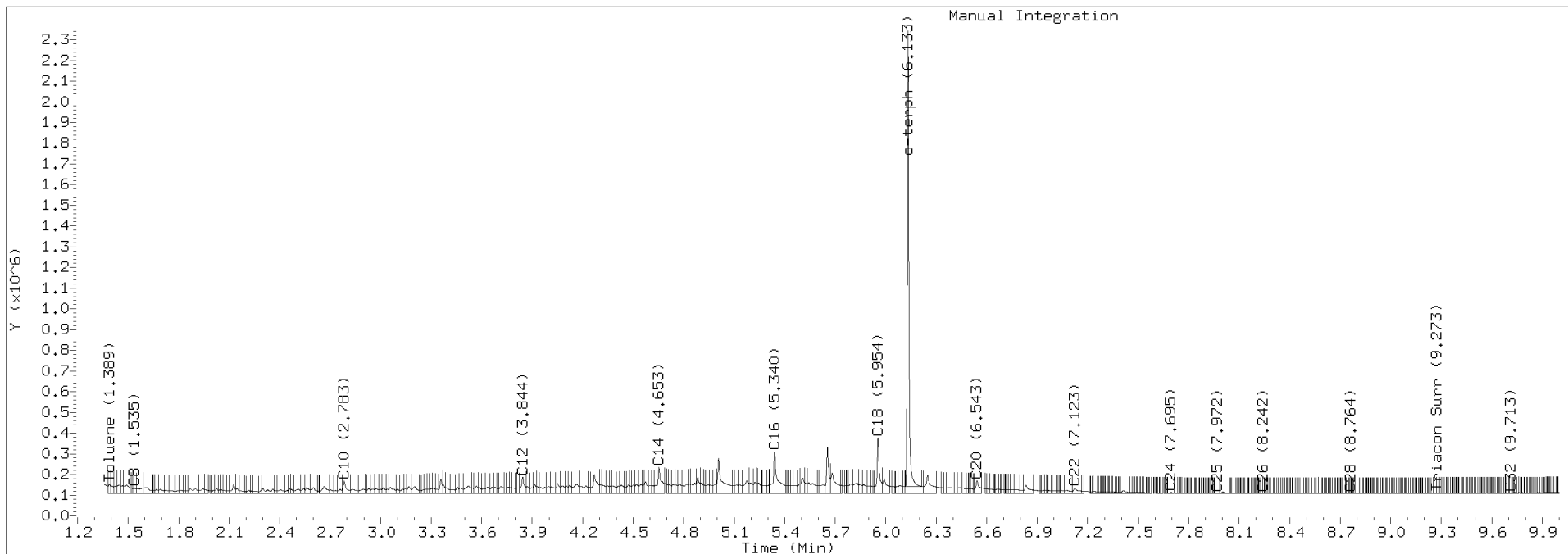
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2005.D Injection: 20-JAN-2022 11:51

Lab ID:SKA0208-CAL1





Data File: \\target\share\chem2\fid4a,1\20220120,b\42282006.D

Date: 20-JAN-2022 12:11

Client ID:

Sample Info: SKR0208-CAL2

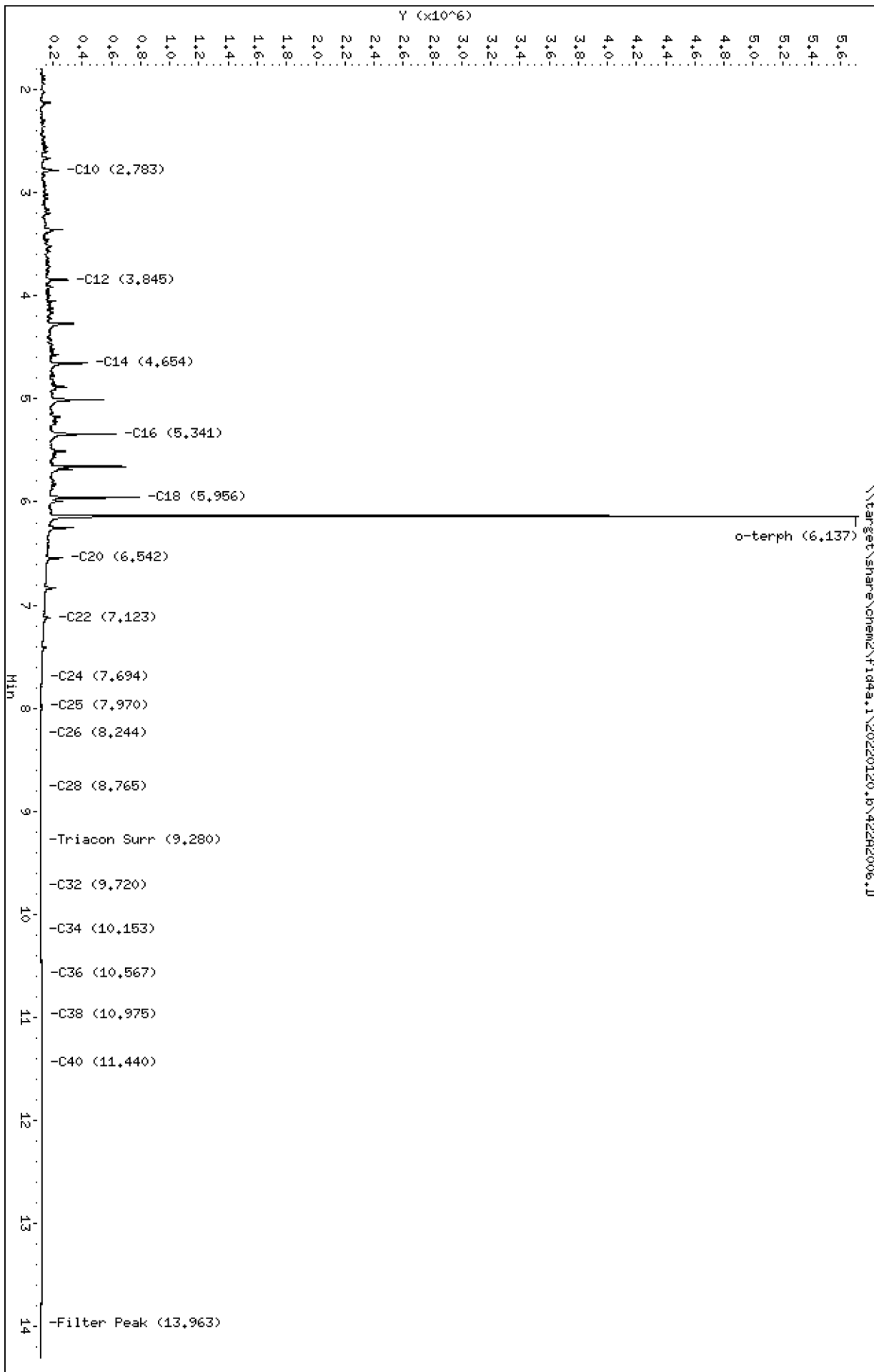
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2006.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL2  
Client ID:  
Injection: 20-JAN-2022 12:11  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

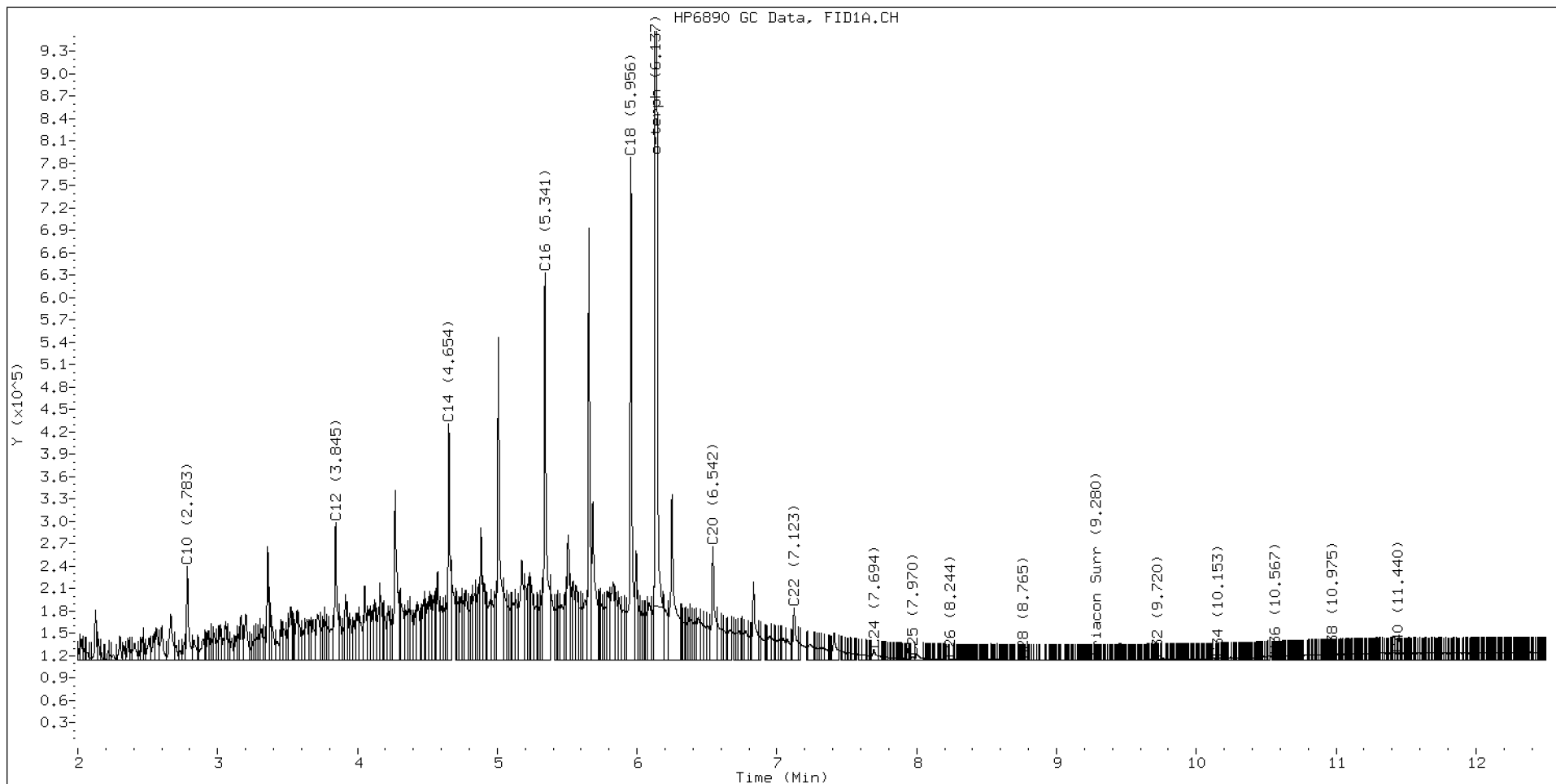
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.552	0.009	16555	16726	WATPHD	(C12-C24)	14707395	92.7
C10	2.783	-0.004	126688	134636	WATPHM	(C24-C38)	469166	3.5
C12	3.845	-0.004	184172	214747	AK102	(C10-C25)	17413082	92.1
C14	4.654	-0.004	317298	320236	AK103	(C25-C36)	269684	2.7
C16	5.341	-0.004	520196	598541	OR.DIES	(C10-C28)	17485049	92.2
C18	5.956	-0.005	674723	654694				
C20	6.542	-0.006	153245	209870				
C22	7.123	-0.007	69858	101420				
C24	7.694	-0.003	13882	26216				
C25	7.970	-0.004	4951	7165				
C26	8.244	-0.000	2511	3354				
C28	8.765	0.001	871	304				
C32	9.720	0.003	1890	752				
C34	10.153	-0.002	2745	1844				
Filter Peak	13.963	0.001	3721	2548				
C36	10.567	-0.001	5488	2082				
C38	10.975	0.001	7723	2304				
C40	11.440	0.002	9453	3292				
o-terph	6.137	-0.018	5533733	3490480				
Triacon Surr	9.280	0.002	571	159	NAS DIES	(C10-C24)	17379670	92.1

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	3490480	17.1 M
Triacontane	159	0.0

M Indicates the peak was manually integrated

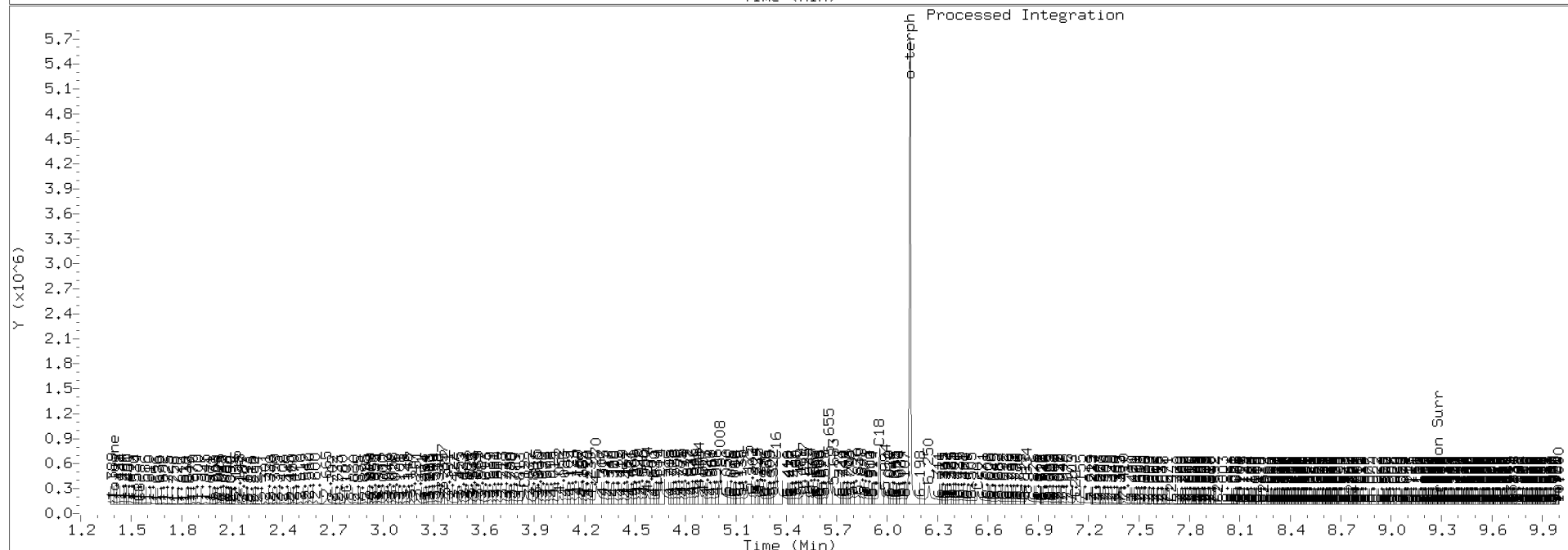
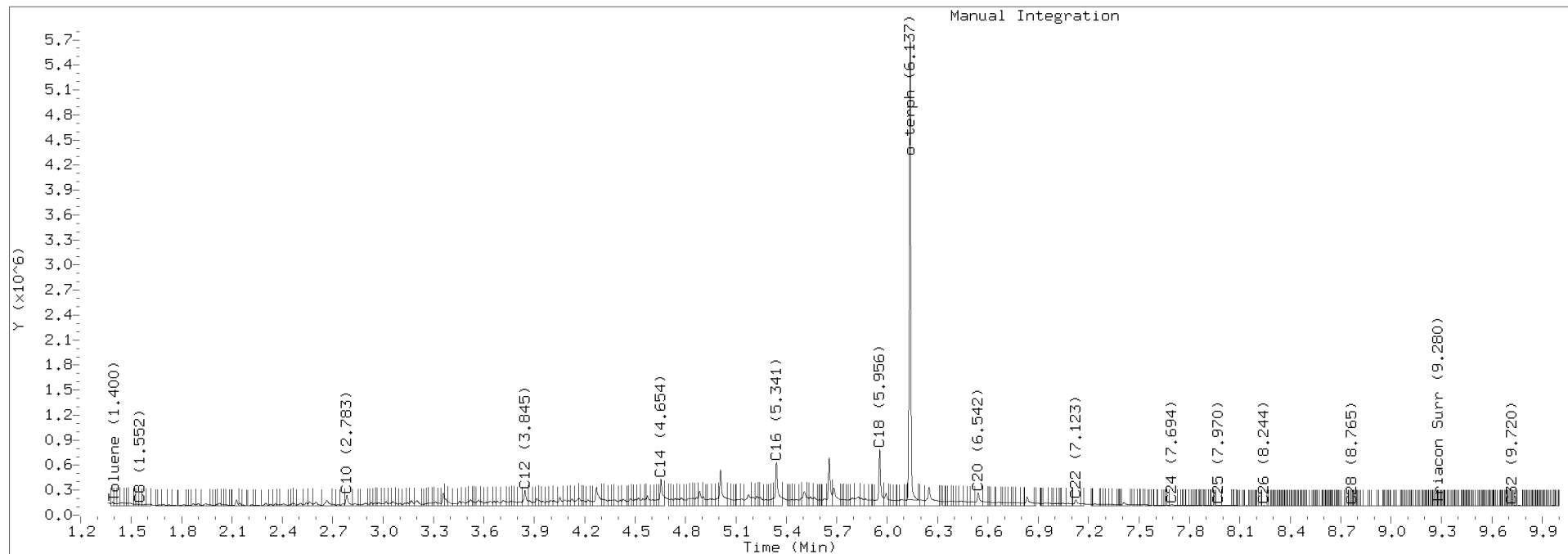
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2006.D Injection: 20-JAN-2022 12:11

Lab ID:SKA0208-CAL2



Data File: \\target\share\chem2\fid4a,1\20220120,8\42282007.D

Date: 20-JAN-2022 12:30

Client ID:

Sample Info: SKR0208-CAL3

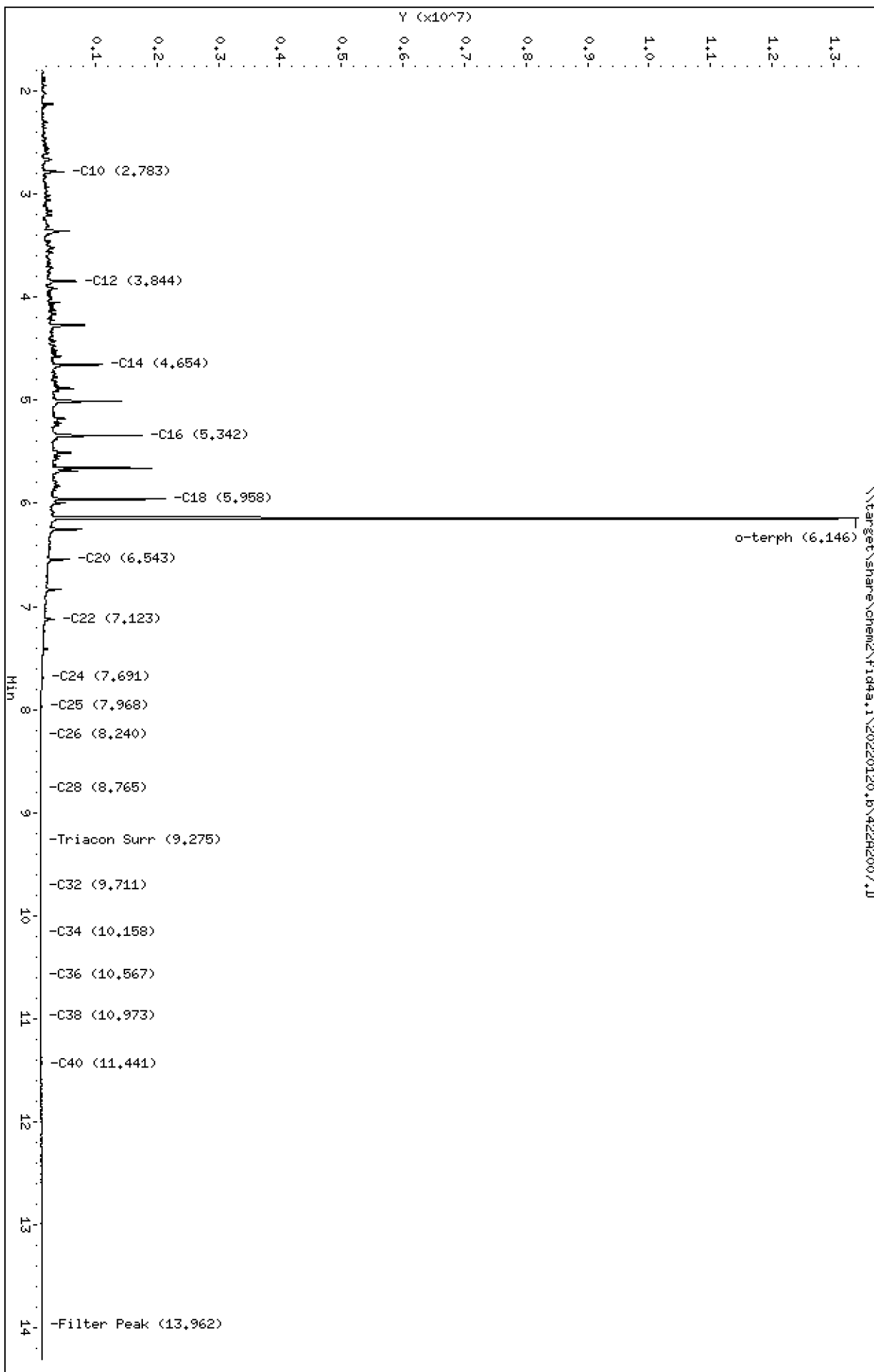
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2007.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL3  
Client ID:  
Injection: 20-JAN-2022 12:30  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

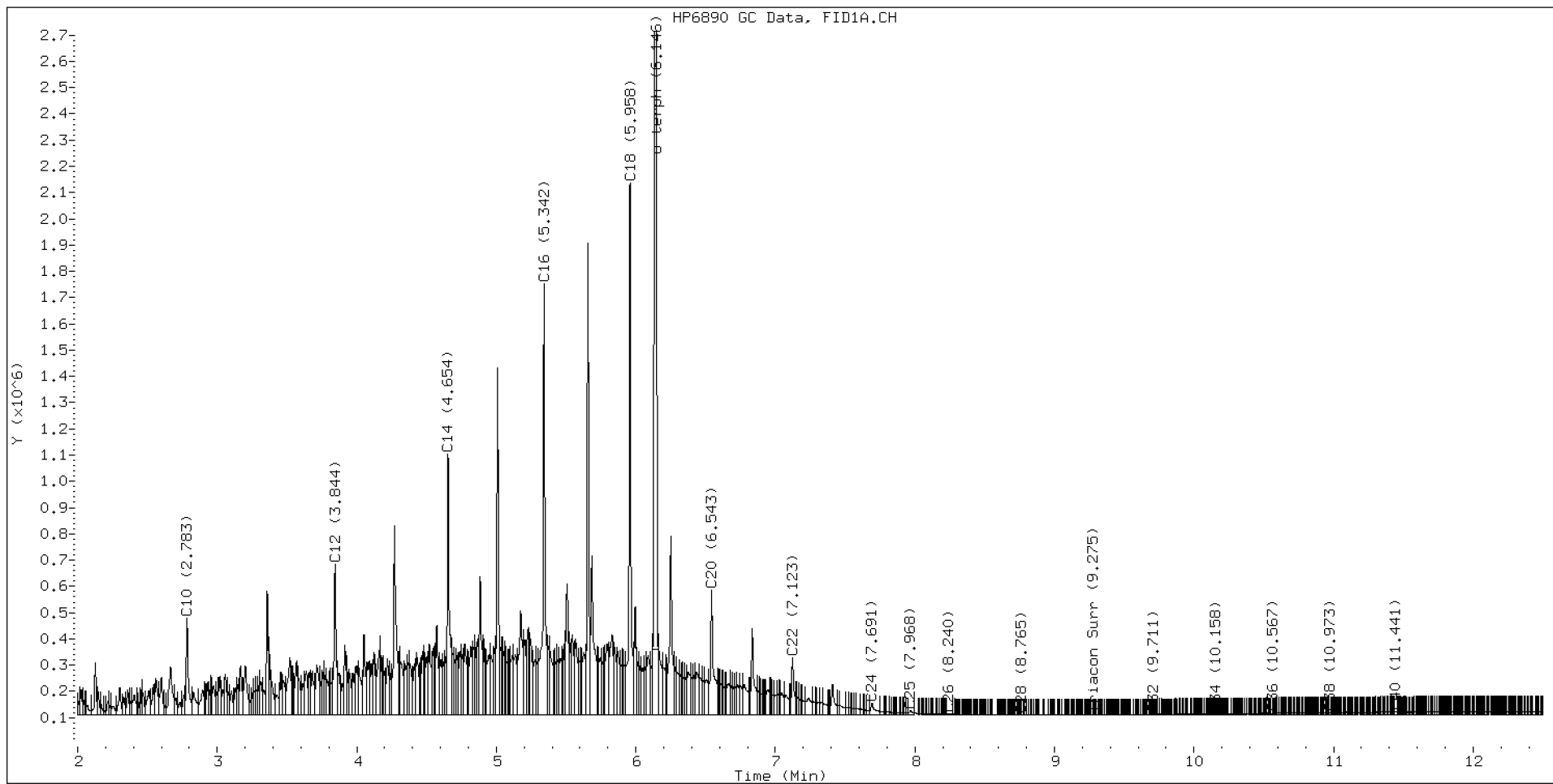
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	51595	42492	WATPHD	(C12-C24)	42908766	270.5
C10	2.783	-0.004	369838	415697	WATPHM	(C24-C38)	683453	5.2
C12	3.844	-0.004	574678	650857	AK102	(C10-C25)	51100202	270.3
C14	4.654	-0.003	992557	1057075	AK103	(C25-C36)	381818	3.9
C16	5.342	-0.003	1641082	1885470	OR.DIES	(C10-C28)	51231288	270.0
C18	5.958	-0.003	2026462	1878870				
C20	6.543	-0.006	475588	745557				
C22	7.123	-0.007	218531	281405				
C24	7.691	-0.006	44690	100420				
C25	7.968	-0.006	16146	27786				
C26	8.240	-0.004	5708	10536				
C28	8.765	0.002	941	568				
C32	9.711	-0.006	2516	1668				
C34	10.158	0.003	3950	1769				
Filter Peak	13.962	-0.001	12364	12175				
C36	10.567	-0.001	6446	3827				
C38	10.973	-0.001	8914	4432				
C40	11.441	0.003	11408	14149				
o-terph	6.146	-0.009	13042333	9641147				
Triacon Surr	9.275	-0.002	679	442	NAS DIES	(C10-C24)	50995409	270.3

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	9641147	47.3 M
Triacontane	442	0.0

M Indicates the peak was manually integrated

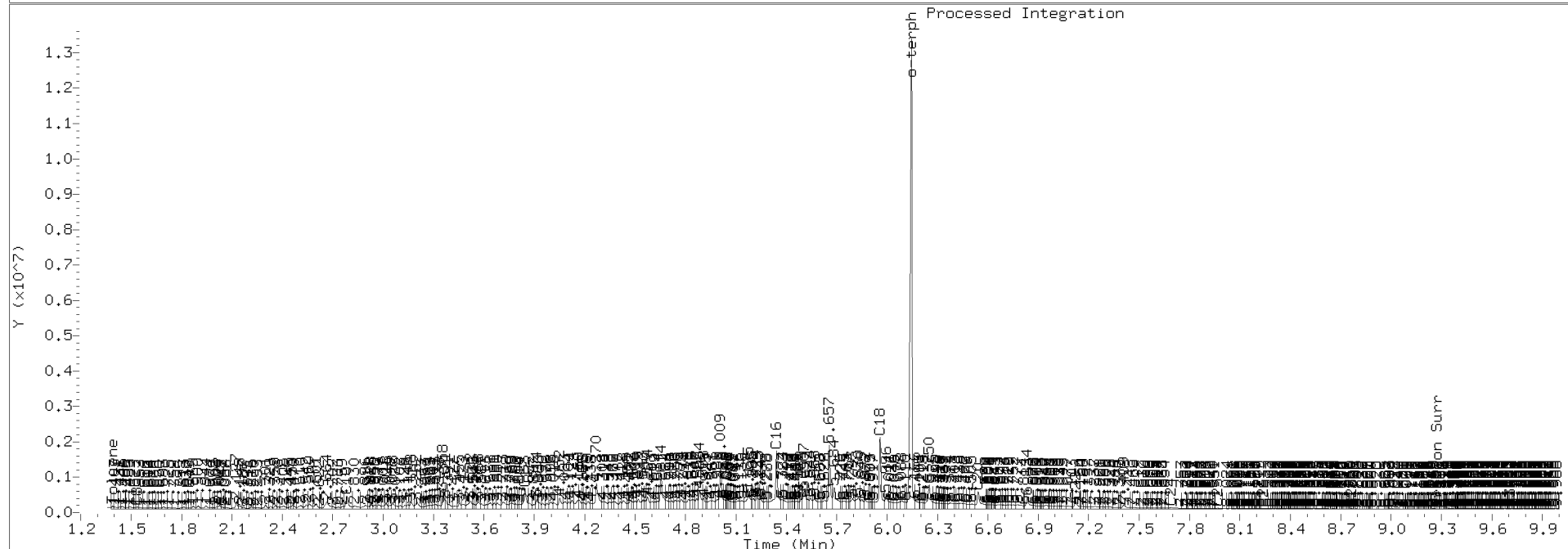
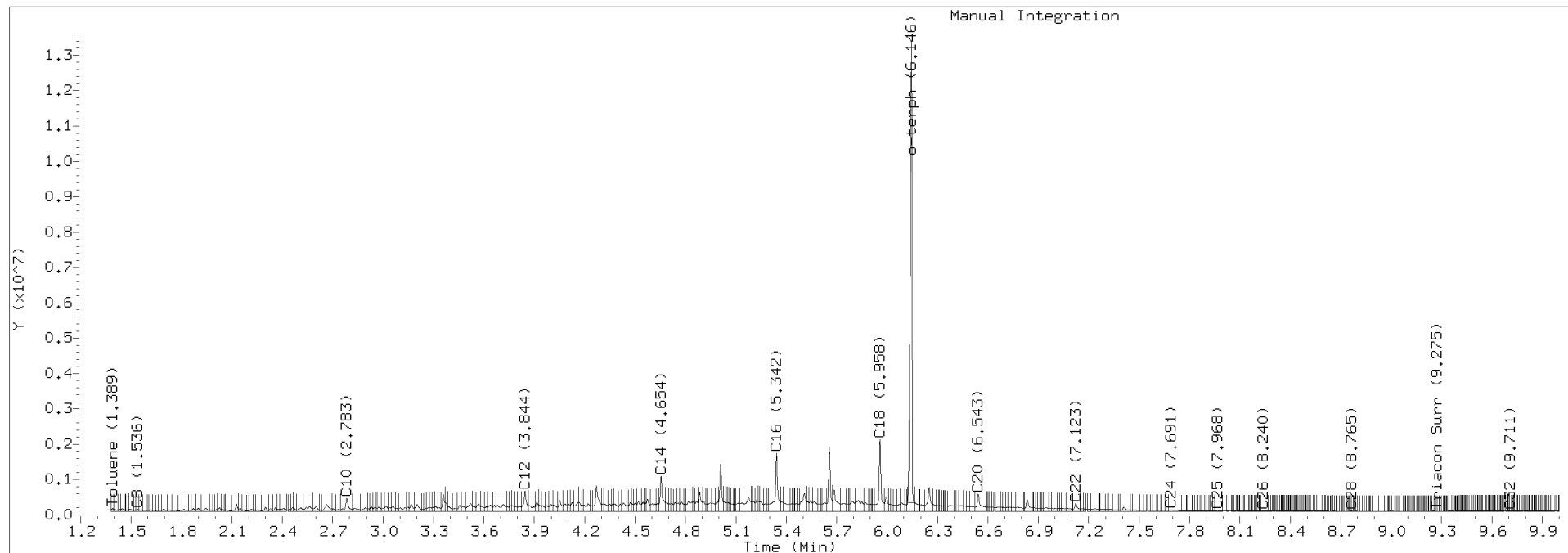
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2007.D Injection: 20-JAN-2022 12:30

Lab ID:SKA0208-CAL3





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282008.D

Date: 20-JAN-2022 12:50

Client ID:

Sample Info: SKR0208-CAL4

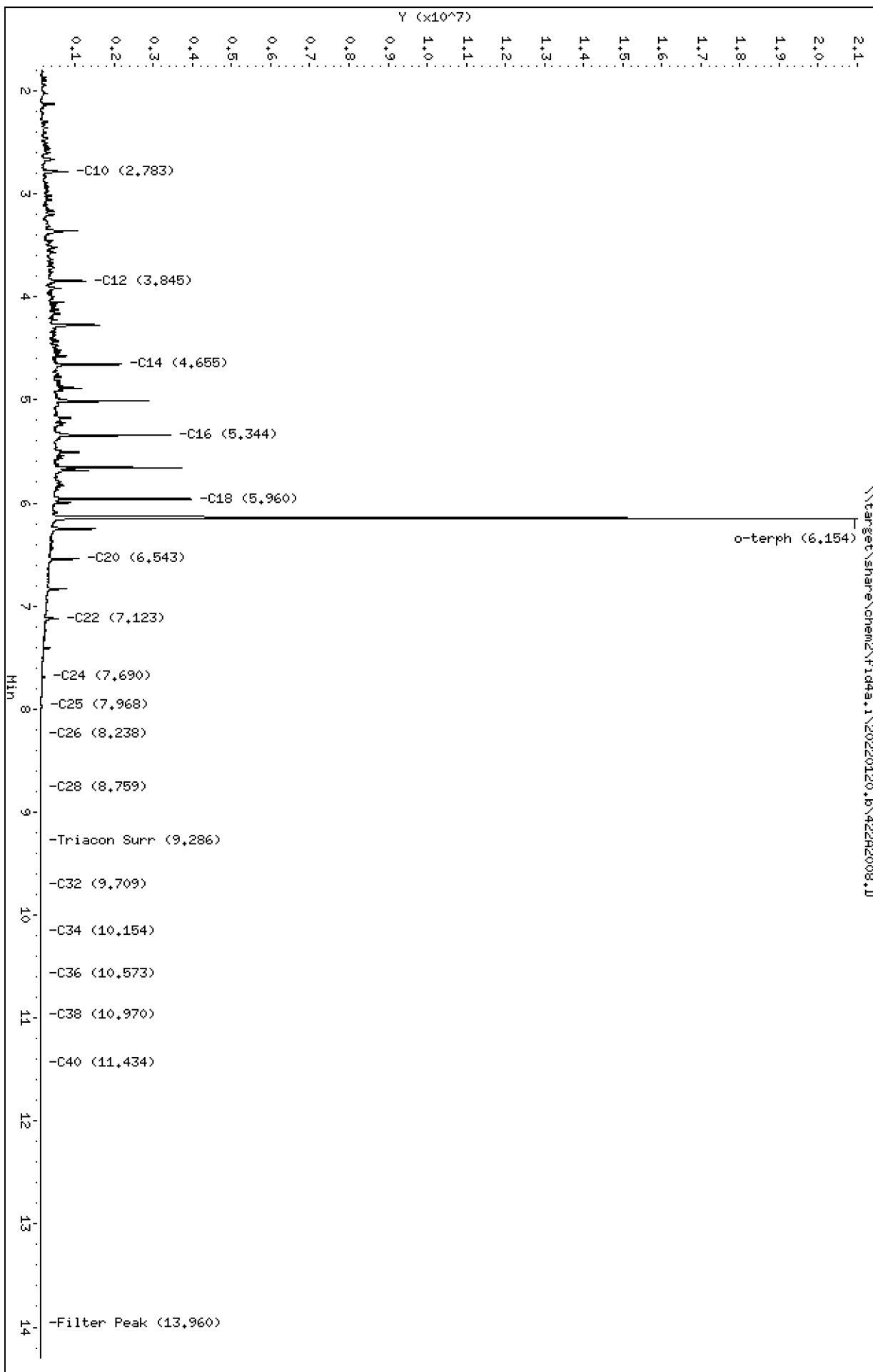
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2008.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL4  
Client ID:  
Injection: 20-JAN-2022 12:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

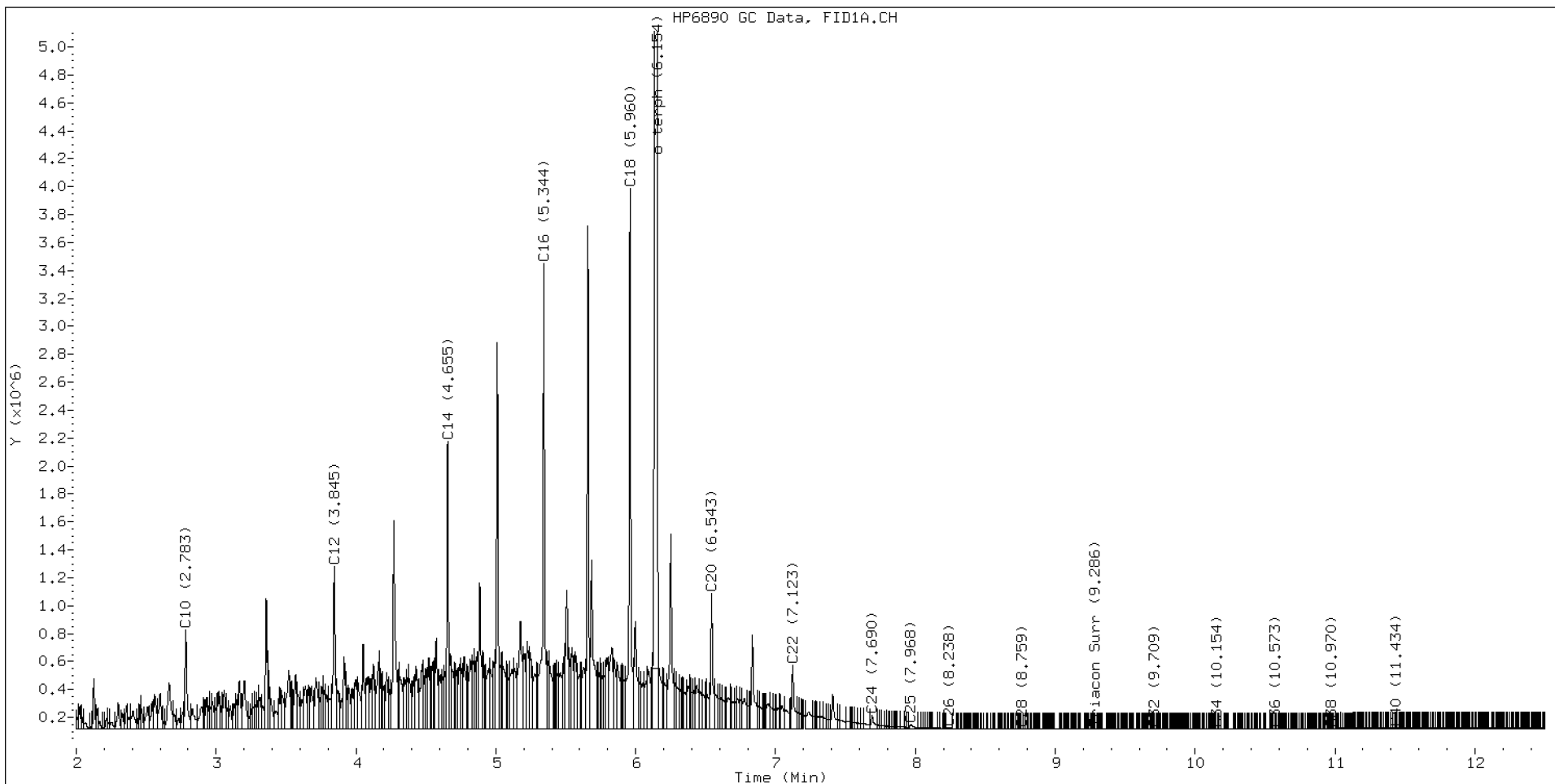
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	75258	48808	WATPHD	(C12-C24)	80641505	508.3
C10	2.783	-0.005	709615	752568	WATPHM	(C24-C38)	806665	6.1
C12	3.845	-0.003	1162593	1251021	AK102	(C10-C25)	95443784	504.8
C14	4.655	-0.002	2057036	1616758	AK103	(C25-C36)	450247	4.6
C16	5.344	-0.001	3337611	3592251	OR.DIES	(C10-C28)	95745351	504.6
C18	5.960	-0.001	3871050	3592934				
C20	6.543	-0.005	976164	1130774				
C22	7.123	-0.007	454765	562620				
C24	7.690	-0.006	98054	161406				
C25	7.968	-0.006	34825	76825				
C26	8.238	-0.006	13218	23450				
C28	8.759	-0.004	2262	1768				
C32	9.709	-0.009	1511	1013				
C34	10.154	-0.001	1891	1092				
Filter Peak	13.960	-0.002	3303	1461				
C36	10.573	0.005	4311	2527				
C38	10.970	-0.004	6542	2594				
C40	11.434	-0.004	8637	4692				
o-terph	6.154	-0.001	20447054	19087067				
Triacon Surr	9.286	0.009	319	198	NAS DIES	(C10-C24)	95228381	504.7

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	19087067	93.7 M
Triacontane	198	0.0

M Indicates the peak was manually integrated

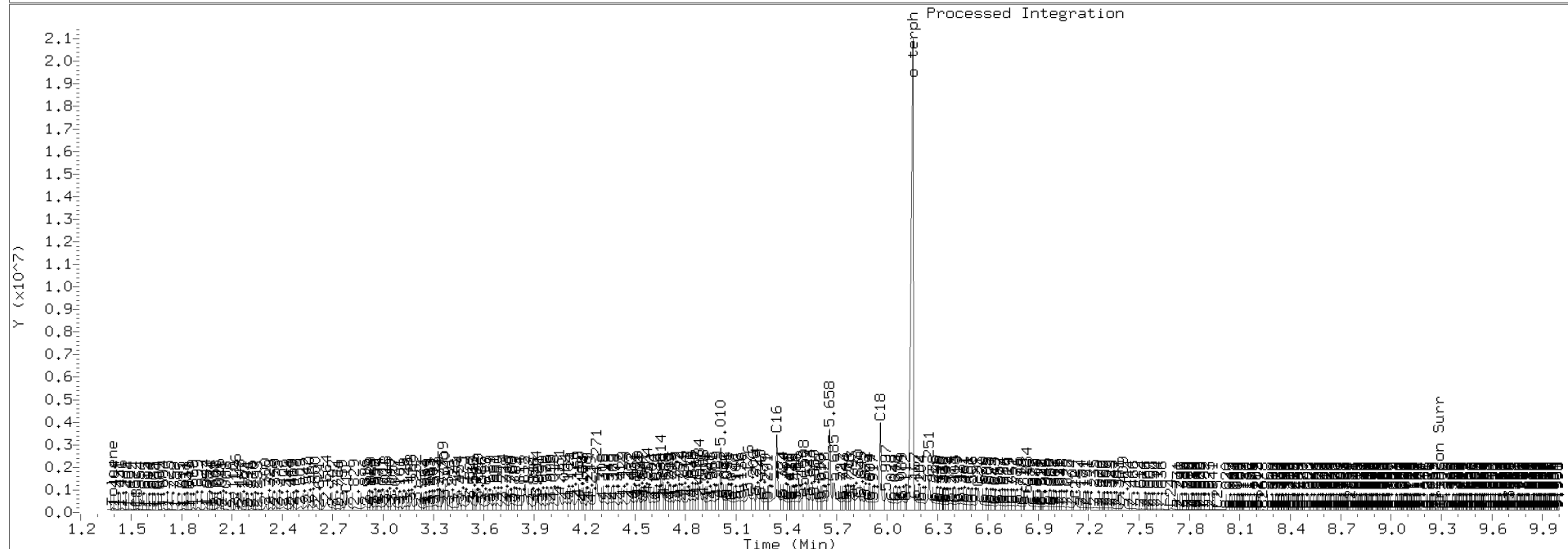
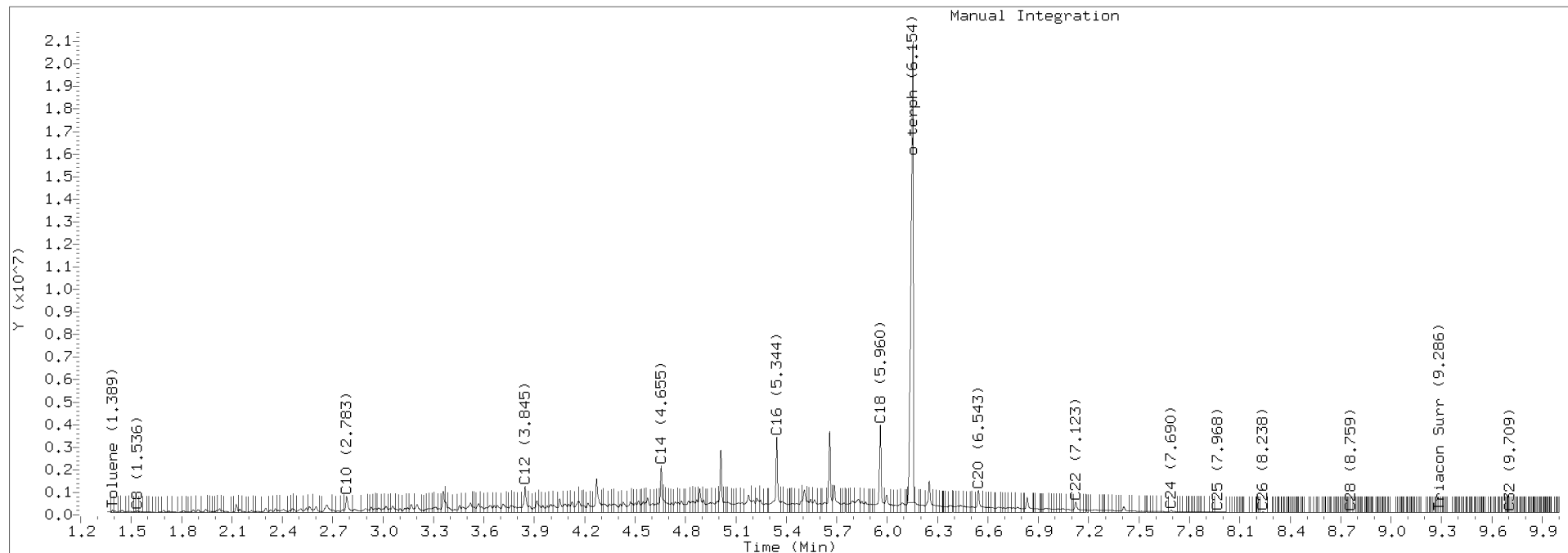
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2008.D Injection: 20-JAN-2022 12:50

Lab ID:SKA0208-CAL4



Data File: \\target\share\chem2\fid4a,1\20220120,b\42282009.D

Date: 20-JAN-2022 13:10

Client ID:

Sample Info: SKR0208-CAL5

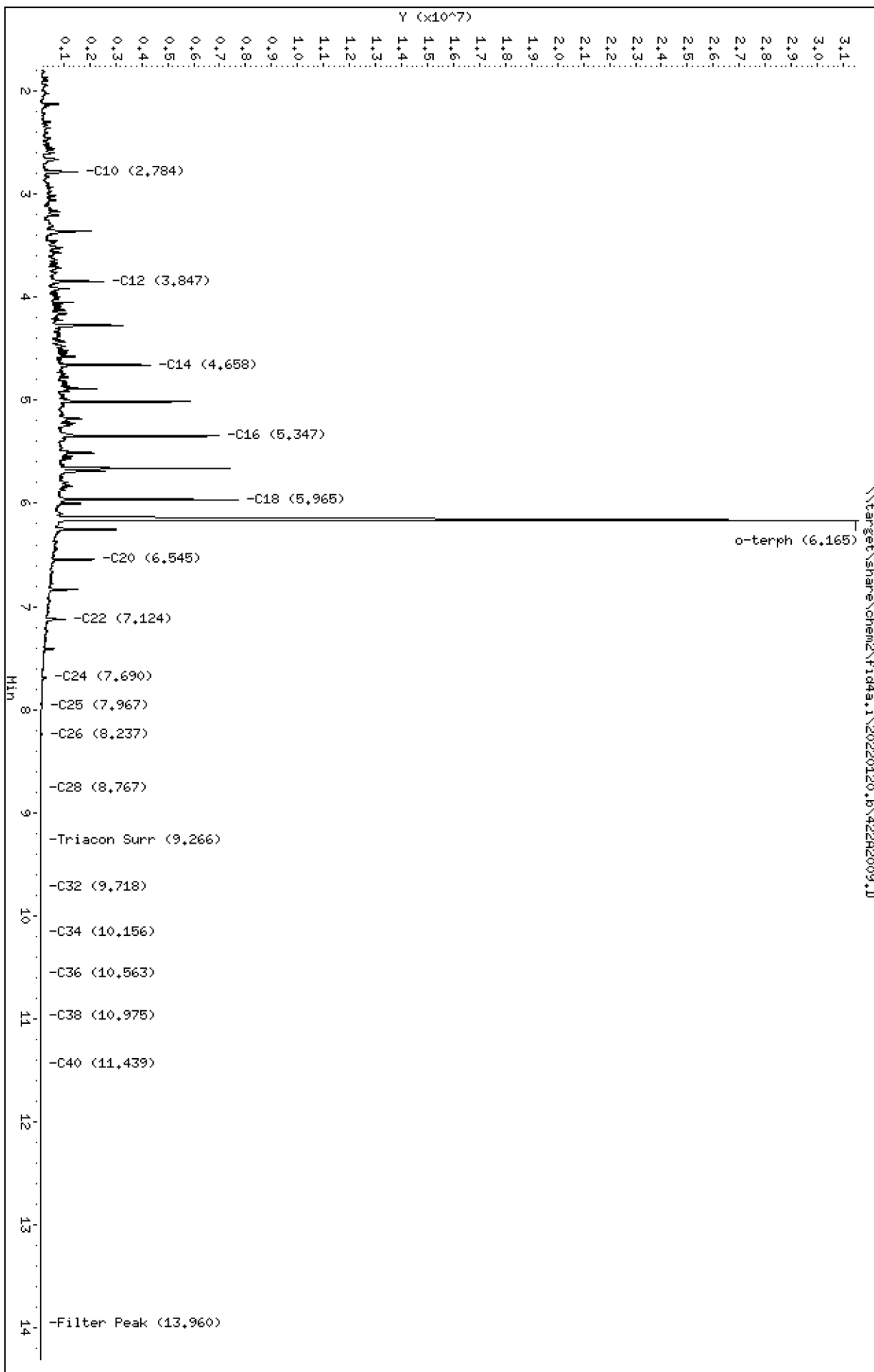
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2009.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL5  
Client ID:  
Injection: 20-JAN-2022 13:10  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

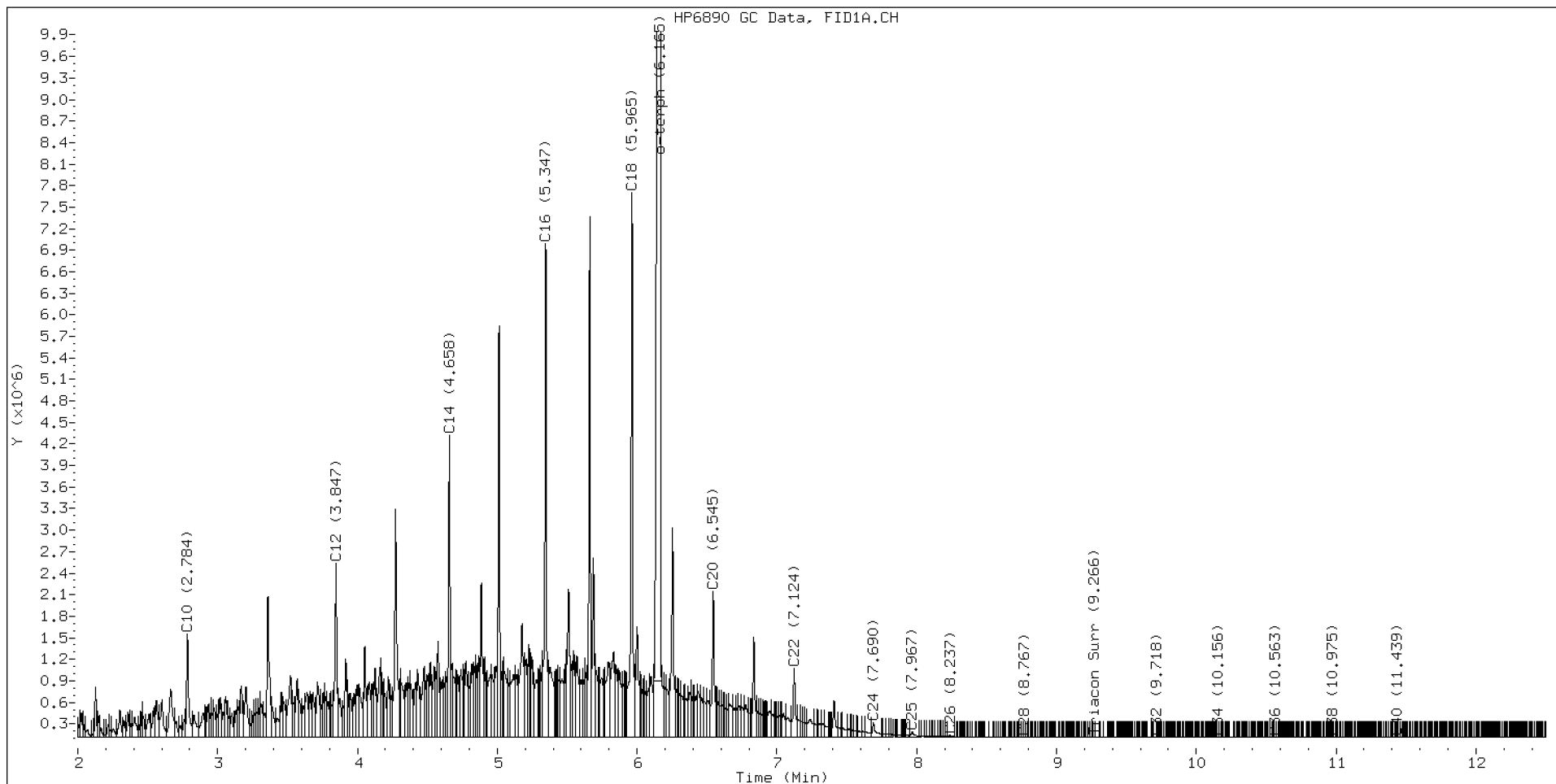
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	149954	98749	WATPHD	(C12-C24)	162430372	1023.9
C10	2.784	-0.004	1439796	1548854	WATPHM	(C24-C38)	1264513	9.5
C12	3.847	-0.001	2421473	2554240	AK102	(C10-C25)	192320848	1017.2
C14	4.658	0.001	4204457	3276272	AK103	(C25-C36)	691204	7.0
C16	5.347	0.002	6879562	5892766	OR.DIES	(C10-C28)	192830179	1016.3
C18	5.965	0.003	7592509	7277681				
C20	6.545	-0.004	2041229	2172658				
C22	7.124	-0.006	960097	1127598				
C24	7.690	-0.006	201208	385652				
C25	7.967	-0.007	73017	142663				
C26	8.237	-0.007	27457	48850				
C28	8.767	0.004	3710	2779				
C32	9.718	0.001	1462	729				
C34	10.156	0.001	2849	1848				
Filter Peak	13.960	-0.002	10288	3572				
C36	10.563	-0.005	5029	2720				
C38	10.975	0.001	7473	2950				
C40	11.439	0.001	9125	4044				
o-terph	6.165	0.011	30678154	39035312				
Triacon Surr	9.266	-0.011	567	367	NAS DIES	(C10-C24)	191911673	1017.2

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	39035312	191.7 M
Triacontane	367	0.0

M Indicates the peak was manually integrated

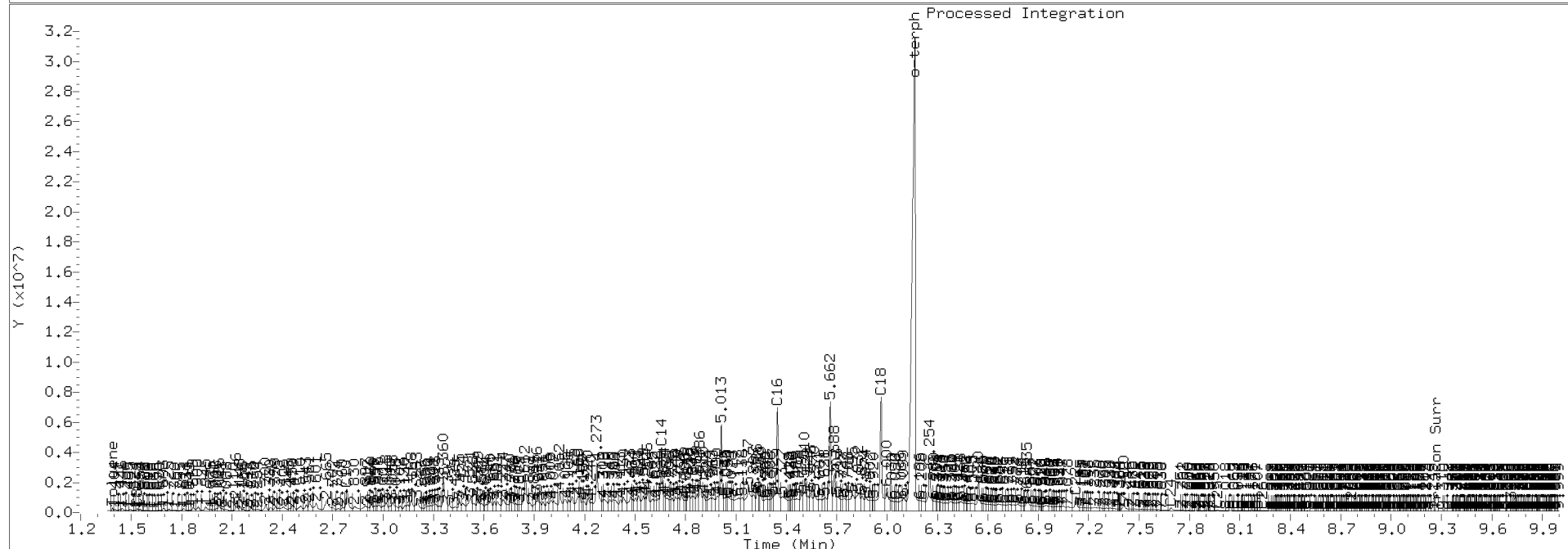
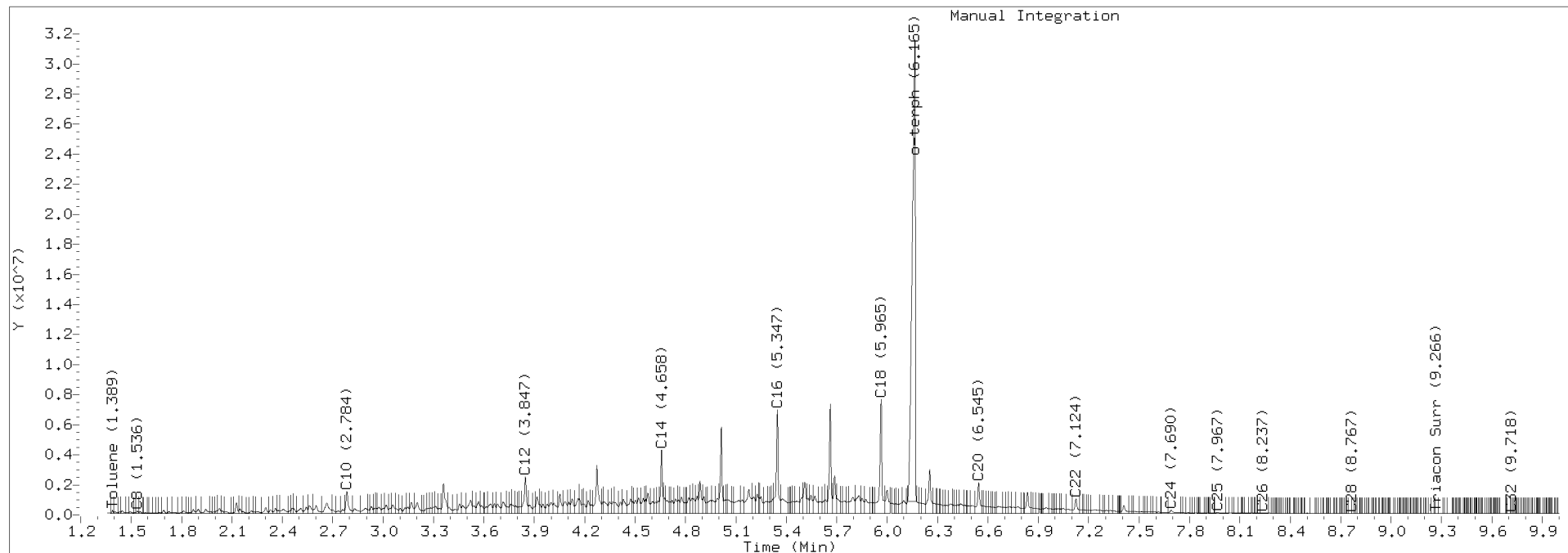
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2009.D Injection: 20-JAN-2022 13:10

Lab ID:SKA0208-CAL5





Data File: \\target\share\chem2\fid4a,1\20220120,b\42282010.D

Date: 20-JAN-2022 13:30

Client ID:

Sample Info: SKR0208-CAL6

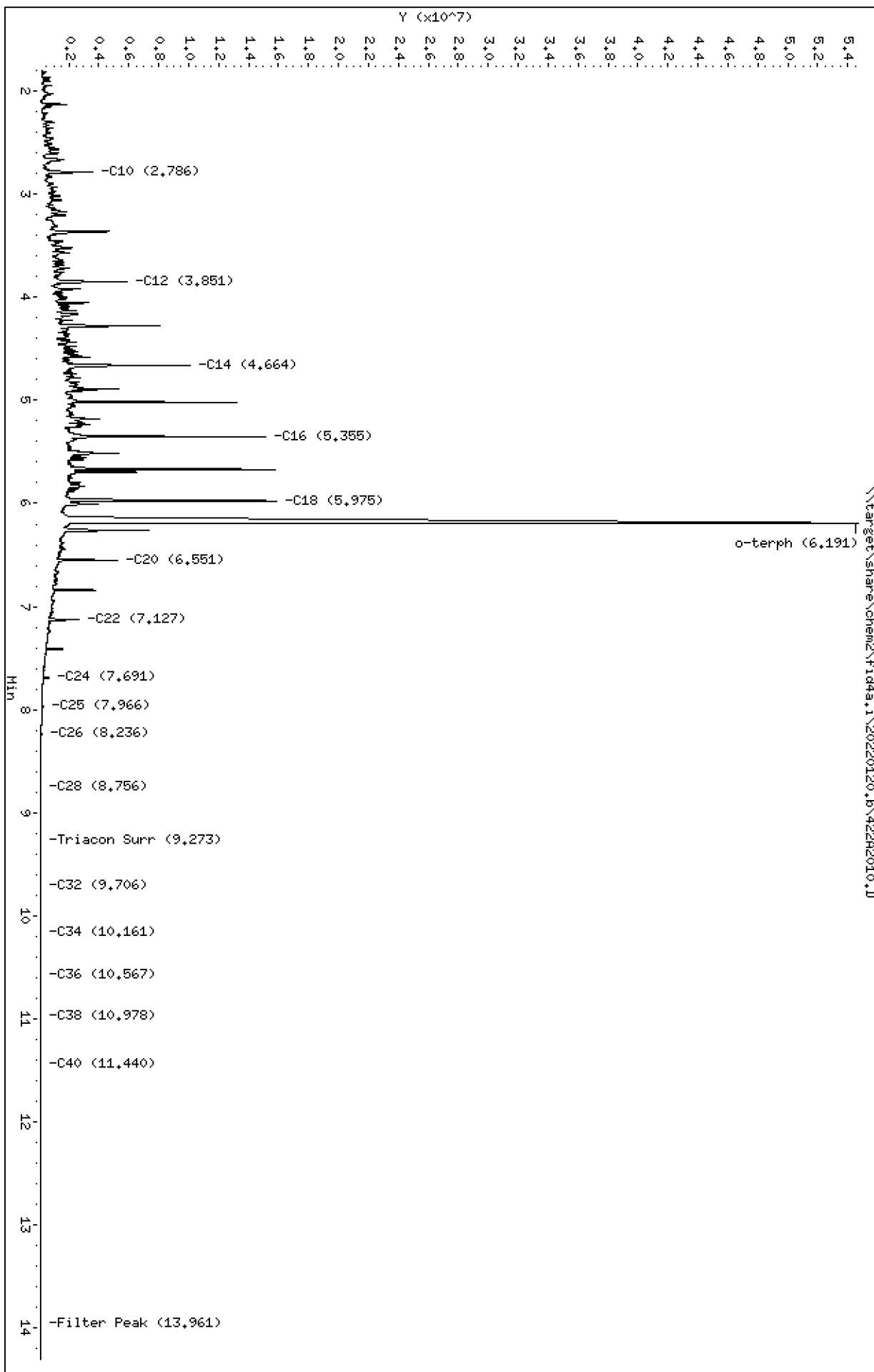
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2010.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL6  
Client ID:  
Injection: 20-JAN-2022 13:30  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

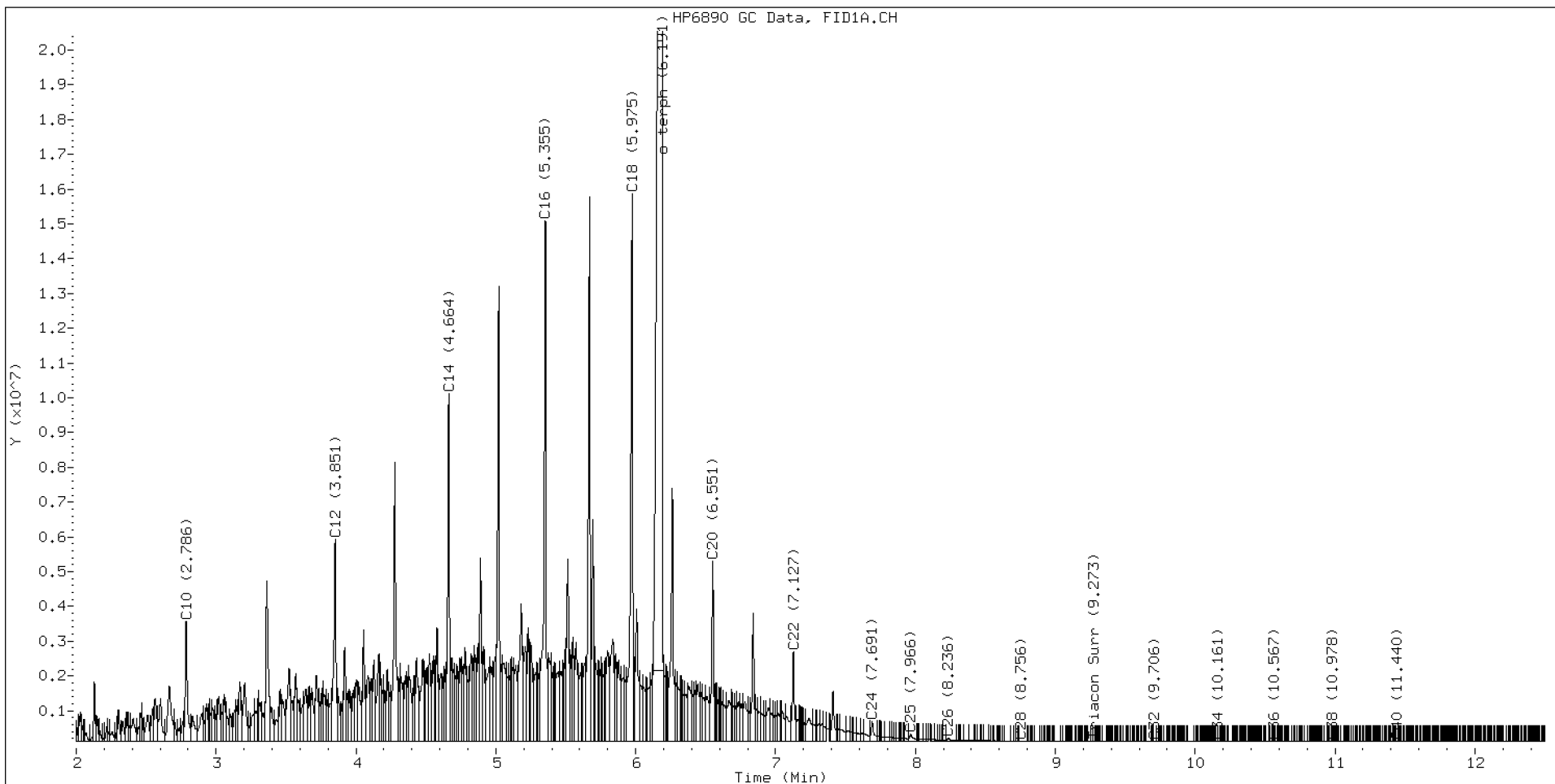
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.542	-0.001	359379	204664	WATPHD	(C12-C24)	401313275	2529.7
C10	2.786	-0.001	3451612	3747918	WATPHM	(C24-C38)	3255893	24.6
C12	3.851	0.003	5804470	6518180	AK102	(C10-C25)	473805635	2505.9
C14	4.664	0.006	9996069	8319063	AK103	(C25-C36)	1903073	19.2
C16	5.355	0.010	14976880	16519865	OR.DIES	(C10-C28)	475446210	2505.7
C18	5.975	0.013	15736444	17182717				
C20	6.551	0.002	5171124	5039701				
C22	7.127	-0.003	2582232	2708319				
C24	7.691	-0.006	575368	871757				
C25	7.966	-0.009	212908	393035				
C26	8.236	-0.008	84474	194854				
C28	8.756	-0.008	15719	40350				
C32	9.706	-0.011	2513	2679				
C34	10.161	0.006	1301	484				
Filter Peak	13.961	-0.002	1223	237				
C36	10.567	-0.001	3163	768				
C38	10.978	0.004	4396	2161				
C40	11.440	0.001	5426	4272				
o-terph	6.191	0.036	52535316	98139839				
Triacon Surr	9.273	-0.004	2245	1221	NAS DIES	(C10-C24)	472550701	2504.6

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	98139839	481.9 M
Triacontane	1221	0.0

M Indicates the peak was manually integrated

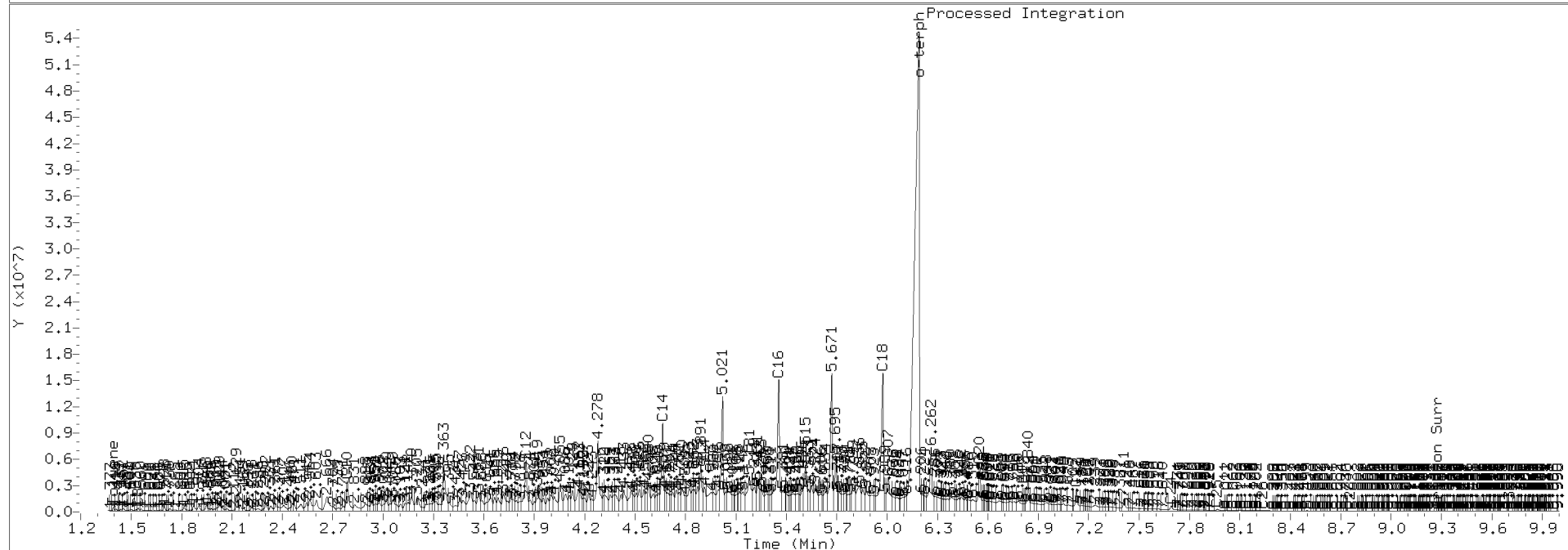
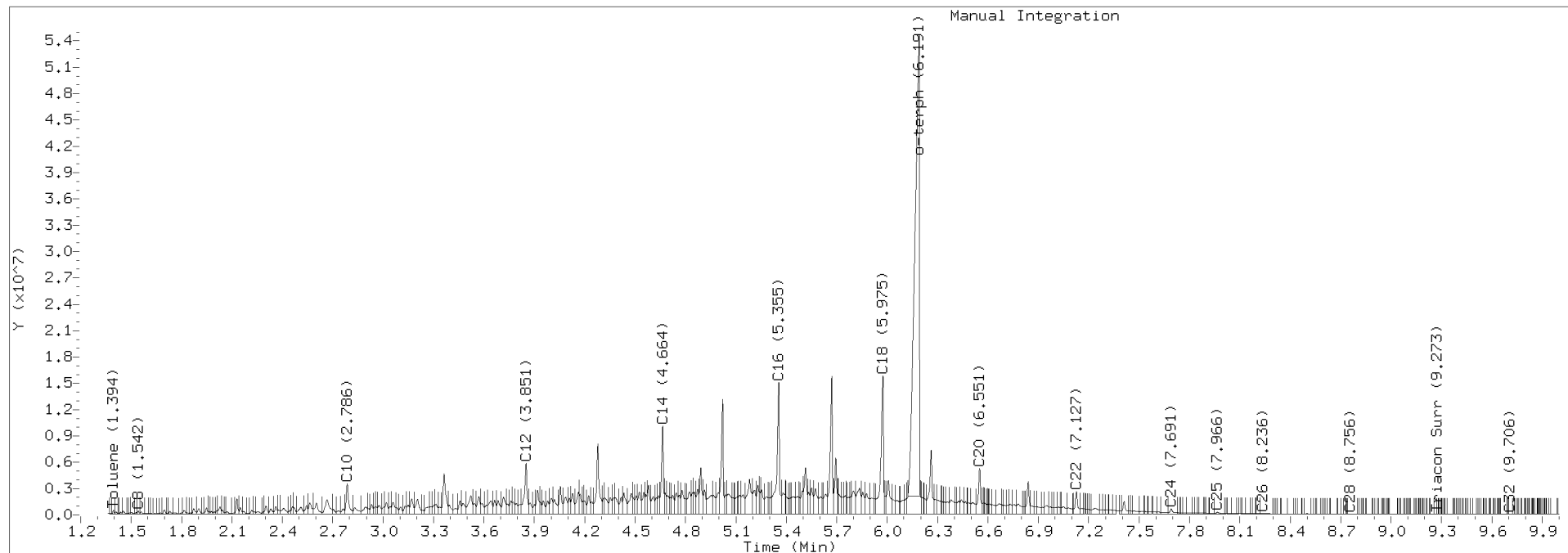
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2010.D Injection: 20-JAN-2022 13:30

Lab ID:SKA0208-CAL6



Data File: \\target\share\chem2\fid4a,1\20220120\_b\42282011.D

Date: 20-JAN-2022 13:50

Client ID:

Sample Info: SKR0208-SCW1

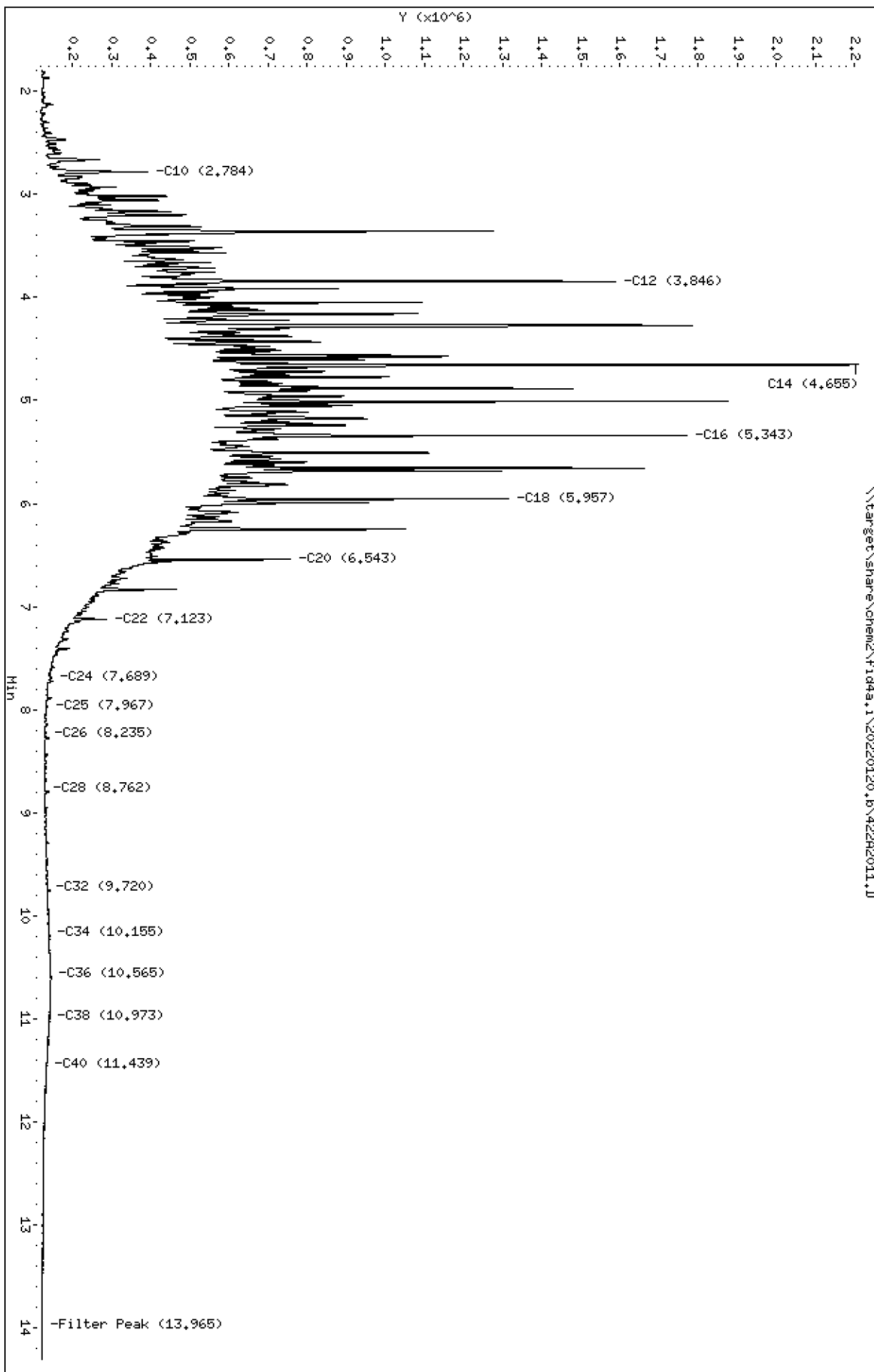
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2011.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-SCV1  
Client ID:  
Injection: 20-JAN-2022 13:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

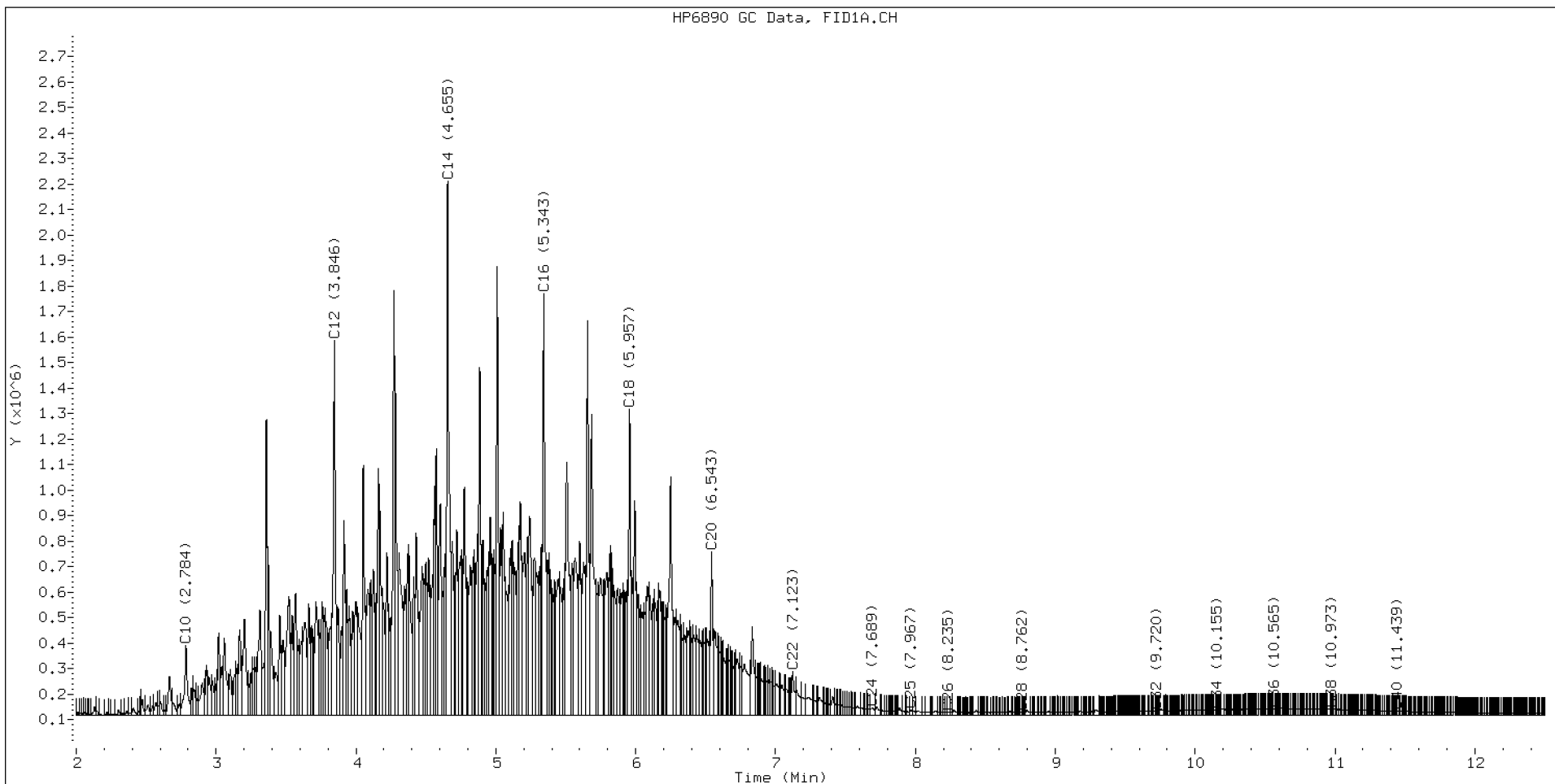
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.544	0.001	18500	21377	WATPHD	(C12-C24)	91791980	578.6
C10	2.784	-0.003	274520	418072	WATPHM	(C24-C38)	3249567	24.5
C12	3.846	-0.002	1470041	1730655	AK102	(C10-C25)	109259392	577.9
C14	4.655	-0.002	2091691	2520186	AK103	(C25-C36)	2486512	25.1
C16	5.343	-0.002	1652289	1980684	OR.DIES	(C10-C28)	109898714	579.2
C18	5.957	-0.005	1198312	1177531				
C20	6.543	-0.006	639233	695730				
C22	7.123	-0.007	169547	241250				
C24	7.689	-0.007	28257	52637				
C25	7.967	-0.007	19233	25038				
C26	8.235	-0.009	12361	12259				
C28	8.762	-0.002	11738	2920				
C32	9.720	0.003	17524	10151				
C34	10.155	0.000	21103	7290				
Filter Peak	13.965	0.003	4638	1151				
C36	10.565	-0.003	24473	16973				
C38	10.973	-0.002	22520	6721				
C40	11.439	0.001	15551	3097				
o-terph	----							
Triacon Surr	----				NAS DIES	(C10-C24)	109074547	578.1

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





ANALYSIS SEQUENCE

SKA0028

Instrument: FID4  
Calibration ID: FA00013

Printed: 1/7/2022 6:12:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-IBL1	QC		1		J002430			
SKA0028-IBL2	QC		2		J012751			
SKA0028-CAL1	QC		3		K000192			
SKA0028-CAL2	QC		4		K000193			
SKA0028-CAL3	QC		5		K000194			
SKA0028-CAL4	QC		6		K000195			
SKA0028-CAL5	QC		7		K000196			
SKA0028-CAL6	QC		8		J012752			
SKA0028-CAL7	QC		9		J011839			
SKA0028-CAL8	QC		10		J011838			
SKA0028-CAL9	QC		11		J011837			
SKA0028-CALA	QC		12		J011836			
SKA0028-CALB	QC		13		J011835			
SKA0028-CALC	QC		14		J010293			
SKA0028-SCV1	QC		15		J009677			
SKA0028-SCV2	QC		16		J012167			
SKA0028-CALD	QC		17		J012178			
SKA0028-CALE	QC		18		J012179			
SKA0028-CALF	QC		19		J012180			
SKA0028-CALG	QC		20		J012181			
SKA0028-CALH	QC		21		J012182			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_





**ANALYSIS SEQUENCE**

**SKA0028**

Instrument: FID4  
Calibration ID: FA00013

**Printed: 1/7/2022 6:12:45PM**

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
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SKA0028-SCV3	QC		23		J012184			

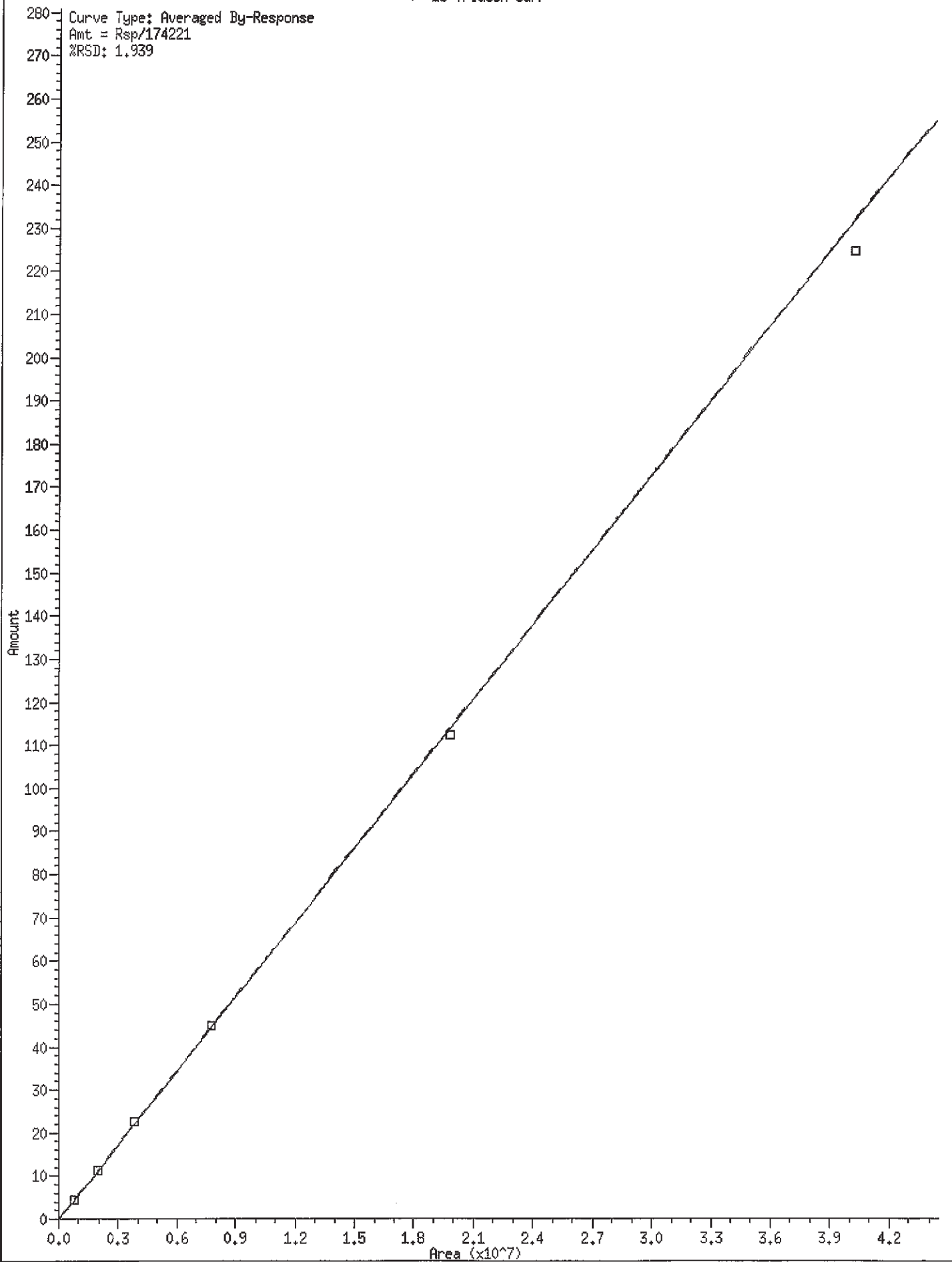
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Samples Loaded By                                  Date

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Data Processed By                                  Date

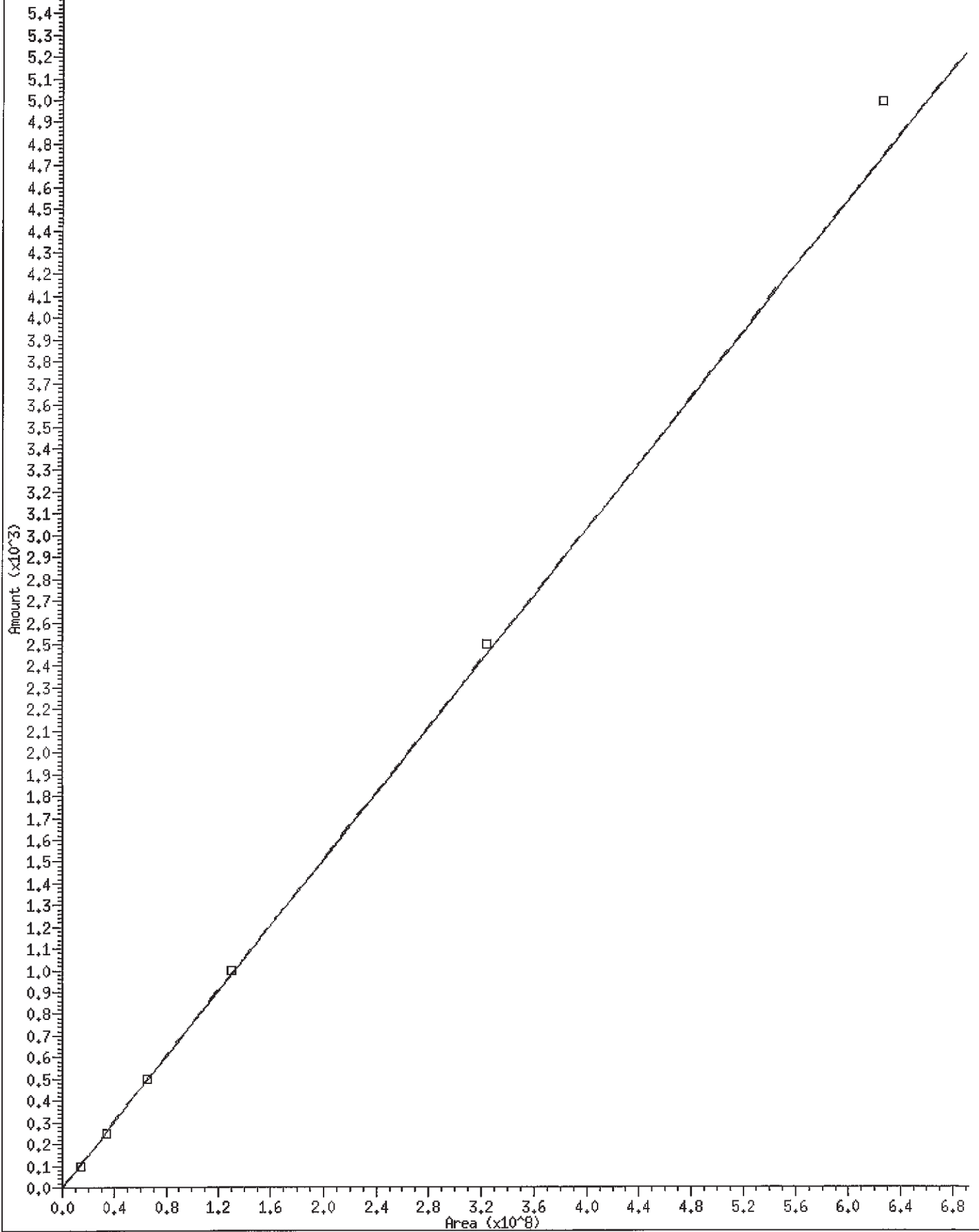
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1	06-JAN-2022	09:20	422A0601.D	1	RINSE	
2	06-JAN-2022	09:40	422A0602.D	1	RINSE	
3	06-JAN-2022	09:59	422A0603.D	1	SKA0028-IBL1	
4	06-JAN-2022	10:19	422A0604.D	1	SKA0028-IBL2	
5	06-JAN-2022	10:39	422A0605.D	1	SKA0028-ICV1	
6	06-JAN-2022	10:59	422A0606.D	1	SKA0028-ICV2	
7	06-JAN-2022	11:19	422A0607.D	1	BKA0056-BLK1	
8	06-JAN-2022	11:38	422A0608.D	1	BKA0056-BS1	
9	06-JAN-2022	11:58	422A0609.D	1	BKA0056-MRL1	
10	06-JAN-2022	12:18	422A0610.D	1	BKA0056-MRL2	
11	06-JAN-2022	12:38	422A0611.D	1	22A0041-01	
12	06-JAN-2022	12:58	422A0612.D	10	22A0041-01	
13	06-JAN-2022	13:17	422A0613.D	10	22A0041-02	
14	06-JAN-2022	13:37	422A0614.D	20	22A0041-01	
15	06-JAN-2022	13:57	422A0615.D	20	22A0041-02	
16	06-JAN-2022	14:17	422A0616.D	20	22A0041-03	
17	06-JAN-2022	14:37	422A0617.D	20	22A0041-04	
18	06-JAN-2022	14:56	422A0618.D	1	SKA0028-CCV1	
19	06-JAN-2022	15:16	422A0619.D	1	SKA0028-CCV2	
20	06-JAN-2022	17:04	422A0620.D	1	SKA0028-CAL1	
21	06-JAN-2022	17:24	422A0621.D	1	SKA0028-CAL2	
22	06-JAN-2022	17:44	422A0622.D	1	SKA0028-CAL3	
23	06-JAN-2022	18:04	422A0623.D	1	SKA0028-CAL4	
24	06-JAN-2022	18:23	422A0624.D	1	SKA0028-CAL5	
25	06-JAN-2022	18:43	422A0625.D	1	SKA0028-CAL6	
26	06-JAN-2022	19:03	422A0626.D	1	SKA0028-CAL7	
27	06-JAN-2022	19:23	422A0627.D	1	SKA0028-CAL8	
28	06-JAN-2022	19:43	422A0628.D	1	SKA0028-CAL9	
29	06-JAN-2022	20:02	422A0629.D	1	SKA0028-CALA	
30	06-JAN-2022	20:22	422A0630.D	1	SKA0028-CALB	
31	06-JAN-2022	20:42	422A0631.D	1	SKA0028-CALC	
32	06-JAN-2022	21:02	422A0632.D	1	SKA0028-SCV1	
33	06-JAN-2022	21:21	422A0633.D	1	SKA0028-SCV2	
34	06-JAN-2022	21:41	422A0634.D	1	SKA0028-CALD	
35	06-JAN-2022	22:01	422A0635.D	1	SKA0028-CALE	
36	06-JAN-2022	22:21	422A0636.D	1	SKA0028-CALF	
37	06-JAN-2022	22:40	422A0637.D	1	SKA0028-CALG	
38	06-JAN-2022	23:00	422A0638.D	1	SKA0028-CALH	
39	06-JAN-2022	23:20	422A0639.D	1	SKA0028-CALI	
40	06-JAN-2022	23:40	422A0640.D	1	SKA0028-SCV3	

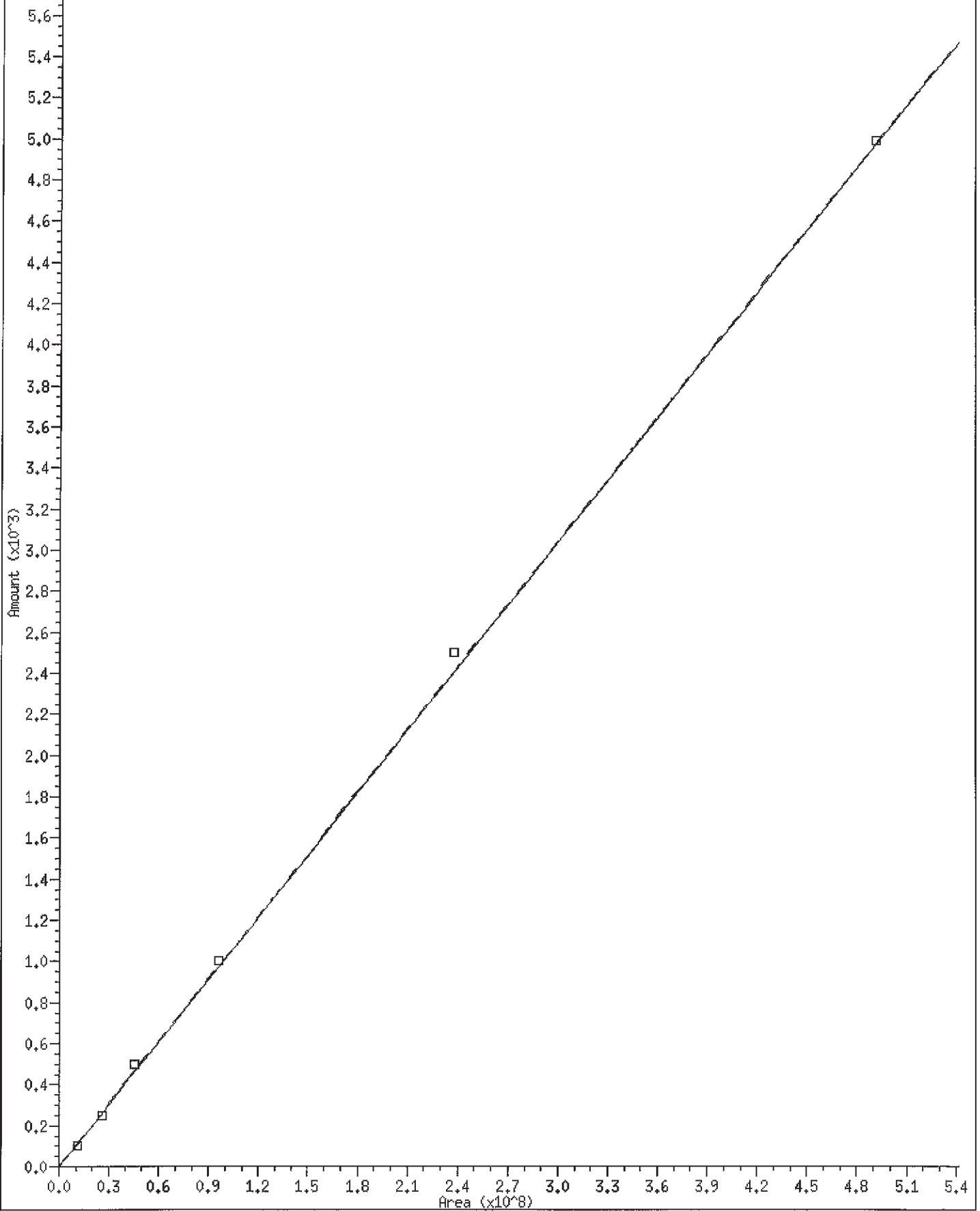
\* 15 Triacon Surr



5.7 Curve Type: Averaged By-Response  
5.6 Amt = Rsp/132579.1  
5.5 %RSD: 4.906



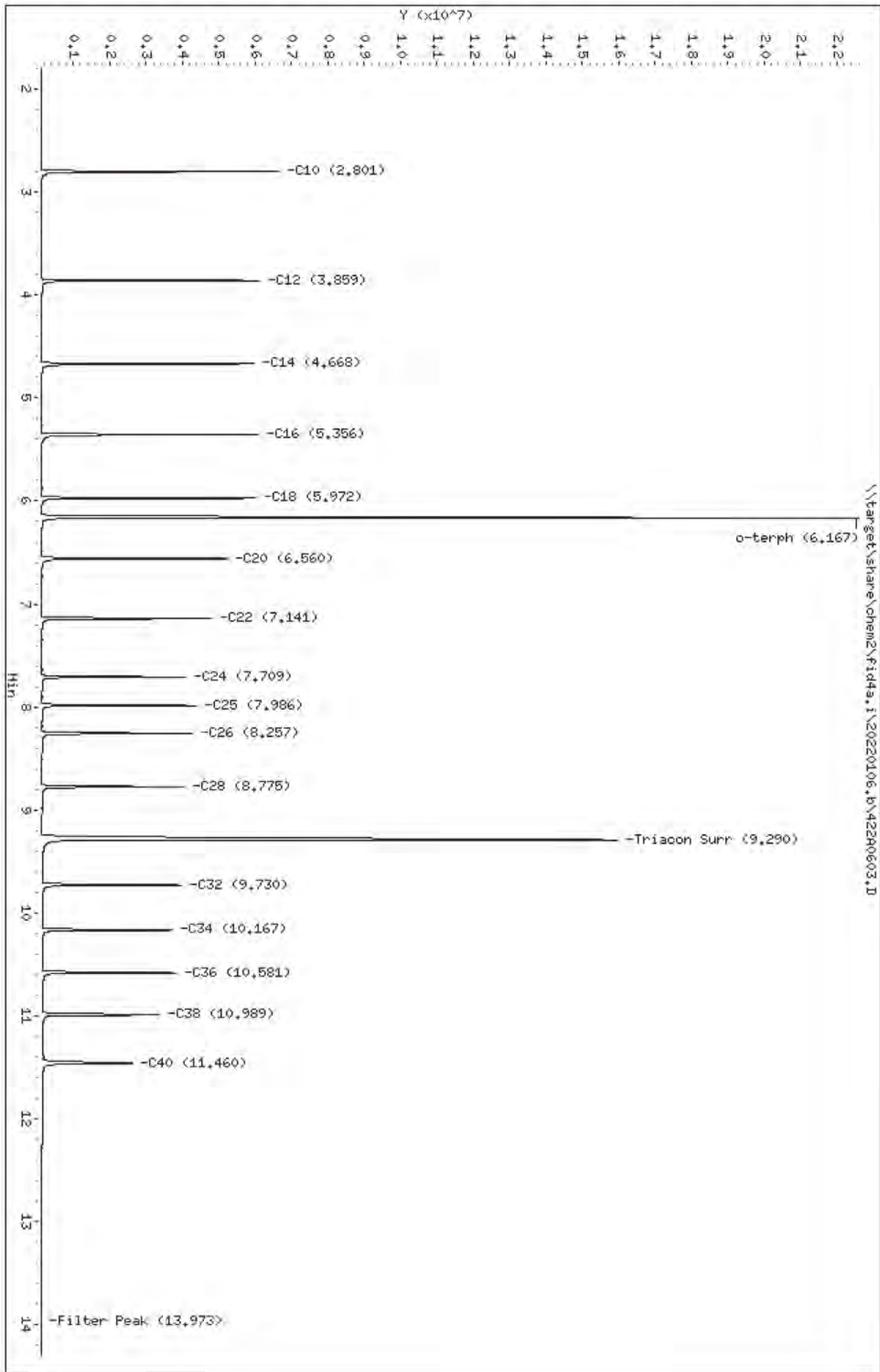
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%RSD: 6.416



Data File: \\target\share\chem2\fid4s.1\20220106.b\42240603.D  
Date: 06-JUN-2022 09:59  
Client ID:  
Sample Info: SKA0028-IBL1

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0603.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL1  
Client ID:  
Injection: 06-JAN-2022 09:59  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

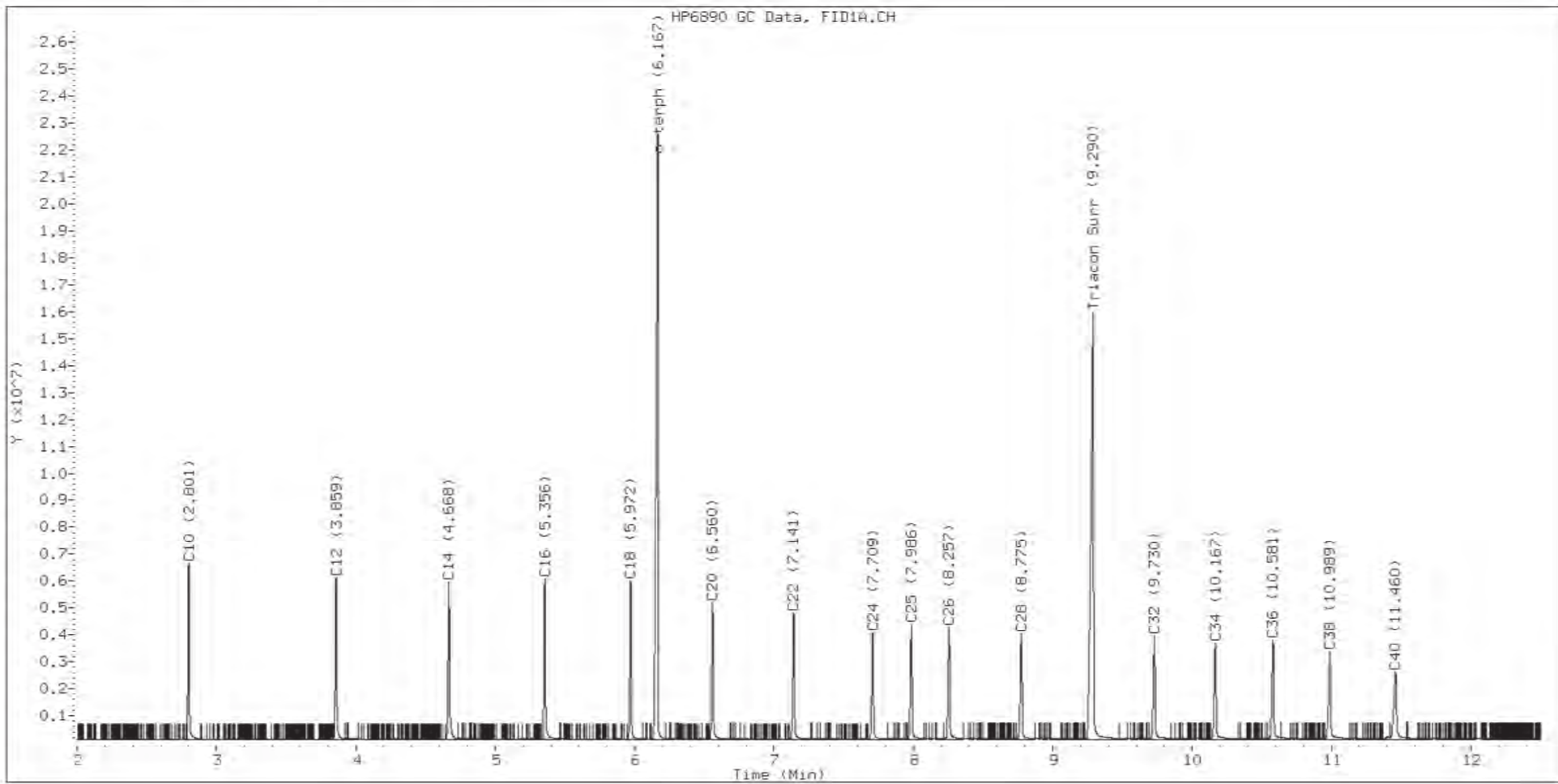
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	6713601	4039787	WATPHD	(C12-C24)	25039660	171.8
C10	2.801	0.000	6536883	4315633	WATPHM	(C24-C38)	28366853	214.0
C12	3.859	0.000	5996498	4131476	AK102	(C10-C25)	33798538	196.2
C14	4.668	0.000	5854462	4184820	AK103	(C25-C36)	23829494	240.9
C16	5.356	0.000	5963937	4127029	OR.DIES	(C10-C28)	45179025	260.0
C18	5.972	0.000	5885012	4061247				
C20	6.560	0.000	5093441	4004125				
C22	7.141	0.000	4686847	3888196				
C24	7.709	0.000	3978753	3286889				
C25	7.986	0.000	4279511	3648257				
C26	8.257	0.000	4166577	3725307				
C28	8.775	0.000	3937835	3595457				
C32	9.730	0.000	3839649	3755061				
C34	10.167	0.000	3575886	3656599				
Filter Peak	13.973	0.000	14079	6183				
C36	10.581	0.000	3708443	3634457				
C38	10.989	0.000	3260642	3846028				
C40	11.460	0.000	2490894	3636263				
o-terph	6.167	0.000	22482578	21984004				
Triacon Surr	9.290	0.000	15855592	21633183	NAS DIES	(C10-C24)	33658258	196.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	21984004	114.5
Triacontane	21633183	124.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

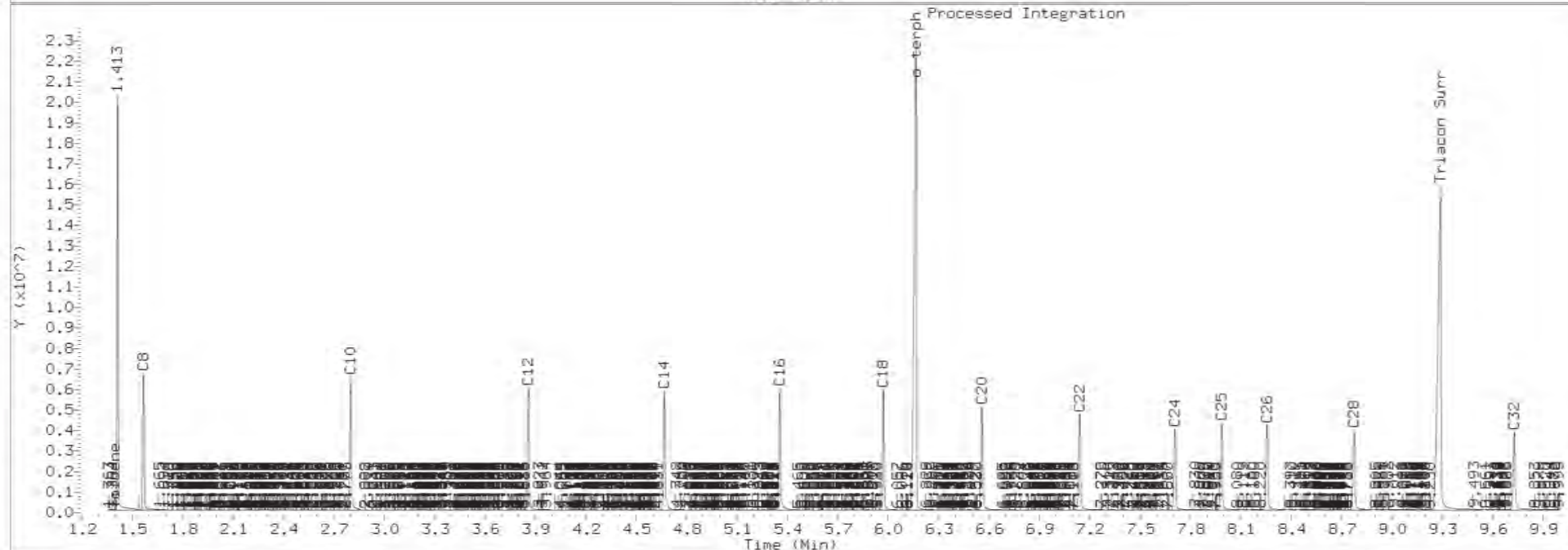
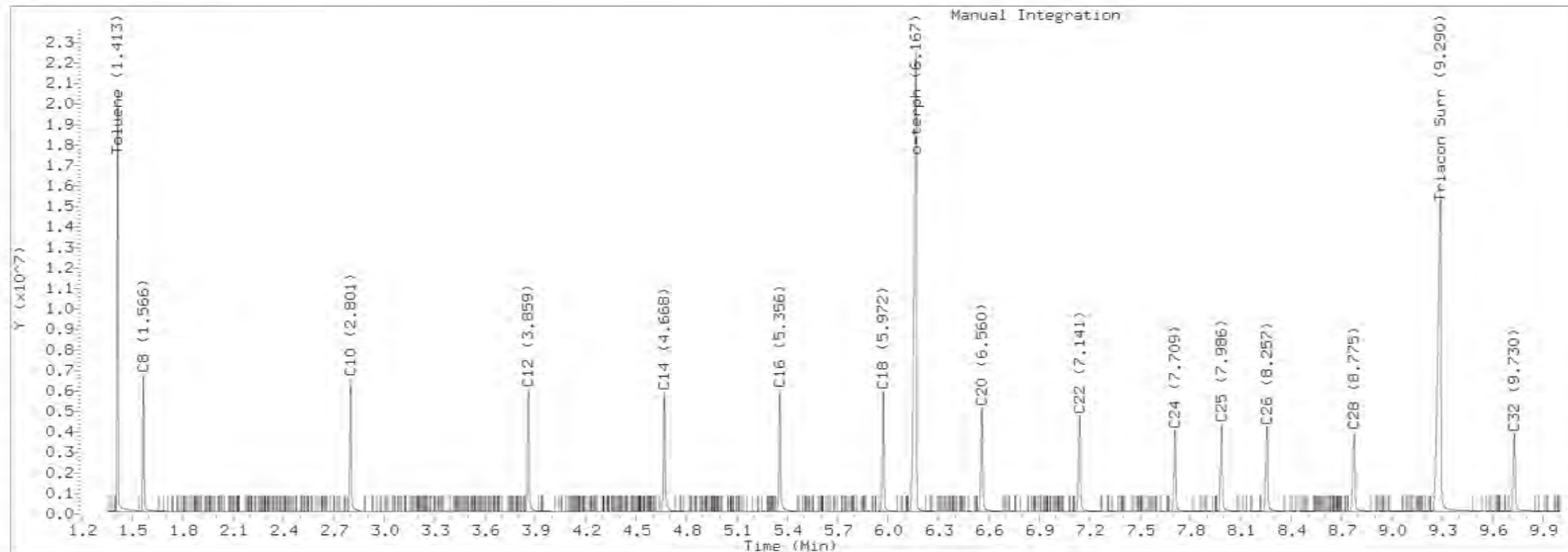




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0603.D Injection: 06-JAN-2022 09:59

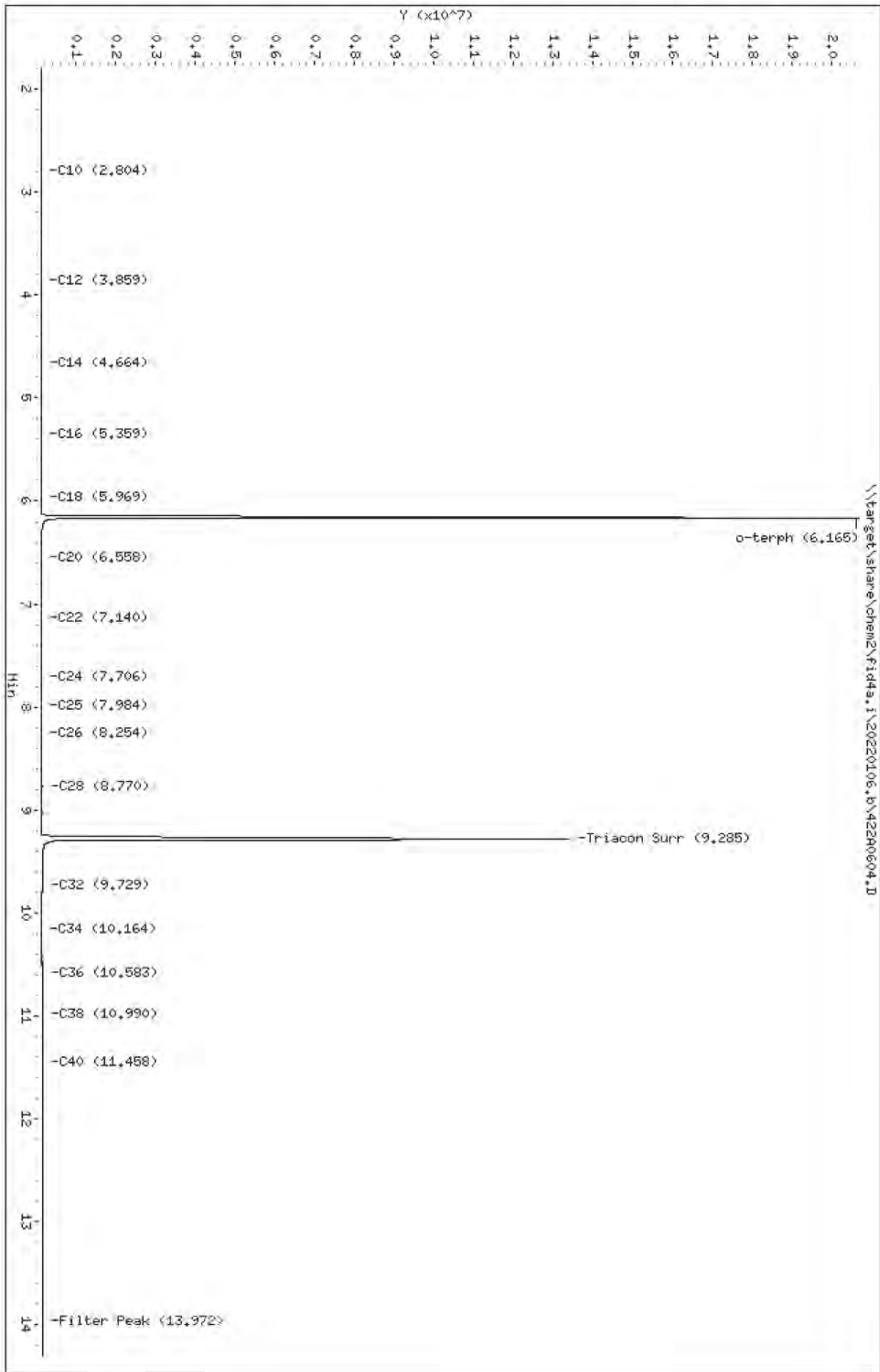
Lab ID:SKA0028-IBL1



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Date: 06-JUN-2022 10:19  
Client ID:  
Sample Info: SKA0028-IBL2

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0604.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL2  
Client ID:  
Injection: 06-JAN-2022 10:19  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

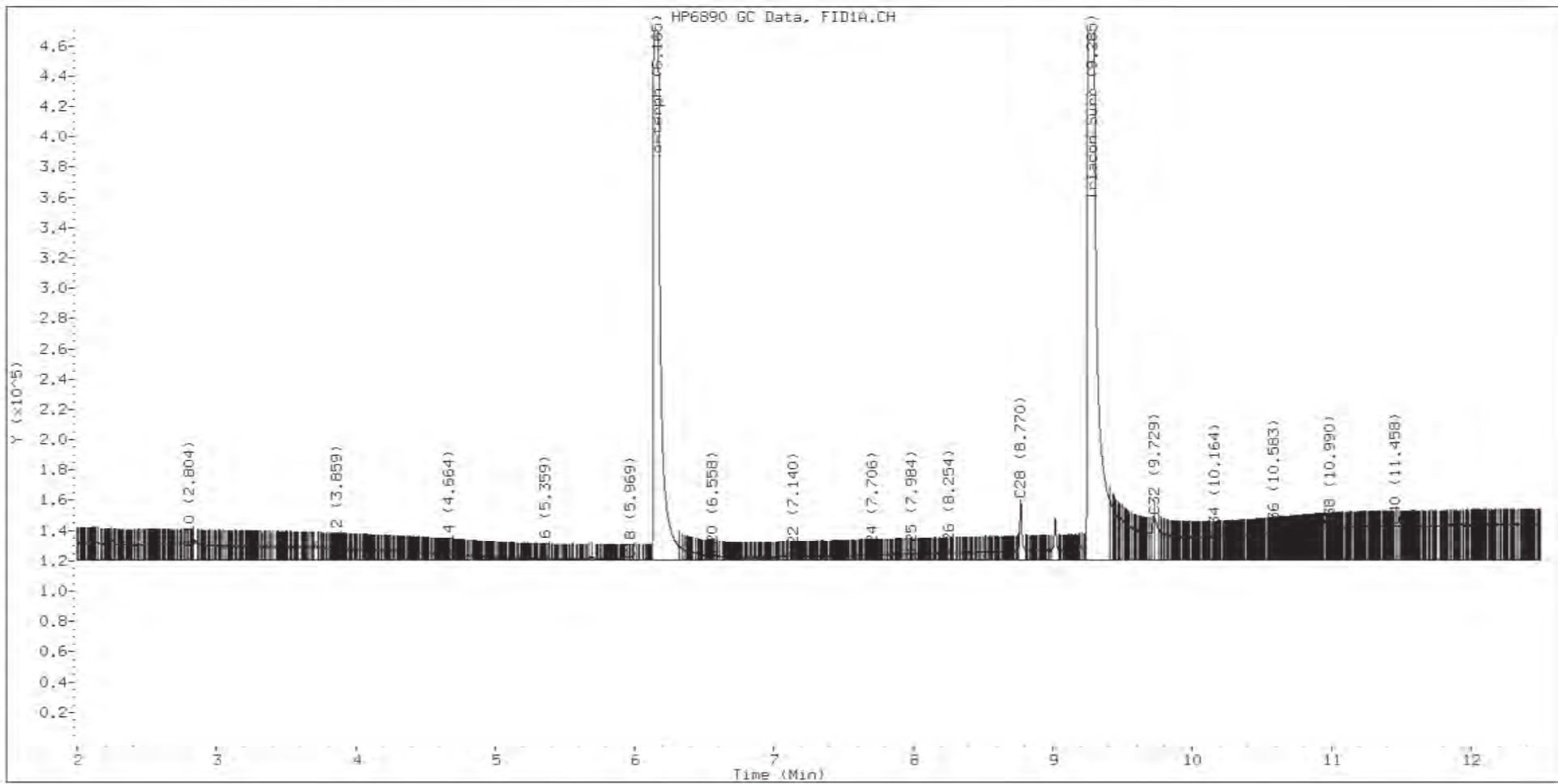
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.559	-0.008	19299	11444	WATPHD	(C12-C24)	622077	4.3
C10	2.804	0.003	10342	8454	WATPHM	(C24-C38)	2333932	17.6
C12	3.859	-0.000	7697	1914	AK102	(C10-C25)	1293098	7.5
C14	4.664	-0.004	4159	2417	AK103	(C25-C36)	1797549	18.2
C16	5.359	0.002	914	207	OR.DIES	(C10-C28)	1589947	9.1
C18	5.969	-0.003	462	129				
C20	6.558	-0.002	3676	1619				
C22	7.140	-0.001	2659	646				
C24	7.706	-0.003	3951	1720				
C25	7.984	-0.002	4536	2462				
C26	8.254	-0.004	5187	4697				
C28	8.770	-0.005	39782	48787				
C32	9.729	-0.001	29141	49217				
C34	10.164	-0.003	15846	10202				
Filter Peak	13.972	-0.001	22292	8869				
C36	10.583	0.001	18551	7386				
C38	10.990	0.001	21344	10622				
C40	11.458	-0.002	22810	13640				
o-terph	6.165	-0.002	20576644	20107672				
Triacon Surr	9.285	-0.004	13279811	16645751	NAS DIES	(C10-C24)	1251413	7.3

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	20107672	104.7
Triacontane	16645751	95.5

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

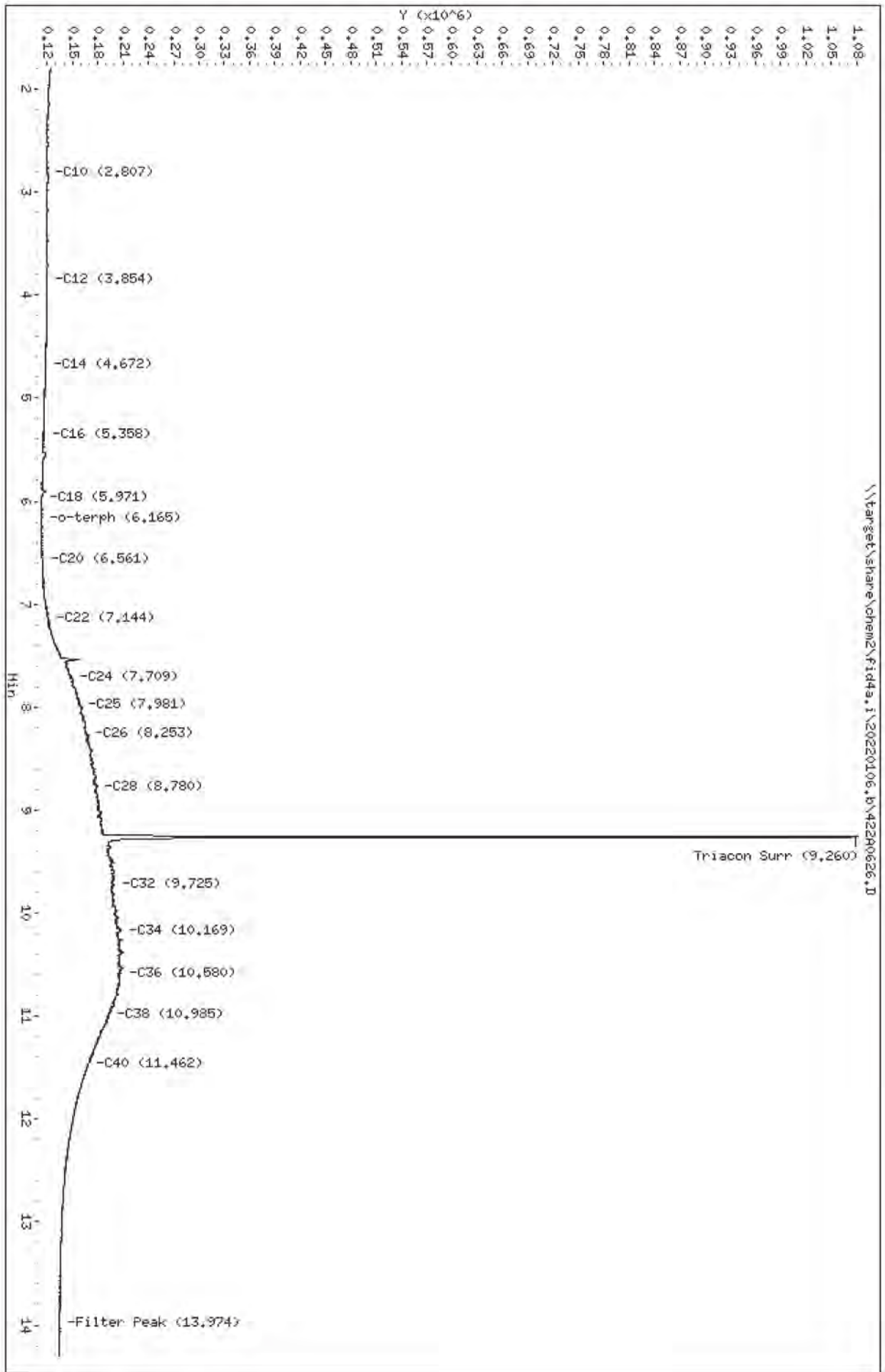


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 Date: 06-JUN-2022 19:03  
 Client ID:  
 Sample Info: SKA0028-CAL7

Column phase: RTX-1

Instrument: fid4s.1  
 Operator: TMC  
 Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240626.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0626.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL7  
Client ID:  
Injection: 06-JAN-2022 19:03  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

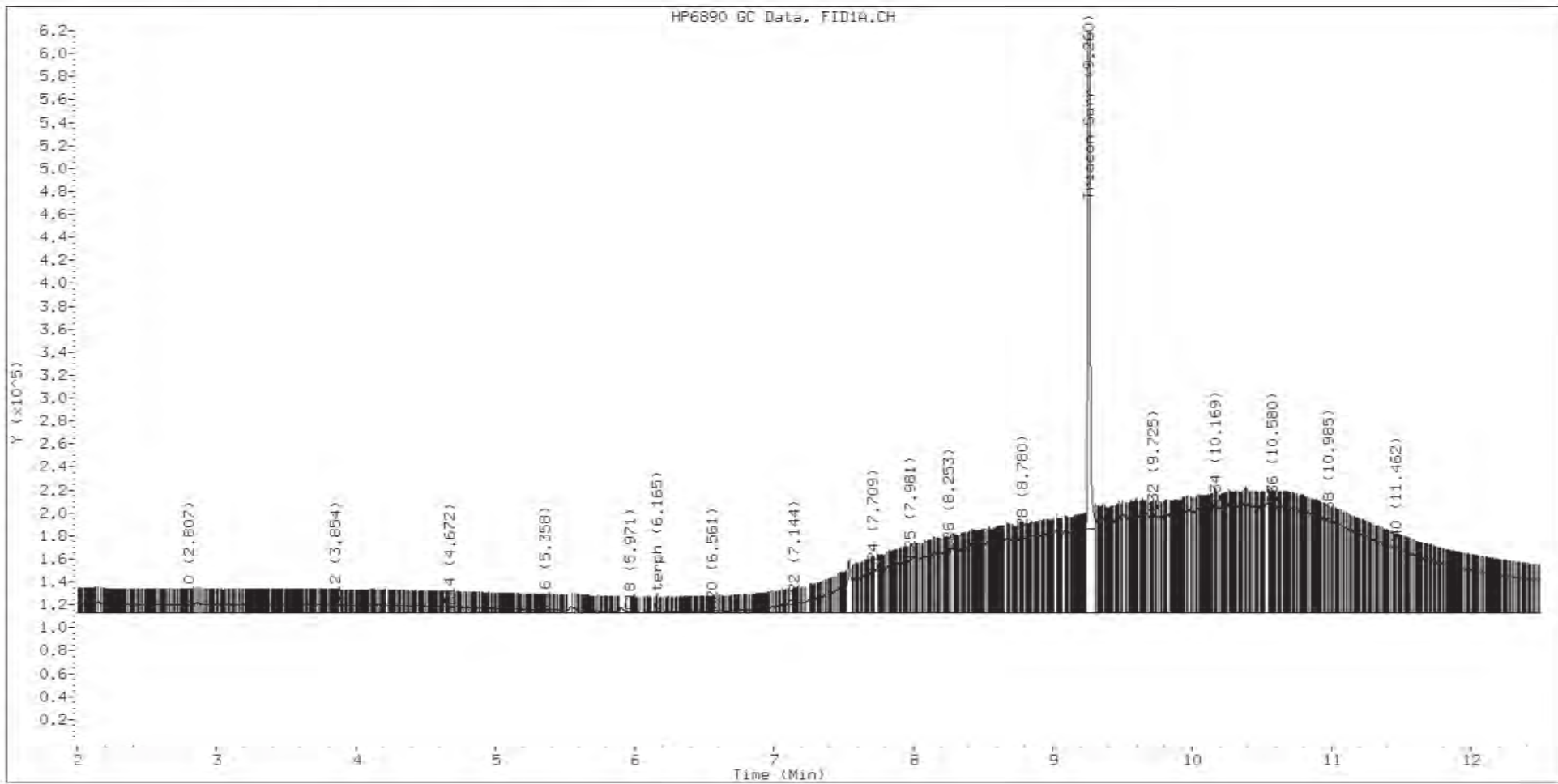
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17629	12134	WATPHD	(C12-C24)	1428990	9.8
C10	2.807	0.006	7315	5700	WATPHM	(C24-C38)	14418390	108.8
C12	3.854	-0.005	6863	3745	AK102	(C10-C25)	2314627	13.4
C14	4.672	0.004	4948	1225	AK103	(C25-C36)	11930212	120.6
C16	5.358	0.002	2549	743	OR.DIES	(C10-C28)	5302500	30.5
C18	5.971	-0.001	466	165				
C20	6.561	0.002	1433	294				
C22	7.144	0.002	8558	5362				
C24	7.709	-0.000	35231	7021				
C25	7.981	-0.005	45824	15837				
C26	8.253	-0.004	53409	34474				
C28	8.780	0.005	65326	35831				
C32	9.725	-0.005	86340	63871				
C34	10.169	0.002	95121	70488				
Filter Peak	13.974	0.001	21668	9718				
C36	10.580	-0.001	93623	60434				
C38	10.985	-0.004	79927	51632				
C40	11.462	0.002	55525	16626				
o-terph	6.165	-0.003	642	355				
Triacon Surr	9.260	-0.029	895649	780573	NAS DIES	(C10-C24)	1888344	11.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	355	0.0
Triacontane	780573	4.5 M

M Indicates the peak was manually integrated

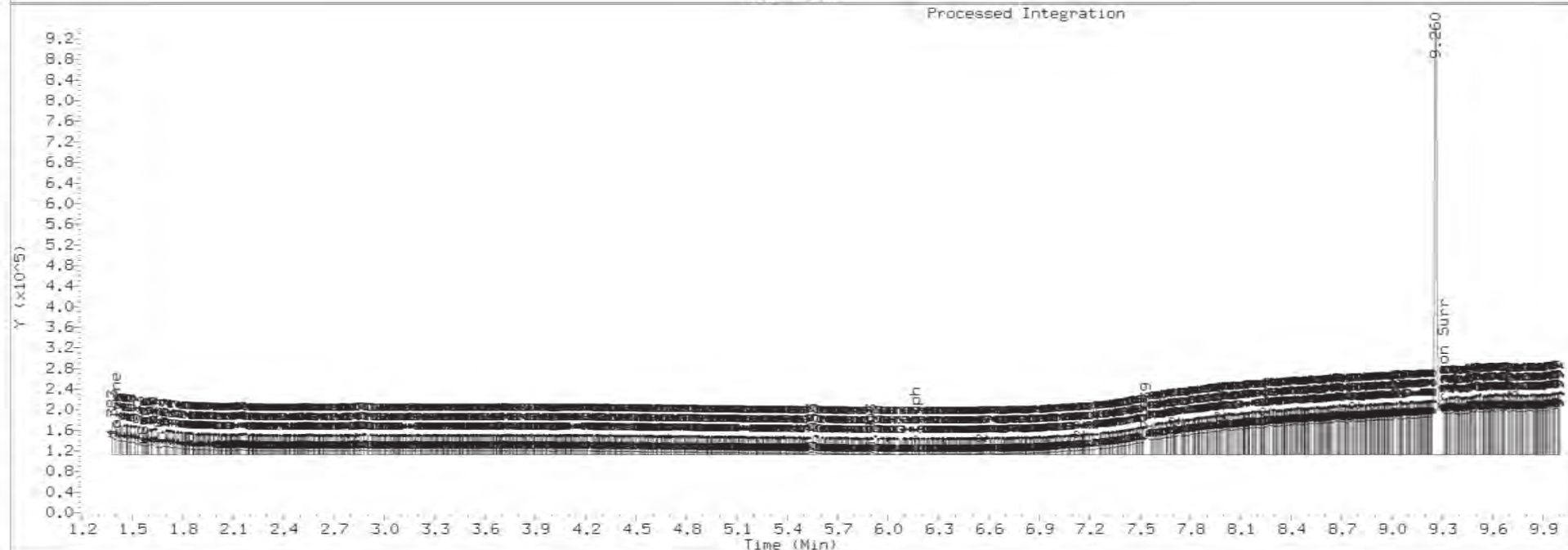
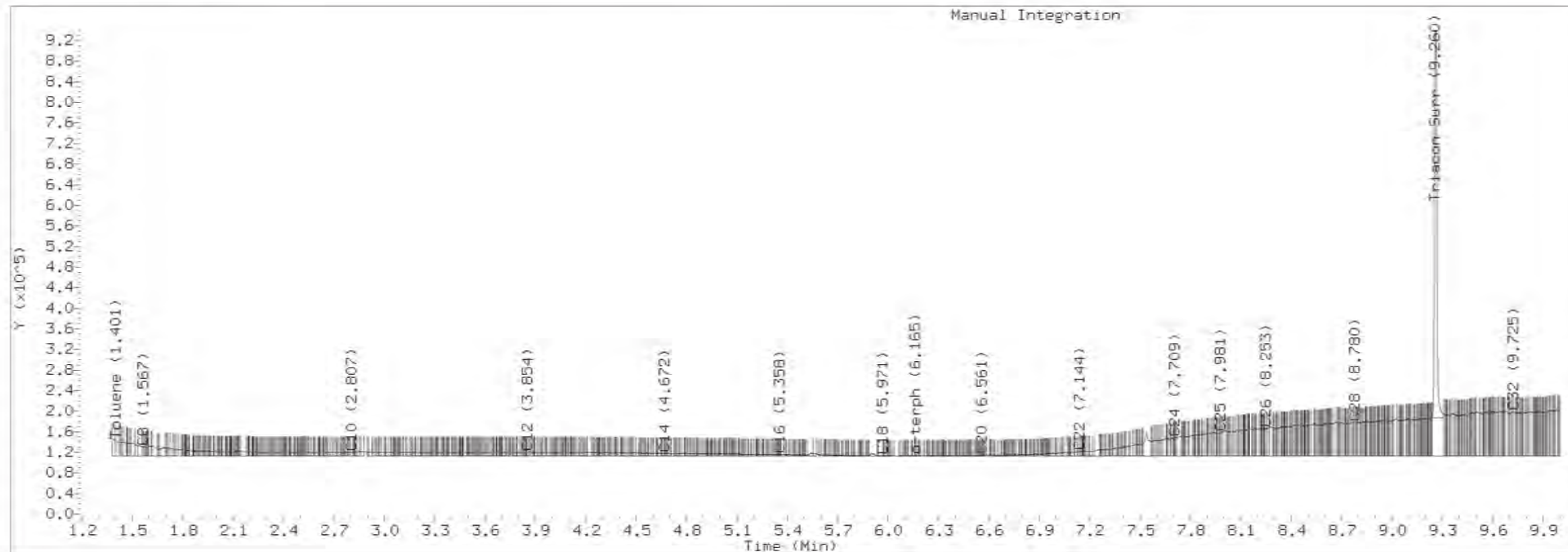
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0626.D Injection: 06-JAN-2022 19:03

Lab ID:SKA0028-CAL7





Data File: \\target\share\chem2\fid4s.1\20220106.b\42240627.D

Date: 06-JAN-2022 19:23

Client ID:

Sample Info: SKA0028-CAL8

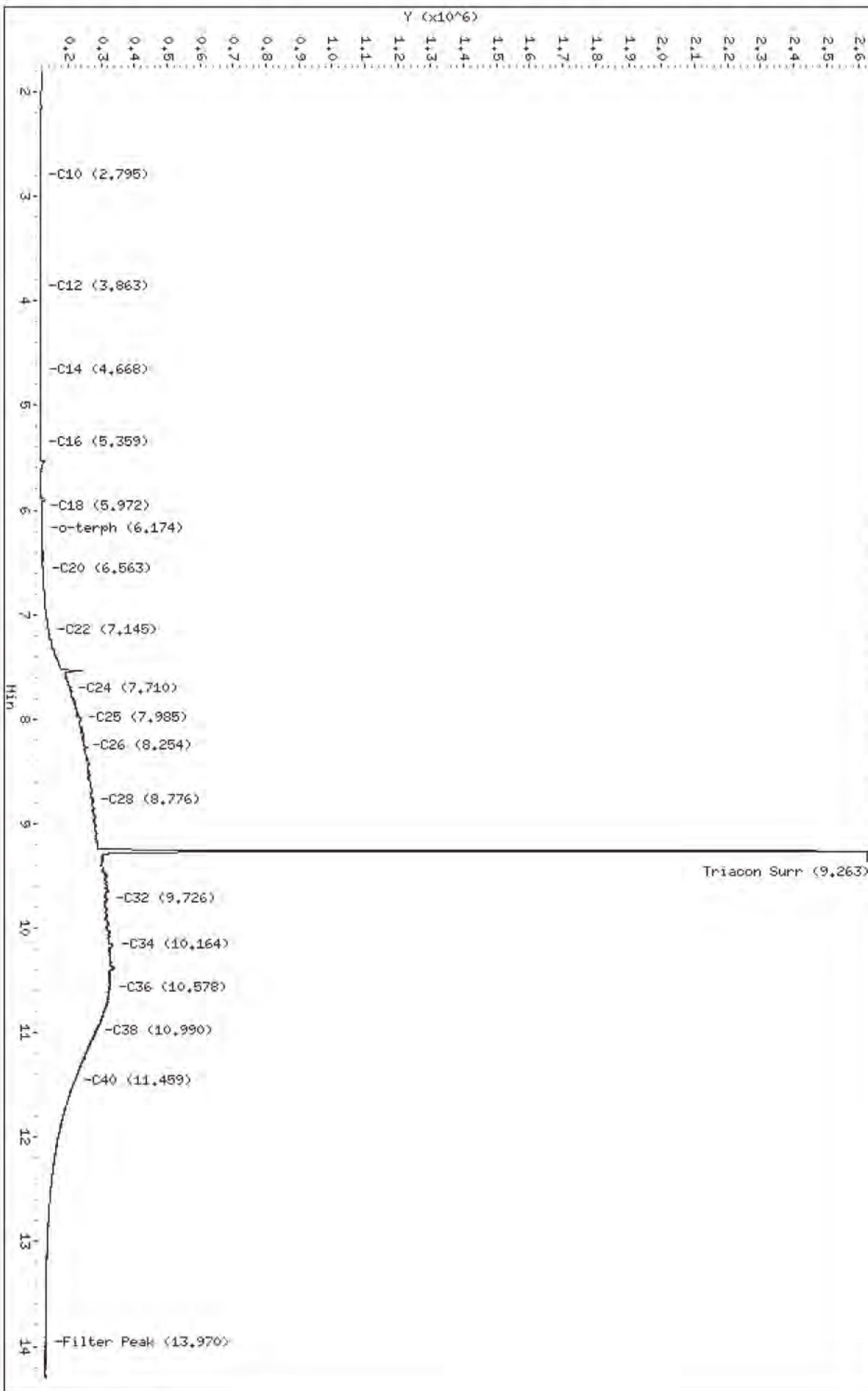
Column phase: RTX-1

Instrument: fid4s.1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240627.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0627.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL8  
Client ID:  
Injection: 06-JAN-2022 19:23  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

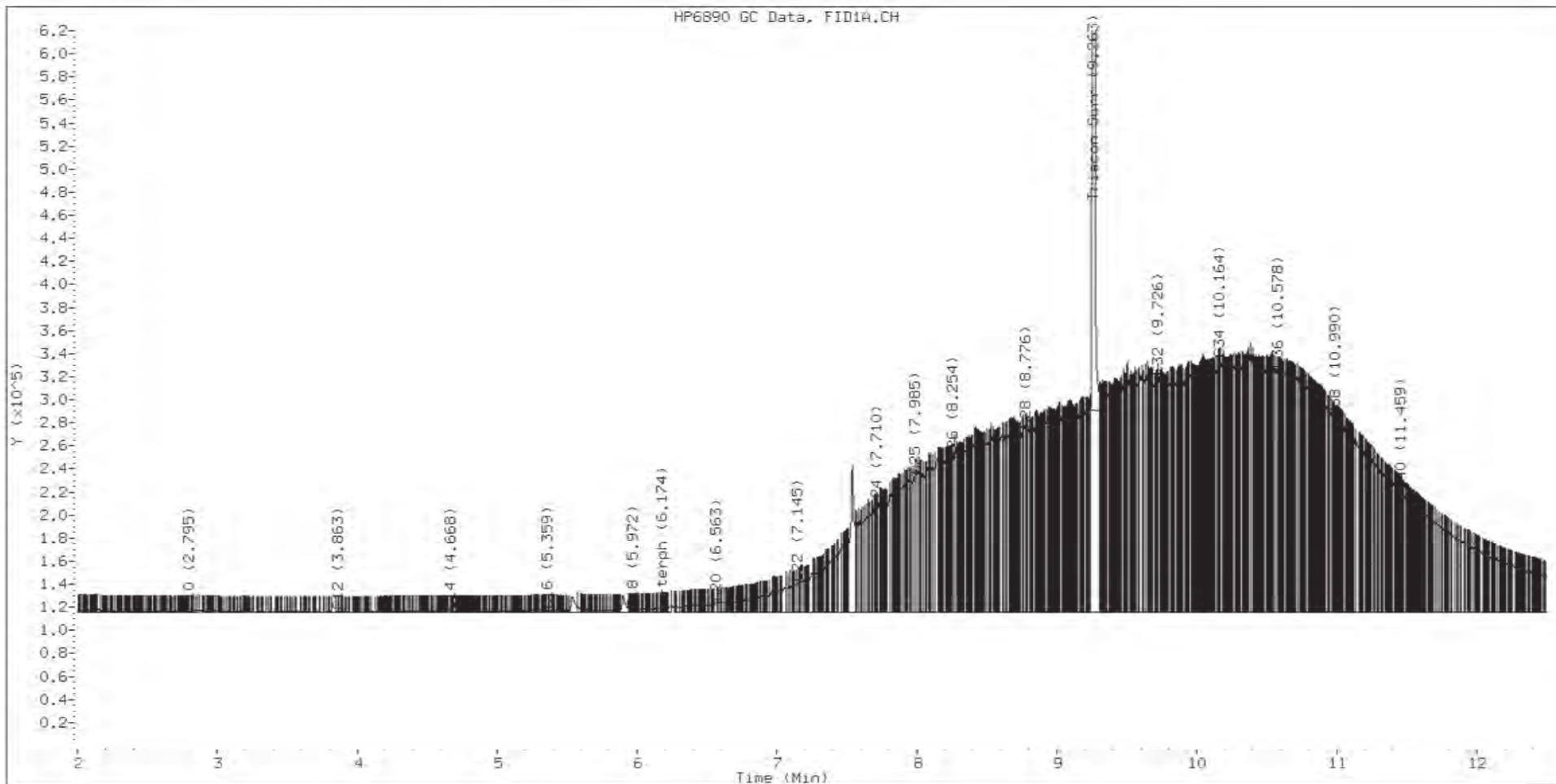
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10974	5451	WATPHD	(C12-C24)	2859083	19.6
C10	2.795	-0.006	709	310	WATPHM	(C24-C38)	33910212	255.8
C12	3.863	0.005	301	110	AK102	(C10-C25)	3974861	23.1
C14	4.668	-0.000	959	351	AK103	(C25-C36)	28362150	286.7
C16	5.359	0.003	1341	1255	OR.DIES	(C10-C28)	11300132	65.0
C18	5.972	-0.000	2547	737				
C20	6.563	0.004	8305	10153				
C22	7.145	0.004	24838	24382				
C24	7.710	0.001	89563	22309				
C25	7.985	-0.001	118154	98497				
C26	8.254	-0.003	131978	52511				
C28	8.776	0.001	158032	39436				
C32	9.726	-0.004	204424	200858				
C34	10.164	-0.003	219294	141700				
Filter Peak	13.970	-0.003	15114	5260				
C36	10.578	-0.003	210164	104564				
C38	10.990	0.001	167544	83266				
C40	11.459	-0.000	104690	57072				
o-terph	6.174	0.007	3070	1055				
Triacon Surr	9.263	-0.026	2341627	1948565	NAS DIES	(C10-C24)	2883231	16.8

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1055	0.0
Triacontane	1948565	11.2 M

M Indicates the peak was manually integrated

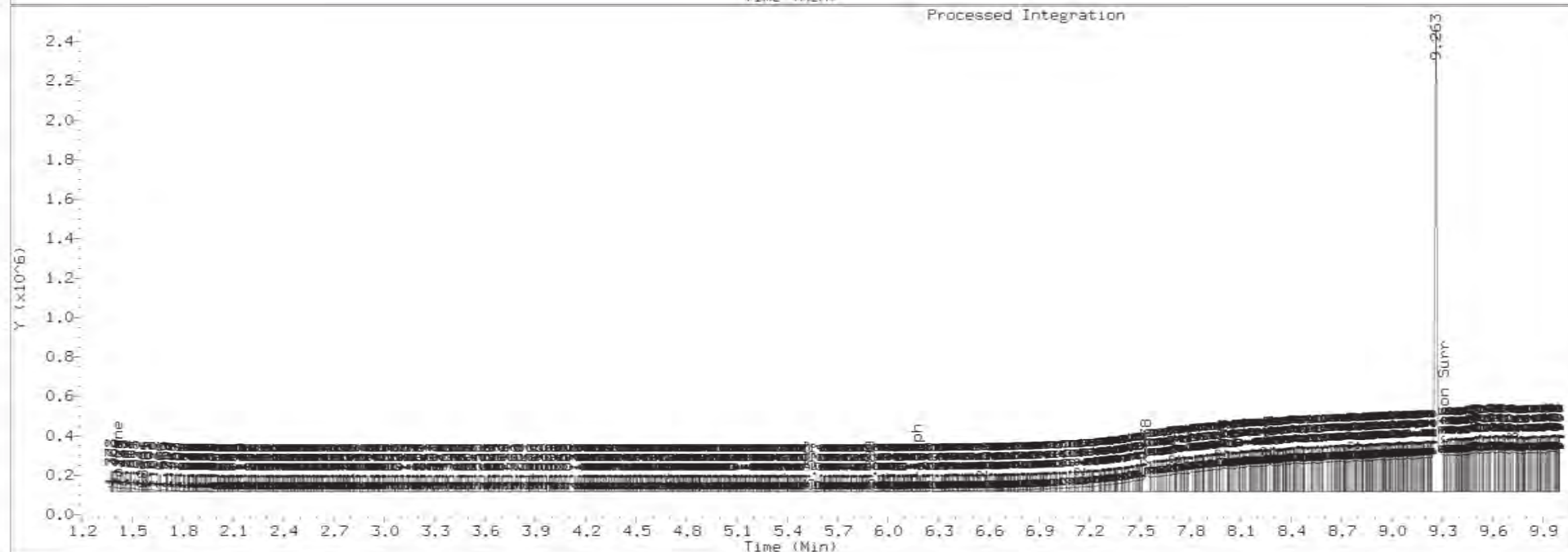
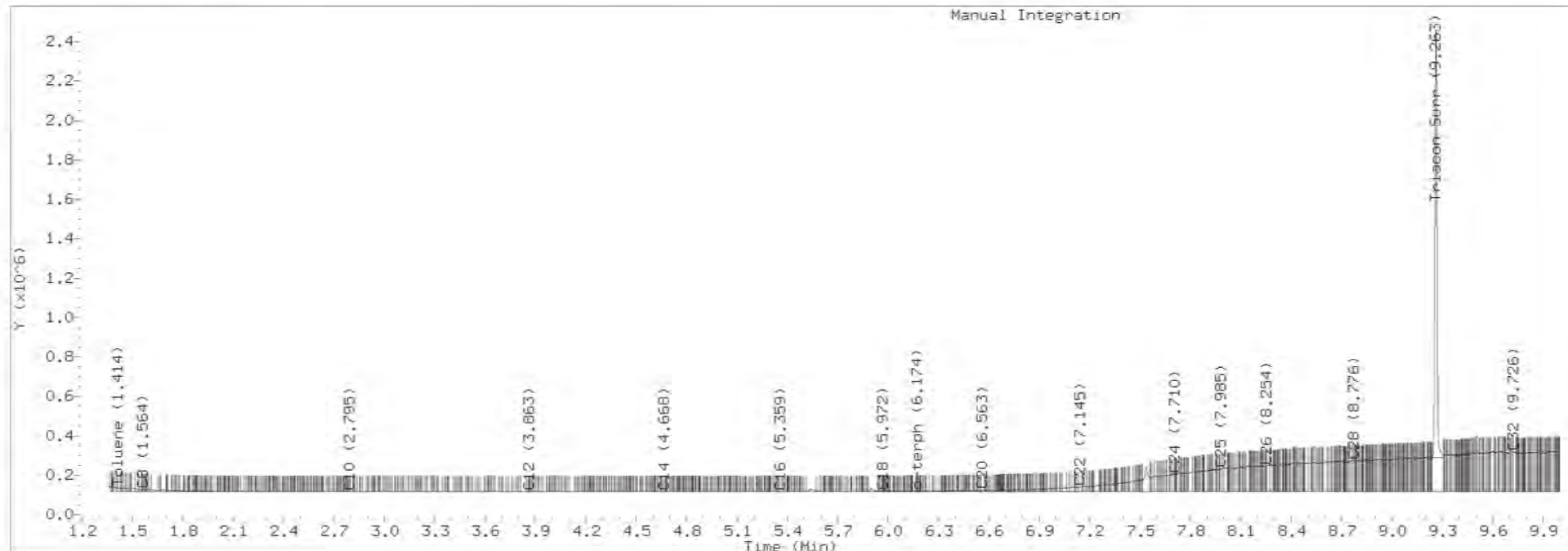
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0627.D Injection: 06-JAN-2022 19:23

Lab ID:SKA0028-CAL8

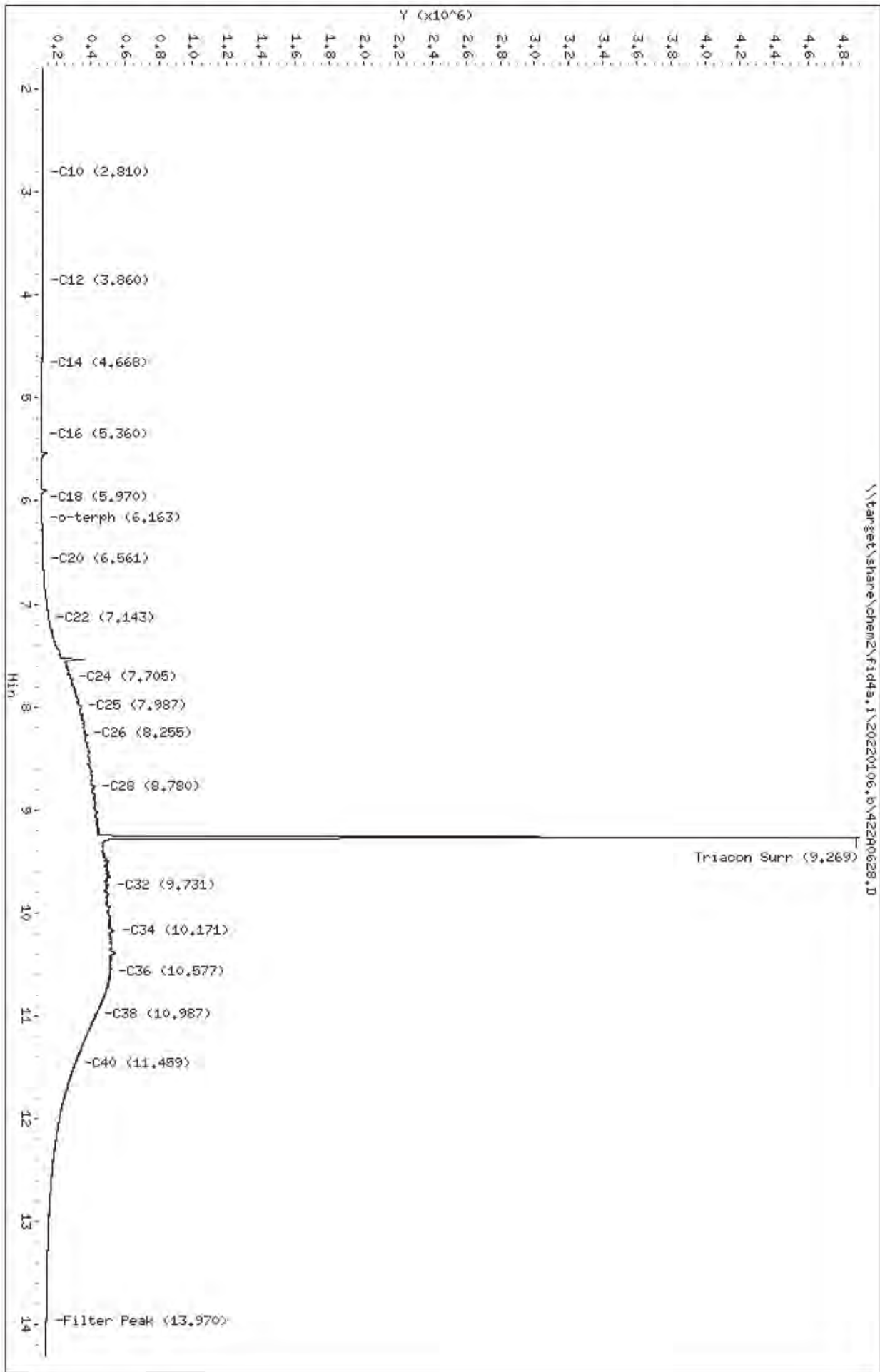


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240628.D  
Date: 06-JAN-2022 19:43  
Client ID:  
Sample Info: SKA0028-DAL9

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240628.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0628.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL9  
Client ID:  
Injection: 06-JAN-2022 19:43  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

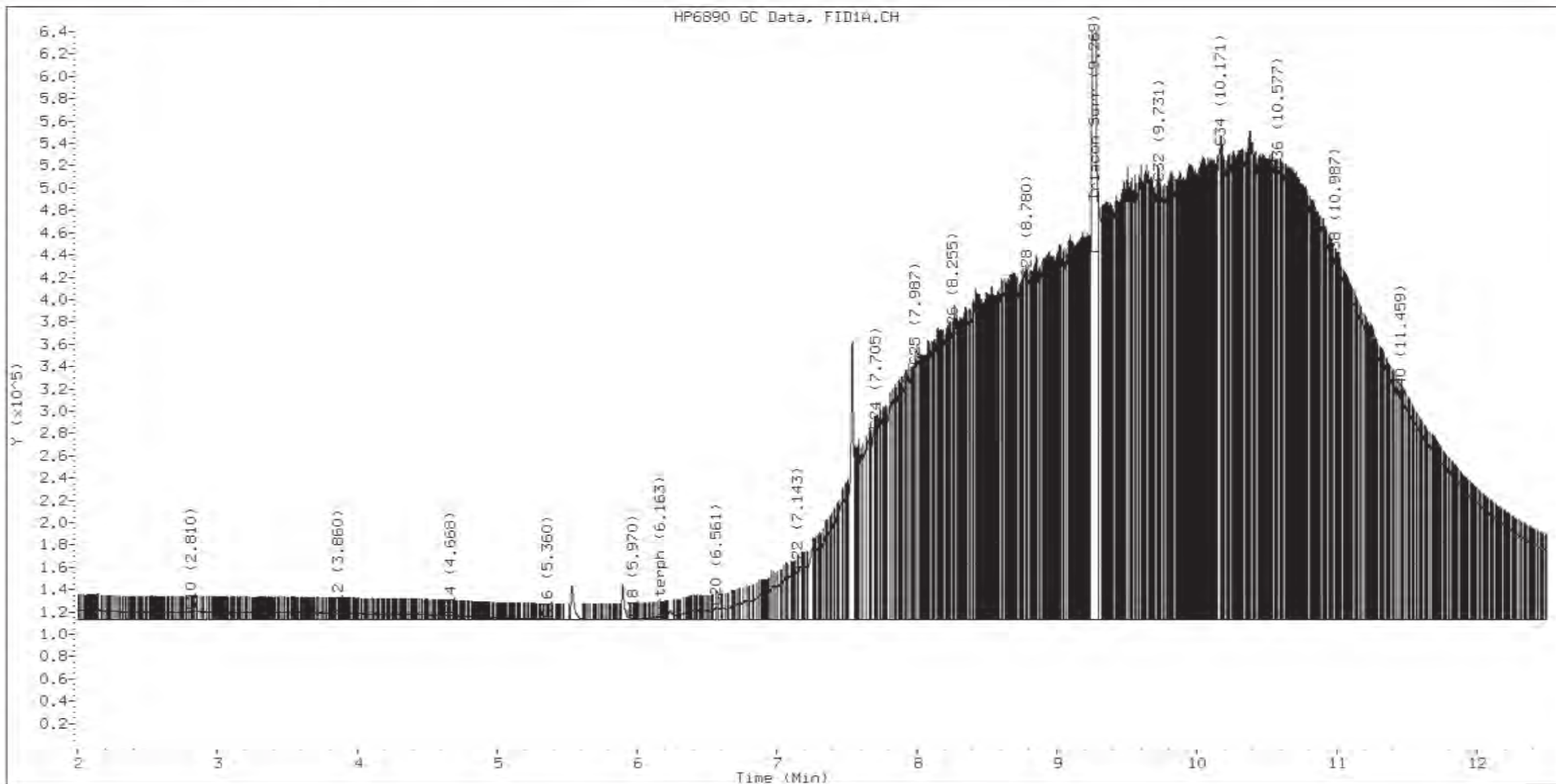
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.561	-0.005	18899	18490	WATPHD	(C12-C24)	5267715	36.1
C10	2.810	0.009	7809	6657	WATPHM	(C24-C38)	65361242	493.0
C12	3.860	0.002	6145	3630	AK102	(C10-C25)	7695397	44.7
C14	4.668	-0.000	3930	3869	AK103	(C25-C36)	54505288	551.1
C16	5.360	0.003	880	170	OR.DIES	(C10-C28)	21861512	125.8
C18	5.970	-0.002	1438	845				
C20	6.561	0.002	11665	15498				
C22	7.143	0.002	44022	42387				
C24	7.705	-0.003	169267	59011				
C25	7.987	0.001	227115	166595				
C26	8.255	-0.002	254374	63387				
C28	8.780	0.005	305712	121521				
C32	9.731	0.002	392327	135919				
C34	10.171	0.004	423466	189821				
Filter Peak	13.970	-0.003	28198	15418				
C36	10.577	-0.004	403448	160577				
C38	10.987	-0.002	321415	144011				
C40	11.459	-0.001	199069	49536				
o-terph	6.163	-0.004	2391	1211				
Triacon Surr	9.269	-0.021	4456889	3832767	NAS DIES	(C10-C24)	5689375	33.1

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1211	0.0
Triacontane	3832767	22.0 M

M Indicates the peak was manually integrated

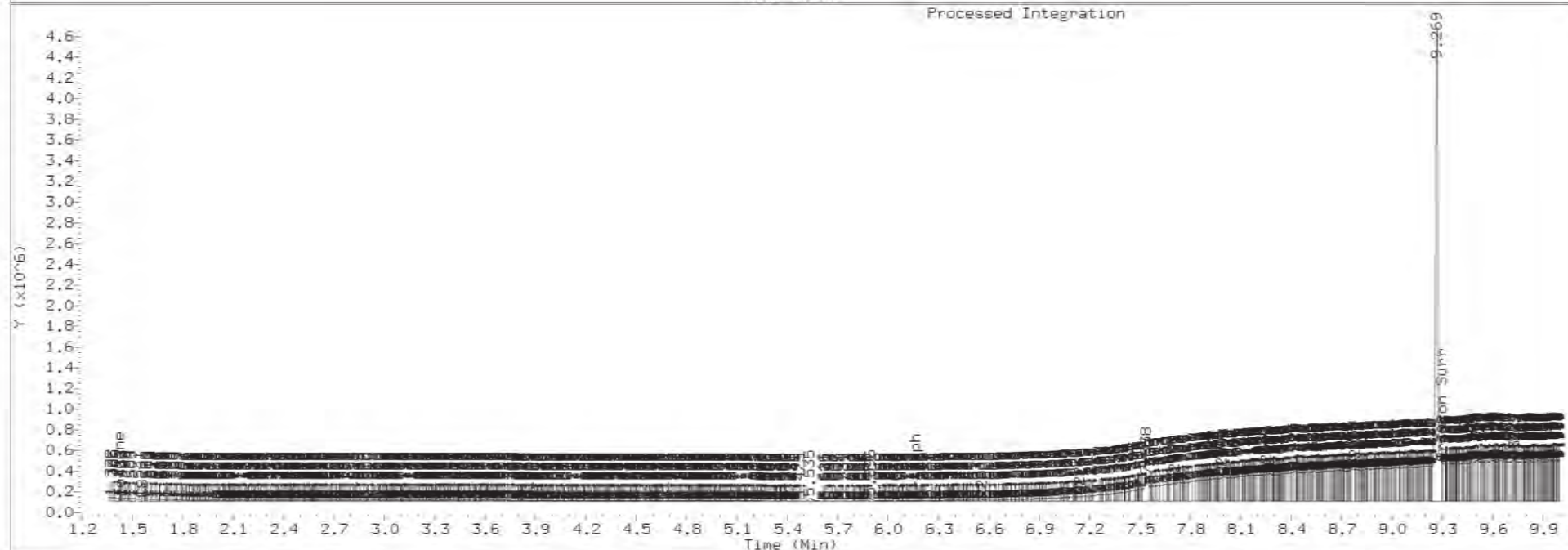
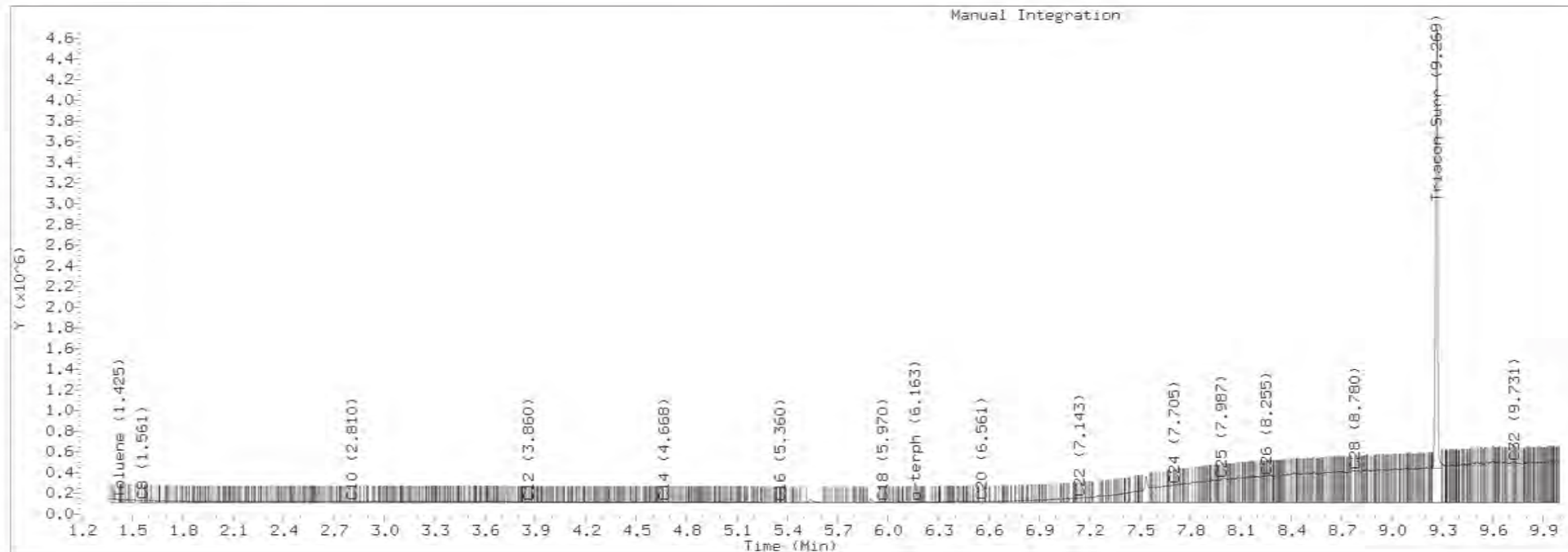
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0628.D Injection: 06-JAN-2022 19:43

Lab ID:SKA0028-CAL9



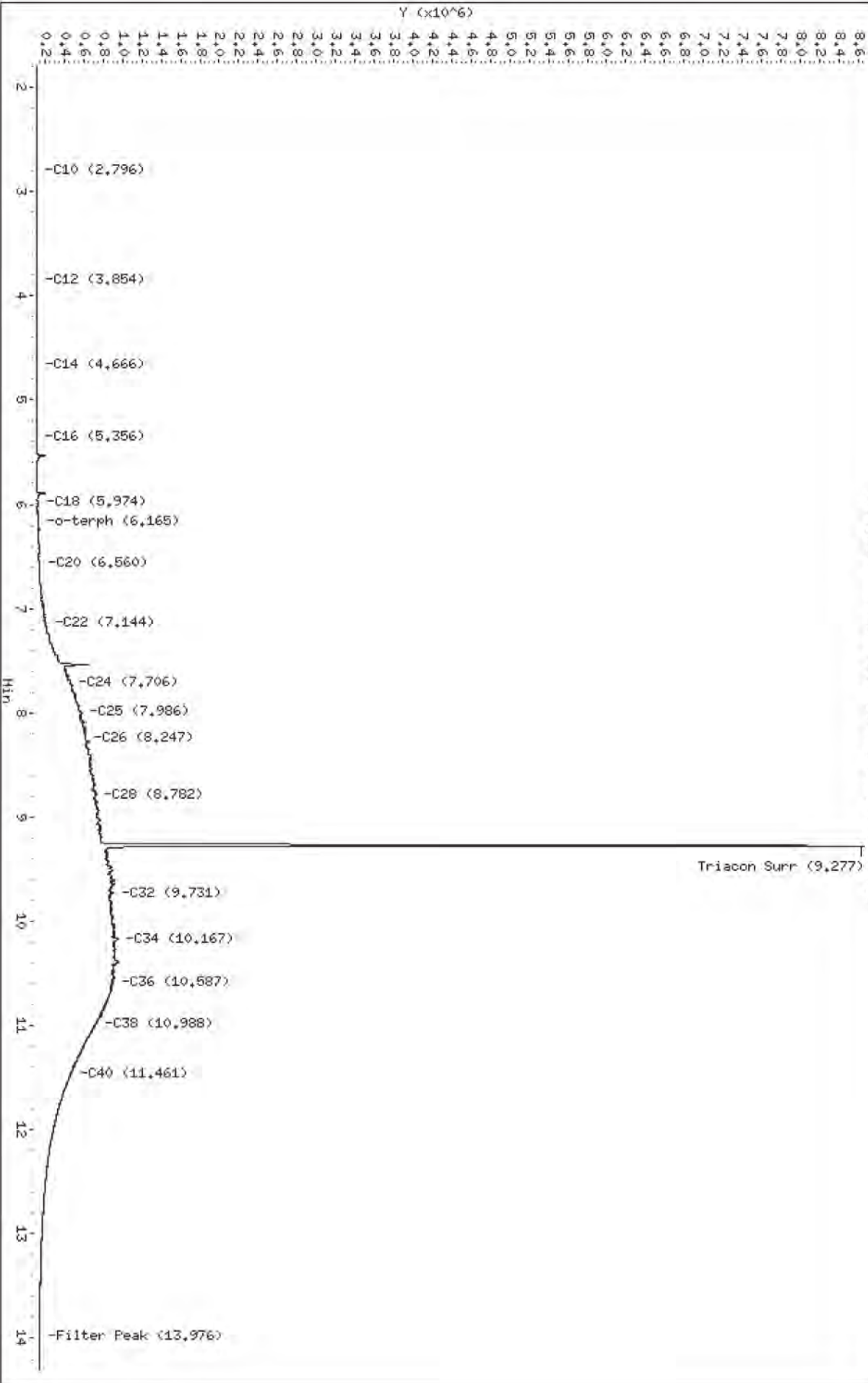


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240629.D  
Date: 06-JAN-2022 20:02  
Client ID:  
Sample Info: SKA0028-DRLA

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240629.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0629.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALA  
Client ID:  
Injection: 06-JAN-2022 20:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

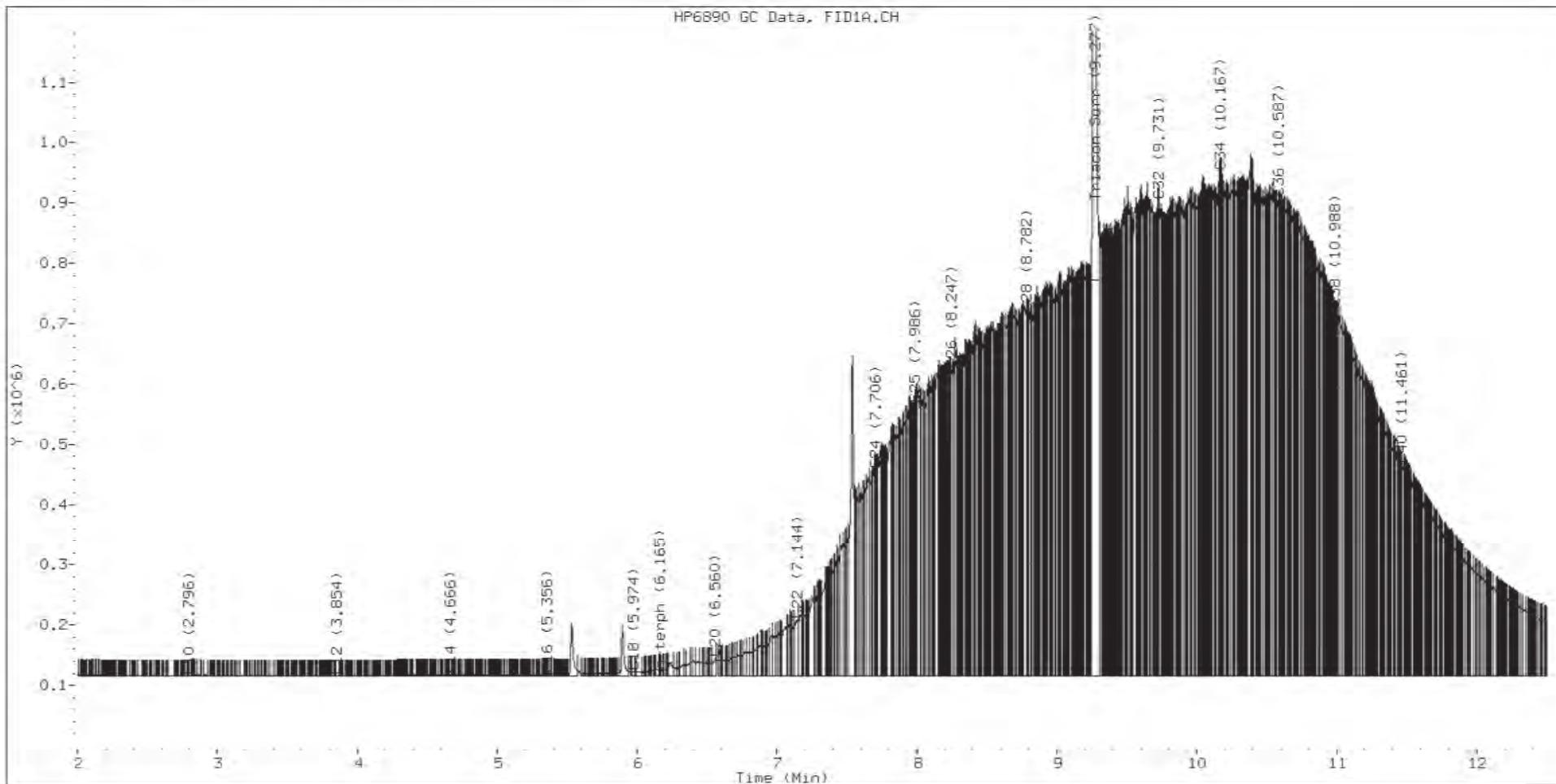
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	11101	8632	WATPHD	(C12-C24)	10727647	73.6
C10	2.796	-0.005	576	147	WATPHM	(C24-C38)	129320360	975.4
C12	3.854	-0.005	1107	956	AK102	(C10-C25)	14842212	86.2
C14	4.666	-0.002	2470	1298	AK103	(C25-C36)	108544248	1097.4
C16	5.356	-0.001	3529	1197	OR.DIES	(C10-C28)	43178118	248.5
C18	5.974	0.002	7530	7872				
C20	6.560	0.000	29424	44604				
C22	7.144	0.003	93274	142646				
C24	7.706	-0.003	342850	102299				
C25	7.986	0.000	451931	245156				
C26	8.247	-0.010	508762	377501				
C28	8.782	0.007	601806	120120				
C32	9.731	0.001	789145	579688				
C34	10.167	0.000	836380	250168				
Filter Peak	13.976	0.003	27826	13801				
C36	10.587	0.006	793648	511126				
C38	10.988	-0.001	611295	302860				
C40	11.461	0.002	351554	139850				
o-terph	6.165	-0.002	9745	4761				
Triacon Surr	9.277	-0.012	7887730	7740915	NAS DIES	(C10-C24)	10771308	62.7

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	4761	0.0
Triacontane	7740915	44.4 M

M Indicates the peak was manually integrated

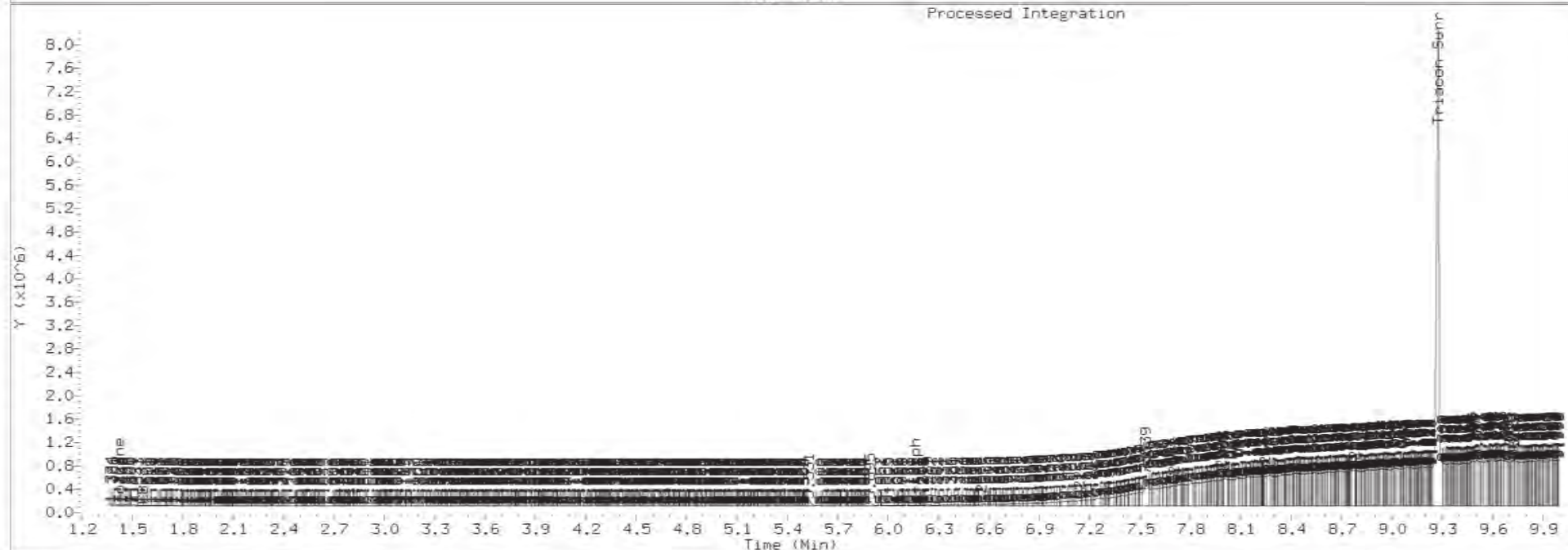
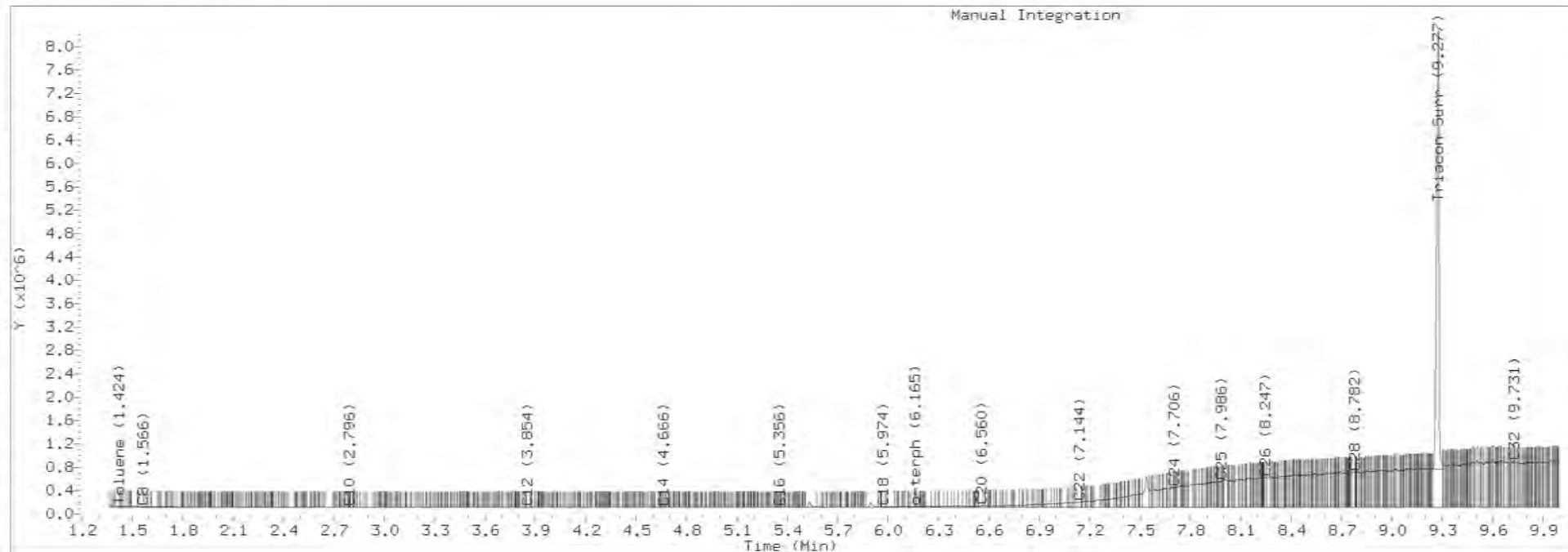
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0629.D Injection: 06-JAN-2022 20:02

Lab ID:SKA0028-CALA

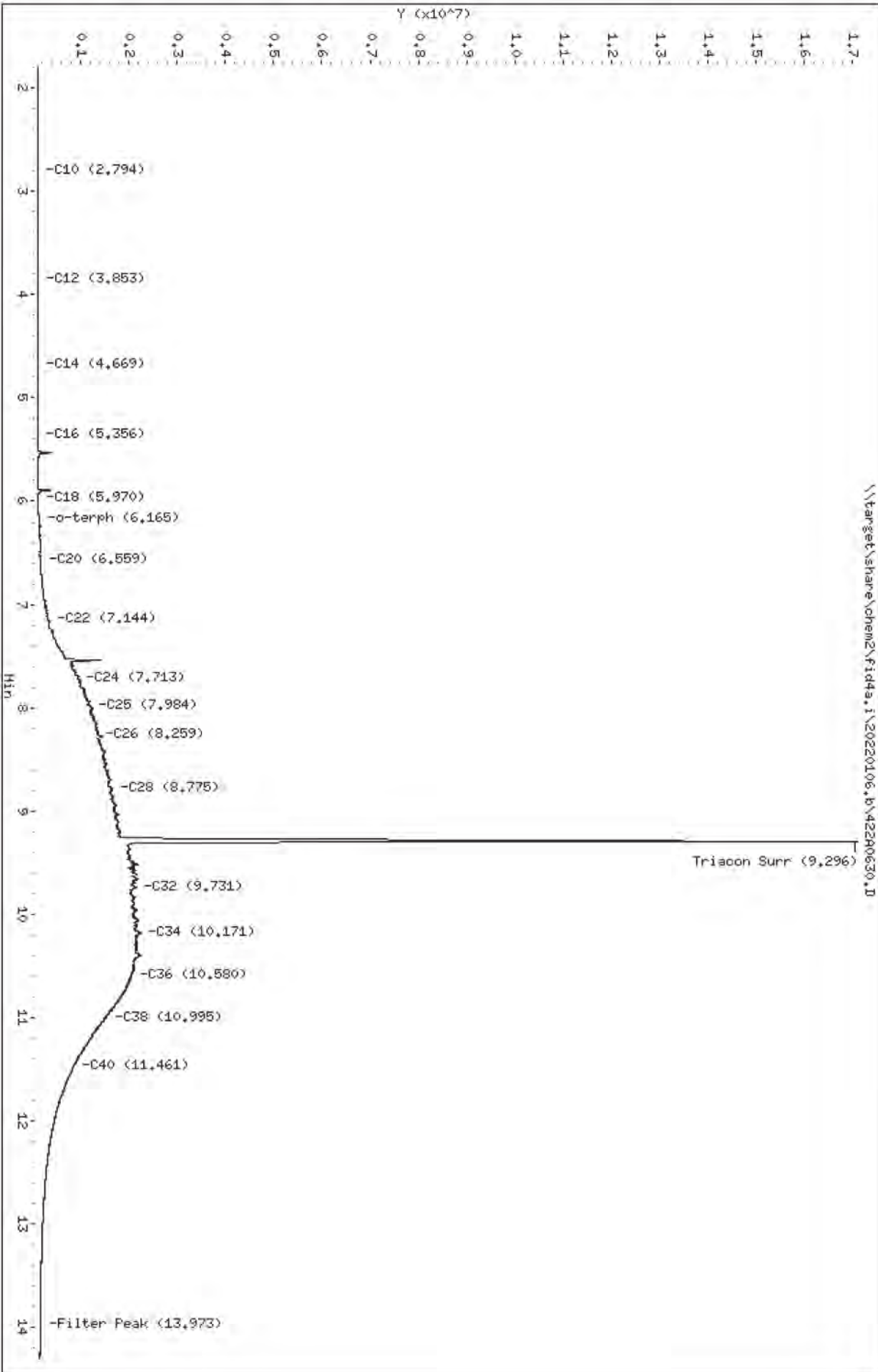




Data File: \\target\share\chem2\fid4s.1\20220106.b\42240630.D  
Date: 06-JUN-2022 20:22  
Client ID:  
Sample Info: SKA0028-CALB

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0630.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALB  
Client ID:  
Injection: 06-JAN-2022 20:22  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

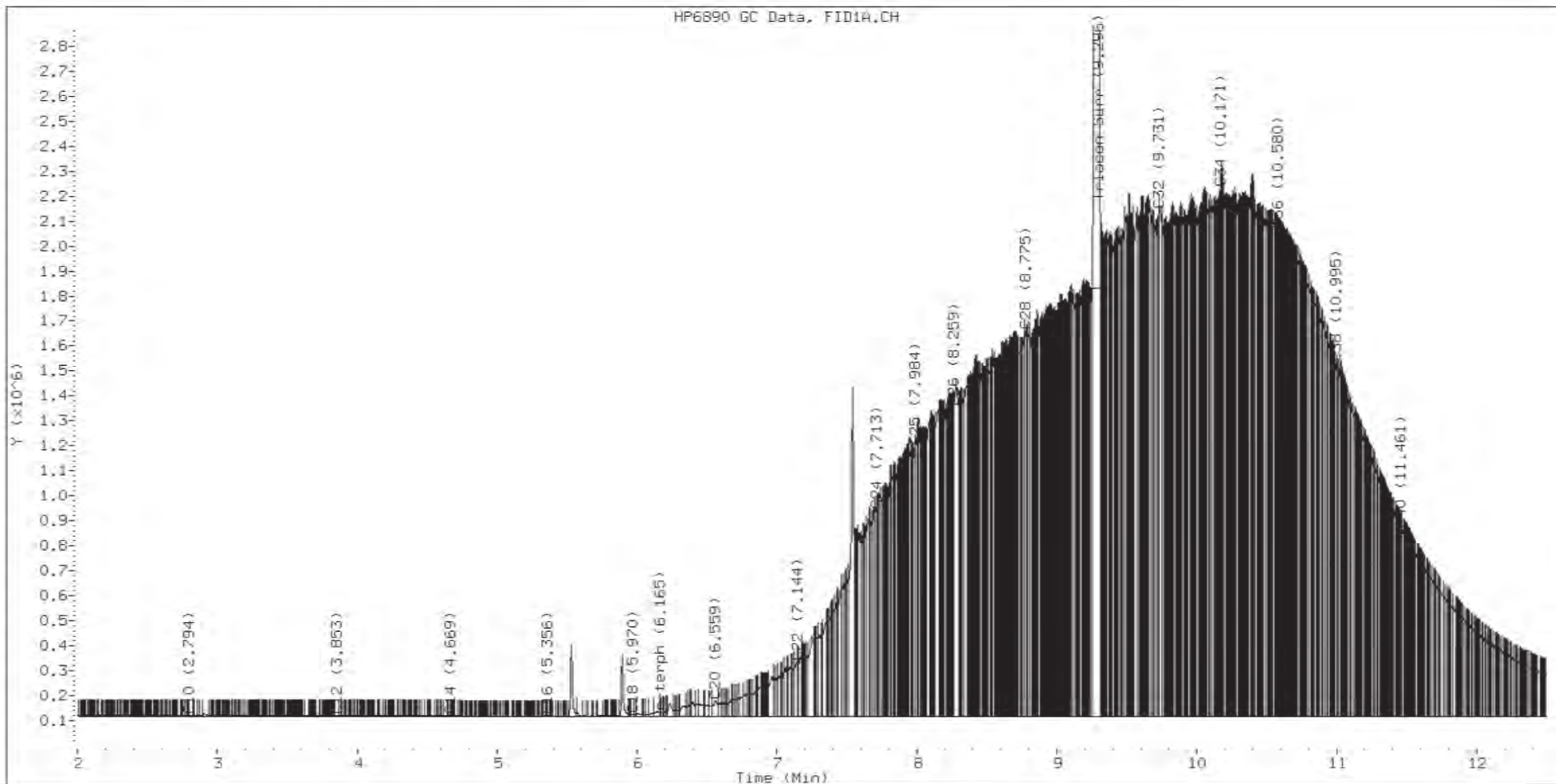
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.011	17258	4301	WATPHD	(C12-C24)	25178731	172.8
C10	2.794	-0.008	5092	3608	WATPHM	(C24-C38)	324449124	2447.2
C12	3.853	-0.006	5678	7022	AK102	(C10-C25)	35400273	205.5
C14	4.669	0.001	3839	758	AK103	(C25-C36)	273940795	2769.6
C16	5.356	-0.000	3278	2699	OR.DIES	(C10-C28)	105094526	604.8
C18	5.970	-0.002	10714	10162				
C20	6.559	-0.000	64664	142222				
C22	7.144	0.002	219141	252458				
C24	7.713	0.004	827562	247062				
C25	7.984	-0.003	1080011	687511				
C26	8.259	0.002	1238176	370748				
C28	8.775	-0.000	1545429	993360				
C32	9.731	0.001	2028162	997421				
C34	10.171	0.004	2118052	1355483				
Filter Peak	13.973	-0.000	48608	21788				
C36	10.580	-0.001	1948503	972417				
C38	10.995	0.006	1414419	841893				
C40	11.461	0.001	751652	187506				
o-terph	6.165	-0.002	15801	3901				
Triacon Surr	9.296	0.006	15269043	19868141	NAS DIES	(C10-C24)	25505234	148.5

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	3901	0.0
Triacotane	19868141	114.0 M

M Indicates the peak was manually integrated

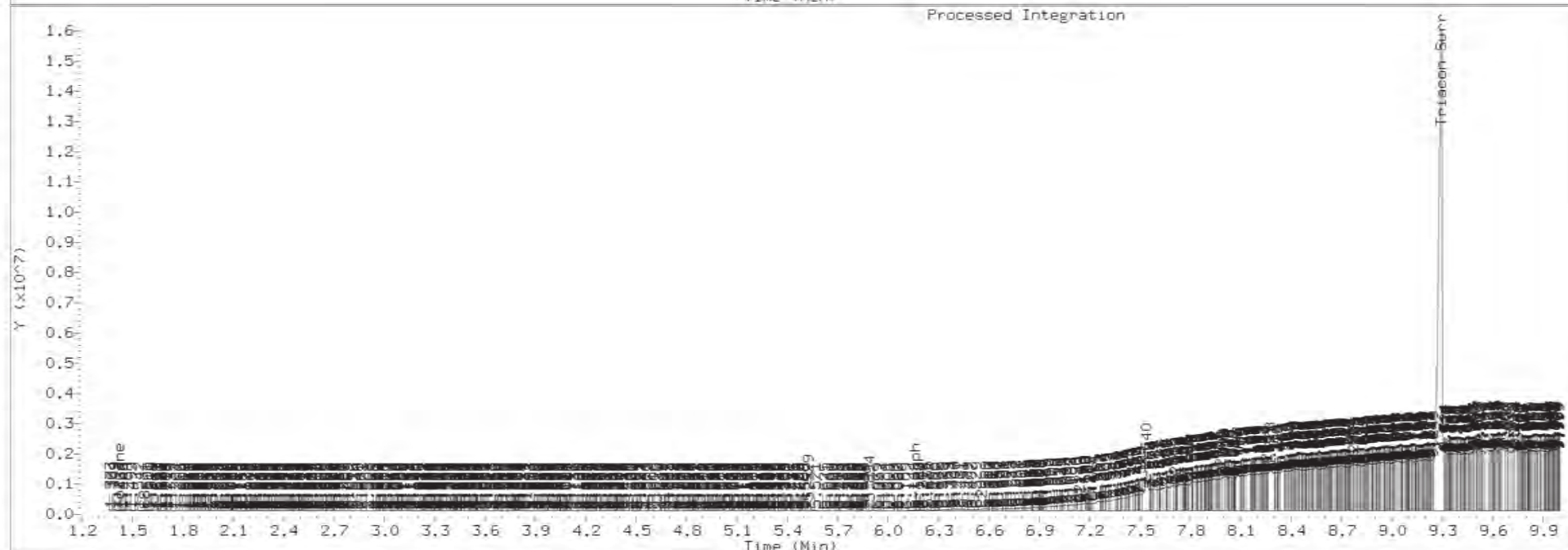
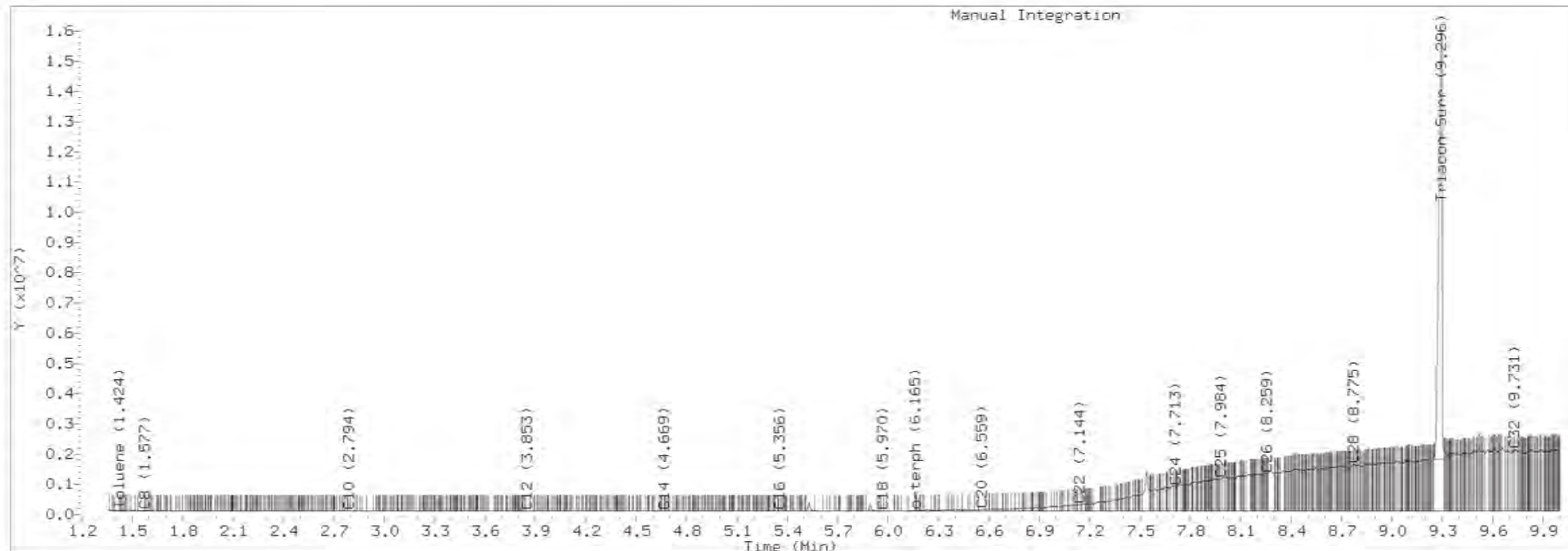
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0630.D Injection: 06-JAN-2022 20:22

Lab ID:SKA0028-CALB

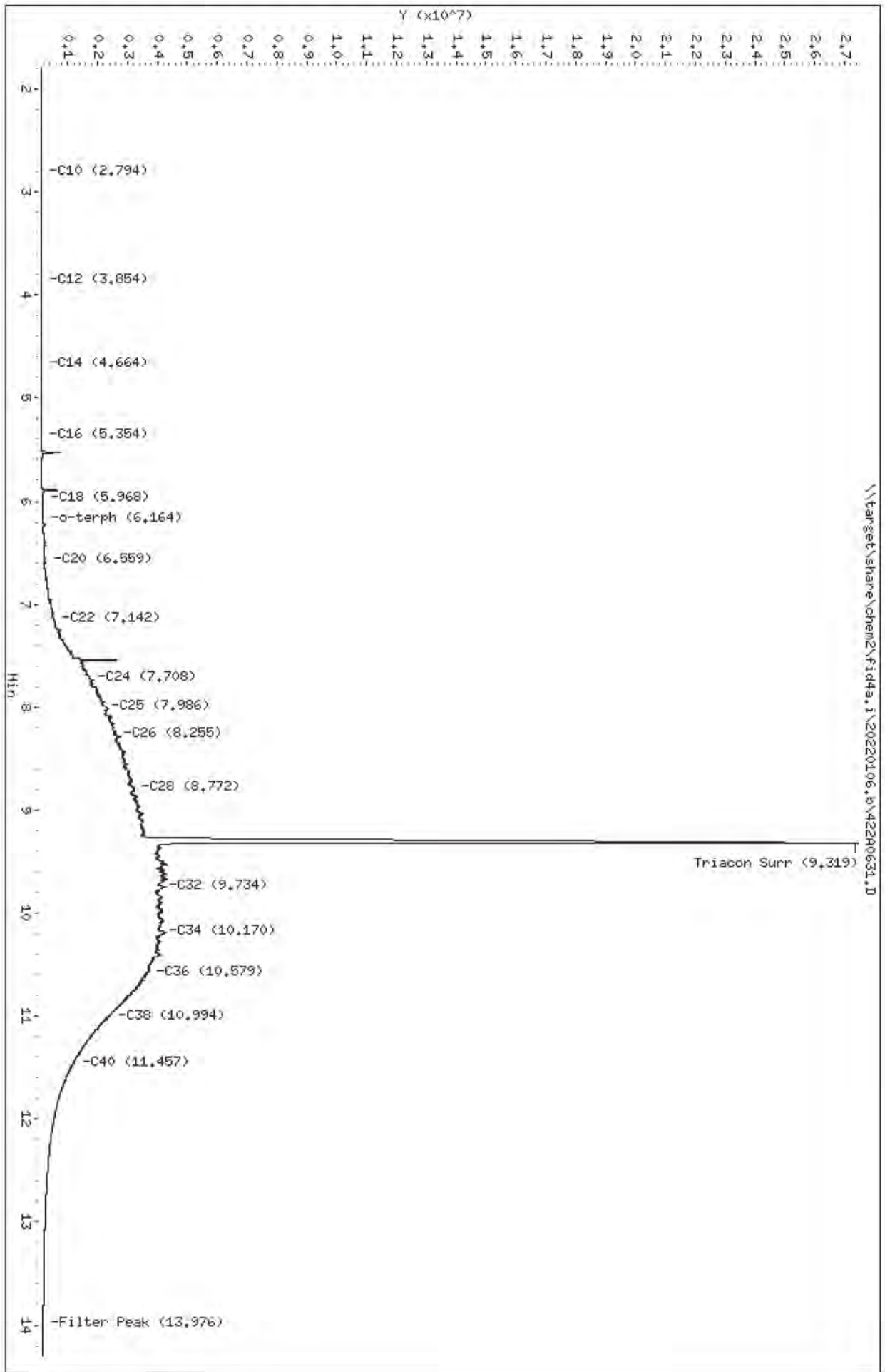




Data File: \\target\share\chem2\fid4s,1\20220106,bv42240631.D  
Date: 06-JAN-2022 20:42  
Client ID:  
Sample Info: SKA0028-DALC

Column phase: RTX-1

Instrument: fid4s,1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0631.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALC  
Client ID:  
Injection: 06-JAN-2022 20:42  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

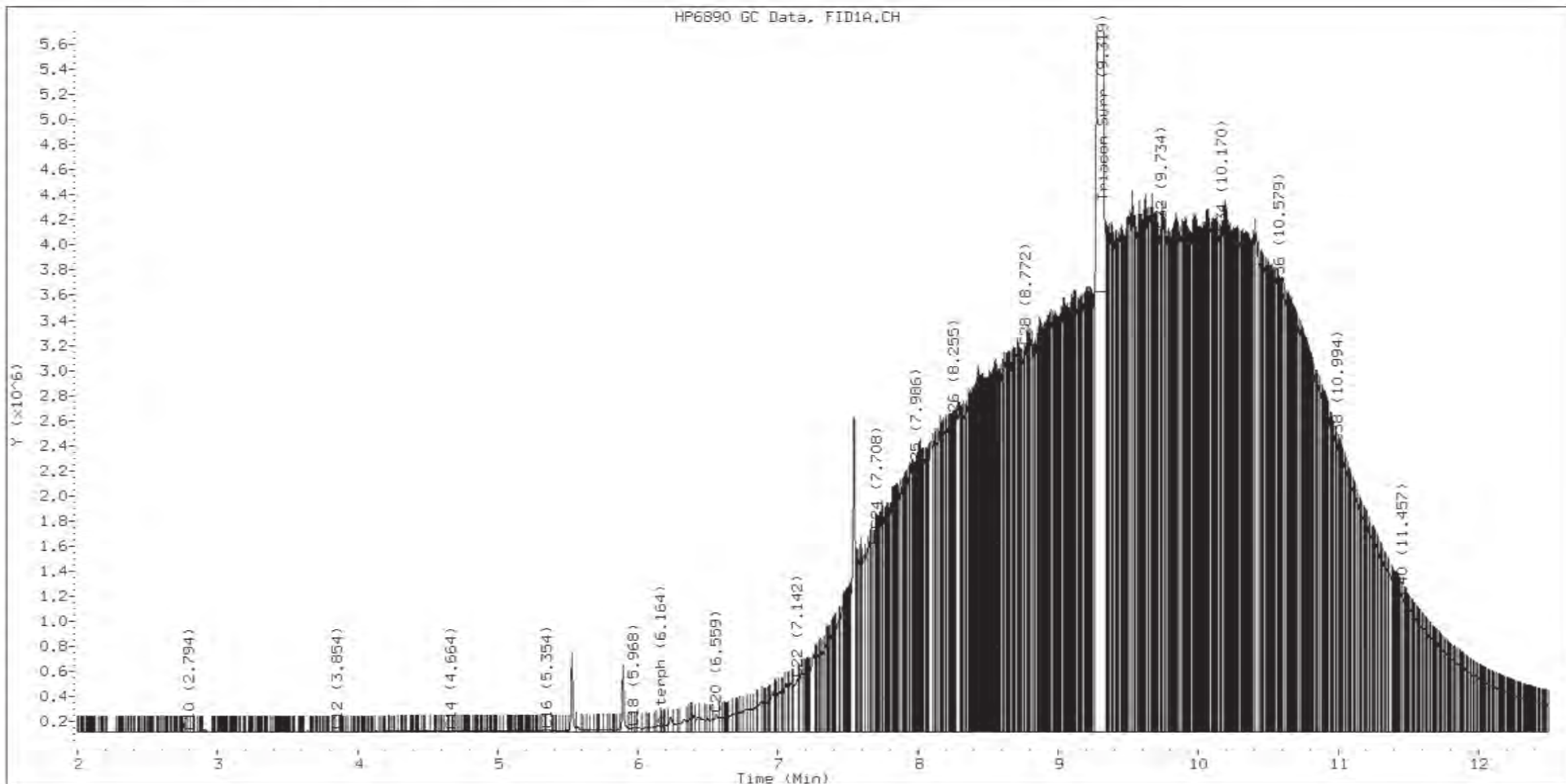
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	12437	6794	WATPHD	(C12-C24)	50023505	343.2
C10	2.794	-0.007	1603	1382	WATPHM	(C24-C38)	629138264	4745.4
C12	3.854	-0.004	5247	5695	AK102	(C10-C25)	69619933	404.2
C14	4.664	-0.004	10564	11502	AK103	(C25-C36)	540174647	5461.3
C16	5.354	-0.002	16087	34954	OR.DIES	(C10-C28)	208310669	1198.8
C18	5.968	-0.004	32949	39919				
C20	6.559	-0.000	138972	310447				
C22	7.142	0.001	427301	781717				
C24	7.708	-0.001	1605305	638932				
C25	7.986	-0.000	2072035	718075				
C26	8.255	-0.002	2467694	982346				
C28	8.772	-0.004	3074685	1975887				
C32	9.734	0.005	3999709	2176432				
C34	10.170	0.003	3982476	2371685				
Filter Peak	13.976	0.003	62326	40134				
C36	10.579	-0.003	3557173	2116083				
C38	10.994	0.006	2297213	1137312				
C40	11.457	-0.003	1081035	1006449				
o-terph	6.164	-0.003	41429	10336				
Triacon Surr	9.319	0.029	23838567	40429932	NAS DIES	(C10-C24)	50155994	292.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	10336	0.1
Triacontane	40429932	232.1 M

M Indicates the peak was manually integrated

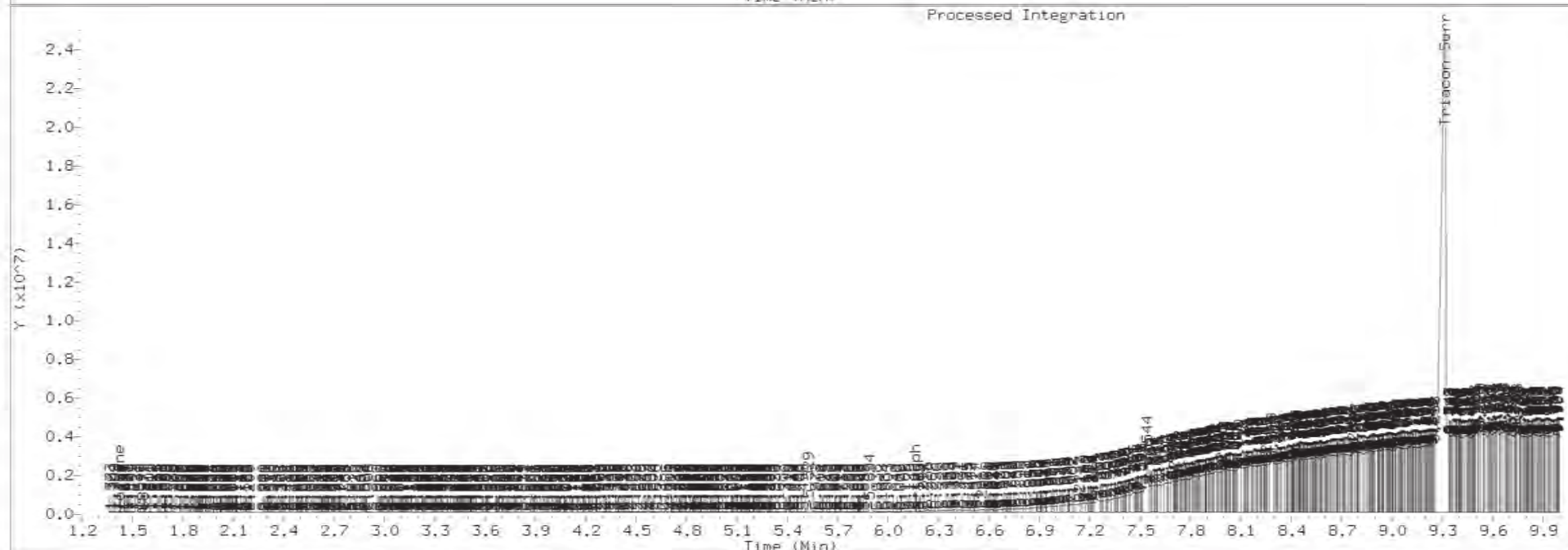
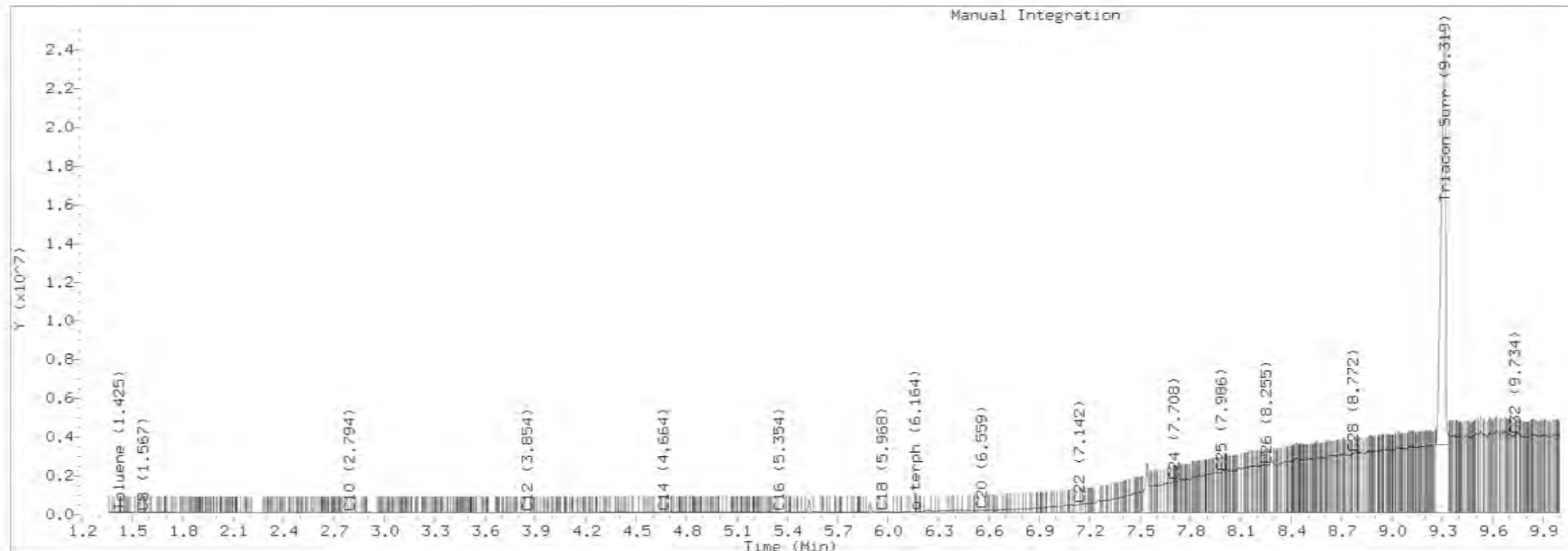
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0631.D Injection: 06-JAN-2022 20:42

Lab ID:SKA0028-CALC



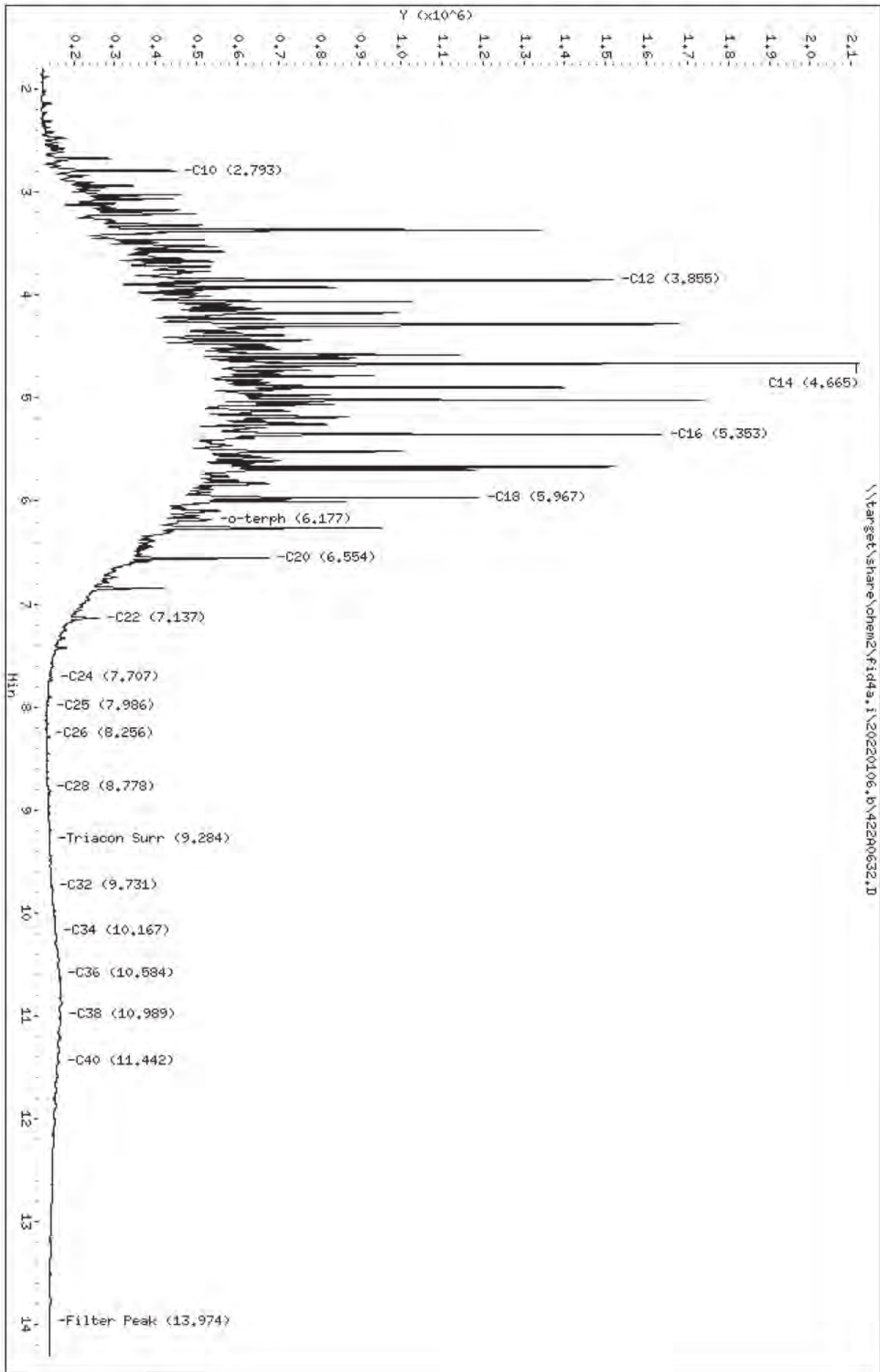


Data File: \\target\share\chem2\fid4s,1\20220106,b\42240632.D  
Date: 06-JAN-2022 21:02  
Client ID:  
Sample Info: SKA0028-SCV1

Column phase: RTX-1

Instrument: fid4s,1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s,1\20220106,b\42240632.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0632.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV1  
Client ID:  
Injection: 06-JAN-2022 21:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

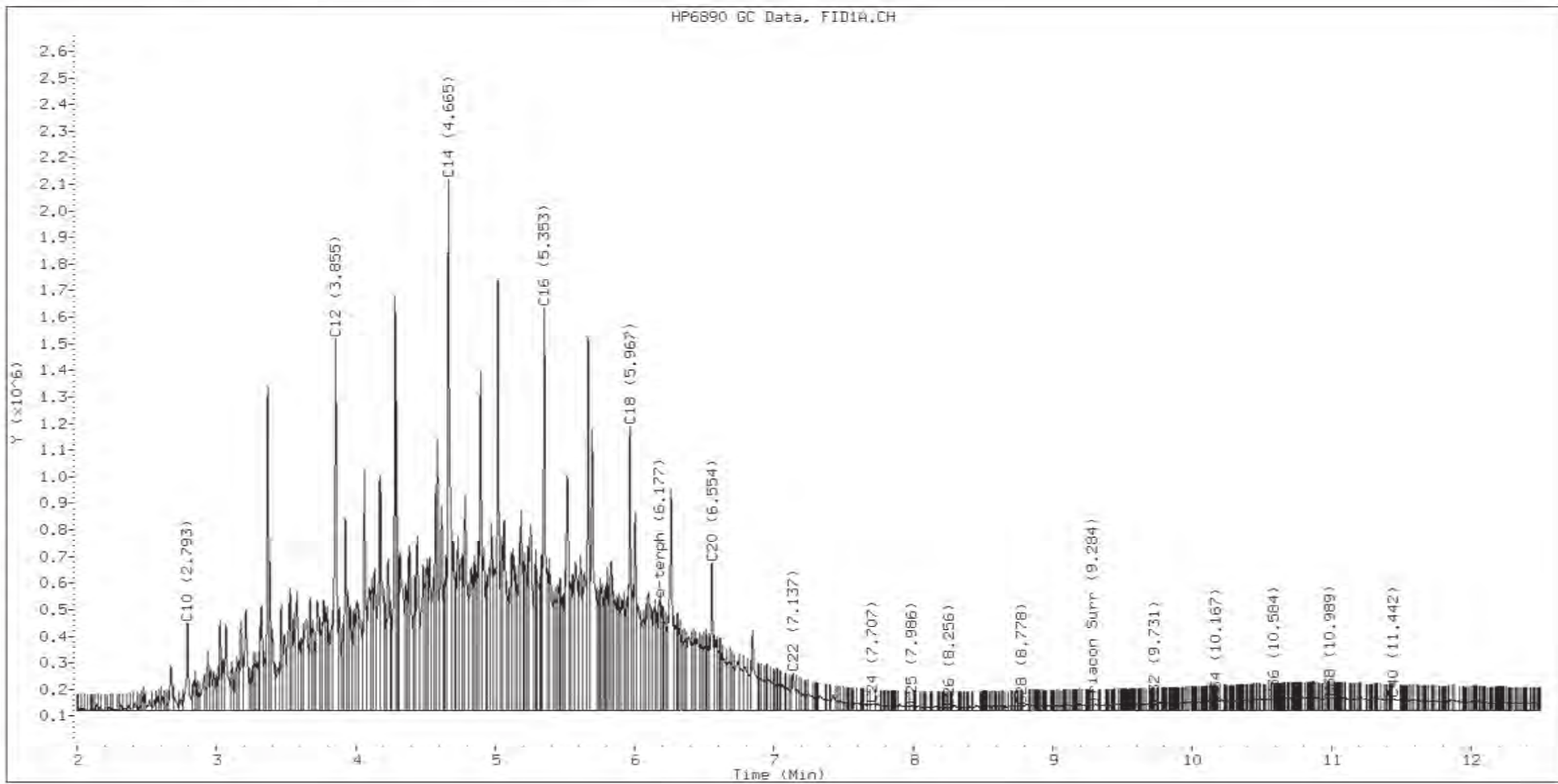
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.554	-0.012	13447	19907	WATPHD	(C12-C24)	81818326	561.4
C10	2.793	-0.008	328700	402623	WATPHM	(C24-C38)	4903930	37.0
C12	3.855	-0.003	1398359	1541786	AK102	(C10-C25)	98237239	570.4
C14	4.665	-0.003	1998212	2275704	AK103	(C25-C36)	3617447	36.6
C16	5.353	-0.003	1514409	1842028	OR.DIES	(C10-C28)	98957633	569.5
C18	5.967	-0.005	1069816	1029152				
C20	6.554	-0.005	555197	666071				
C22	7.137	-0.004	141564	207118				
C24	7.707	-0.002	25196	52303				
C25	7.986	-0.000	18136	25237				
C26	8.256	-0.001	12963	11391				
C28	8.778	0.002	15805	6221				
C32	9.731	0.002	24227	8392				
C34	10.167	-0.000	33488	11671				
Filter Peak	13.974	0.001	19683	11641				
C36	10.584	0.003	44128	15372				
C38	10.989	0.001	46492	34691				
C40	11.442	-0.018	43094	144180				
o-terph	6.177	0.010	416300	426651				
Triacon Surr	9.284	-0.006	19261	10418	NAS DIES	(C10-C24)	98063156	571.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	426651	2.2
Triacontane	10418	0.1

M Indicates the peak was manually integrated

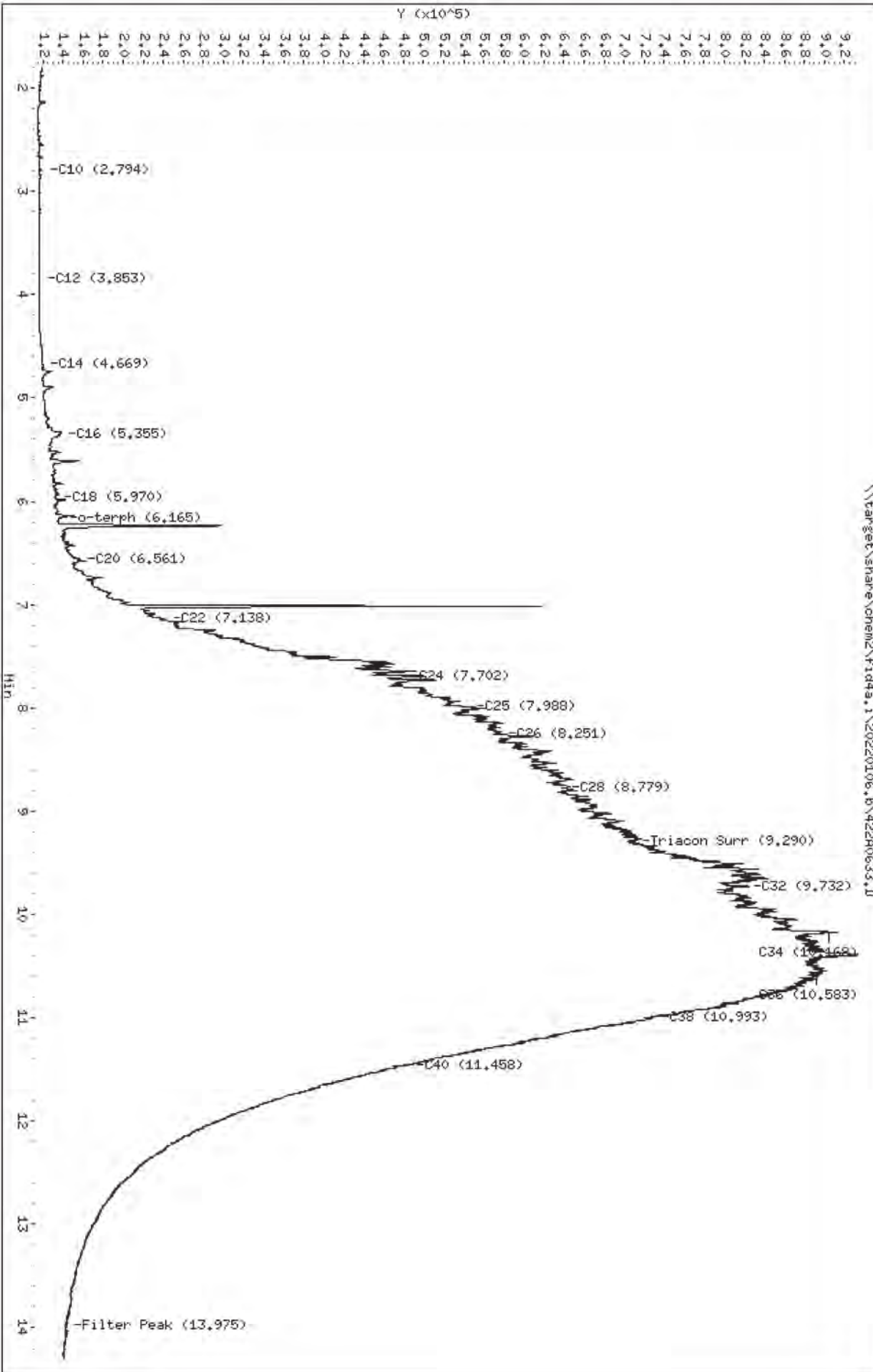
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



Data File: \\target\share\chem2\fid4a.1\20220106.b\42240633.D  
Date: 06-JAN-2022 21:21  
Client ID:  
Sample Info: SKA0028-SCV2

Column phase: RTX-1

Instrument: fid4a.1  
Operator: TMC  
Column diameter: 0.25





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0633.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV2  
Client ID:  
Injection: 06-JAN-2022 21:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

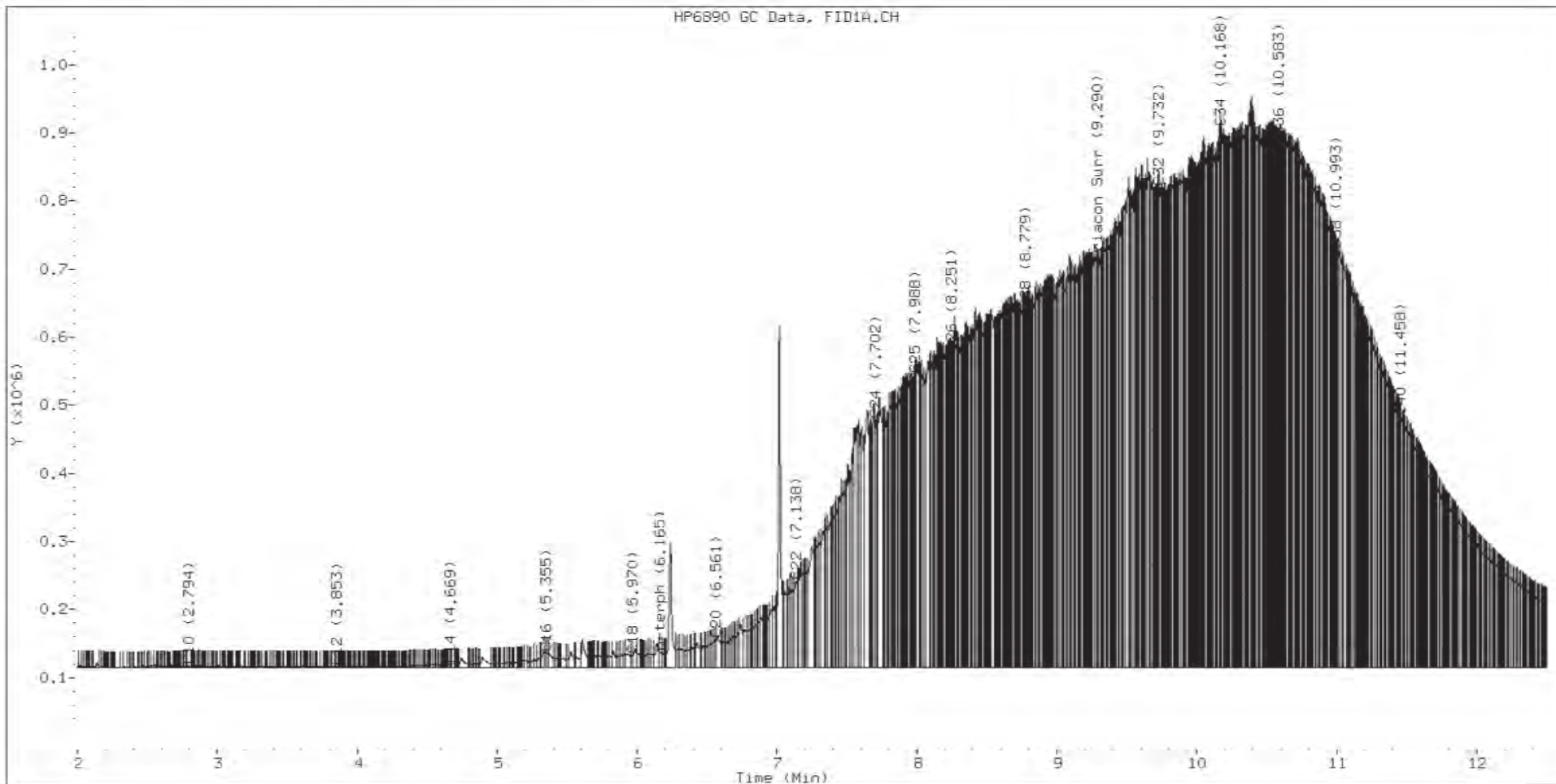
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.571	0.005	9397	3234	WATPHD	(C12-C24)	14056895	96.4
C10	2.794	-0.008	3468	3249	WATPHM	(C24-C38)	119954259	904.8
C12	3.853	-0.006	1998	1502	AK102	(C10-C25)	18142709	105.3
C14	4.669	0.001	4718	2557	AK103	(C25-C36)	98929750	1000.2
C16	5.355	-0.002	21381	13437	OR.DIES	(C10-C28)	43590146	250.9
C18	5.970	-0.003	18024	5393				
C20	6.561	0.002	41385	47221				
C22	7.138	-0.003	126282	164868				
C24	7.702	-0.007	364294	249450				
C25	7.988	0.002	429789	170231				
C26	8.251	-0.006	461561	275289				
C28	8.779	0.003	524231	157049				
C32	9.732	0.002	706043	454955				
C34	10.168	0.001	792309	274623				
Filter Peak	13.975	0.002	27946	6956				
C36	10.583	0.002	779610	310190				
C38	10.993	0.004	614371	153291				
C40	11.458	-0.002	369218	346346				
o-terph	6.165	-0.002	22790	28222				
Triacon Surr	9.290	-0.000	594134	295766	NAS DIES	(C10-C24)	14144817	82.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	28222	0.1
Triacontane	295766	1.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

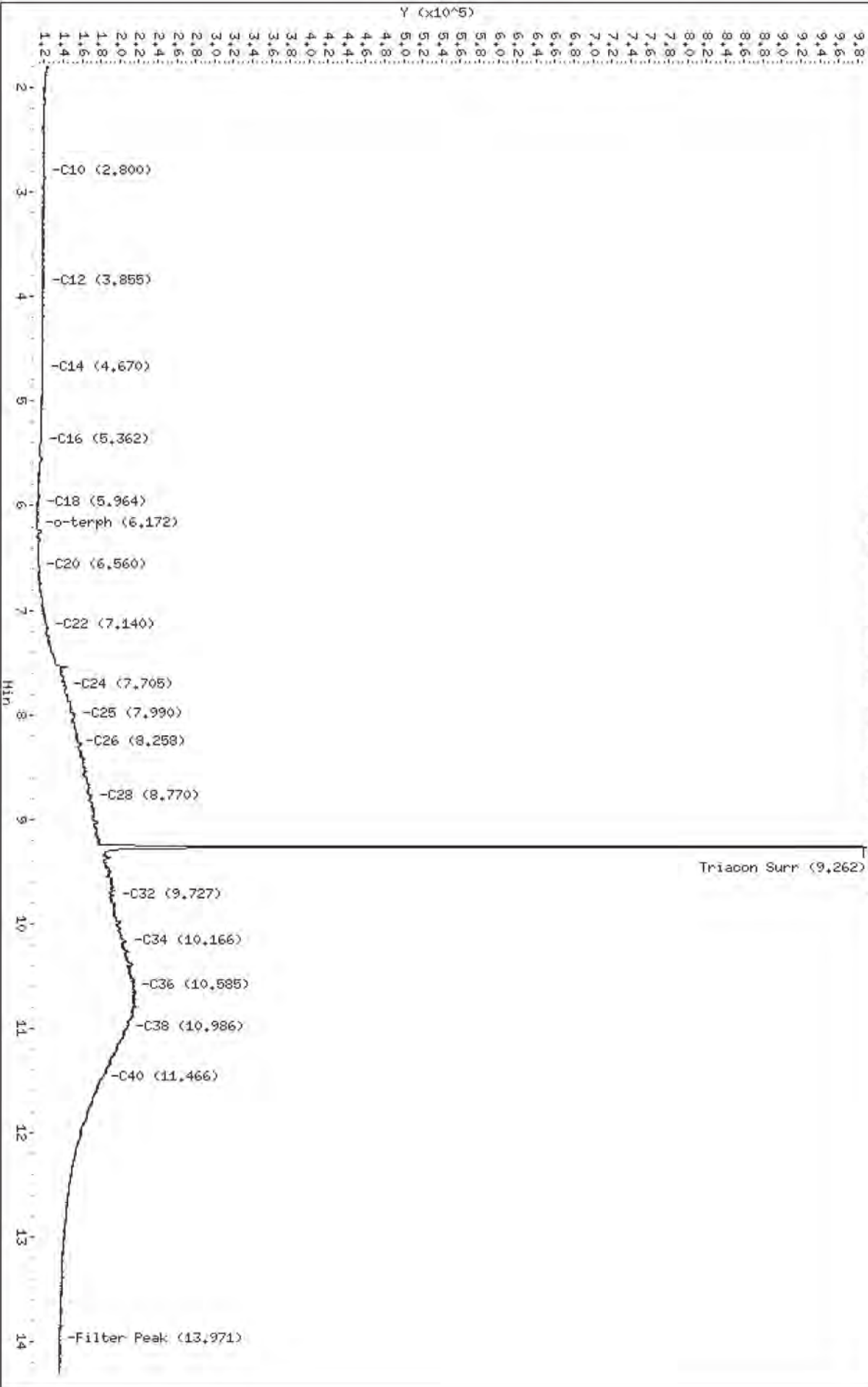


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240634.D  
Date: 06-JAN-2022 21:41  
Client ID:  
Sample Info: SKA0028-CALI

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240634.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0634.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALD  
Client ID:  
Injection: 06-JAN-2022 21:41  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17146	19314	WATPHD	(C12-C24)	1474779	10.1
C10	2.800	-0.002	6919	1375	WATPHM	(C24-C38)	13771790	103.9
C12	3.855	-0.003	6785	3685	AK102	(C10-C25)	2234932	13.0
C14	4.670	0.002	6048	2401	AK103	(C25-C36)	10945533	110.7
C16	5.362	0.006	3993	2753	OR.DIES	(C10-C28)	4695847	27.0
C18	5.964	-0.008	893	555				
C20	6.560	-0.000	1925	933				
C22	7.140	-0.001	10540	7151				
C24	7.705	-0.004	29831	19074				
C25	7.990	0.003	39026	43181				
C26	8.258	0.001	43157	10746				
C28	8.770	-0.005	57286	39691				
C32	9.727	-0.003	80921	56092				
C34	10.166	-0.001	93902	74517				
Filter Peak	13.971	-0.002	23966	5967				
C36	10.585	0.004	101870	25421				
C38	10.986	-0.003	96118	43017				
C40	11.466	0.007	69773	58785				
o-terph	6.172	0.005	280	151				
Triacon Surr	9.262	-0.028	812213	727031	NAS DIES	(C10-C24)	1904331	11.1

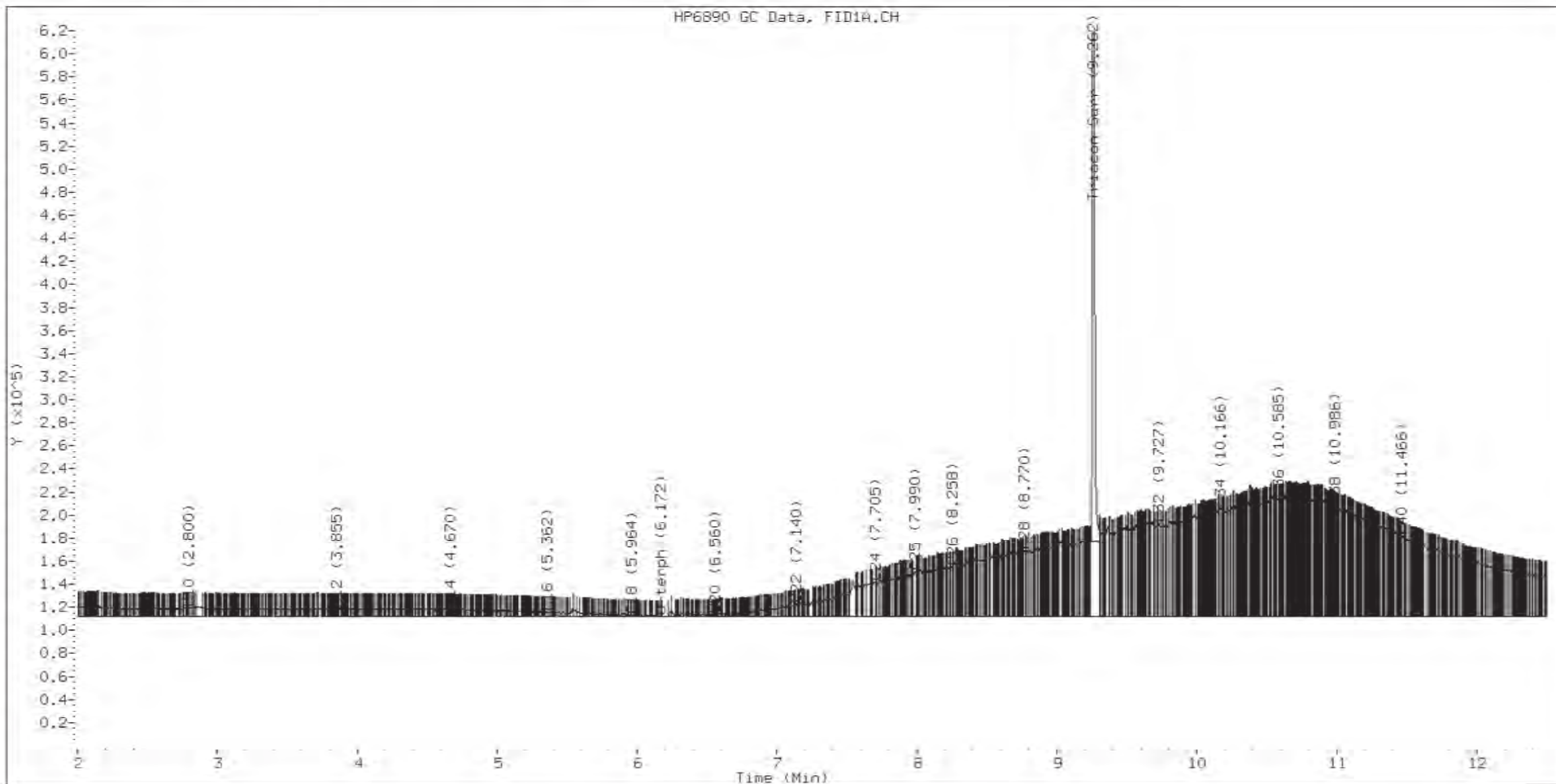
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	151	0.0
Triacontane	727031	4.2 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

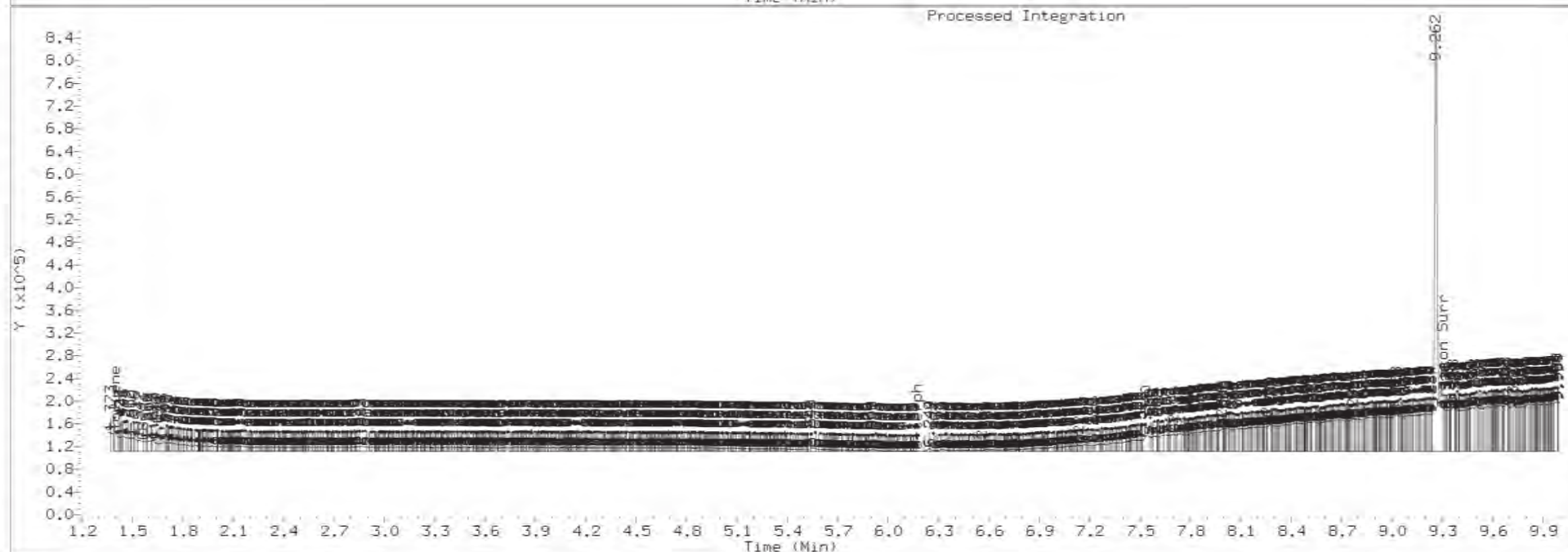
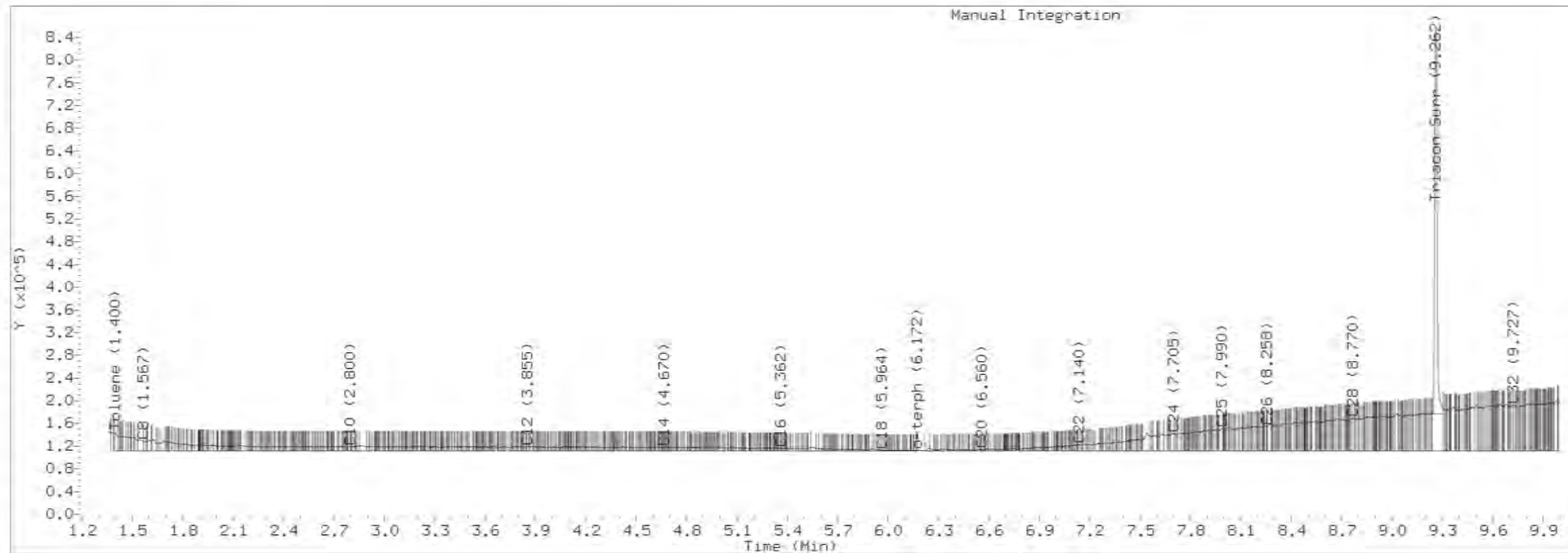




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0634.D Injection: 06-JAN-2022 21:41

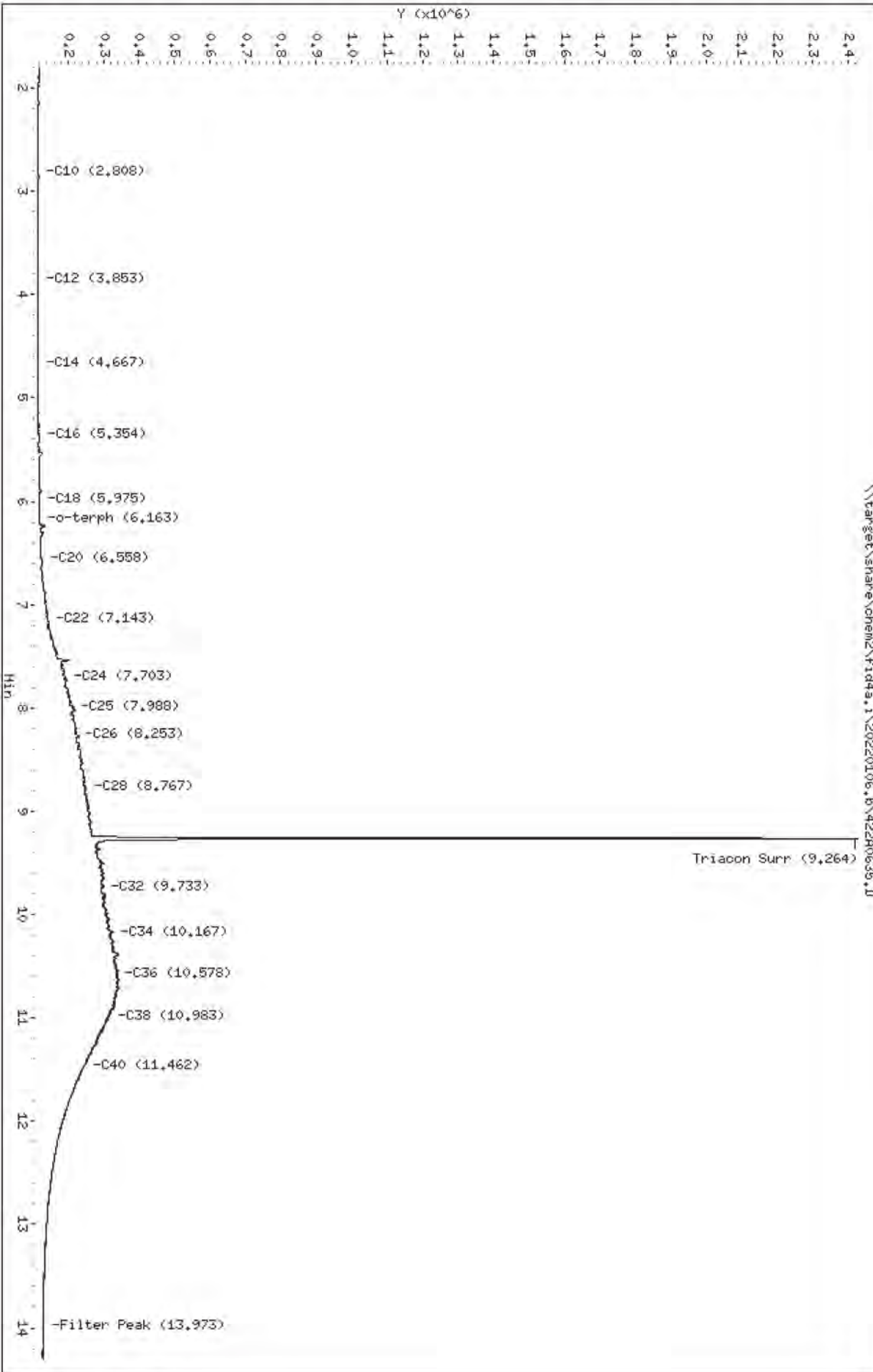
Lab ID:SKA0028-CALD



Data File: \\target\share\chem2\fid4a.1\20220106.b\42240635.D  
Date: 06-JUN-2022 22:01  
Client ID:  
Sample Info: SKA0028-DALE

Column phase: RTX-1

Instrument: fid4a.1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0635.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALE  
Client ID:  
Injection: 06-JAN-2022 22:01  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.010	8719	1728	WATPHD	(C12-C24)	2929726	20.1
C10	2.808	0.007	730	310	WATPHM	(C24-C38)	31748804	239.5
C12	3.853	-0.006	795	616	AK102	(C10-C25)	3824694	22.2
C14	4.667	-0.001	1277	1021	AK103	(C25-C36)	25645540	259.3
C16	5.354	-0.002	2070	507	OR.DIES	(C10-C28)	9965738	57.4
C18	5.975	0.003	3530	1724				
C20	6.558	-0.002	10355	11106				
C22	7.143	0.001	29007	34388				
C24	7.703	-0.005	77178	83297				
C25	7.988	0.002	98914	48889				
C26	8.253	-0.005	108103	48204				
C28	8.767	-0.009	136834	155381				
C32	9.733	0.004	184014	127408				
C34	10.167	-0.000	211495	52618				
Filter Peak	13.973	0.000	14730	5087				
C36	10.578	-0.003	222240	77716				
C38	10.983	-0.005	200745	129371				
C40	11.462	0.002	131317	97270				
o-terph	6.163	-0.004	4526	2639				
Triacon Surr	9.264	-0.025	2163427	1840060	NAS DIES	(C10-C24)	2959772	17.2

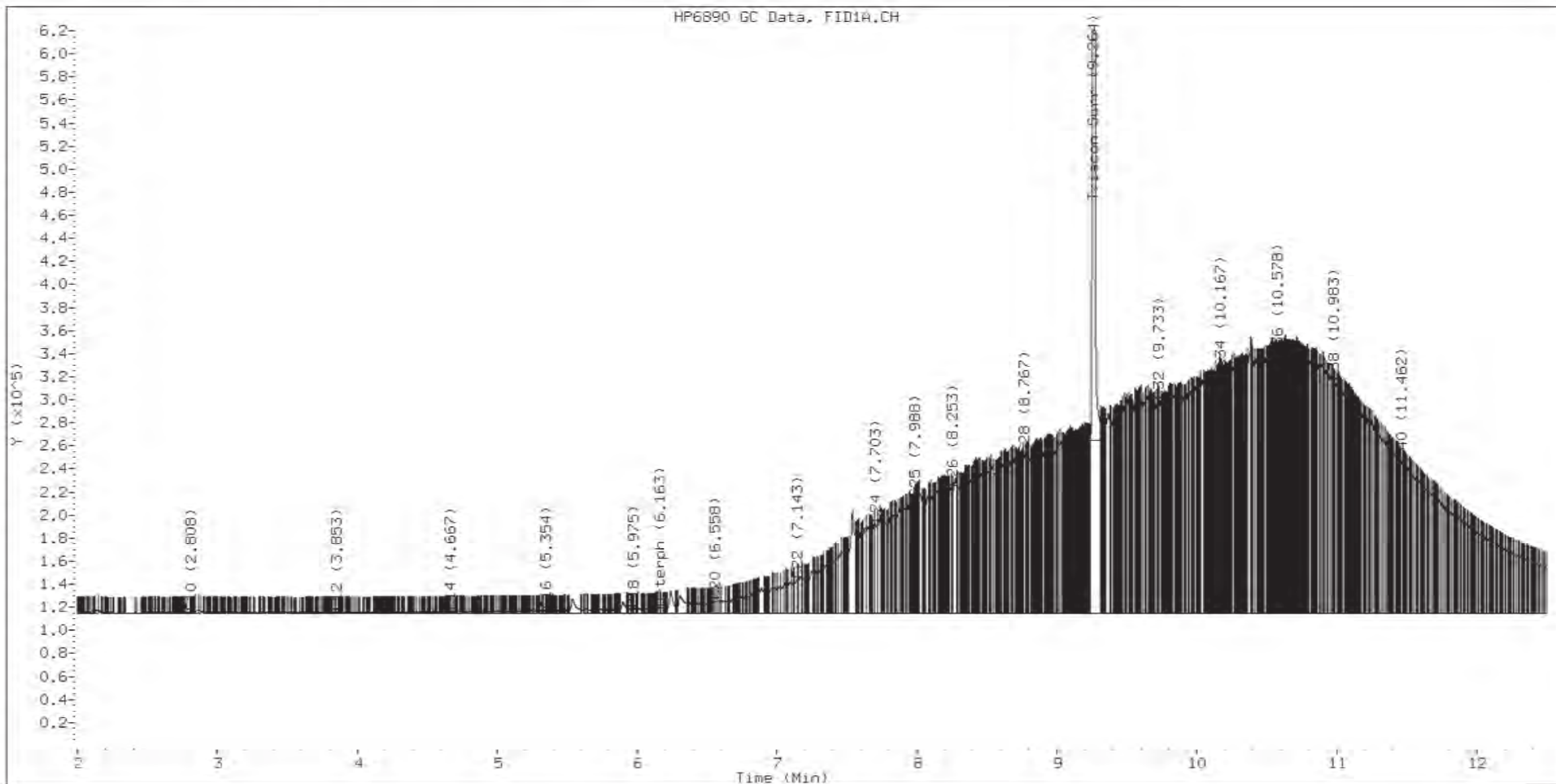
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	2639	0.0
Triacontane	1840060	10.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

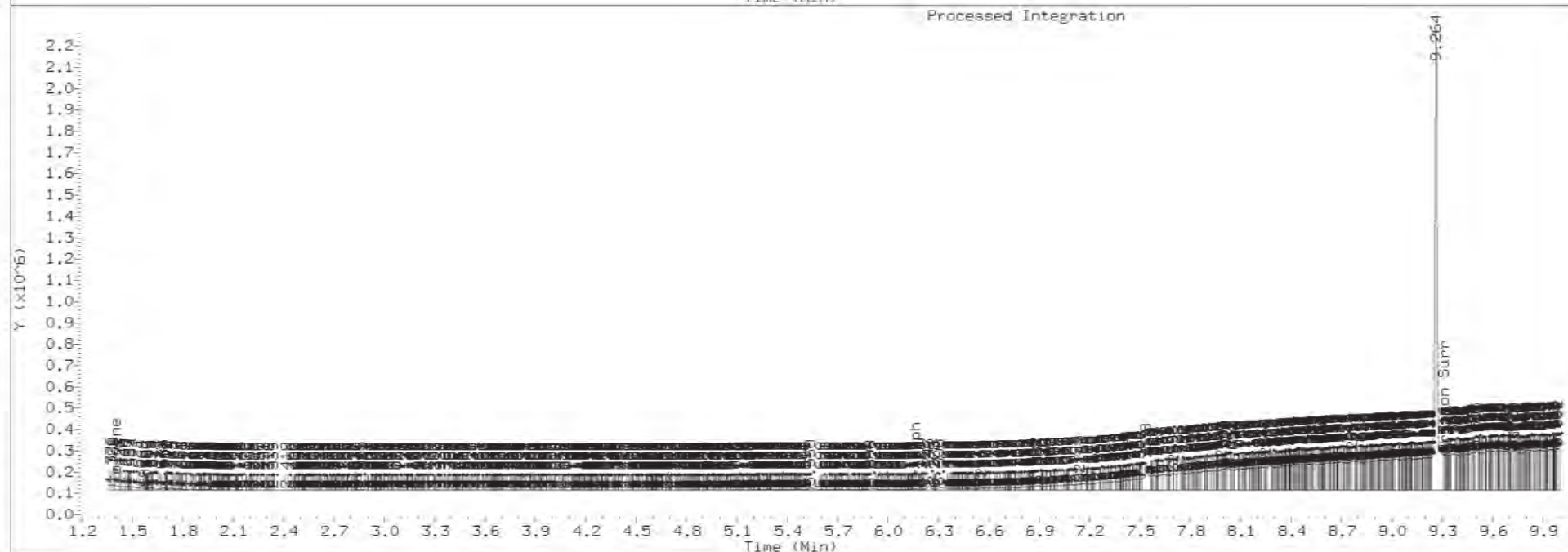
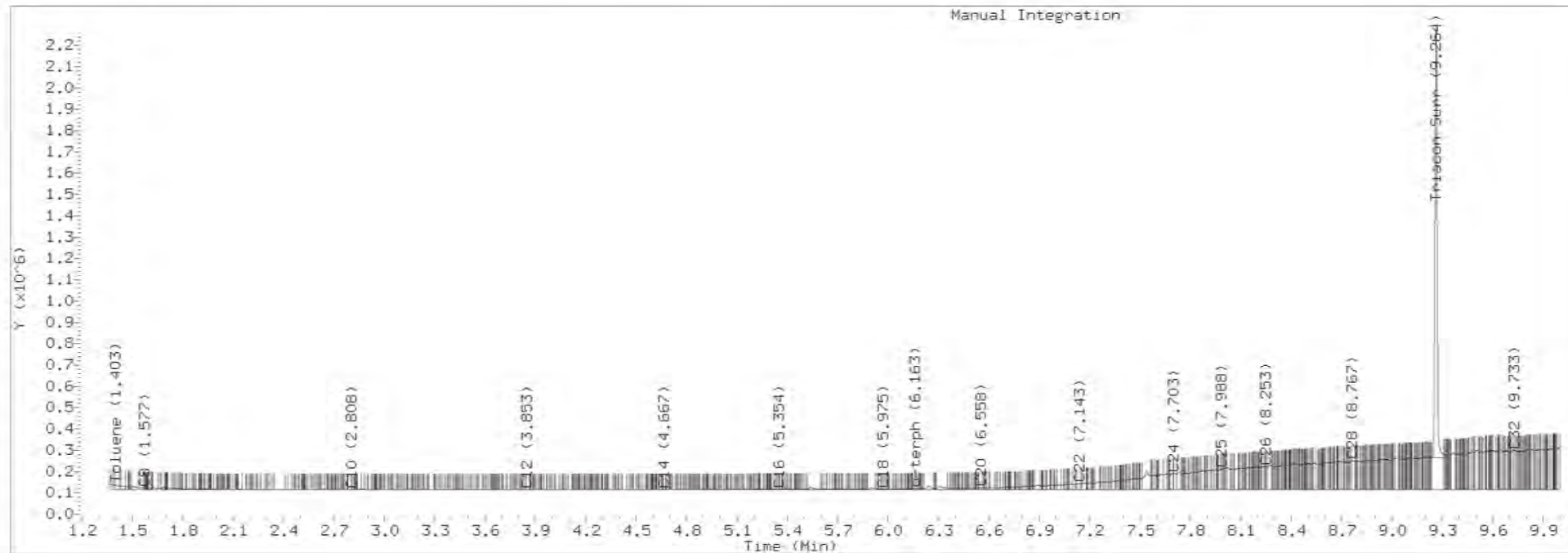




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0635.D Injection: 06-JAN-2022 22:01

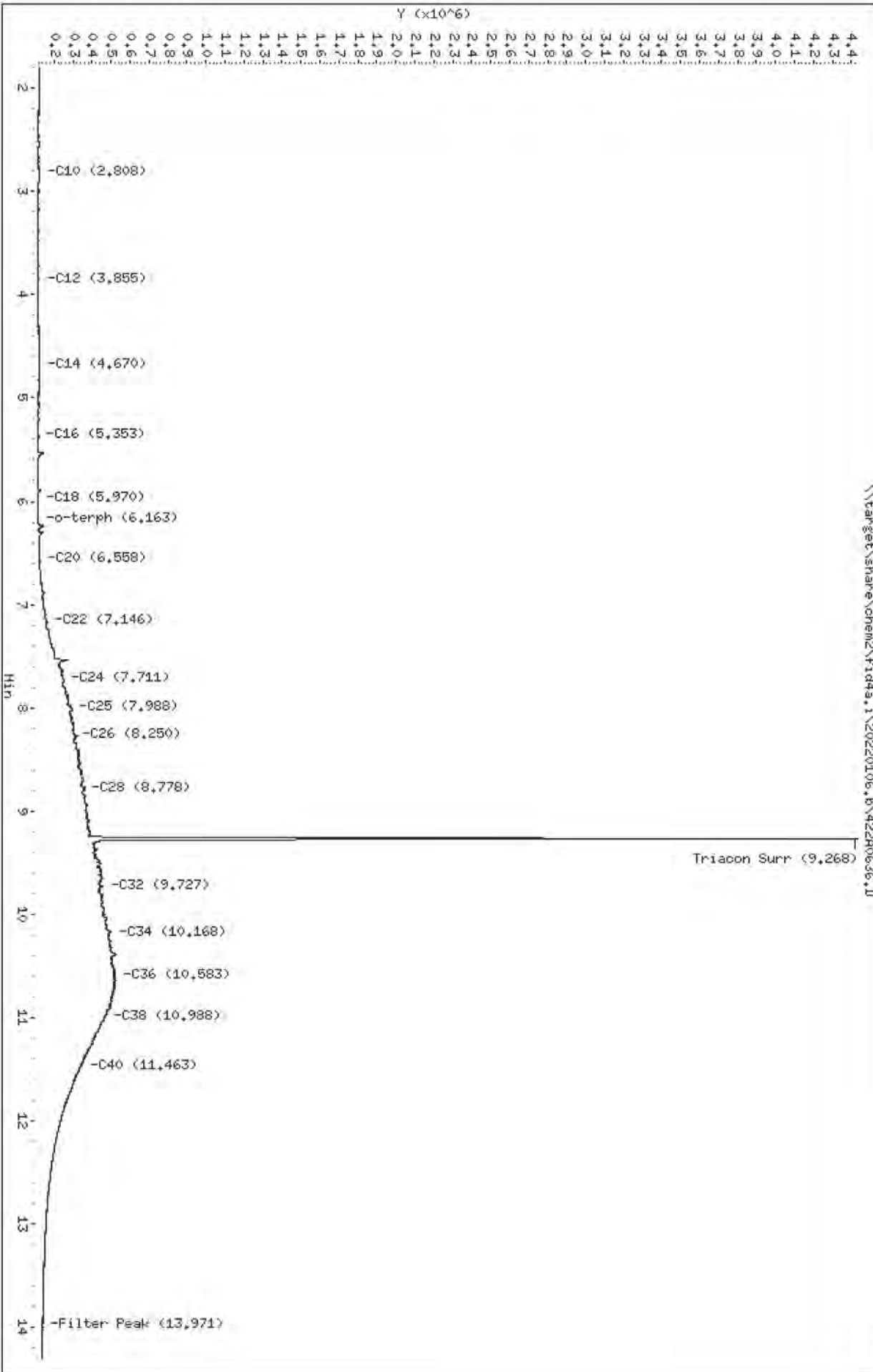
Lab ID:SKA0028-CALE



Data File: \\target\share\chem2\fid4s.1\20220106.b\42240636.D  
Date: 06-JAN-2022 22:21  
Client ID:  
Sample Info: SKA0028-CALF

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0636.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALF  
Client ID:  
Injection: 06-JAN-2022 22:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

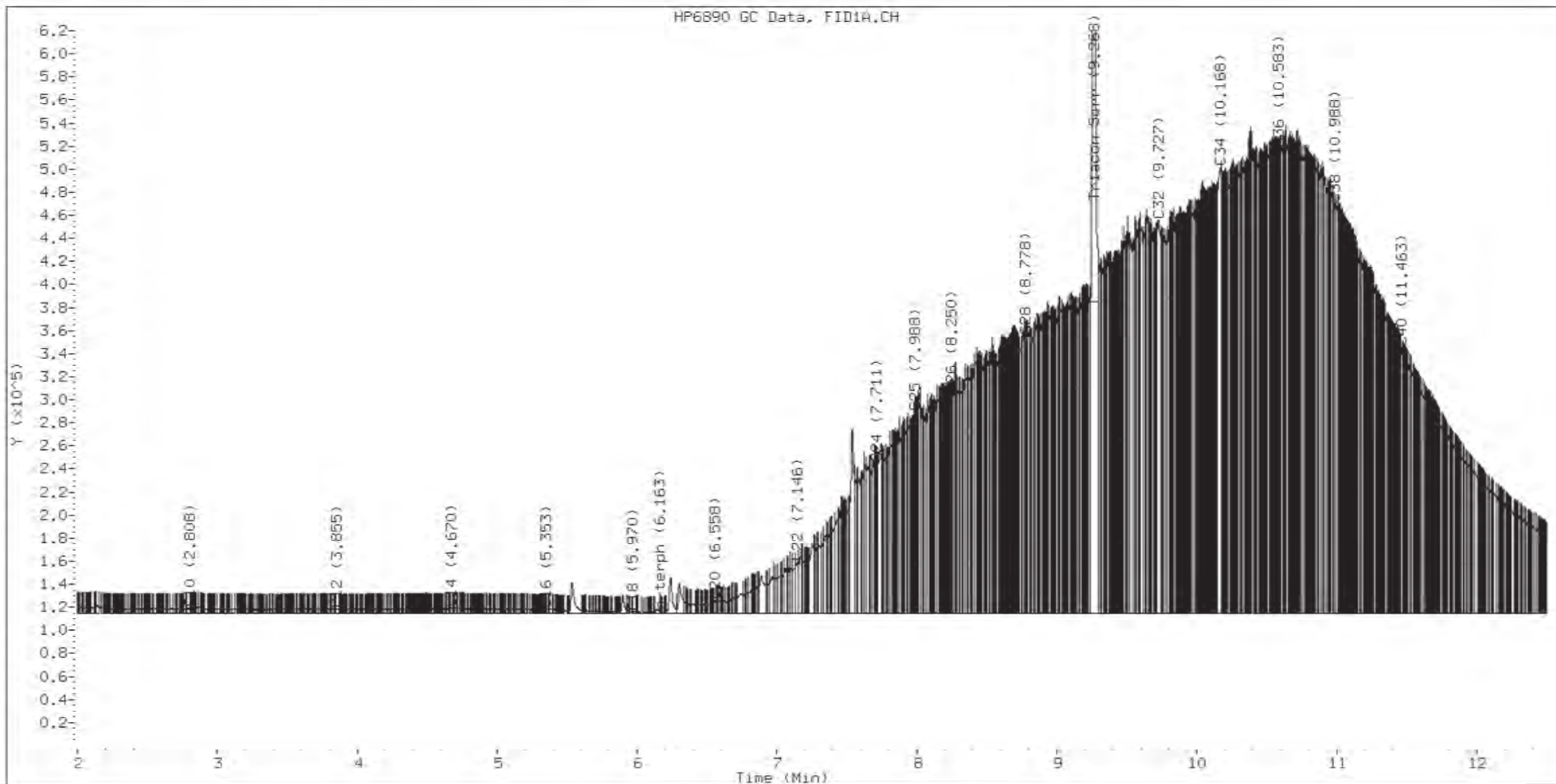
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.588	0.022	14154	9065	WATPHD	(C12-C24)	4637647	31.8
C10	2.808	0.006	3982	972	WATPHM	(C24-C38)	56653473	427.3
C12	3.855	-0.004	3786	3993	AK102	(C10-C25)	6441039	37.4
C14	4.670	0.002	4050	2404	AK103	(C25-C36)	45729418	462.3
C16	5.353	-0.004	3118	761	OR.DIES	(C10-C28)	17026229	98.0
C18	5.970	-0.002	794	203				
C20	6.558	-0.001	10478	9728				
C22	7.146	0.005	44045	65456				
C24	7.711	0.002	130061	38666				
C25	7.988	0.002	174343	60325				
C26	8.250	-0.007	189683	56662				
C28	8.778	0.003	240756	95966				
C32	9.727	-0.003	340946	614753				
C34	10.168	0.001	386820	624600				
Filter Peak	13.971	-0.002	25087	9932				
C36	10.583	0.002	402993	240743				
C38	10.988	-0.000	355088	281638				
C40	11.463	0.003	229950	158804				
o-terph	6.163	-0.005	2082	1126				
Triacon Surr	9.268	-0.022	4048608	3404066	NAS DIES	(C10-C24)	4860533	28.3

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1126	0.0
Triacontane	3404066	19.5 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

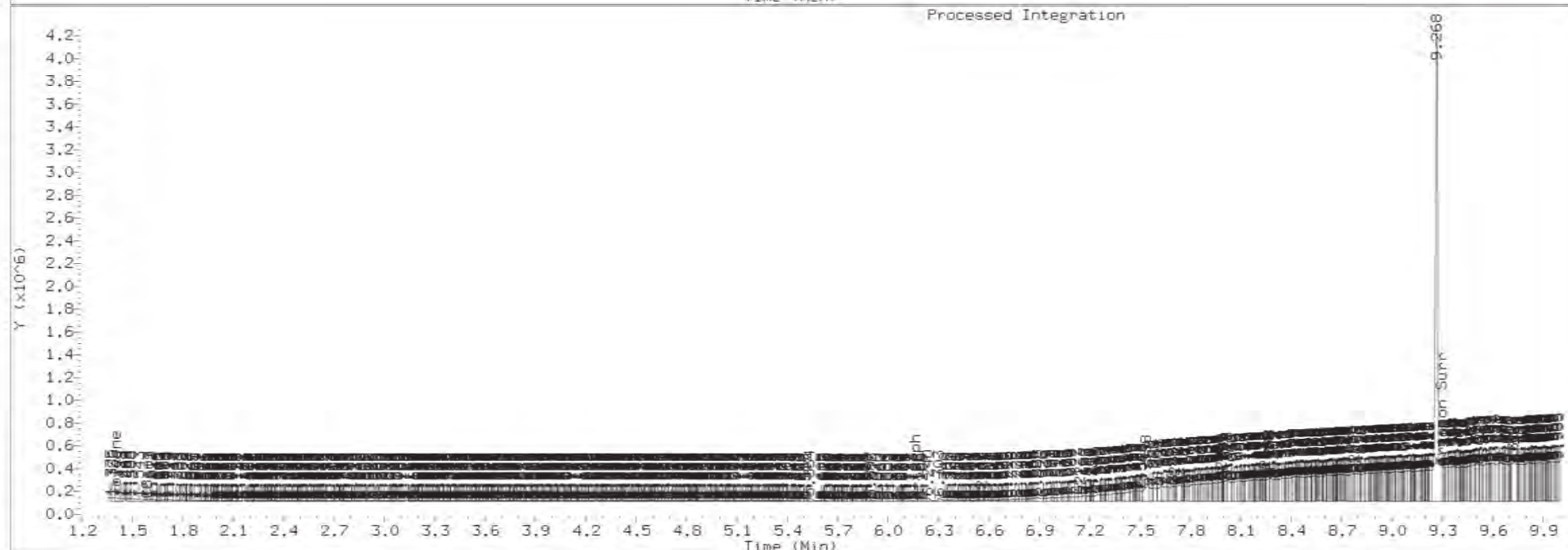
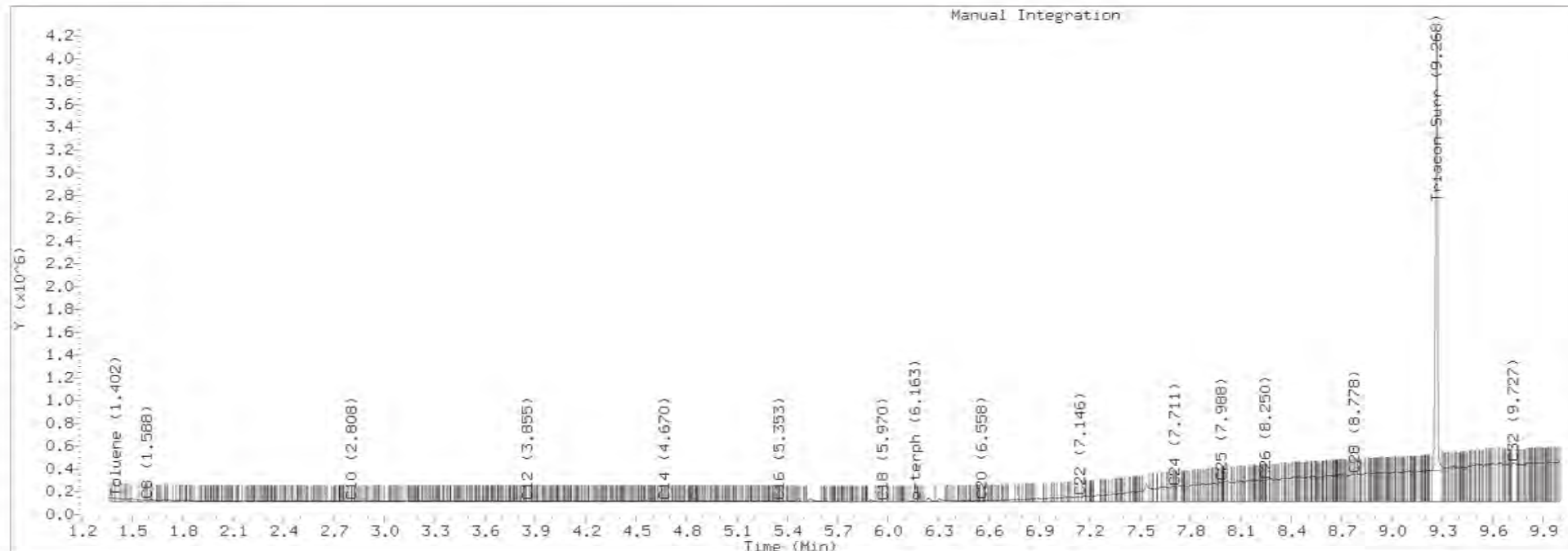




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0636.D Injection: 06-JAN-2022 22:21

Lab ID:SKA0028-CALF

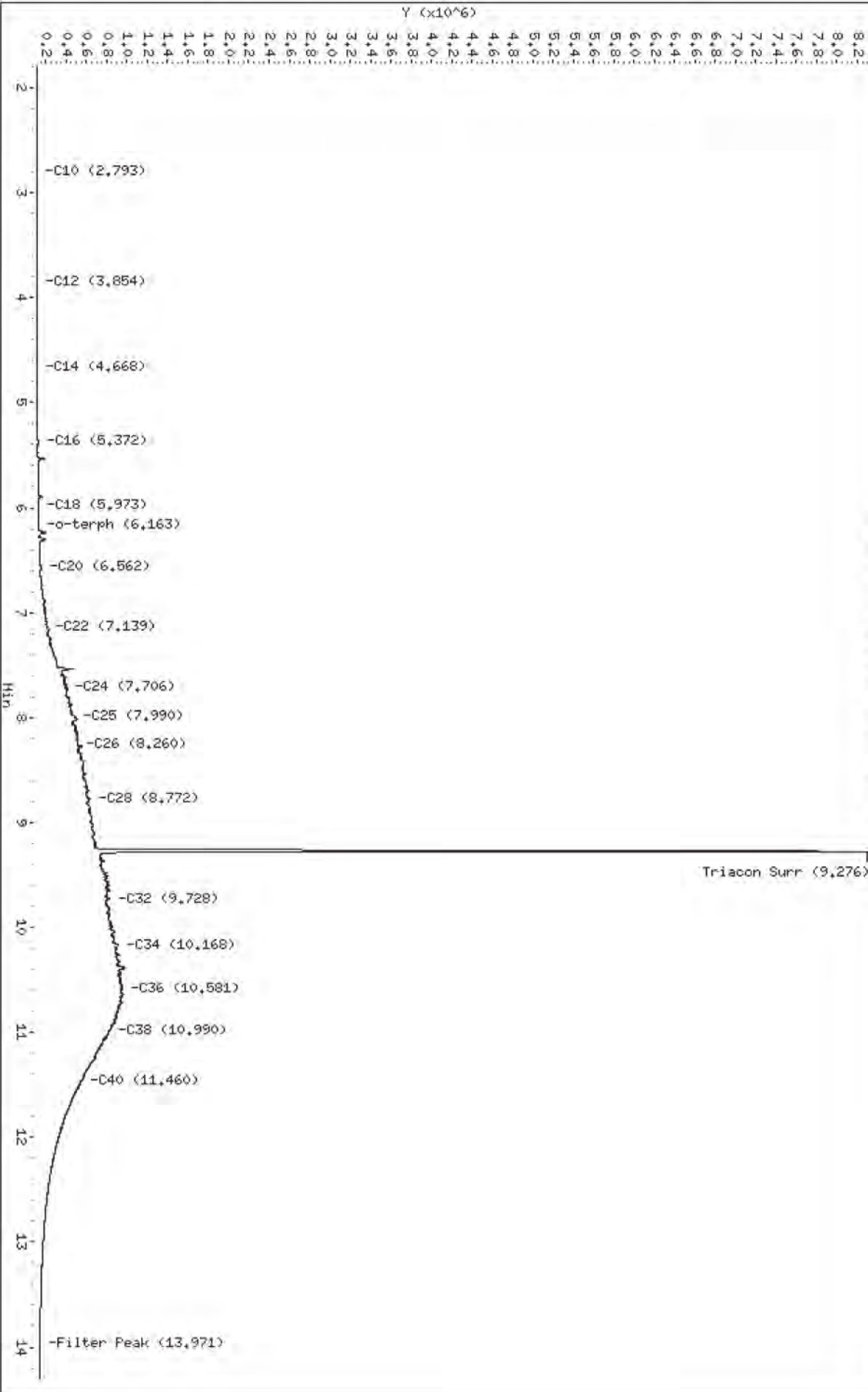


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240637.D  
Date: 06-JUN-2022 22:40  
Client ID:  
Sample Info: SKA0028-CALG

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240637.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0637.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALG  
Client ID:  
Injection: 06-JAN-2022 22:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10251	8037	WATPHD	(C12-C24)	10669048	73.2
C10	2.793	-0.009	2989	2545	WATPHM	(C24-C38)	118912028	896.9
C12	3.854	-0.004	3129	3369	AK102	(C10-C25)	14106045	81.9
C14	4.668	-0.000	3674	726	AK103	(C25-C36)	96301748	973.6
C16	5.372	0.016	8563	21003	OR.DIES	(C10-C28)	36905977	212.4
C18	5.973	0.001	11679	12084				
C20	6.562	0.002	35663	24640				
C22	7.139	-0.002	103298	79290				
C24	7.706	-0.003	284447	224436				
C25	7.990	0.004	378257	277820				
C26	8.260	0.003	403438	120714				
C28	8.772	-0.004	516982	255803				
C32	9.728	-0.002	718410	459925				
C34	10.168	0.001	803384	239993				
Filter Peak	13.971	-0.002	27761	6898				
C36	10.581	-0.000	834404	331494				
C38	10.990	0.001	714197	317894				
C40	11.460	0.001	440399	153485				
o-terph	6.163	-0.004	14672	10827				
Triacon Surr	9.276	-0.014	7631149	7112816	NAS DIES	(C10-C24)	10776583	62.7

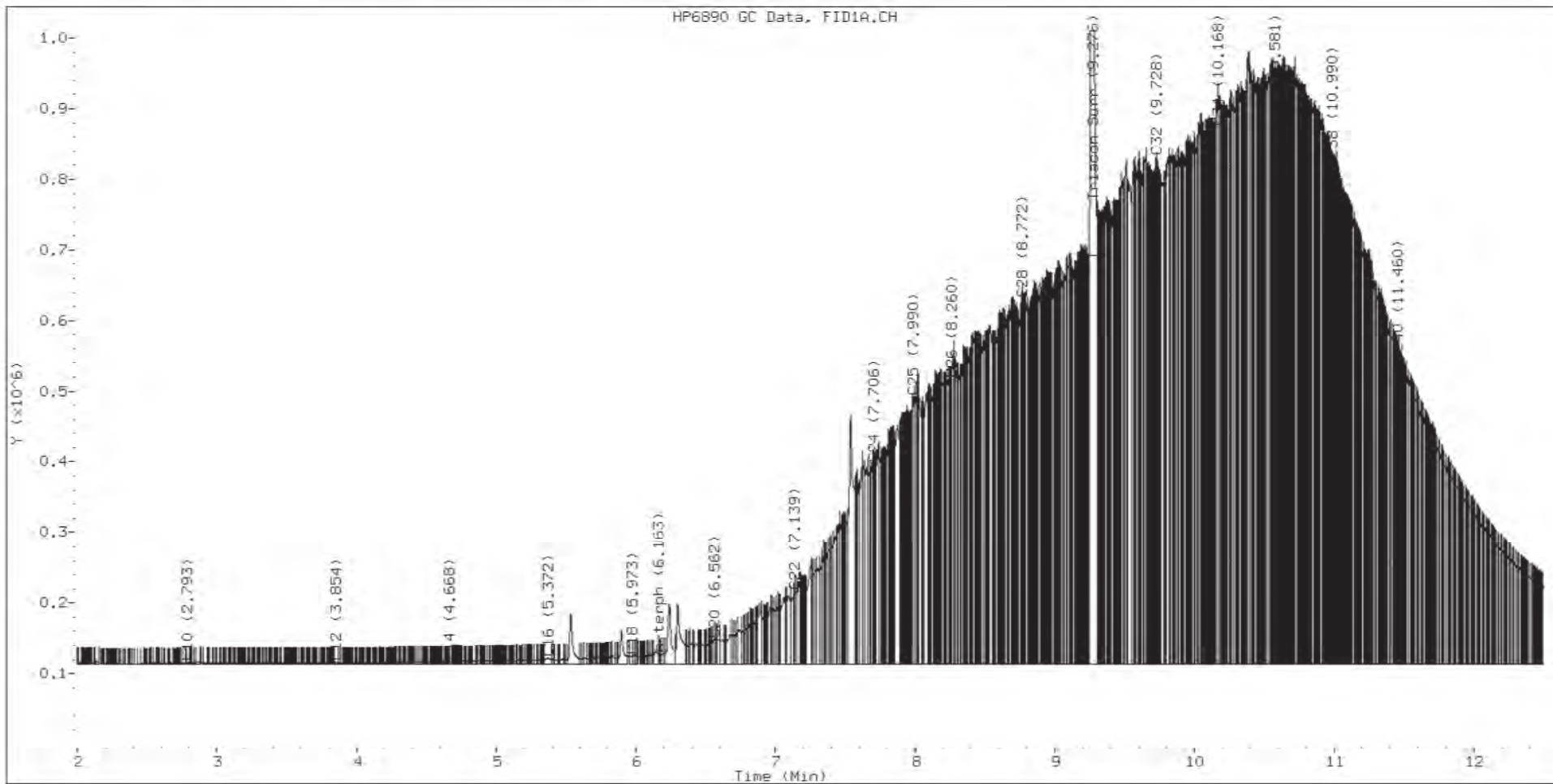
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	10827	0.1
Triacontane	7112816	40.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

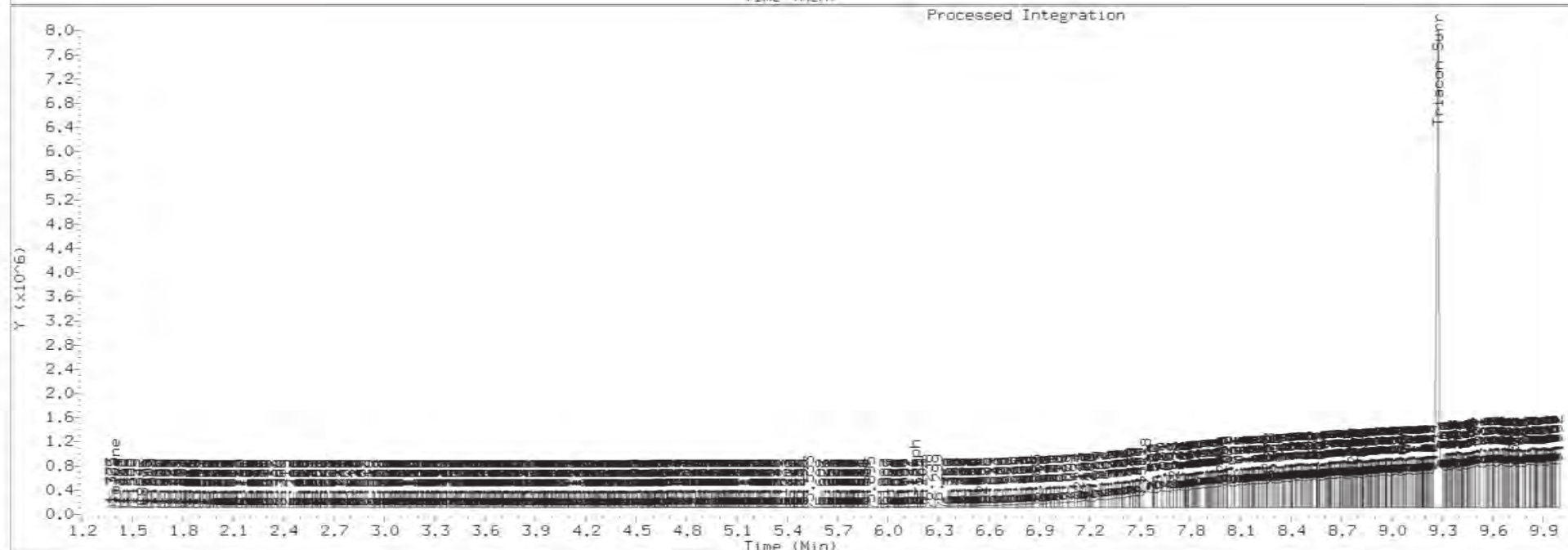
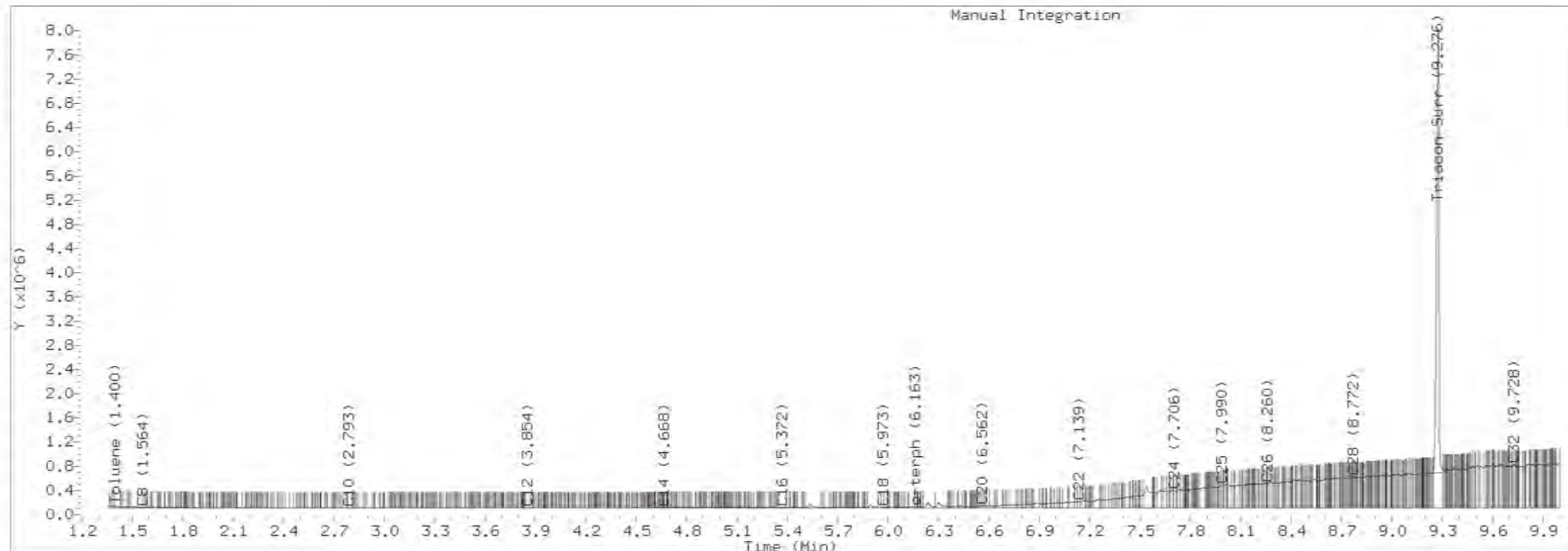




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0637.D Injection: 06-JAN-2022 22:40

Lab ID:SKA0028-CALG

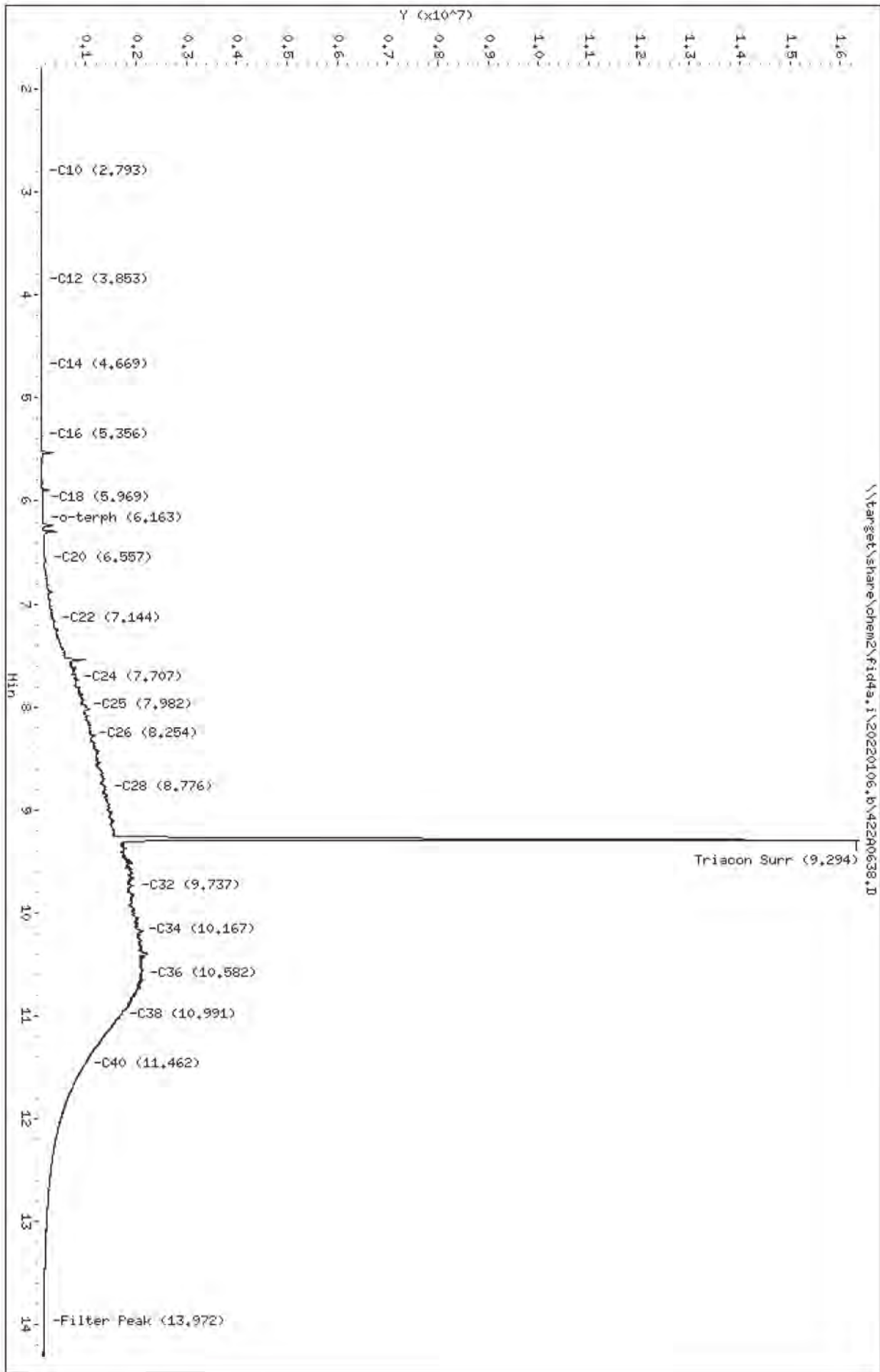


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240638.D  
Date: 06-JUN-2022 23:00  
Client ID:  
Sample Info: SKA0028-DALH

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

\\target\share\chem2\fid4s.1\20220106.b\42240638.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0638.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALH  
Client ID:  
Injection: 06-JAN-2022 23:00  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

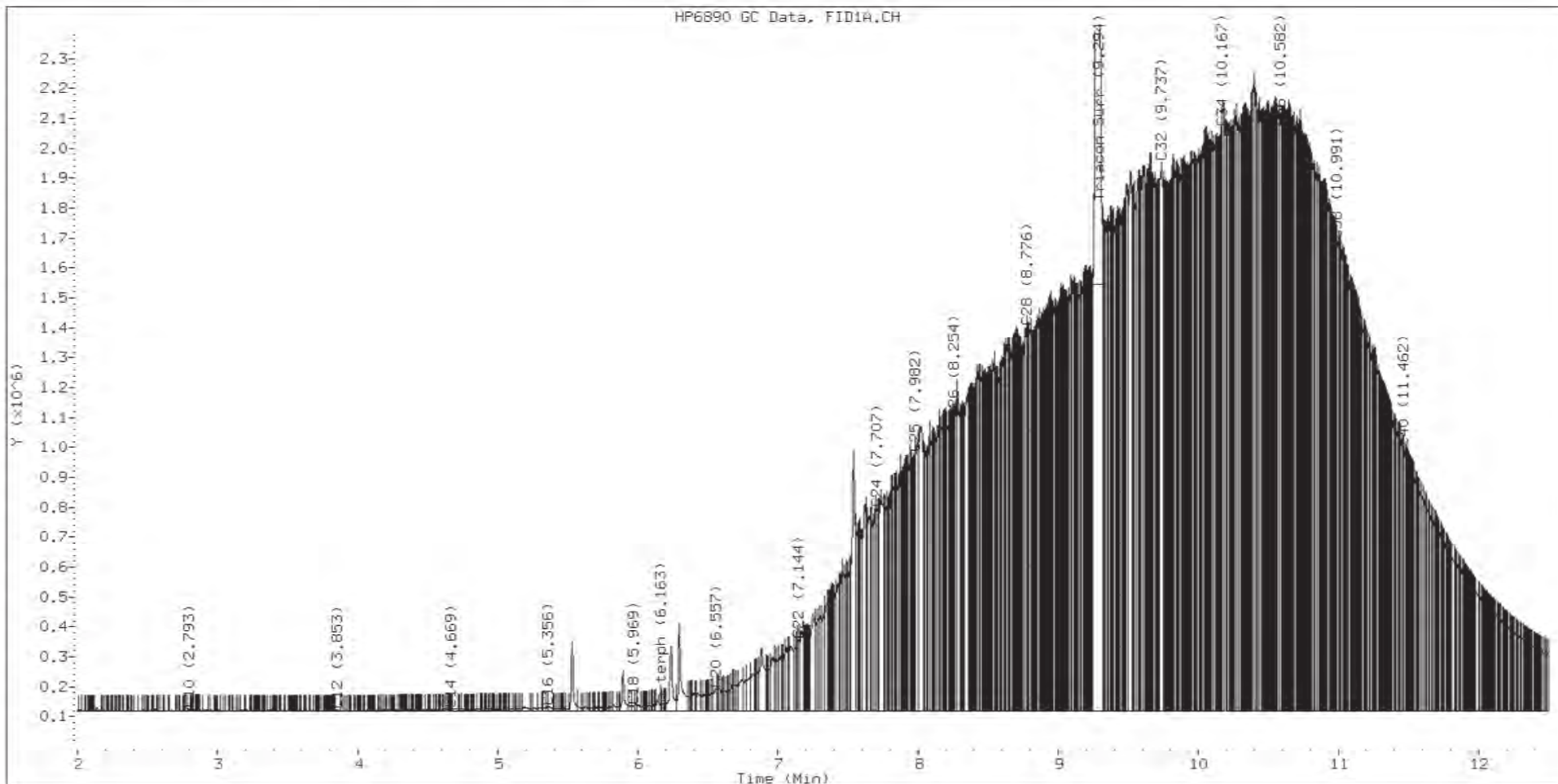
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.550	-0.016	15003	25686	WATPHD	(C12-C24)	24361681	167.1
C10	2.793	-0.008	5806	4253	WATPHM	(C24-C38)	289674025	2184.9
C12	3.853	-0.006	4910	5292	AK102	(C10-C25)	32275990	187.4
C14	4.669	0.001	5973	2906	AK103	(C25-C36)	237850338	2404.7
C16	5.356	-0.001	13540	11261	OR.DIES	(C10-C28)	87712919	504.8
C18	5.969	-0.003	19481	20038				
C20	6.557	-0.003	74936	126475				
C22	7.144	0.003	236942	186098				
C24	7.707	-0.002	677766	469515				
C25	7.982	-0.005	863746	542351				
C26	8.254	-0.003	976816	340522				
C28	8.776	0.000	1285059	822854				
C32	9.737	0.008	1833990	3204593				
C34	10.167	-0.001	1975729	1066182				
Filter Peak	13.972	-0.001	47695	14242				
C36	10.582	0.001	1998401	1188859				
C38	10.991	0.002	1575341	1017575				
C40	11.462	0.002	881216	482236				
o-terph	6.163	-0.004	24484	15319				
Triacon Surr	9.294	0.004	14822727	18477737	NAS DIES	(C10-C24)	24461975	142.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	15319	0.1
Triacontane	18477737	106.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

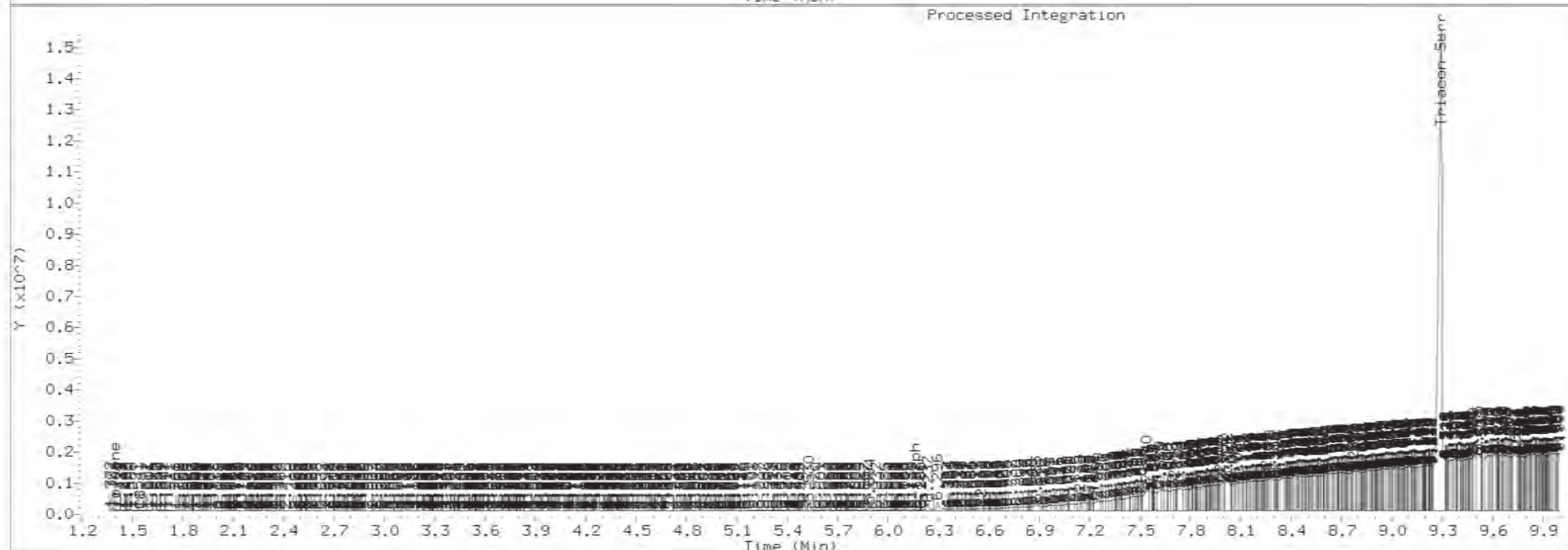
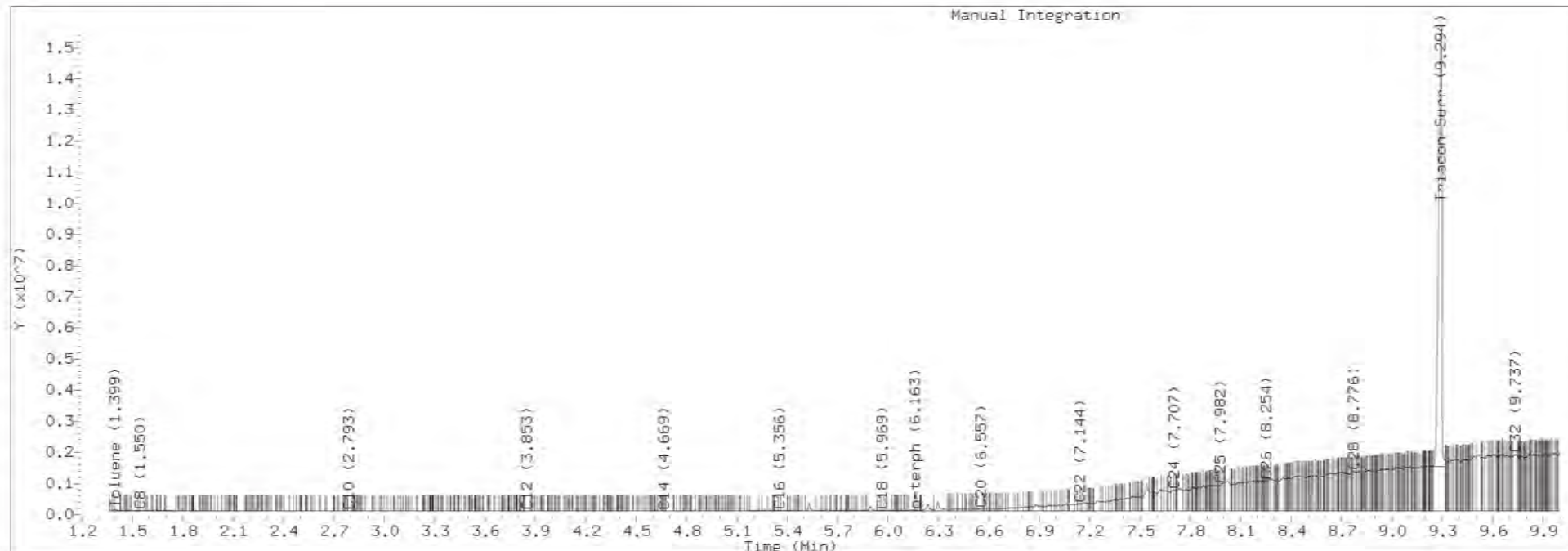




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0638.D Injection: 06-JAN-2022 23:00

Lab ID:SKA0028-CALH

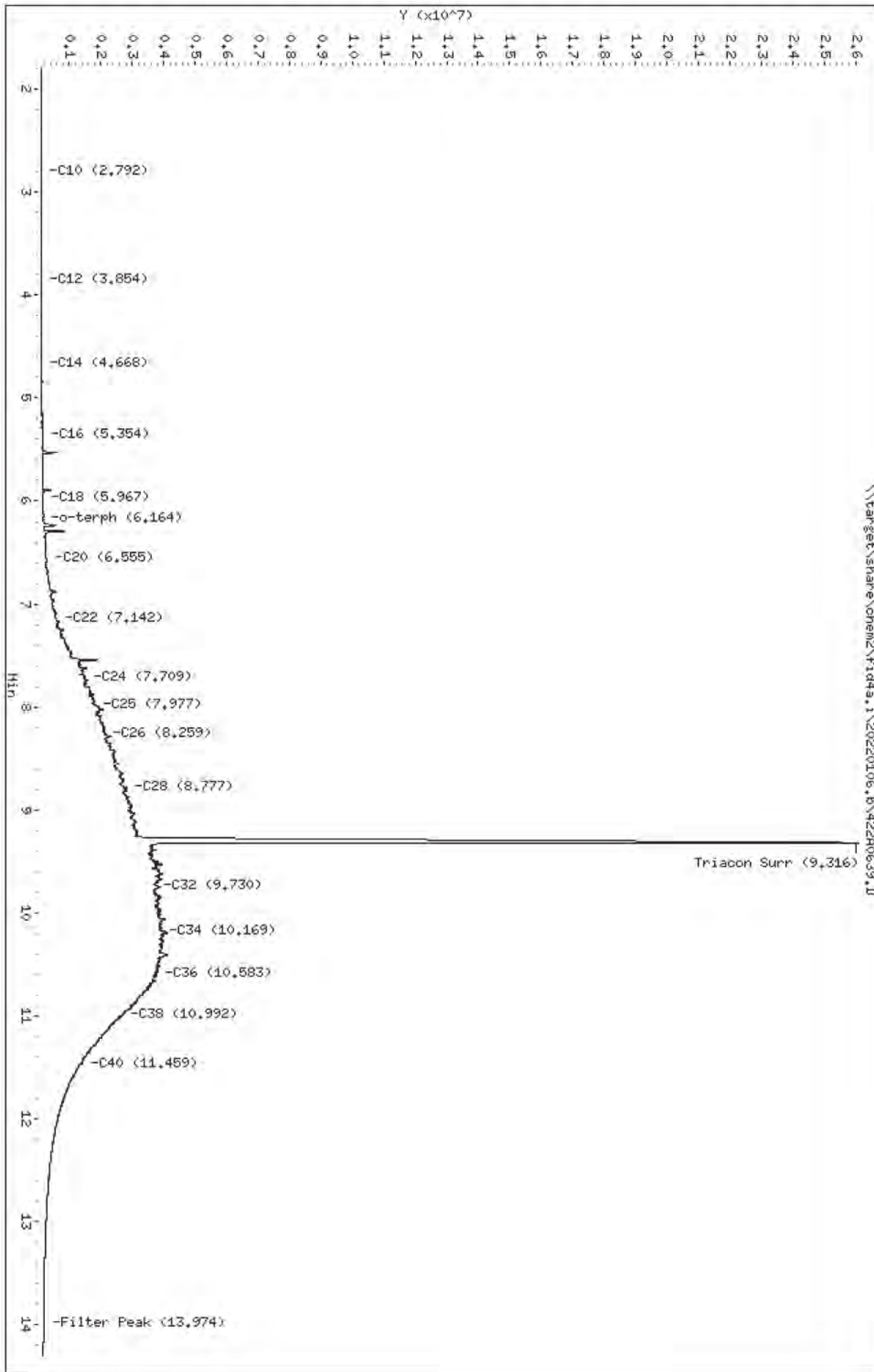


Data File: \\target\share\chem2\fid4s.1\20220106.b\42240639.D  
Date: 06-JUN-2022 23:20  
Client ID:  
Sample Info: SKA0028-CALI

Column phase: RTX-1

Instrument: fid4s.1  
Operator: TMC  
Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0639.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALI  
Client ID:  
Injection: 06-JAN-2022 23:20  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	11725	6933	WATPHD	(C12-C24)	51665018	354.5
C10	2.792	-0.009	11749	9511	WATPHM	(C24-C38)	580345070	4377.3
C12	3.854	-0.005	12714	17010	AK102	(C10-C25)	67592612	392.4
C14	4.668	-0.000	16107	18663	AK103	(C25-C36)	492594942	4980.3
C16	5.354	-0.003	36148	36162	OR.DIES	(C10-C28)	183451140	1055.7
C18	5.967	-0.005	54500	58780				
C20	6.555	-0.004	168086	345395				
C22	7.142	0.001	496825	426514				
C24	7.709	-0.000	1380379	821529				
C25	7.977	-0.009	1684832	419304				
C26	8.259	0.002	2021095	604905				
C28	8.777	0.001	2684125	1195563				
C32	9.730	0.001	3627512	1086662				
C34	10.169	0.001	3804924	1327718				
Filter Peak	13.974	0.001	71473	21315				
C36	10.583	0.001	3665808	1277336				
C38	10.992	0.003	2584308	1280144				
C40	11.459	-0.000	1288075	1197871				
o-terph	6.164	-0.003	64420	50439				
Triacon Surr	9.316	0.026	22993117	39002952	NAS DIES	(C10-C24)	51959316	302.5

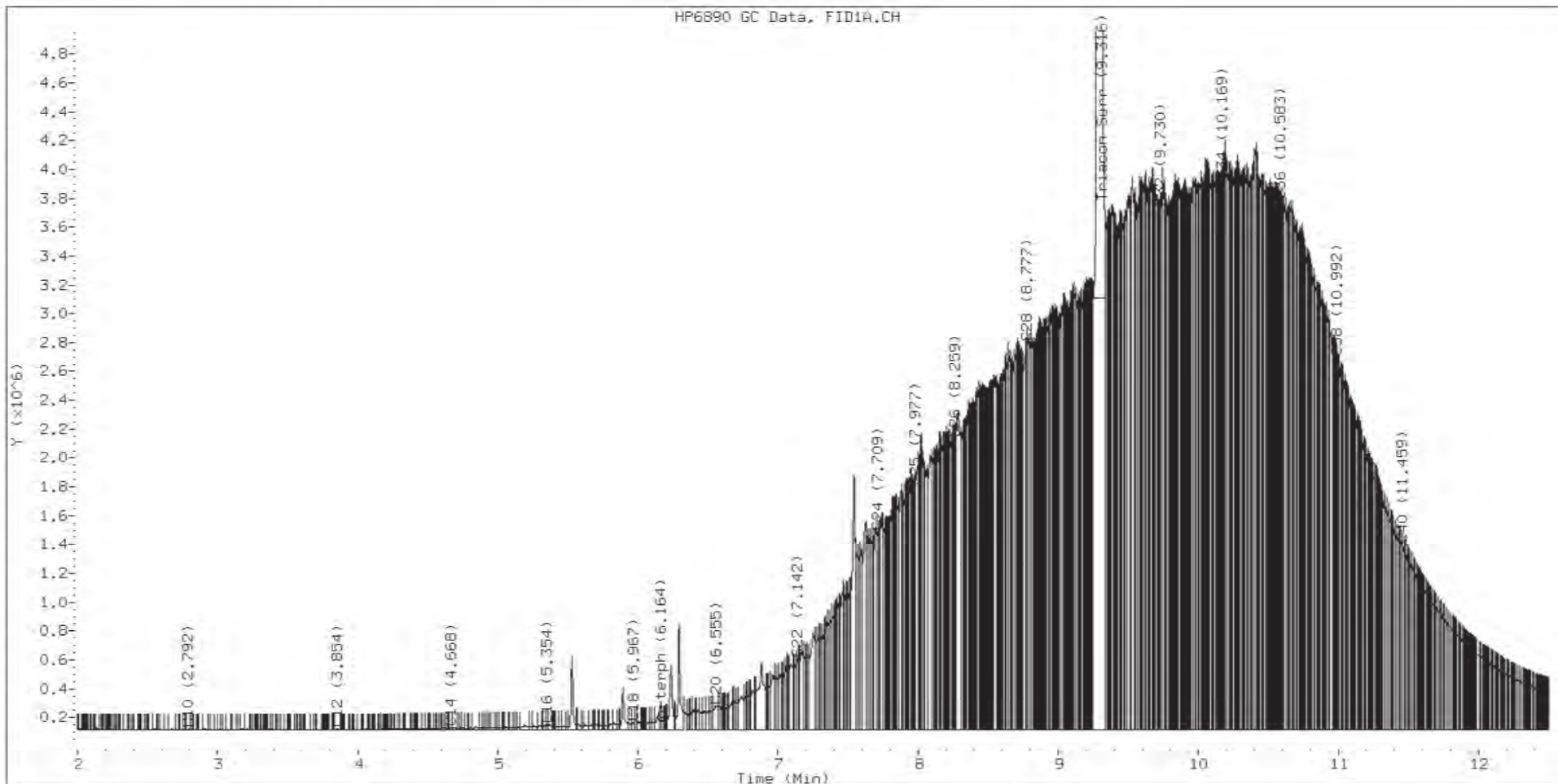
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	50439	0.3
Triacontane	39002952	223.9 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

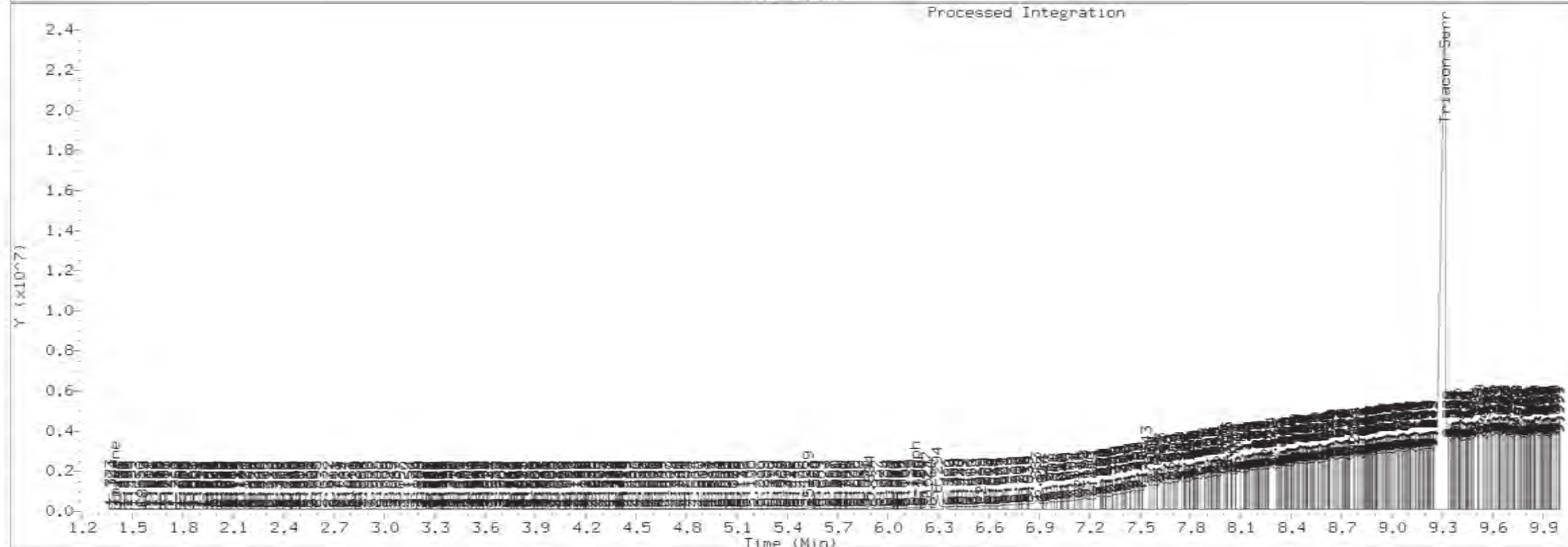
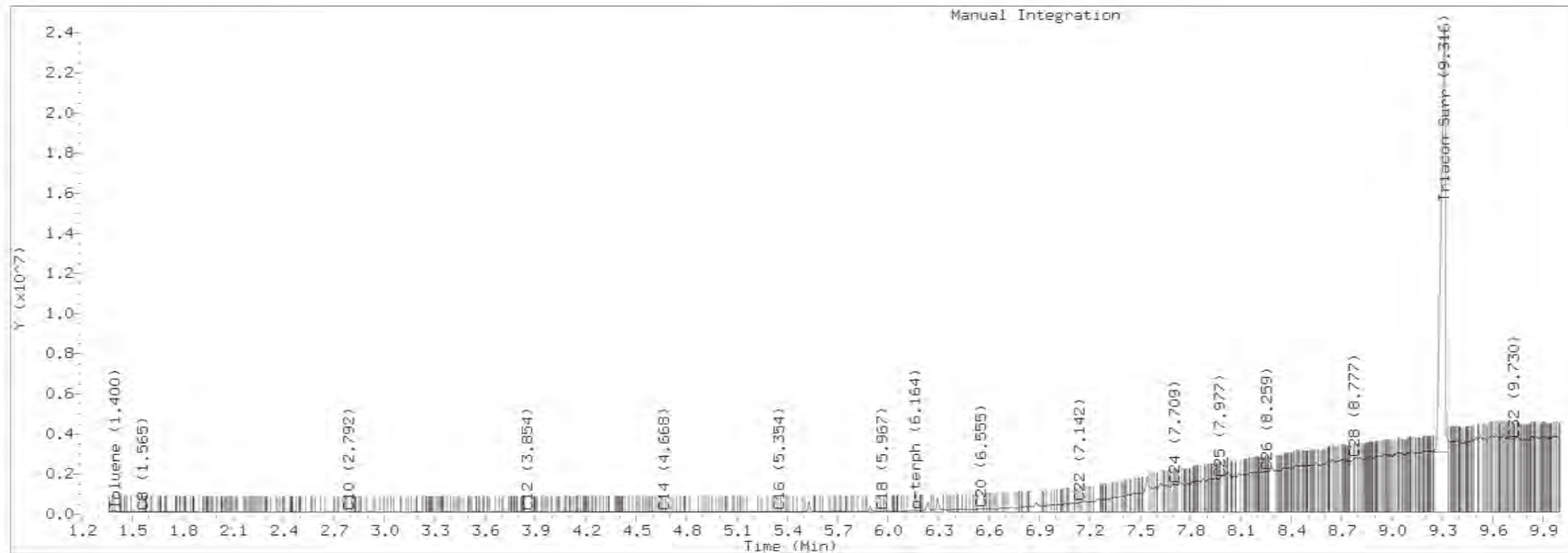




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0639.D Injection: 06-JAN-2022 23:20

Lab ID:SKA0028-CALI

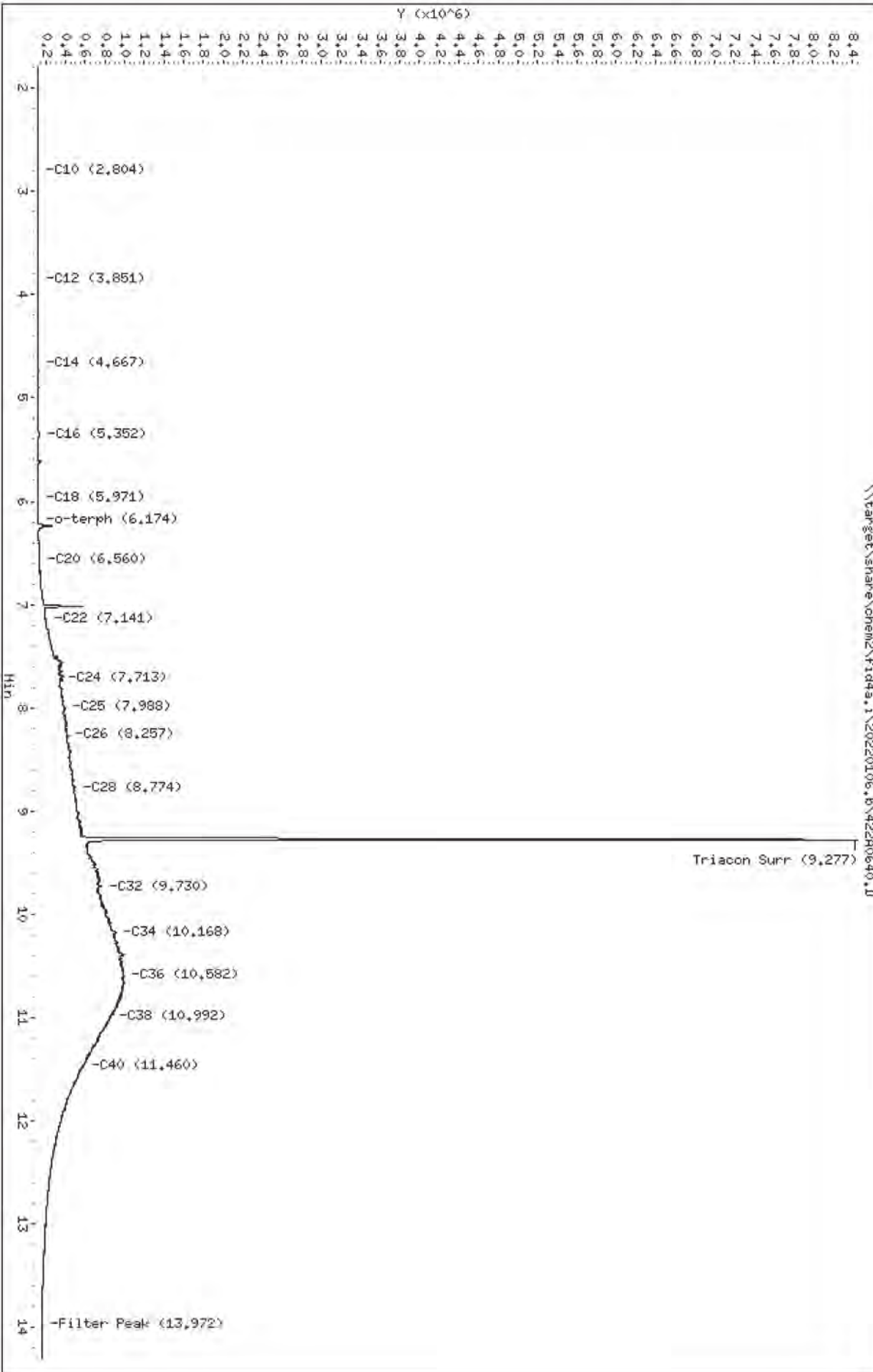


Data File: \\target\share\chem2\fid4a.1\20220106.b\42240640.D  
 Date: 06-JAN-2022 23:40  
 Client ID:  
 Sample Info: SKA0028-SCV3

Column phase: RTX-1

Instrument: fid4a.1  
 Operator: TMC  
 Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0640.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV3  
Client ID:  
Injection: 06-JAN-2022 23:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	10365	9390	WATPHD	(C12-C24)	8234302	56.5
C10	2.804	0.003	643	178	WATPHM	(C24-C38)	105151101	793.1
C12	3.851	-0.008	703	353	AK102	(C10-C25)	10715206	62.2
C14	4.667	-0.001	2250	441	AK103	(C25-C36)	83158236	840.8
C16	5.352	-0.005	13074	30853	OR.DIES	(C10-C28)	27148572	156.2
C18	5.971	-0.001	2056	1103				
C20	6.560	0.000	19188	37853				
C22	7.141	-0.001	79210	165645				
C24	7.713	0.004	220193	54885				
C25	7.988	0.002	269226	184162				
C26	8.257	-0.001	291878	87241				
C28	8.774	-0.001	375908	167319				
C32	9.730	0.000	638880	408276				
C34	10.168	0.001	789241	274861				
Filter Peak	13.972	-0.001	40486	34016				
C36	10.582	0.000	869081	432796				
C38	10.992	0.003	735926	146906				
C40	11.460	0.000	461343	320017				
o-terph	6.174	0.007	2337	668				
Triacon Surr	9.277	-0.013	7897642	7651039	NAS DIES	(C10-C24)	8285201	48.2

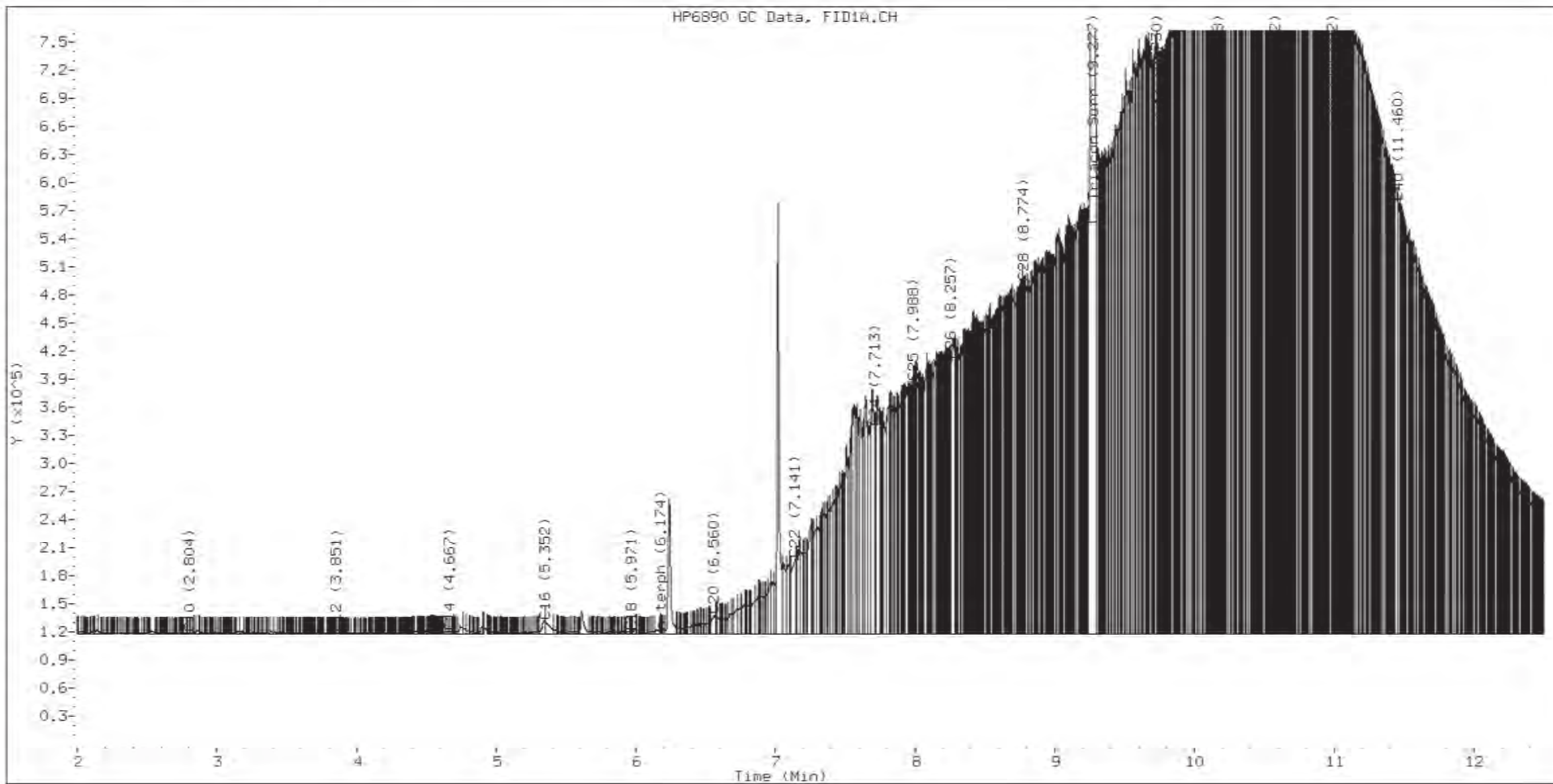
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	668	0.0
Triacontane	7651039	43.9 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

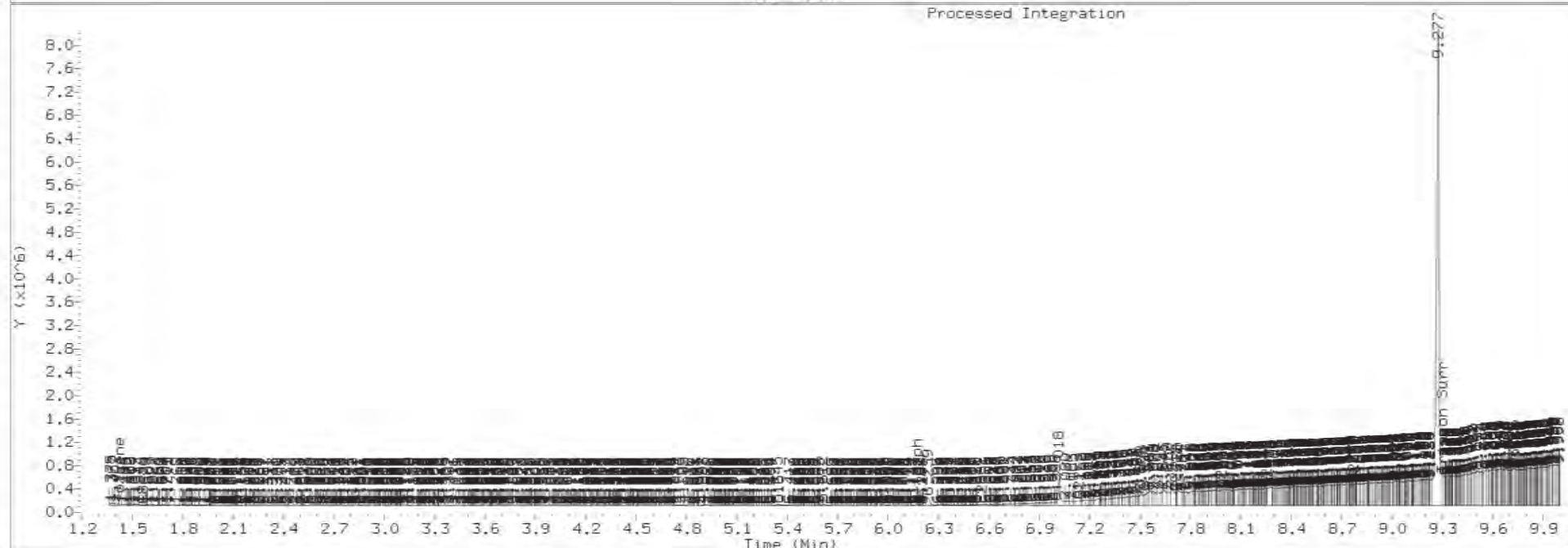
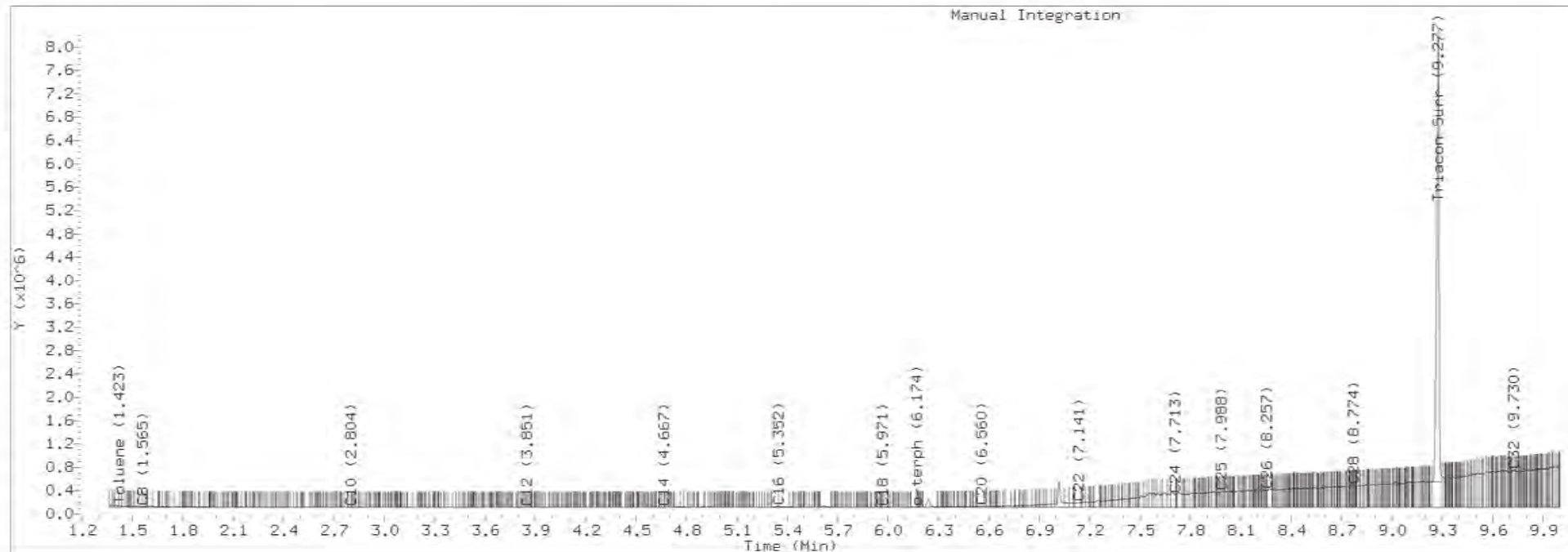




TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0640.D Injection: 06-JAN-2022 23:40

Lab ID:SKA0028-SCV3



MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 06-JAN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0920	422A0601.D	RINSE		1	NO MANUAL INTEGRATION
0940	422A0602.D	RINSE		1	NO MANUAL INTEGRATION
0959	422A0603.D	SKA0028-IBL1		1	Toluene,
1019	422A0604.D	SKA0028-IBL2		1	NO MANUAL INTEGRATION
1039	422A0605.D	SKA0028-ICV1		1	o-terph,
1059	422A0606.D	SKA0028-ICV2		1	Triacon Surr,
1119	422A0607.D	BKA0056-BLK1		1	NO MANUAL INTEGRATION
1138	422A0608.D	BKA0056-BS1		1	o-terph,
1158	422A0609.D	BKA0056-MRL1		1	o-terph, Triacon Surr,
1218	422A0610.D	BKA0056-MRL2		1	o-terph, Triacon Surr,
1238	422A0611.D	22A0041-01		1	o-terph,
1258	422A0612.D	22A0041-01		10	Triacon Surr,
1317	422A0613.D	22A0041-02		10	NO MANUAL INTEGRATION
1337	422A0614.D	22A0041-01		20	o-terph, Triacon Surr,
1357	422A0615.D	22A0041-02		20	o-terph, Triacon Surr,
1417	422A0616.D	22A0041-03		20	o-terph, Triacon Surr,
1437	422A0617.D	22A0041-04		20	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1456	422A0618.D	SKA0028-CCV1		1	o-terph,
1516	422A0619.D	SKA0028-CCV2		1	NO MANUAL INTEGRATION
1704	422A0620.D	SKA0028-CAL1		1	o-terph,
1724	422A0621.D	SKA0028-CAL2		1	o-terph,
1744	422A0622.D	SKA0028-CAL3		1	o-terph,
1804	422A0623.D	SKA0028-CAL4		1	o-terph,
1823	422A0624.D	SKA0028-CAL5		1	o-terph,
1843	422A0625.D	SKA0028-CAL6		1	o-terph,
1903	422A0626.D	SKA0028-CAL7		1	Triacon Surr,
1923	422A0627.D	SKA0028-CAL8		1	Triacon Surr,
1943	422A0628.D	SKA0028-CAL9		1	Triacon Surr,
2002	422A0629.D	SKA0028-CALA		1	Triacon Surr,
2022	422A0630.D	SKA0028-CALB		1	Triacon Surr,
2042	422A0631.D	SKA0028-CALC		1	Triacon Surr,
2102	422A0632.D	SKA0028-SCV1		1	NO MANUAL INTEGRATION
2121	422A0633.D	SKA0028-SCV2		1	NO MANUAL INTEGRATION
2141	422A0634.D	SKA0028-CALD		1	Triacon Surr,
2201	422A0635.D	SKA0028-CALE		1	Triacon Surr,



MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2221	422A0636.D	SKA0028-CALF		1	Triacon Surr,
2240	422A0637.D	SKA0028-CALG		1	Triacon Surr,
2300	422A0638.D	SKA0028-CALH		1	Triacon Surr,
2320	422A0639.D	SKA0028-CALI		1	Triacon Surr,
2340	422A0640.D	SKA0028-SCV3		1	Triacon Surr,

Security Status Report

Date: 07-Jan-2022 18:09

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422A0602.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0603.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0604.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0605.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0606.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0607.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0627.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0628.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0630.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0633.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0634.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0635.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0636.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0637.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0639.D	Data Locked	tokala,	07-Jan-2022	17:54
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ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

Motor Oil RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0626 422A0627 422A0628 422A0629 422A0630 422A0631
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 19:03 19:23 19:43 20:02 20:22 20:42

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.260	9.263	9.269	9.277	9.296	9.319	9.290	9.240-9.340	9.281	0.022
16 C32	9.725	9.726	9.731	9.731	9.731	9.734	9.730	9.680-9.780	9.730	0.004
17 C34	10.169	10.164	10.171	10.167	10.171	10.170	10.167	10.117-10.217	10.169	0.003
18 Filter Peak	13.974	13.970	13.970	13.976	13.973	13.976	13.973	13.873-14.073	13.973	0.002
19 C36	10.580	10.578	10.577	10.587	10.580	10.579	10.581	10.531-10.631	10.580	0.004
20 C38	10.985	10.990	10.987	10.988	10.995	10.994	10.989	10.939-11.039	10.990	0.004
21 C40	11.462	11.459	11.459	11.461	11.461	11.457	11.460	11.410-11.510	11.460	0.002
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\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

AK103 RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0634 422A0635 422A0636 422A0637 422A0638 422A0639
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 21:41 22:01 22:21 22:40 23:00 23:20

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.262	9.264	9.268	9.276	9.294	9.316	9.290	9.240-9.340	9.280	0.021
16 C32	9.727	9.733	9.727	9.728	9.737	9.730	9.730	9.680-9.780	9.730	0.004
17 C34	10.166	10.167	10.168	10.168	10.167	10.169	10.167	10.117-10.217	10.168	0.001
18 Filter Peak	13.971	13.973	13.971	13.971	13.972	13.974	13.973	13.873-14.073	13.972	0.001
19 C36	10.585	10.578	10.583	10.581	10.582	10.583	10.581	10.531-10.631	10.582	0.002
20 C38	10.986	10.983	10.988	10.990	10.991	10.992	10.989	10.939-11.039	10.988	0.003
21 C40	11.466	11.462	11.463	11.460	11.462	11.459	11.460	11.410-11.510	11.462	0.002
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	+++++	+++++



ANALYSIS SEQUENCE

SKA0208

Instrument: FID4  
Calibration ID: FA00054

Printed: 1/31/2022 12:44:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0208-IBL1	QC		1		J002430			
SKA0208-IBL2	QC		2		J012751			
SKA0208-CAL1	QC		3		K000192			
SKA0208-CAL2	QC		4		K000193			
SKA0208-CAL3	QC		5		K000194			
SKA0208-CAL4	QC		6		K000195			
SKA0208-CAL5	QC		7		K000196			
SKA0208-CAL6	QC		8		J012752			
SKA0208-SCV1	QC		9		J009677			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_ Data Processed By \_\_\_\_\_ Date \_\_\_\_\_

## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	20-JAN-2022	10:32	422A2001.D	1	RINSE	
2	20-JAN-2022	10:51	422A2002.D	1	RINSE	
3	20-JAN-2022	11:11	422A2003.D	1	SKA0208-IBL1	
4	20-JAN-2022	11:31	422A2004.D	1	SKA0208-IBL2	
5	20-JAN-2022	11:51	422A2005.D	1	SKA0208-CAL1	
6	20-JAN-2022	12:11	422A2006.D	1	SKA0208-CAL2	
7	20-JAN-2022	12:30	422A2007.D	1	SKA0208-CAL3	
8	20-JAN-2022	12:50	422A2008.D	1	SKA0208-CAL4	
9	20-JAN-2022	13:10	422A2009.D	1	SKA0208-CAL5	
10	20-JAN-2022	13:30	422A2010.D	1	SKA0208-CAL6	
11	20-JAN-2022	13:50	422A2011.D	1	SKA0208-SCV1	



MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 20-JAN-2022

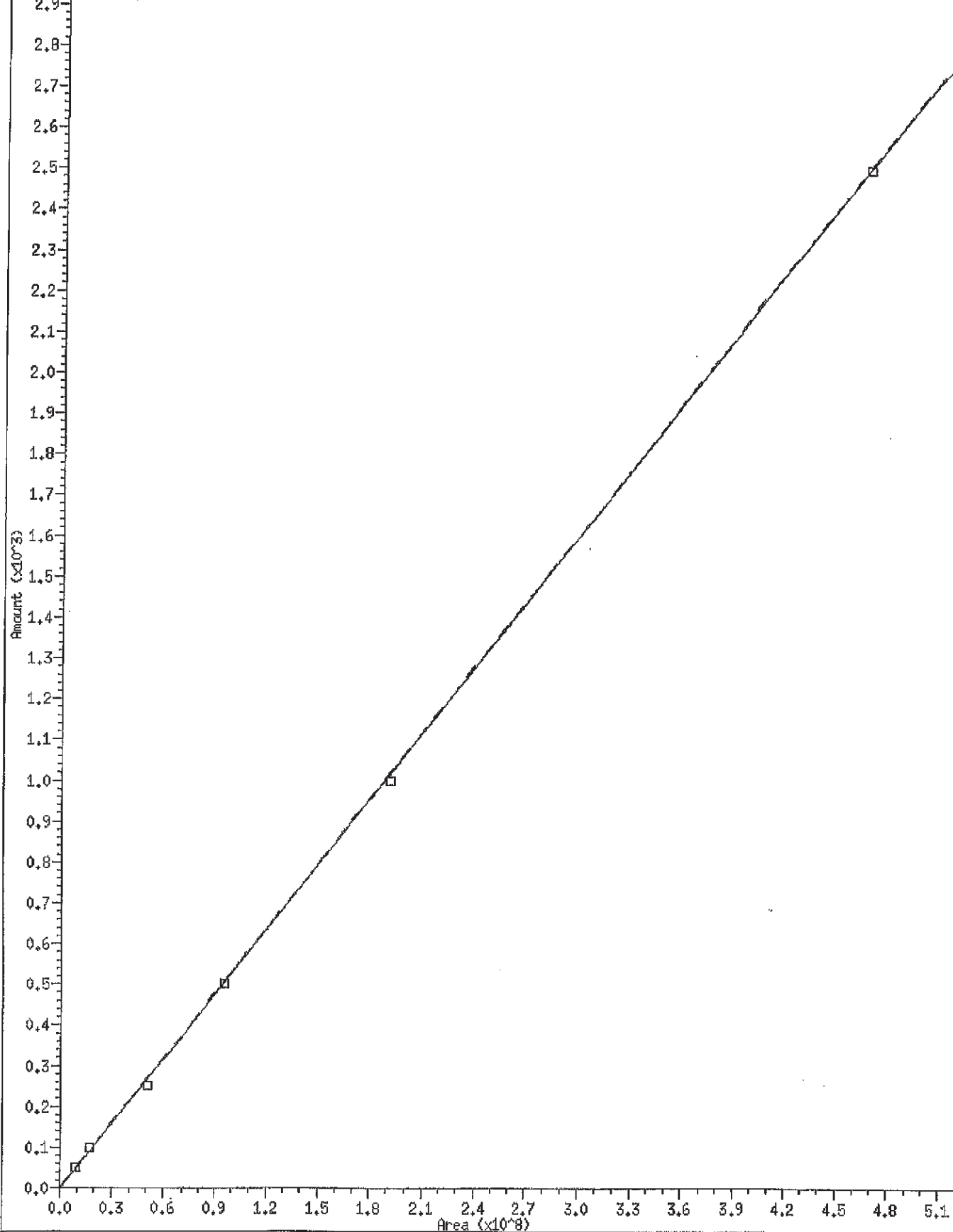
Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1032	422A2001.D	RINSE		1	NO MANUAL INTEGRATION
1051	422A2002.D	RINSE		1	NO MANUAL INTEGRATION
1111	422A2003.D	SKA0208-IBL1		1	NO MANUAL INTEGRATION
1131	422A2004.D	SKA0208-IBL2		1	NO MANUAL INTEGRATION
1151	422A2005.D	SKA0208-CAL1		1	o-terph,
1211	422A2006.D	SKA0208-CAL2		1	o-terph,
1230	422A2007.D	SKA0208-CAL3		1	o-terph,
1250	422A2008.D	SKA0208-CAL4		1	o-terph,
1310	422A2009.D	SKA0208-CAL5		1	o-terph,
1330	422A2010.D	SKA0208-CAL6		1	o-terph,
1350	422A2011.D	SKA0208-SCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 31-Jan-2022 12:44

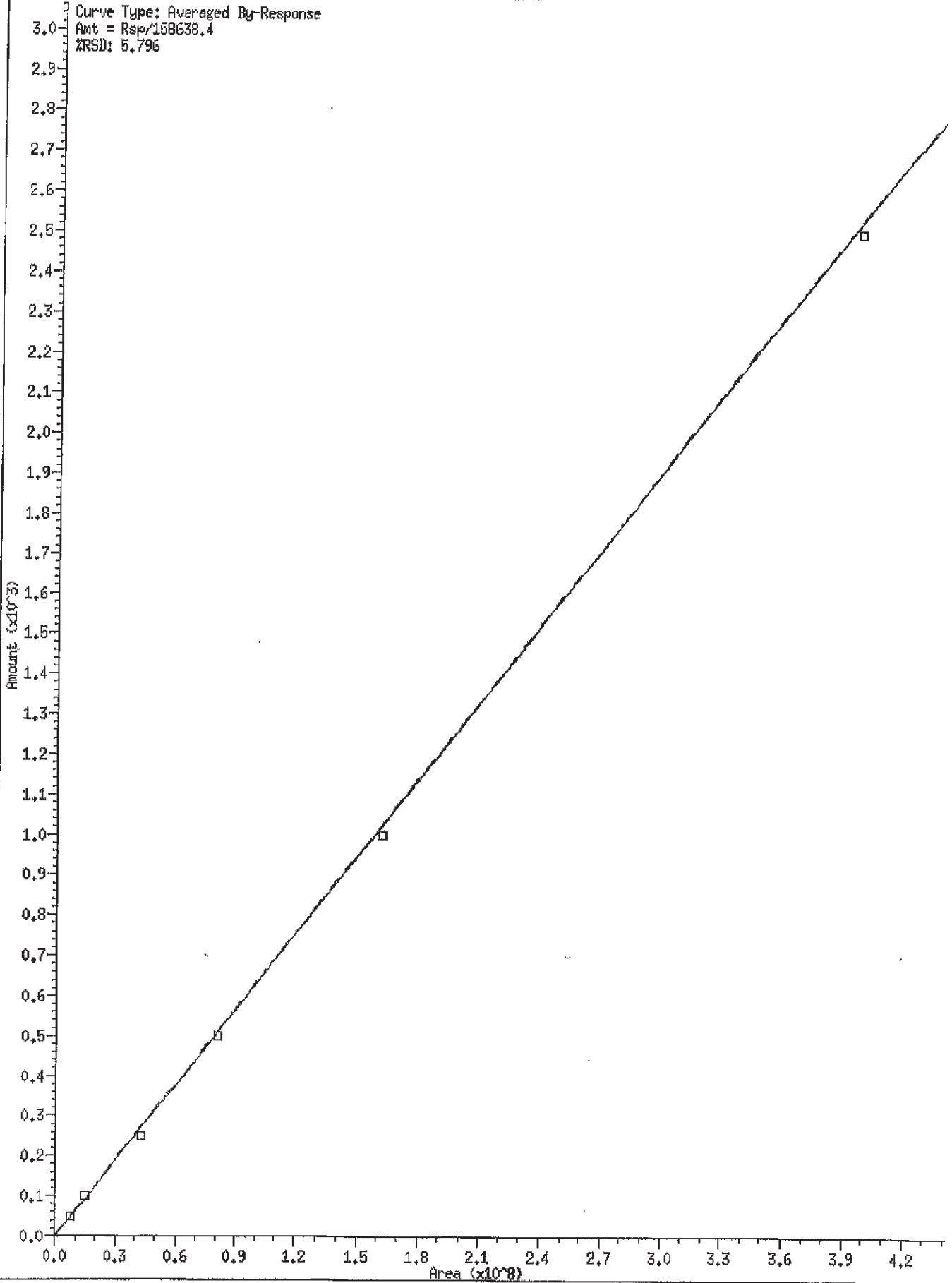
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422A2002.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2003.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2004.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2005.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2006.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2007.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2008.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2009.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2010.D	Data Locked	victoria,	21-Jan-2022	13:24
422A2011.D	Data Locked	victoria,	28-Jan-2022	13:52

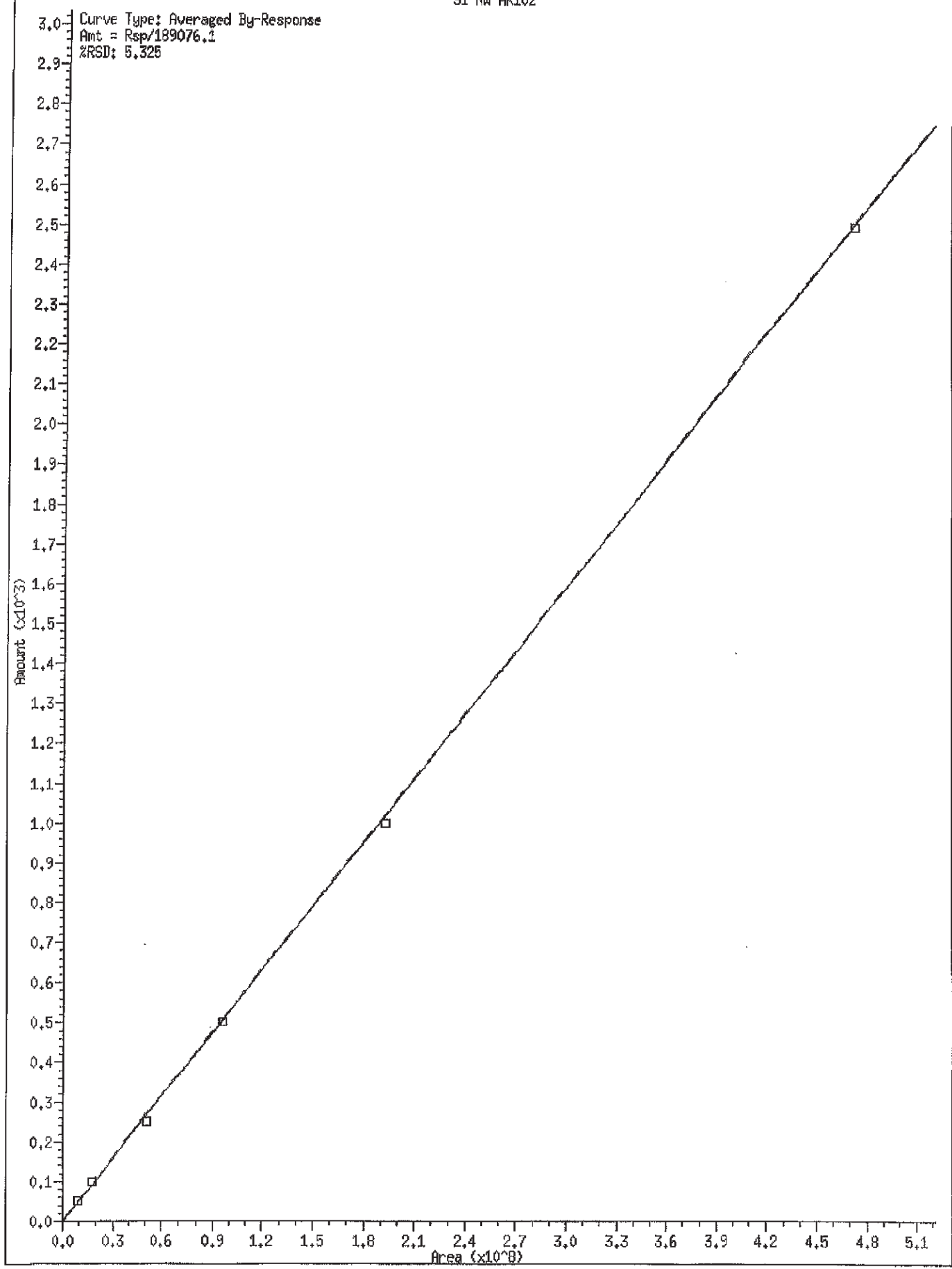
Curve Type: Averaged By-Response  
Amt = Rsp/188673.2  
%RSD: 5.317



29 NW Diesel

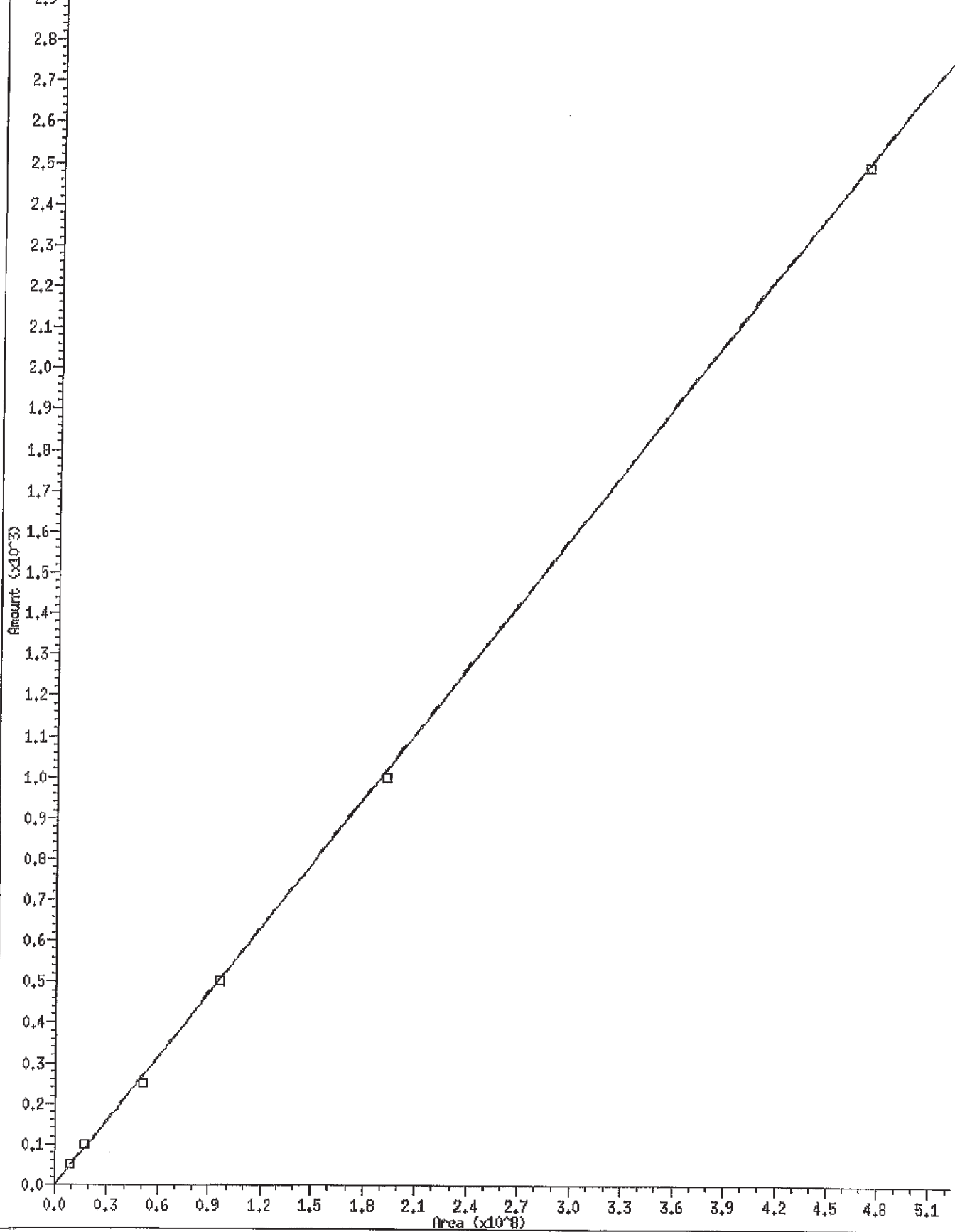
Curve Type: Averaged By-Response  
Amt = Resp/158638.4  
%RSD: 5.796





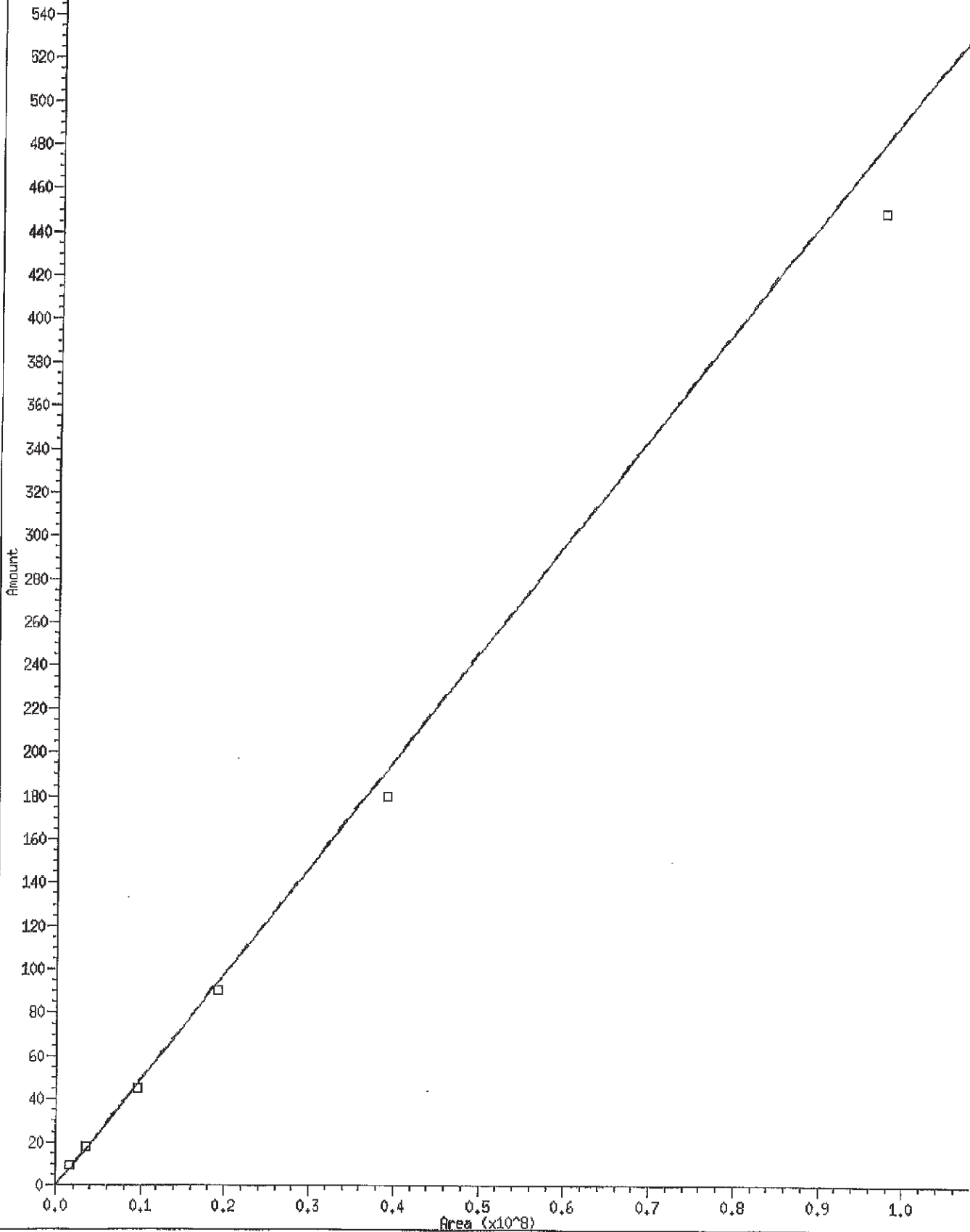
39 OR Diesel

Curve Type: Averaged By-Response  
Amt = Rsp/189743  
%RSD: 5,249



\* 8 o-terph

Curve Type: Averaged By-Response  
Amt = Rep/203634.1  
%RSD: 9.902



ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220120.b  
Inst ID: fid4a.i

ID: RT01 RT02 RT03 RT04 RT05 RT06 RT07 RT08  
FILENAME: 422A2003 422A2004 422A2005 422A2006 422A2007 422A2008 422A2009 422A2010  
INJ.DATE: 20-JAN-2022 20-JAN-2022 20-JAN-2022 20-JAN-2022 20-JAN-2022 20-JAN-2022 20-JAN-2022 20-JAN-2022  
INJ.TIME: 11:11 11:31 11:51 12:11 12:30 12:50 13:10 13:30

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RTI	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.395	1.389	1.389	1.400	1.389	1.389	1.389	1.394	1.395	1.295-1.495	1.392	0.004
38 NewCpd_31	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.015	1.015	0.965-1.065	+++++	+++++
41 Mineral Spirits	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.000	1.000	0.950-1.050	+++++	+++++
2 C8	1.543	1.540	1.535	1.552	1.536	1.536	1.536	1.542	1.543	1.443-1.643	1.540	0.006
3 C10	2.787	2.783	2.783	2.783	2.783	2.783	2.784	2.786	2.787	2.737-2.837	2.784	0.002
4 C12	3.848	3.848	3.844	3.845	3.844	3.845	3.847	3.851	3.848	3.798-3.898	3.847	0.003
5 C14	4.657	4.657	4.653	4.654	4.654	4.655	4.658	4.664	4.657	4.607-4.707	4.657	0.003
6 C16	5.345	5.347	5.340	5.341	5.342	5.344	5.347	5.355	5.345	5.295-5.395	5.345	0.005
7 C18	5.962	5.956	5.954	5.956	5.958	5.960	5.965	5.975	5.962	5.912-6.012	5.961	0.007
8 o-terph	6.155	6.154	6.133	6.137	6.146	6.154	6.165	6.191	6.155	6.105-6.205	6.154	0.018
9 C20	6.548	6.545	6.543	6.542	6.543	6.543	6.545	6.551	6.548	6.498-6.598	6.545	0.003
10 C22	7.130	7.128	7.123	7.123	7.123	7.123	7.124	7.127	7.130	7.080-7.180	7.125	0.003
11 C24	7.697	7.695	7.695	7.694	7.691	7.690	7.690	7.691	7.697	7.647-7.747	7.693	0.003
12 C25	7.974	7.976	7.972	7.970	7.968	7.968	7.967	7.966	7.974	7.924-8.024	7.970	0.004
13 C26	8.244	8.243	8.242	8.244	8.240	8.238	8.237	8.236	8.244	8.194-8.294	8.241	0.003
14 C28	8.763	8.757	8.764	8.765	8.765	8.759	8.767	8.756	8.763	8.713-8.813	8.762	0.004

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_  
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_



ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220120.b  
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXEC RT	RT WINDOW	AVG RT	STD DEV
\$ 15 Triacoh Surr	9.277	9.273	9.273	9.280	9.275	9.286	9.266	9.273	9.277	9.227-9.327	9.276	0.006
16 C32	9.717	9.711	9.713	9.720	9.711	9.709	9.718	9.706	9.717	9.667-9.767	9.713	0.005
17 C34	10.155	10.156	10.147	10.153	10.158	10.154	10.156	10.161	10.155	10.105-10.205	10.155	0.004
18 Filter Peak	13.962	13.962	13.963	13.963	13.962	13.960	13.960	13.961	13.962	13.862-14.062	13.962	0.001
19 C36	10.568	10.567	10.572	10.567	10.567	10.573	10.563	10.567	10.568	10.518-10.618	10.568	0.003
20 C38	10.974	10.980	10.978	10.975	10.973	10.970	10.975	10.978	10.974	10.924-11.024	10.975	0.003
21 C40	11.438	11.438	11.441	11.440	11.441	11.434	11.439	11.440	11.438	11.388-11.488	11.439	0.002
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	+++++	+++++

Data File: \\target\share\chem2\fid4a,1\20220120,b\42282003.D

Date: 20-JAN-2022 11:11

Client ID:

Sample Info: SKR0208-IBL1

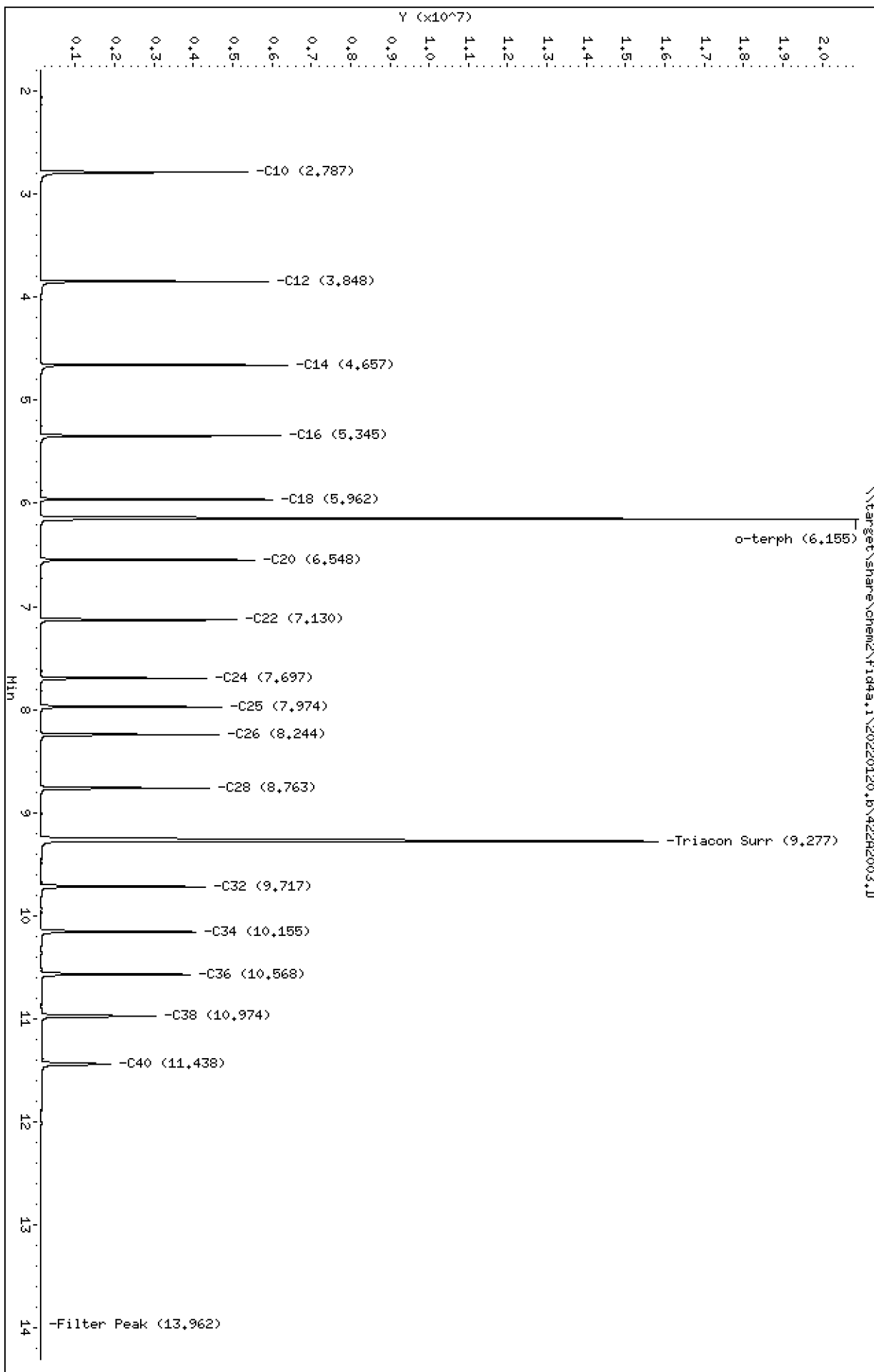
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2003.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-IBL1  
Client ID:  
Injection: 20-JAN-2022 11:11  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

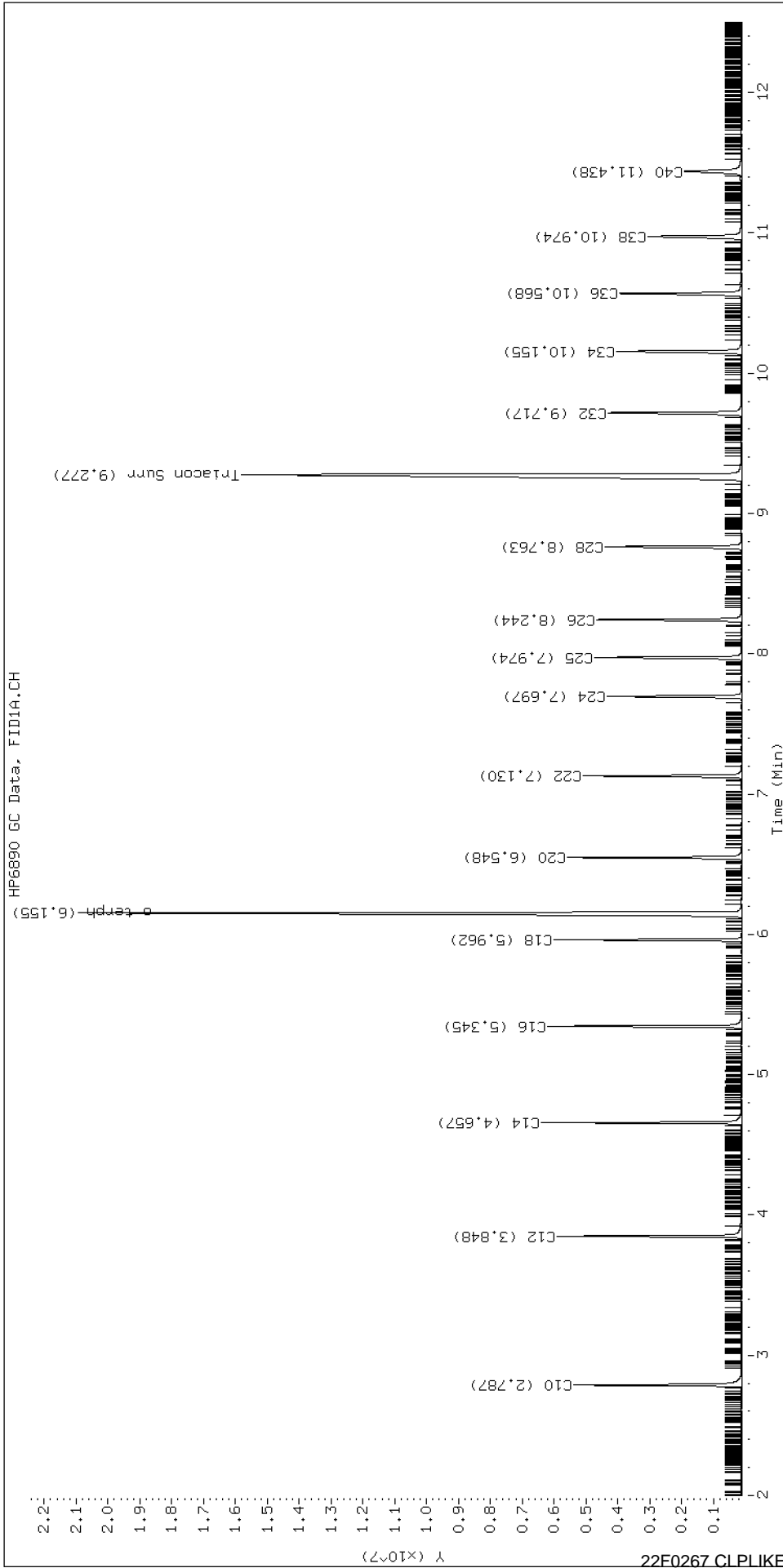
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.543	0.000	5560015	3947616	WATPHD	(C12-C24)	23617052	148.9
C10	2.787	0.000	5257595	4154719	WATPHM	(C24-C38)	27587850	208.1
C12	3.848	0.000	5795256	4012752	AK102	(C10-C25)	32327943	171.0
C14	4.657	0.000	6275090	3977443	AK103	(C25-C36)	23810222	240.7
C16	5.345	0.000	6103254	3896081	OR.DIES	(C10-C28)	43679867	230.2
C18	5.962	0.000	5903807	3840006				
C20	6.548	0.000	5462588	3811770				
C22	7.130	0.000	4979358	3790620				
C24	7.697	0.000	4232069	3304139				
C25	7.974	0.000	4626242	3678752				
C26	8.244	0.000	4539215	3752840				
C28	8.763	0.000	4290214	3737829				
C32	9.717	0.000	4178760	3963601				
C34	10.155	0.000	3931080	3725805				
Filter Peak	13.962	0.000	15777	8644				
C36	10.568	0.000	3821518	3732386				
C38	10.974	0.000	2949989	3352397				
C40	11.438	0.000	1790104	2604261				
o-terph	6.155	0.000	20813166	20730774				
Triacon Surr	9.277	0.000	15699693	21934844	NAS DIES	(C10-C24)	32260091	171.0

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	20730774	101.8
Triacontane	21934844	125.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



Data File: \\target\share\chem2\fid4a,1\20220120,8\42282004.D

Date: 20-JAN-2022 11:31

Client ID:

Sample Info: SKR0208-IBL2

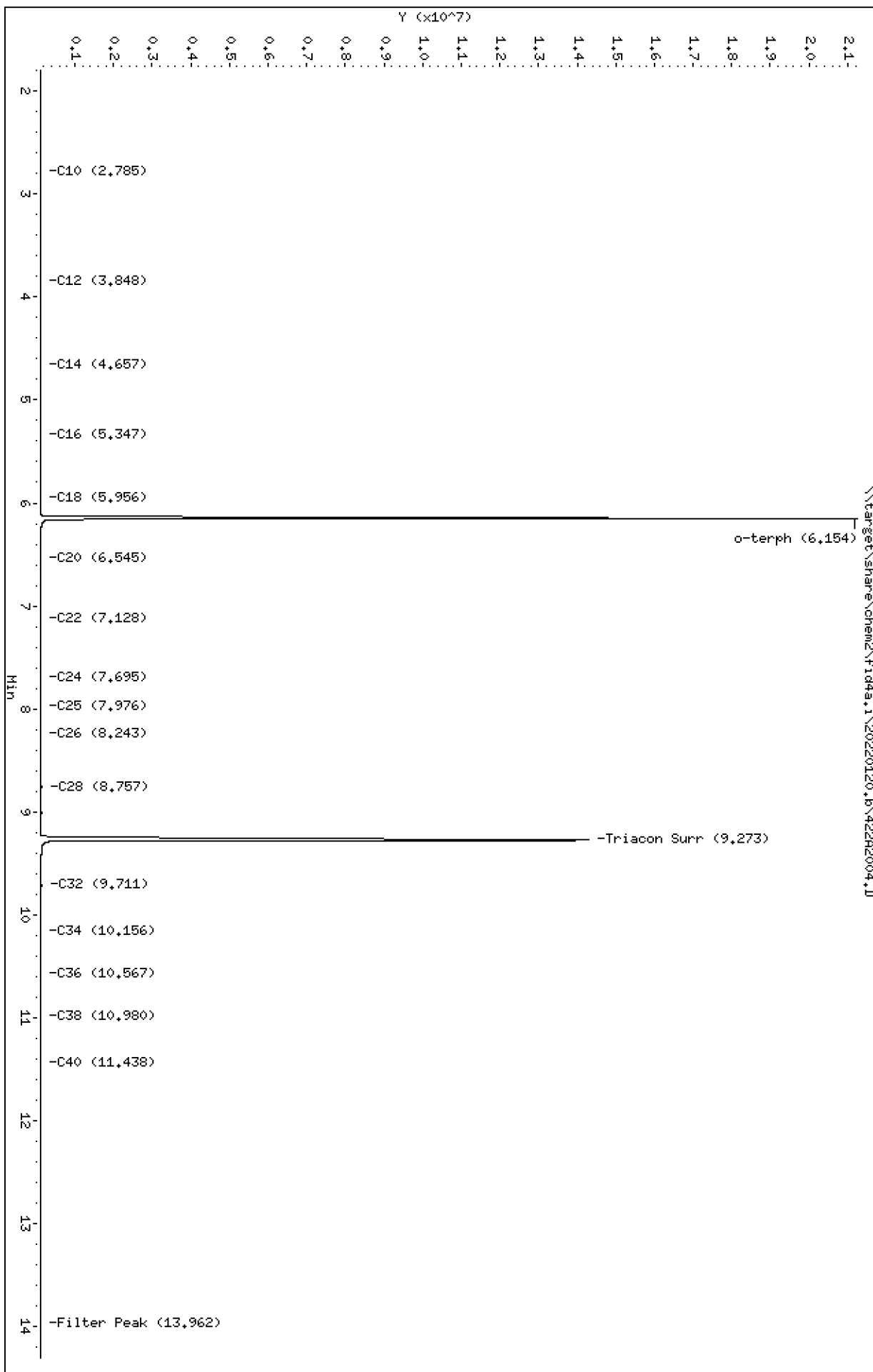
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2004.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-IBL2  
Client ID:  
Injection: 20-JAN-2022 11:31  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

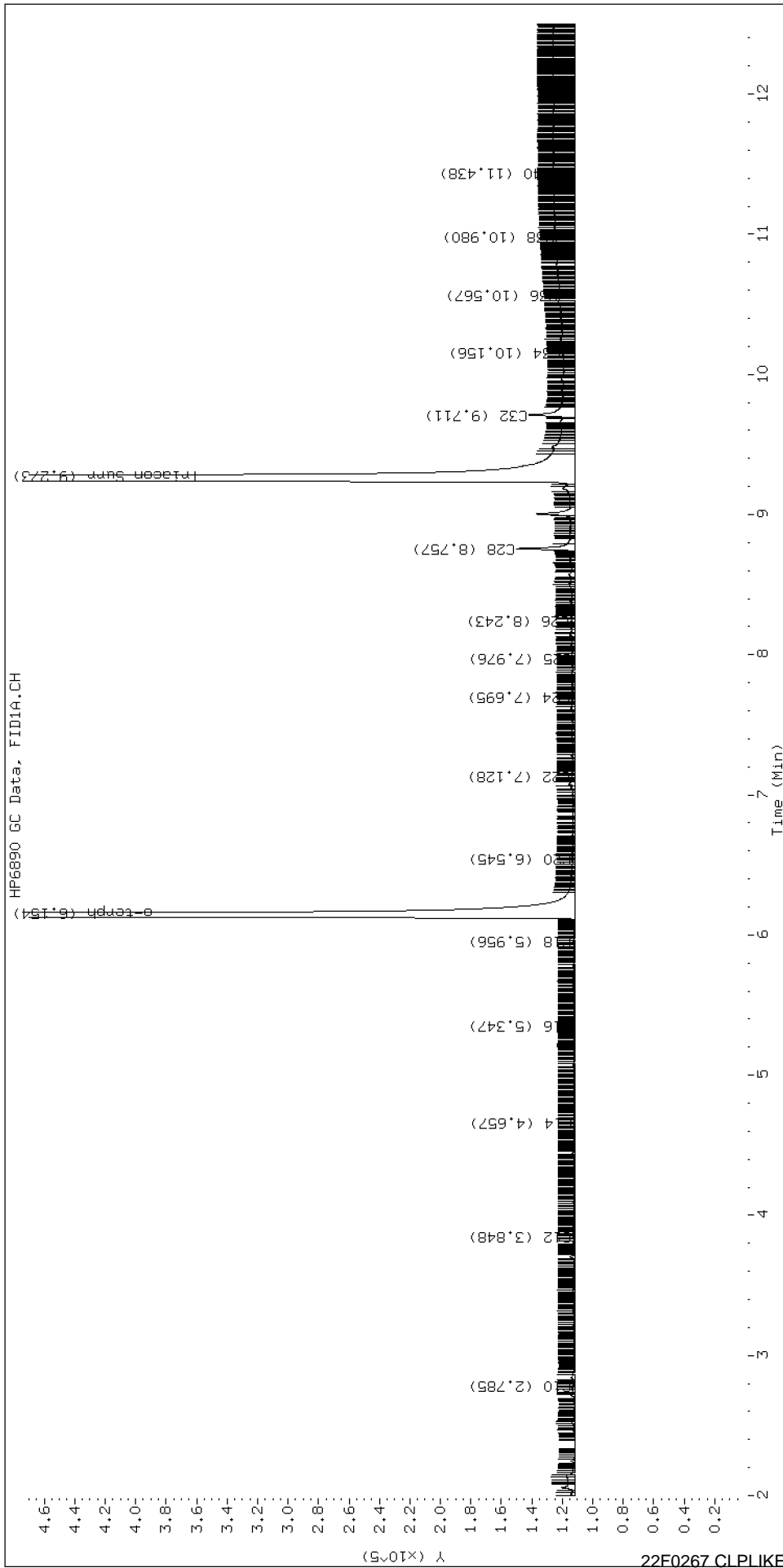
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.540	-0.003	15479	14810	WATPHD	(C12-C24)	298978	1.9
C10	2.785	-0.003	1495	786	WATPHM	(C24-C38)	1251776	9.4
C12	3.848	-0.000	1344	663	AK102	(C10-C25)	392294	2.1
C14	4.657	-0.001	1157	339	AK103	(C25-C36)	955410	9.7
C16	5.347	0.002	1328	496	OR.DIES	(C10-C28)	565052	3.0
C18	5.956	-0.006	1363	1047				
C20	6.545	-0.003	1608	397				
C22	7.128	-0.002	2457	1762				
C24	7.695	-0.002	2125	1126				
C25	7.976	0.002	1991	477				
C26	8.243	-0.001	2719	3771				
C28	8.757	-0.007	38550	47130				
C32	9.711	-0.007	30192	67900				
C34	10.156	0.001	8378	4977				
Filter Peak	13.962	-0.001	7511	4039				
C36	10.567	-0.001	10258	2046				
C38	10.980	0.006	12853	4480				
C40	11.438	-0.000	14608	4362				
o-terph	6.154	-0.001	21141491	20862500				
Triacon Surr	9.273	-0.004	14181219	18420470	NAS DIES	(C10-C24)	374770	2.0

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	20862500	102.5
Triacontane	18420470	105.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



Data File: \\target\share\chem2\fid4a,1\20220120,b\42282005.D

Date: 20-JAN-2022 11:51

Client ID:

Sample Info: SKR0208-CAL1

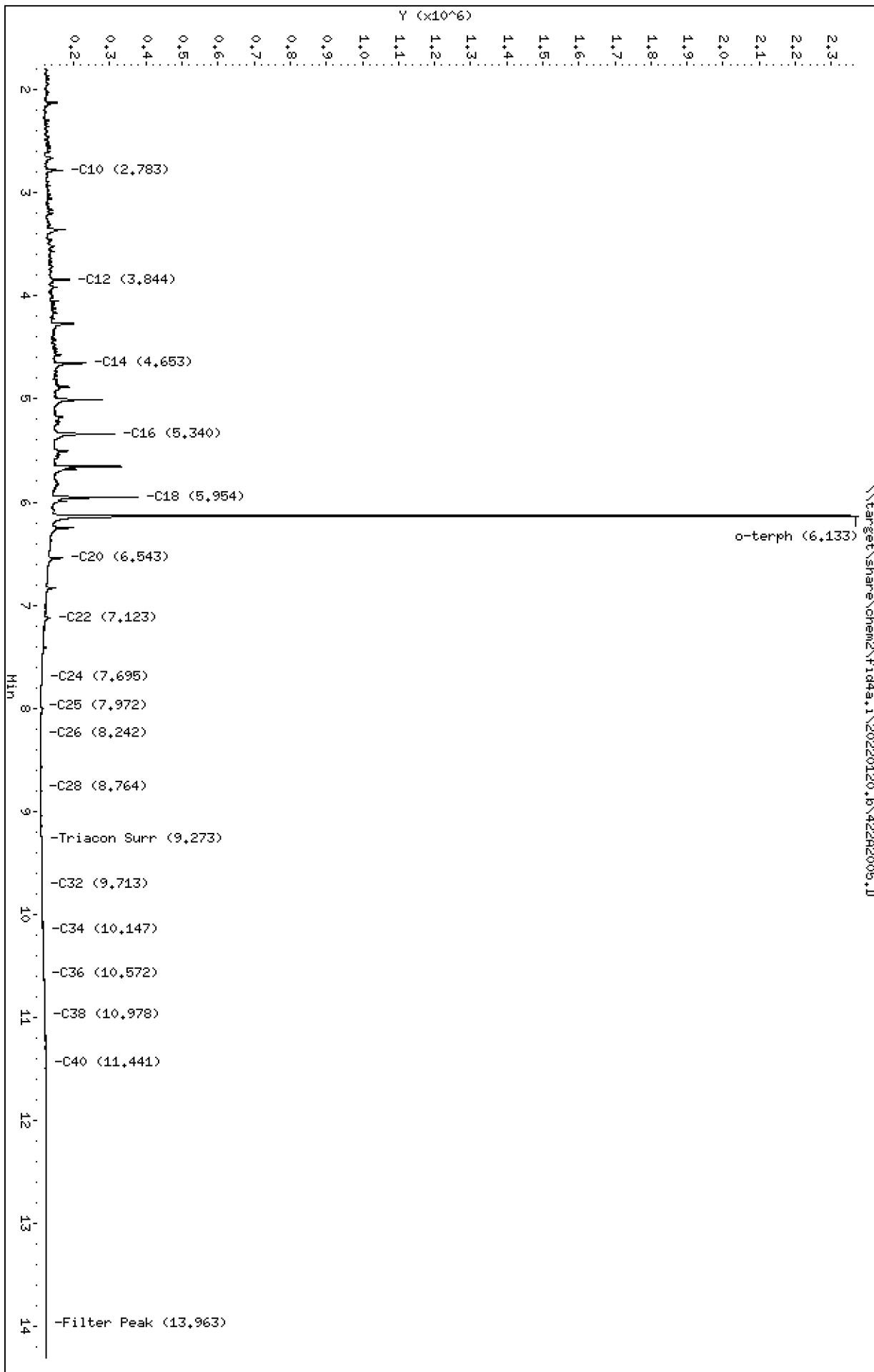
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2005.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL1  
Client ID:  
Injection: 20-JAN-2022 11:51  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

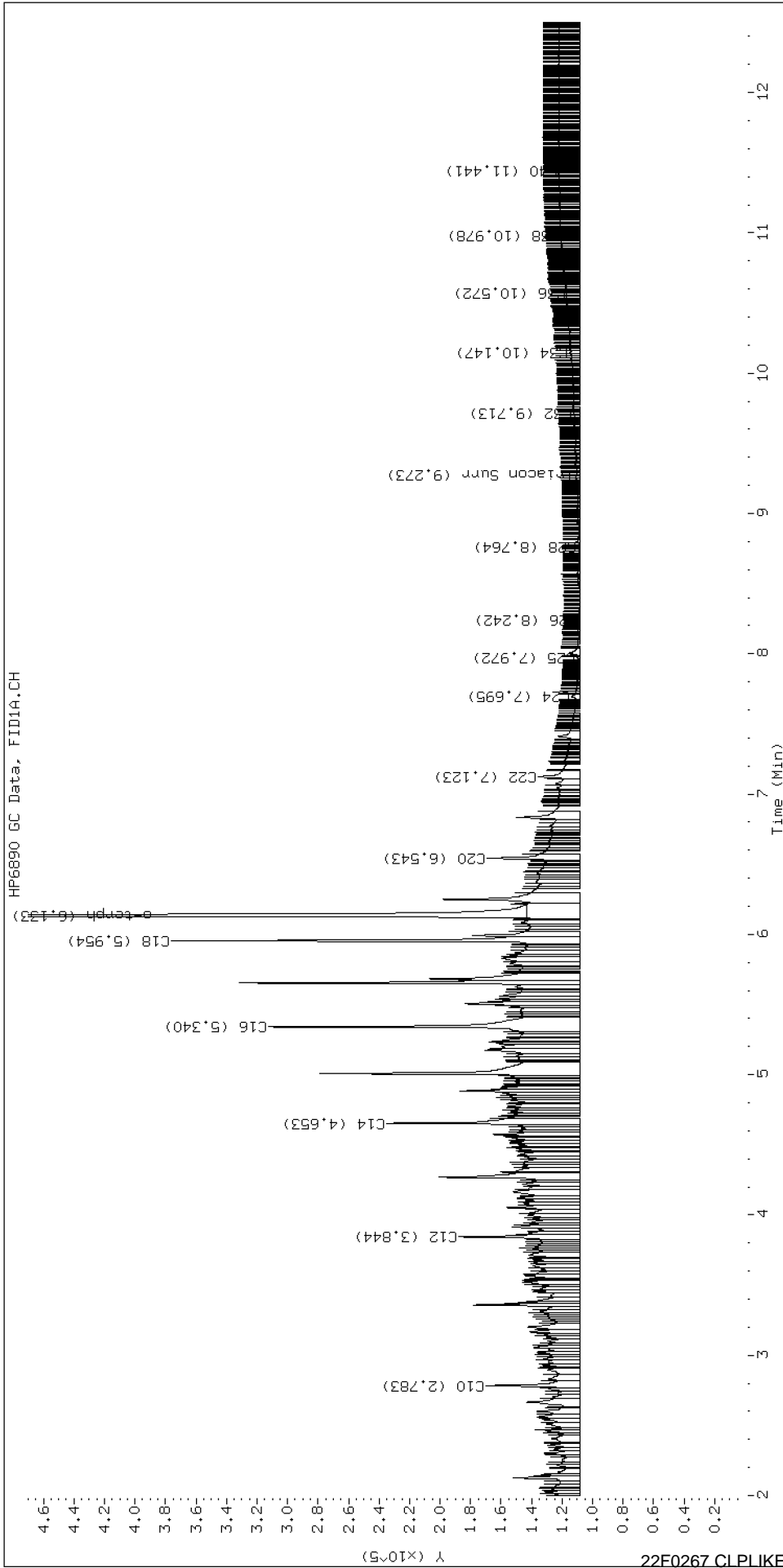
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.535	-0.008	27708	30045	WATPHD	(C12-C24)	7444121	46.9
C10	2.783	-0.004	61539	83608	WATPHM	(C24-C38)	767210	5.8
C12	3.844	-0.004	79540	103209	AK102	(C10-C25)	9159711	48.4
C14	4.653	-0.004	126464	188042	AK103	(C25-C36)	482448	4.9
C16	5.340	-0.005	204117	392474	OR.DIES	(C10-C28)	9209141	48.5
C18	5.954	-0.007	268242	283820				
C20	6.543	-0.006	61351	95012				
C22	7.123	-0.007	27453	56580				
C24	7.695	-0.002	5379	8568				
C25	7.972	-0.002	1900	2385				
C26	8.242	-0.002	725	374				
C28	8.764	0.001	1235	294				
C32	9.713	-0.004	4459	4594				
C34	10.147	-0.008	7029	7616				
Filter Peak	13.963	0.000	14649	5098				
C36	10.572	0.003	8505	3791				
C38	10.978	0.003	12334	4290				
C40	11.441	0.003	13915	4805				
o-terph	6.133	-0.022	2231788	1499503				
Triacon Surr	9.273	-0.004	2529	1233	NAS DIES	(C10-C24)	9143618	48.5

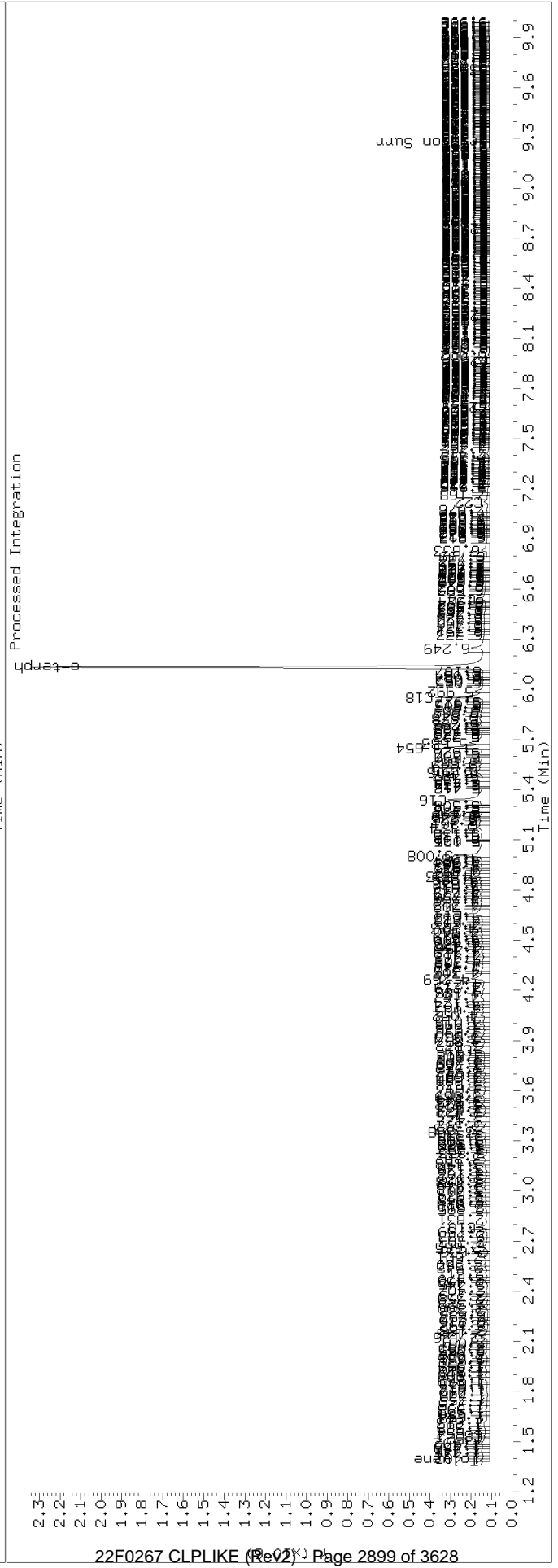
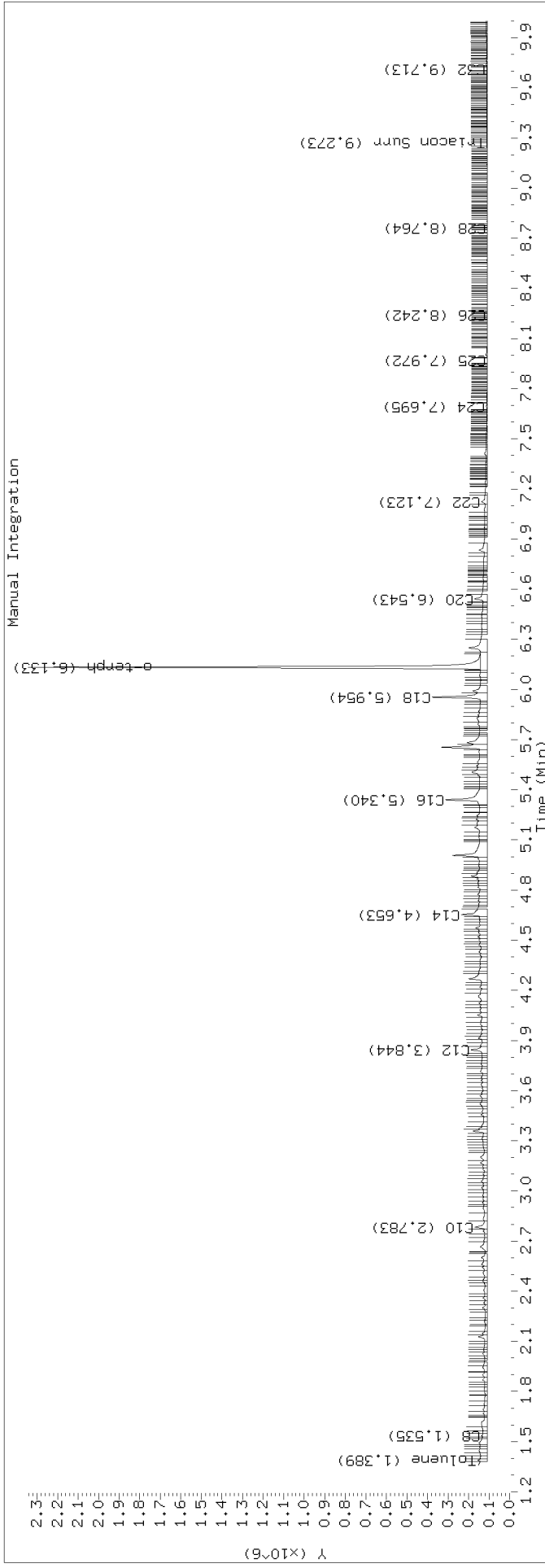
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	1499503	7.4 M
Triacontane	1233	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282006.D

Date: 20-JAN-2022 12:11

Client ID:

Sample Info: SKR0208-CAL2

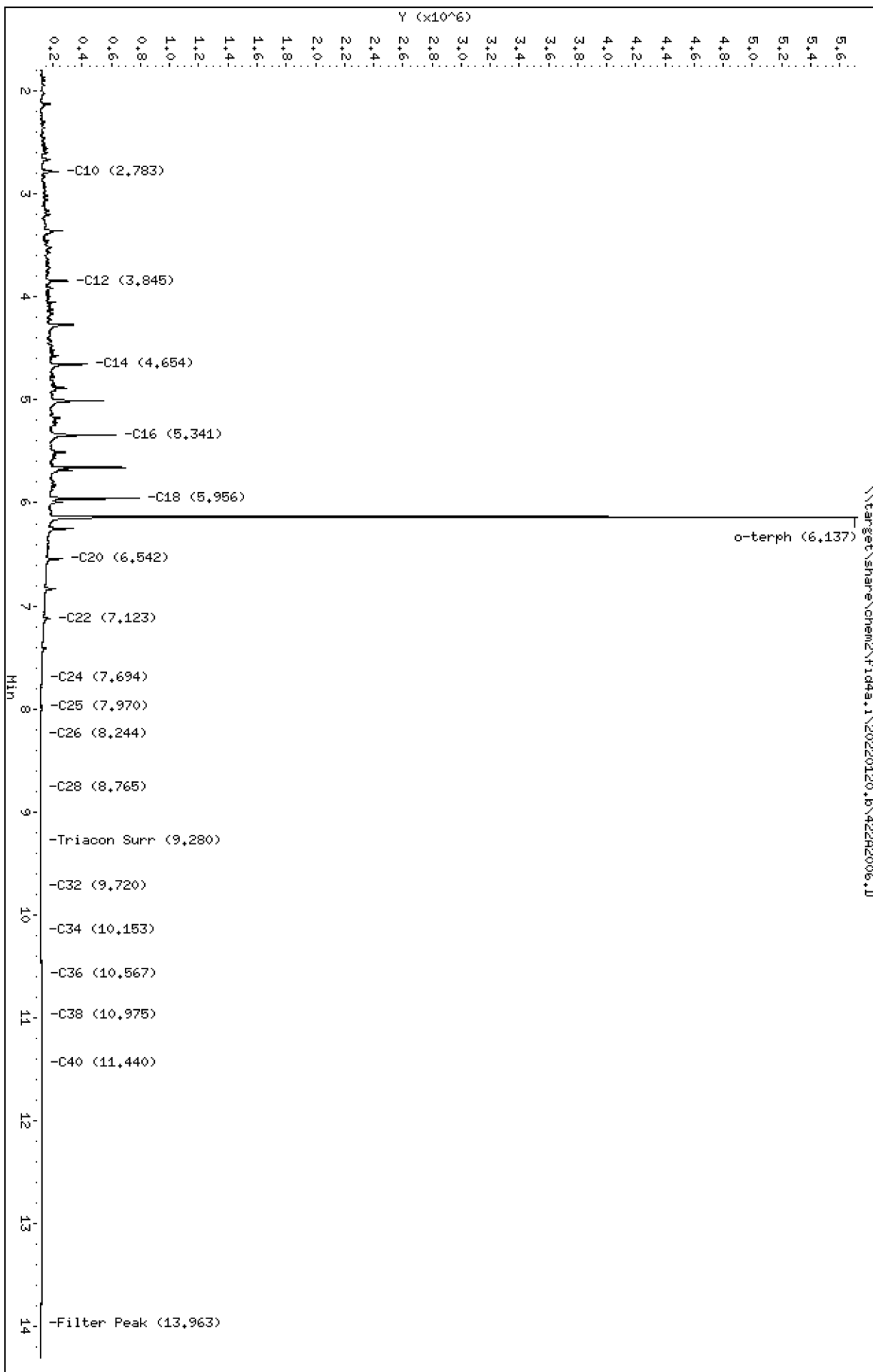
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2006.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL2  
Client ID:  
Injection: 20-JAN-2022 12:11  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

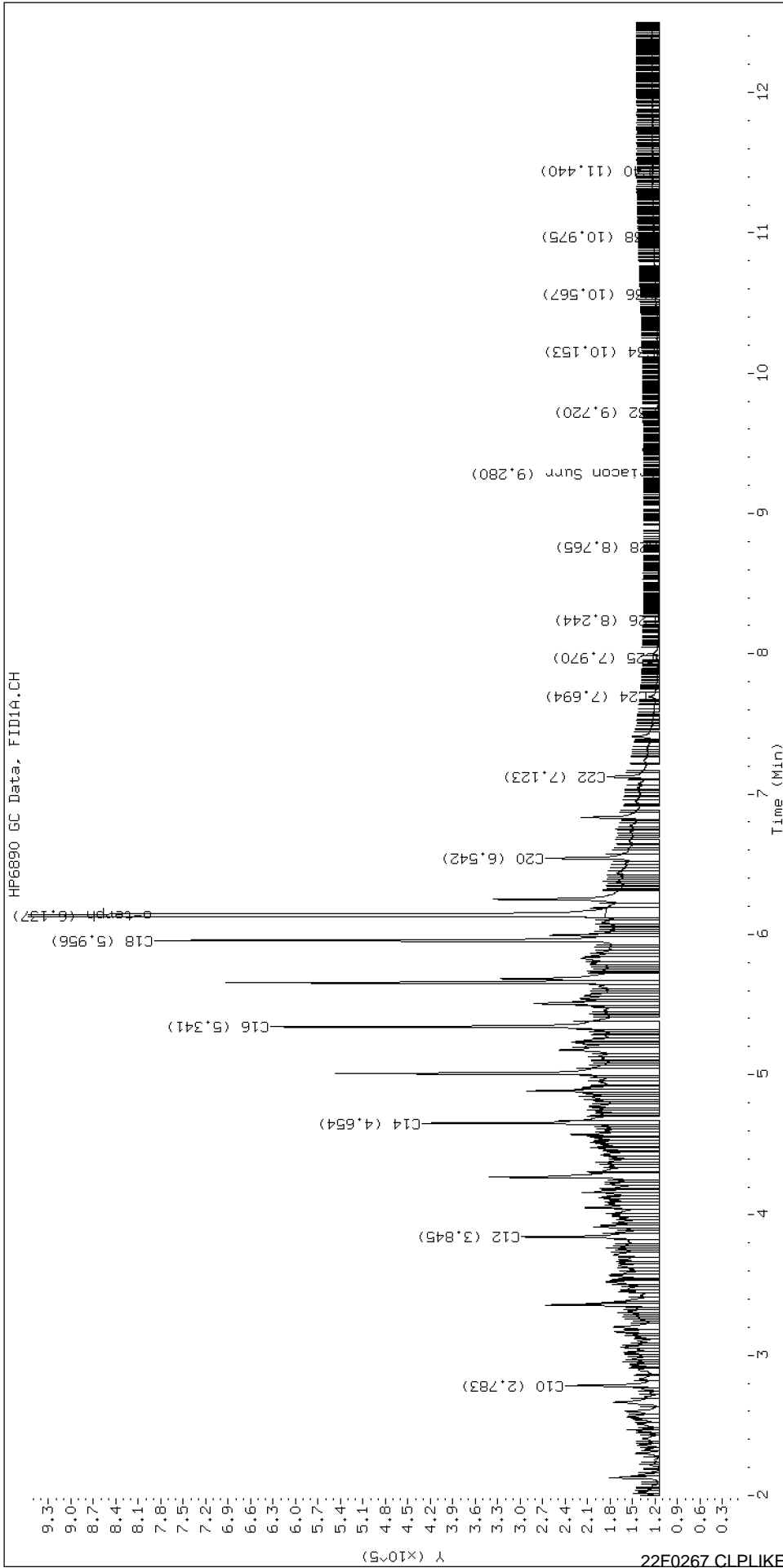
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.552	0.009	16555	16726	WATPHD	(C12-C24)	14707395	92.7
C10	2.783	-0.004	126688	134636	WATPHM	(C24-C38)	469166	3.5
C12	3.845	-0.004	184172	214747	AK102	(C10-C25)	17413082	92.1
C14	4.654	-0.004	317298	320236	AK103	(C25-C36)	269684	2.7
C16	5.341	-0.004	520196	598541	OR.DIES	(C10-C28)	17485049	92.2
C18	5.956	-0.005	674723	654694				
C20	6.542	-0.006	153245	209870				
C22	7.123	-0.007	69858	101420				
C24	7.694	-0.003	13882	26216				
C25	7.970	-0.004	4951	7165				
C26	8.244	-0.000	2511	3354				
C28	8.765	0.001	871	304				
C32	9.720	0.003	1890	752				
C34	10.153	-0.002	2745	1844				
Filter Peak	13.963	0.001	3721	2548				
C36	10.567	-0.001	5488	2082				
C38	10.975	0.001	7723	2304				
C40	11.440	0.002	9453	3292				
o-terph	6.137	-0.018	5533733	3490480				
Triacon Surr	9.280	0.002	571	159	NAS DIES	(C10-C24)	17379670	92.1

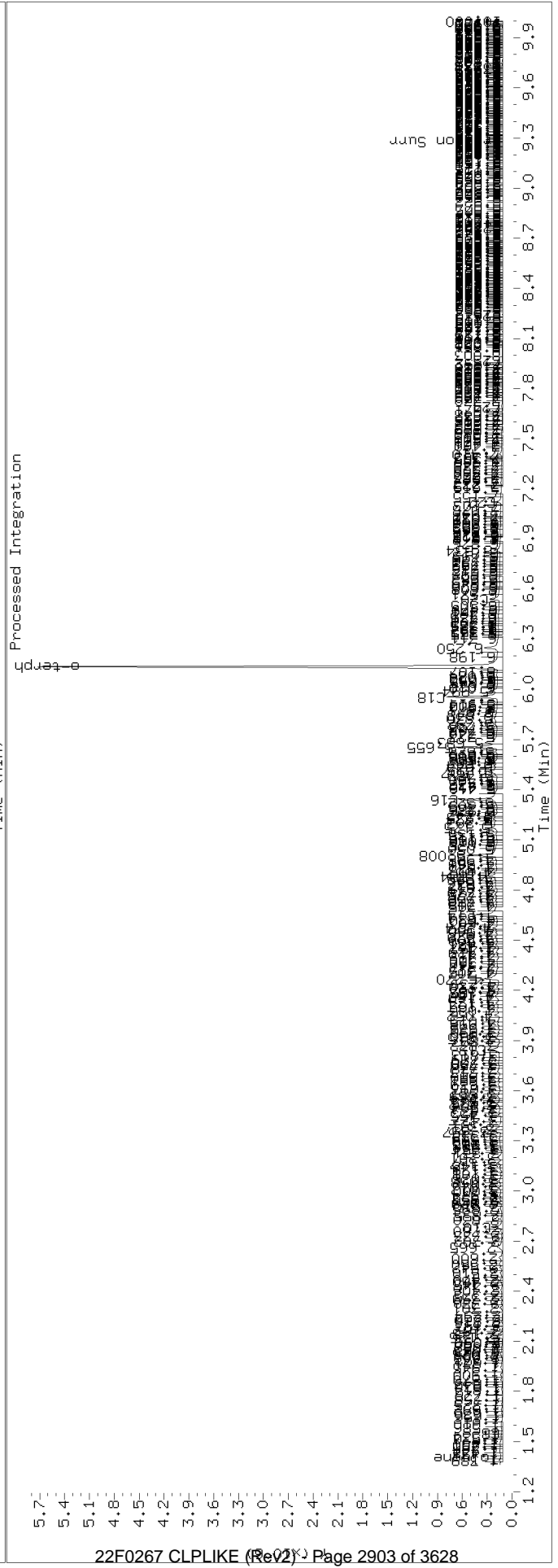
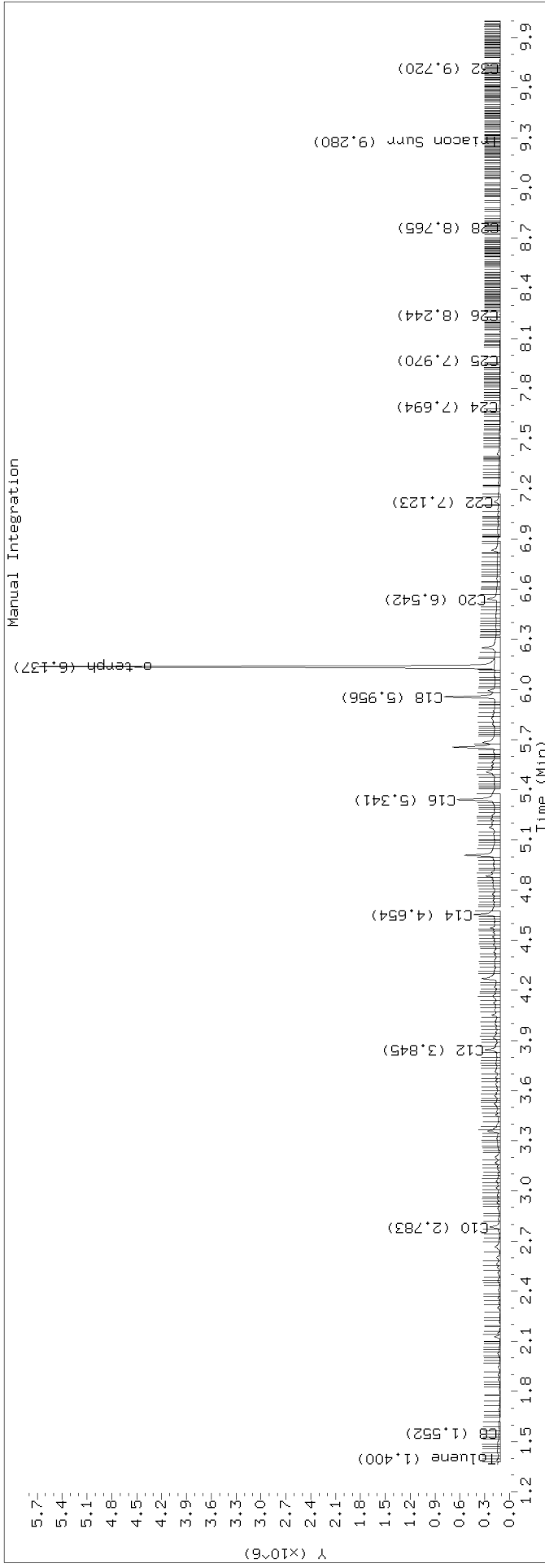
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	3490480	17.1 M
Triacontane	159	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282007.D

Date: 20-JAN-2022 12:30

Client ID:

Sample Info: SKR0208-CAL3

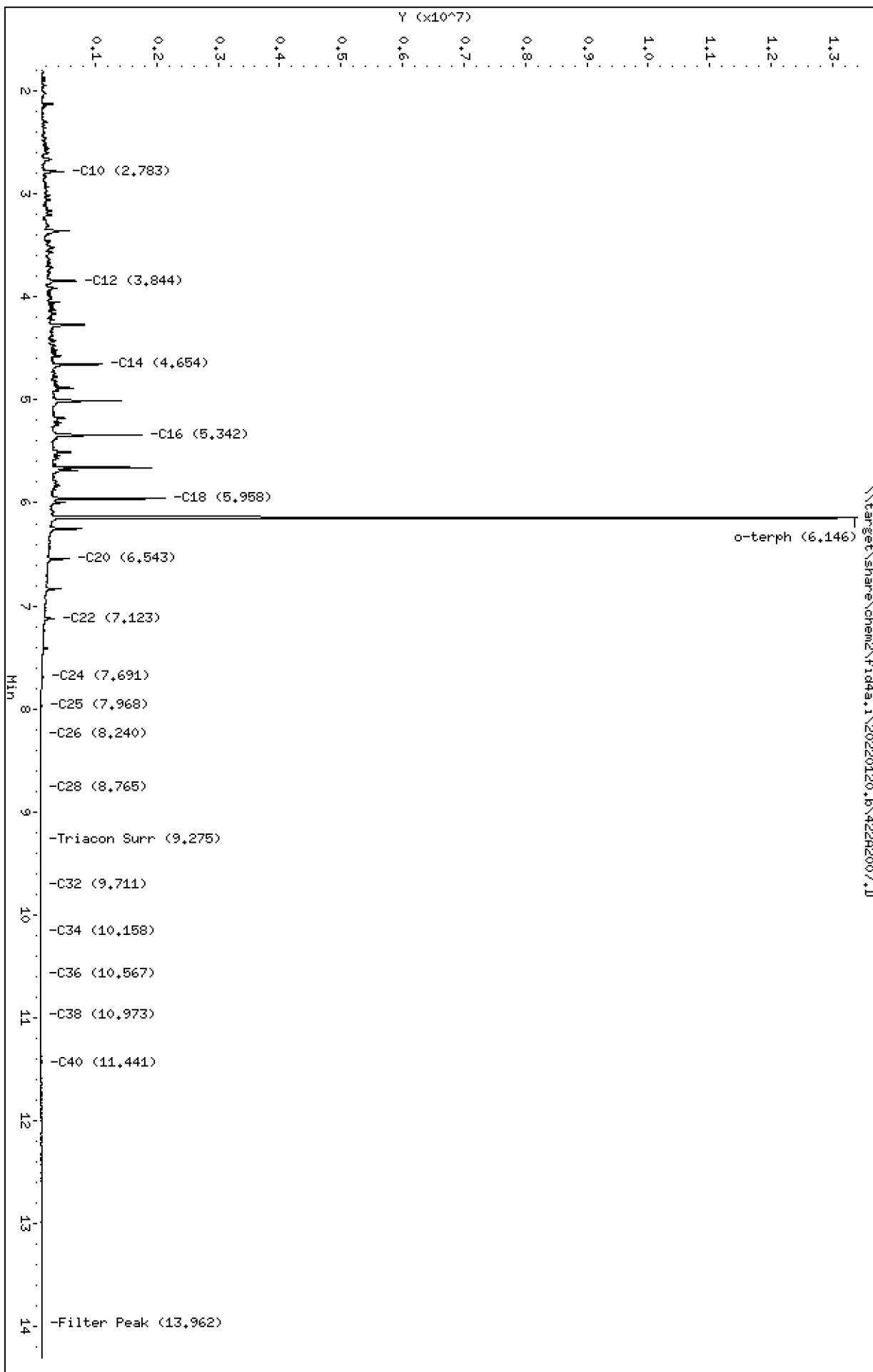
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2007.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL3  
Client ID:  
Injection: 20-JAN-2022 12:30  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

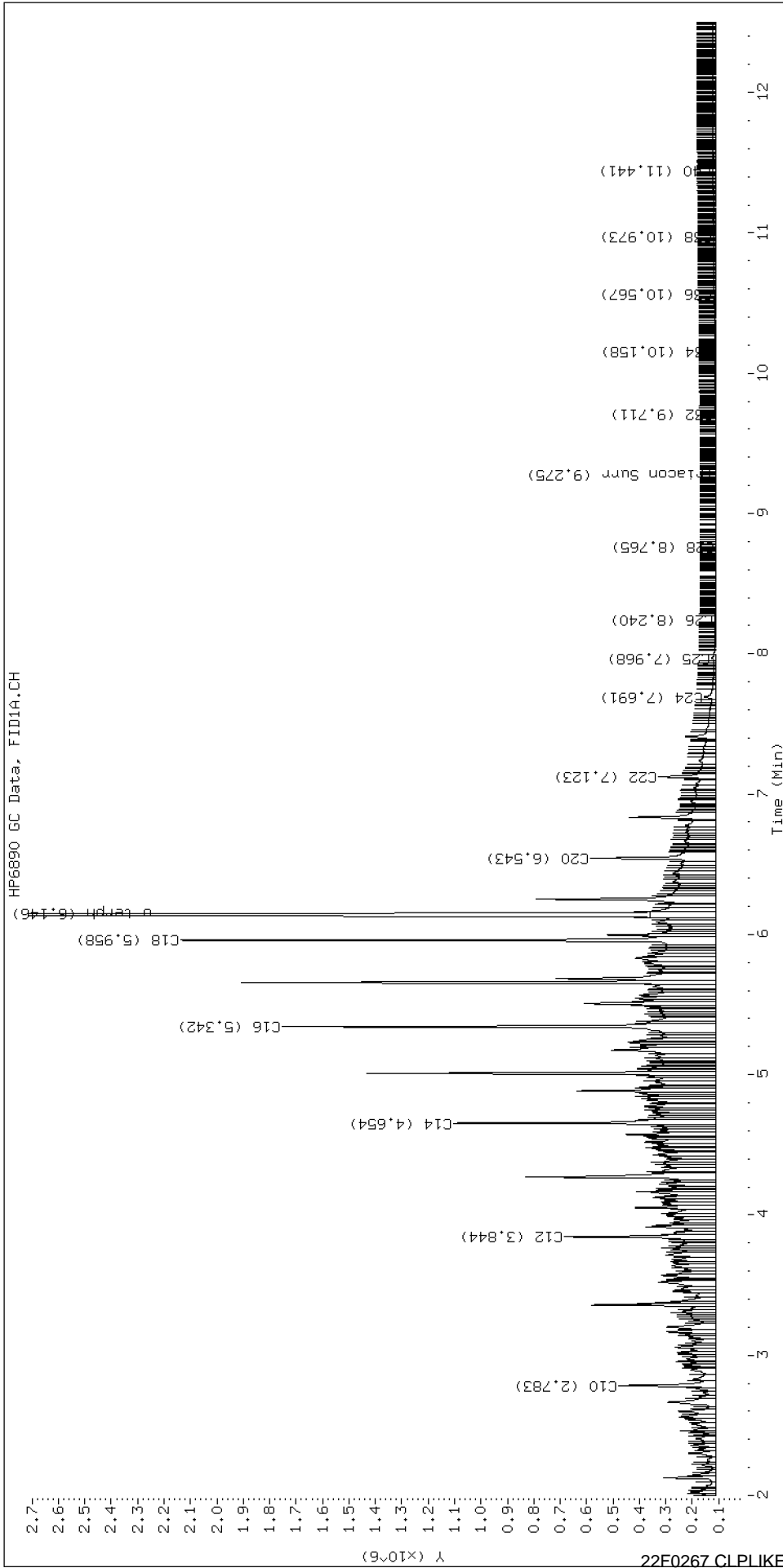
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	51595	42492	WATPHD	(C12-C24)	42908766	270.5
C10	2.783	-0.004	369838	415697	WATPHM	(C24-C38)	683453	5.2
C12	3.844	-0.004	574678	650857	AK102	(C10-C25)	51100202	270.3
C14	4.654	-0.003	992557	1057075	AK103	(C25-C36)	381818	3.9
C16	5.342	-0.003	1641082	1885470	OR.DIES	(C10-C28)	51231288	270.0
C18	5.958	-0.003	2026462	1878870				
C20	6.543	-0.006	475588	745557				
C22	7.123	-0.007	218531	281405				
C24	7.691	-0.006	44690	100420				
C25	7.968	-0.006	16146	27786				
C26	8.240	-0.004	5708	10536				
C28	8.765	0.002	941	568				
C32	9.711	-0.006	2516	1668				
C34	10.158	0.003	3950	1769				
Filter Peak	13.962	-0.001	12364	12175				
C36	10.567	-0.001	6446	3827				
C38	10.973	-0.001	8914	4432				
C40	11.441	0.003	11408	14149				
o-terph	6.146	-0.009	13042333	9641147				
Triacon Surr	9.275	-0.002	679	442	NAS DIES	(C10-C24)	50995409	270.3

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	9641147	47.3 M
Triacontane	442	0.0

M Indicates the peak was manually integrated

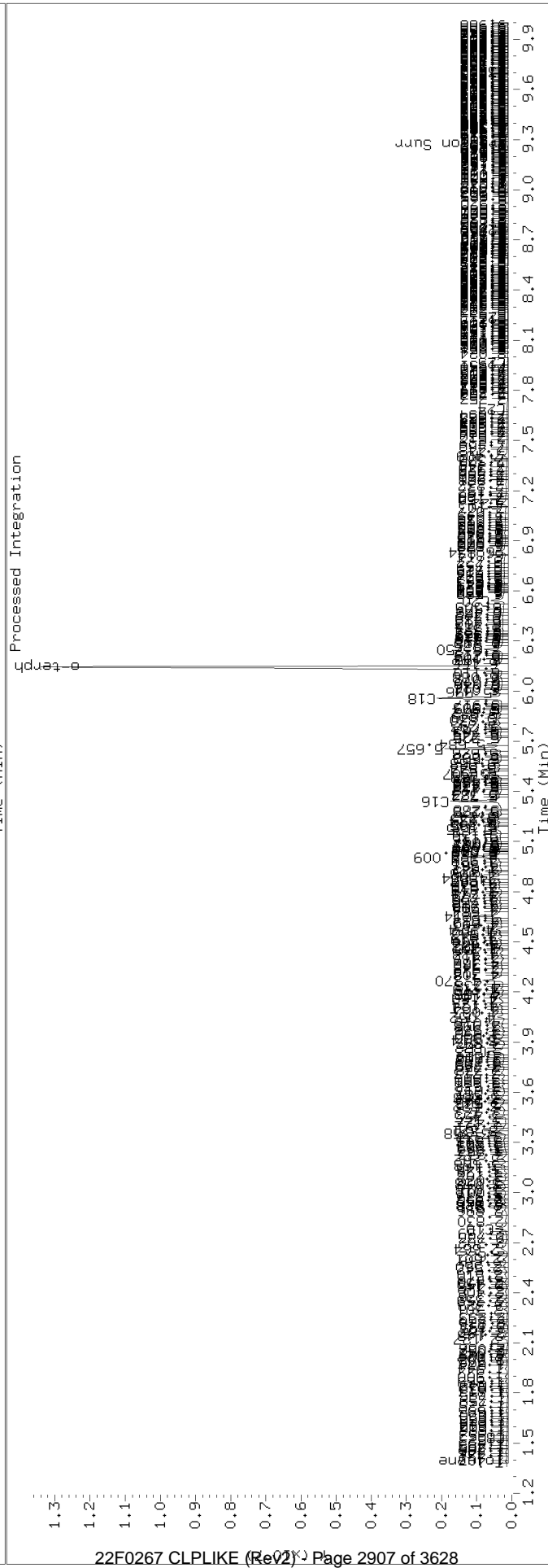
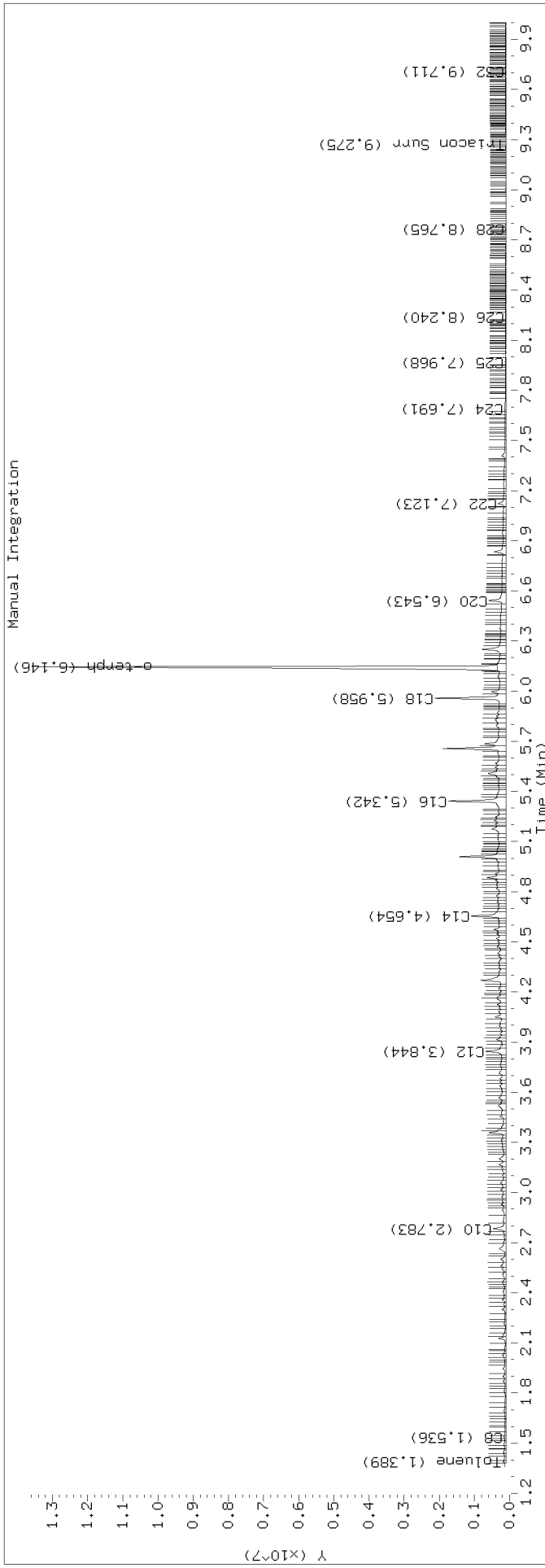
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2007.D Injection: 20-JAN-2022 12:30

Lab ID:SKA0208-CAL3



Data File: \\target\share\chem2\fid4a,1\20220120,8\42282008.D

Date: 20-JAN-2022 12:50

Client ID:

Sample Info: SKR0208-CAL4

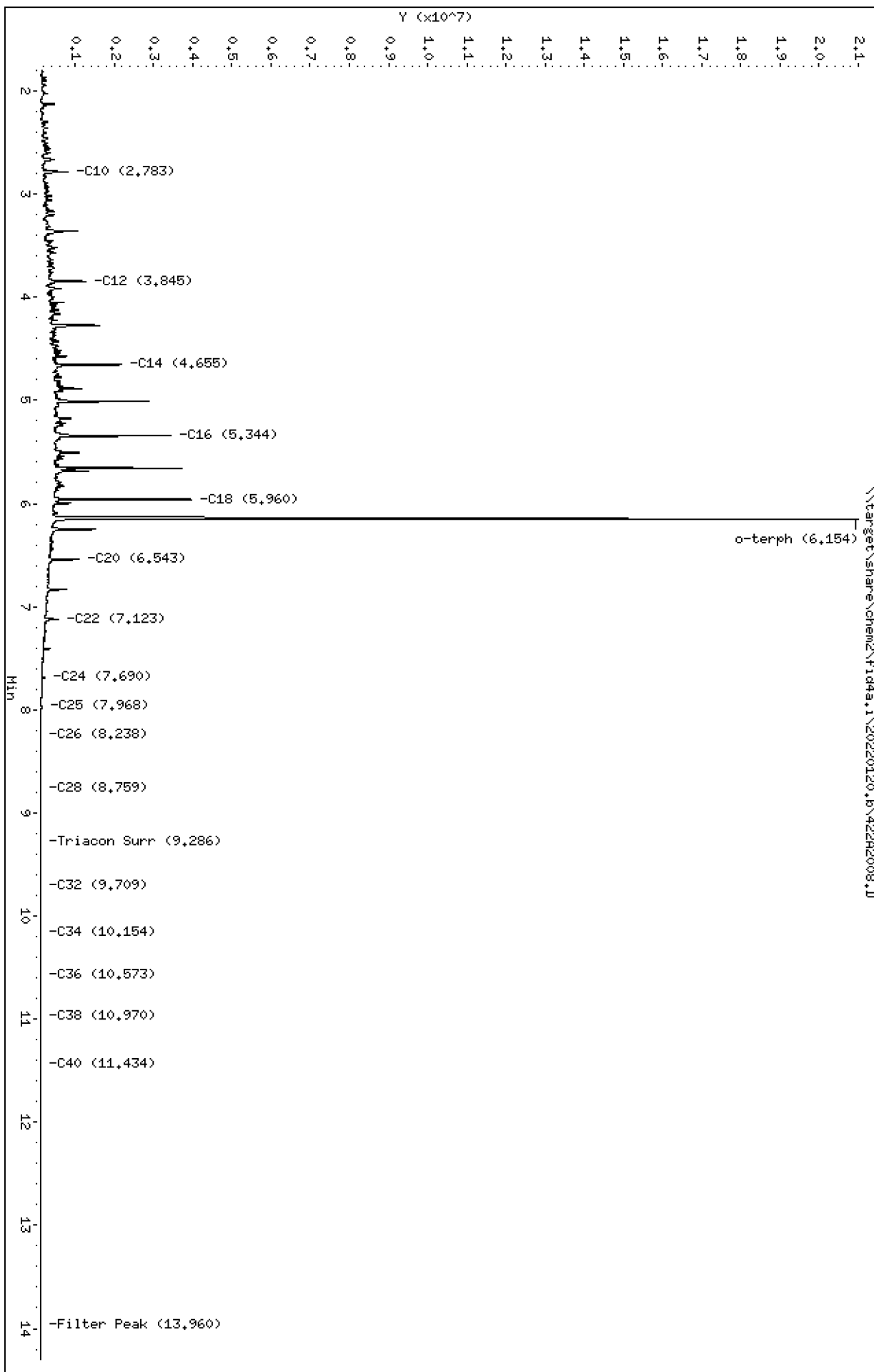
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2008.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL4  
Client ID:  
Injection: 20-JAN-2022 12:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

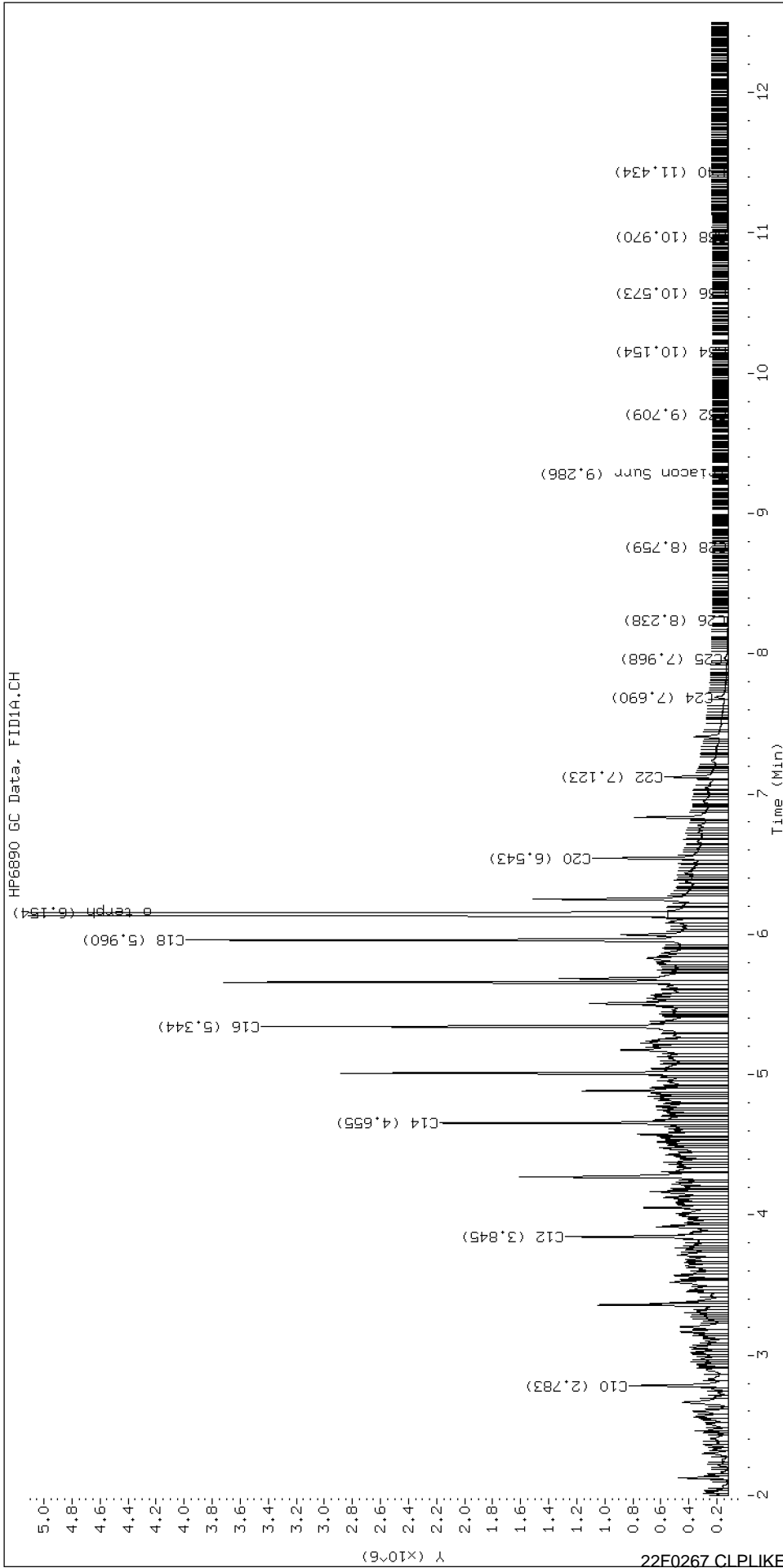
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	75258	48808	WATPHD	(C12-C24)	80641505	508.3
C10	2.783	-0.005	709615	752568	WATPHM	(C24-C38)	806665	6.1
C12	3.845	-0.003	1162593	1251021	AK102	(C10-C25)	95443784	504.8
C14	4.655	-0.002	2057036	1616758	AK103	(C25-C36)	450247	4.6
C16	5.344	-0.001	3337611	3592251	OR.DIES	(C10-C28)	95745351	504.6
C18	5.960	-0.001	3871050	3592934				
C20	6.543	-0.005	976164	1130774				
C22	7.123	-0.007	454765	562620				
C24	7.690	-0.006	98054	161406				
C25	7.968	-0.006	34825	76825				
C26	8.238	-0.006	13218	23450				
C28	8.759	-0.004	2262	1768				
C32	9.709	-0.009	1511	1013				
C34	10.154	-0.001	1891	1092				
Filter Peak	13.960	-0.002	3303	1461				
C36	10.573	0.005	4311	2527				
C38	10.970	-0.004	6542	2594				
C40	11.434	-0.004	8637	4692				
o-terph	6.154	-0.001	20447054	19087067				
Triacon Surr	9.286	0.009	319	198	NAS DIES	(C10-C24)	95228381	504.7

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	19087067	93.7 M
Triacontane	198	0.0

M Indicates the peak was manually integrated

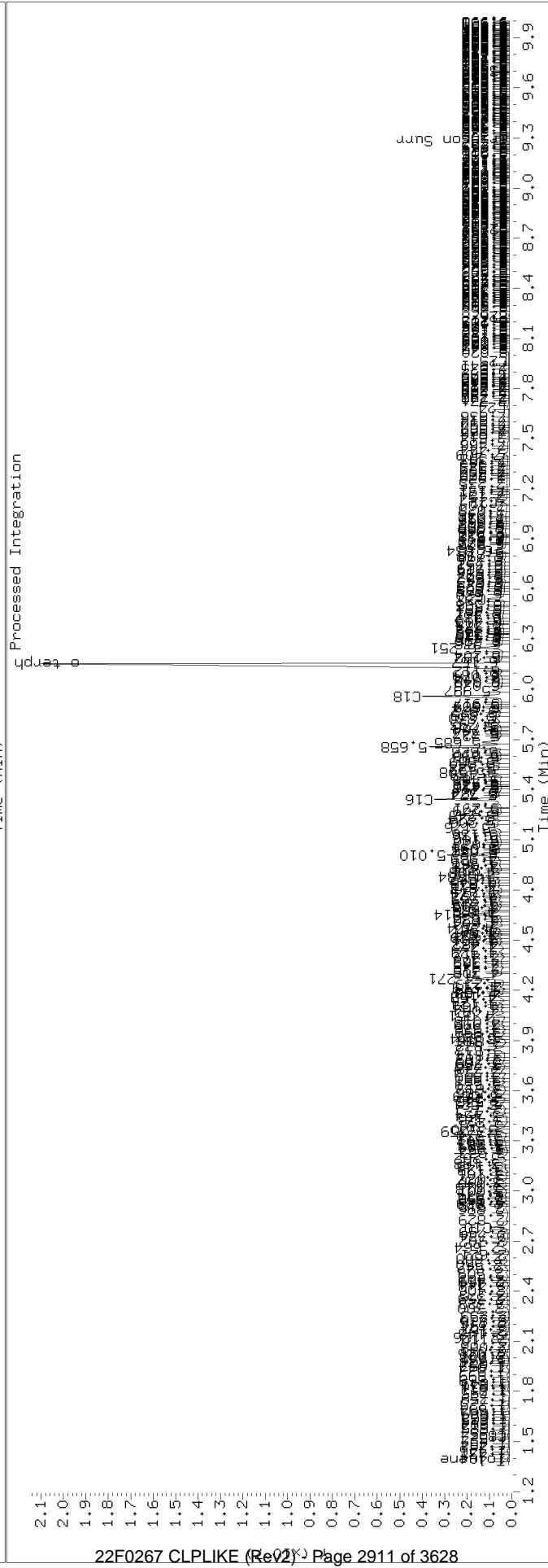
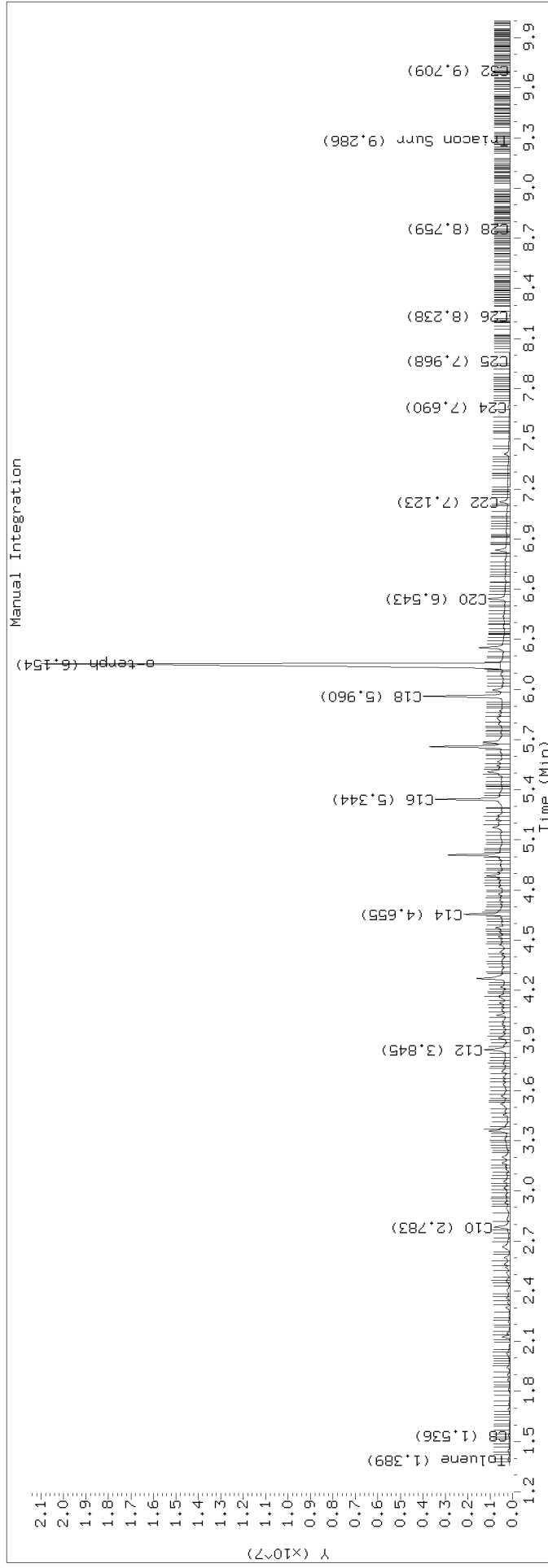
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220120.b/422A2008.D Injection: 20-JAN-2022 12:50

Lab ID:SKA0208-CAL4



Data File: \\target\share\chem2\fid4a,1\20220120,8\42282009.D

Date: 20-JAN-2022 13:10

Client ID:

Sample Info: SKR0208-CAL5

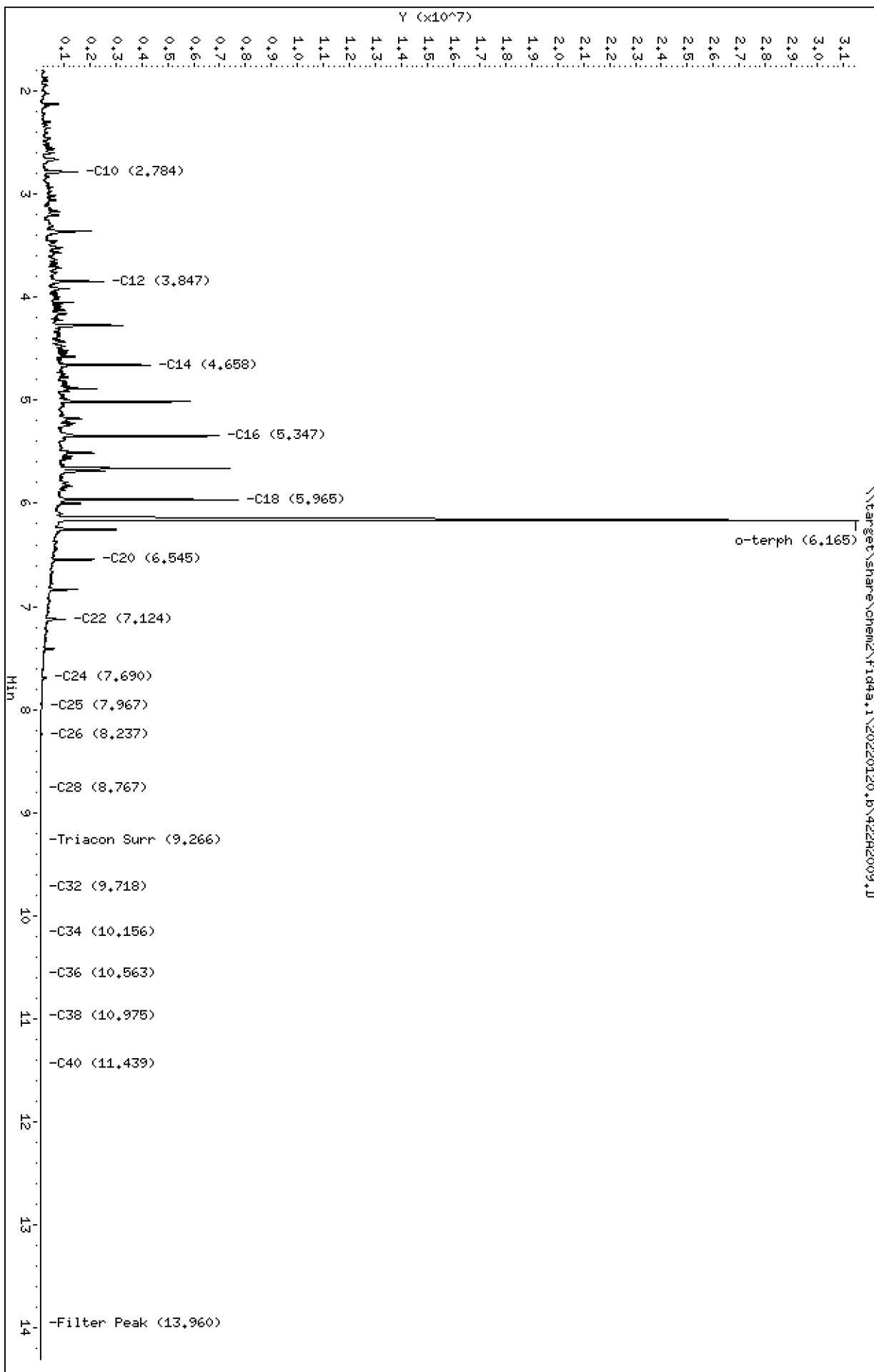
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2009.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL5  
Client ID:  
Injection: 20-JAN-2022 13:10  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

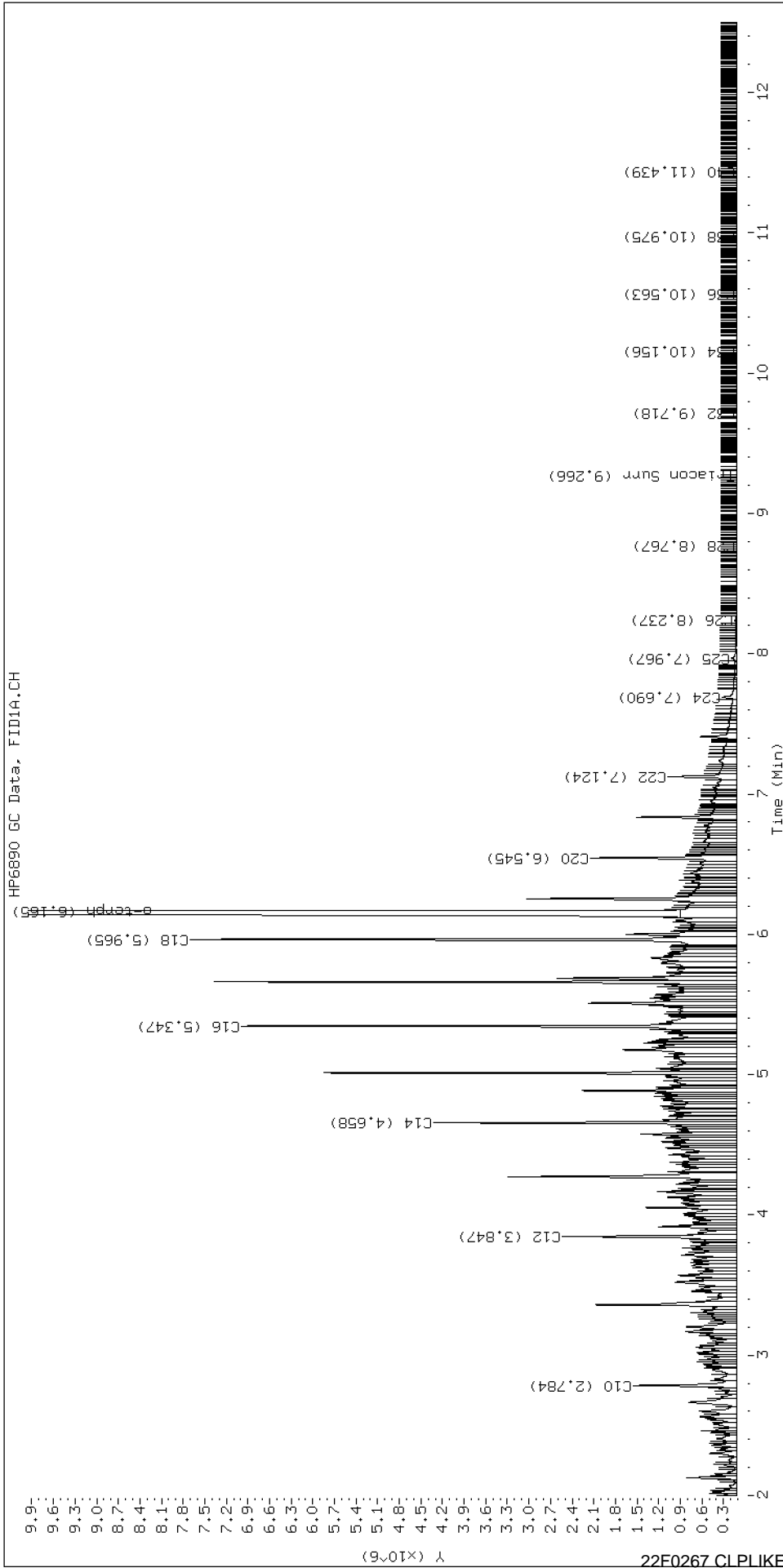
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.536	-0.007	149954	98749	WATPHD	(C12-C24)	162430372	1023.9
C10	2.784	-0.004	1439796	1548854	WATPHM	(C24-C38)	1264513	9.5
C12	3.847	-0.001	2421473	2554240	AK102	(C10-C25)	192320848	1017.2
C14	4.658	0.001	4204457	3276272	AK103	(C25-C36)	691204	7.0
C16	5.347	0.002	6879562	5892766	OR.DIES	(C10-C28)	192830179	1016.3
C18	5.965	0.003	7592509	7277681				
C20	6.545	-0.004	2041229	2172658				
C22	7.124	-0.006	960097	1127598				
C24	7.690	-0.006	201208	385652				
C25	7.967	-0.007	73017	142663				
C26	8.237	-0.007	27457	48850				
C28	8.767	0.004	3710	2779				
C32	9.718	0.001	1462	729				
C34	10.156	0.001	2849	1848				
Filter Peak	13.960	-0.002	10288	3572				
C36	10.563	-0.005	5029	2720				
C38	10.975	0.001	7473	2950				
C40	11.439	0.001	9125	4044				
o-terph	6.165	0.011	30678154	39035312				
Triacon Surr	9.266	-0.011	567	367	NAS DIES	(C10-C24)	191911673	1017.2

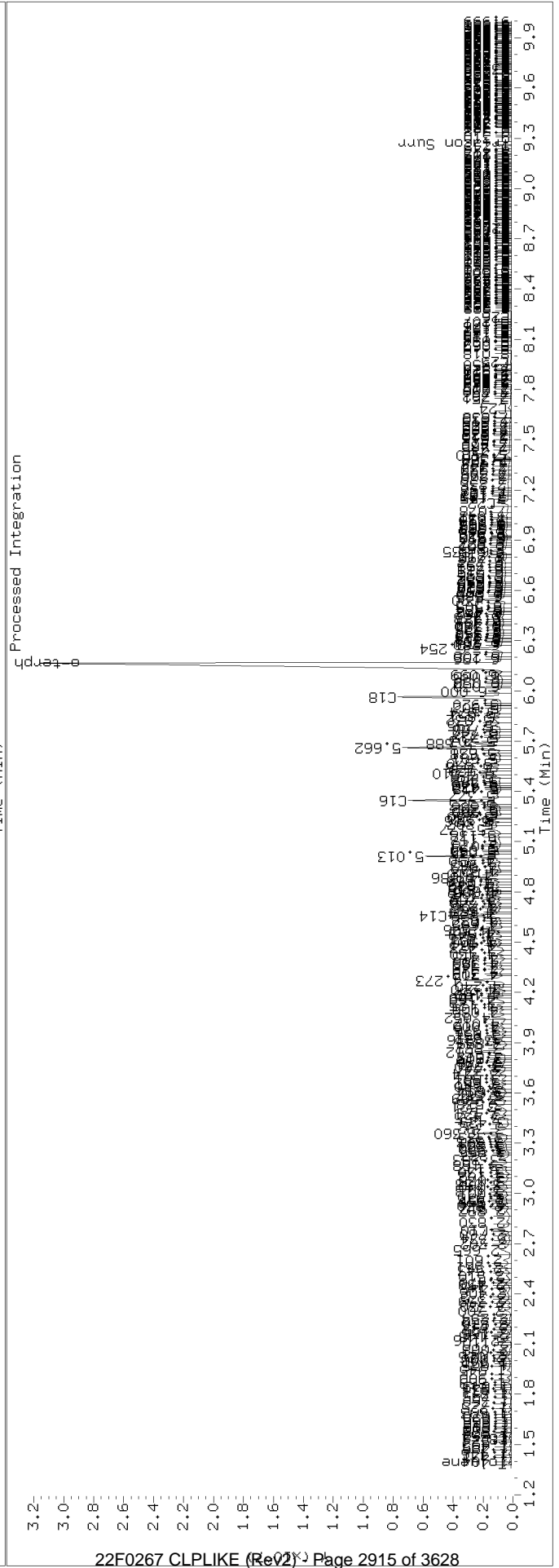
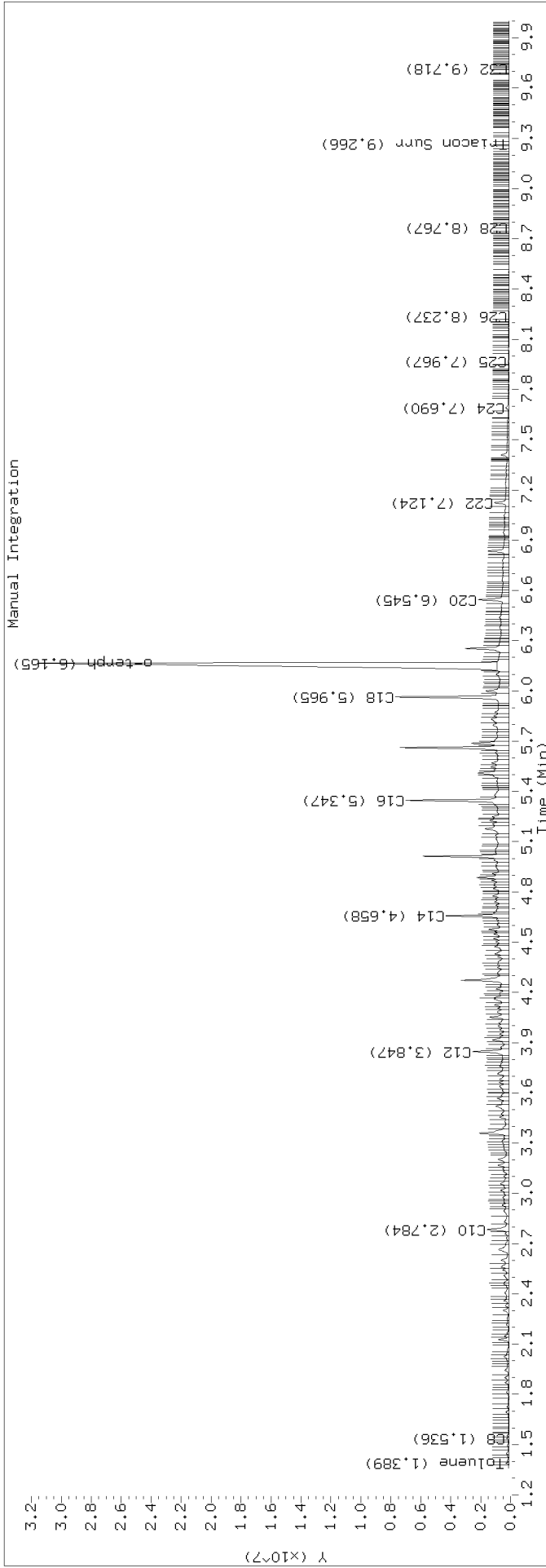
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	39035312	191.7 M
Triacontane	367	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282010.D

Date: 20-JAN-2022 13:30

Client ID:

Sample Info: SKR0208-CAL6

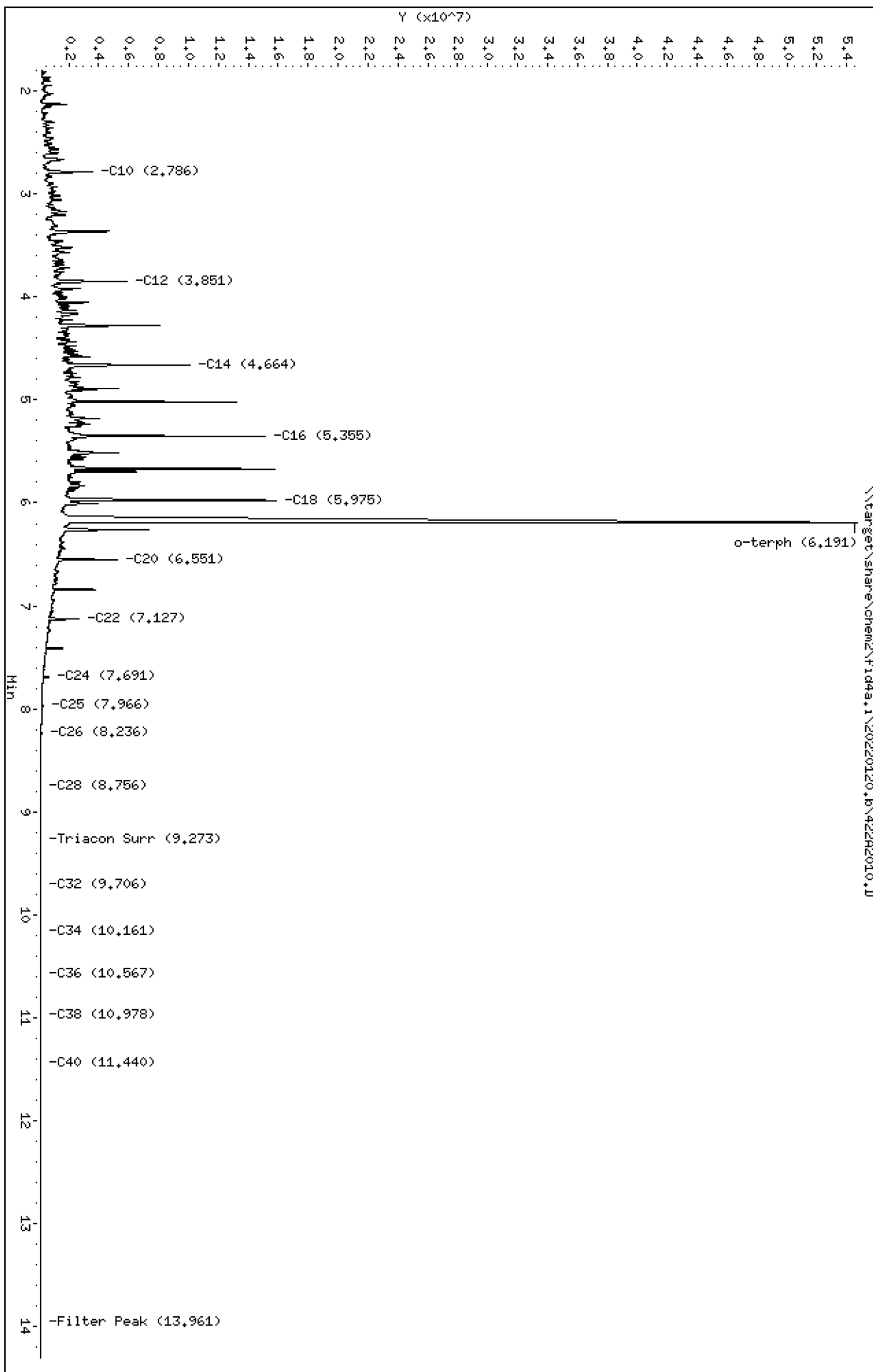
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2010.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-CAL6  
Client ID:  
Injection: 20-JAN-2022 13:30  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

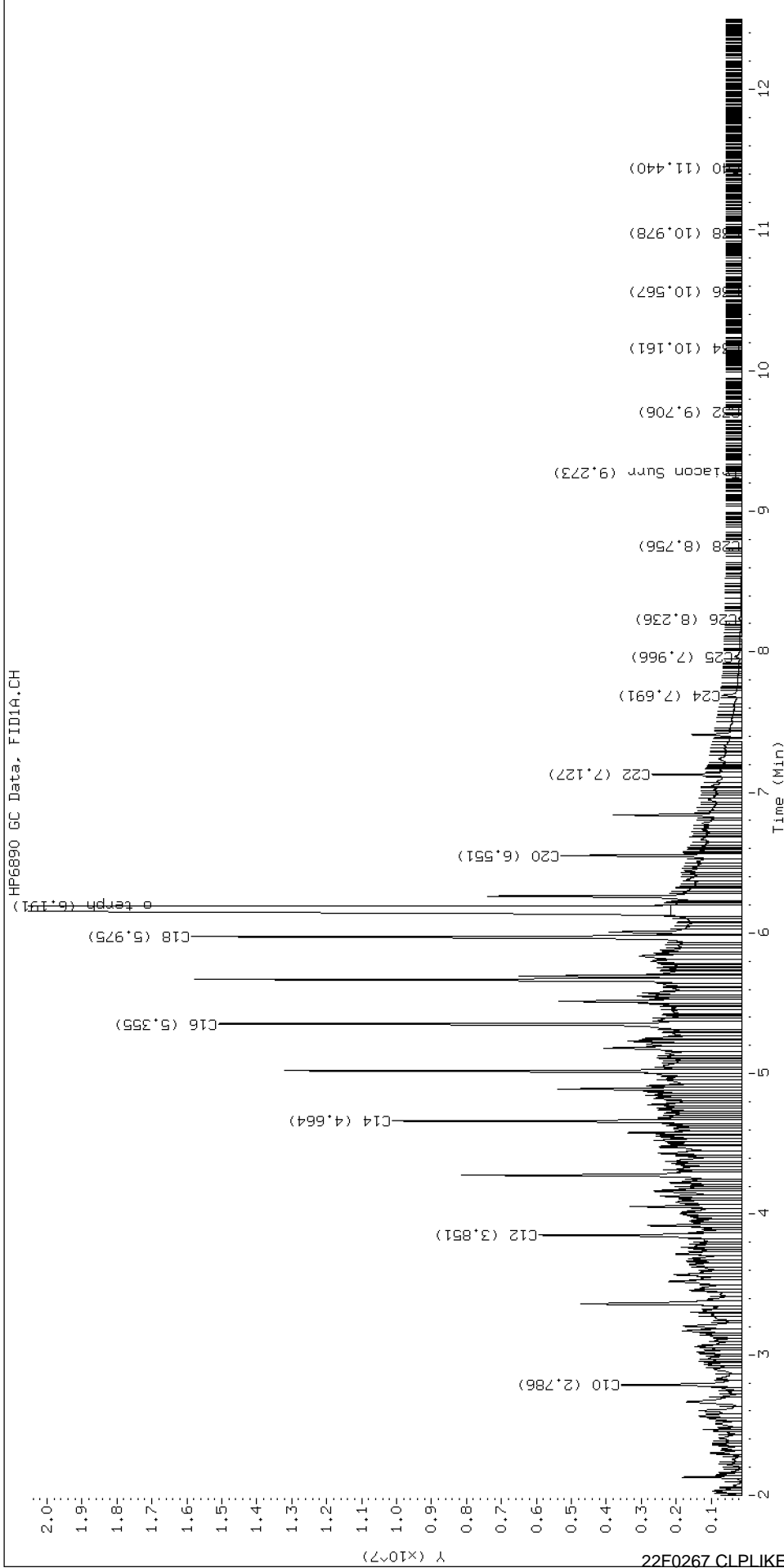
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.542	-0.001	359379	204664	WATPHD	(C12-C24)	401313275	2529.7
C10	2.786	-0.001	3451612	3747918	WATPHM	(C24-C38)	3255893	24.6
C12	3.851	0.003	5804470	6518180	AK102	(C10-C25)	473805635	2505.9
C14	4.664	0.006	9996069	8319063	AK103	(C25-C36)	1903073	19.2
C16	5.355	0.010	14976880	16519865	OR.DIES	(C10-C28)	475446210	2505.7
C18	5.975	0.013	15736444	17182717				
C20	6.551	0.002	5171124	5039701				
C22	7.127	-0.003	2582232	2708319				
C24	7.691	-0.006	575368	871757				
C25	7.966	-0.009	212908	393035				
C26	8.236	-0.008	84474	194854				
C28	8.756	-0.008	15719	40350				
C32	9.706	-0.011	2513	2679				
C34	10.161	0.006	1301	484				
Filter Peak	13.961	-0.002	1223	237				
C36	10.567	-0.001	3163	768				
C38	10.978	0.004	4396	2161				
C40	11.440	0.001	5426	4272				
o-terph	6.191	0.036	52535316	98139839				
Triacon Surr	9.273	-0.004	2245	1221	NAS DIES	(C10-C24)	472550701	2504.6

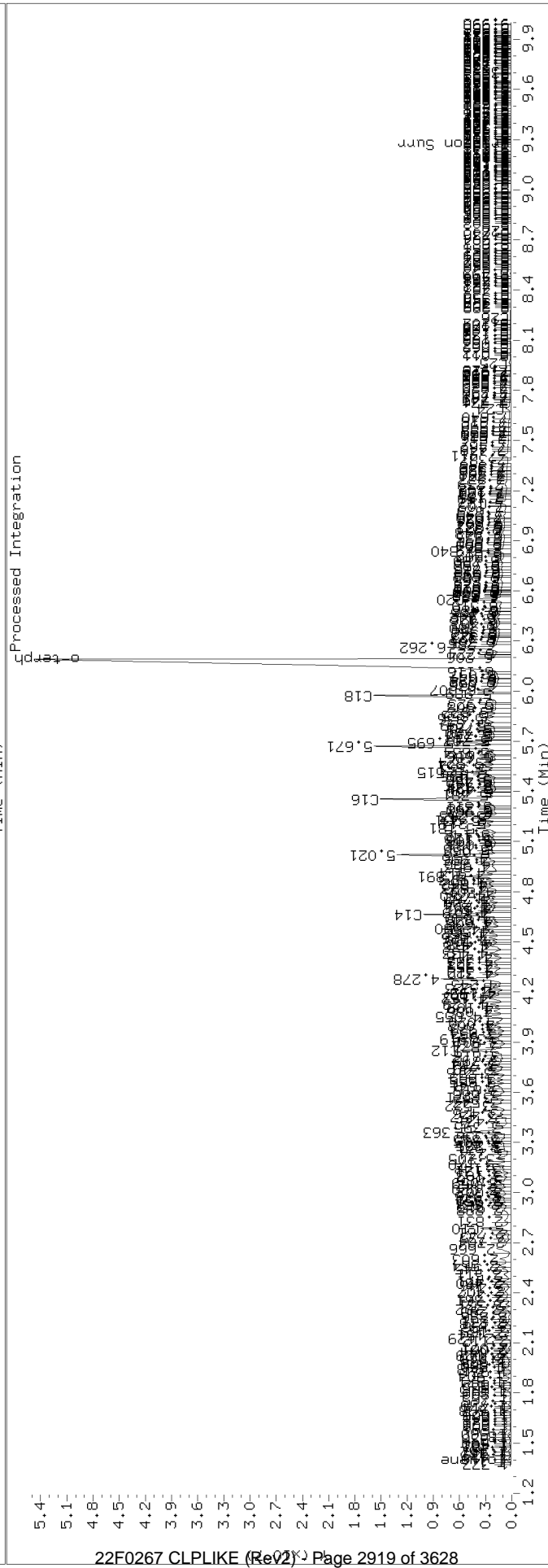
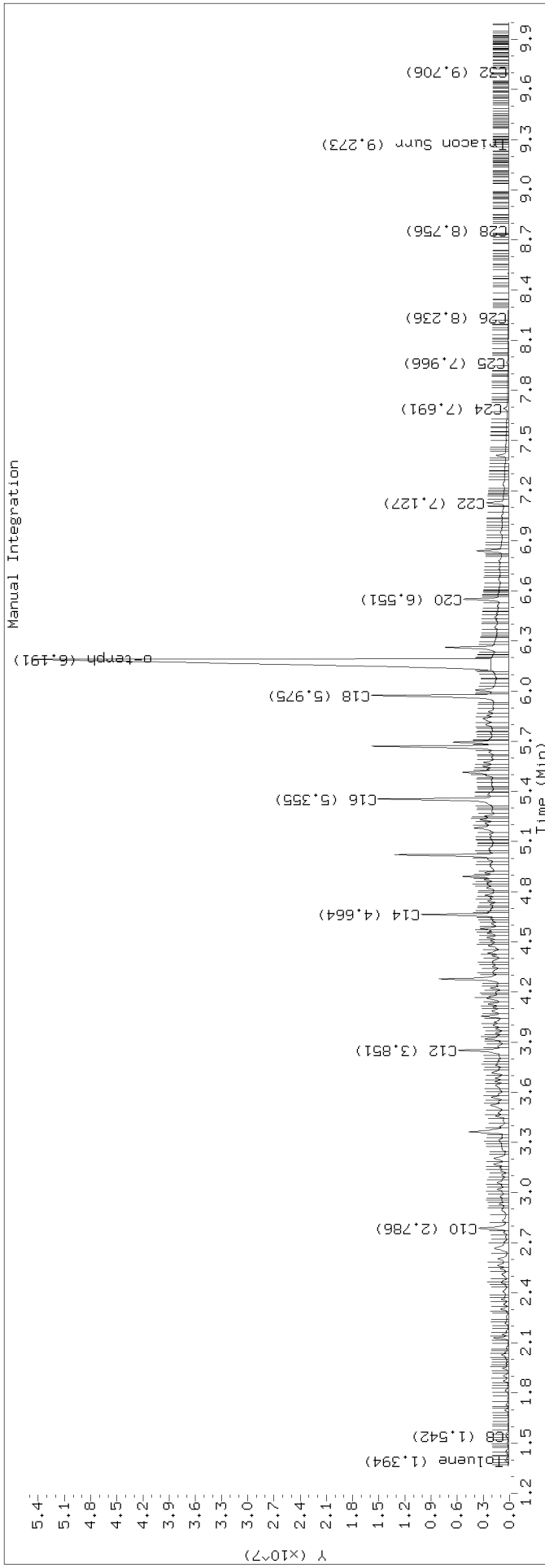
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	98139839	481.9 M
Triacontane	1221	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





Data File: \\target\share\chem2\fid4a,1\20220120,8\42282011.D

Date: 20-JAN-2022 13:50

Client ID:

Sample Info: SKR0208-SCW1

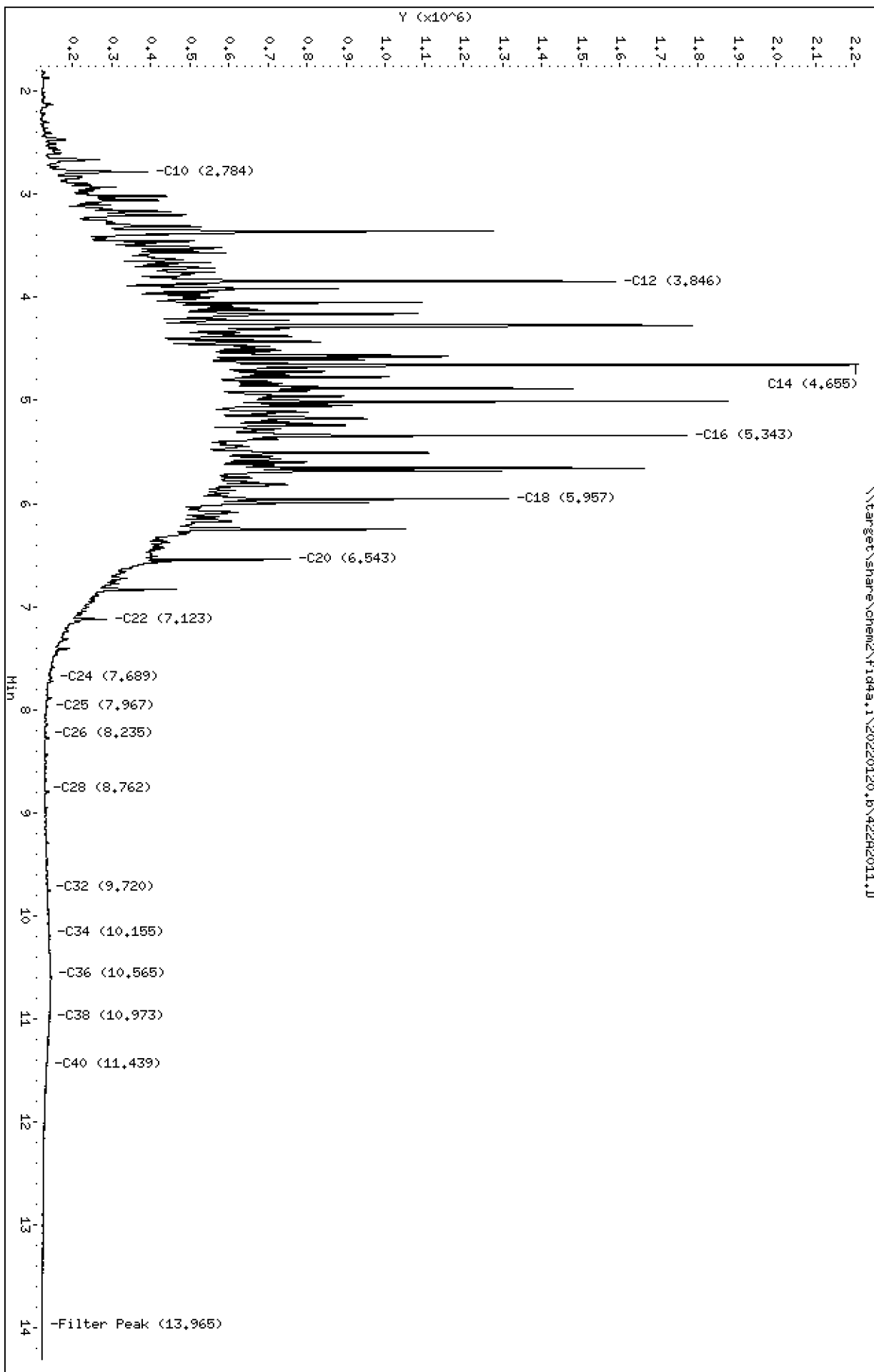
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2011.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-SCV1  
Client ID:  
Injection: 20-JAN-2022 13:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.544	0.001	18500	21377	WATPHD	(C12-C24)	91791980	578.6
C10	2.784	-0.003	274520	418072	WATPHM	(C24-C38)	3249567	24.5
C12	3.846	-0.002	1470041	1730655	AK102	(C10-C25)	109259392	577.9
C14	4.655	-0.002	2091691	2520186	AK103	(C25-C36)	2486512	25.1
C16	5.343	-0.002	1652289	1980684	OR.DIES	(C10-C28)	109898714	579.2
C18	5.957	-0.005	1198312	1177531				
C20	6.543	-0.006	639233	695730				
C22	7.123	-0.007	169547	241250				
C24	7.689	-0.007	28257	52637				
C25	7.967	-0.007	19233	25038				
C26	8.235	-0.009	12361	12259				
C28	8.762	-0.002	11738	2920				
C32	9.720	0.003	17524	10151				
C34	10.155	0.000	21103	7290				
Filter Peak	13.965	0.003	4638	1151				
C36	10.565	-0.003	24473	16973				
C38	10.973	-0.002	22520	6721				
C40	11.439	0.001	15551	3097				
o-terph	----							
Triacon Surr	----				NAS DIES	(C10-C24)	109074547	578.1

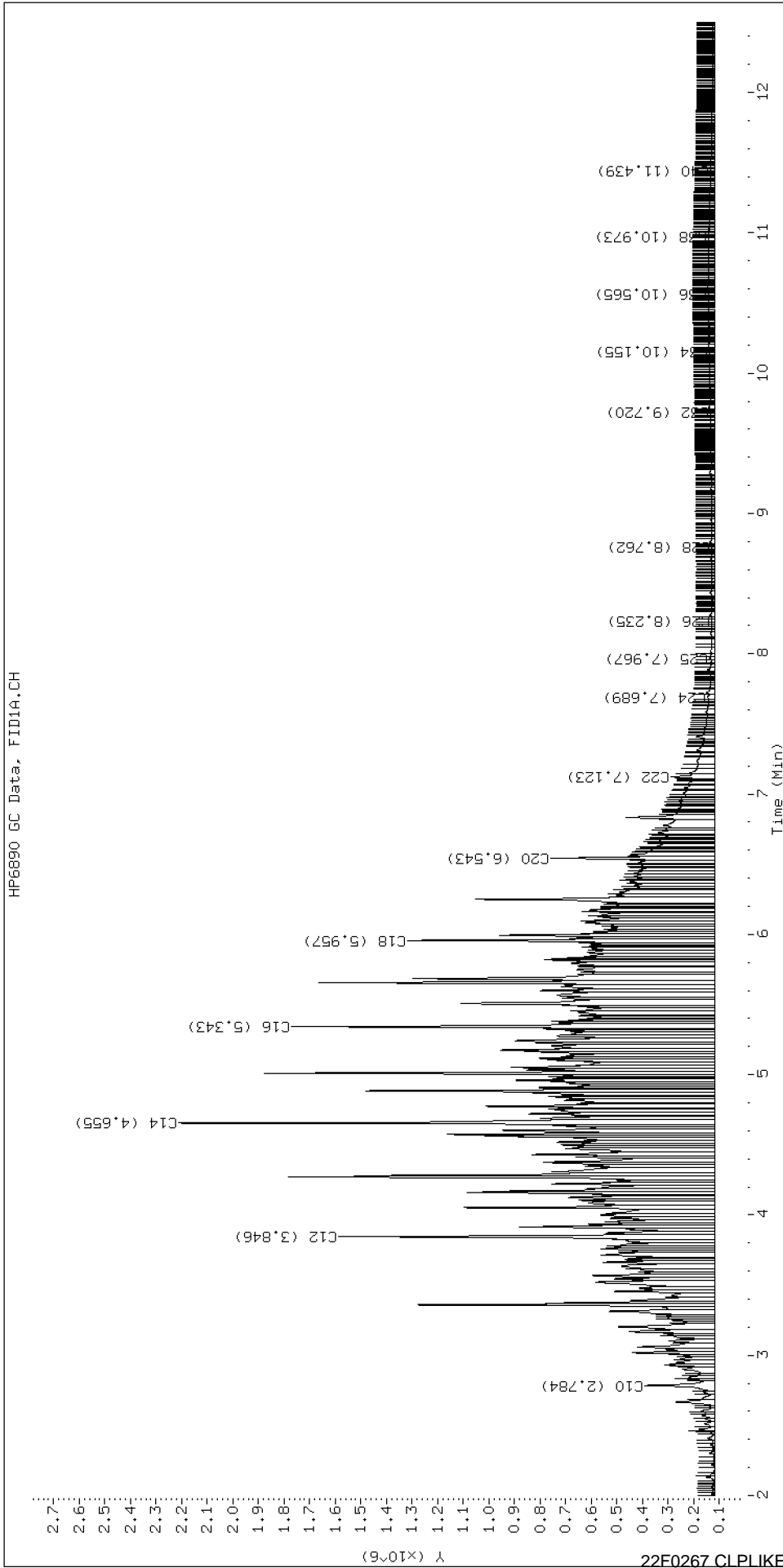
Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022

HP6890 GC Data, FID1A.CH





ANALYSIS SEQUENCE

SKA0028

Instrument: FID4  
Calibration ID: FA00013

Printed: 1/7/2022 6:12:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-IBL1	QC		1		J002430			
SKA0028-IBL2	QC		2		J012751			
SKA0028-CAL1	QC		3		K000192			
SKA0028-CAL2	QC		4		K000193			
SKA0028-CAL3	QC		5		K000194			
SKA0028-CAL4	QC		6		K000195			
SKA0028-CAL5	QC		7		K000196			
SKA0028-CAL6	QC		8		J012752			
SKA0028-CAL7	QC		9		J011839			
SKA0028-CAL8	QC		10		J011838			
SKA0028-CAL9	QC		11		J011837			
SKA0028-CALA	QC		12		J011836			
SKA0028-CALB	QC		13		J011835			
SKA0028-CALC	QC		14		J010293			
SKA0028-SCV1	QC		15		J009677			
SKA0028-SCV2	QC		16		J012167			
SKA0028-CALD	QC		17		J012178			
SKA0028-CALE	QC		18		J012179			
SKA0028-CALF	QC		19		J012180			
SKA0028-CALG	QC		20		J012181			
SKA0028-CALH	QC		21		J012182			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



ANALYSIS SEQUENCE

SKA0028

Instrument: FID4  
Calibration ID: FA00013

Printed: 1/7/2022 6:12:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-CALI	QC		22		J009013			
SKA0028-SCV3	QC		23		J012184			

\_\_\_\_\_  
Samples Loaded By

\_\_\_\_\_  
Date

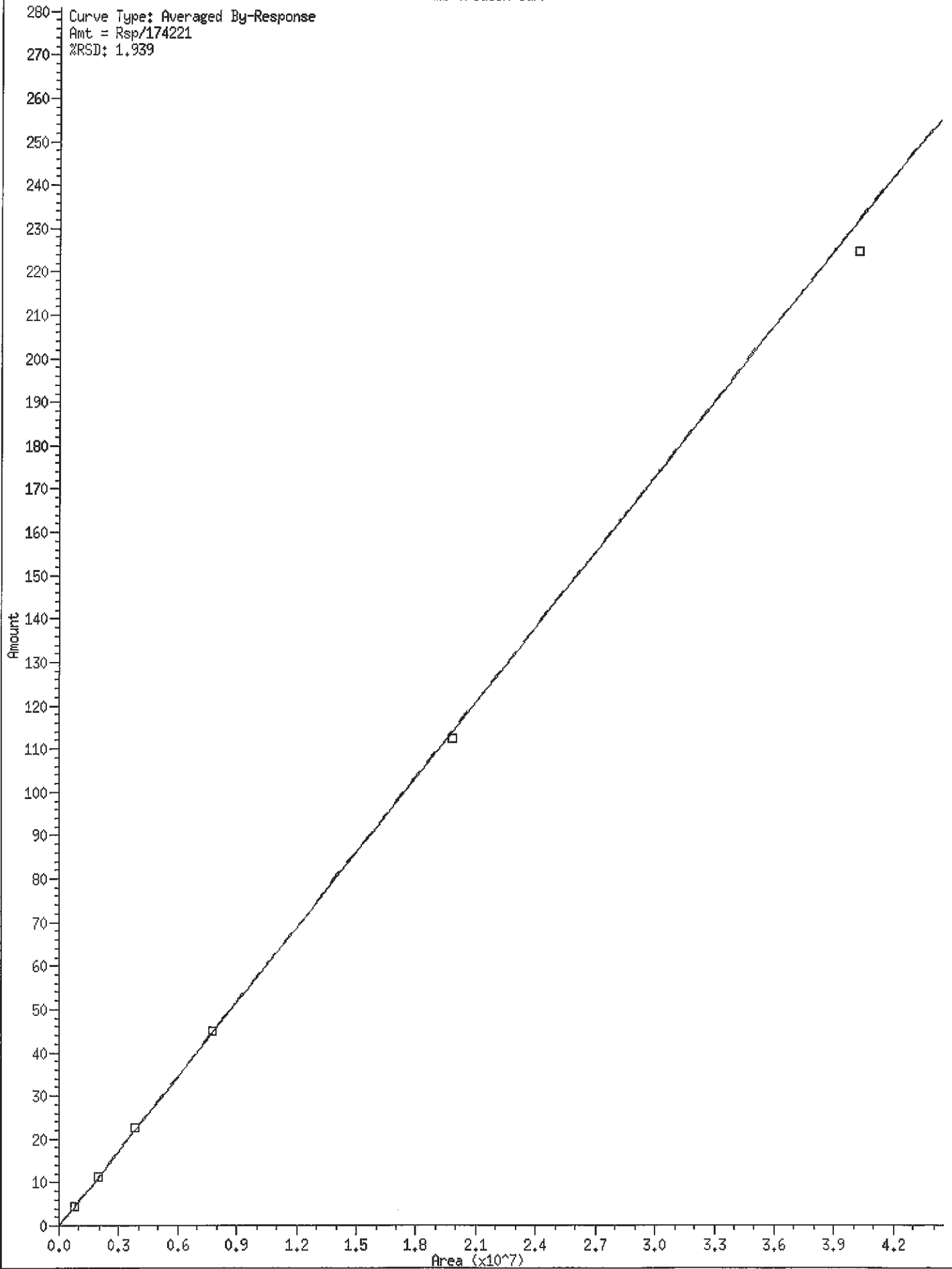
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Date

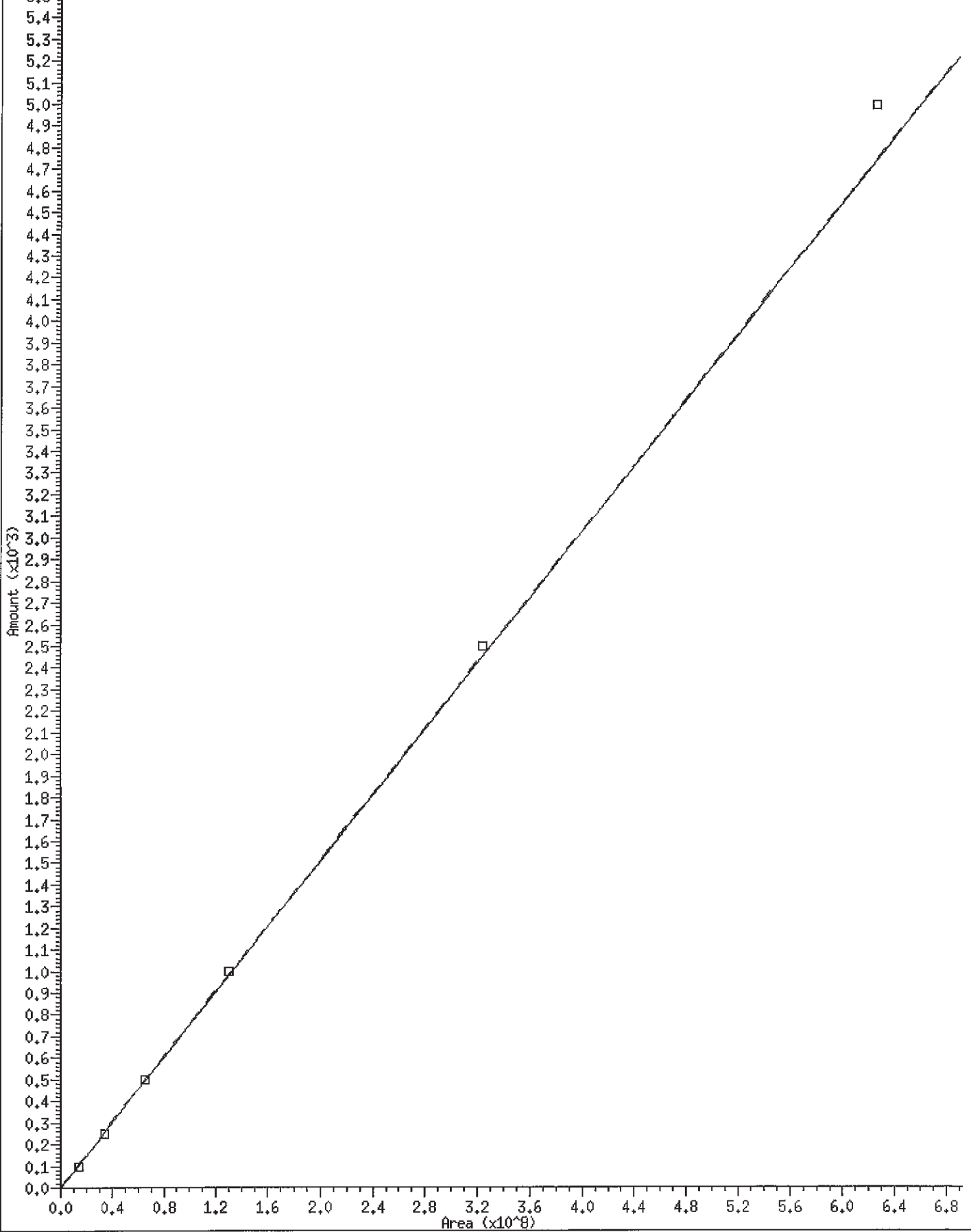
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2	06-JAN-2022	09:40	422A0602.D	1	RINSE	
3	06-JAN-2022	09:59	422A0603.D	1	SKA0028-IBL1	
4	06-JAN-2022	10:19	422A0604.D	1	SKA0028-IBL2	
5	06-JAN-2022	10:39	422A0605.D	1	SKA0028-ICV1	
6	06-JAN-2022	10:59	422A0606.D	1	SKA0028-ICV2	
7	06-JAN-2022	11:19	422A0607.D	1	BKA0056-BLK1	
8	06-JAN-2022	11:38	422A0608.D	1	BKA0056-BS1	
9	06-JAN-2022	11:58	422A0609.D	1	BKA0056-MRL1	
10	06-JAN-2022	12:18	422A0610.D	1	BKA0056-MRL2	
11	06-JAN-2022	12:38	422A0611.D	1	22A0041-01	
12	06-JAN-2022	12:58	422A0612.D	10	22A0041-01	
13	06-JAN-2022	13:17	422A0613.D	10	22A0041-02	
14	06-JAN-2022	13:37	422A0614.D	20	22A0041-01	
15	06-JAN-2022	13:57	422A0615.D	20	22A0041-02	
16	06-JAN-2022	14:17	422A0616.D	20	22A0041-03	
17	06-JAN-2022	14:37	422A0617.D	20	22A0041-04	
18	06-JAN-2022	14:56	422A0618.D	1	SKA0028-CCV1	
19	06-JAN-2022	15:16	422A0619.D	1	SKA0028-CCV2	
20	06-JAN-2022	17:04	422A0620.D	1	SKA0028-CAL1	
21	06-JAN-2022	17:24	422A0621.D	1	SKA0028-CAL2	
22	06-JAN-2022	17:44	422A0622.D	1	SKA0028-CAL3	
23	06-JAN-2022	18:04	422A0623.D	1	SKA0028-CAL4	
24	06-JAN-2022	18:23	422A0624.D	1	SKA0028-CAL5	
25	06-JAN-2022	18:43	422A0625.D	1	SKA0028-CAL6	
26	06-JAN-2022	19:03	422A0626.D	1	SKA0028-CAL7	
27	06-JAN-2022	19:23	422A0627.D	1	SKA0028-CAL8	
28	06-JAN-2022	19:43	422A0628.D	1	SKA0028-CAL9	
29	06-JAN-2022	20:02	422A0629.D	1	SKA0028-CALA	
30	06-JAN-2022	20:22	422A0630.D	1	SKA0028-CALB	
31	06-JAN-2022	20:42	422A0631.D	1	SKA0028-CALC	
32	06-JAN-2022	21:02	422A0632.D	1	SKA0028-SCV1	
33	06-JAN-2022	21:21	422A0633.D	1	SKA0028-SCV2	
34	06-JAN-2022	21:41	422A0634.D	1	SKA0028-CALD	
35	06-JAN-2022	22:01	422A0635.D	1	SKA0028-CALE	
36	06-JAN-2022	22:21	422A0636.D	1	SKA0028-CALF	
37	06-JAN-2022	22:40	422A0637.D	1	SKA0028-CALG	
38	06-JAN-2022	23:00	422A0638.D	1	SKA0028-CALH	
39	06-JAN-2022	23:20	422A0639.D	1	SKA0028-CALI	
40	06-JAN-2022	23:40	422A0640.D	1	SKA0028-SCV3	

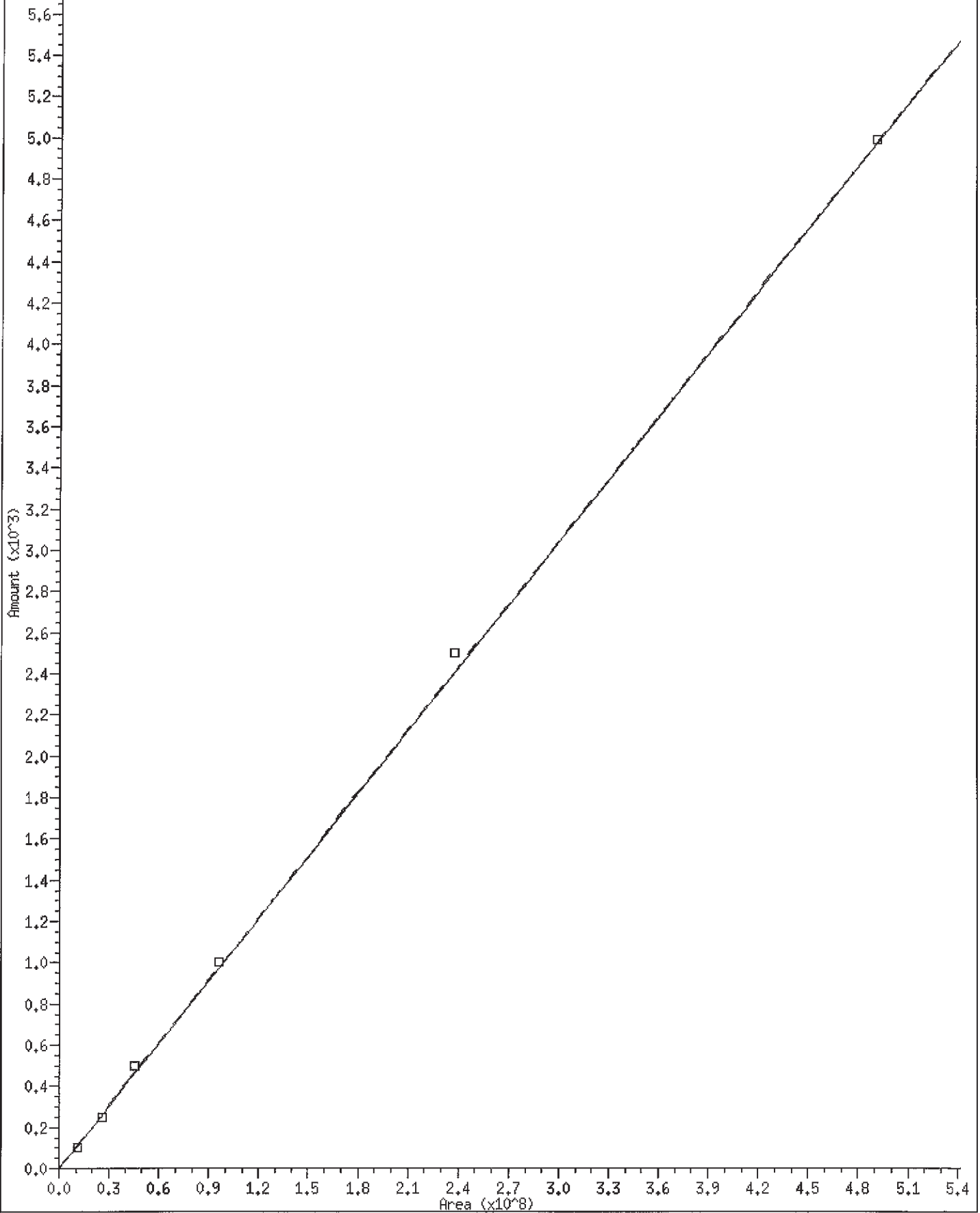
\* 15 Triacon Surr



5.7 Curve Type: Averaged By-Response  
5.6 Amt = Rsp/132579.1  
5.5 %RSD: 4.906



Curve Type: Averaged By-Response  
Amt = Rsp/98909.53  
%RSD: 6.416





Data File: \\target\share\chem2\fid4a,1\20220106,b\42240603.D

Date: 06-JAN-2022 09:59

Client ID:

Sample Info: SKR0028-IBL1

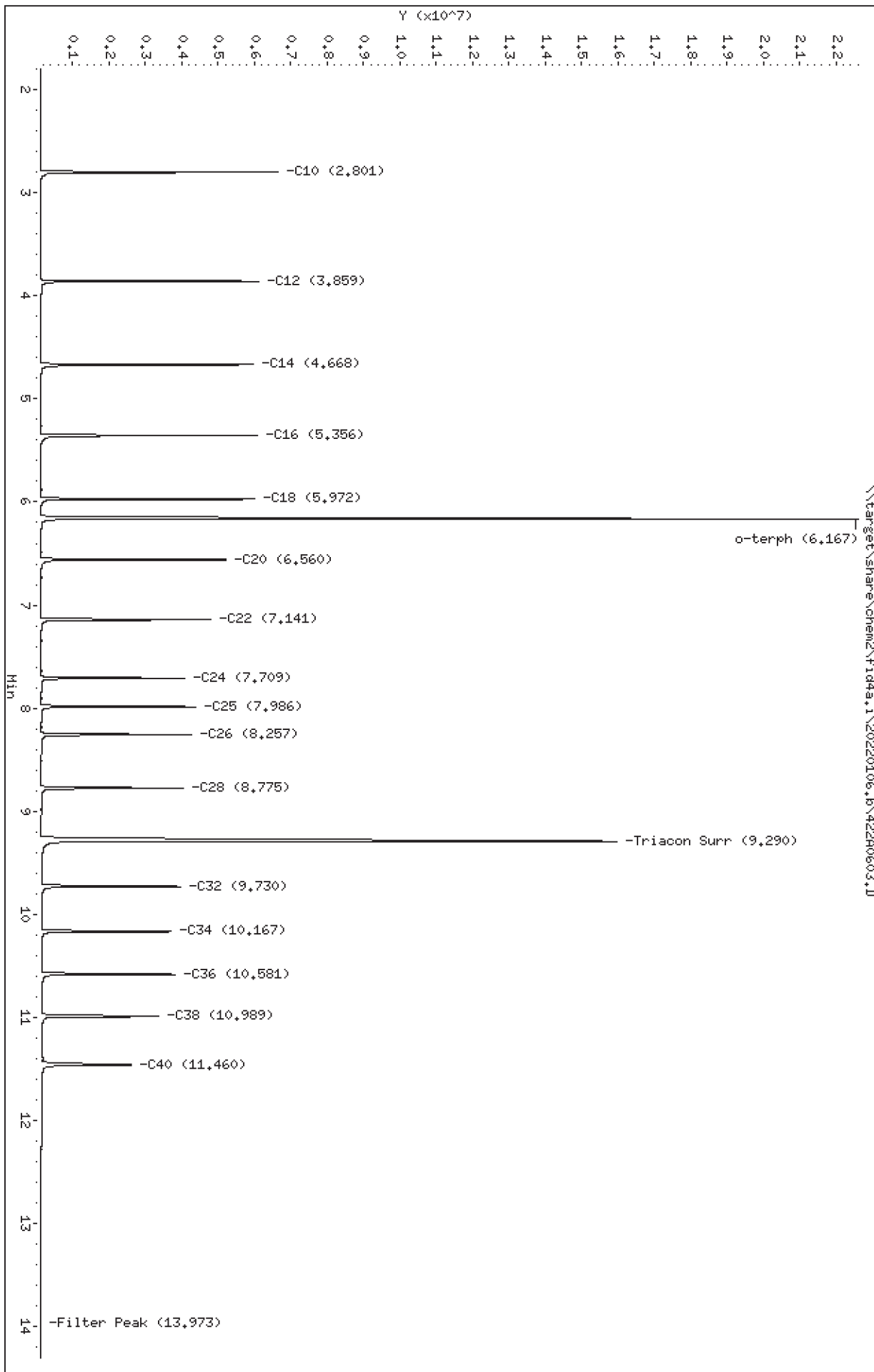
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0603.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL1  
Client ID:  
Injection: 06-JAN-2022 09:59  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

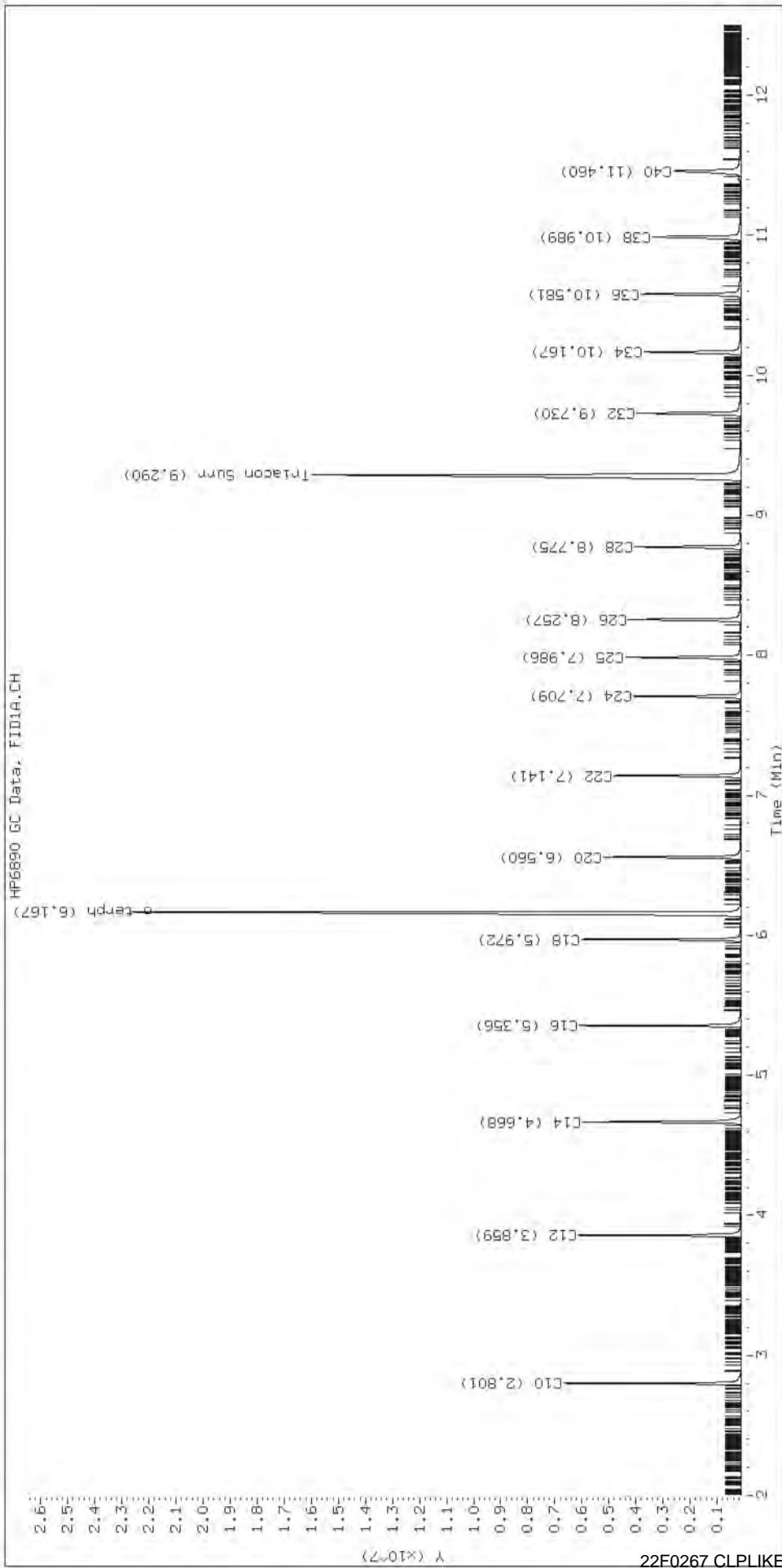
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	6713601	4039787	WATPHD	(C12-C24)	25039660	171.8
C10	2.801	0.000	6536883	4315633	WATPHM	(C24-C38)	28366853	214.0
C12	3.859	0.000	5996498	4131476	AK102	(C10-C25)	33798538	196.2
C14	4.668	0.000	5854462	4184820	AK103	(C25-C36)	23829494	240.9
C16	5.356	0.000	5963937	4127029	OR.DIES	(C10-C28)	45179025	260.0
C18	5.972	0.000	5885012	4061247				
C20	6.560	0.000	5093441	4004125				
C22	7.141	0.000	4686847	3888196				
C24	7.709	0.000	3978753	3286889				
C25	7.986	0.000	4279511	3648257				
C26	8.257	0.000	4166577	3725307				
C28	8.775	0.000	3937835	3595457				
C32	9.730	0.000	3839649	3755061				
C34	10.167	0.000	3575886	3656599				
Filter Peak	13.973	0.000	14079	6183				
C36	10.581	0.000	3708443	3634457				
C38	10.989	0.000	3260642	3846028				
C40	11.460	0.000	2490894	3636263				
o-terph	6.167	0.000	22482578	21984004				
Triacon Surr	9.290	0.000	15855592	21633183	NAS DIES	(C10-C24)	33658258	196.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	21984004	114.5
Triacontane	21633183	124.2

M Indicates the peak was manually integrated

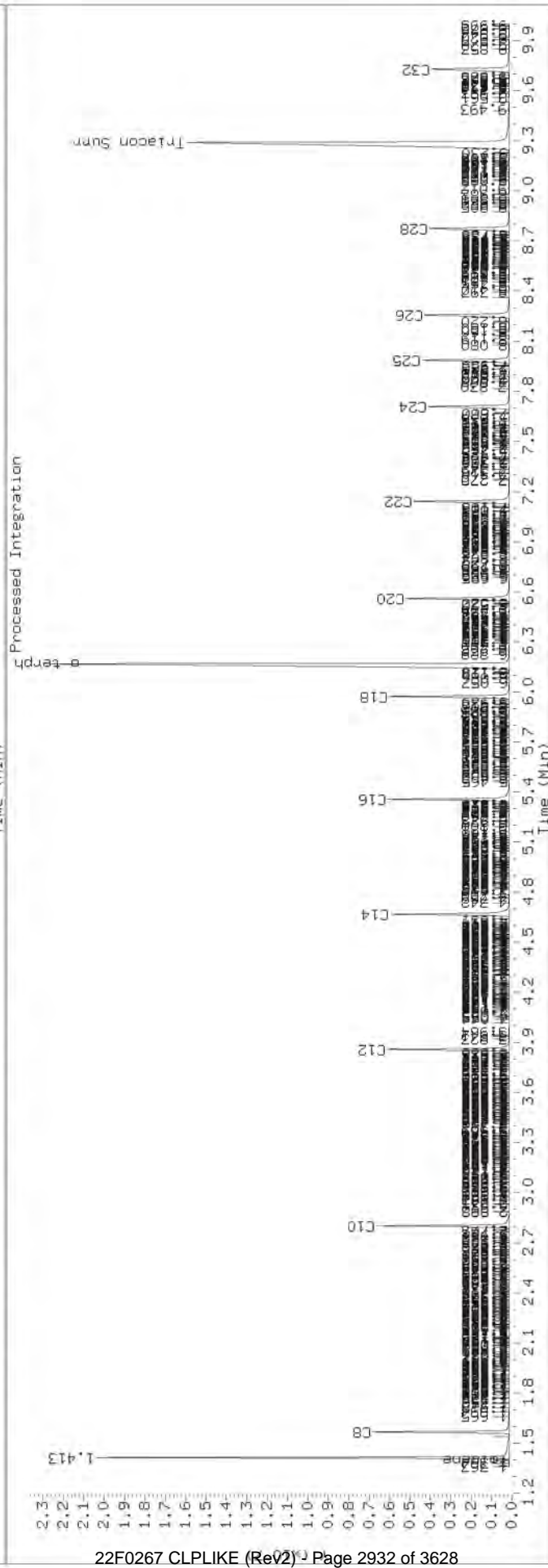
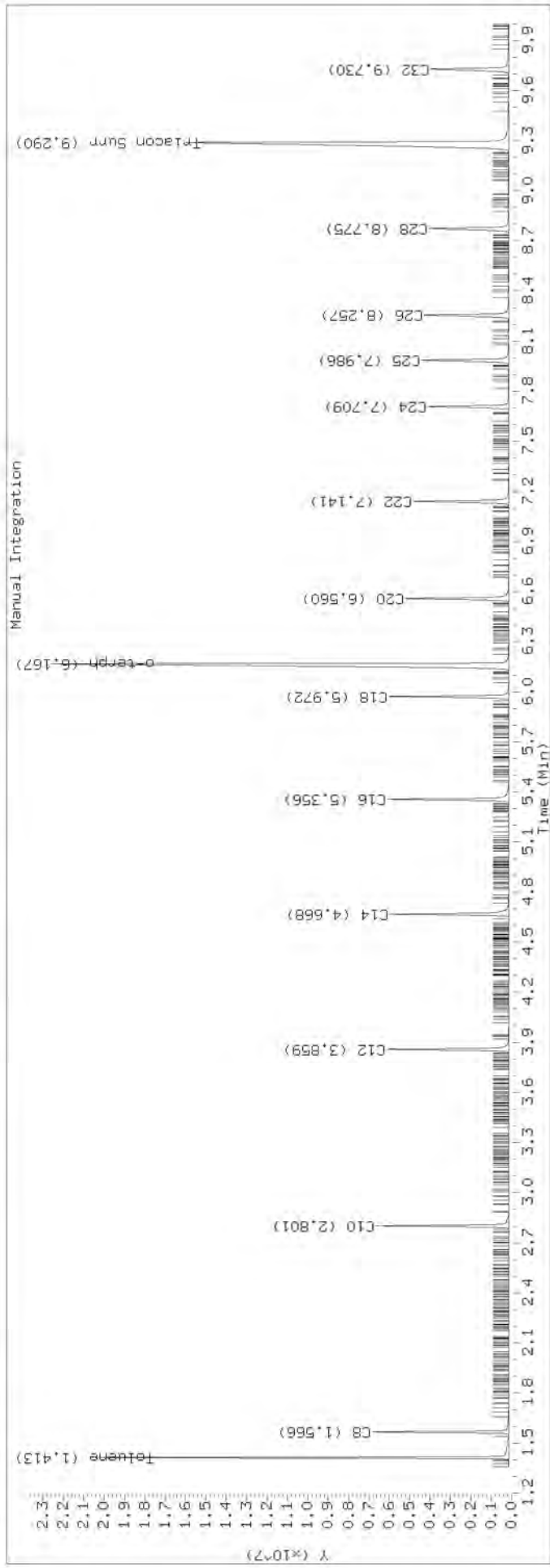
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0603.D Injection: 06-JAN-2022 09:59

Lab ID:SKA0028-IBL1



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240604.D

Date: 06-JAN-2022 10:19

Client ID:

Sample Info: SKR0028-IBL2

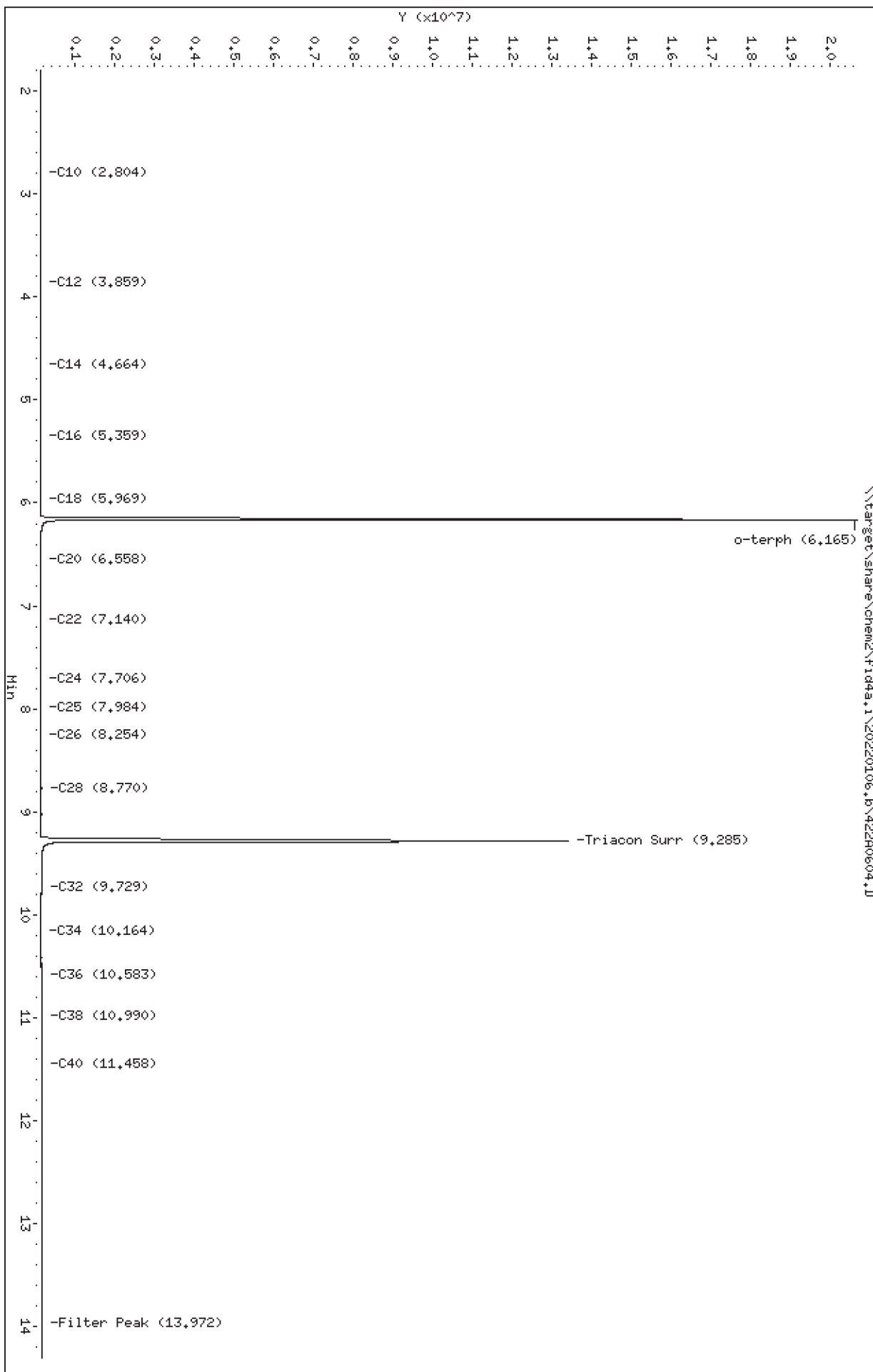
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0604.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-IBL2  
Client ID:  
Injection: 06-JAN-2022 10:19  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.559	-0.008	19299	11444	WATPHD	(C12-C24)	622077	4.3
C10	2.804	0.003	10342	8454	WATPHM	(C24-C38)	2333932	17.6
C12	3.859	-0.000	7697	1914	AK102	(C10-C25)	1293098	7.5
C14	4.664	-0.004	4159	2417	AK103	(C25-C36)	1797549	18.2
C16	5.359	0.002	914	207	OR.DIES	(C10-C28)	1589947	9.1
C18	5.969	-0.003	462	129				
C20	6.558	-0.002	3676	1619				
C22	7.140	-0.001	2659	646				
C24	7.706	-0.003	3951	1720				
C25	7.984	-0.002	4536	2462				
C26	8.254	-0.004	5187	4697				
C28	8.770	-0.005	39782	48787				
C32	9.729	-0.001	29141	49217				
C34	10.164	-0.003	15846	10202				
Filter Peak	13.972	-0.001	22292	8869				
C36	10.583	0.001	18551	7386				
C38	10.990	0.001	21344	10622				
C40	11.458	-0.002	22810	13640				
o-terph	6.165	-0.002	20576644	20107672				
Triacon Surr	9.285	-0.004	13279811	16645751	NAS DIES	(C10-C24)	1251413	7.3

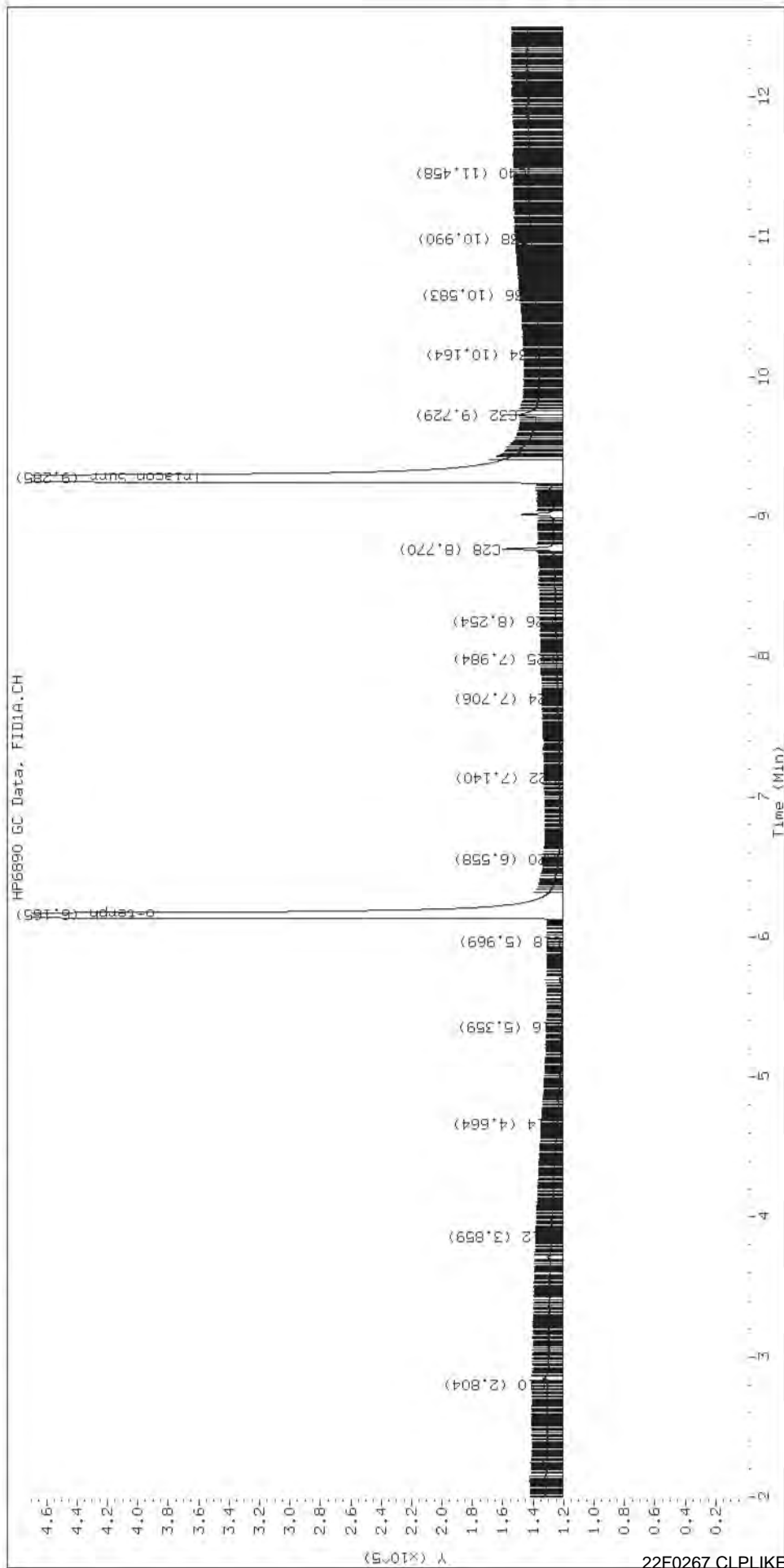
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	20107672	104.7
Triacontane	16645751	95.5

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

Datafile: FID4A, 20220106.b/422A0604.D SKA0028-IBL2



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240626.D

Date: 06-JAN-2022 19:03

Client ID:

Sample Info: SKR0028-CAL7

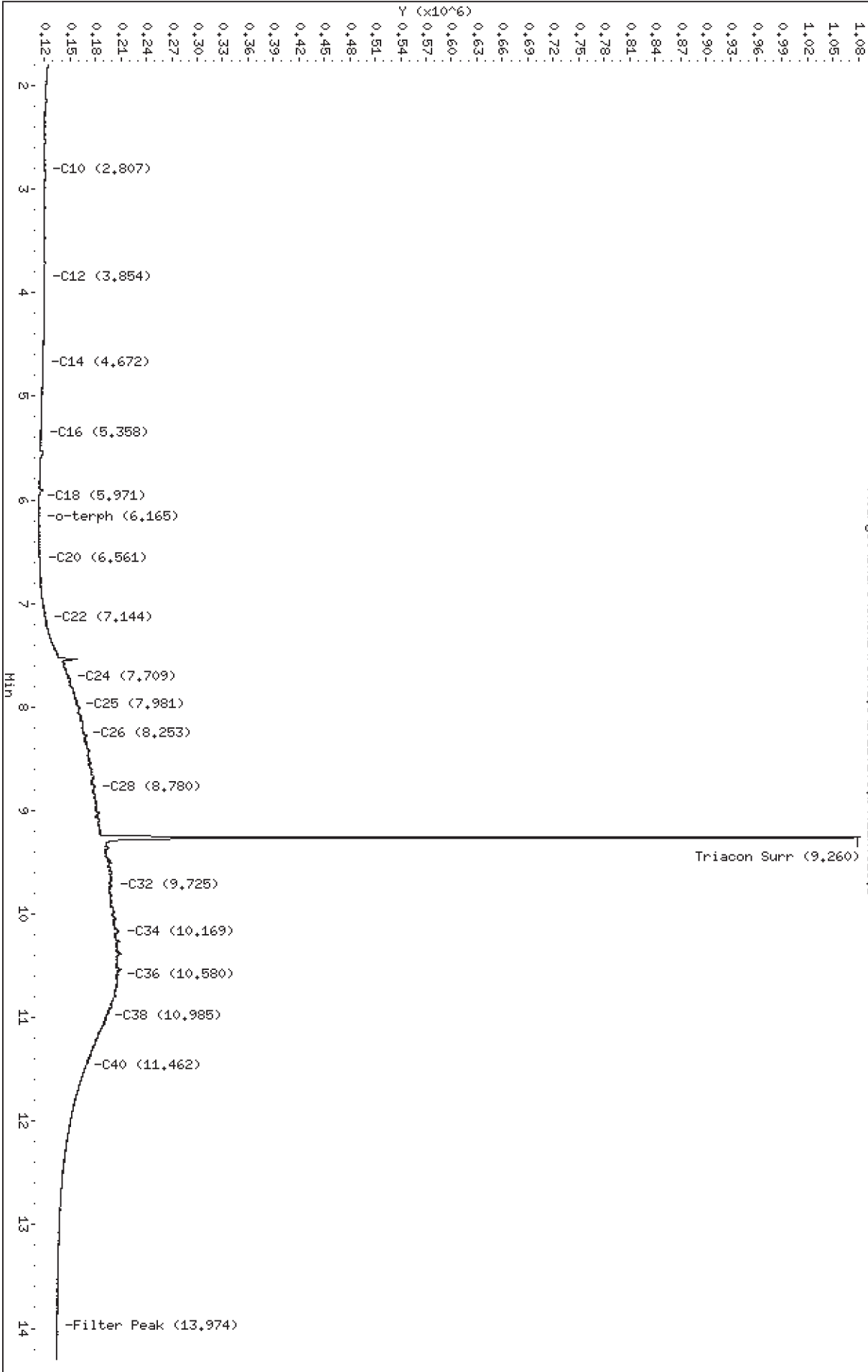
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106,b\42240626.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0626.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL7  
Client ID:  
Injection: 06-JAN-2022 19:03  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17629	12134	WATPHD	(C12-C24)	1428990	9.8
C10	2.807	0.006	7315	5700	WATPHM	(C24-C38)	14418390	108.8
C12	3.854	-0.005	6863	3745	AK102	(C10-C25)	2314627	13.4
C14	4.672	0.004	4948	1225	AK103	(C25-C36)	11930212	120.6
C16	5.358	0.002	2549	743	OR.DIES	(C10-C28)	5302500	30.5
C18	5.971	-0.001	466	165				
C20	6.561	0.002	1433	294				
C22	7.144	0.002	8558	5362				
C24	7.709	-0.000	35231	7021				
C25	7.981	-0.005	45824	15837				
C26	8.253	-0.004	53409	34474				
C28	8.780	0.005	65326	35831				
C32	9.725	-0.005	86340	63871				
C34	10.169	0.002	95121	70488				
Filter Peak	13.974	0.001	21668	9718				
C36	10.580	-0.001	93623	60434				
C38	10.985	-0.004	79927	51632				
C40	11.462	0.002	55525	16626				
o-terph	6.165	-0.003	642	355				
Triacon Surr	9.260	-0.029	895649	780573	NAS DIES	(C10-C24)	1888344	11.0

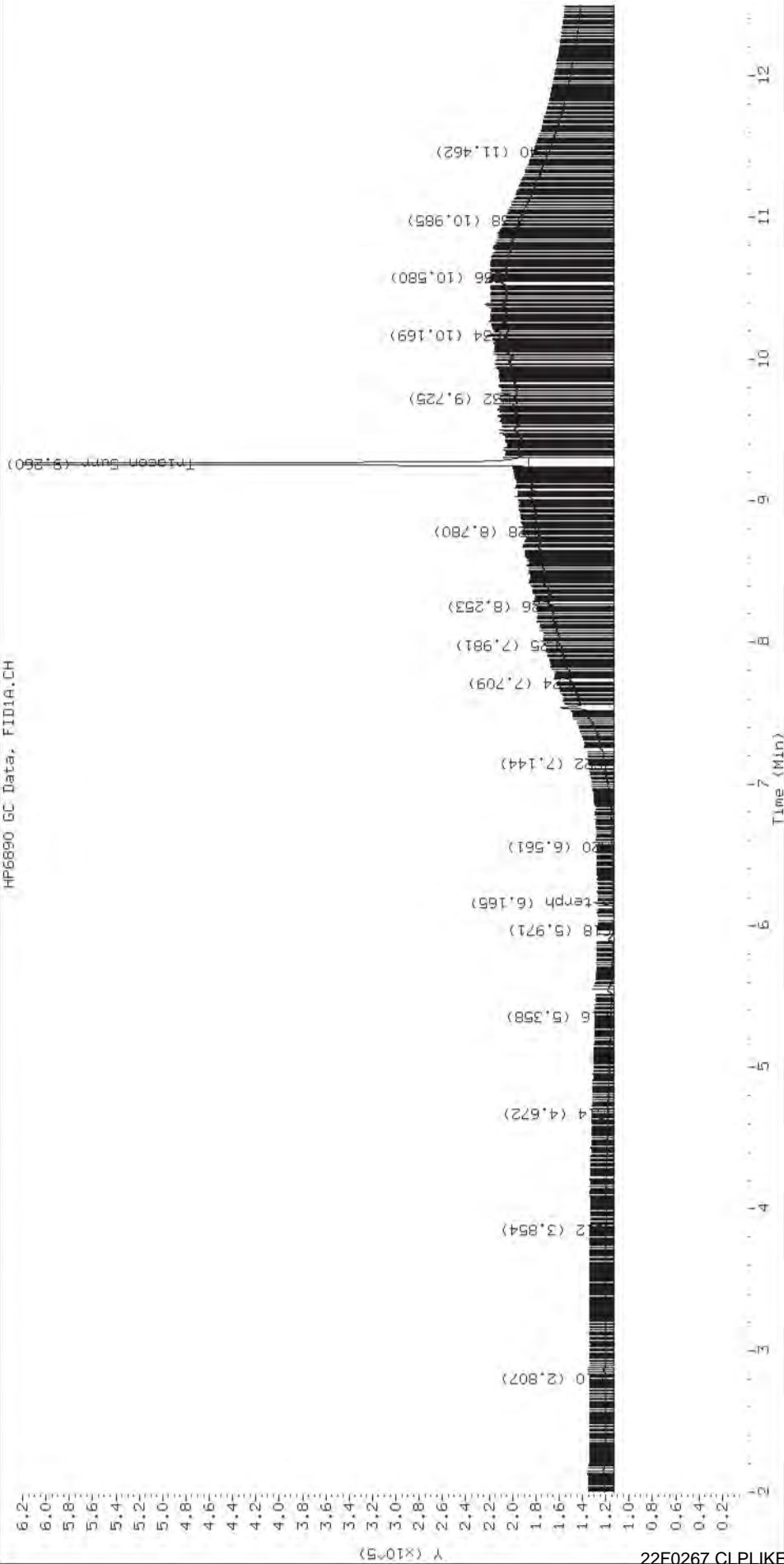
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

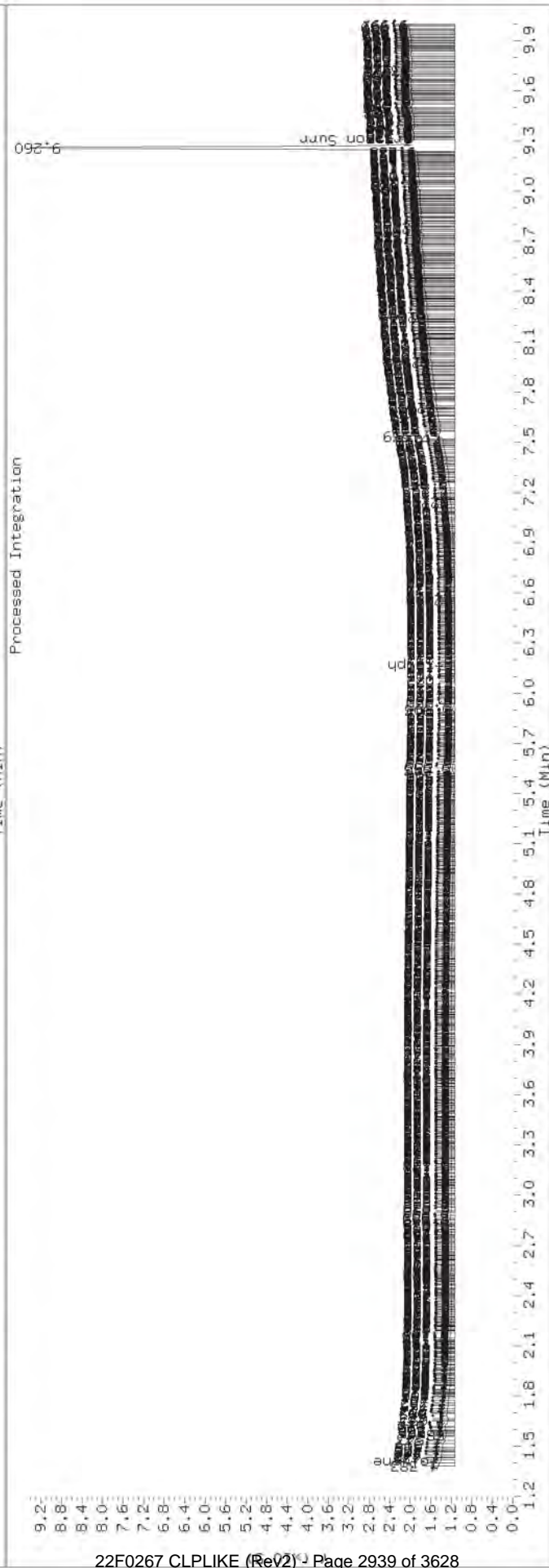
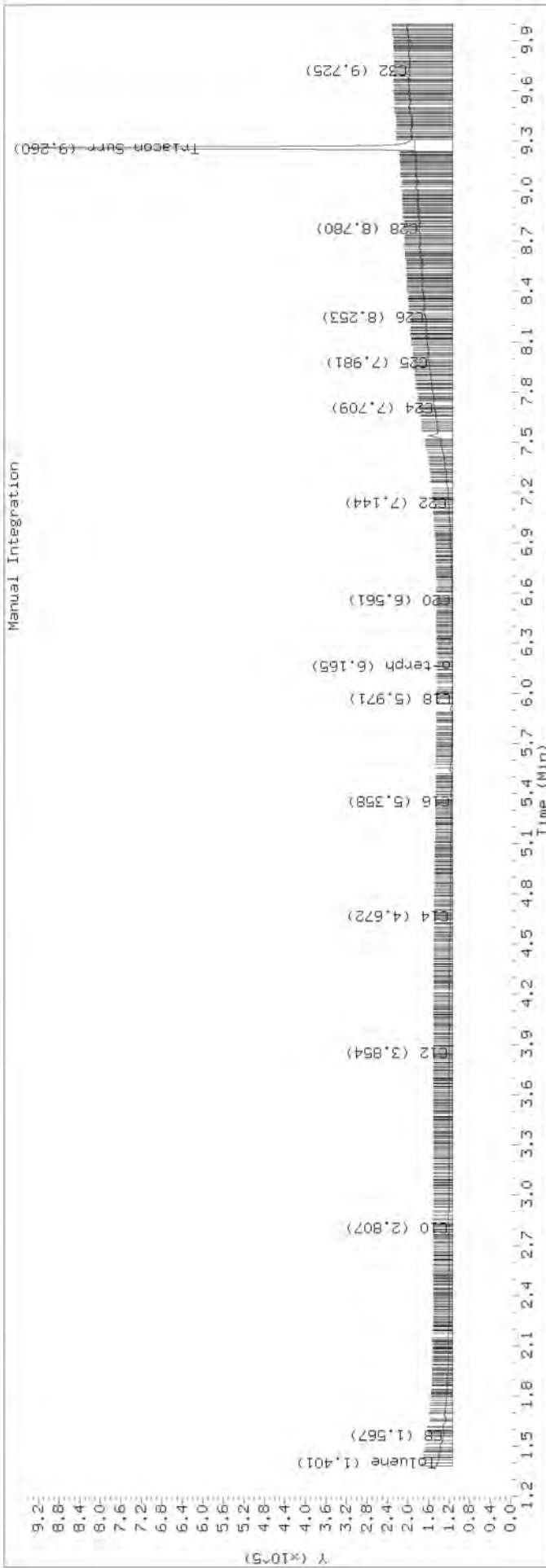
Surrogate	Area	Amount
o-Terphenyl	355	0.0
Triacontane	780573	4.5 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106,b\42280627.D

Date: 06-JAN-2022 19:23

Client ID:

Sample Info: SKR0028-CAL8

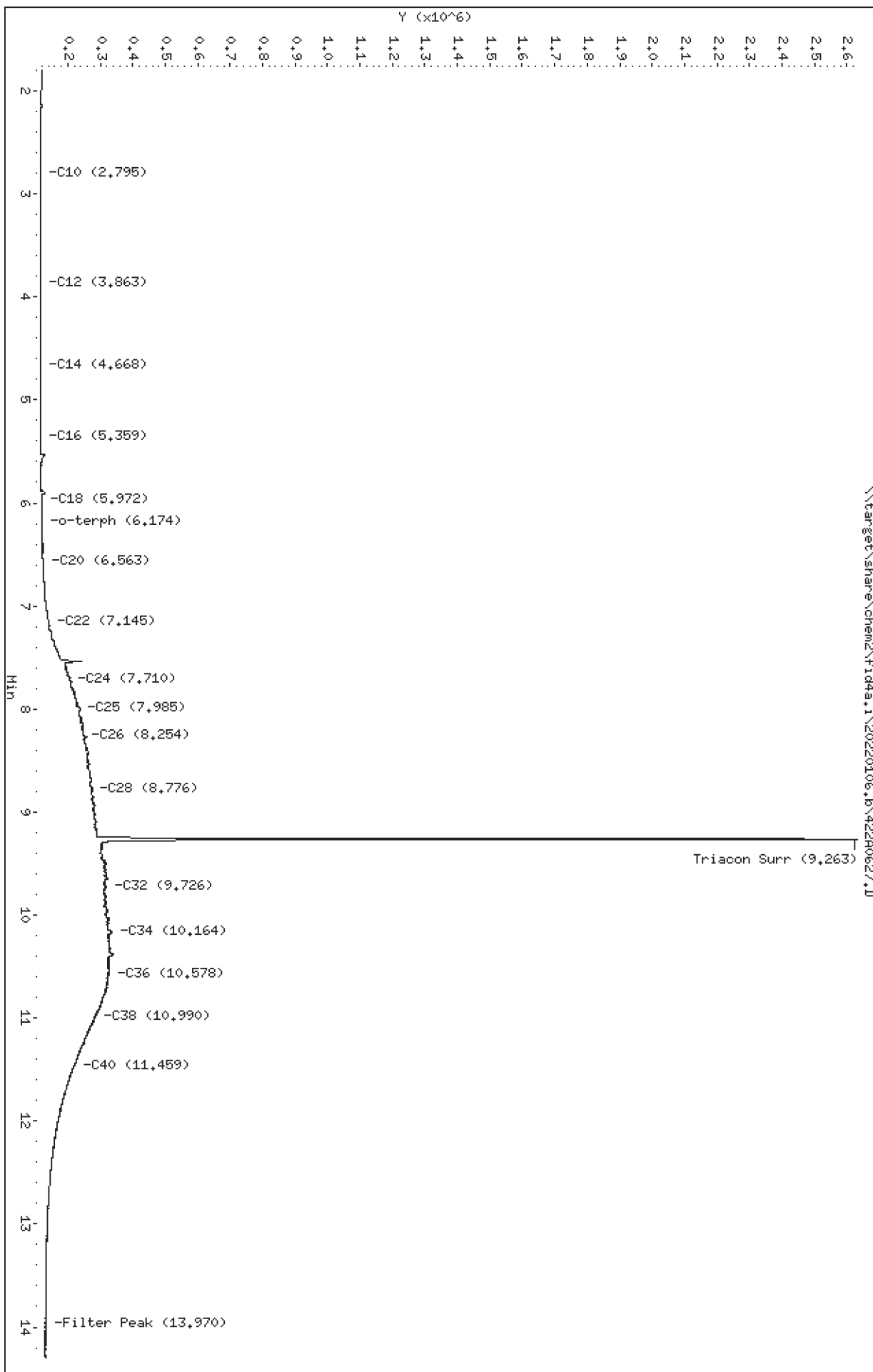
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0627.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL8  
Client ID:  
Injection: 06-JAN-2022 19:23  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10974	5451	WATPHD	(C12-C24)	2859083	19.6
C10	2.795	-0.006	709	310	WATPHM	(C24-C38)	33910212	255.8
C12	3.863	0.005	301	110	AK102	(C10-C25)	3974861	23.1
C14	4.668	-0.000	959	351	AK103	(C25-C36)	28362150	286.7
C16	5.359	0.003	1341	1255	OR.DIES	(C10-C28)	11300132	65.0
C18	5.972	-0.000	2547	737				
C20	6.563	0.004	8305	10153				
C22	7.145	0.004	24838	24382				
C24	7.710	0.001	89563	22309				
C25	7.985	-0.001	118154	98497				
C26	8.254	-0.003	131978	52511				
C28	8.776	0.001	158032	39436				
C32	9.726	-0.004	204424	200858				
C34	10.164	-0.003	219294	141700				
Filter Peak	13.970	-0.003	15114	5260				
C36	10.578	-0.003	210164	104564				
C38	10.990	0.001	167544	83266				
C40	11.459	-0.000	104690	57072				
o-terph	6.174	0.007	3070	1055				
Triacon Surr	9.263	-0.026	2341627	1948565	NAS DIES	(C10-C24)	2883231	16.8

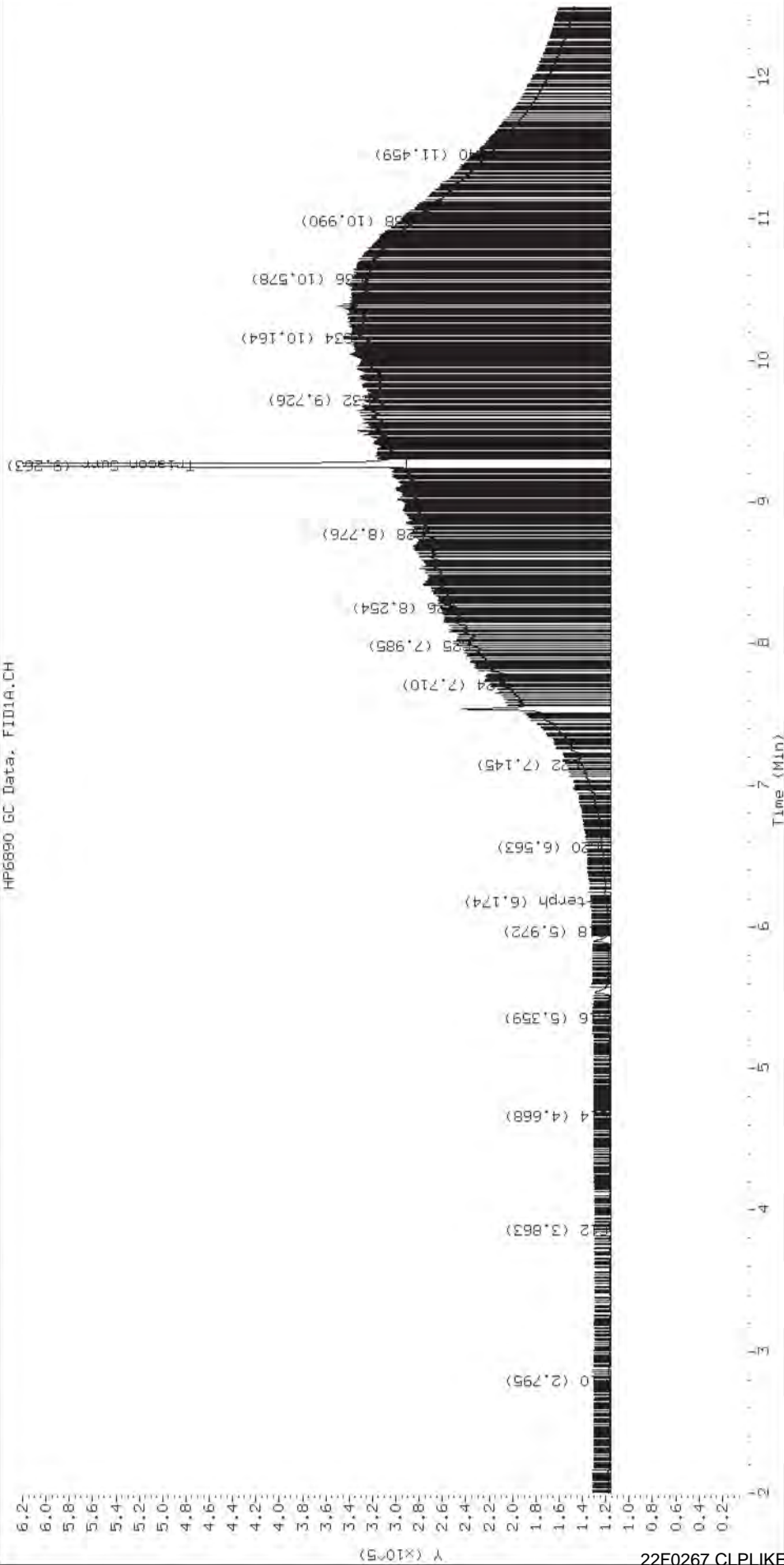
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1055	0.0
Triacontane	1948565	11.2 M

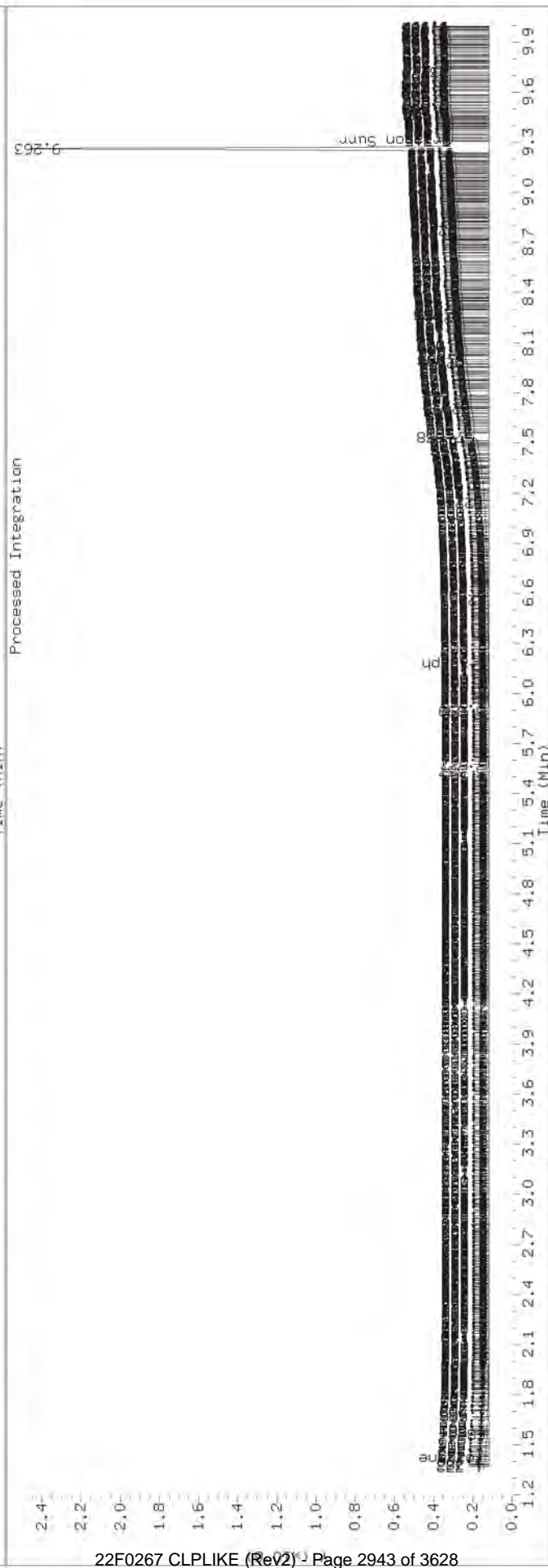
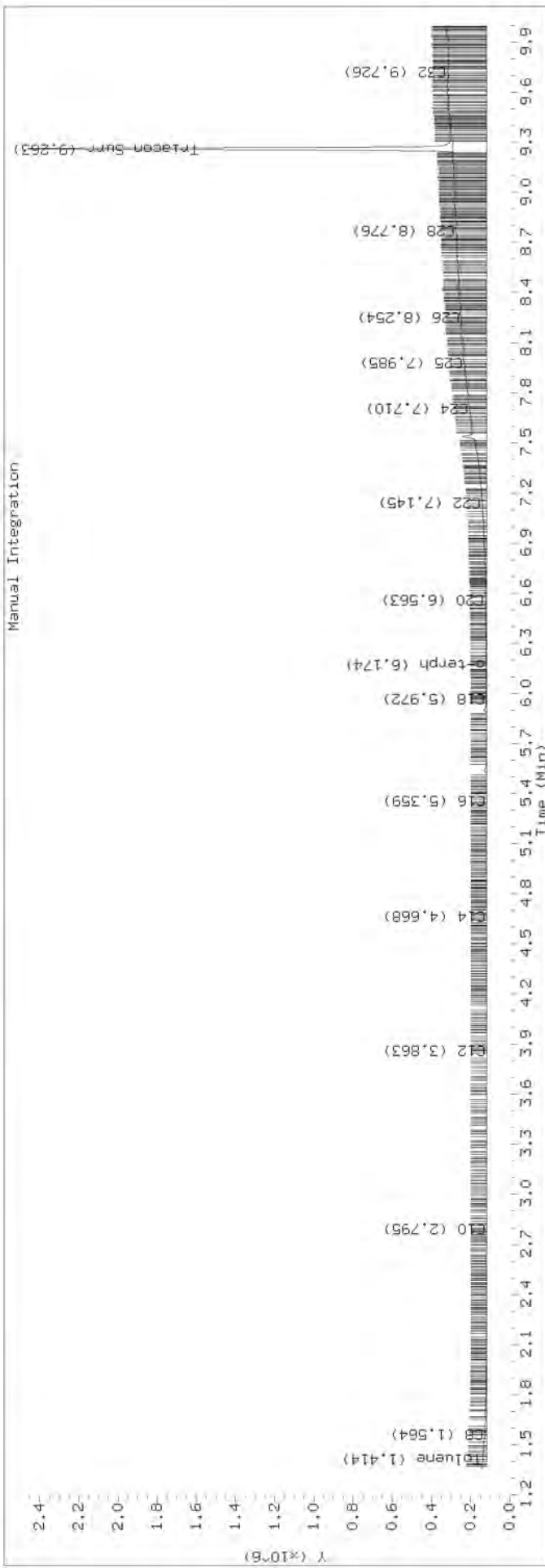
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH







Data File: \\target\share\chem2\fid4a,1\20220106,b\42240628.D

Date: 06-JAN-2022 19:43

Client ID:

Sample Info: SKR0028-CAL9

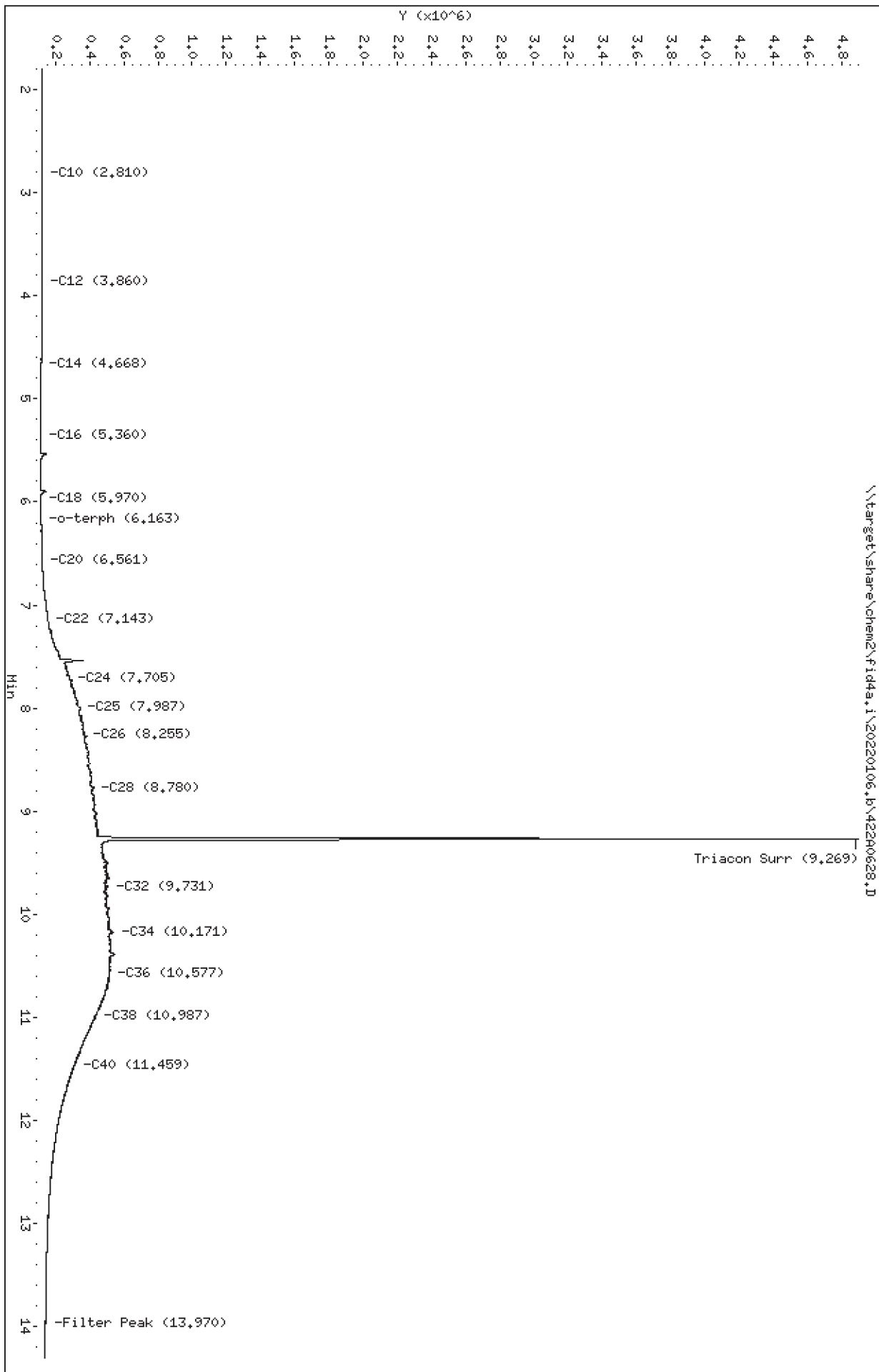
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106,b\42240628.D





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0628.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CAL9  
Client ID:  
Injection: 06-JAN-2022 19:43  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.561	-0.005	18899	18490	WATPHD	(C12-C24)	5267715	36.1
C10	2.810	0.009	7809	6657	WATPHM	(C24-C38)	65361242	493.0
C12	3.860	0.002	6145	3630	AK102	(C10-C25)	7695397	44.7
C14	4.668	-0.000	3930	3869	AK103	(C25-C36)	54505288	551.1
C16	5.360	0.003	880	170	OR.DIES	(C10-C28)	21861512	125.8
C18	5.970	-0.002	1438	845				
C20	6.561	0.002	11665	15498				
C22	7.143	0.002	44022	42387				
C24	7.705	-0.003	169267	59011				
C25	7.987	0.001	227115	166595				
C26	8.255	-0.002	254374	63387				
C28	8.780	0.005	305712	121521				
C32	9.731	0.002	392327	135919				
C34	10.171	0.004	423466	189821				
Filter Peak	13.970	-0.003	28198	15418				
C36	10.577	-0.004	403448	160577				
C38	10.987	-0.002	321415	144011				
C40	11.459	-0.001	199069	49536				
o-terph	6.163	-0.004	2391	1211				
Triacon Surr	9.269	-0.021	4456889	3832767	NAS DIES	(C10-C24)	5689375	33.1

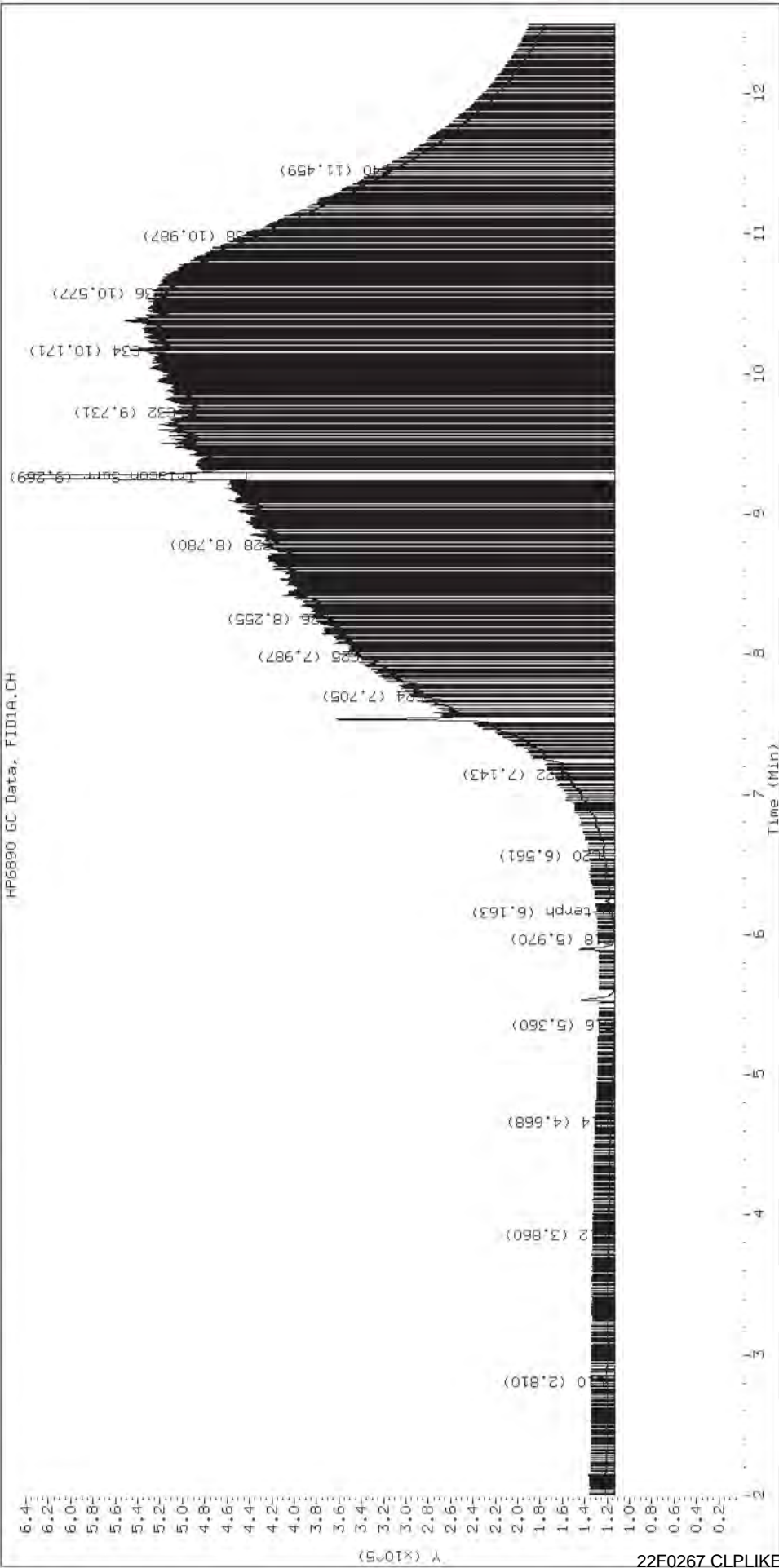
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

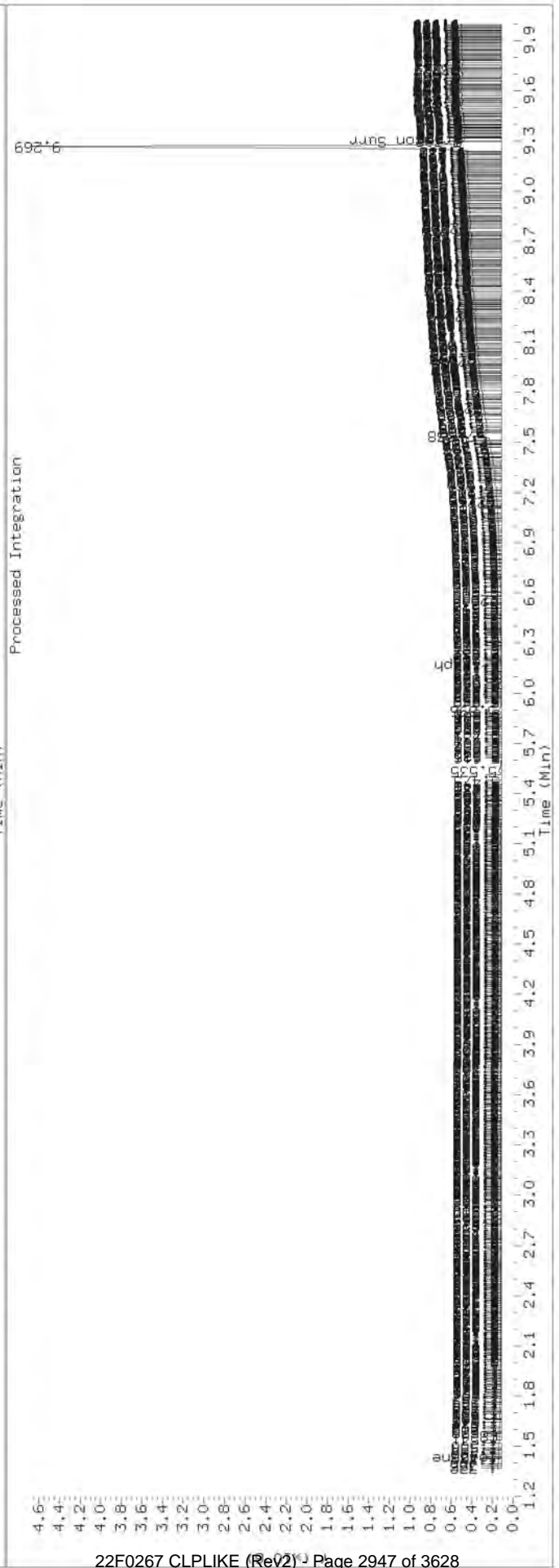
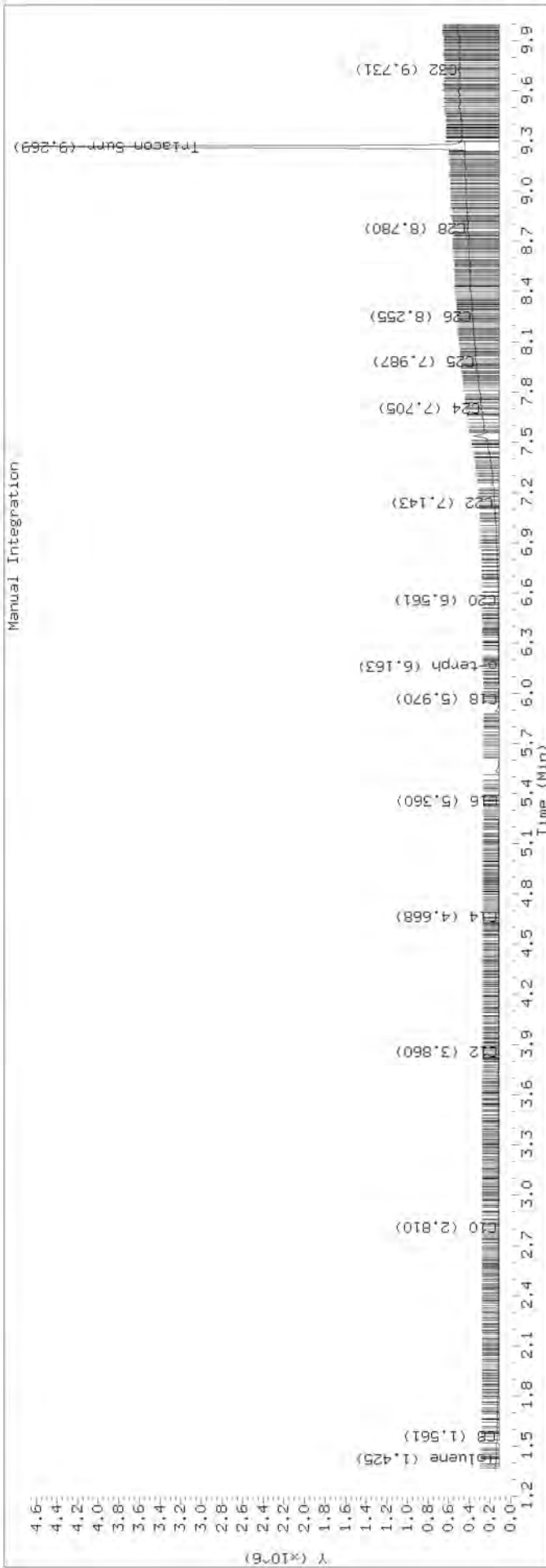
Surrogate	Area	Amount
o-Terphenyl	1211	0.0
Triacontane	3832767	22.0 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240629.D

Date: 06-JAN-2022 20:02

Client ID:

Sample Info: SKR0028-CALA

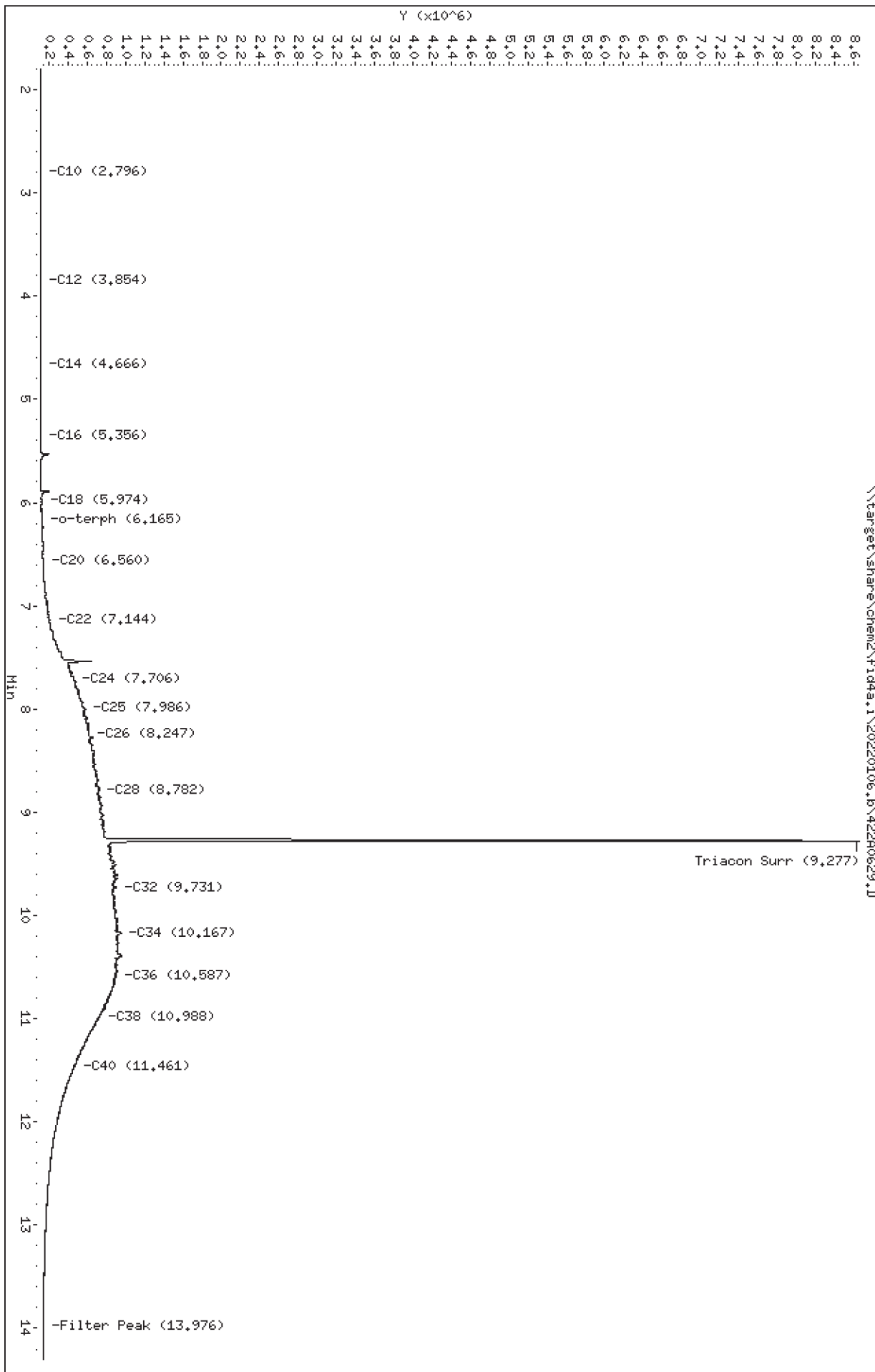
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0629.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALA  
Client ID:  
Injection: 06-JAN-2022 20:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.566	0.000	11101	8632	WATPHD	(C12-C24)	10727647	73.6
C10	2.796	-0.005	576	147	WATPHM	(C24-C38)	129320360	975.4
C12	3.854	-0.005	1107	956	AK102	(C10-C25)	14842212	86.2
C14	4.666	-0.002	2470	1298	AK103	(C25-C36)	108544248	1097.4
C16	5.356	-0.001	3529	1197	OR.DIES	(C10-C28)	43178118	248.5
C18	5.974	0.002	7530	7872				
C20	6.560	0.000	29424	44604				
C22	7.144	0.003	93274	142646				
C24	7.706	-0.003	342850	102299				
C25	7.986	0.000	451931	245156				
C26	8.247	-0.010	508762	377501				
C28	8.782	0.007	601806	120120				
C32	9.731	0.001	789145	579688				
C34	10.167	0.000	836380	250168				
Filter Peak	13.976	0.003	27826	13801				
C36	10.587	0.006	793648	511126				
C38	10.988	-0.001	611295	302860				
C40	11.461	0.002	351554	139850				
o-terph	6.165	-0.002	9745	4761				
Triacon Surr	9.277	-0.012	7887730	7740915	NAS DIES	(C10-C24)	10771308	62.7

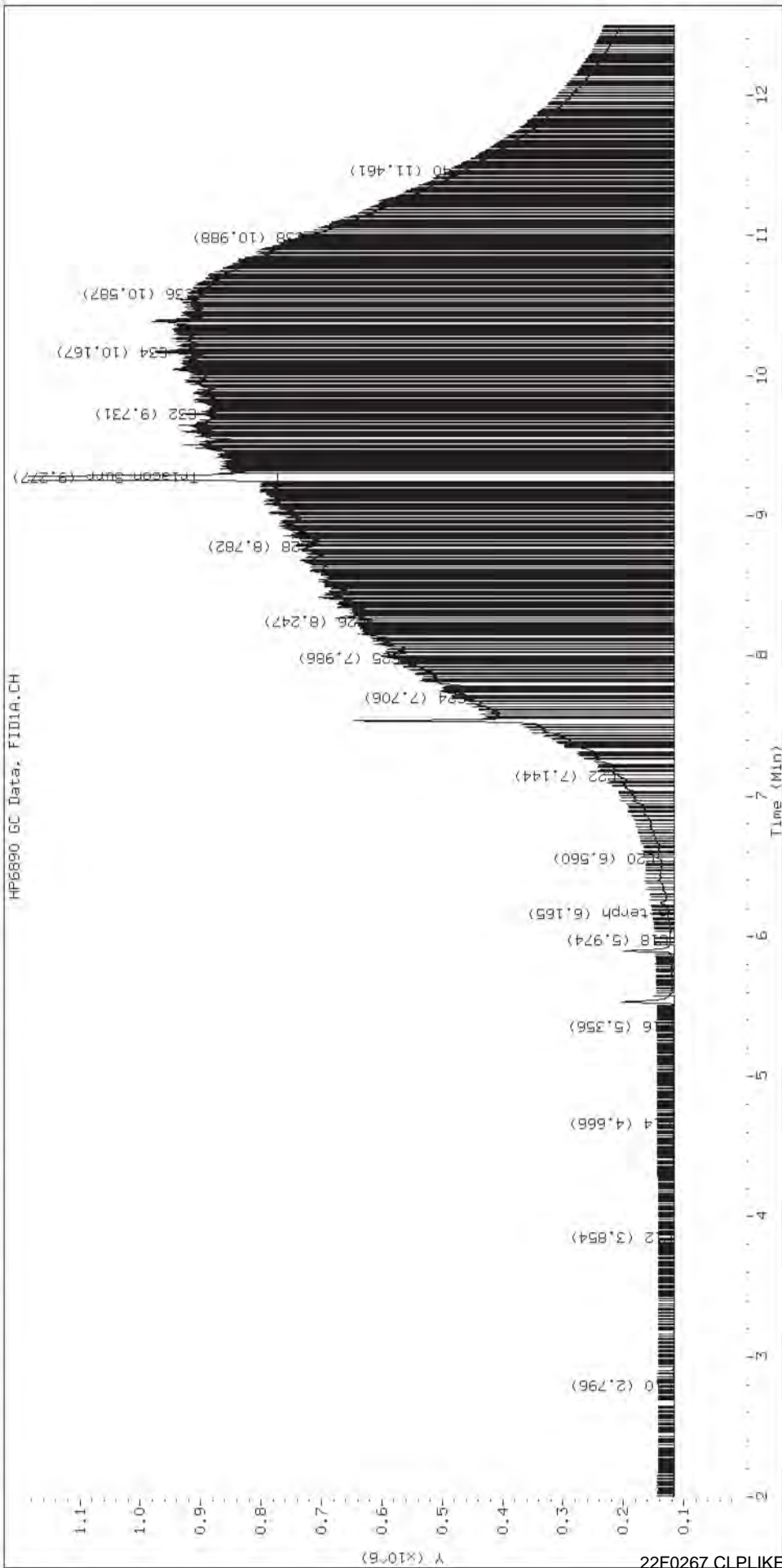
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

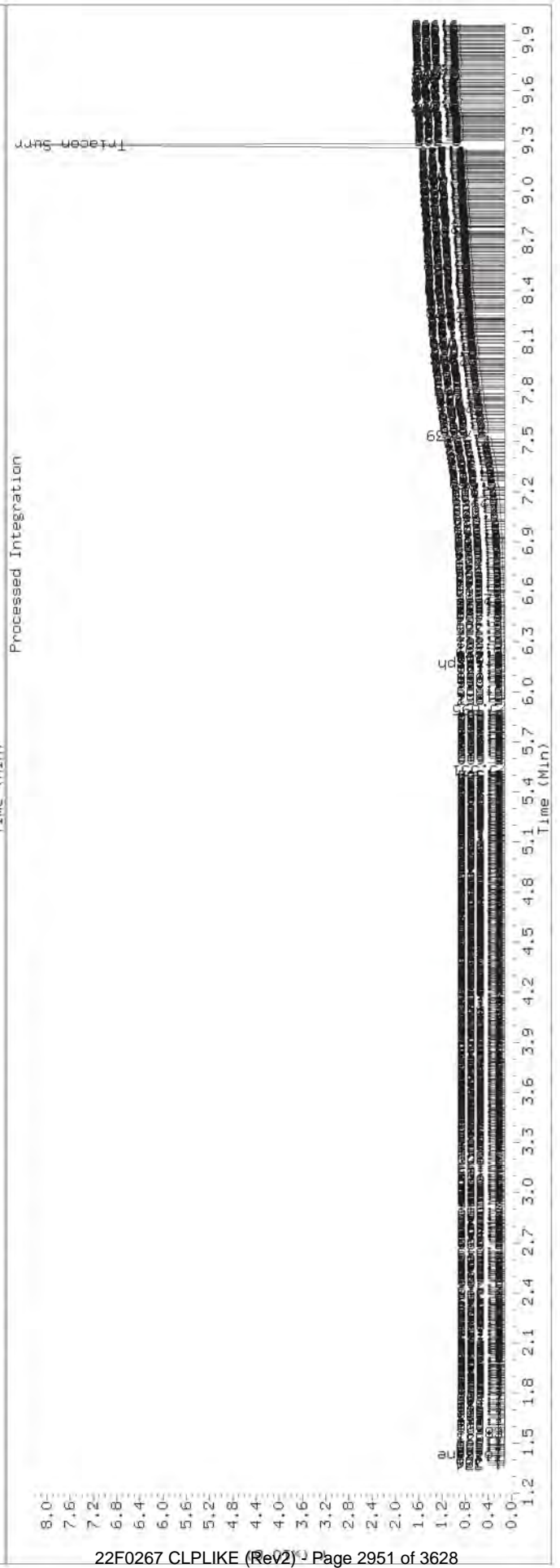
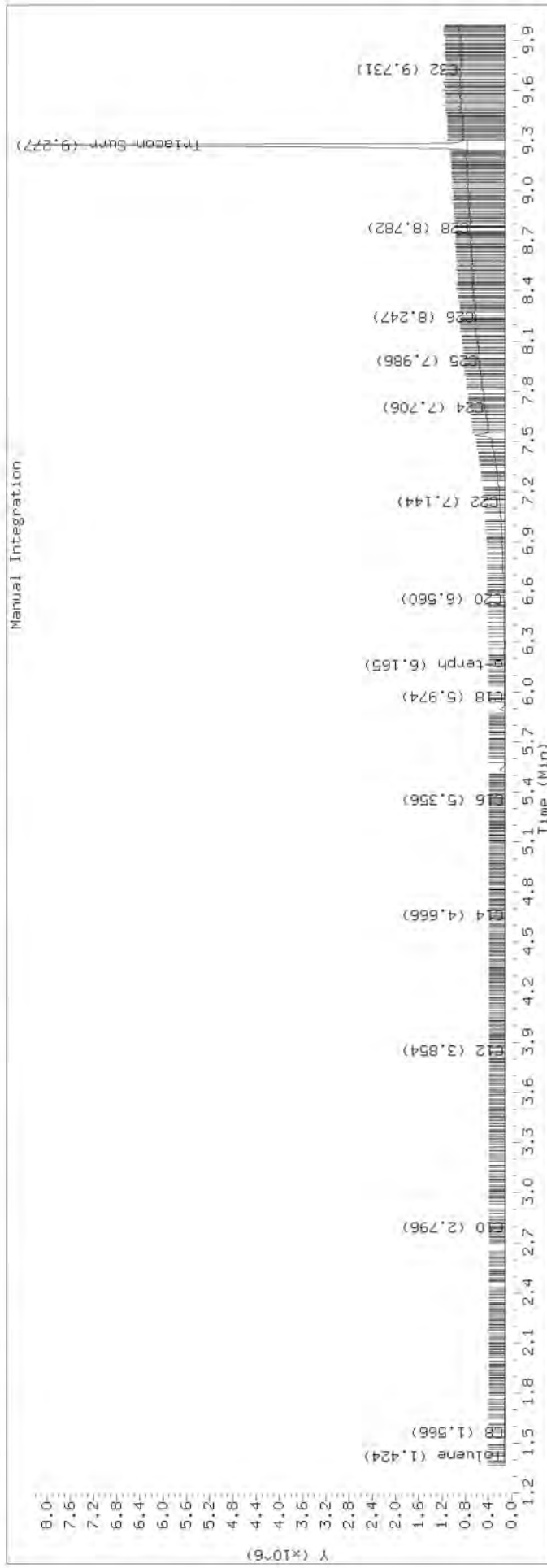
Surrogate	Area	Amount
o-Terphenyl	4761	0.0
Triacontane	7740915	44.4 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240630.D

Date: 06-JAN-2022 20:22

Client ID:

Sample Info: SKR0028-CALB

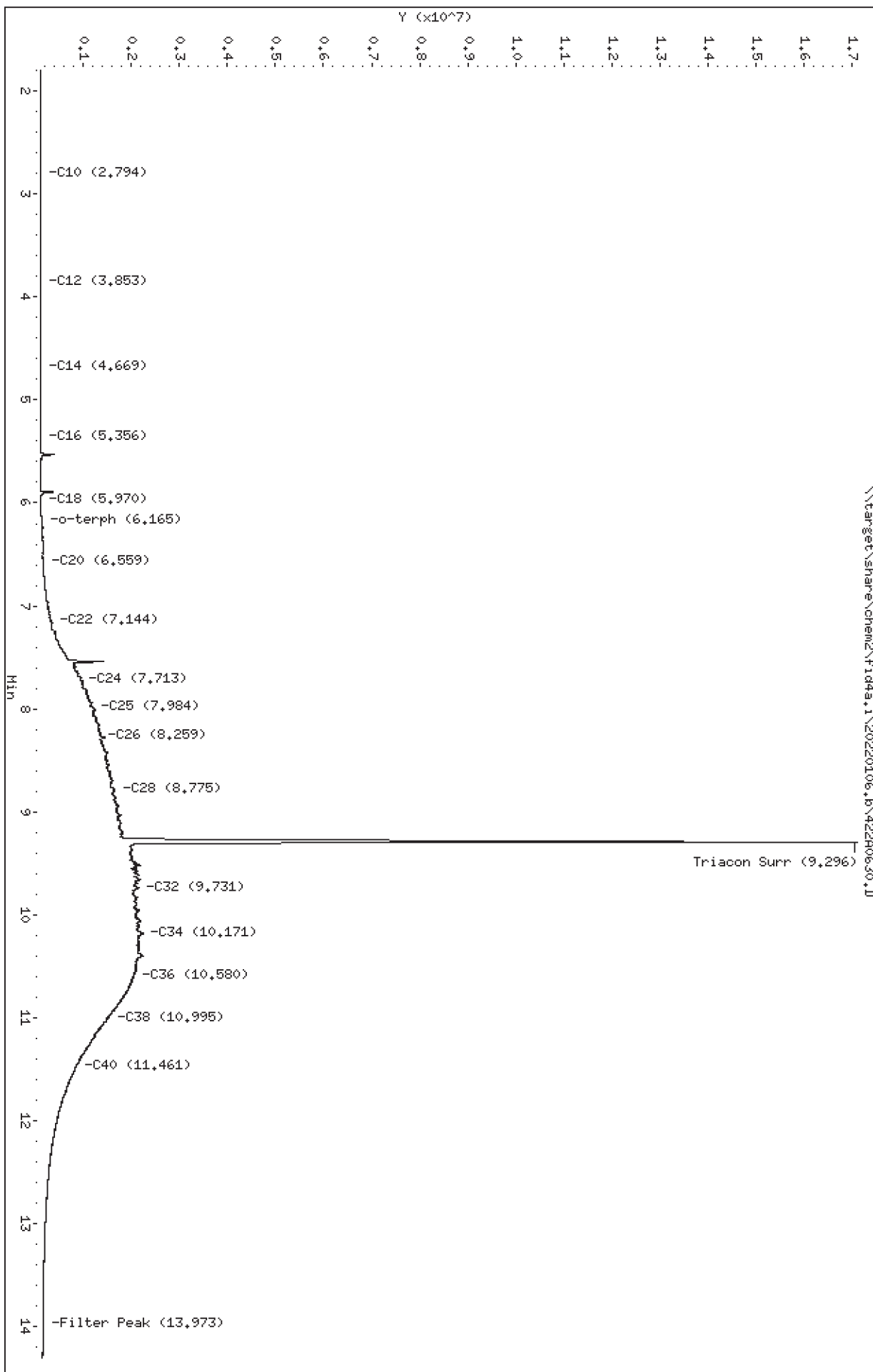
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0630.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALB  
Client ID:  
Injection: 06-JAN-2022 20:22  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.011	17258	4301	WATPHD	(C12-C24)	25178731	172.8
C10	2.794	-0.008	5092	3608	WATPHM	(C24-C38)	324449124	2447.2
C12	3.853	-0.006	5678	7022	AK102	(C10-C25)	35400273	205.5
C14	4.669	0.001	3839	758	AK103	(C25-C36)	273940795	2769.6
C16	5.356	-0.000	3278	2699	OR.DIES	(C10-C28)	105094526	604.8
C18	5.970	-0.002	10714	10162				
C20	6.559	-0.000	64664	142222				
C22	7.144	0.002	219141	252458				
C24	7.713	0.004	827562	247062				
C25	7.984	-0.003	1080011	687511				
C26	8.259	0.002	1238176	370748				
C28	8.775	-0.000	1545429	993360				
C32	9.731	0.001	2028162	997421				
C34	10.171	0.004	2118052	1355483				
Filter Peak	13.973	-0.000	48608	21788				
C36	10.580	-0.001	1948503	972417				
C38	10.995	0.006	1414419	841893				
C40	11.461	0.001	751652	187506				
o-terph	6.165	-0.002	15801	3901				
Triacon Surr	9.296	0.006	15269043	19868141	NAS DIES	(C10-C24)	25505234	148.5

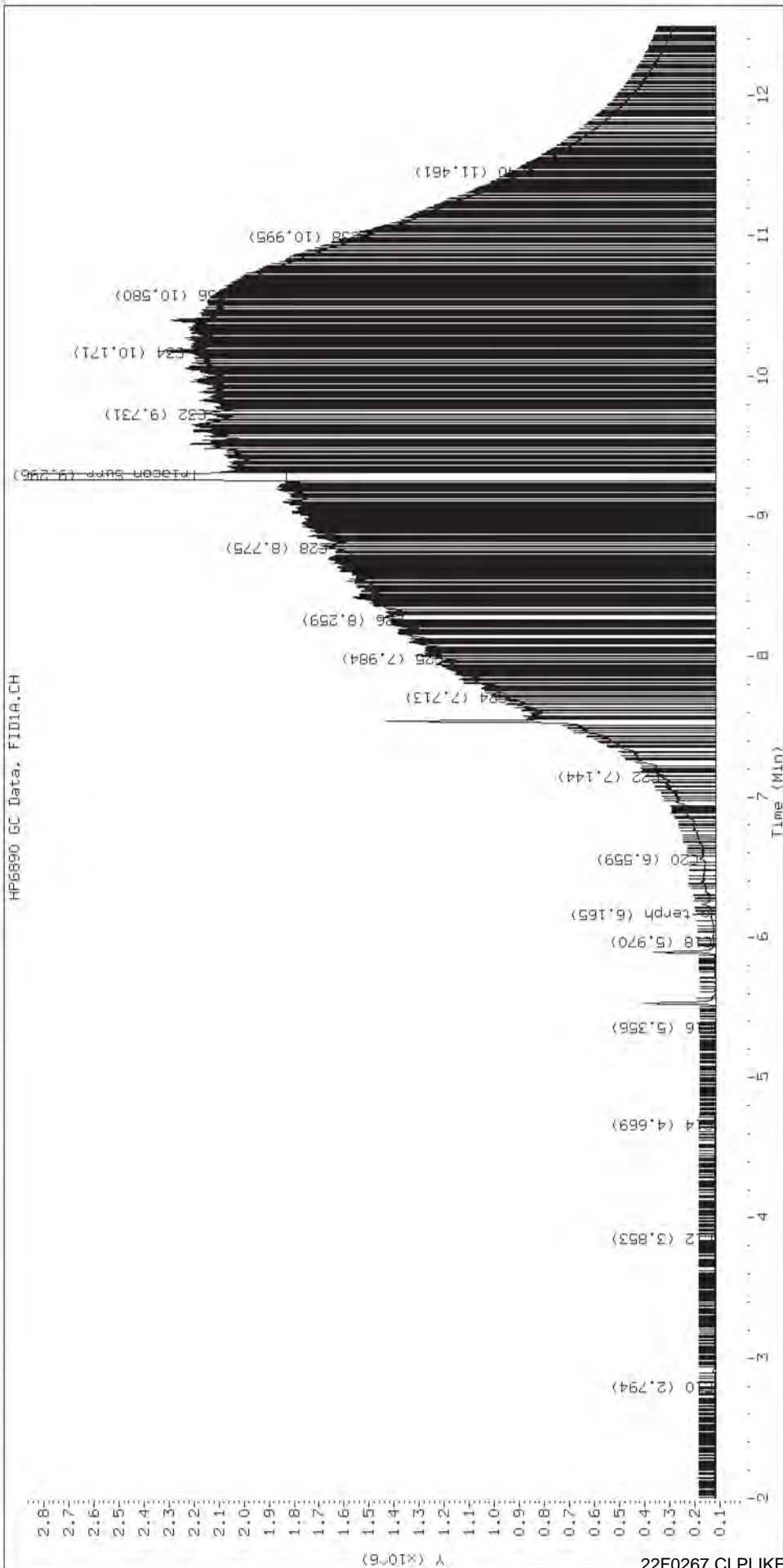
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

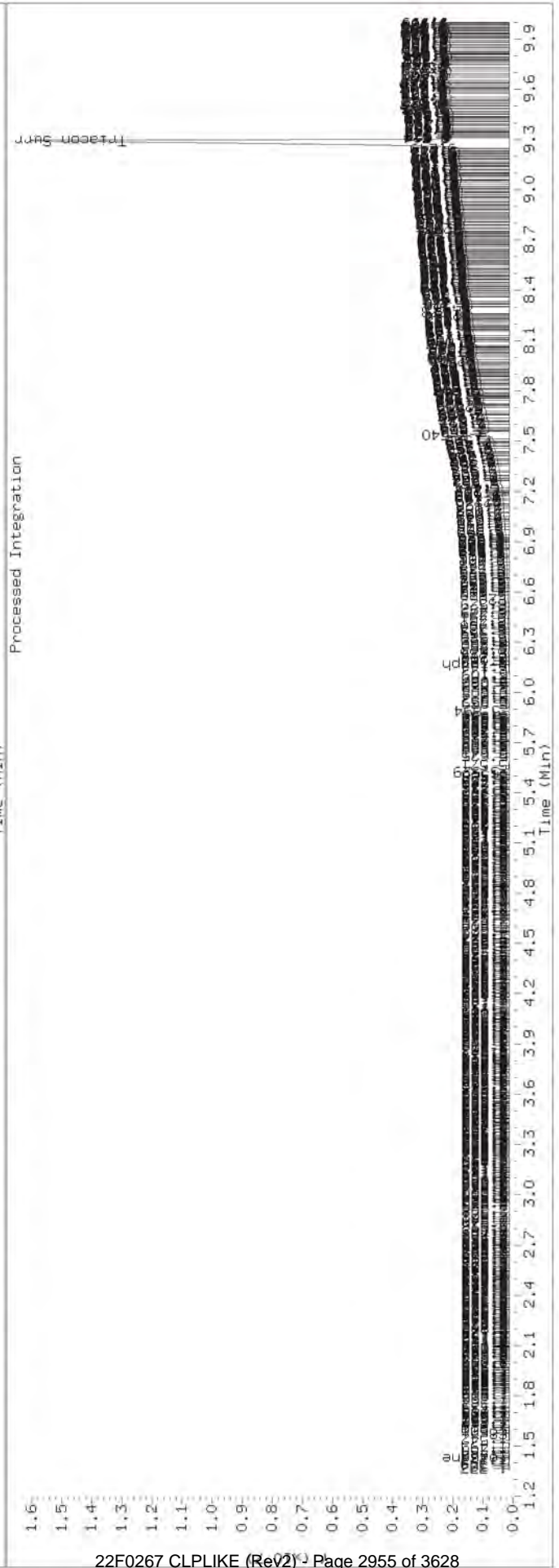
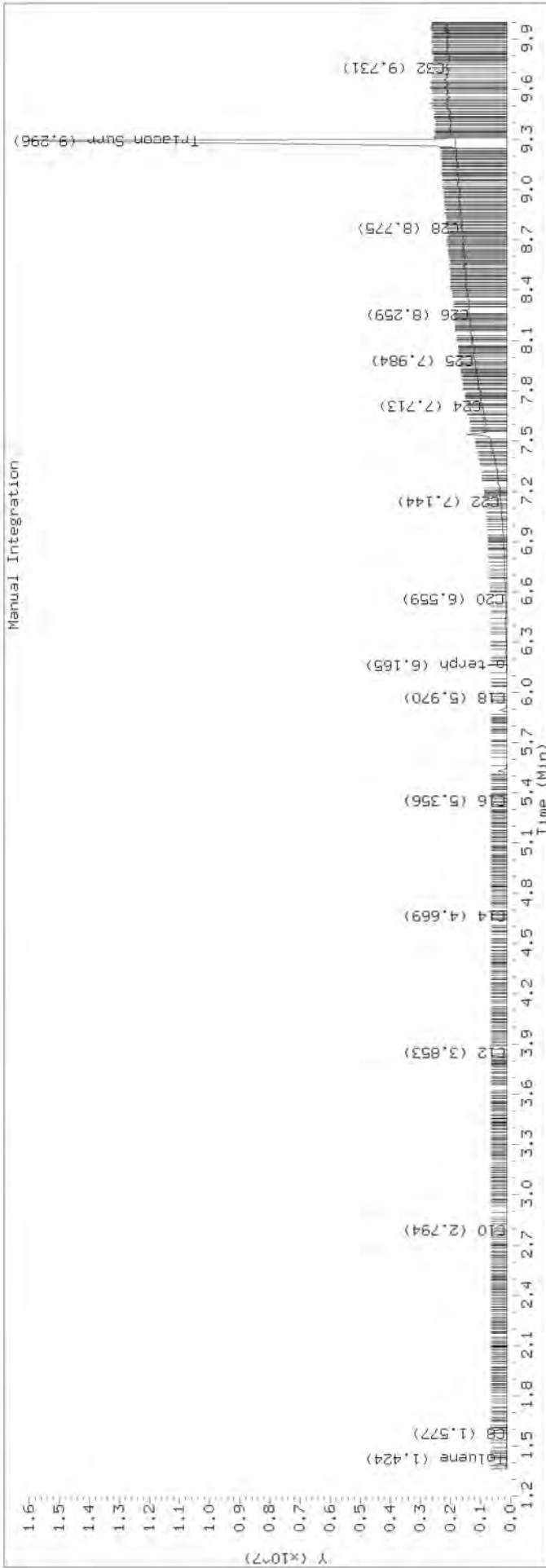
Surrogate	Area	Amount
o-Terphenyl	3901	0.0
Triacontane	19868141	114.0 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240631.D

Date: 06-JAN-2022 20:42

Client ID:

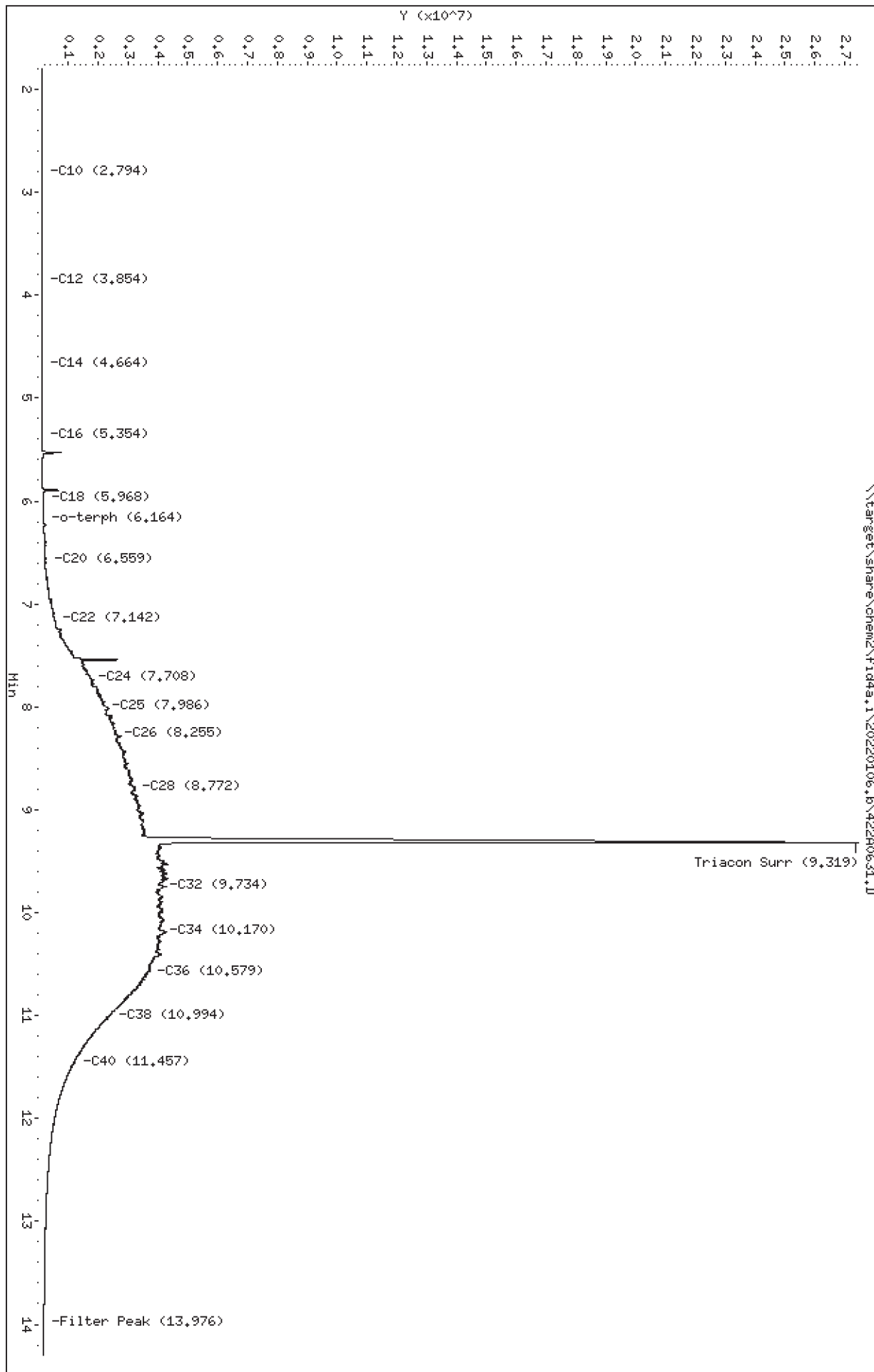
Sample Info: SKR0028-CALC

Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0631.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALC  
Client ID:  
Injection: 06-JAN-2022 20:42  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	12437	6794	WATPHD	(C12-C24)	50023505	343.2
C10	2.794	-0.007	1603	1382	WATPHM	(C24-C38)	629138264	4745.4
C12	3.854	-0.004	5247	5695	AK102	(C10-C25)	69619933	404.2
C14	4.664	-0.004	10564	11502	AK103	(C25-C36)	540174647	5461.3
C16	5.354	-0.002	16087	34954	OR.DIES	(C10-C28)	208310669	1198.8
C18	5.968	-0.004	32949	39919				
C20	6.559	-0.000	138972	310447				
C22	7.142	0.001	427301	781717				
C24	7.708	-0.001	1605305	638932				
C25	7.986	-0.000	2072035	718075				
C26	8.255	-0.002	2467694	982346				
C28	8.772	-0.004	3074685	1975887				
C32	9.734	0.005	3999709	2176432				
C34	10.170	0.003	3982476	2371685				
Filter Peak	13.976	0.003	62326	40134				
C36	10.579	-0.003	3557173	2116083				
C38	10.994	0.006	2297213	1137312				
C40	11.457	-0.003	1081035	1006449				
o-terph	6.164	-0.003	41429	10336				
Triacon Surr	9.319	0.029	23838567	40429932	NAS DIES	(C10-C24)	50155994	292.0

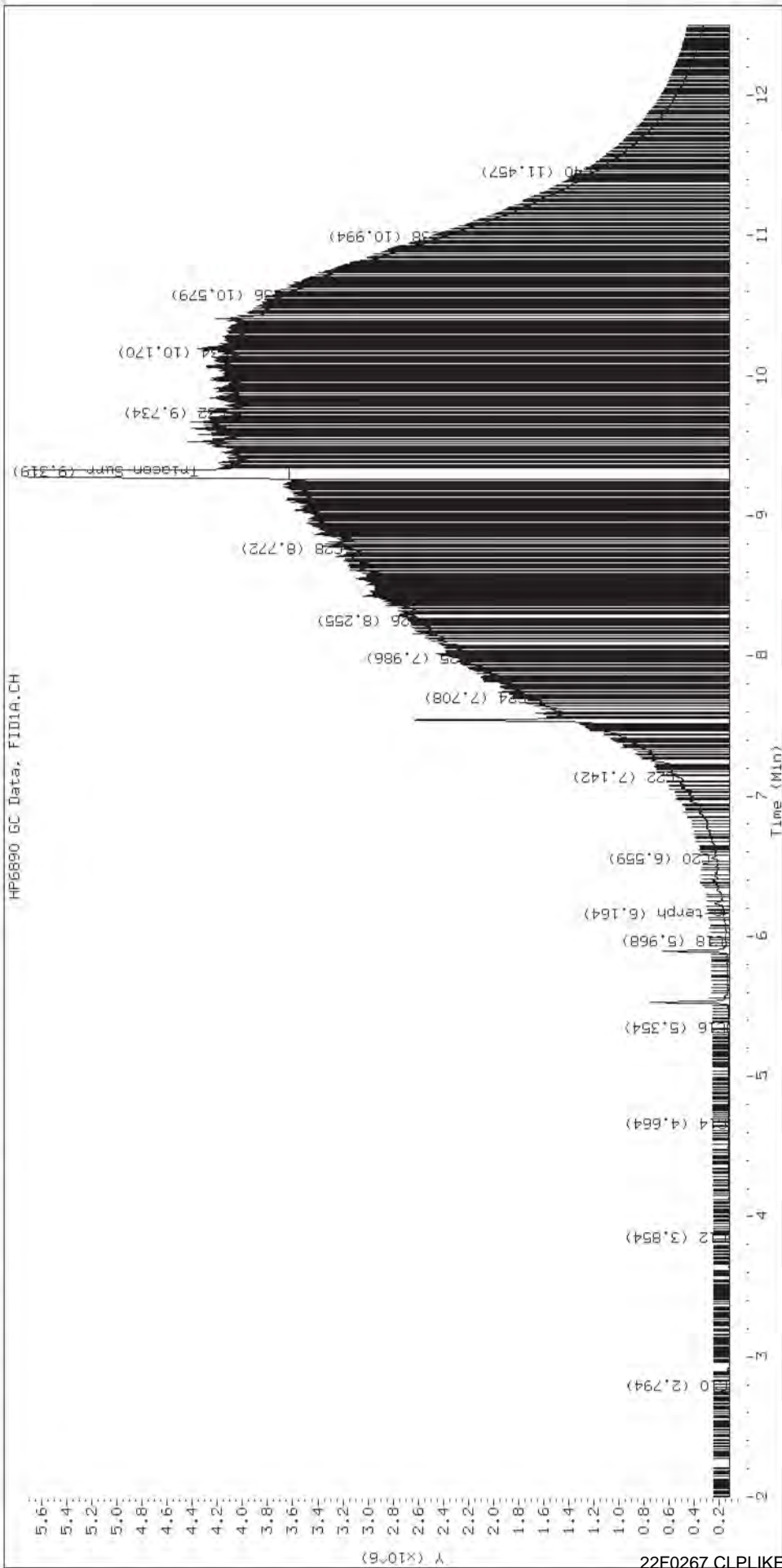
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

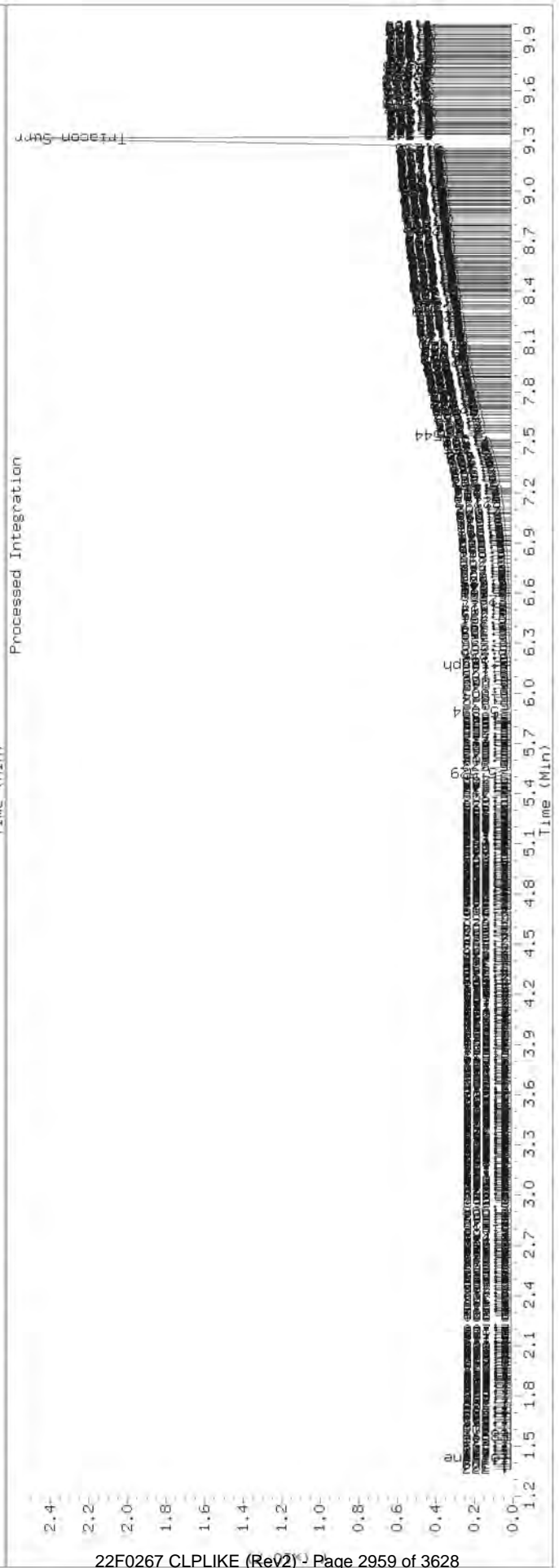
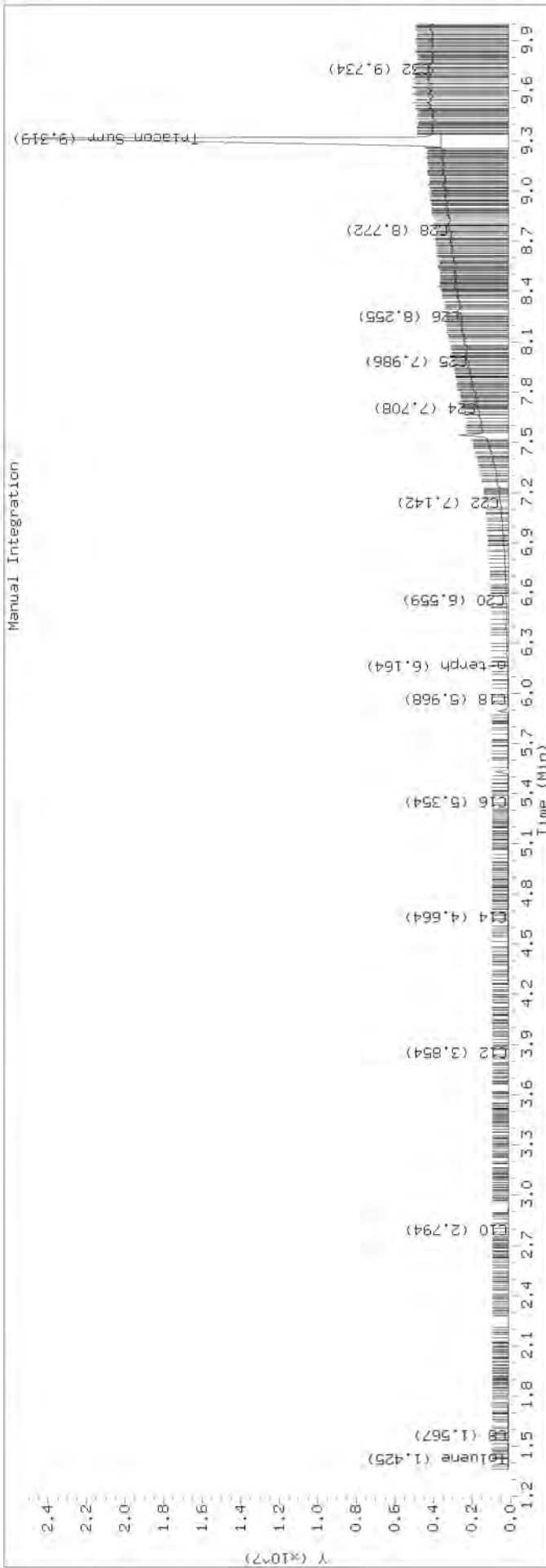
Surrogate	Area	Amount
o-Terphenyl	10336	0.1
Triacontane	40429932	232.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240632.D

Date: 06-JAN-2022 21:02

Client ID:

Sample Info: SKR0028-SCW1

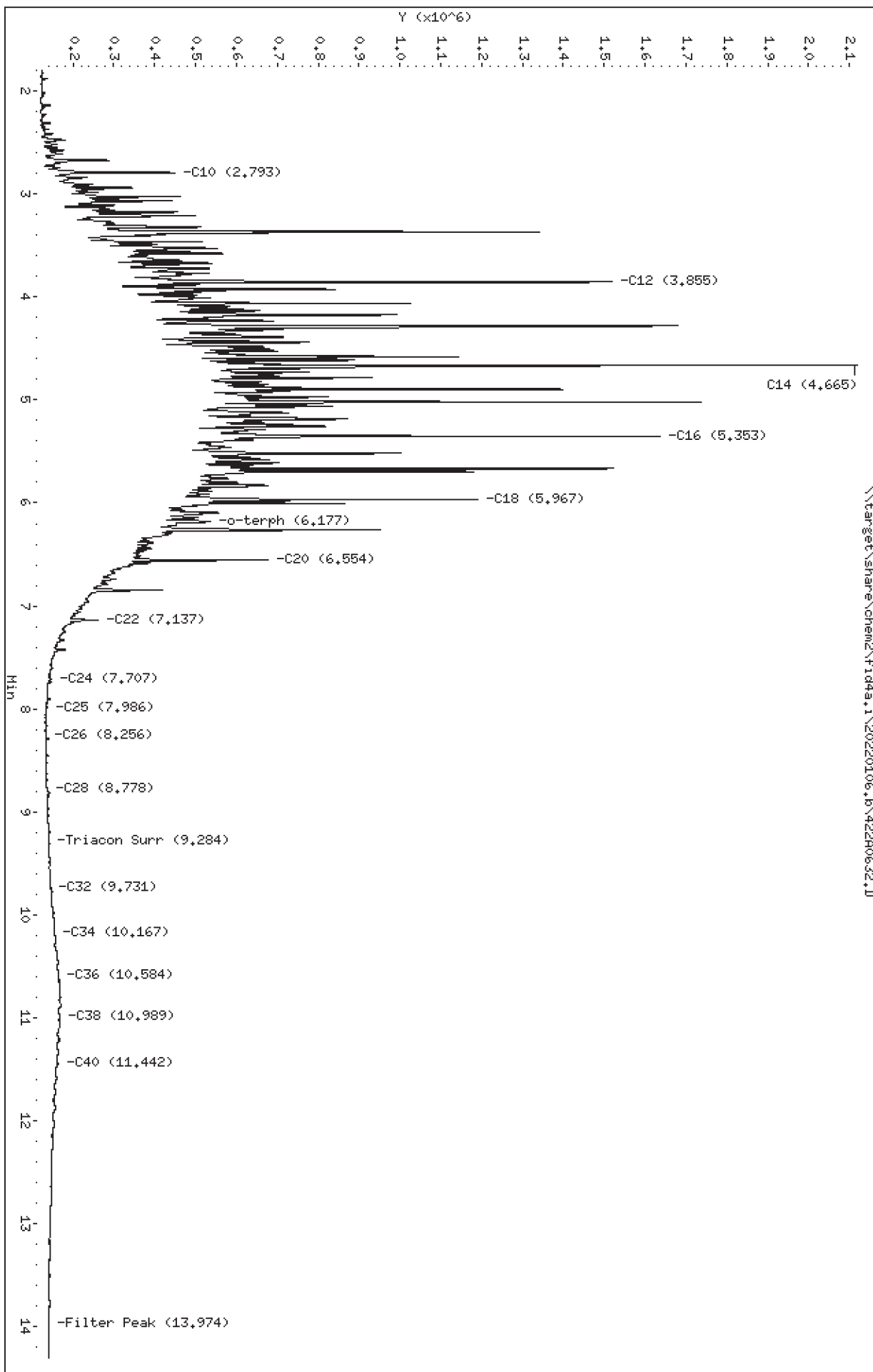
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0632.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV1  
Client ID:  
Injection: 06-JAN-2022 21:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.554	-0.012	13447	19907	WATPHD	(C12-C24)	81818326	561.4
C10	2.793	-0.008	328700	402623	WATPHM	(C24-C38)	4903930	37.0
C12	3.855	-0.003	1398359	1541786	AK102	(C10-C25)	98237239	570.4
C14	4.665	-0.003	1998212	2275704	AK103	(C25-C36)	3617447	36.6
C16	5.353	-0.003	1514409	1842028	OR.DIES	(C10-C28)	98957633	569.5
C18	5.967	-0.005	1069816	1029152				
C20	6.554	-0.005	555197	666071				
C22	7.137	-0.004	141564	207118				
C24	7.707	-0.002	25196	52303				
C25	7.986	-0.000	18136	25237				
C26	8.256	-0.001	12963	11391				
C28	8.778	0.002	15805	6221				
C32	9.731	0.002	24227	8392				
C34	10.167	-0.000	33488	11671				
Filter Peak	13.974	0.001	19683	11641				
C36	10.584	0.003	44128	15372				
C38	10.989	0.001	46492	34691				
C40	11.442	-0.018	43094	144180				
o-terph	6.177	0.010	416300	426651				
Triacon Surr	9.284	-0.006	19261	10418	NAS DIES	(C10-C24)	98063156	571.0

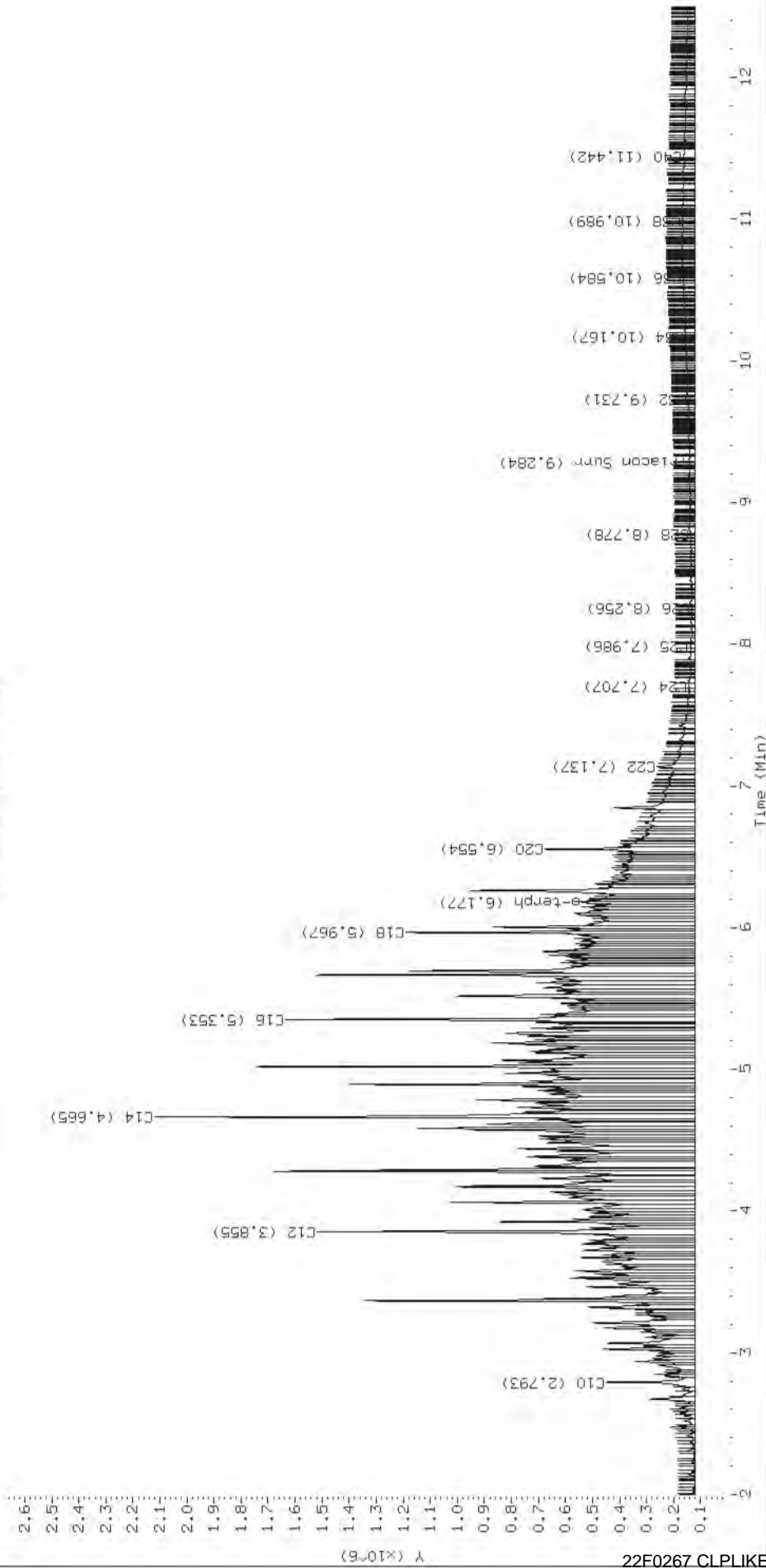
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	426651	2.2
Triacontane	10418	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH

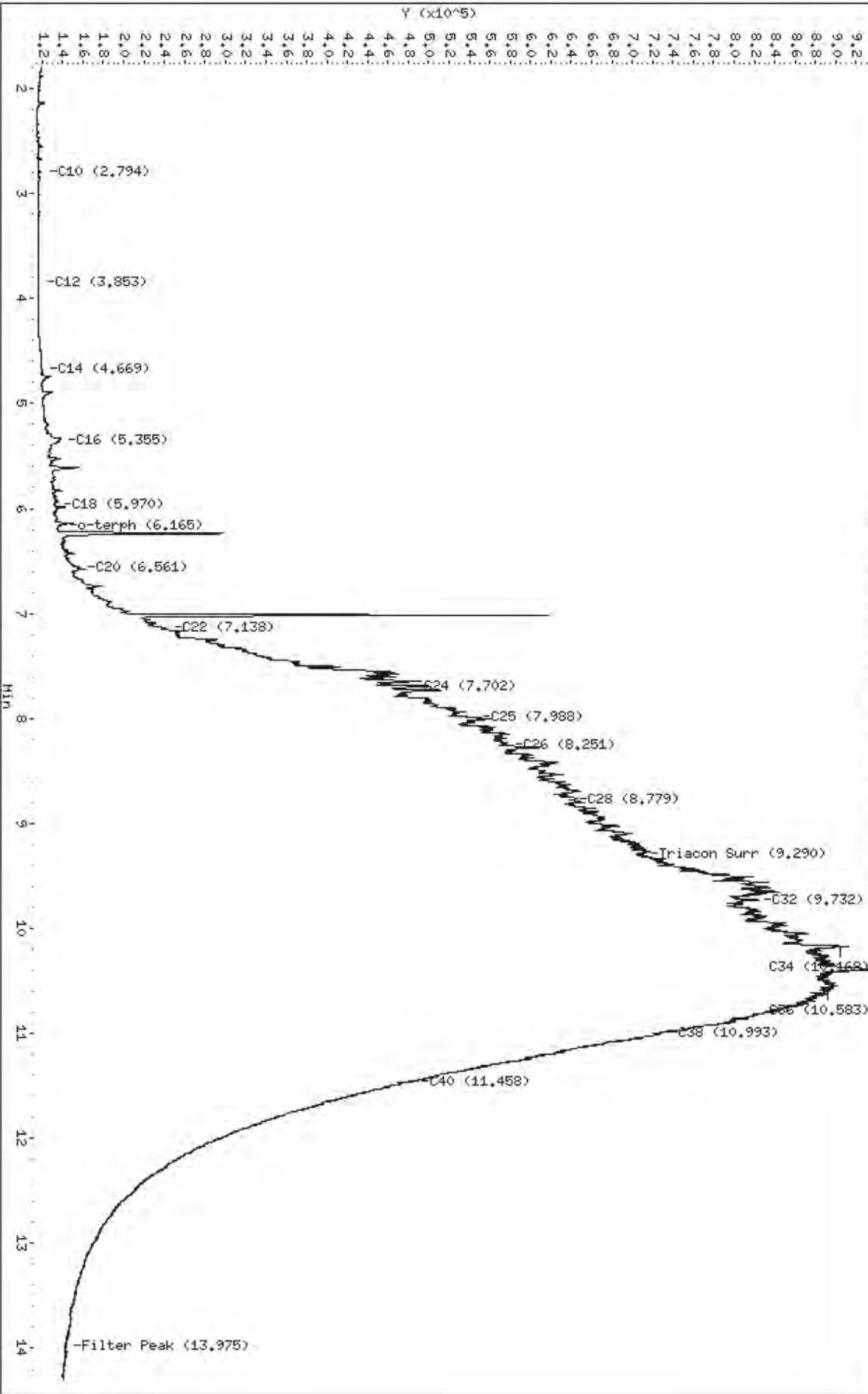


Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240633.D  
Date: 06-JAN-2022 21:21  
Client ID:  
Sample Info: SK00028-SCV2

Column phase: RTX-1

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

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0633.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV2  
Client ID:  
Injection: 06-JAN-2022 21:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.571	0.005	9397	3234	WATPHD	(C12-C24)	14056895	96.4
C10	2.794	-0.008	3468	3249	WATPHM	(C24-C38)	119954259	904.8
C12	3.853	-0.006	1998	1502	AK102	(C10-C25)	18142709	105.3
C14	4.669	0.001	4718	2557	AK103	(C25-C36)	98929750	1000.2
C16	5.355	-0.002	21381	13437	OR.DIES	(C10-C28)	43590146	250.9
C18	5.970	-0.003	18024	5393				
C20	6.561	0.002	41385	47221				
C22	7.138	-0.003	126282	164868				
C24	7.702	-0.007	364294	249450				
C25	7.988	0.002	429789	170231				
C26	8.251	-0.006	461561	275289				
C28	8.779	0.003	524231	157049				
C32	9.732	0.002	706043	454955				
C34	10.168	0.001	792309	274623				
Filter Peak	13.975	0.002	27946	6956				
C36	10.583	0.002	779610	310190				
C38	10.993	0.004	614371	153291				
C40	11.458	-0.002	369218	346346				
o-terph	6.165	-0.002	22790	28222				
Triacon Surr	9.290	-0.000	594134	295766	NAS DIES	(C10-C24)	14144817	82.4

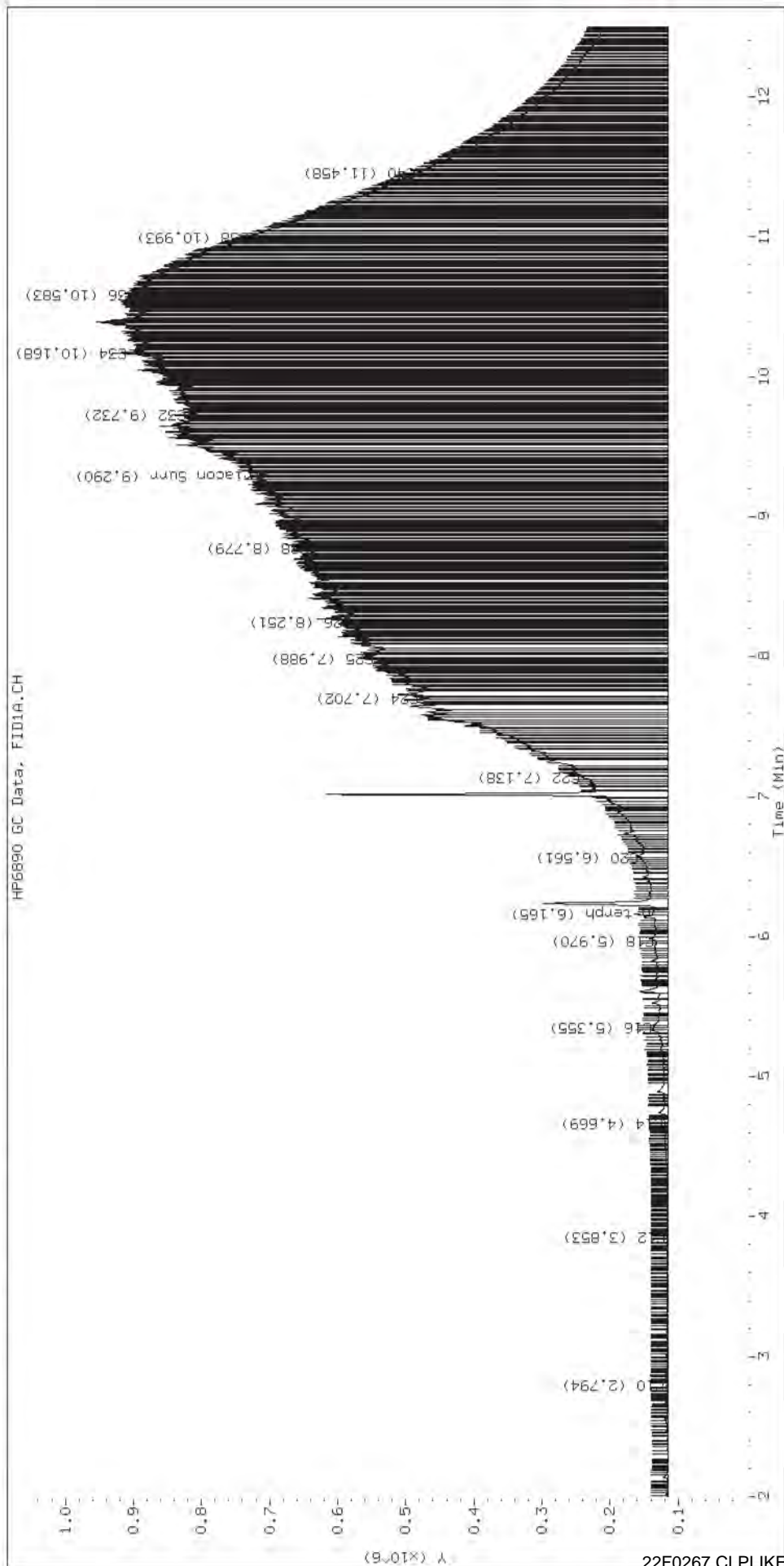
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	28222	0.1
Triacontane	295766	1.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a,1\20220106,b\42280634.D

Date: 06-JAN-2022 21:41

Client ID:

Sample Info: SKR0028-CALD

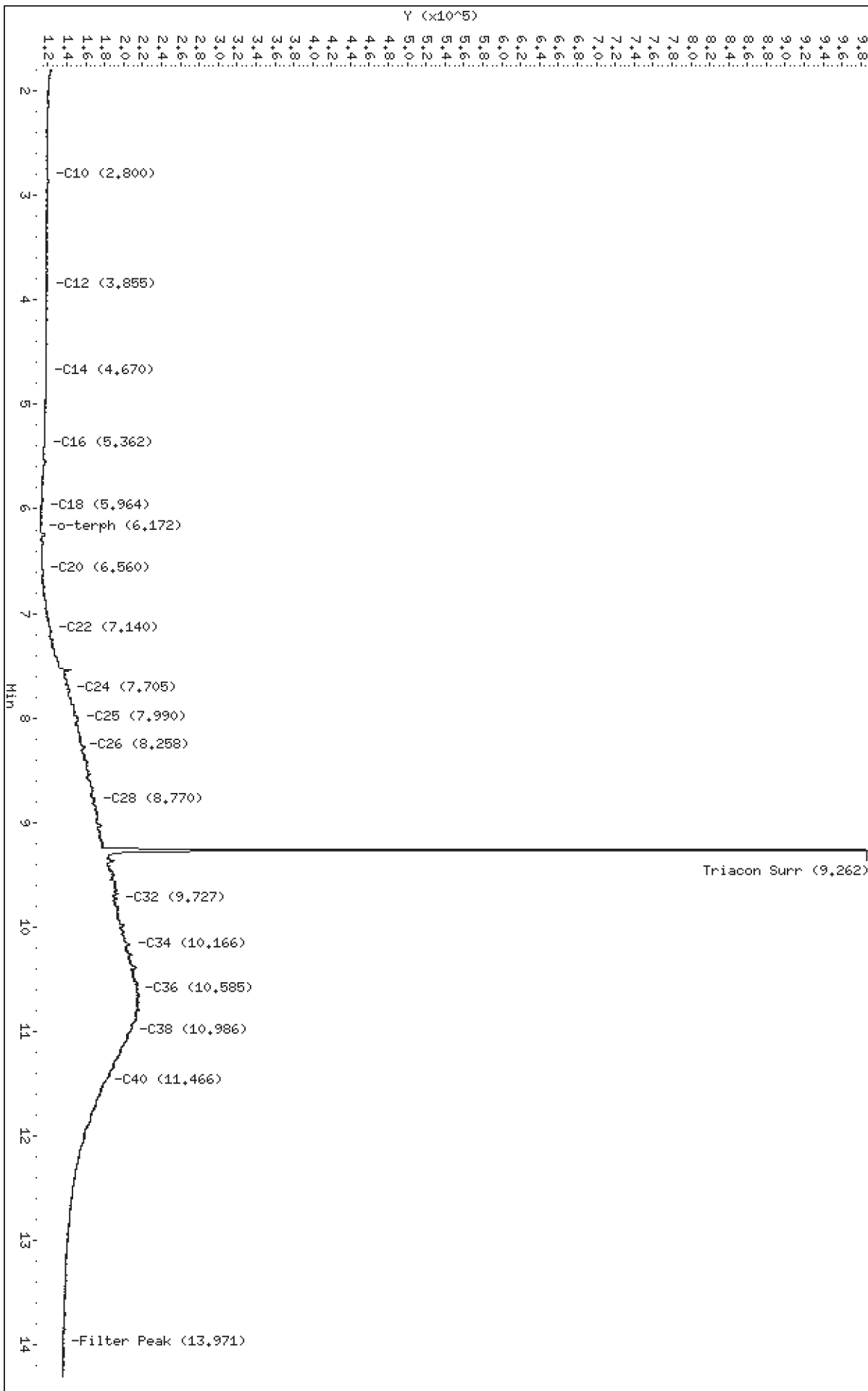
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0634.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALD  
Client ID:  
Injection: 06-JAN-2022 21:41  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.567	0.001	17146	19314	WATPHD	(C12-C24)	1474779	10.1
C10	2.800	-0.002	6919	1375	WATPHM	(C24-C38)	13771790	103.9
C12	3.855	-0.003	6785	3685	AK102	(C10-C25)	2234932	13.0
C14	4.670	0.002	6048	2401	AK103	(C25-C36)	10945533	110.7
C16	5.362	0.006	3993	2753	OR.DIES	(C10-C28)	4695847	27.0
C18	5.964	-0.008	893	555				
C20	6.560	-0.000	1925	933				
C22	7.140	-0.001	10540	7151				
C24	7.705	-0.004	29831	19074				
C25	7.990	0.003	39026	43181				
C26	8.258	0.001	43157	10746				
C28	8.770	-0.005	57286	39691				
C32	9.727	-0.003	80921	56092				
C34	10.166	-0.001	93902	74517				
Filter Peak	13.971	-0.002	23966	5967				
C36	10.585	0.004	101870	25421				
C38	10.986	-0.003	96118	43017				
C40	11.466	0.007	69773	58785				
o-terph	6.172	0.005	280	151				
Triacon Surr	9.262	-0.028	812213	727031	NAS DIES	(C10-C24)	1904331	11.1

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

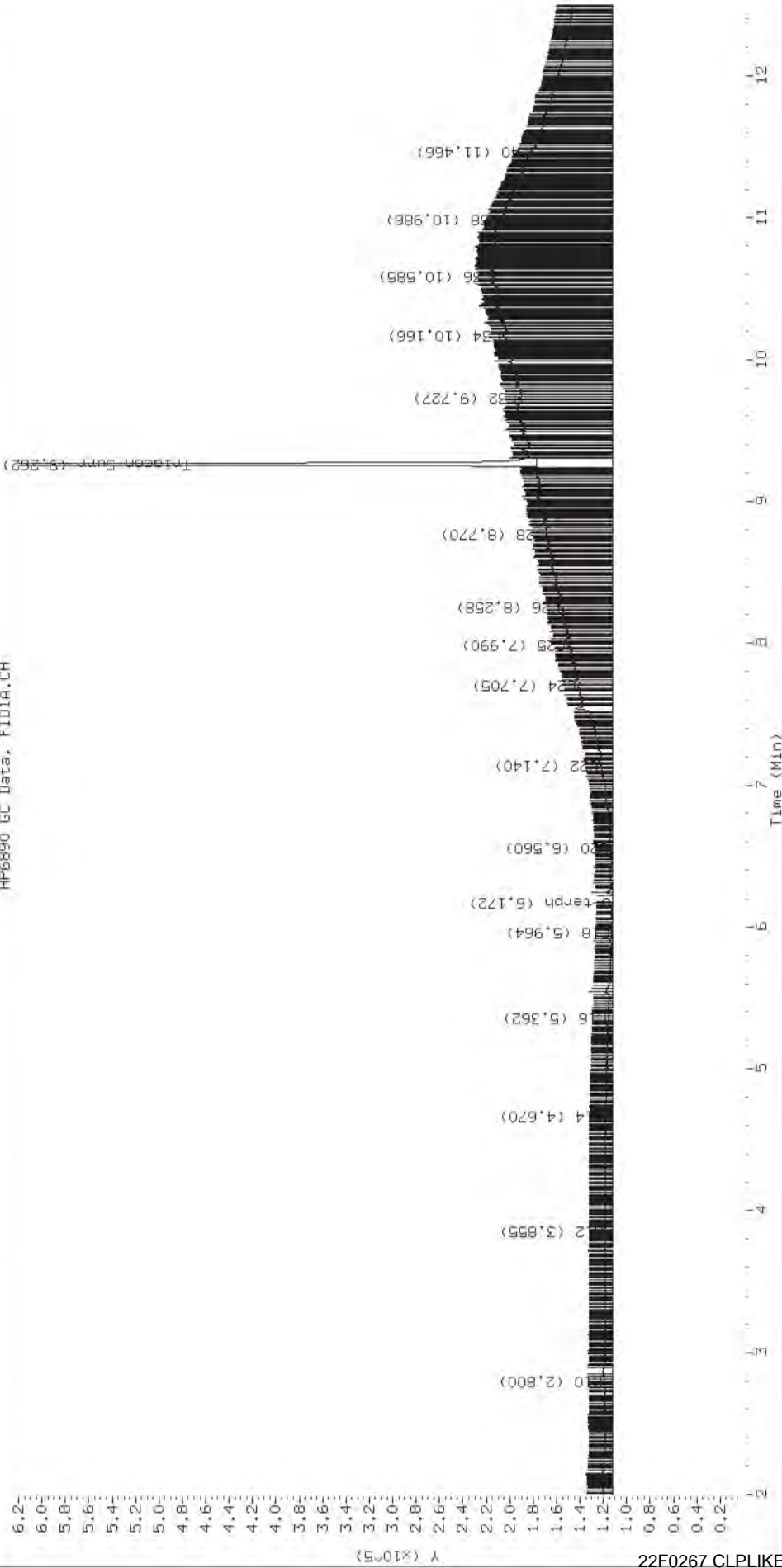
Surrogate	Area	Amount
o-Terphenyl	151	0.0
Triacontane	727031	4.2 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

Datafile: FID4A, 20220106.b/422A0634.D SKA0028-CALD

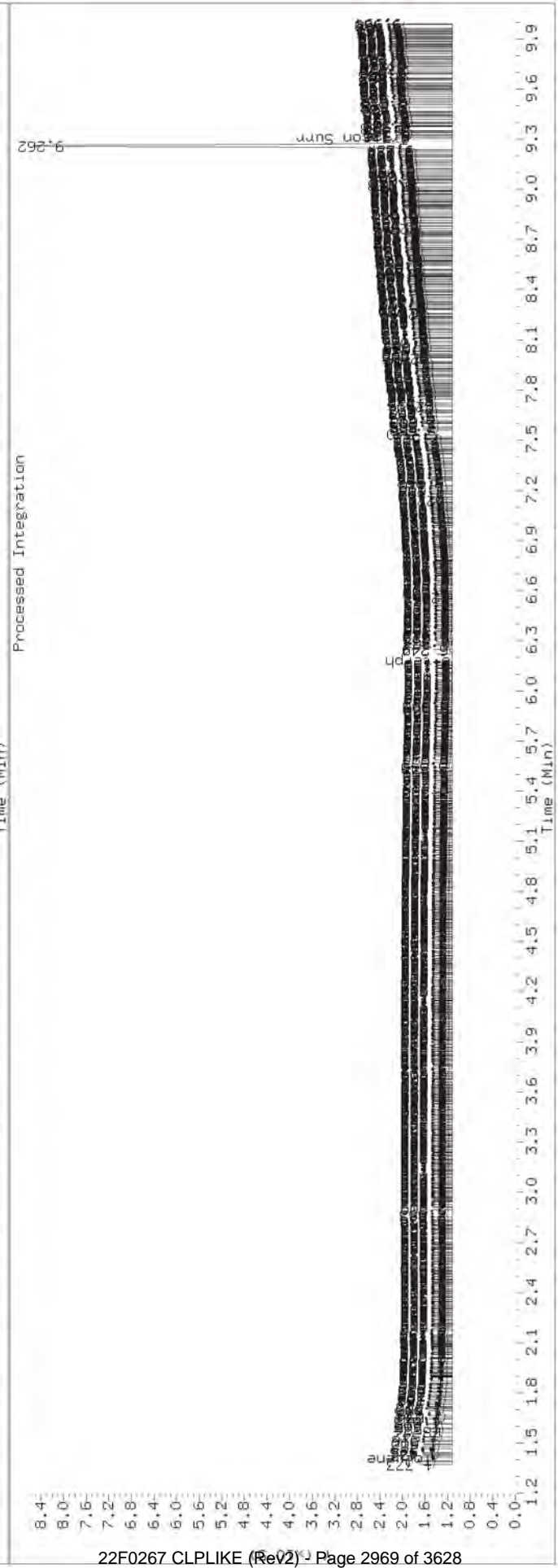
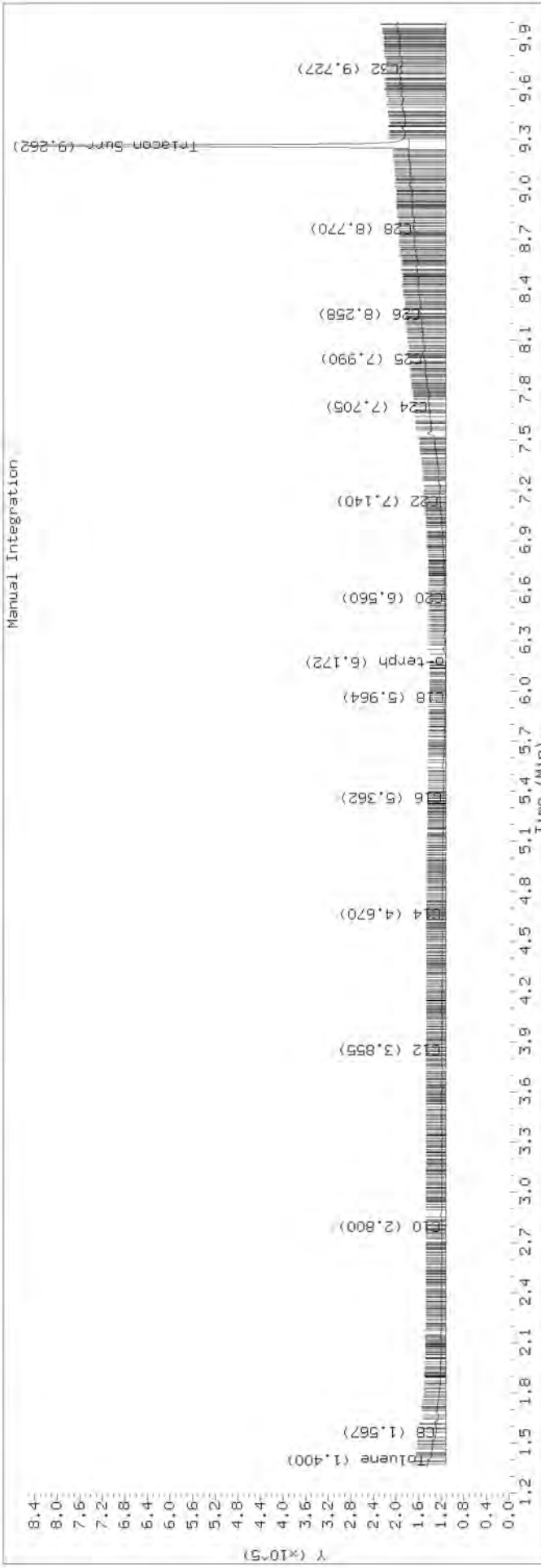
HP6890 GC Data, FID1A.CH





TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0634.D Injection: 06-JAN-2022 21:41  
 Lab ID: SKA0028-CALD



Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240635.D

Date: 06-JAN-2022 22:01

Client ID:

Sample Info: SKR0028-CALE

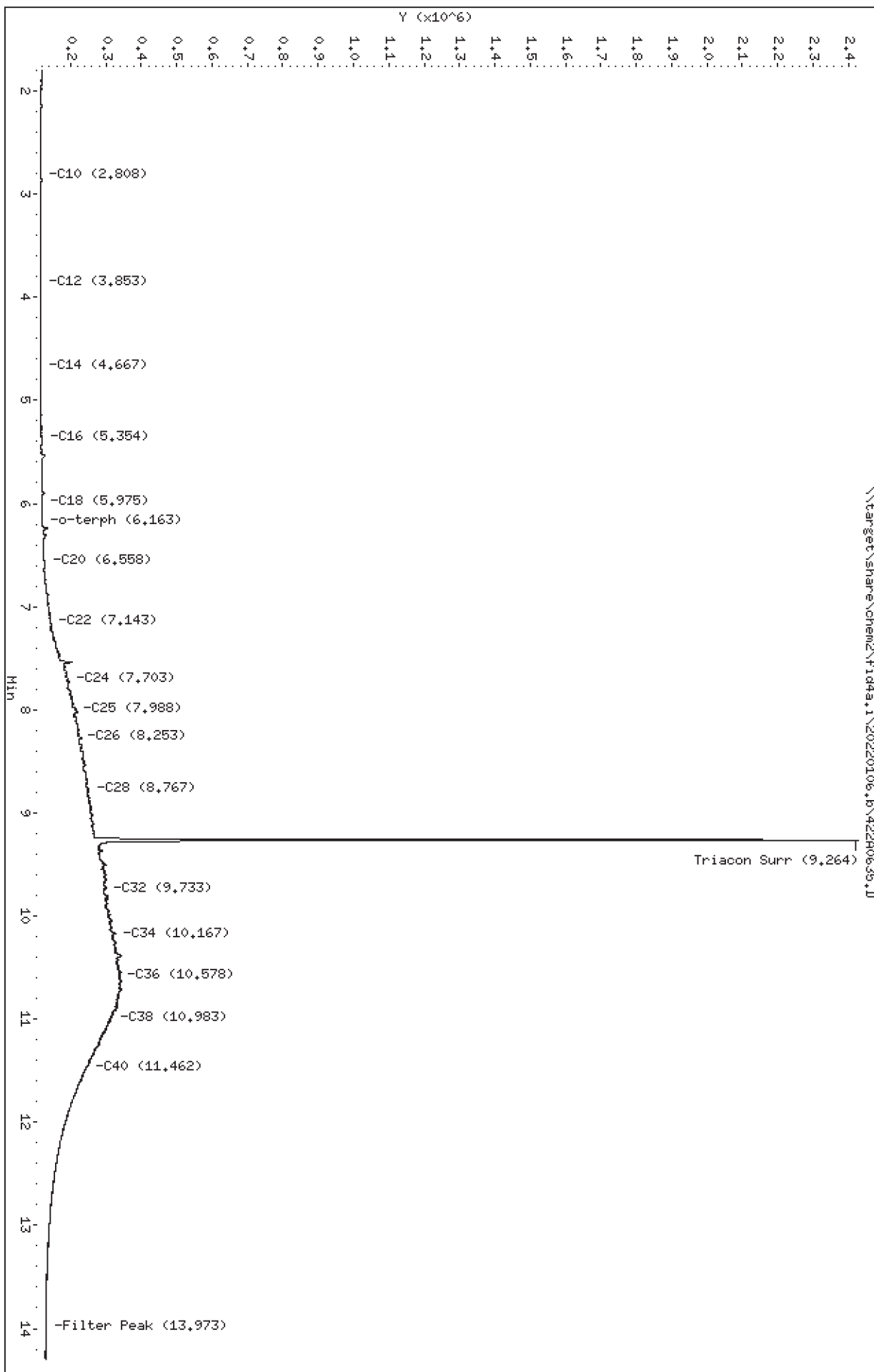
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0635.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALE  
Client ID:  
Injection: 06-JAN-2022 22:01  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.577	0.010	8719	1728	WATPHD	(C12-C24)	2929726	20.1
C10	2.808	0.007	730	310	WATPHM	(C24-C38)	31748804	239.5
C12	3.853	-0.006	795	616	AK102	(C10-C25)	3824694	22.2
C14	4.667	-0.001	1277	1021	AK103	(C25-C36)	25645540	259.3
C16	5.354	-0.002	2070	507	OR.DIES	(C10-C28)	9965738	57.4
C18	5.975	0.003	3530	1724				
C20	6.558	-0.002	10355	11106				
C22	7.143	0.001	29007	34388				
C24	7.703	-0.005	77178	83297				
C25	7.988	0.002	98914	48889				
C26	8.253	-0.005	108103	48204				
C28	8.767	-0.009	136834	155381				
C32	9.733	0.004	184014	127408				
C34	10.167	-0.000	211495	52618				
Filter Peak	13.973	0.000	14730	5087				
C36	10.578	-0.003	222240	77716				
C38	10.983	-0.005	200745	129371				
C40	11.462	0.002	131317	97270				
o-terph	6.163	-0.004	4526	2639				
Triacon Surr	9.264	-0.025	2163427	1840060	NAS DIES	(C10-C24)	2959772	17.2

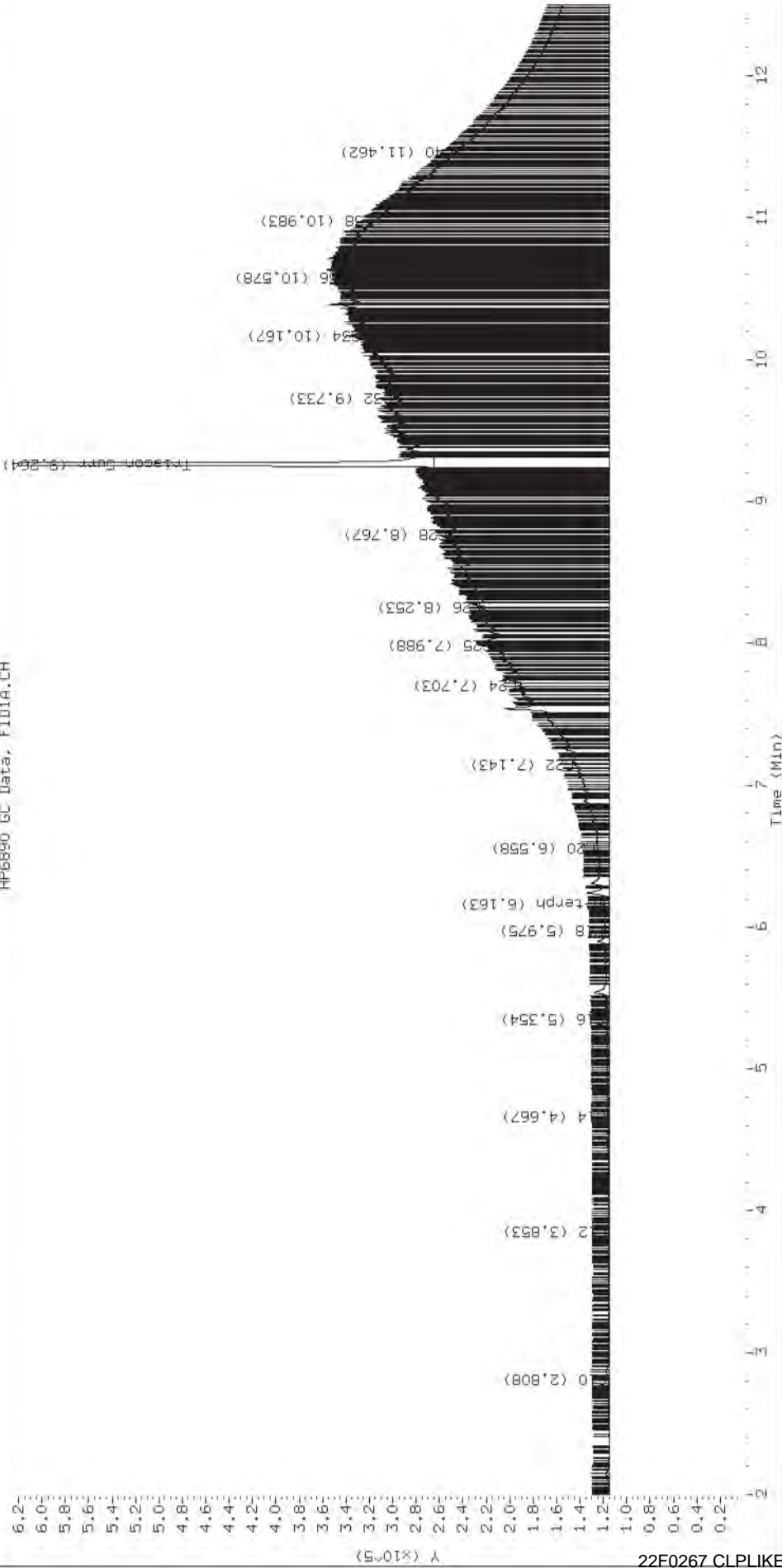
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

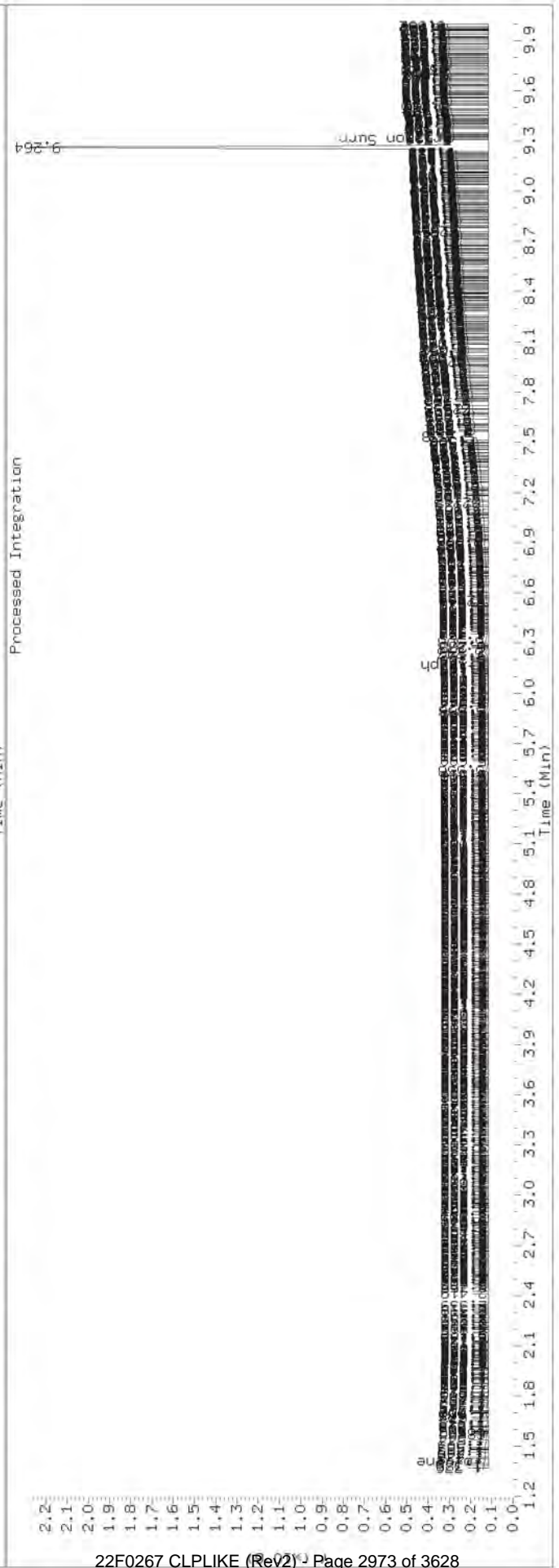
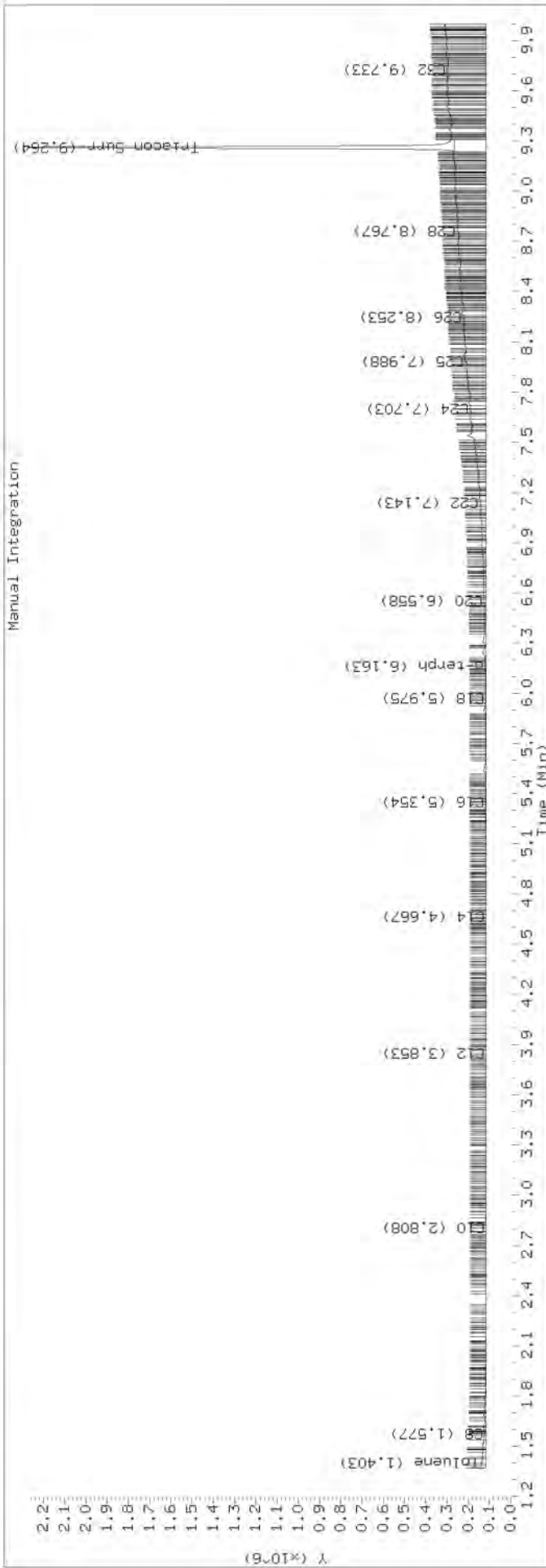
Surrogate	Area	Amount
o-Terphenyl	2639	0.0
Triacontane	1840060	10.6 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240636.D

Date: 06-JAN-2022 22:21

Client ID:

Sample Info: SKR0028-CALF

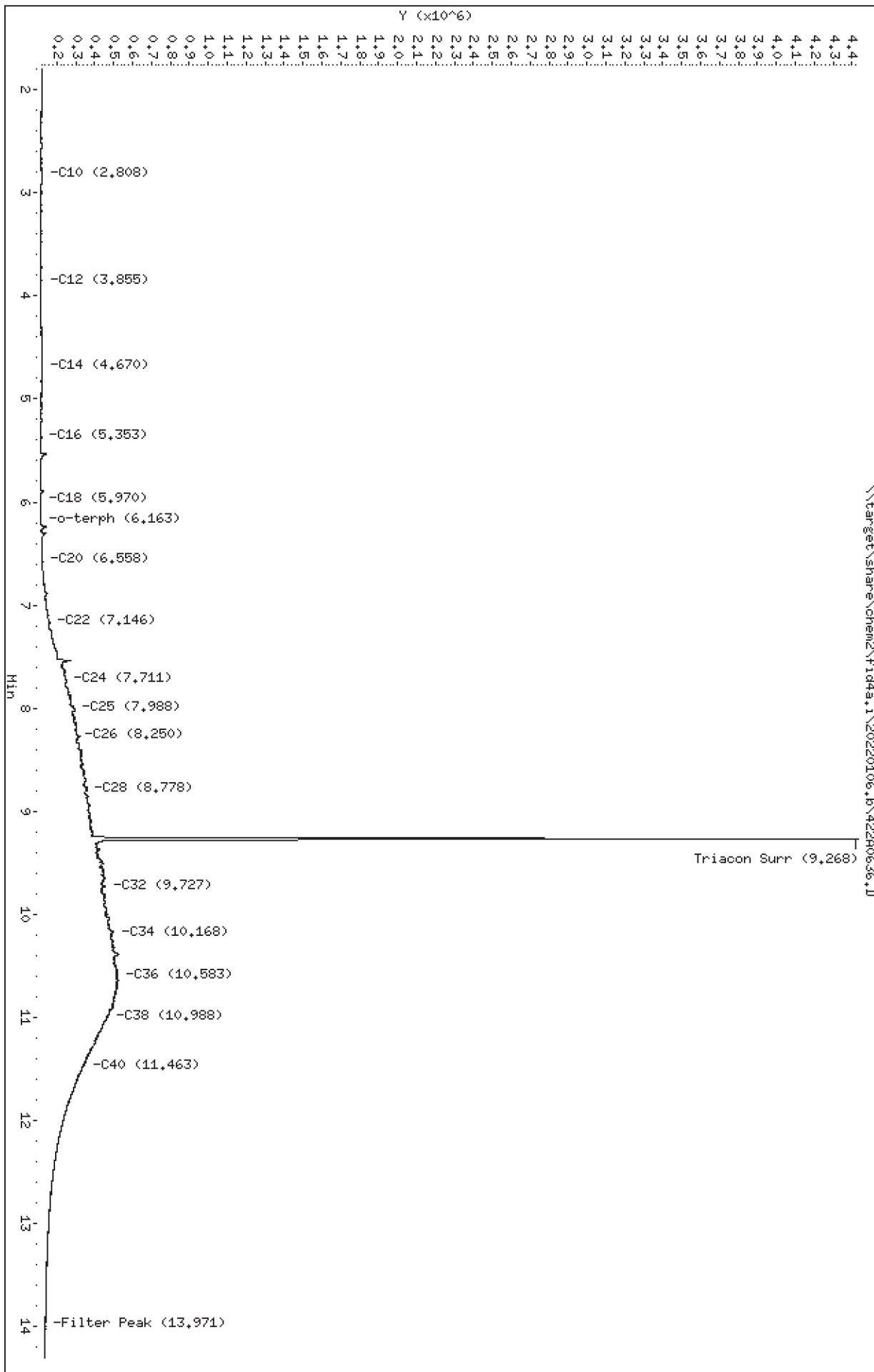
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0636.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALF  
Client ID:  
Injection: 06-JAN-2022 22:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.588	0.022	14154	9065	WATPHD	(C12-C24)	4637647	31.8
C10	2.808	0.006	3982	972	WATPHM	(C24-C38)	56653473	427.3
C12	3.855	-0.004	3786	3993	AK102	(C10-C25)	6441039	37.4
C14	4.670	0.002	4050	2404	AK103	(C25-C36)	45729418	462.3
C16	5.353	-0.004	3118	761	OR.DIES	(C10-C28)	17026229	98.0
C18	5.970	-0.002	794	203				
C20	6.558	-0.001	10478	9728				
C22	7.146	0.005	44045	65456				
C24	7.711	0.002	130061	38666				
C25	7.988	0.002	174343	60325				
C26	8.250	-0.007	189683	56662				
C28	8.778	0.003	240756	95966				
C32	9.727	-0.003	340946	614753				
C34	10.168	0.001	386820	624600				
Filter Peak	13.971	-0.002	25087	9932				
C36	10.583	0.002	402993	240743				
C38	10.988	-0.000	355088	281638				
C40	11.463	0.003	229950	158804				
o-terph	6.163	-0.005	2082	1126				
Triacon Surr	9.268	-0.022	4048608	3404066	NAS DIES	(C10-C24)	4860533	28.3

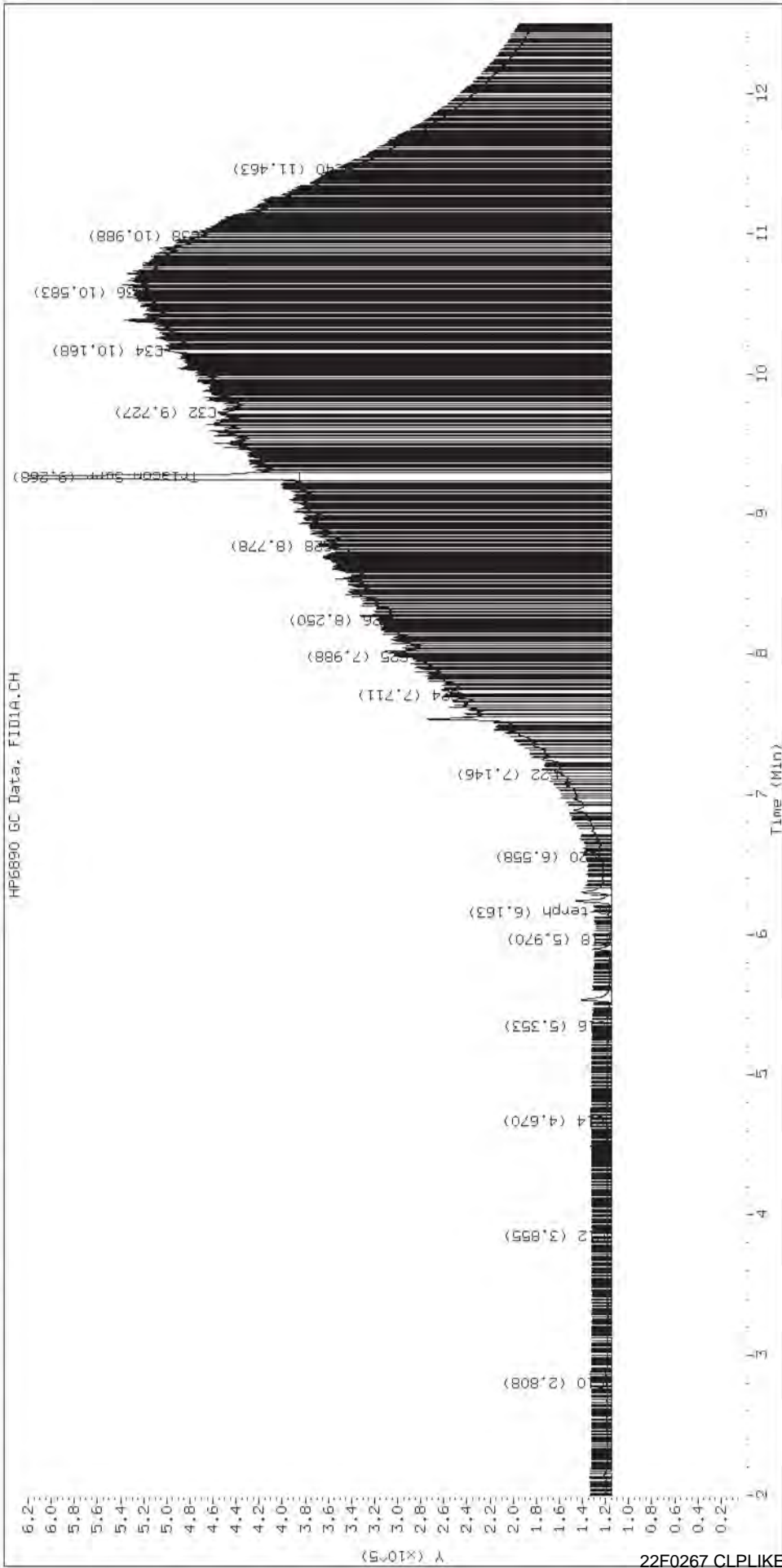
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	1126	0.0
Triacontane	3404066	19.5 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

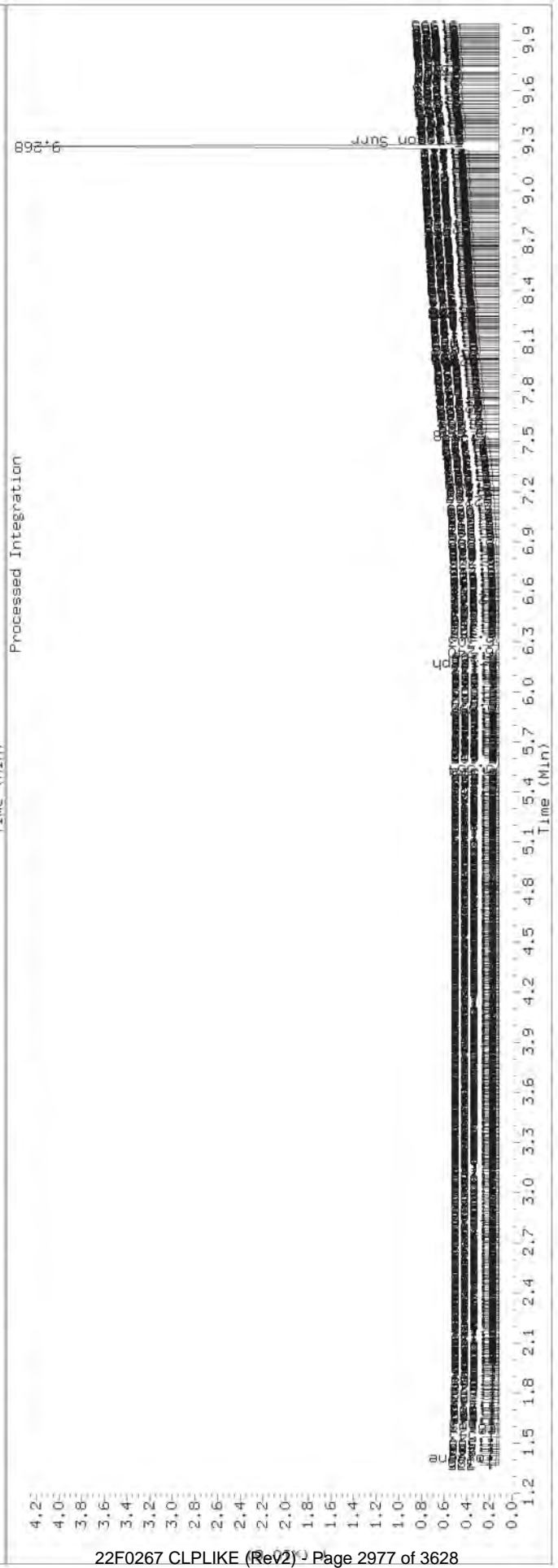
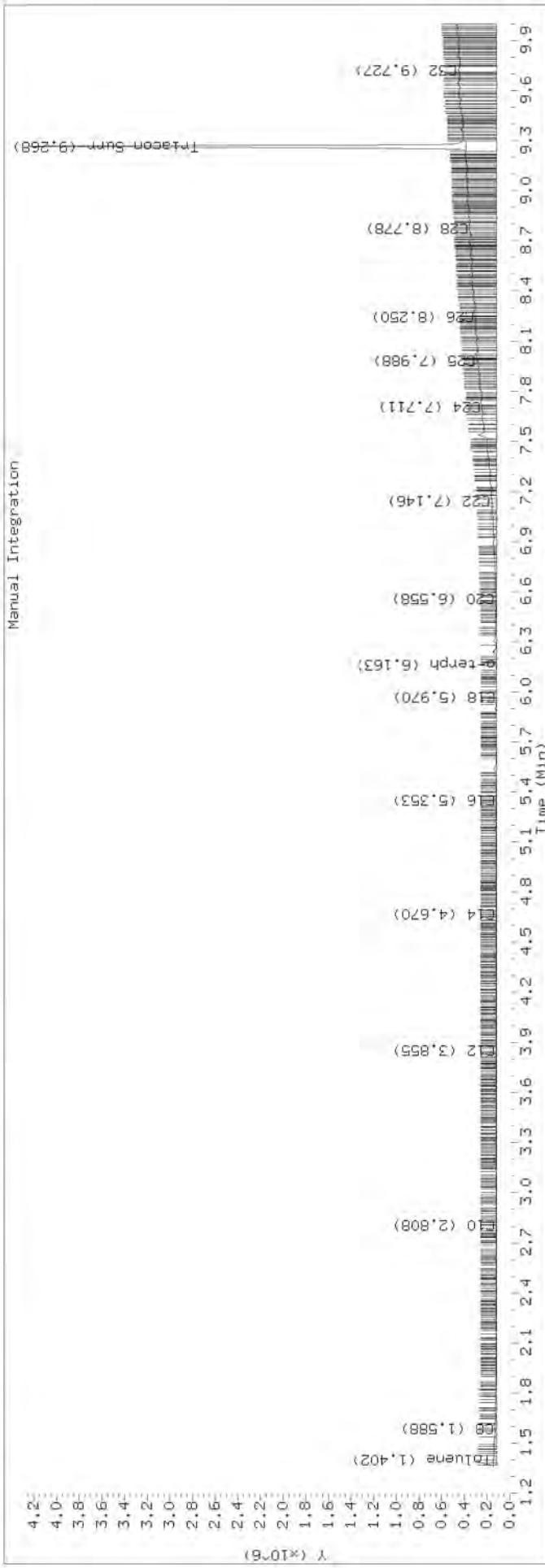






TPH Manual Integrations Report

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 Lab ID:SKA0028-CALF



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Date: 06-JAN-2022 22:40

Client ID:

Sample Info: SKR0028-CALG

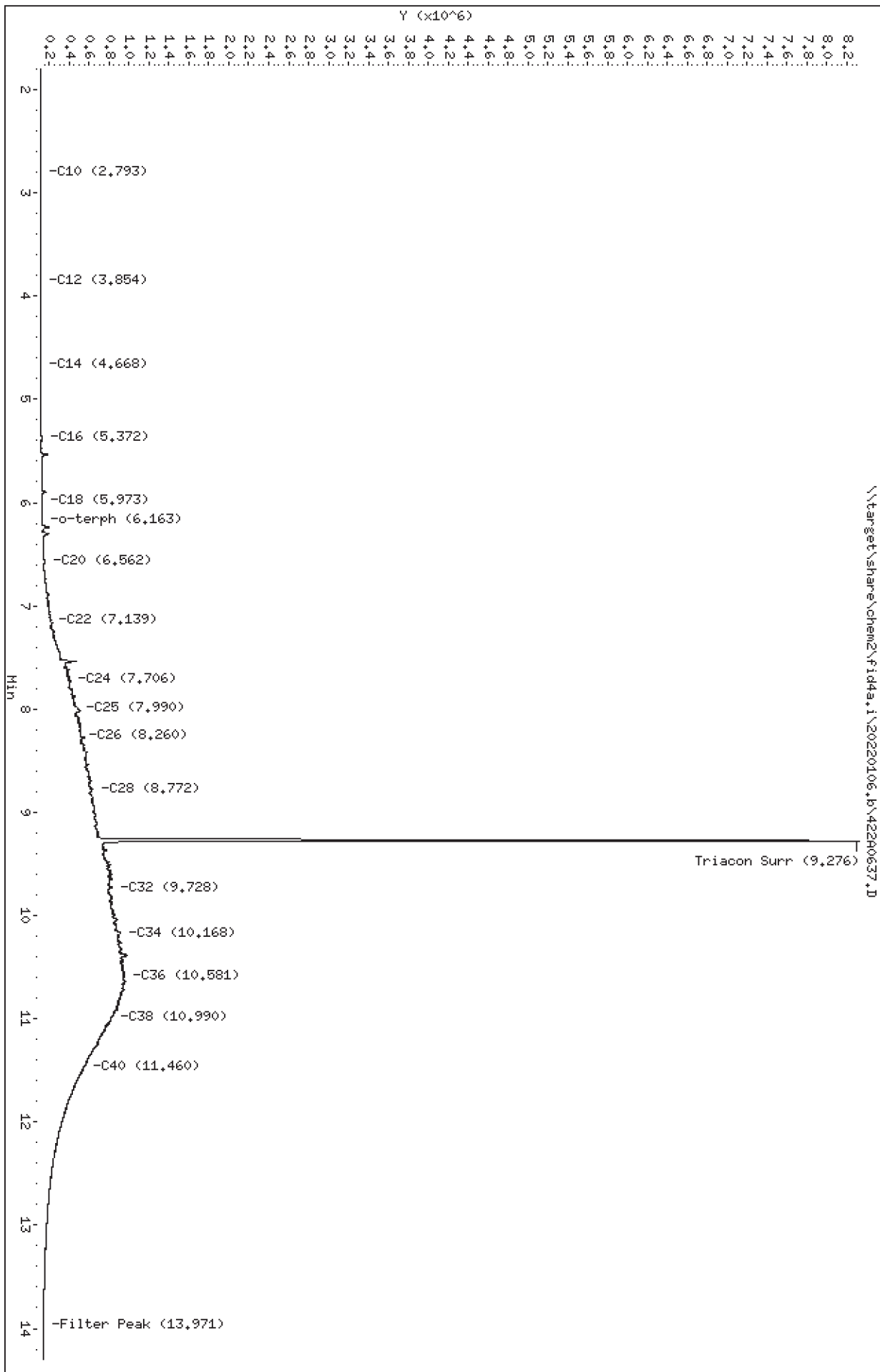
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0637.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALG  
Client ID:  
Injection: 06-JAN-2022 22:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.564	-0.002	10251	8037	WATPHD	(C12-C24)	10669048	73.2
C10	2.793	-0.009	2989	2545	WATPHM	(C24-C38)	118912028	896.9
C12	3.854	-0.004	3129	3369	AK102	(C10-C25)	14106045	81.9
C14	4.668	-0.000	3674	726	AK103	(C25-C36)	96301748	973.6
C16	5.372	0.016	8563	21003	OR.DIES	(C10-C28)	36905977	212.4
C18	5.973	0.001	11679	12084				
C20	6.562	0.002	35663	24640				
C22	7.139	-0.002	103298	79290				
C24	7.706	-0.003	284447	224436				
C25	7.990	0.004	378257	277820				
C26	8.260	0.003	403438	120714				
C28	8.772	-0.004	516982	255803				
C32	9.728	-0.002	718410	459925				
C34	10.168	0.001	803384	239993				
Filter Peak	13.971	-0.002	27761	6898				
C36	10.581	-0.000	834404	331494				
C38	10.990	0.001	714197	317894				
C40	11.460	0.001	440399	153485				
o-terph	6.163	-0.004	14672	10827				
Triacon Surr	9.276	-0.014	7631149	7112816	NAS DIES	(C10-C24)	10776583	62.7

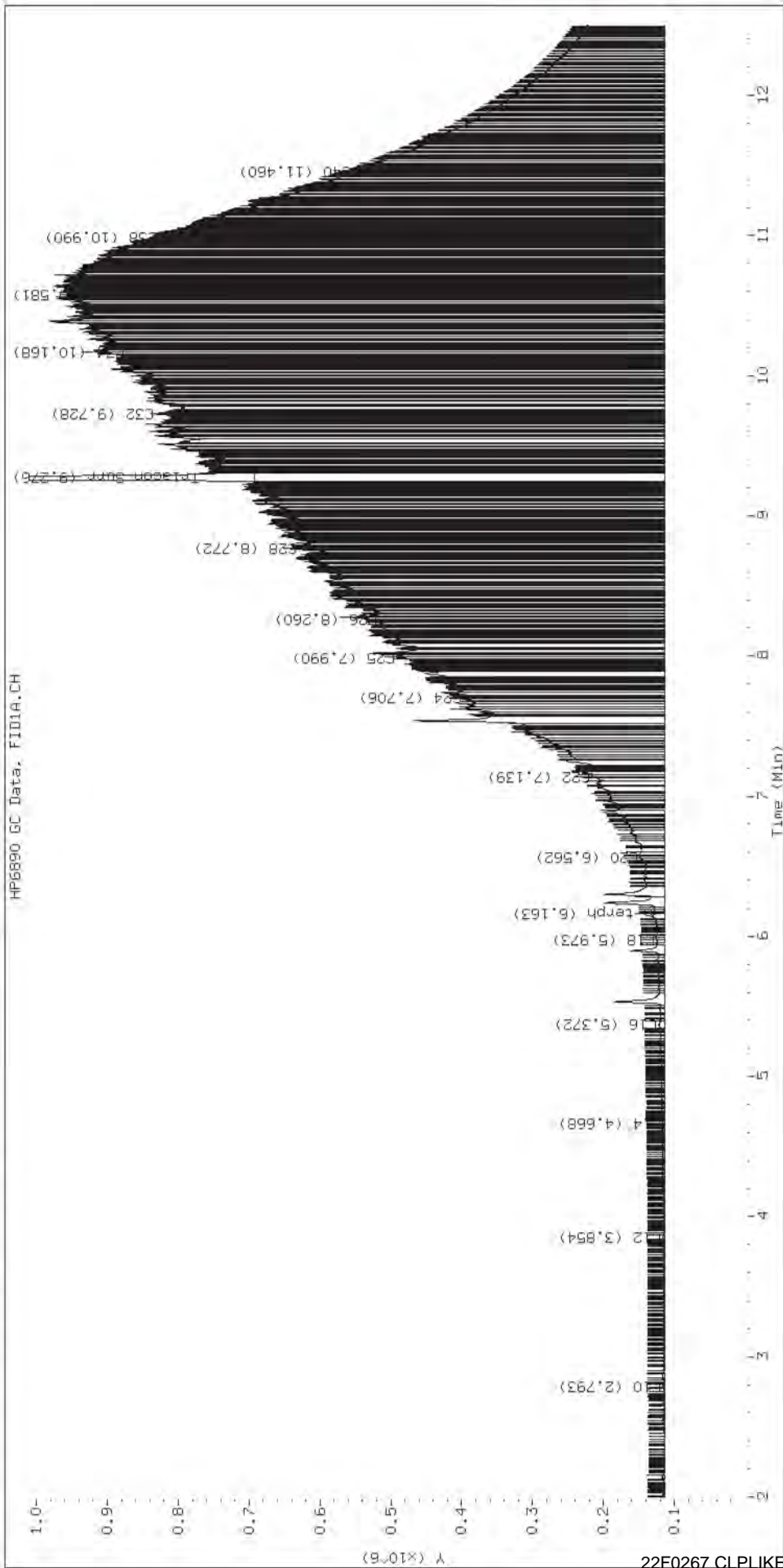
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

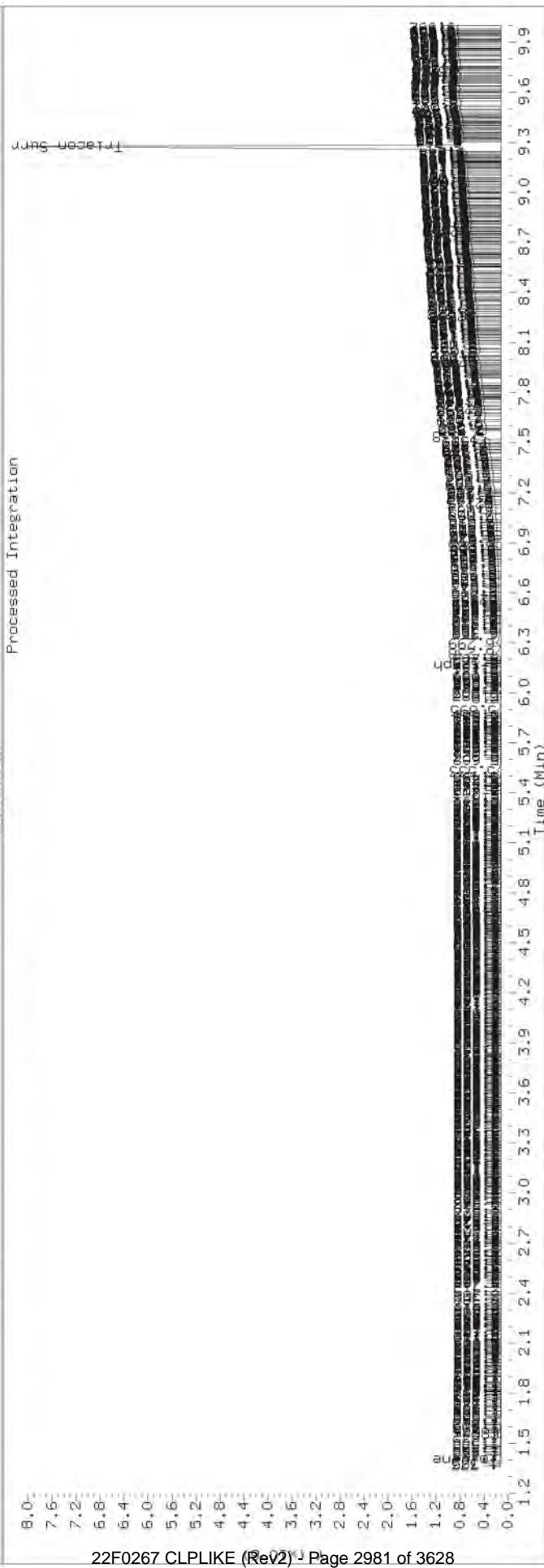
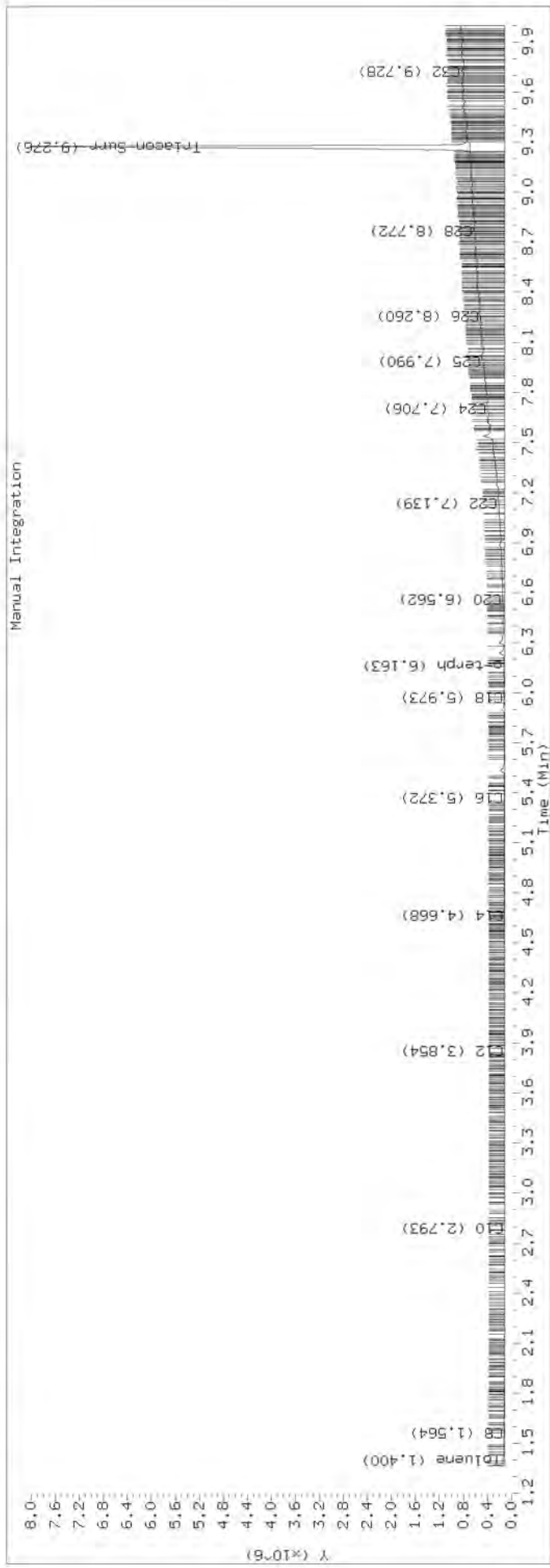
Surrogate	Area	Amount
o-Terphenyl	10827	0.1
Triacontane	7112816	40.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH





Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240638.D

Date: 06-JAN-2022 23:00

Client ID:

Sample Info: SKR0028-CALLH

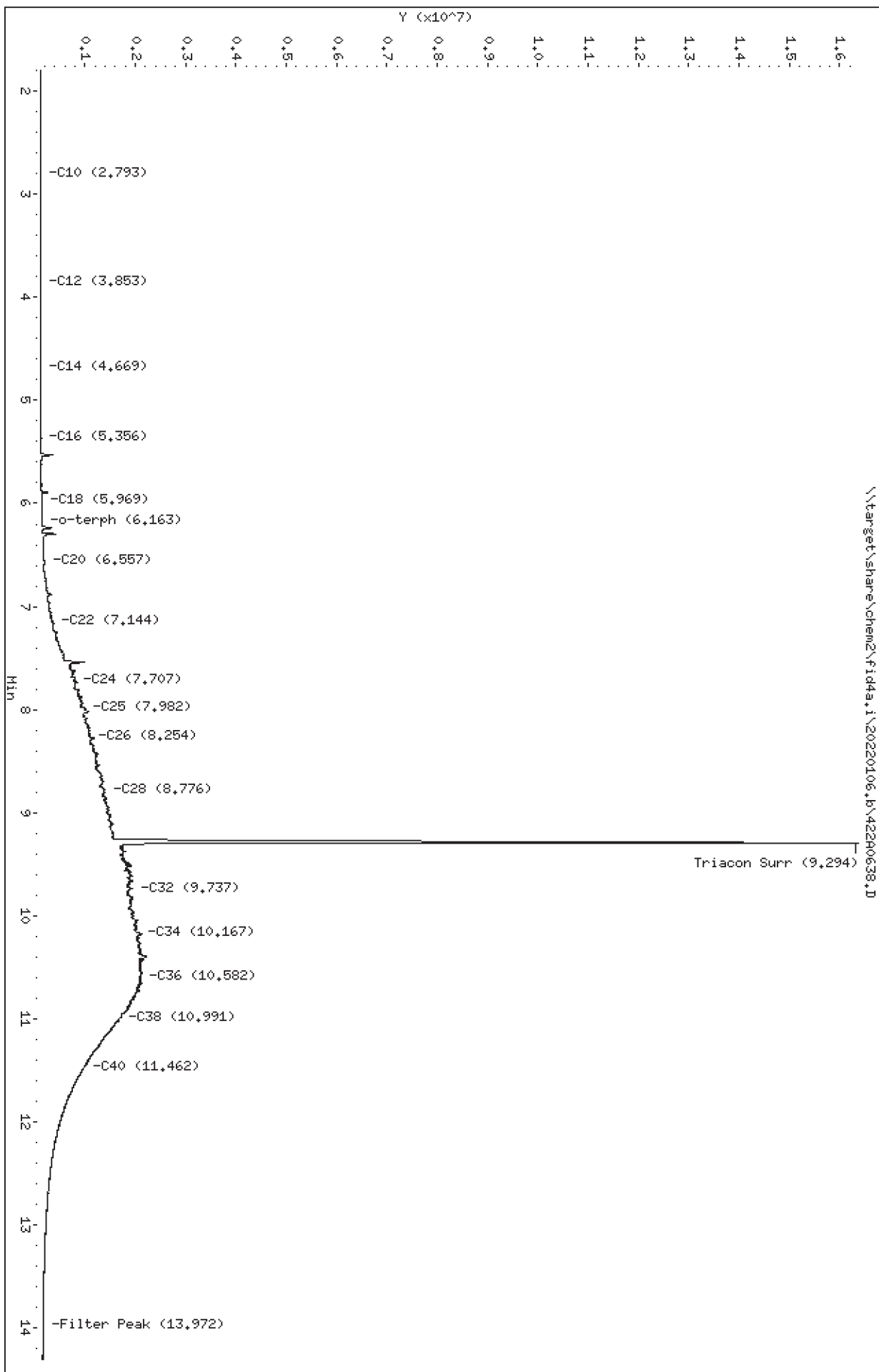
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106\_b\42240638.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0638.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALH  
Client ID:  
Injection: 06-JAN-2022 23:00  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.550	-0.016	15003	25686	WATPHD	(C12-C24)	24361681	167.1
C10	2.793	-0.008	5806	4253	WATPHM	(C24-C38)	289674025	2184.9
C12	3.853	-0.006	4910	5292	AK102	(C10-C25)	32275990	187.4
C14	4.669	0.001	5973	2906	AK103	(C25-C36)	237850338	2404.7
C16	5.356	-0.001	13540	11261	OR.DIES	(C10-C28)	87712919	504.8
C18	5.969	-0.003	19481	20038				
C20	6.557	-0.003	74936	126475				
C22	7.144	0.003	236942	186098				
C24	7.707	-0.002	677766	469515				
C25	7.982	-0.005	863746	542351				
C26	8.254	-0.003	976816	340522				
C28	8.776	0.000	1285059	822854				
C32	9.737	0.008	1833990	3204593				
C34	10.167	-0.001	1975729	1066182				
Filter Peak	13.972	-0.001	47695	14242				
C36	10.582	0.001	1998401	1188859				
C38	10.991	0.002	1575341	1017575				
C40	11.462	0.002	881216	482236				
o-terph	6.163	-0.004	24484	15319				
Triacon Surr	9.294	0.004	14822727	18477737	NAS DIES	(C10-C24)	24461975	142.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

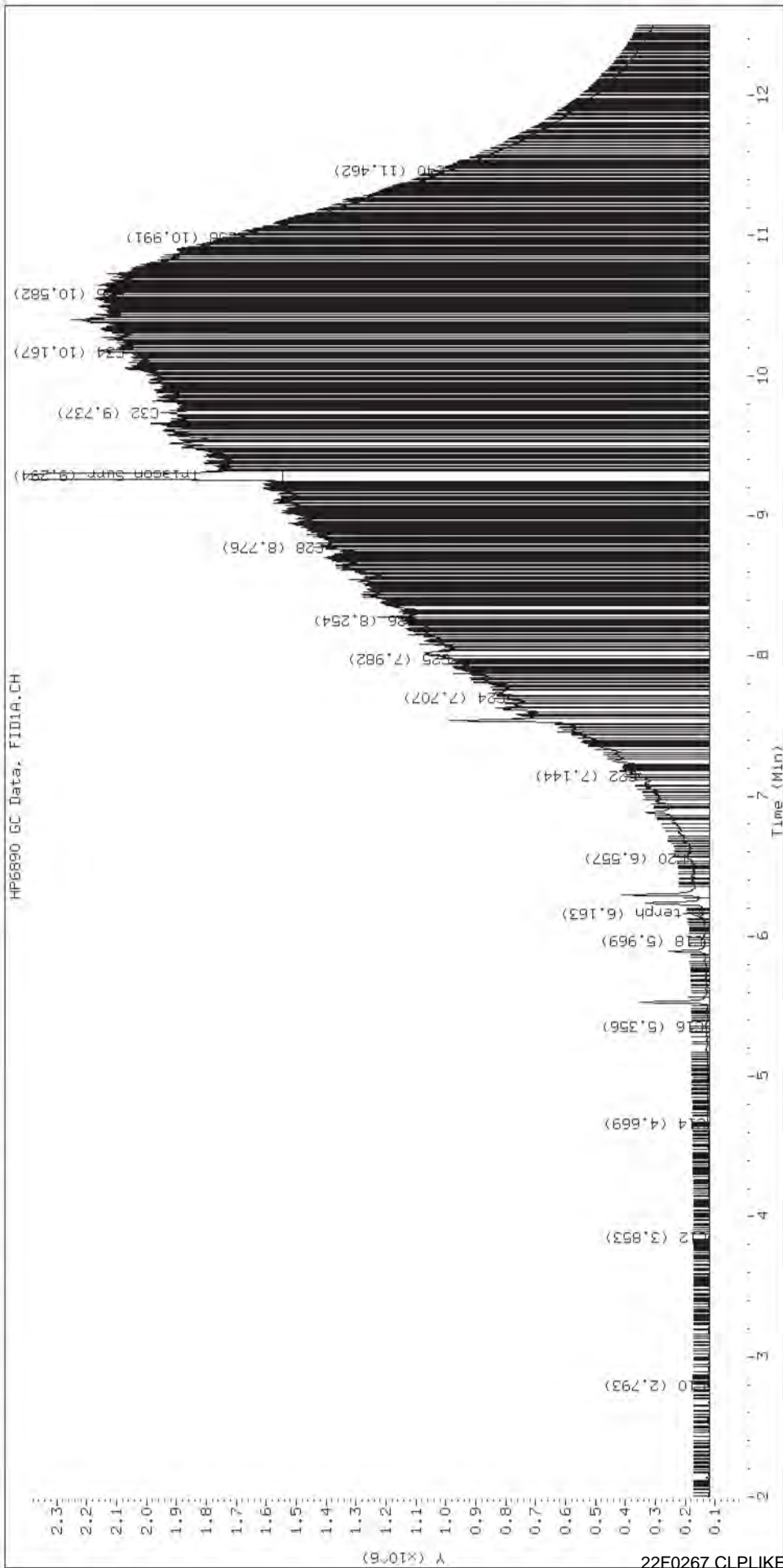
Surrogate	Area	Amount
o-Terphenyl	15319	0.1
Triacontane	18477737	106.1 M

M Indicates the peak was manually integrated

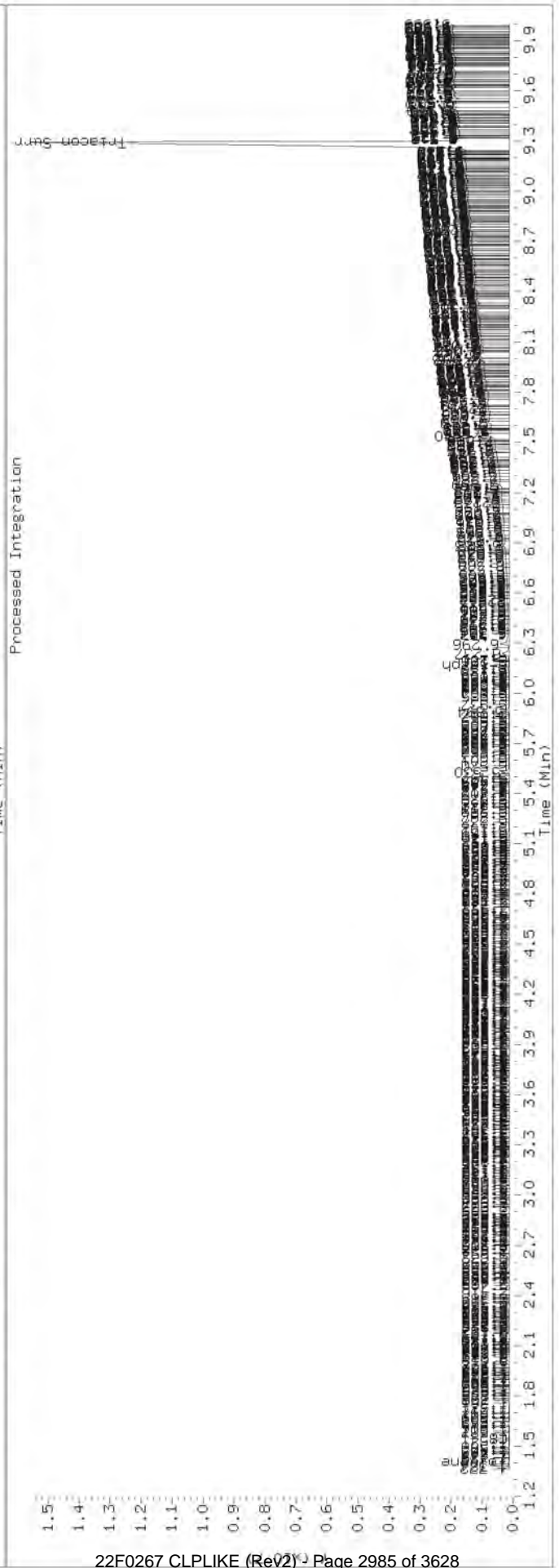
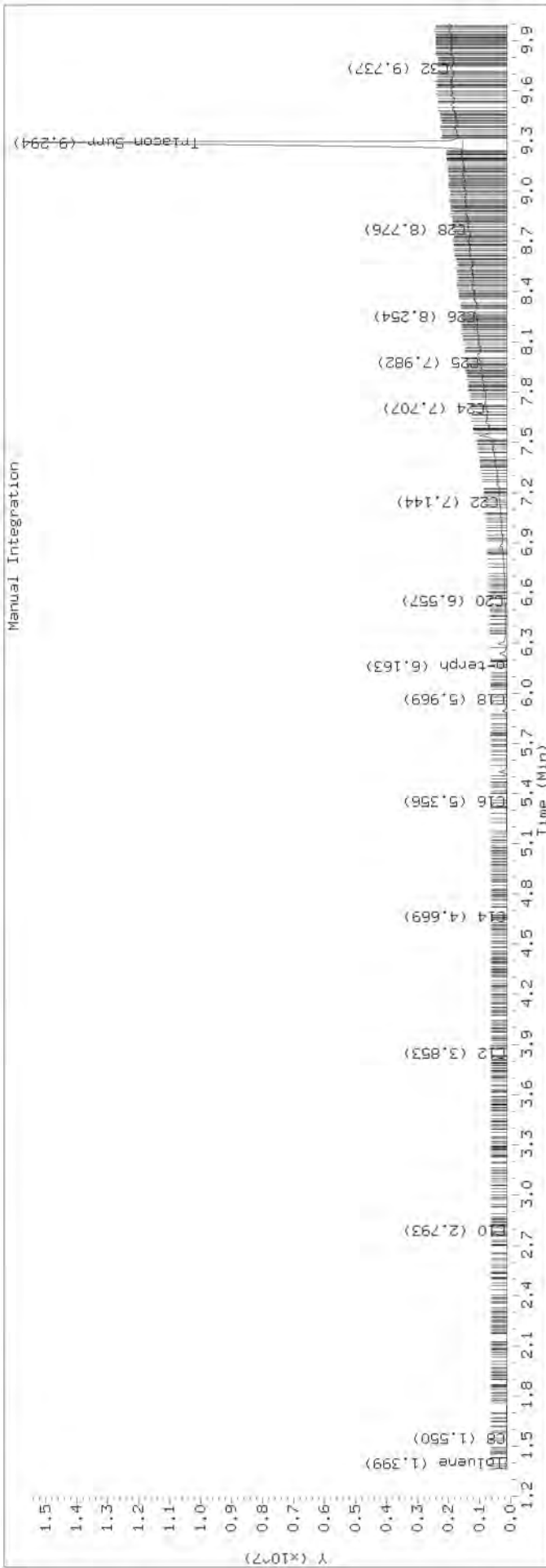
Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022



HP6890 GC Data, FID1A.CH







Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240639.D

Date: 06-JAN-2022 23:20

Client ID:

Sample Info: SKR0028-CALI

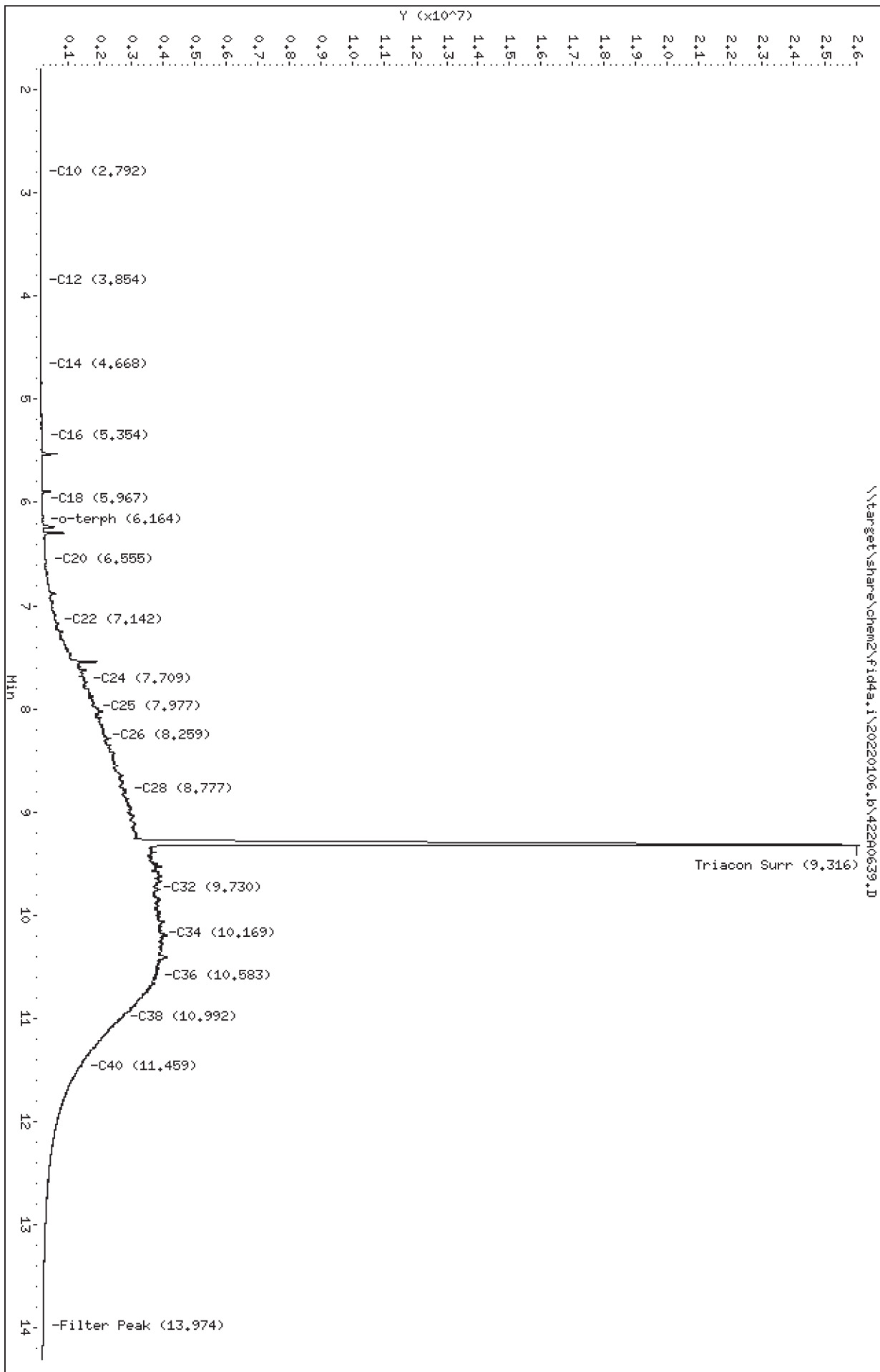
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

\\target\share\chem2\fid4a,1\20220106\_b\42240639.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0639.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-CALI  
Client ID:  
Injection: 06-JAN-2022 23:20  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	11725	6933	WATPHD	(C12-C24)	51665018	354.5
C10	2.792	-0.009	11749	9511	WATPHM	(C24-C38)	580345070	4377.3
C12	3.854	-0.005	12714	17010	AK102	(C10-C25)	67592612	392.4
C14	4.668	-0.000	16107	18663	AK103	(C25-C36)	492594942	4980.3
C16	5.354	-0.003	36148	36162	OR.DIES	(C10-C28)	183451140	1055.7
C18	5.967	-0.005	54500	58780				
C20	6.555	-0.004	168086	345395				
C22	7.142	0.001	496825	426514				
C24	7.709	-0.000	1380379	821529				
C25	7.977	-0.009	1684832	419304				
C26	8.259	0.002	2021095	604905				
C28	8.777	0.001	2684125	1195563				
C32	9.730	0.001	3627512	1086662				
C34	10.169	0.001	3804924	1327718				
Filter Peak	13.974	0.001	71473	21315				
C36	10.583	0.001	3665808	1277336				
C38	10.992	0.003	2584308	1280144				
C40	11.459	-0.000	1288075	1197871				
o-terph	6.164	-0.003	64420	50439				
Triacon Surr	9.316	0.026	22993117	39002952	NAS DIES	(C10-C24)	51959316	302.5

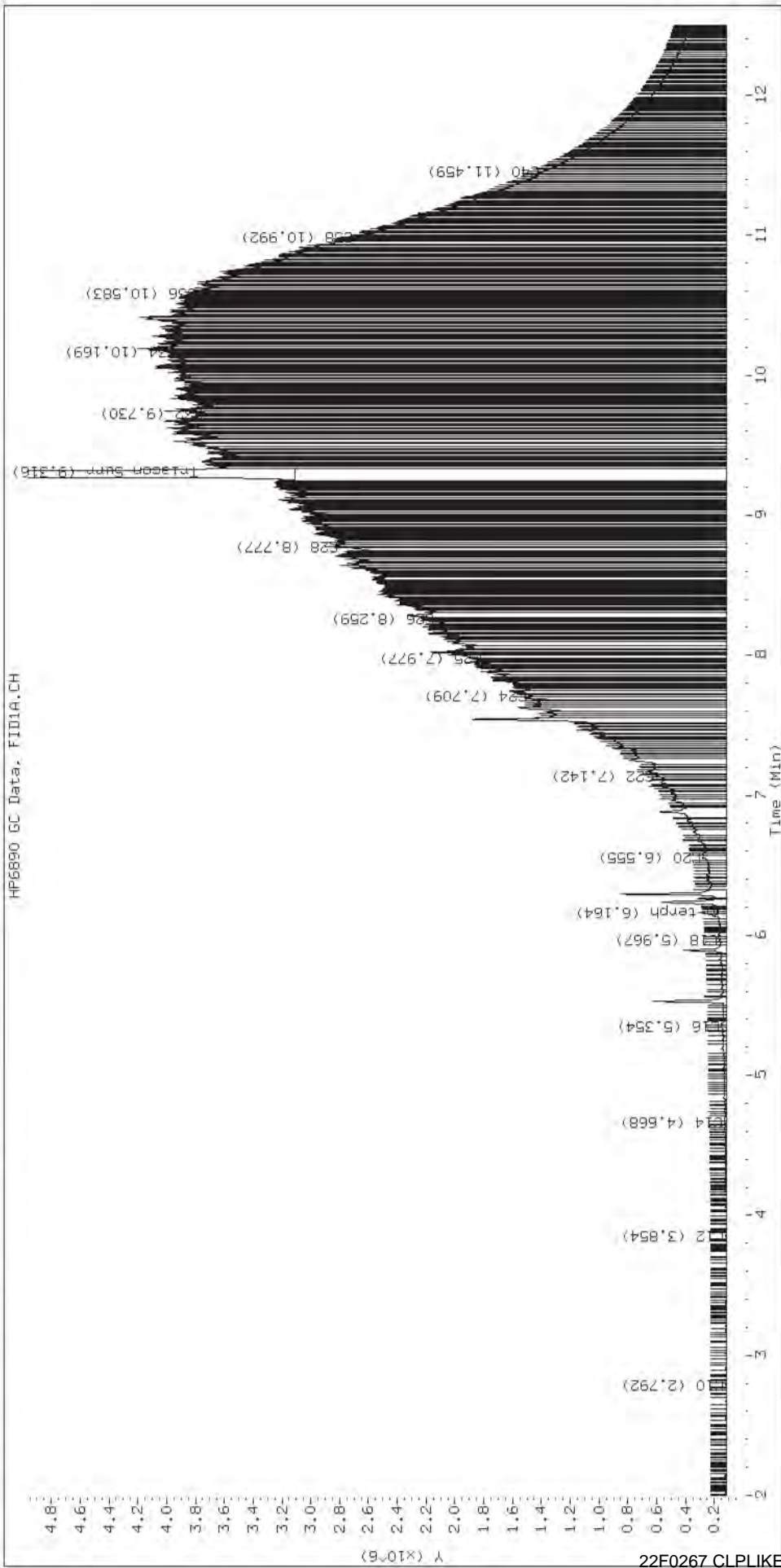
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	50439	0.3
Triacontane	39002952	223.9 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

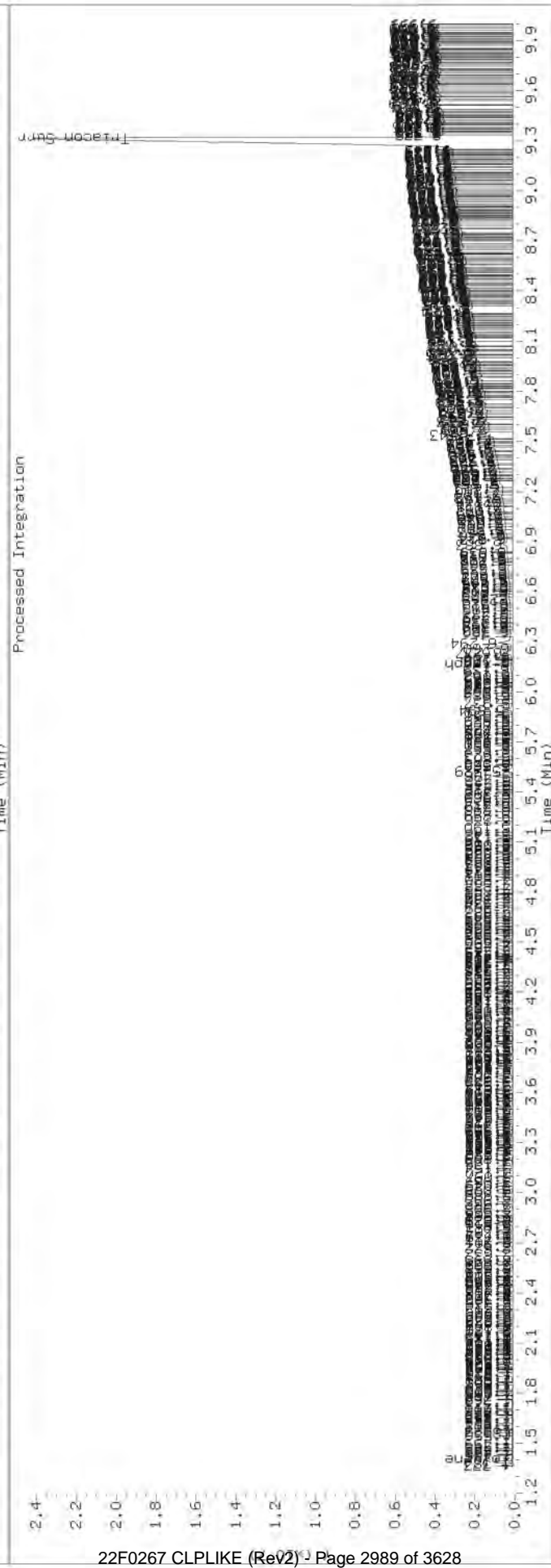
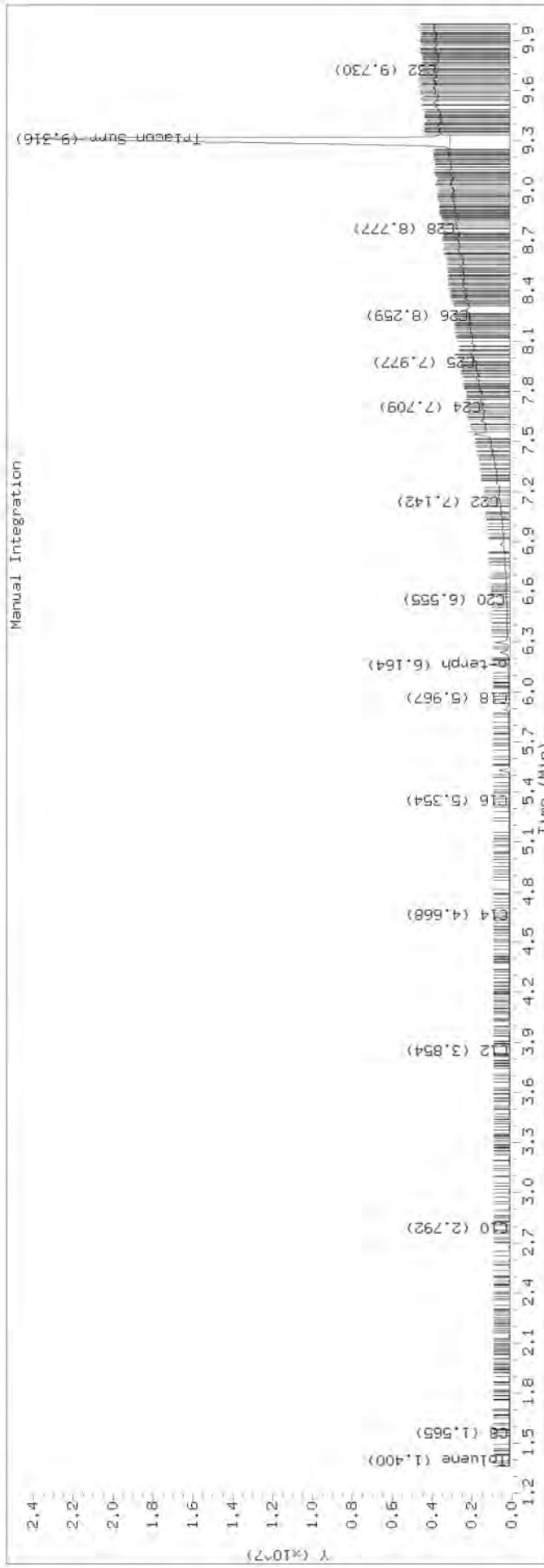
HP6890 GC Data, FID1A.CH



TPH Manual Integrations Report

Datafile: FID4A, 20220106.b/422A0639.D Injection: 06-JAN-2022 23:20

Lab ID: SKA0028-CALI



Data File: \\target\share\chem2\fid4a,1\20220106,b\42240640.D

Date: 06-JAN-2022 23:40

Client ID:

Sample Info: SKR0028-SCV3

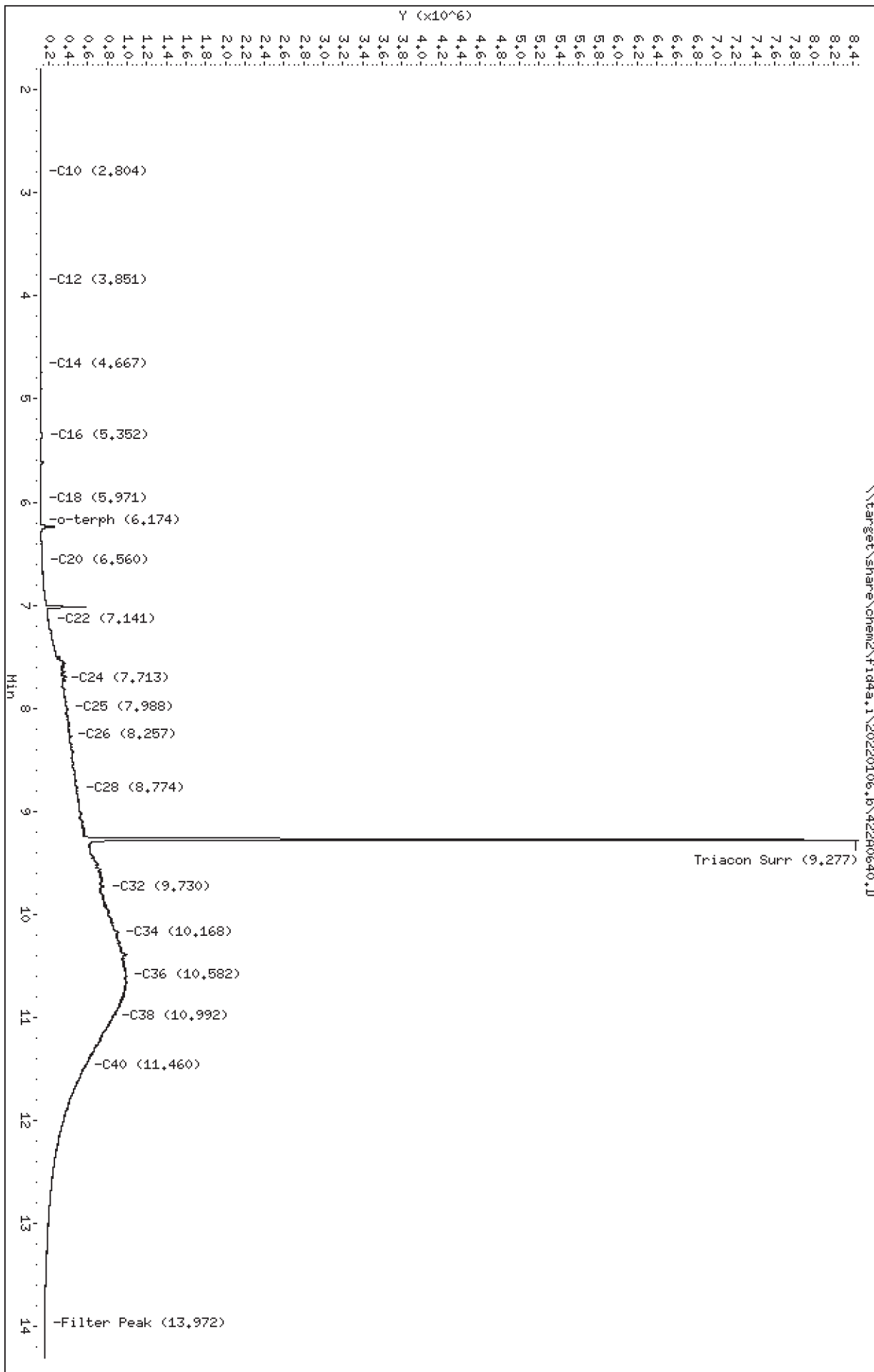
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0640.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV3  
Client ID:  
Injection: 06-JAN-2022 23:40  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.565	-0.001	10365	9390	WATPHD	(C12-C24)	8234302	56.5
C10	2.804	0.003	643	178	WATPHM	(C24-C38)	105151101	793.1
C12	3.851	-0.008	703	353	AK102	(C10-C25)	10715206	62.2
C14	4.667	-0.001	2250	441	AK103	(C25-C36)	83158236	840.8
C16	5.352	-0.005	13074	30853	OR.DIES	(C10-C28)	27148572	156.2
C18	5.971	-0.001	2056	1103				
C20	6.560	0.000	19188	37853				
C22	7.141	-0.001	79210	165645				
C24	7.713	0.004	220193	54885				
C25	7.988	0.002	269226	184162				
C26	8.257	-0.001	291878	87241				
C28	8.774	-0.001	375908	167319				
C32	9.730	0.000	638880	408276				
C34	10.168	0.001	789241	274861				
Filter Peak	13.972	-0.001	40486	34016				
C36	10.582	0.000	869081	432796				
C38	10.992	0.003	735926	146906				
C40	11.460	0.000	461343	320017				
o-terph	6.174	0.007	2337	668				
Triacon Surr	9.277	-0.013	7897642	7651039	NAS DIES	(C10-C24)	8285201	48.2

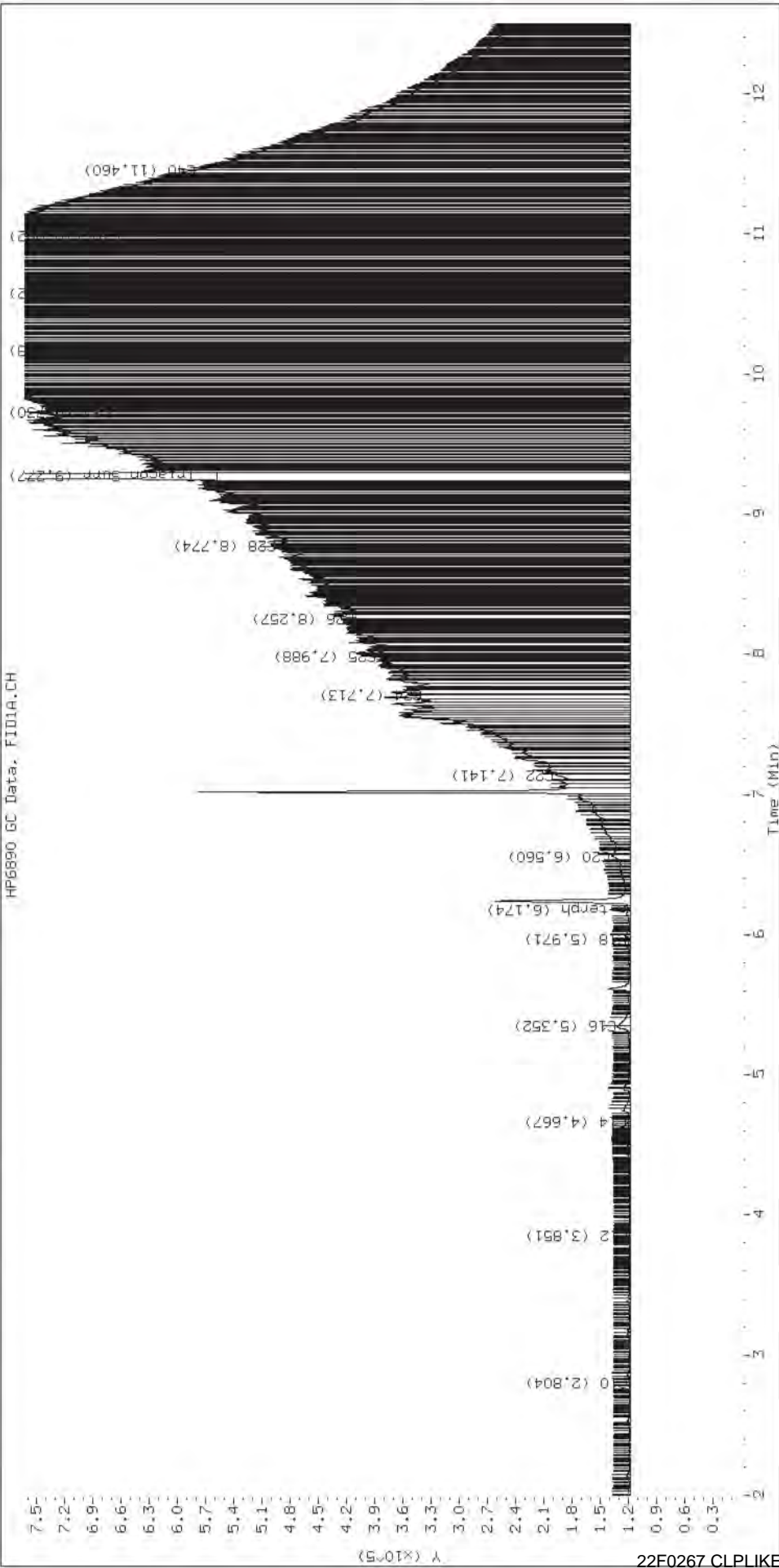
Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	668	0.0
Triacontane	7651039	43.9 M

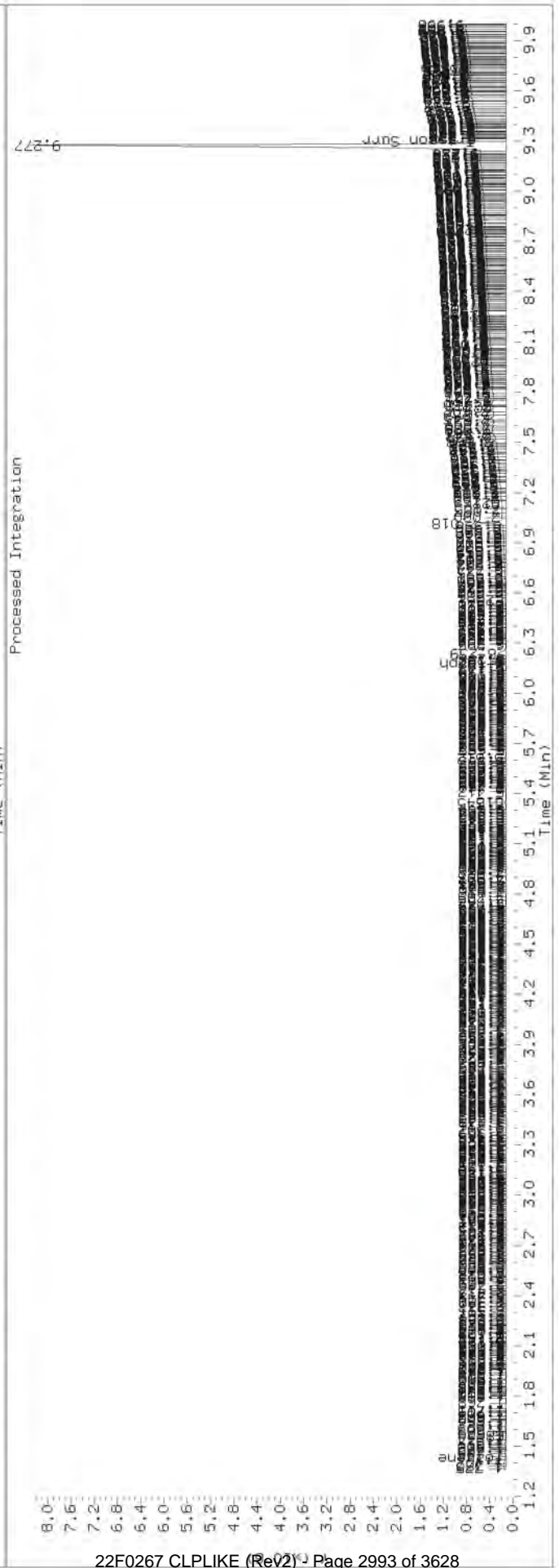
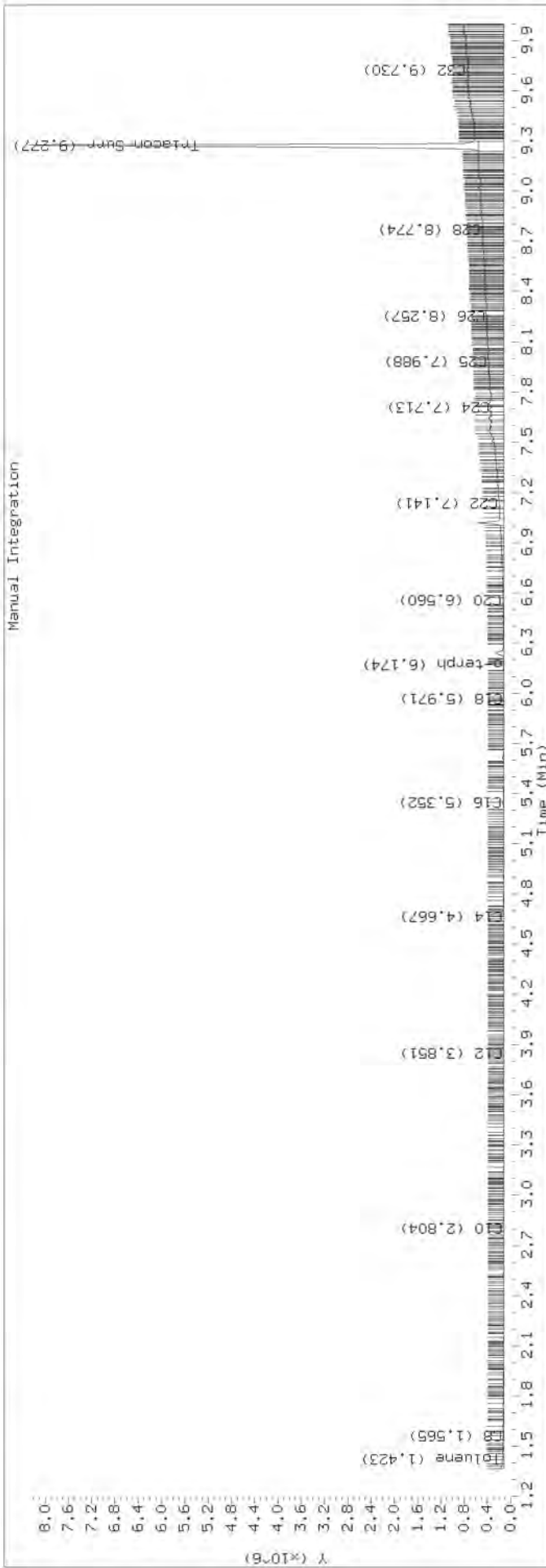
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022

HP6890 GC Data, FID1A.CH







MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 06--JAN--2022

Time Filename LabID ClientId DF Manually Integrated Compounds

0920	422A0601.D	RINSE		1	NO MANUAL INTEGRATION
0940	422A0602.D	RINSE		1	NO MANUAL INTEGRATION
0959	422A0603.D	SKA0028-IBL1		1	Toluene,
1019	422A0604.D	SKA0028-IBL2		1	NO MANUAL INTEGRATION
1039	422A0605.D	SKA0028-ICV1		1	o-terph,
1059	422A0606.D	SKA0028-ICV2		1	Triacon Surr,
1119	422A0607.D	BKA0056-BLKI		1	NO MANUAL INTEGRATION
1138	422A0608.D	BKA0056-BS1		1	o-terph,
1158	422A0609.D	BKA0056-MRL1		1	o-terph, Triacon Surr,
1218	422A0610.D	BKA0056-MRL2		1	o-terph, Triacon Surr,
1238	422A0611.D	22A0041-01		1	o-terph,
1258	422A0612.D	22A0041-01		10	Triacon Surr,
1317	422A0613.D	22A0041-02		10	NO MANUAL INTEGRATION
1337	422A0614.D	22A0041-01		20	o-terph, Triacon Surr,
1357	422A0615.D	22A0041-02		20	o-terph, Triacon Surr,
1377	422A0616.D	22A0041-03		20	o-terph, Triacon Surr,
1397	422A0617.D	22A0041-04		20	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1456	422A0618.D	SKA0028-CCV1	1	o-terph,	
1516	422A0619.D	SKA0028-CCV2	1	NO MANUAL INTEGRATION	
1704	422A0620.D	SKA0028-CAL1	1	o-terph,	
1724	422A0621.D	SKA0028-CAL2	1	o-terph,	
1744	422A0622.D	SKA0028-CAL3	1	o-terph,	
1804	422A0623.D	SKA0028-CAL4	1	o-terph,	
1823	422A0624.D	SKA0028-CAL5	1	o-terph,	
1843	422A0625.D	SKA0028-CAL6	1	o-terph,	
1903	422A0626.D	SKA0028-CAL7	1	Triacon Surr,	
1923	422A0627.D	SKA0028-CAL8	1	Triacon Surr,	
1943	422A0628.D	SKA0028-CAL9	1	Triacon Surr,	
2002	422A0629.D	SKA0028-CALA	1	Triacon Surr,	
2022	422A0630.D	SKA0028-CALB	1	Triacon Surr,	
2042	422A0631.D	SKA0028-CALC	1	Triacon Surr,	
2062	422A0632.D	SKA0028-SCV1	1	NO MANUAL INTEGRATION	
2082	422A0633.D	SKA0028-SCV2	1	NO MANUAL INTEGRATION	
2102	422A0634.D	SKA0028-CALD	1	Triacon Surr,	
2122	422A0635.D	SKA0028-CALE	1	Triacon Surr,	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2221	422A0636.D	SKA0028-CALF	1	1	Triacon Surr,
2240	422A0637.D	SKA0028-CALG	1	1	Triacon Surr,
2300	422A0638.D	SKA0028-CALH	1	1	Triacon Surr,
2320	422A0639.D	SKA0028-CALI	1	1	Triacon Surr,
2340	422A0640.D	SKA0028-SCV3	1	1	Triacon Surr,

Security Status Report

Date: 07-Jan-2022 18:09

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422A0605.D	Data Locked	tokala,	07-Jan-2022	17:54
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422A0628.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0629.D	Data Locked	tokala,	07-Jan-2022	17:54
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ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

Motor Oil RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0626 422A0627 422A0628 422A0629 422A0630 422A0631
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 19:03 19:23 19:43 20:02 20:22 20:42

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220106.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220106.b  
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.260	9.263	9.269	9.277	9.296	9.319	9.290	9.240-9.340	9.281	0.022
16 C32	9.725	9.726	9.731	9.731	9.731	9.734	9.730	9.680-9.780	9.730	0.004
17 C34	10.169	10.164	10.171	10.167	10.171	10.170	10.167	10.117-10.217	10.169	0.003
18 Filter Peak	13.974	13.970	13.970	13.976	13.973	13.976	13.973	13.873-14.073	13.973	0.002
19 C36	10.580	10.578	10.577	10.587	10.580	10.579	10.581	10.531-10.631	10.580	0.004
20 C38	10.985	10.990	10.987	10.988	10.995	10.994	10.989	10.939-11.039	10.990	0.004
21 C40	11.462	11.459	11.459	11.461	11.461	11.457	11.460	11.410-11.510	11.460	0.002
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\20220106.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220106.b
Inst ID: fid4a.i

AK103 RT Study

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 422A0634 422A0635 422A0636 422A0637 422A0638 422A0639
INJ. DATE: 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022 06-JAN-2022
INJ. TIME: 21:41 22:01 22:21 22:40 23:00 23:20

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_



ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

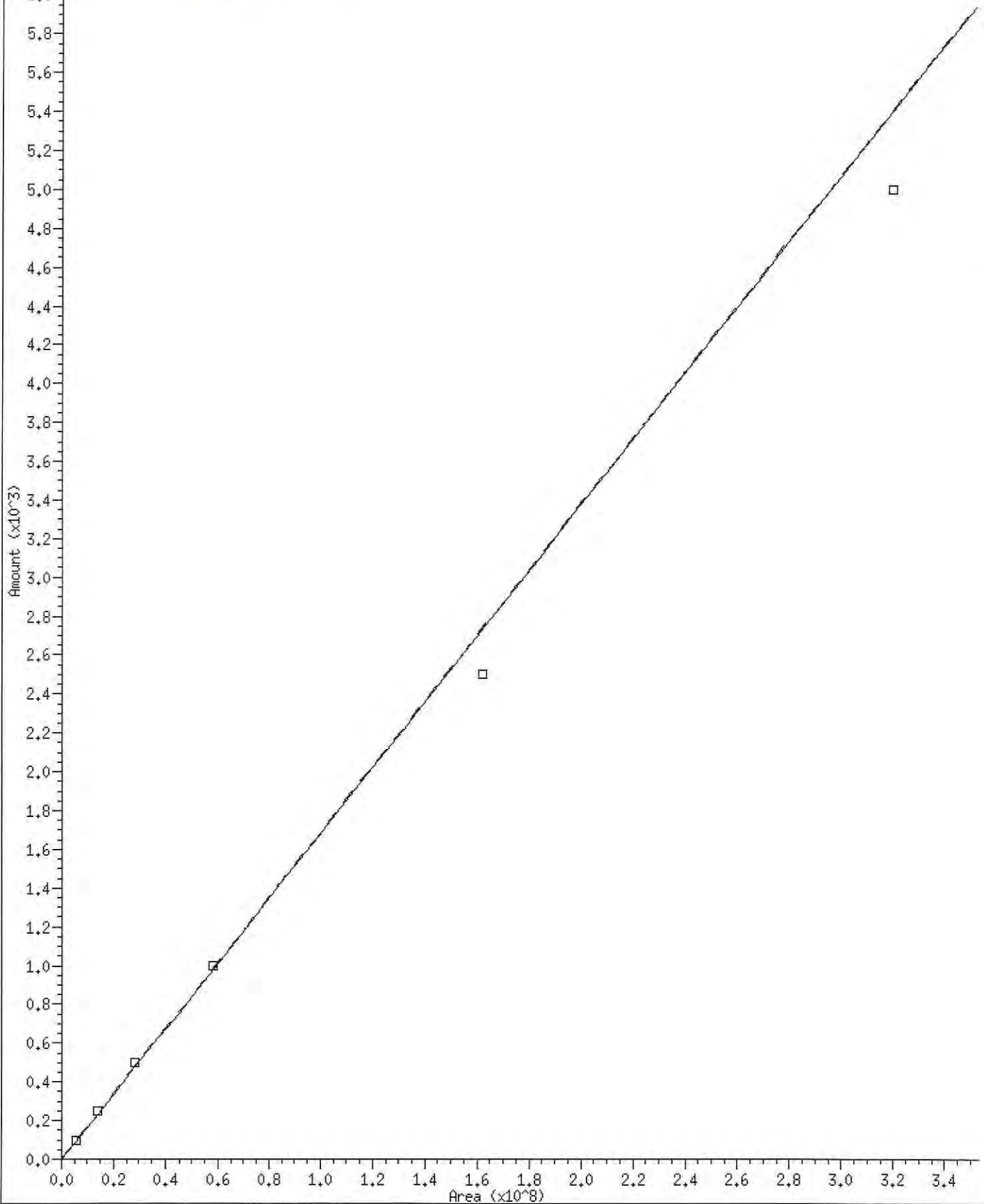
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 Batch File: \\target\share\chem2\fid4a.i\20220106.b  
 Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT1	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.262	9.264	9.268	9.276	9.294	9.316	9.290	9.240-9.340	9.280	0.021
16 C32	9.727	9.733	9.727	9.728	9.737	9.730	9.730	9.680-9.780	9.730	0.004
17 C34	10.166	10.167	10.168	10.168	10.167	10.169	10.167	10.117-10.217	10.168	0.001
18 Filter Peak	13.971	13.973	13.971	13.971	13.972	13.974	13.973	13.873-14.073	13.972	0.001
19 C36	10.585	10.578	10.583	10.581	10.582	10.583	10.581	10.531-10.631	10.582	0.002
20 C38	10.986	10.983	10.988	10.990	10.991	10.992	10.989	10.939-11.039	10.988	0.003
21 C40	11.466	11.462	11.463	11.460	11.462	11.459	11.460	11.410-11.510	11.462	0.002
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	+++++	+++++

A/S 32 Bunker C

Curve Type: Averaged By-Response  
Amt = Rsp/59438.63  
%RSD: 6.872

FA 000 54











**INITIAL CALIBRATION DATA**  
**NWTPH-Dx**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	FF00020	Instrument:	FID3
Calibration Date:	06/07/2022	Column (1):	RTX-1

<b>COMPOUND</b>	<b>Mean RF</b>	<b>RF RSD</b>	<b>Linear COD</b>	<b>Quad COD</b>	<b>Limit Type &amp; Limit</b>	<b>Q</b>
Diesel Range Organics (C12-C24)	172426.7	2.8			RSD (20)	
Motor Oil Range Organics (C24-C38)	124145.6	14.0			RSD (20)	
o-Terphenyl	240679.3	2.6			RSD (20)	



**SECOND-SOURCE CALIBRATION VERIFICATION**  
**NWTPH-Dx**

**Laboratory:** Analytical Resources, LLC

**SDG:** 22F0267

**Client:** GeoEngineers

**Project:** RG Haley Site-Bellingham

**Calibration:** FA00013

**Laboratory ID:** SKA0028-SCV1

**Sequence:** SKA0028

**Sequence Name:** DIESEL SCV

**Standard ID:** J009677

<b>ANALYTE</b>	<b>EXPECTED (mg/L)</b>	<b>FOUND (mg/L)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
Diesel Range Organics (C12-C24)	500.00	561	12.3	30.00

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220106\_b\42240632.D

Date: 06-JAN-2022 21:02

Client ID:

Sample Info: SKR0028-SCW1

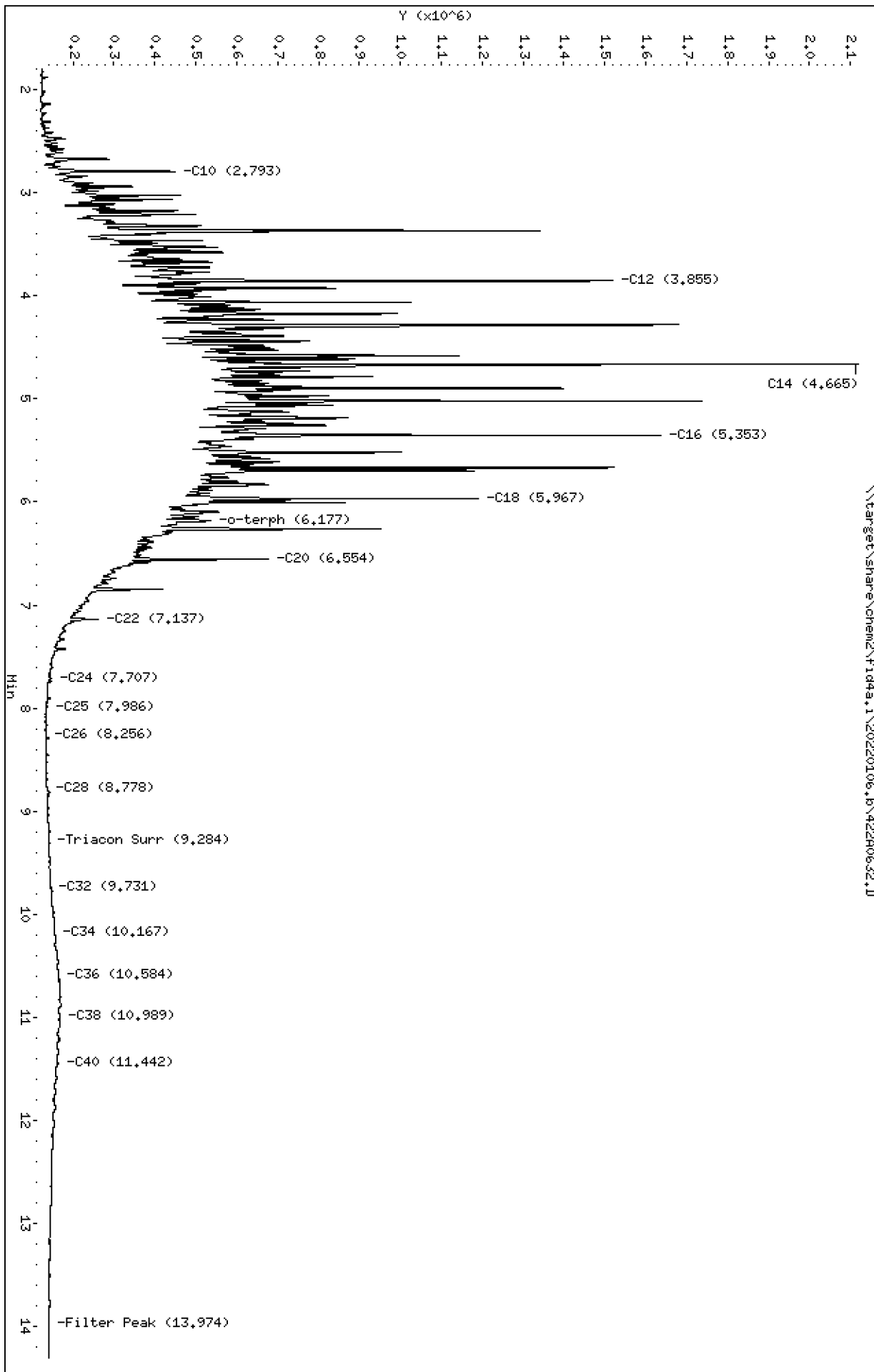
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0632.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 01/07/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-DEC-2022 M.Oil:06-DEC-2022

ARI ID: SKA0028-SCV1  
Client ID:  
Injection: 06-JAN-2022 21:02  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

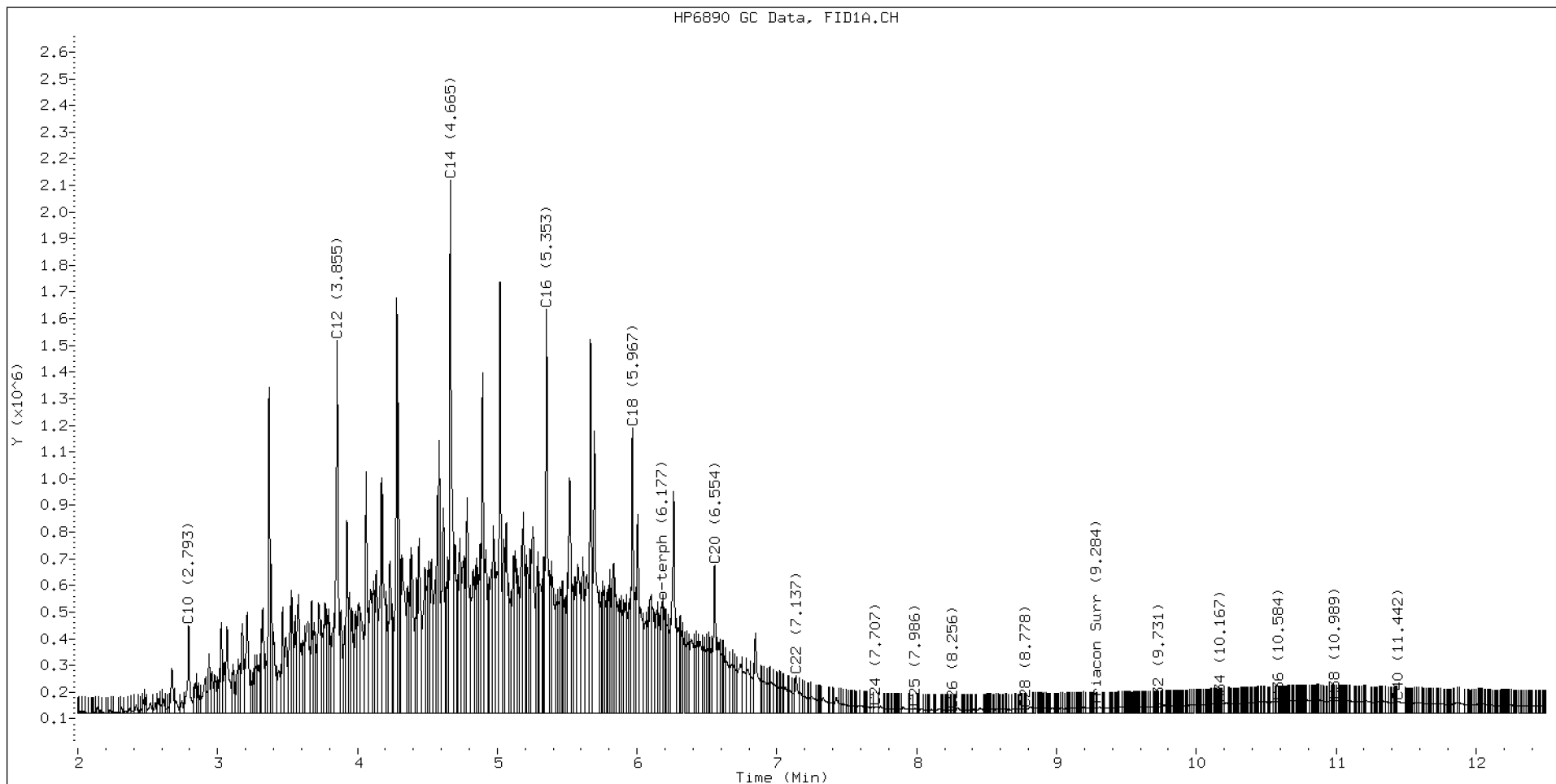
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.554	-0.012	13447	19907	WATPHD	(C12-C24)	81818326	561.4
C10	2.793	-0.008	328700	402623	WATPHM	(C24-C38)	4903930	37.0
C12	3.855	-0.003	1398359	1541786	AK102	(C10-C25)	98237239	570.4
C14	4.665	-0.003	1998212	2275704	AK103	(C25-C36)	3617447	36.6
C16	5.353	-0.003	1514409	1842028	OR.DIES	(C10-C28)	98957633	569.5
C18	5.967	-0.005	1069816	1029152				
C20	6.554	-0.005	555197	666071				
C22	7.137	-0.004	141564	207118				
C24	7.707	-0.002	25196	52303				
C25	7.986	-0.000	18136	25237				
C26	8.256	-0.001	12963	11391				
C28	8.778	0.002	15805	6221				
C32	9.731	0.002	24227	8392				
C34	10.167	-0.000	33488	11671				
Filter Peak	13.974	0.001	19683	11641				
C36	10.584	0.003	44128	15372				
C38	10.989	0.001	46492	34691				
C40	11.442	-0.018	43094	144180				
o-terph	6.177	0.010	416300	426651				
Triacon Surr	9.284	-0.006	19261	10418	NAS DIES	(C10-C24)	98063156	571.0

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	426651	2.2
Triacontane	10418	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-DEC-2022
Motor Oil	132579.1	06-DEC-2022
AK102	172235.6	06-DEC-2022
AK103	98909.5	06-DEC-2022
OR Diesel	173767.2	06-DEC-2022
NAS Diesel	171749.5	06-DEC-2022





**SECOND-SOURCE CALIBRATION VERIFICATION**  
**NWTPH-Dx**

**Laboratory:** Analytical Resources, LLC

**Client:** GeoEngineers

**Calibration:** FA00013

**Sequence:** SKA0028

**SDG:** 22F0267

**Project:** RG Haley Site-Bellingham

**Laboratory ID:** SKA0028-SCV2

**Sequence Name:** MOIL SCV

**Standard ID:** J012167

<b>ANALYTE</b>	<b>EXPECTED (mg/L)</b>	<b>FOUND (mg/L)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
Motor Oil Range Organics (C24-C38)	1000.0	905	-9.5	30.00

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220106,b\42280633.D

Date: 06-JAN-2022 21:21

Client ID:

Sample Info: SKR0028-SCV2

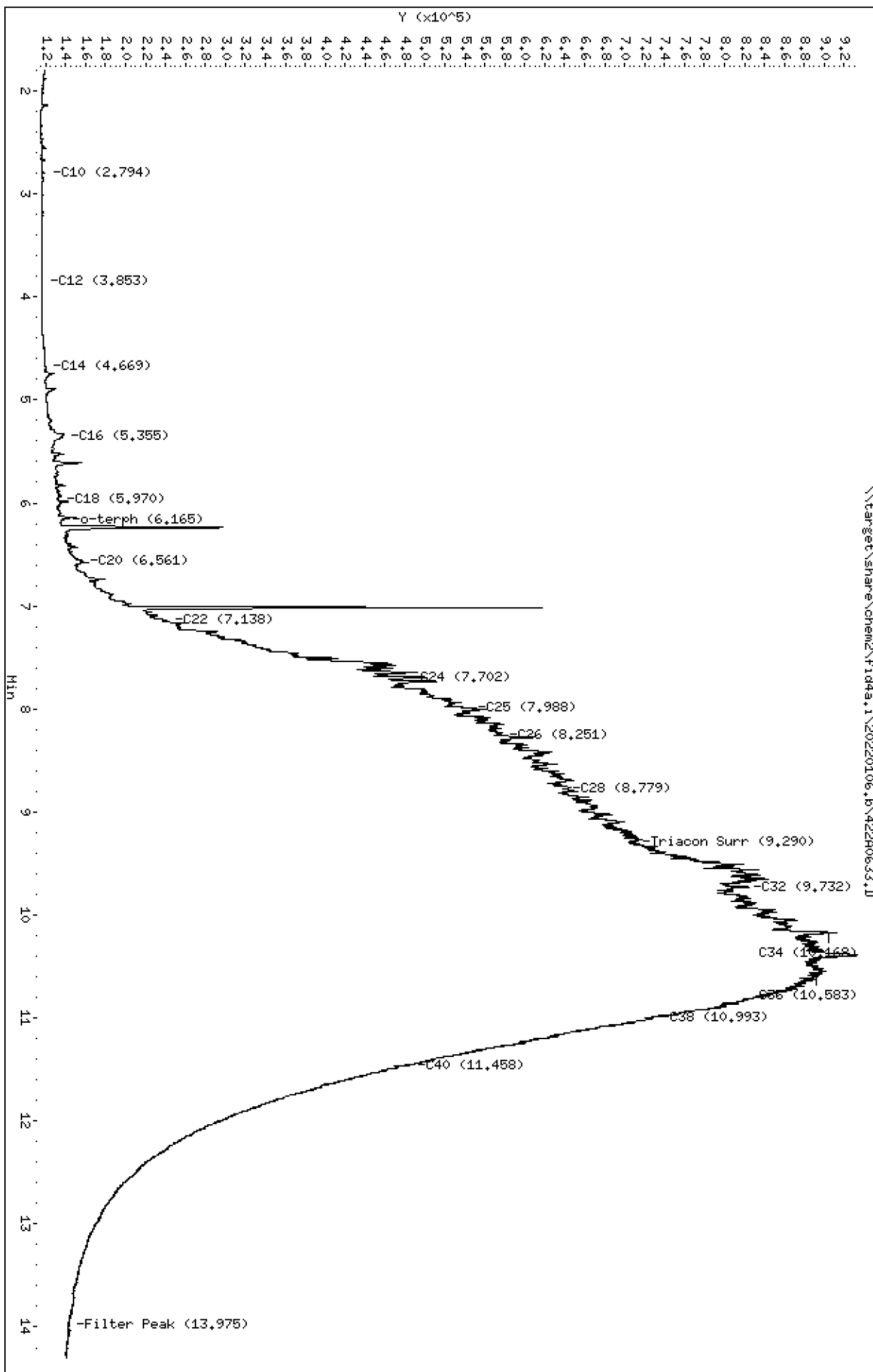
Column phase: RTX-1

Instrument: fid4a,1

Operator: TMC

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220106.b/422A0633.D  
Method: 20220106.b\FID4TPH.m  
Instrument: fid4a.i, TWC  
Report Date: 02/08/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:06-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0028-SCV2  
Client ID:  
Injection: 06-JAN-2022 21:21  
Dilution Factor: 1  
RT Std: 422A0603.D

FID:4A RESULTS

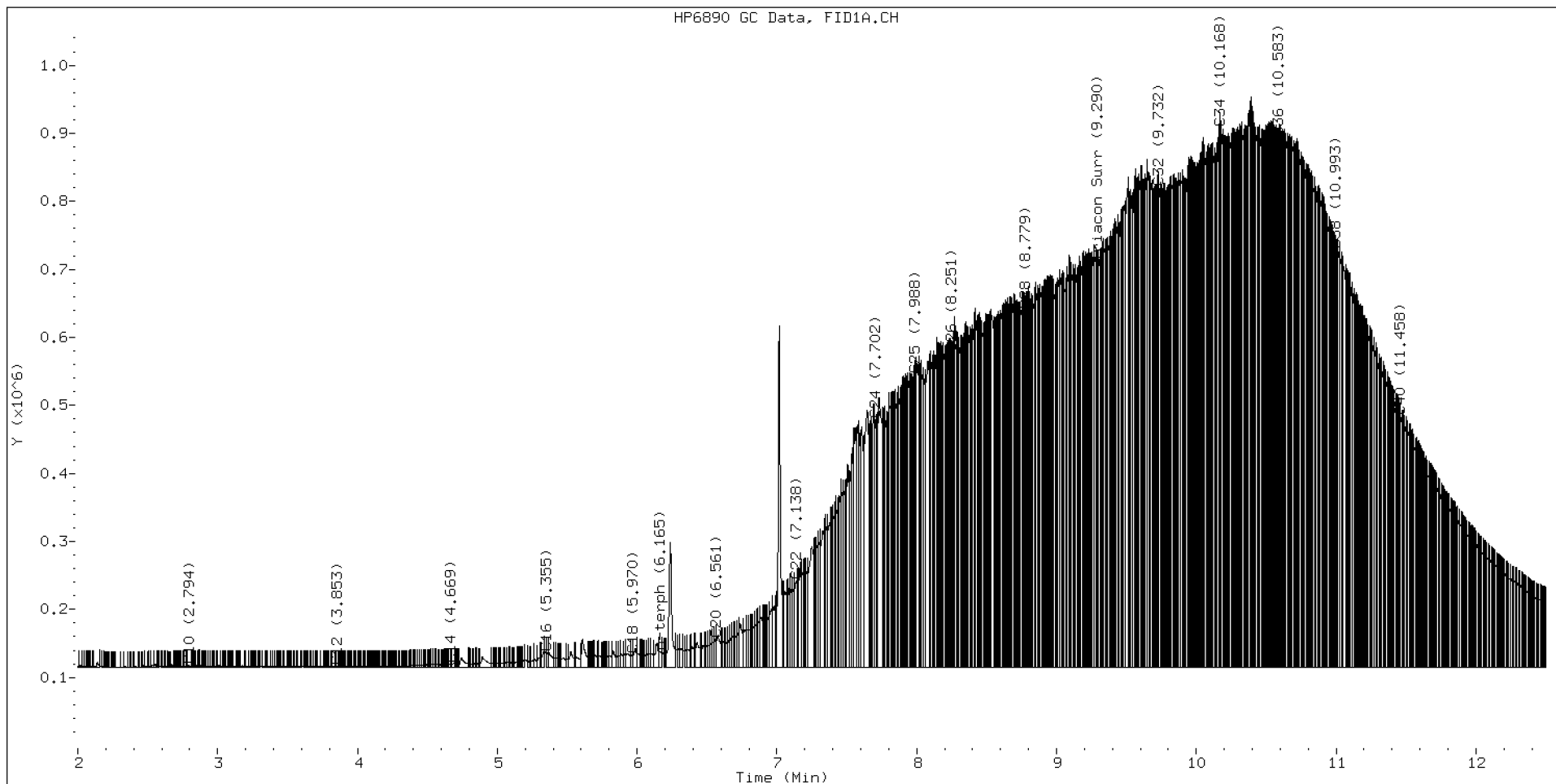
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.571	0.005	9397	3234	WATPHD	(C12-C24)	14056895	96.4
C10	2.794	-0.008	3468	3249	WATPHM	(C24-C38)	119954259	904.8
C12	3.853	-0.006	1998	1502	AK102	(C10-C25)	18142709	105.3
C14	4.669	0.001	4718	2557	AK103	(C25-C36)	98929750	1000.2
C16	5.355	-0.002	21381	13437	OR.DIES	(C10-C28)	43590146	250.9
C18	5.970	-0.003	18024	5393				
C20	6.561	0.002	41385	47221				
C22	7.138	-0.003	126282	164868				
C24	7.702	-0.007	364294	249450				
C25	7.988	0.002	429789	170231				
C26	8.251	-0.006	461561	275289				
C28	8.779	0.003	524231	157049				
C32	9.732	0.002	706043	454955				
C34	10.168	0.001	792309	274623				
Filter Peak	13.975	0.002	27946	6956				
C36	10.583	0.002	779610	310190				
C38	10.993	0.004	614371	153291				
C40	11.458	-0.002	369218	346346				
o-terph	6.165	-0.002	22790	28222				
Triacon Surr	9.290	-0.000	594134	295766	NAS DIES	(C10-C24)	14144817	82.4

Range Times: NW Diesel(3.859 - 7.709) AK102(2.80 - 7.99) Jet A(2.80 - 5.97)  
NW M.Oil(7.71 - 10.99) AK103(7.99 - 10.58) OR Diesel(2.80 - 8.78)

Surrogate	Area	Amount
o-Terphenyl	28222	0.1
Triacontane	295766	1.7

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	192003.9	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	145750.5	06-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	172235.6	06-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	173767.2	06-JAN-2022
NAS Diesel	171749.5	06-JAN-2022





**SECOND-SOURCE CALIBRATION VERIFICATION**  
**NWTPH-Dx**

**Laboratory:** Analytical Resources, LLC

**SDG:** 22F0267

**Client:** GeoEngineers

**Project:** RG Haley Site-Bellingham

**Calibration:** FA00031

**Laboratory ID:** SKA0077-SCV1

**Sequence:** SKA0077

**Sequence Name:** DIESEL SCV

**Standard ID:** J009677

<b>ANALYTE</b>	<b>EXPECTED (mg/L)</b>	<b>FOUND (mg/L)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
Diesel Range Organics (C12-C24)	500.00	576	15.3	30.00

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220110,8\32281011.D

Date: 10-JAN-2022 20:36

Client ID:

Sample Info: SKR0077-SCW1

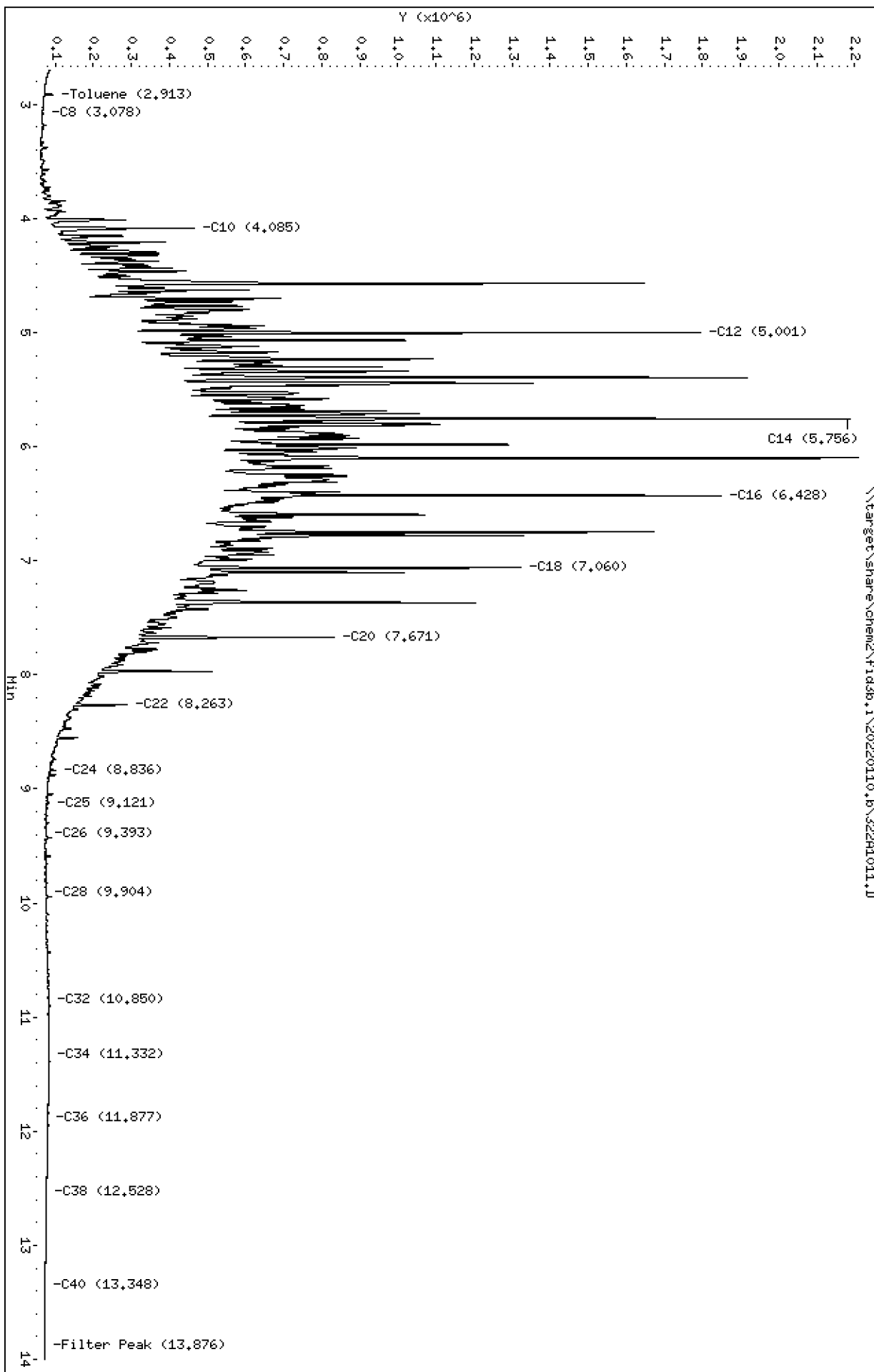
Column phase: RTX-1

Instrument: fid3b,1

Operator: TMC

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220110.b/322A1011.D  
Method: 20220110.b\FID3TPH.m  
Instrument: fid3b.i, TWC  
Report Date: 01/12/2022  
Macro: FID3\_110519  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SKA0077-SCV1  
Client ID:  
Injection: 10-JAN-2022 20:36  
Dilution Factor: 1  
RT Std: 322A1003.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.913	-0.011	31311	48402	WATPHG	(Tol-C12)	19016904	106.0
C8	3.078	-0.007	7170	12081	WATPHD	(C12-C24)	99362282	576.3
C10	4.085	-0.006	404752	369124	WATPHM	(C24-C38)	36582228	26.0
C12	5.001	-0.001	1733837	1638943	AK102	(C10-C25)	117568777	576.9
C14	5.756	-0.001	2124863	2493647	AK103	(C25-C36)	2894433	30.5
C16	6.428	-0.001	1789095	2293707	OR.DIES	(C10-C28)	118319934	579.2
C18	7.060	-0.005	1259843	1599642				
C20	7.671	-0.005	771260	922090				
C22	8.263	-0.008	226830	271701				
C24	8.836	-0.007	38575	45494				
C25	9.121	0.001	20356	33890				
C26	9.393	0.005	14694	9958				
C28	9.904	0.000	15029	19734	IT.DIES	(C10-C24)	117371827	577.1
C32	10.850	0.001	20355	10097				
C34	11.332	0.002	21437	11744				
Filter Peak	13.876	0.006	10457	7779				
C36	11.877	0.002	19452	4848				
o-terph	----							
Triacon Surr	----							

Range Times: NW Diesel(5.052 - 8.893) NW Gas(2.875 - 5.052) NW M.Oil(8.893 - 12.578)  
AK102(4.041 - 9.070) AK103(9.070 - 11.925) Jet A(4.041 - 7.115)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	140961.9	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022



**SECOND-SOURCE CALIBRATION VERIFICATION**  
**NWTPH-Dx**

**Laboratory:** Analytical Resources, LLC

**SDG:** 22F0267

**Client:** GeoEngineers

**Project:** RG Haley Site-Bellingham

**Calibration:** FA00054

**Laboratory ID:** SKA0208-SCV1

**Sequence:** SKA0208

**Sequence Name:** DIESEL SCV

**Standard ID:** J009677

<b>ANALYTE</b>	<b>EXPECTED (mg/L)</b>	<b>FOUND (mg/L)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
Diesel Range Organics (C12-C24)	500.00	579	15.7	30.00

\* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220120\_b\42282011.D

Date: 20-JAN-2022 13:50

Client ID:

Sample Info: SKR0208-SCW1

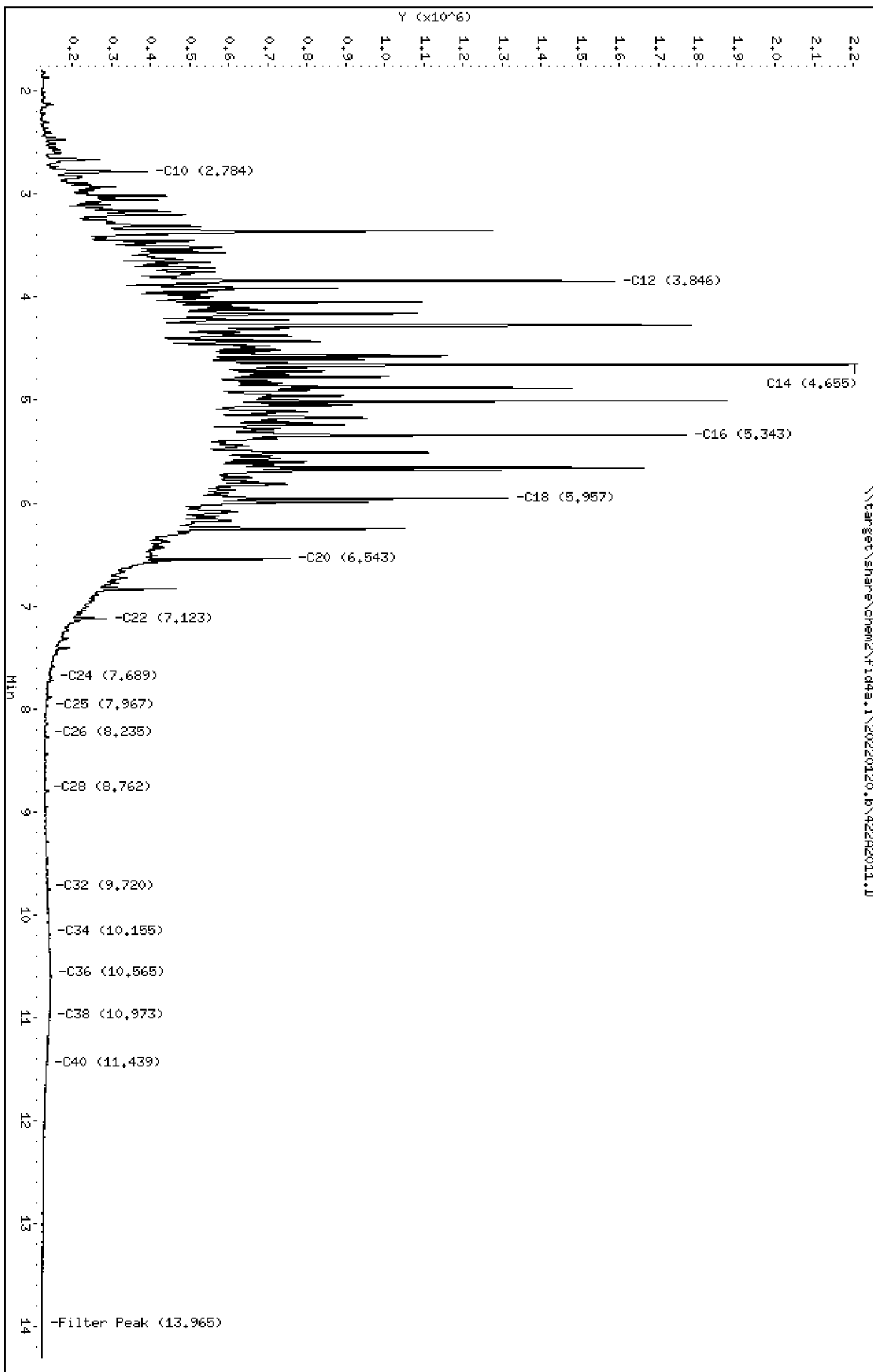
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2011.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-SCV1  
Client ID:  
Injection: 20-JAN-2022 13:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

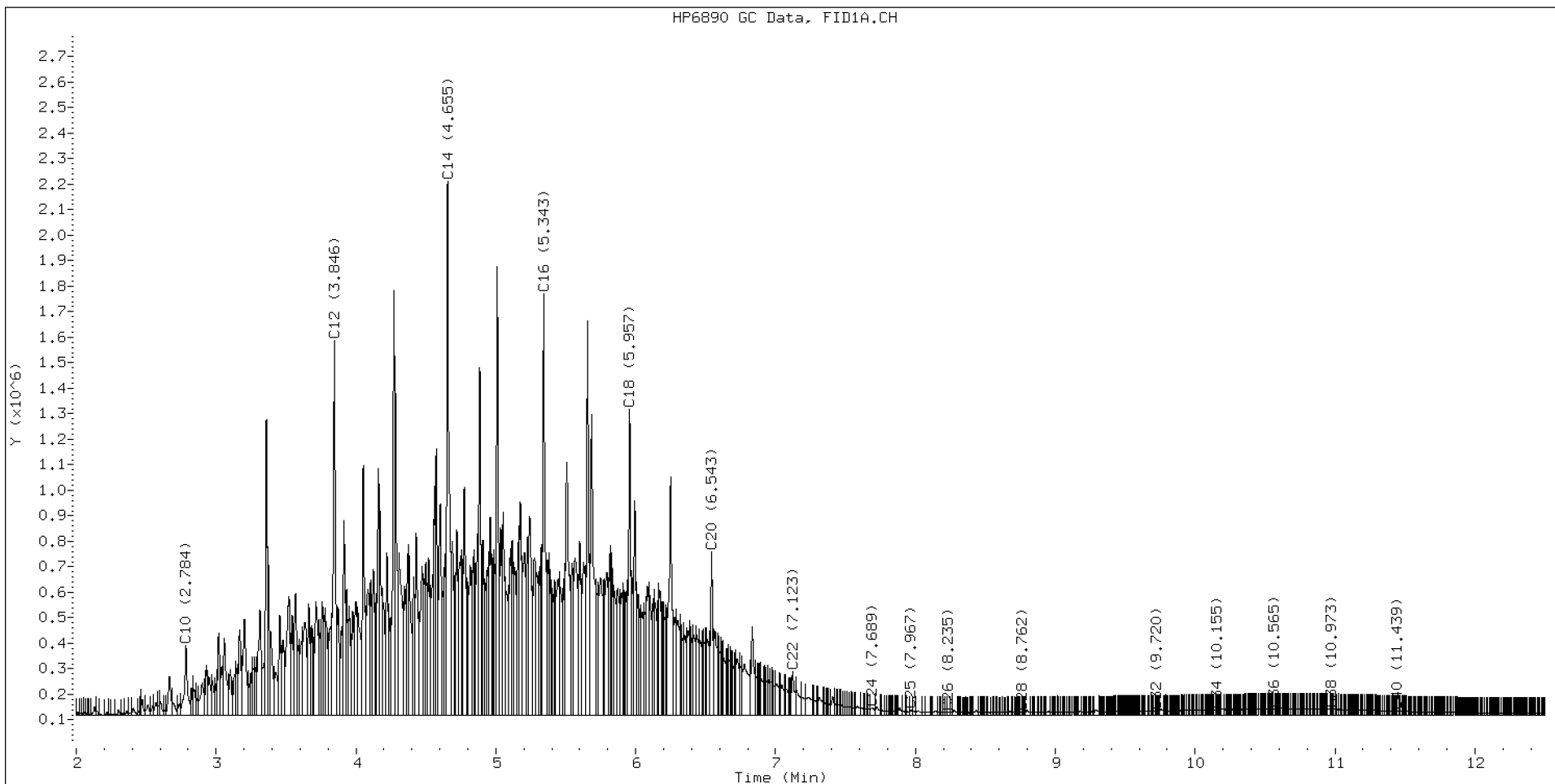
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.544	0.001	18500	21377	WATPHD	(C12-C24)	91791980	578.6
C10	2.784	-0.003	274520	418072	WATPHM	(C24-C38)	3249567	24.5
C12	3.846	-0.002	1470041	1730655	AK102	(C10-C25)	109259392	577.9
C14	4.655	-0.002	2091691	2520186	AK103	(C25-C36)	2486512	25.1
C16	5.343	-0.002	1652289	1980684	OR.DIES	(C10-C28)	109898714	579.2
C18	5.957	-0.005	1198312	1177531				
C20	6.543	-0.006	639233	695730				
C22	7.123	-0.007	169547	241250				
C24	7.689	-0.007	28257	52637				
C25	7.967	-0.007	19233	25038				
C26	8.235	-0.009	12361	12259				
C28	8.762	-0.002	11738	2920				
C32	9.720	0.003	17524	10151				
C34	10.155	0.000	21103	7290				
Filter Peak	13.965	0.003	4638	1151				
C36	10.565	-0.003	24473	16973				
C38	10.973	-0.002	22520	6721				
C40	11.439	0.001	15551	3097				
o-terph	----							
Triacon Surr	----				NAS DIES	(C10-C24)	109074547	578.1

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422C0305.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKC0073</u>	Injection Date:	<u>03/03/22</u>
Lab Sample ID:	<u>SKC0073-ICV1</u>	Injection Time:	<u>10:15</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	456	158638.4000	144666.4000		-8.8	+/-15
o-Terphenyl	A	90.000	82.7	203634.1000	187193.7000		-8.1	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220303,b\42200305.D

Date: 03-MAR-2022 10:15

Client ID:

Sample Info: SEQ-ICV1

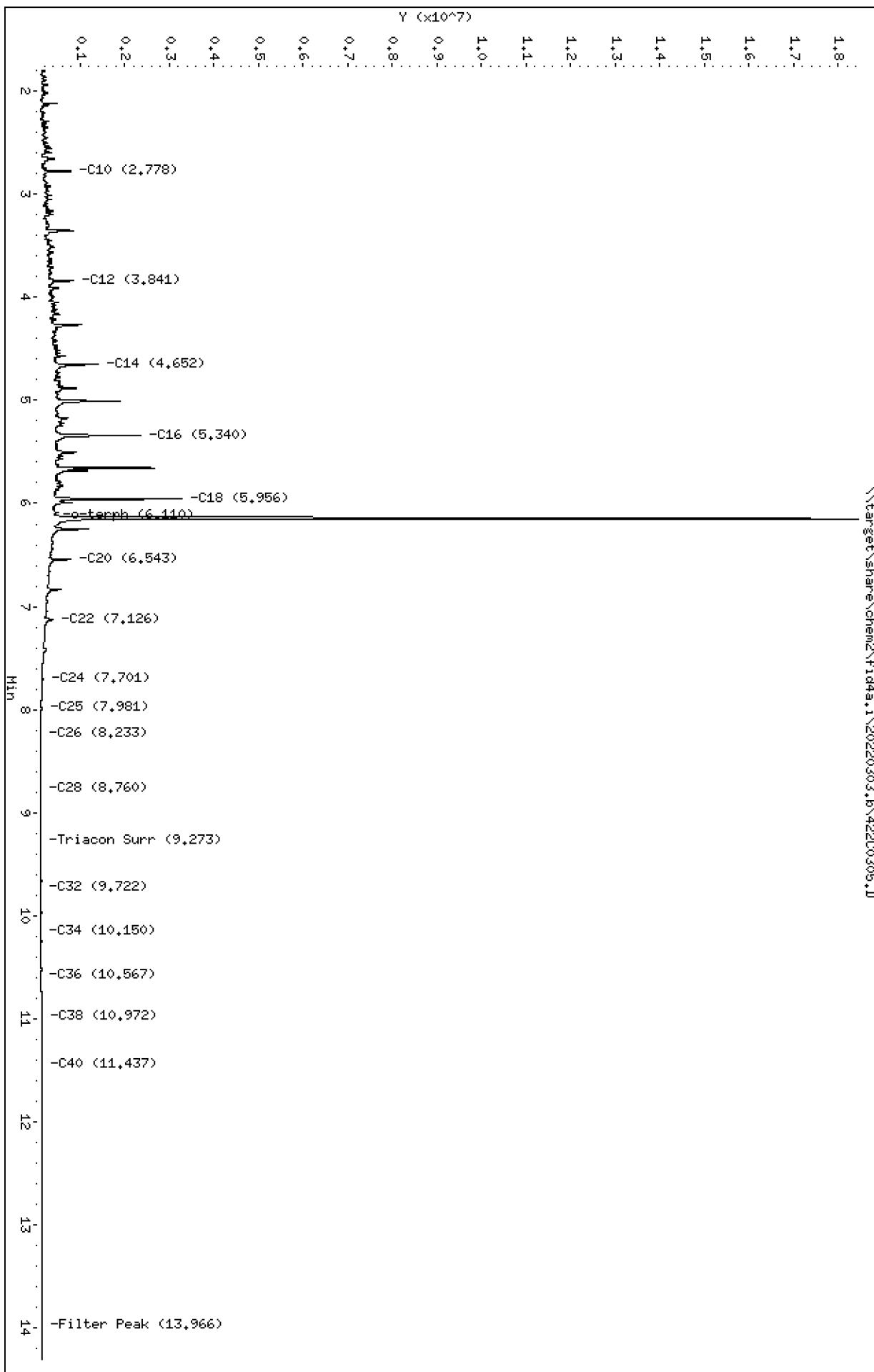
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220303.b/422C0305.D  
Method: 20220303.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 03/04/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV1  
Client ID:  
Injection: 03-MAR-2022 10:15  
Dilution Factor: 1  
RT Std: 422C0303.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.535	-0.007	87141	52064	WATPHD	(C12-C24)	72333219	456.0
C10	2.778	-0.004	677545	651792	WATPHM	(C24-C38)	1263600	9.5
C12	3.841	-0.002	742723	946085	AK102	(C10-C25)	84868077	448.9
C14	4.652	-0.002	1293787	2338446	AK103	(C25-C36)	725090	7.3
C16	5.340	-0.004	2249303	3236617	OR.DIES	(C10-C28)	85081903	448.4
C18	5.956	-0.003	3158953	2992803				
C20	6.543	-0.004	680407	1281403	JET-A	(C10-C18)	66312529	382.9
C22	7.126	-0.001	278577	743481				
C24	7.701	0.006	55406	184553				
C25	7.981	0.008	19792	29263				
C26	8.233	-0.009	5082	2009				
C28	8.760	-0.001	580	158				
C32	9.722	0.006	2802	1724				
C34	10.150	-0.004	6891	1693				
Filter Peak	13.966	0.001	17525	7826				
C36	10.567	-0.000	12607	6885				
C38	10.972	0.001	16727	5820				
C40	11.437	-0.000	19523	4869				
o-terph	6.149	-0.002	17996892	16847427				
Triacon Surr	9.273	-0.003	985	413	NAS DIES	(C10-C24)	84708051	449.0

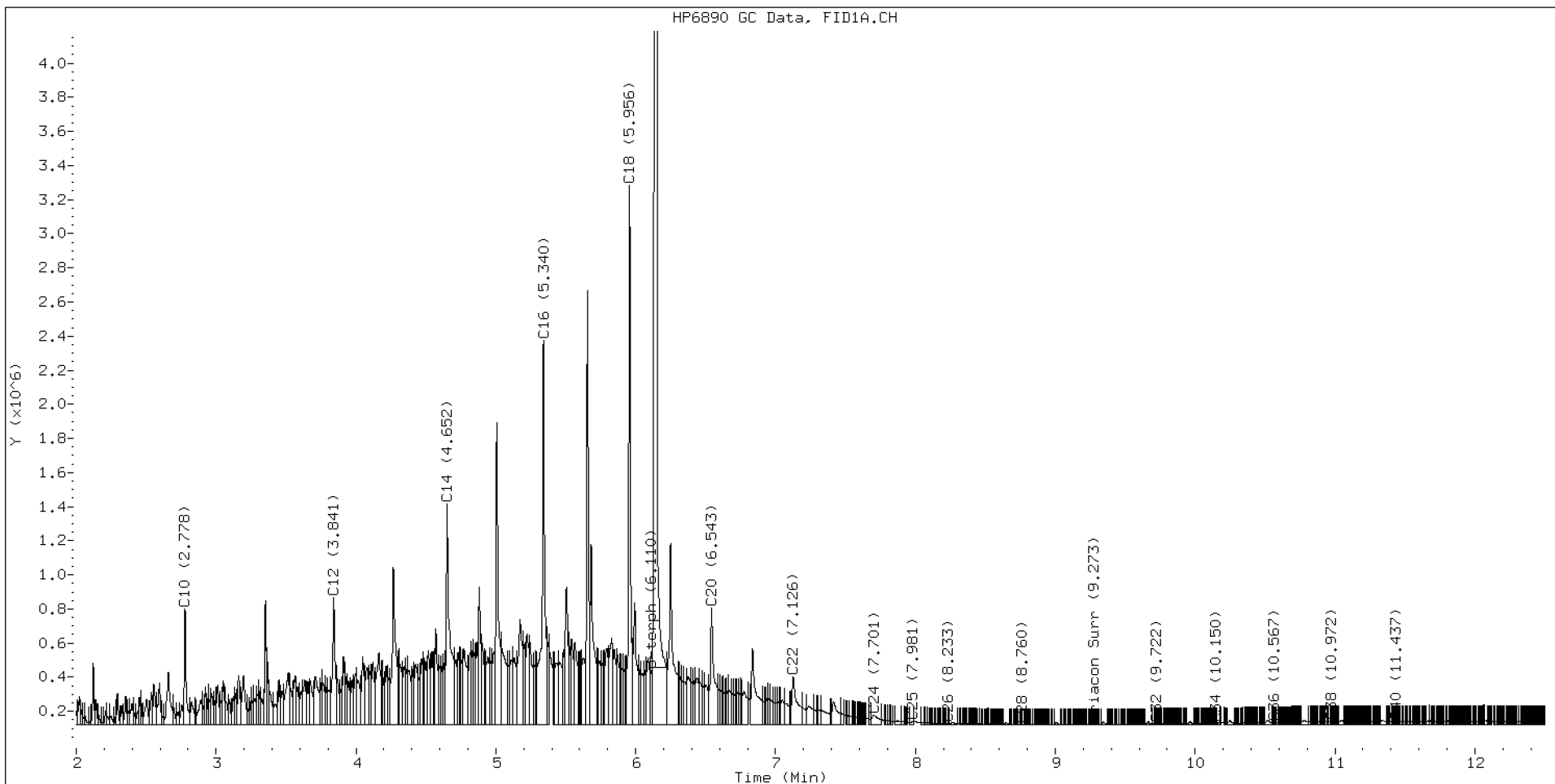
Range Times: NW Diesel(3.843 - 7.696) AK102(2.78 - 7.97) Jet A(2.78 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.78 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	16847427	82.7 M
Triacontane	413	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022

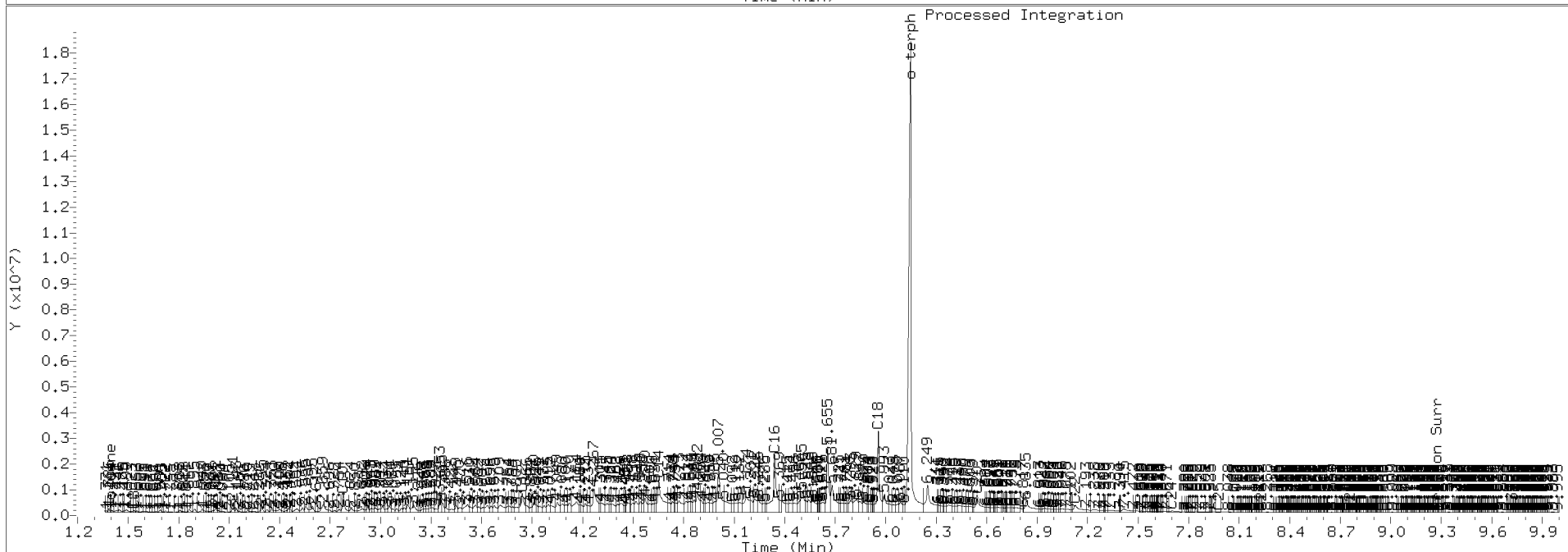
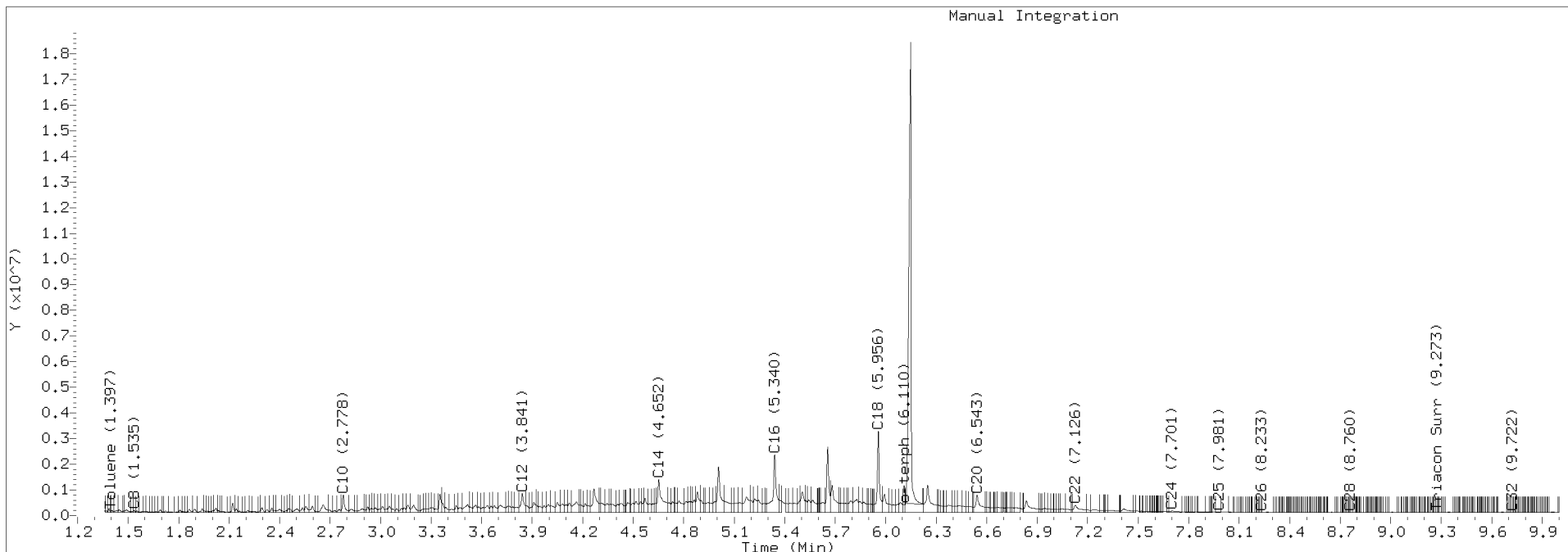




TPH Manual Integrations Report

Datafile: FID4A, 20220303.b/422C0305.D Injection: 03-MAR-2022 10:15

Lab ID:SEQ-ICV1





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422C0306.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKC0073</u>	Injection Date:	<u>03/03/22</u>
Lab Sample ID:	<u>SKC0073-ICV2</u>	Injection Time:	<u>10:35</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	896	132579.1000	118785.4000		-10.4	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220303,b\42200306.D

Date : 03-HR-2022 10:35

Client ID:

Sample Info: SEQ-ICV2

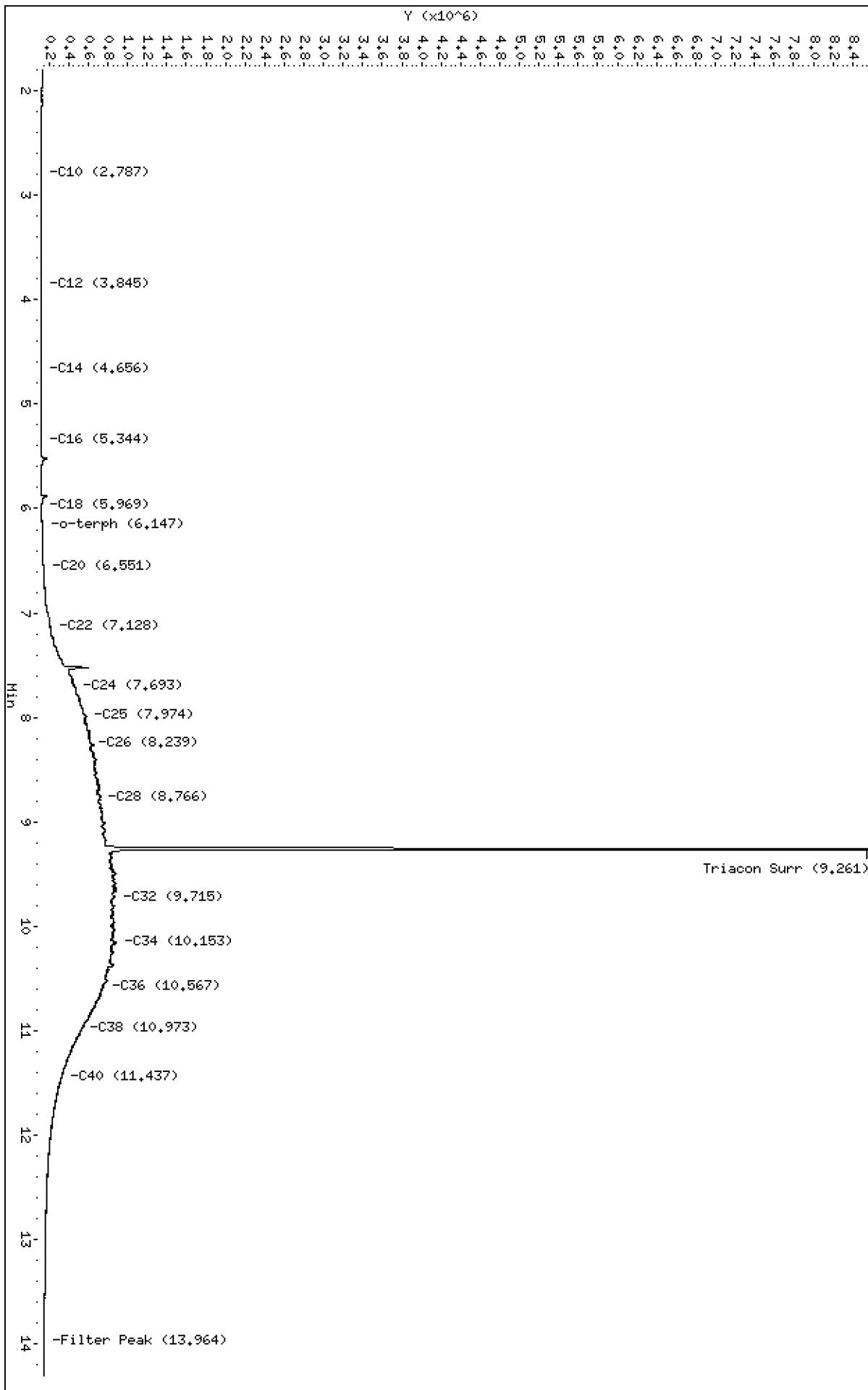
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220303.b/422C0306.D  
Method: 20220303.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 03/04/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV2  
Client ID:  
Injection: 03-MAR-2022 10:35  
Dilution Factor: 1  
RT Std: 422C0303.D

FID:4A RESULTS

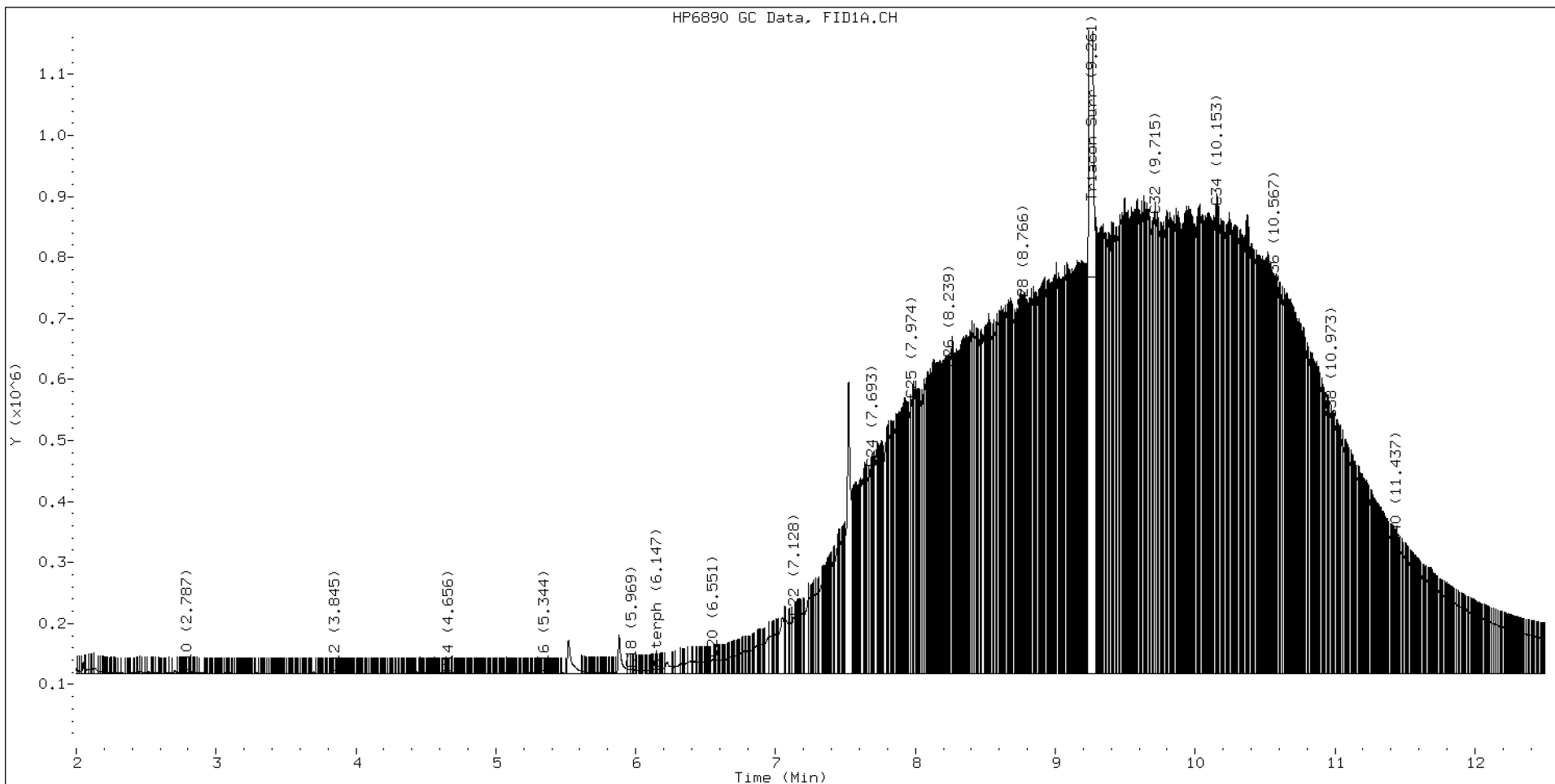
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.537	-0.005	24659	25155	WATPHD	(C12-C24)	10404883	65.6
C10	2.787	0.006	1550	452	WATPHM	(C24-C38)	118785388	896.0
C12	3.845	0.002	728	268	AK102	(C10-C25)	14588390	77.2
C14	4.656	0.002	1229	537	AK103	(C25-C36)	102673589	1038.1
C16	5.344	-0.000	1150	217	OR.DIES	(C10-C28)	42625090	224.6
C18	5.969	0.010	6685	6384				
C20	6.551	0.005	24027	34503	JET-A	(C10-C18)	432962	2.5
C22	7.128	0.001	93285	110689				
C24	7.693	-0.003	336304	117158				
C25	7.974	0.001	449598	287535				
C26	8.239	-0.003	500551	224117				
C28	8.766	0.005	598718	238951				
C32	9.715	-0.002	750868	742245				
C34	10.153	-0.001	764191	152473				
Filter Peak	13.964	-0.001	30712	9190				
C36	10.567	-0.000	638771	285418				
C38	10.973	0.002	416703	103972				
C40	11.437	-0.000	211736	94183				
o-terph	6.147	-0.003	7739	3790				
Triacon Surr	9.261	-0.014	7806466	7743839	NAS DIES	(C10-C24)	10469110	55.5

Range Times: NW Diesel(3.843 - 7.696) AK102(2.78 - 7.97) Jet A(2.78 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.78 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	3790	0.0
Triacontane	7743839	44.4 M

M Indicates the peak was manually integrated

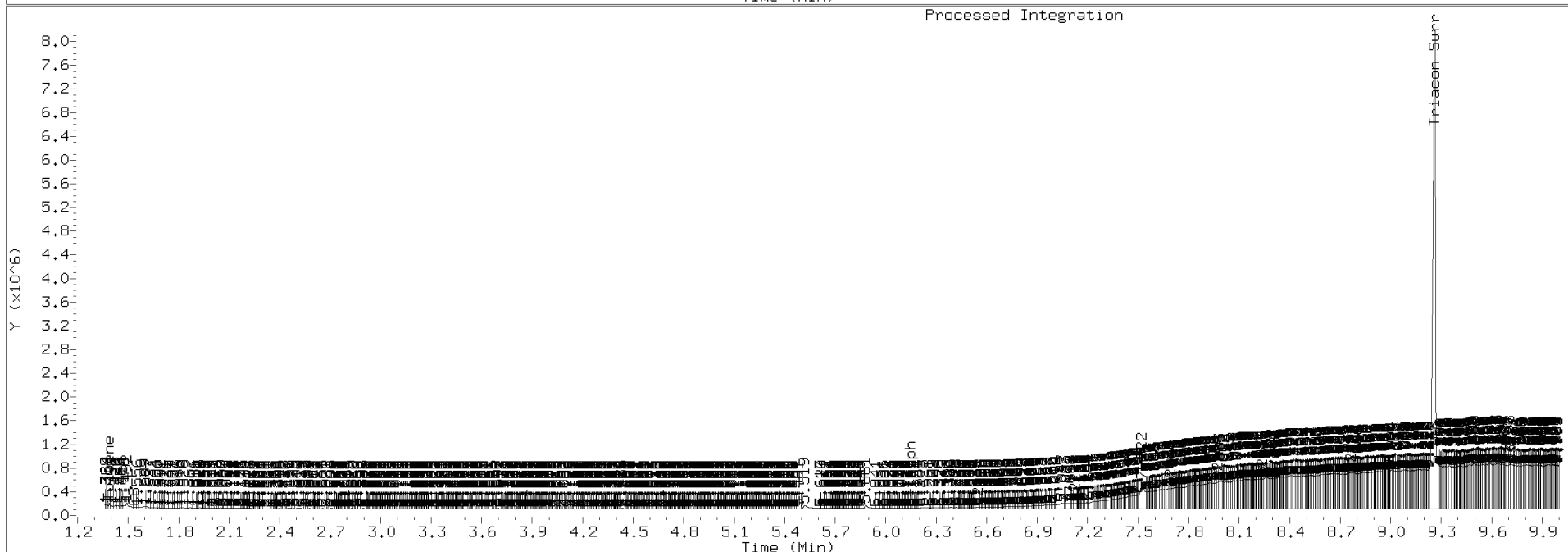
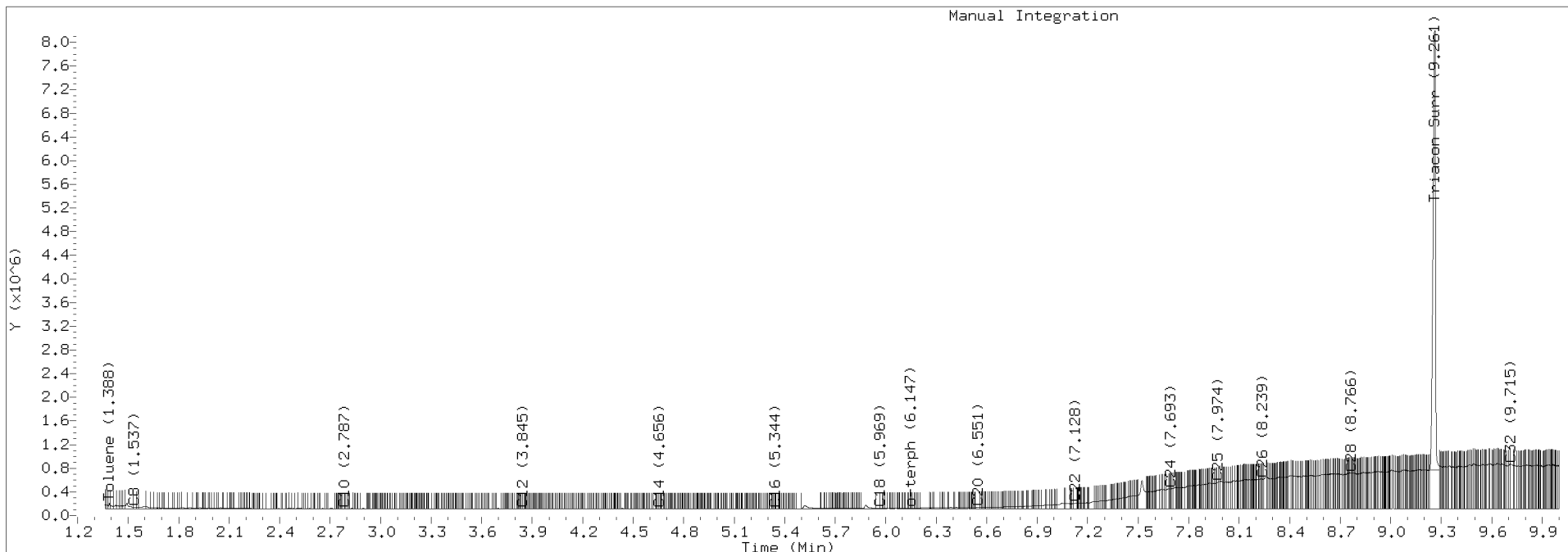
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220303.b/422C0306.D Injection: 03-MAR-2022 10:35

Lab ID:SEQ-ICV2





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Instrument ID: FID4  
 Lab File ID: 422C0341.D  
 Sequence: SKC0073  
 Lab Sample ID: SKC0073-ICV3  
 Sequence Name: JETA ICV

SDG: 22F0267  
 Project: RG Haley Site-Bellingham  
 Calibration: FA00054  
 Calibration Date: 01/31/2022  
 Injection Date: 03/03/22  
 Injection Time: 22:07

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Jet-A Range Organics (C10-C18)	A	500.00	500	173192.9000	173192.9000			+/-15
o-Terphenyl	A	90.000	96.1	203634.1000	217416.2000		6.8	+/-15

\* Values outside of QC limits





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422D2111.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKE0009</u>	Injection Date:	<u>04/21/22</u>
Lab Sample ID:	<u>SKE0009-ICV1</u>	Injection Time:	<u>19:29</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	515	158638.4000	163446.0000		3.0	+/-15
o-Terphenyl	A	90.000	91.3	203634.1000	206518.0000		1.4	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220421\_b\422D2111.D

Date: 21-APR-2022 19:29

Client ID:

Sample Info: SEQ-ICV1

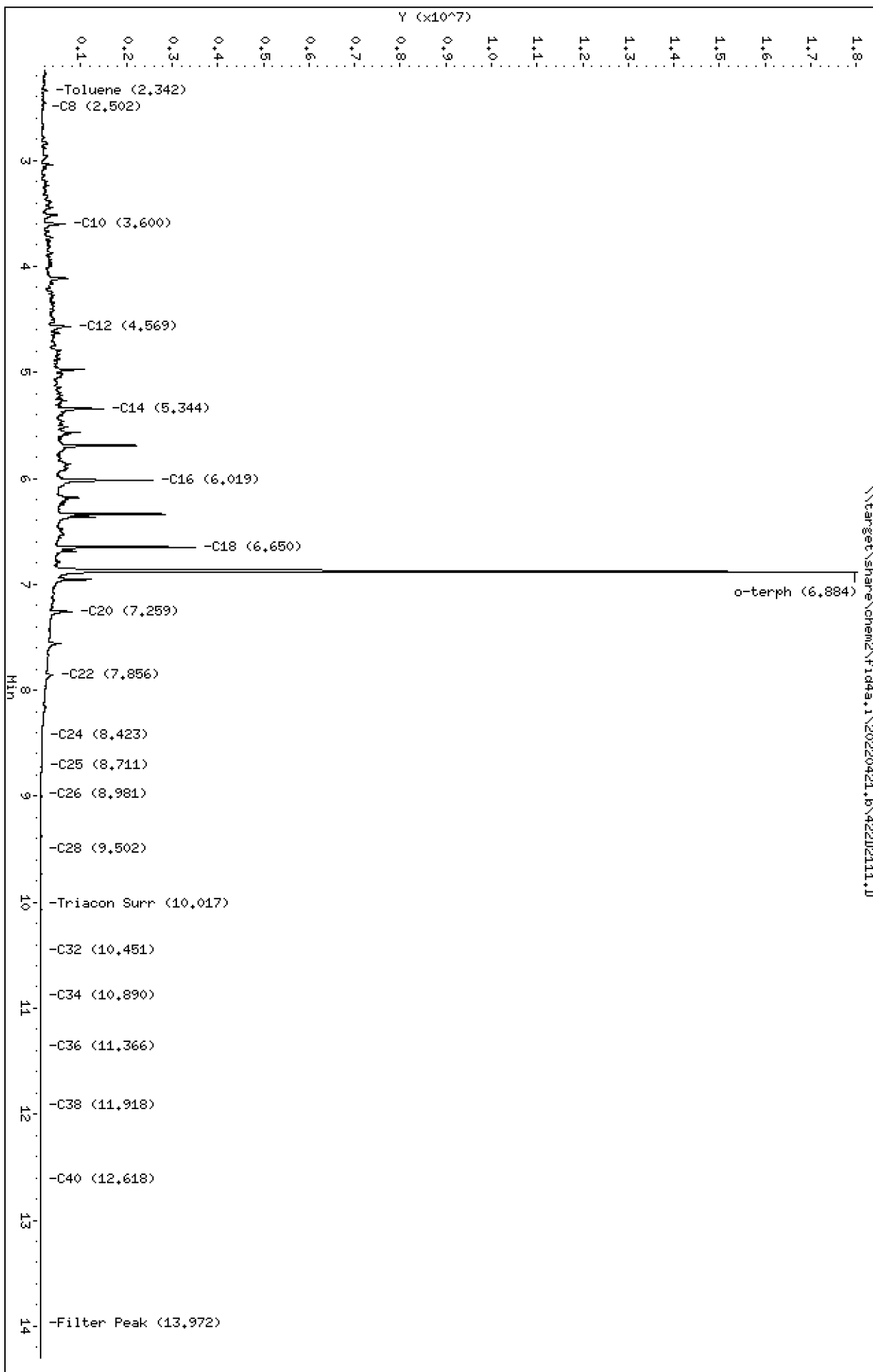
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220421.b/422D2111.D  
Method: 20220421.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 05/02/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV1  
Client ID:  
Injection: 21-APR-2022 19:29  
Dilution Factor: 1  
RT Std: 422D2103.D

FID:4A RESULTS

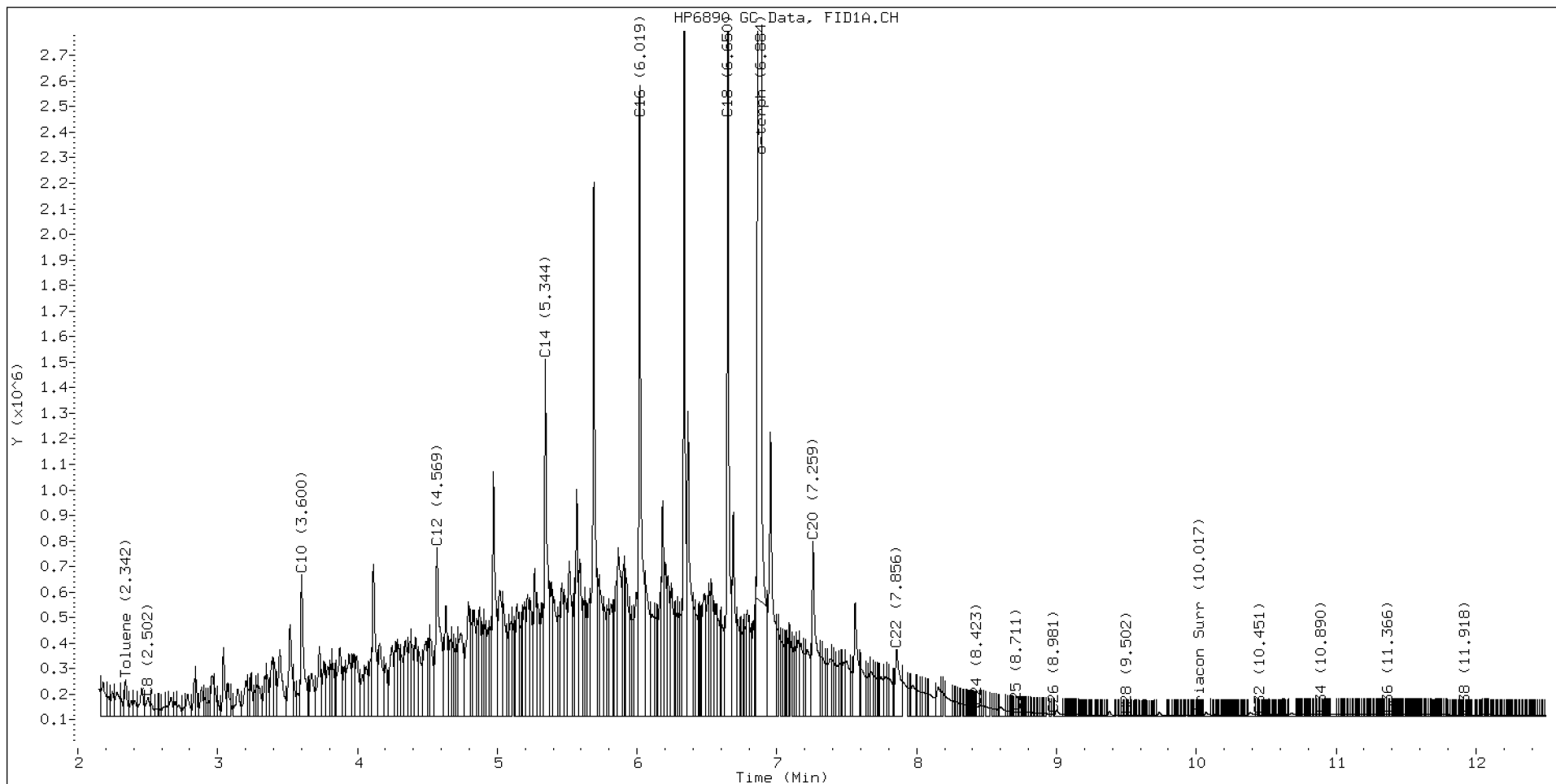
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.502	-0.001	72127	128803	WATPHD	(C12-C24)	81722994	515.2
C10	3.600	-0.004	551705	862956	WATPHM	(C24-C38)	1183728	8.9
C12	4.569	-0.002	656261	1453616	AK102	(C10-C25)	95822378	506.8
C14	5.344	-0.003	1396702	2068354	AK103	(C25-C36)	784617	7.9
C16	6.019	-0.002	2467764	3087482	OR.DIES	(C10-C28)	96157539	506.8
C18	6.650	-0.003	3397208	3348527				
C20	7.259	-0.003	681970	1362462	JET-A	(C10-C18)	74853825	432.2
C22	7.856	-0.003	259576	629025				
C24	8.423	-0.012	34489	18820				
C25	8.711	-0.003	15626	11440				
C26	8.981	-0.003	6904	1373				
C28	9.502	-0.002	572	216				
C32	10.451	-0.003	4257	1825				
C34	10.890	-0.004	5153	3011				
Filter Peak	13.972	-0.007	1796	1831	BUNKERC	(C10-C38)	96759026	1627.9
C36	11.366	-0.002	5479	4698				
C38	11.918	-0.003	4507	3479				
C40	12.618	-0.005	2954	2816				
o-terph	6.884	-0.004	17459458	18586625				
Triacon Surr	10.017	-0.001	1627	527	NAS DIES	(C10-C24)	95575297	506.6

Range Times: NW Diesel(4.571 - 8.436) AK102(3.60 - 8.71) Jet A(3.60 - 6.65)  
NW M.Oil(8.44 - 11.92) AK103(8.71 - 11.37) OR Diesel(3.60 - 9.50)

Surrogate	Area	Amount
o-Terphenyl	18586625	91.3 M
Triacontane	527	0.0

M Indicates the peak was manually integrated

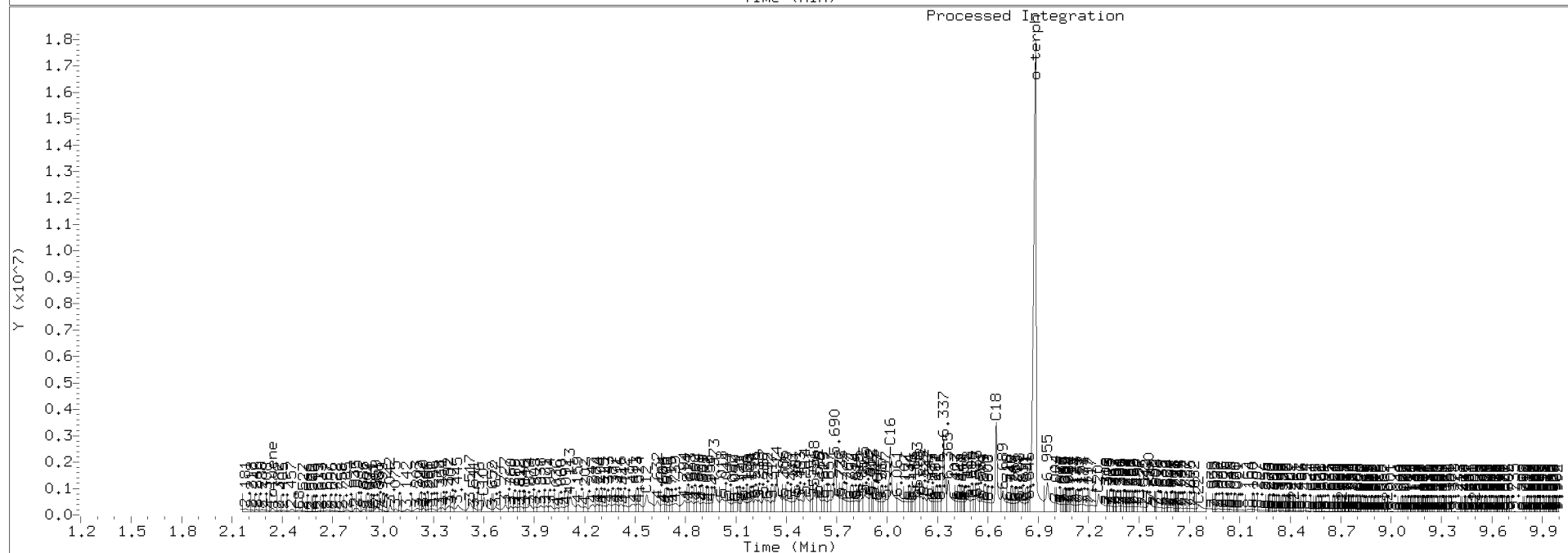
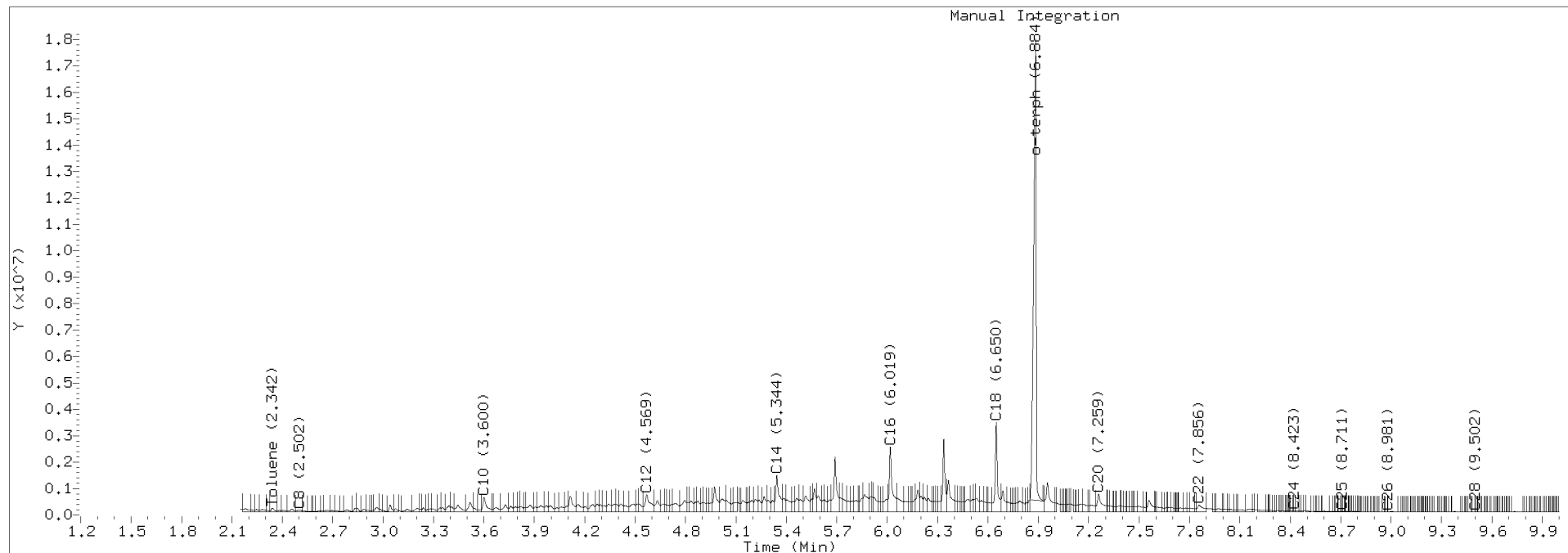
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022
Bunker C	59438.6	21-APR-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220421.b/422D2111.D Injection: 21-APR-2022 19:29

Lab ID:SEQ-ICV1





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422D2112.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKE0009</u>	Injection Date:	<u>04/21/22</u>
Lab Sample ID:	<u>SKE0009-ICV2</u>	Injection Time:	<u>19:49</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	890	132579.1000	117961.4000		-11.0	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220421.b\422D2112.D

Date: 21-APR-2022 19:49

Client ID:

Sample Info: SEQ-ICV2

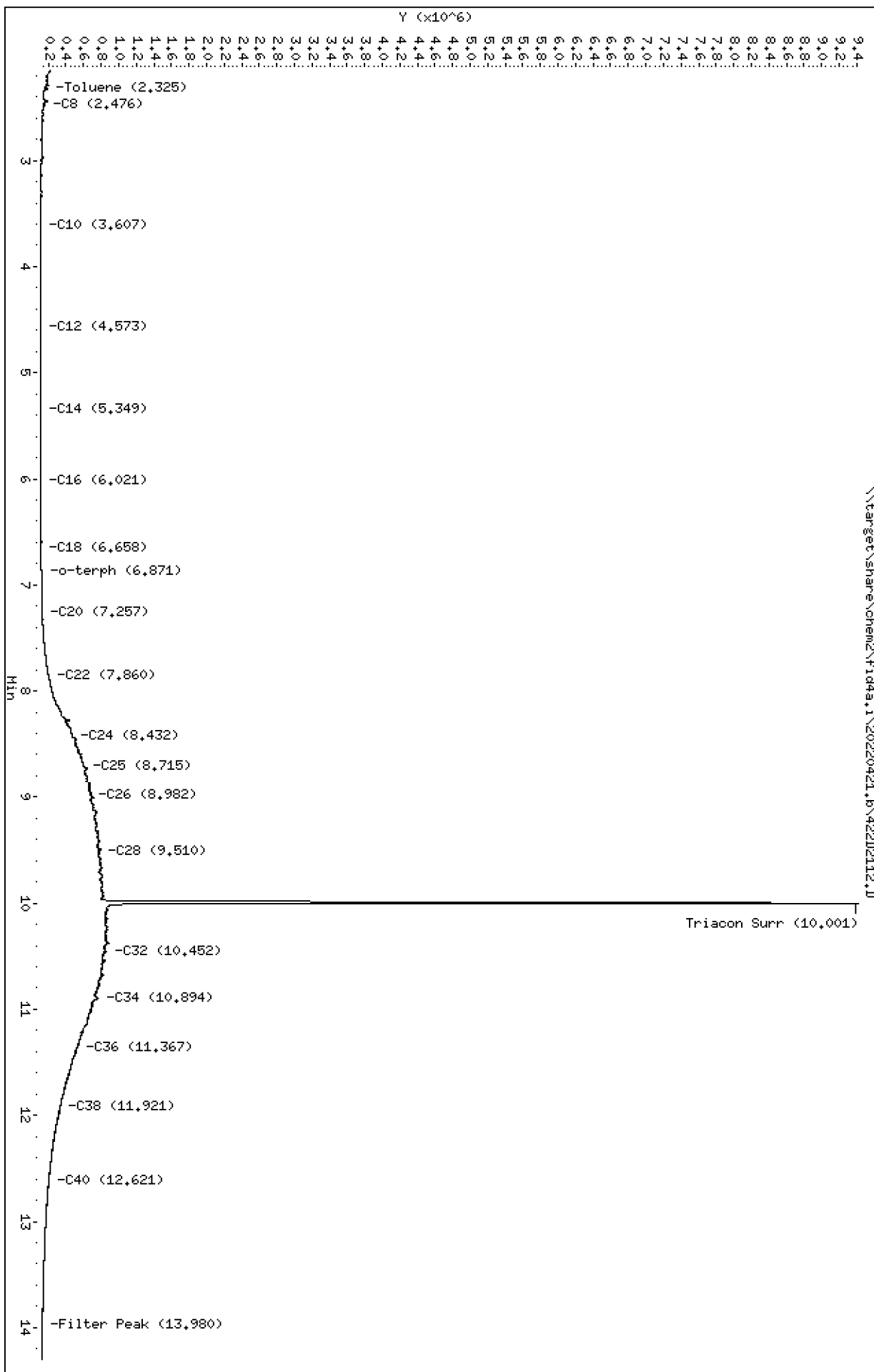
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220421.b/422D2112.D  
Method: 20220421.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 05/02/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV2  
Client ID:  
Injection: 21-APR-2022 19:49  
Dilution Factor: 1  
RT Std: 422D2103.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.476	-0.027	39432	44057	WATPHD	(C12-C24)	10568525	66.6
C10	3.607	0.003	3077	726	WATPHM	(C24-C38)	117961404	889.7
C12	4.573	0.003	1151	441	AK102	(C10-C25)	15272312	80.8
C14	5.349	0.002	1847	441	AK103	(C25-C36)	103805804	1049.5
C16	6.021	-0.001	687	157	OR.DIES	(C10-C28)	46932548	247.3
C18	6.658	0.005	2961	581				
C20	7.257	-0.005	18173	17777	JET-A	(C10-C18)	305392	1.8
C22	7.860	0.001	90040	22421				
C24	8.432	-0.004	364865	144416				
C25	8.715	0.001	504204	125247				
C26	8.982	-0.002	568443	141963				
C28	9.510	0.006	676489	234965				
C32	10.452	-0.002	743623	402958				
C34	10.894	0.000	649275	193720				
Filter Peak	13.980	0.002	21258	16703	BUNKERC	(C10-C38)	128665438	2164.7
C36	11.367	-0.001	415803	288689				
C38	11.921	-0.001	223685	186769				
C40	12.621	-0.002	93196	64551				
o-terph	6.871	-0.017	13148	24260				
Triacon Surr	10.001	-0.017	8566137	8024602	NAS DIES	(C10-C24)	10704035	56.7

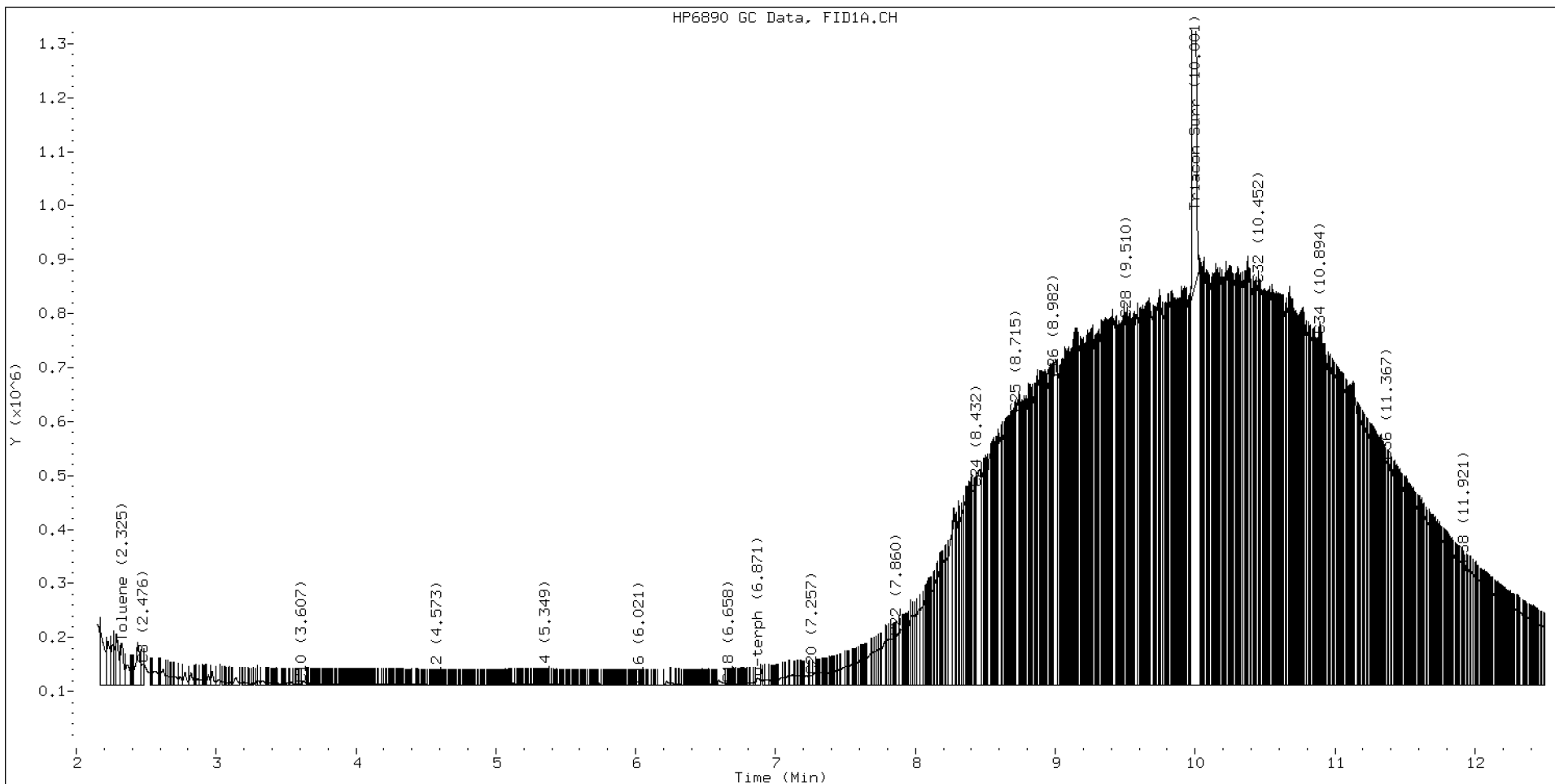
Range Times: NW Diesel(4.571 - 8.436) AK102(3.60 - 8.71) Jet A(3.60 - 6.65)  
NW M.Oil(8.44 - 11.92) AK103(8.71 - 11.37) OR Diesel(3.60 - 9.50)

Surrogate	Area	Amount
o-Terphenyl	24260	0.1
Triacotane	8024602	46.1 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022
Bunker C	59438.6	21-APR-2022

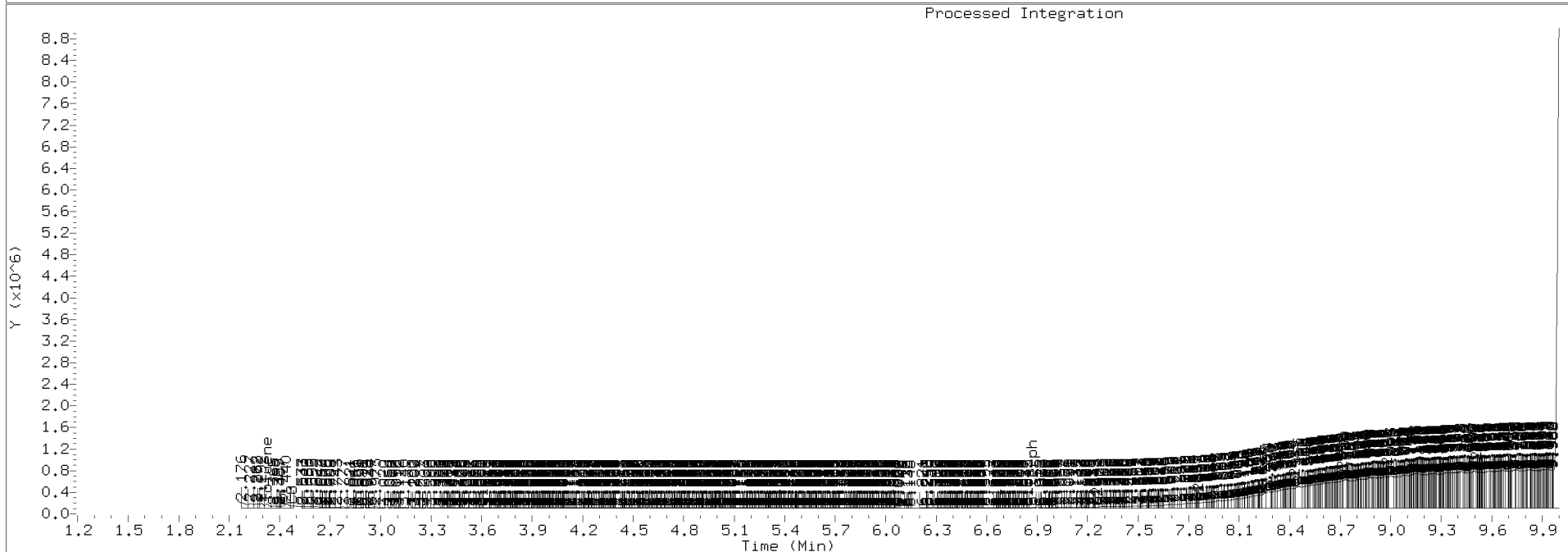
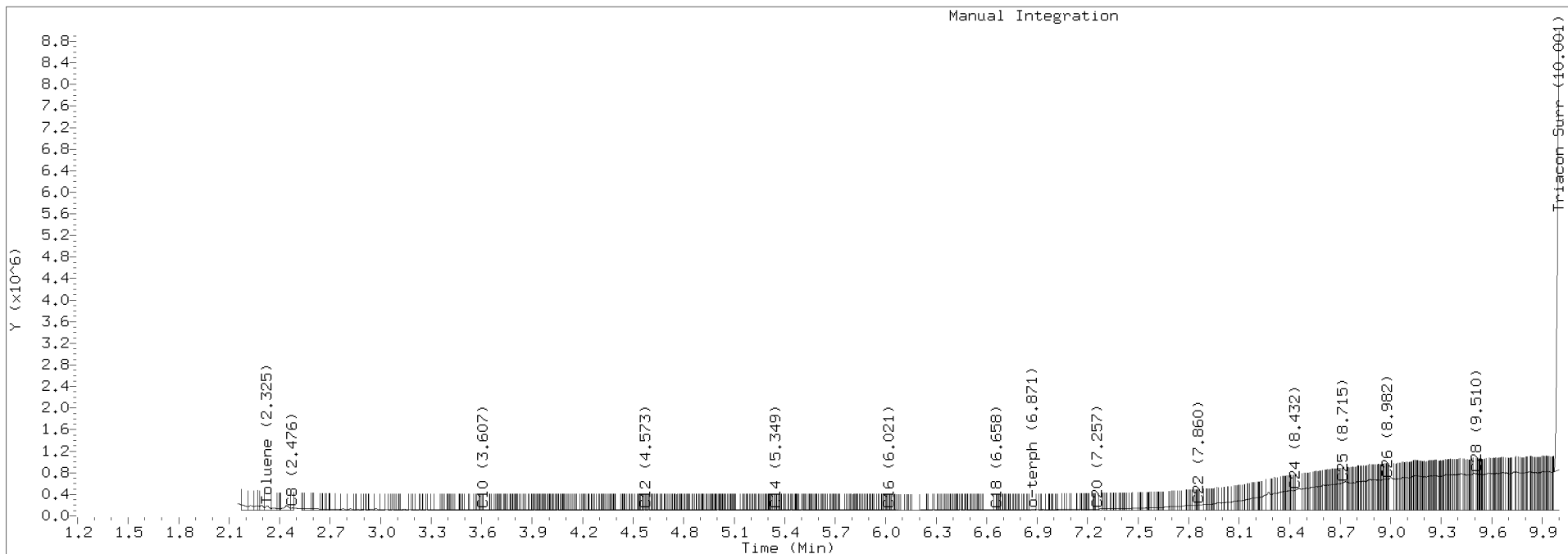




TPH Manual Integrations Report

Datafile: FID4A, 20220421.b/422D2112.D Injection: 21-APR-2022 19:49

Lab ID:SEQ-ICV2





Data File: \\target\share\chem2\fid4a,1\20220421\_b\422D2113.D

Date: 21-APR-2022 20:09

Client ID:

Sample Info: SEQ-ICV3

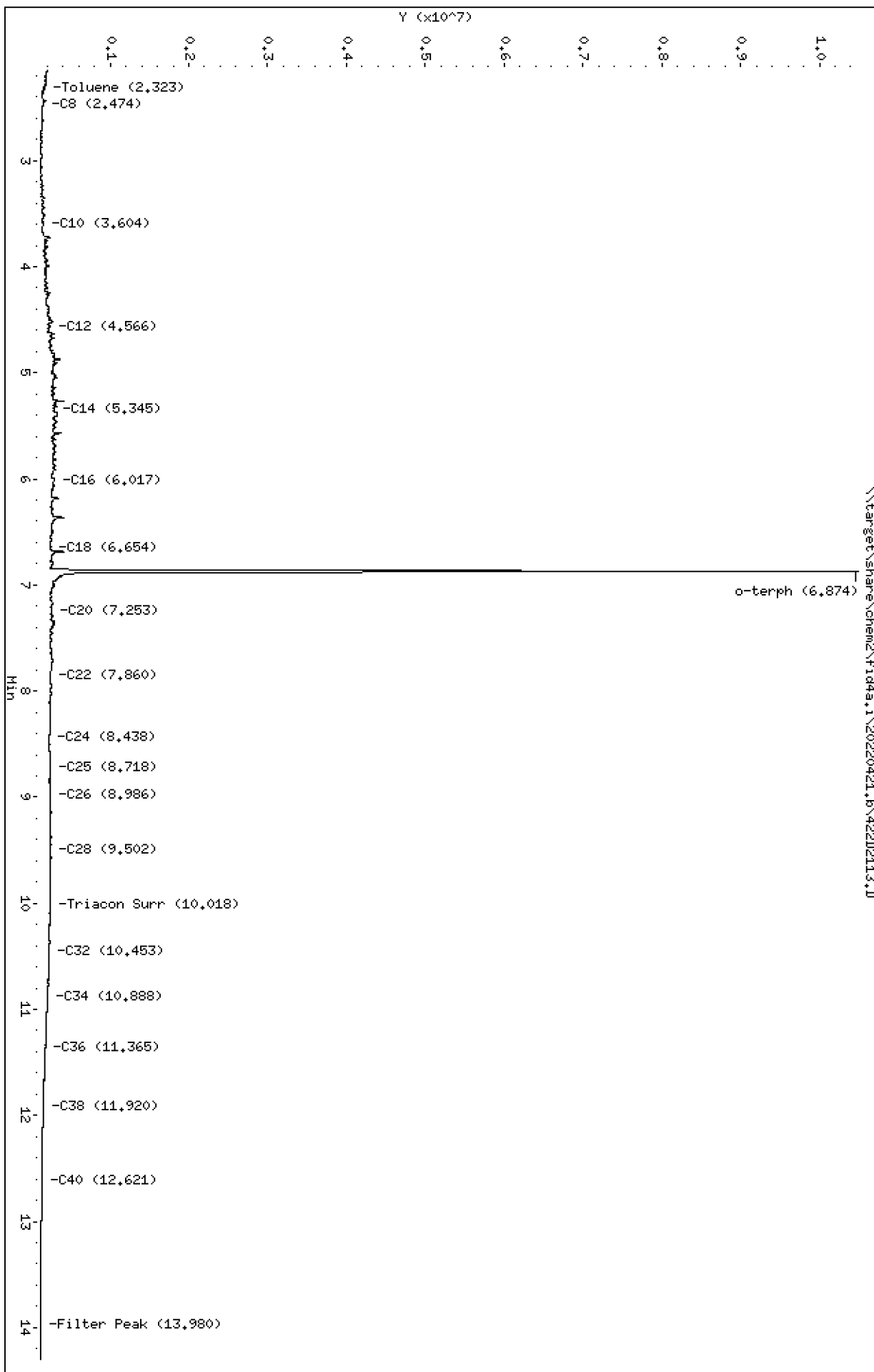
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220421.b/422D2113.D  
Method: 20220421.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 05/02/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV3  
Client ID:  
Injection: 21-APR-2022 20:09  
Dilution Factor: 1  
RT Std: 422D2103.D

FID:4A RESULTS

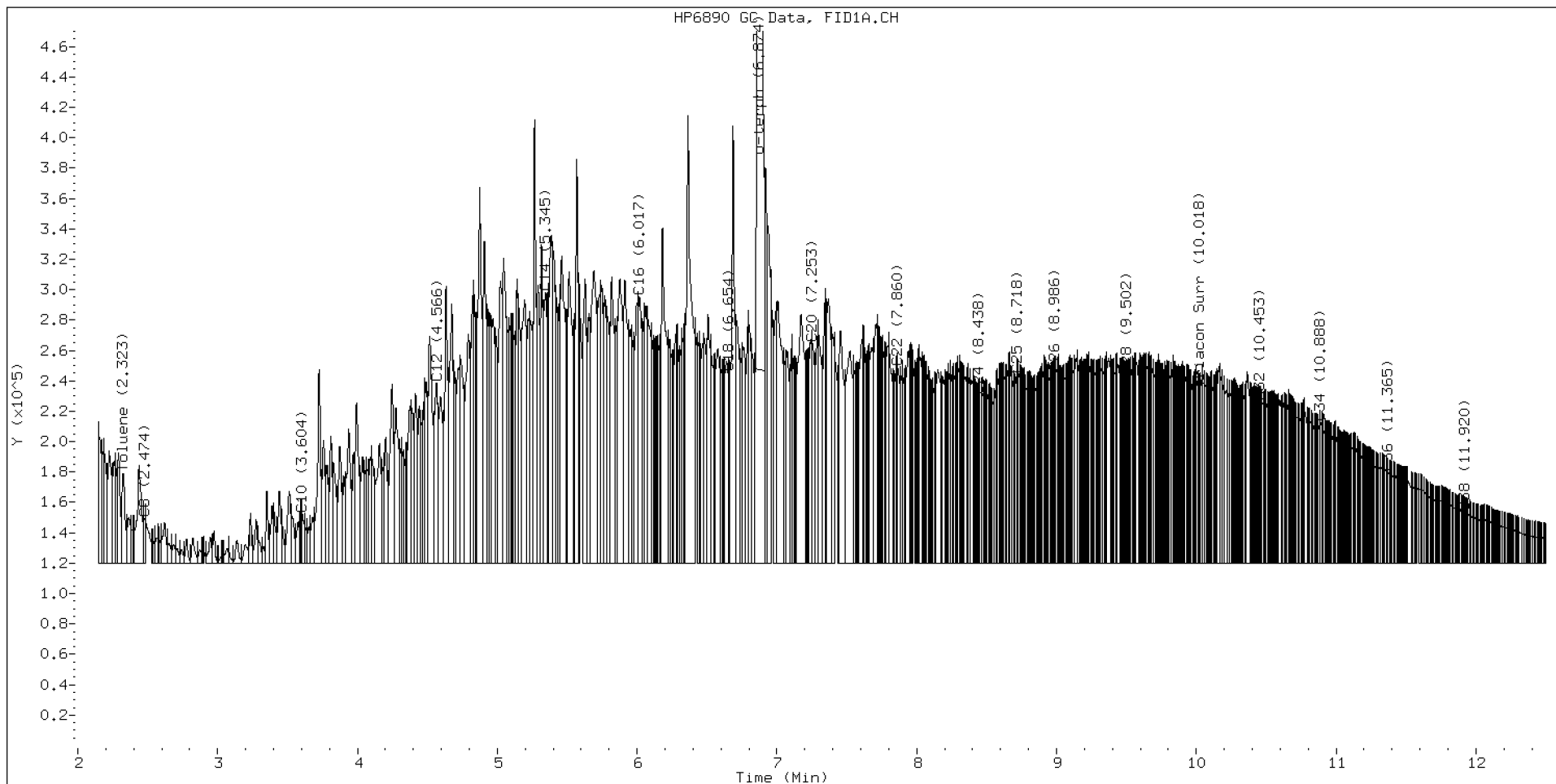
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.474	-0.028	29481	26098	WATPHD	(C12-C24)	33203785	209.3
C10	3.604	0.000	32380	39469	WATPHM	(C24-C38)	20262183	152.8
C12	4.566	-0.005	118468	220823	AK102	(C10-C25)	38925778	205.9
C14	5.345	-0.002	178313	274208	AK103	(C25-C36)	17593854	177.9
C16	6.017	-0.005	175350	275575	OR.DIES	(C10-C28)	45469146	239.6
C18	6.654	0.001	125822	68623				
C20	7.253	-0.009	144478	208190	JET-A	(C10-C18)	24077820	139.0
C22	7.860	0.001	129196	38570				
C24	8.438	0.003	110309	27375				
C25	8.718	0.004	124461	138394				
C26	8.986	0.002	125601	25098				
C28	9.502	-0.002	123745	24701				
C32	10.453	-0.001	106608	26586				
C34	10.888	-0.006	92582	96158				
Filter Peak	13.980	0.002	1255	629	BUNKERC	(C10-C38)	57922264	974.5
C36	11.365	-0.002	60078	14944				
C38	11.920	-0.001	33810	16797				
C40	12.621	-0.002	13754	6122				
o-terph	6.874	-0.014	10248875	9038602				
Triacon Surr	10.018	0.000	114806	28637	NAS DIES	(C10-C24)	37660081	199.6

Range Times: NW Diesel(4.571 - 8.436) AK102(3.60 - 8.71) Jet A(3.60 - 6.65)  
NW M.Oil(8.44 - 11.92) AK103(8.71 - 11.37) OR Diesel(3.60 - 9.50)

Surrogate	Area	Amount
o-Terphenyl	9038602	44.4 M
Triacontane	28637	0.2

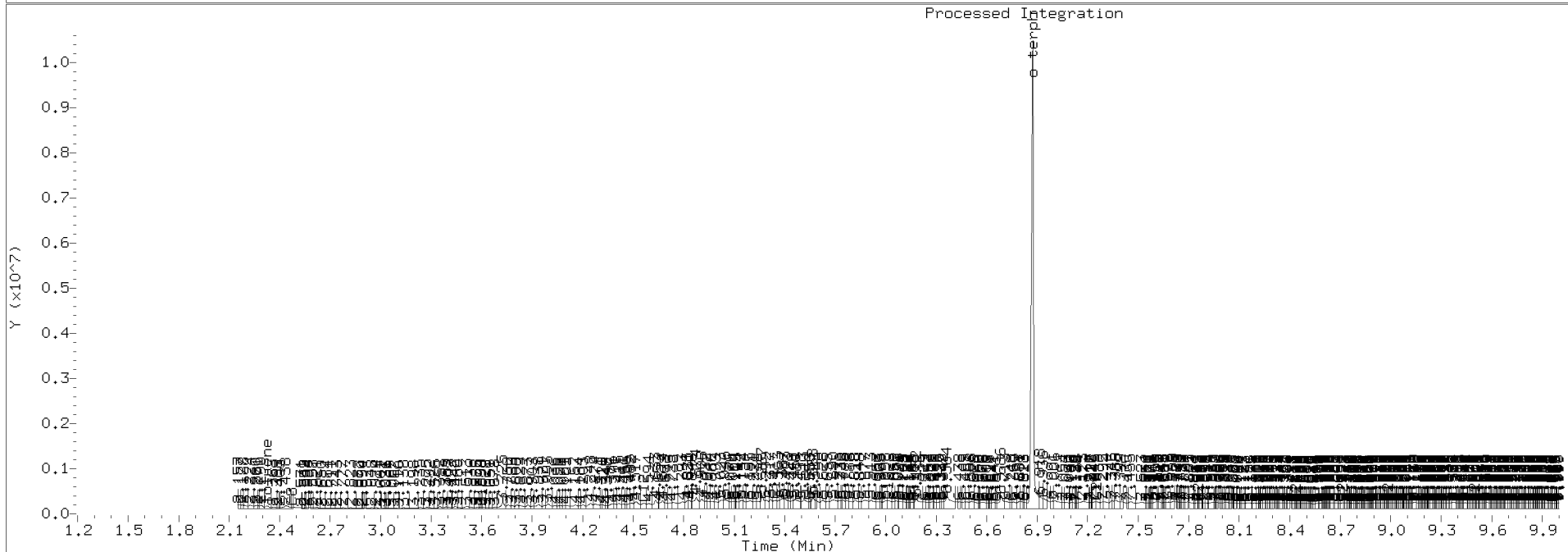
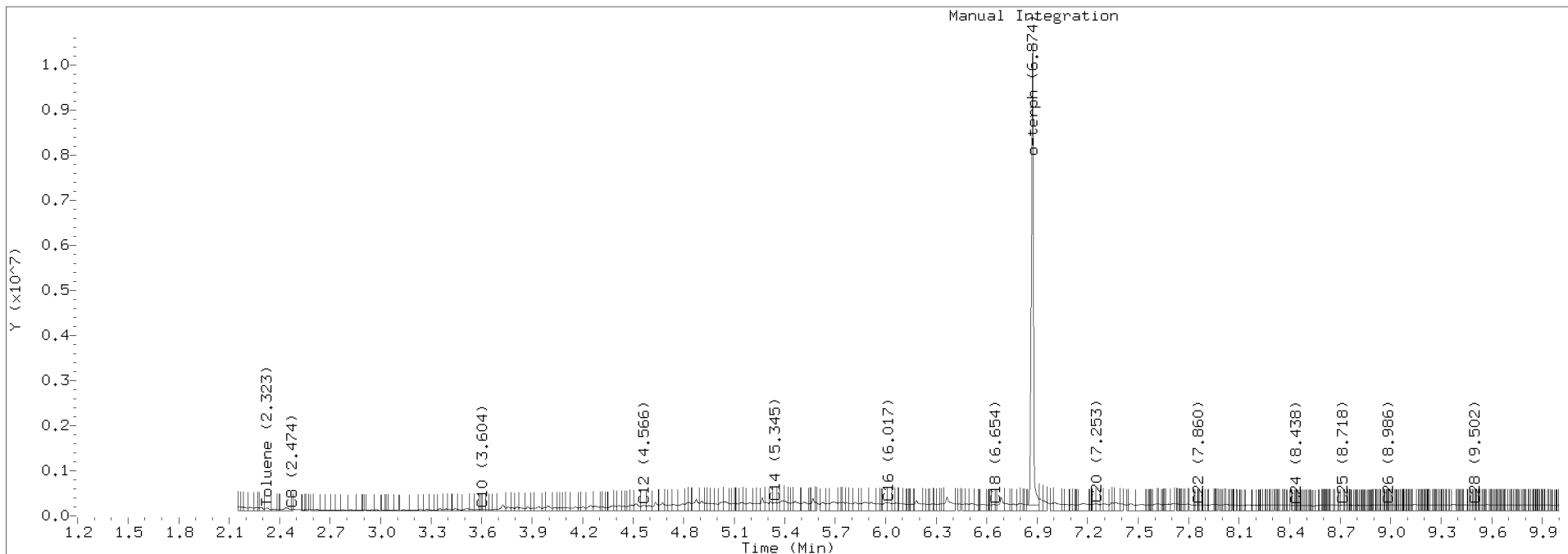
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022
Bunker C	59438.6	21-APR-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220421.b/422D2113.D Injection: 21-APR-2022 20:09  
Lab ID:SEQ-ICV3





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2405.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0314-ICV1</u>	Injection Time:	<u>10:28</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	570	172426.7000	196541.7000		14.0	+/-15
o-Terphenyl	A	90.000	101	240679.3000	269366.1000		11.9	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2405.D

Date: 24-JUN-2022 10:28

Client ID:

Sample Info: SEQ-ICV1

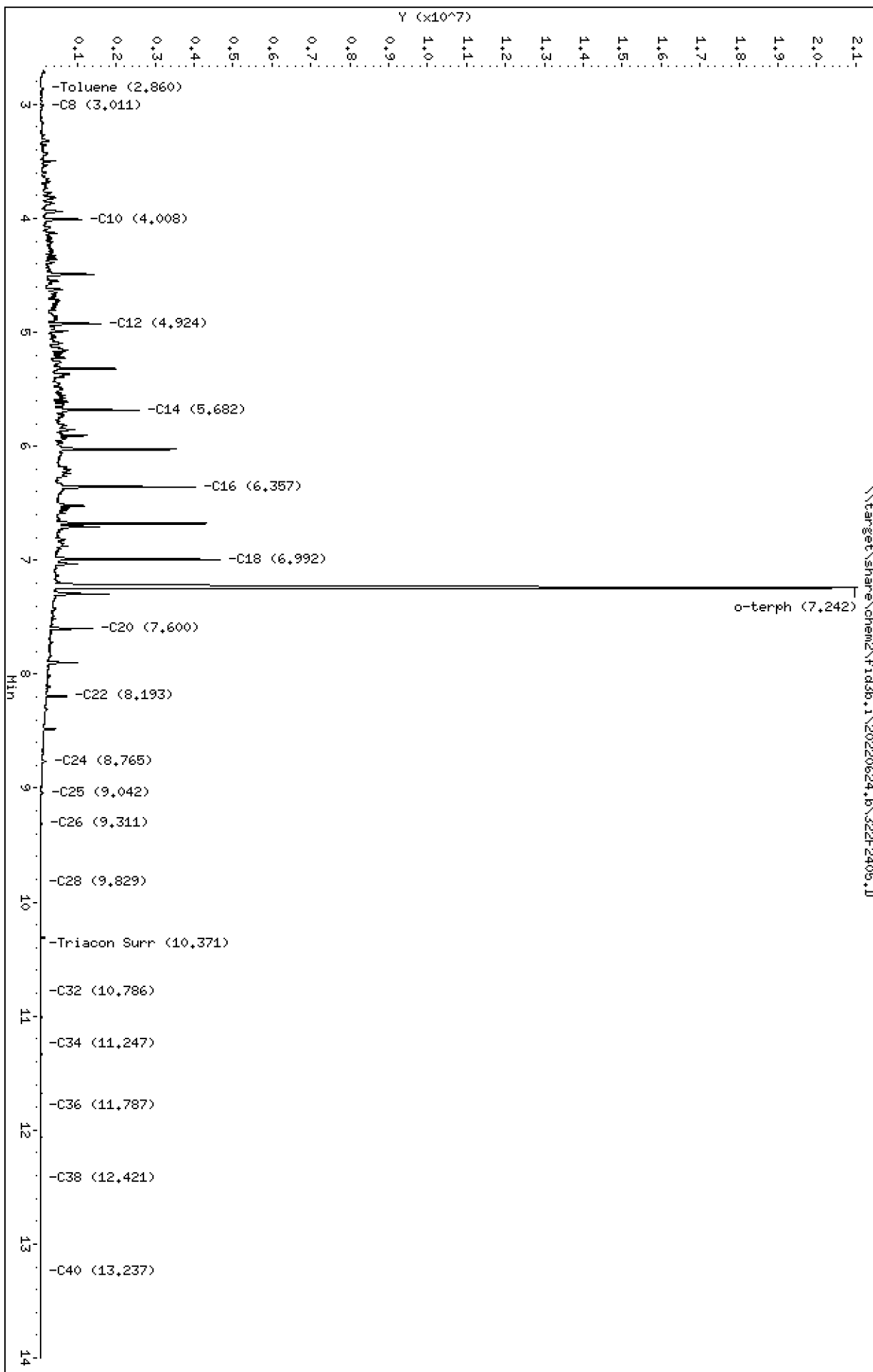
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2405.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-ICV1  
Client ID:  
Injection: 24-JUN-2022 10:28  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.860	0.002	68164	83484	WATPHG	(Tol-C12)	23727342	132.2
C8	3.011	0.001	73861	61304	WATPHD	(C12-C24)	98270859	569.9
C10	4.008	-0.002	1072641	989836	WATPHM	(C24-C38)	1936477	15.6
C12	4.924	-0.001	1558320	1499294	AK102	(C10-C25)	116241168	570.4 M
C14	5.682	-0.002	2519553	2030307	AK103	(C25-C36)	1235166	13.0
C16	6.357	-0.001	3969743	3274705	OR.DIES	(C10-C28)	116539548	570.4 M
C18	6.992	0.000	4615508	3843555				
C20	7.600	-0.005	1327564	1351433				
C22	8.193	-0.007	681746	663051				
C24	8.765	-0.007	152267	167249				
C25	9.042	-0.008	53808	77368				
C26	9.311	-0.008	19681	21905				
C28	9.829	-0.006	3825	3862	IT.DIES	(C10-C24)	115986393	570.3
C32	10.786	0.007	7576	3378				
C34	11.247	-0.006	11670	6960	CREOSOT	(C12-C22)	95436158	1854.9
Filter Peak	13.966	-0.007	14431	11236				
C36	11.787	0.000	13262	4624	BUNKERC	(C10-C38)	117922870	1553.1
o-terph	7.242	0.001	20588896	24242950	JET-A	(C10-C18)	90973385	528.8
Triacon Surr	10.371	0.028	4139	3894				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

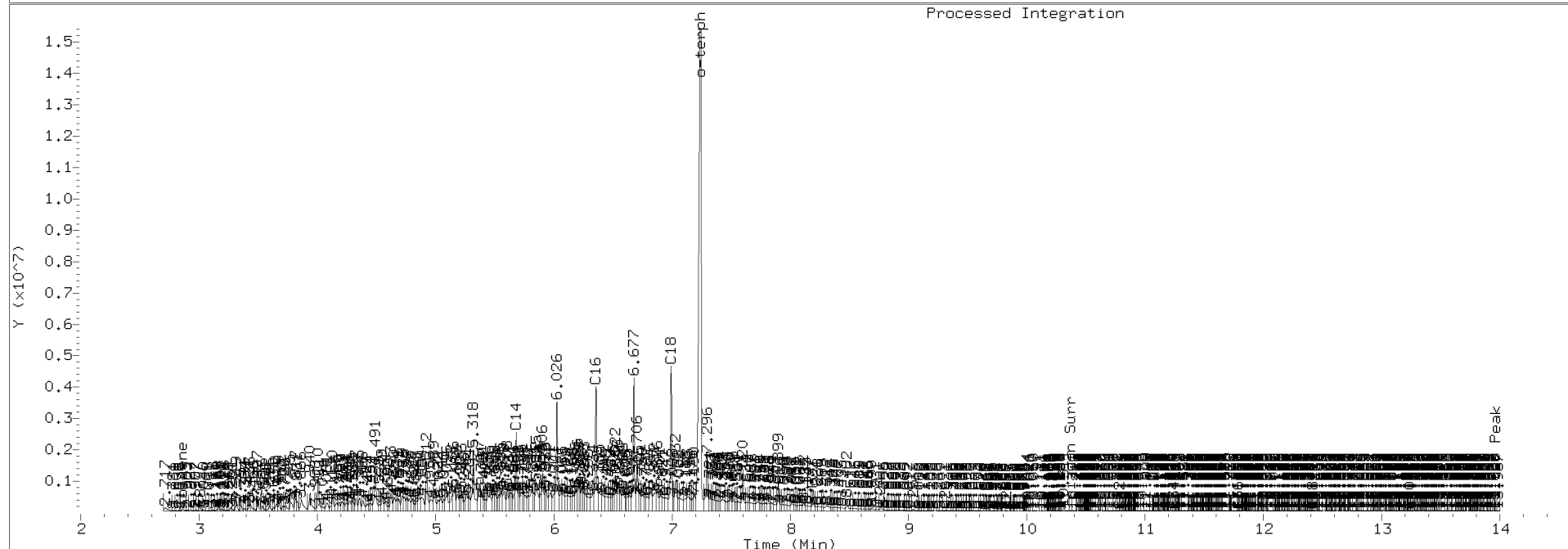
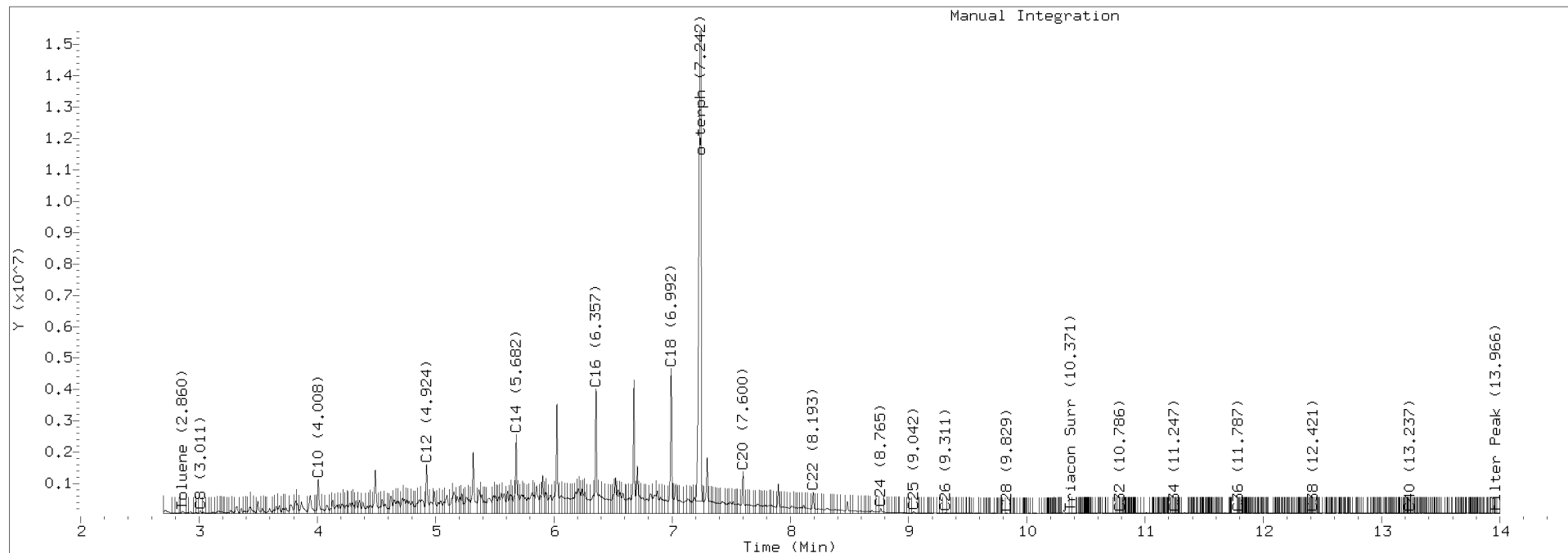
Surrogate	Area	Amount
o-Terphenyl	24242950	100.7
Triacontane	3894	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2405.D Injection: 24-JUN-2022 10:28

Lab ID:SEQ-ICV1





## INITIAL CALIBRATION CHECK

### NWTPH-Dx

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	Project: <u>RG Haley Site-Bellingham</u>
Instrument ID: <u>FID3</u>	Calibration: <u>FF00020</u>
Lab File ID: <u>322F2406.D</u>	Calibration Date: <u>06/07/2022</u>
Sequence: <u>SKF0314</u>	Injection Date: <u>06/24/22</u>
Lab Sample ID: <u>SKF0314-ICV2</u>	Injection Time: <u>10:49</u>
Sequence Name: <u>MOIL ICV</u>	

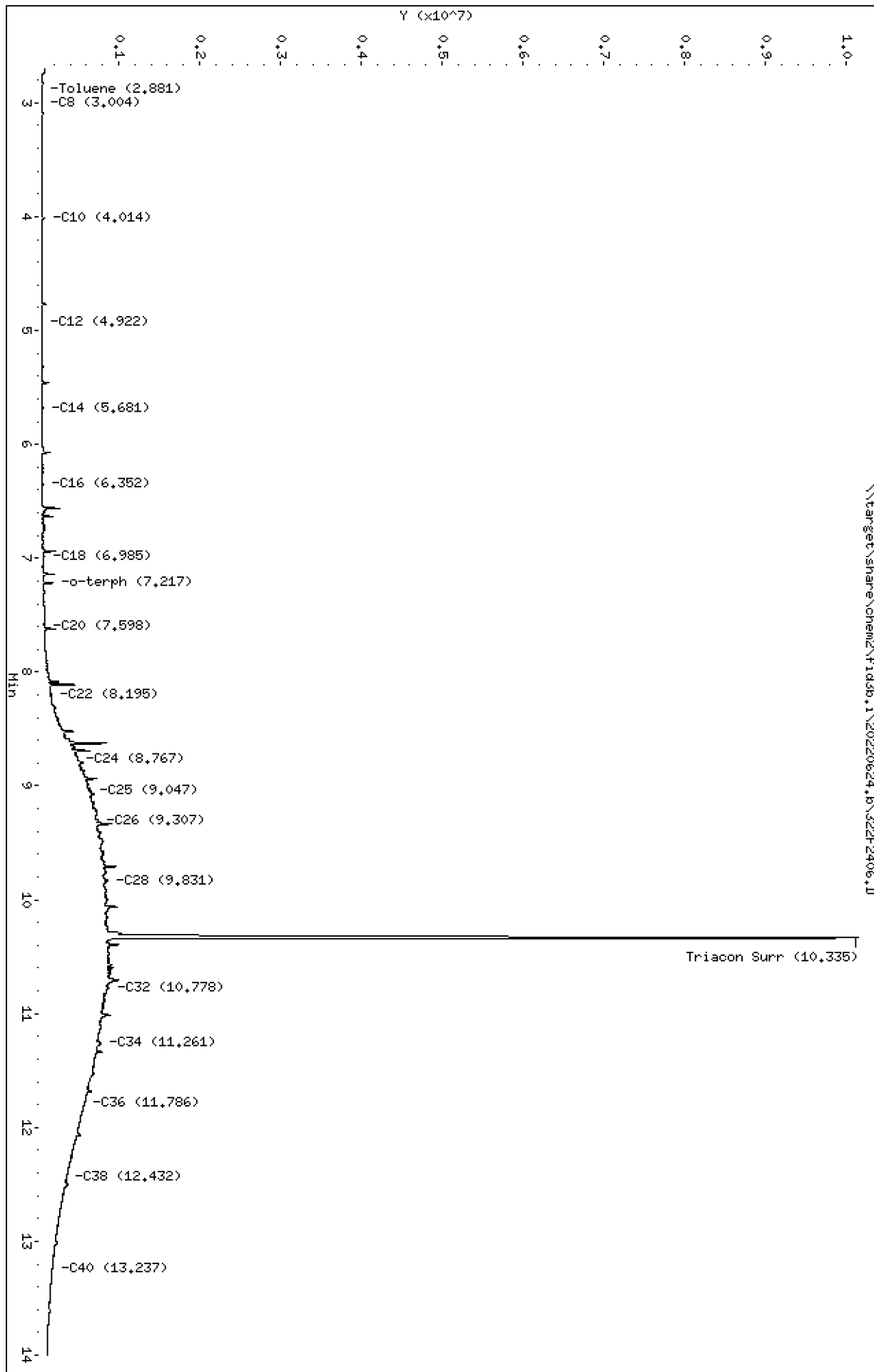
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1150	124145.6000	142516.6000		14.8	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2406.D  
Date: 24-JUN-2022 10:49  
Client ID:  
Sample Info: SEQ-ICV2  
Column phase: RTX-1

Instrument: fid3b,1  
Operator: CTO  
Column diameter: 0.25

\\target\share\chem2\fid3b,1\20220624,8\322F2406.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2406.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-ICV2  
Client ID:  
Injection: 24-JUN-2022 10:49  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.881	0.023	3849	2996	WATPHG	(Tol-C12)	308545	1.7
C8	3.004	-0.006	3161	1340	WATPHD	(C12-C24)	15034608	87.2
C10	4.014	0.004	32311	26646	WATPHM	(C24-C38)	142516635	1148.0
C12	4.922	-0.003	4534	6785	AK102	(C10-C25)	21301277	104.5
C14	5.681	-0.003	10563	9838	AK103	(C25-C36)	121380959	1277.6 M
C16	6.352	-0.006	16709	21059	OR.DIES	(C10-C28)	57818543	283.0
C18	6.985	-0.007	27324	29658				
C20	7.598	-0.006	37852	45190				
C22	8.195	-0.006	114308	150684				
C24	8.767	-0.006	444506	308459				
C25	9.047	-0.003	603870	270191				
C26	9.307	-0.012	696324	725592				
C28	9.831	-0.004	814576	1040270	IT.DIES	(C10-C24)	15174582	74.6
C32	10.778	-0.001	830344	1017716				
C34	11.261	0.008	722852	1273546	CREOSOT	(C12-C22)	4827192	93.8
Filter Peak	13.974	0.002	61343	39724				
C36	11.786	-0.001	526668	209688	BUNKERC	(C10-C38)	157691216	2076.9
o-terph	7.217	-0.024	143787	142967	JET-A	(C10-C18)	1413942	8.2
Triacon Surr	10.335	-0.009	9284510	9781412				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

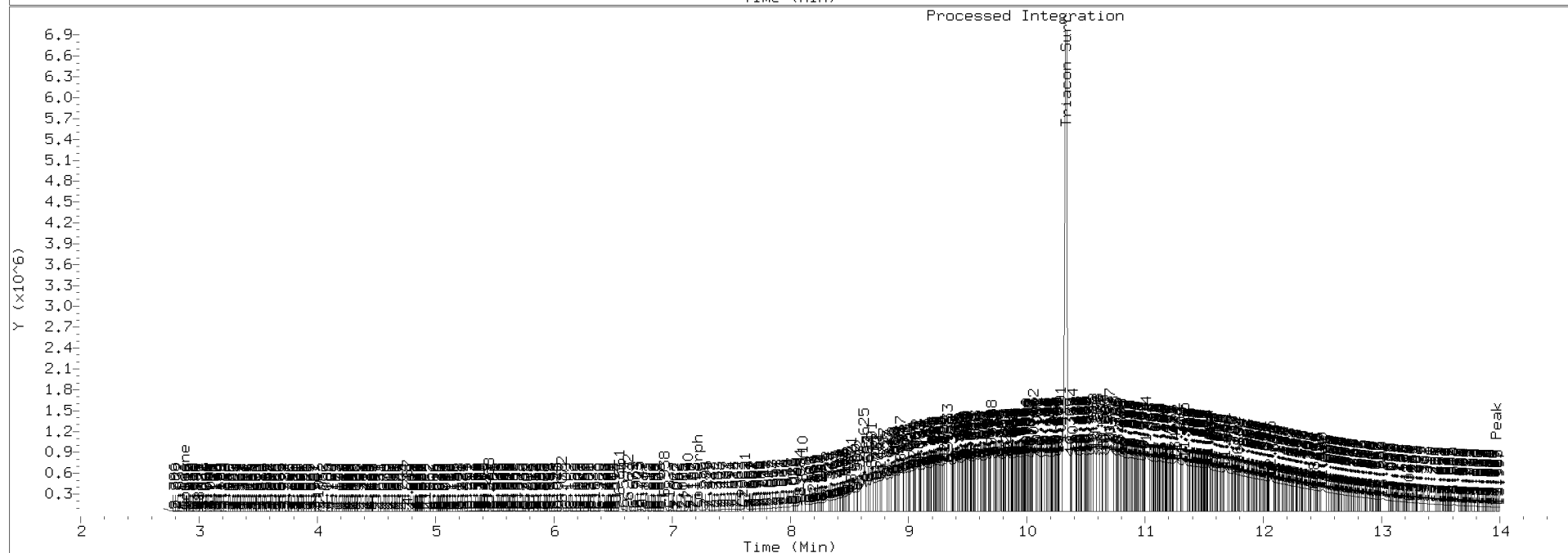
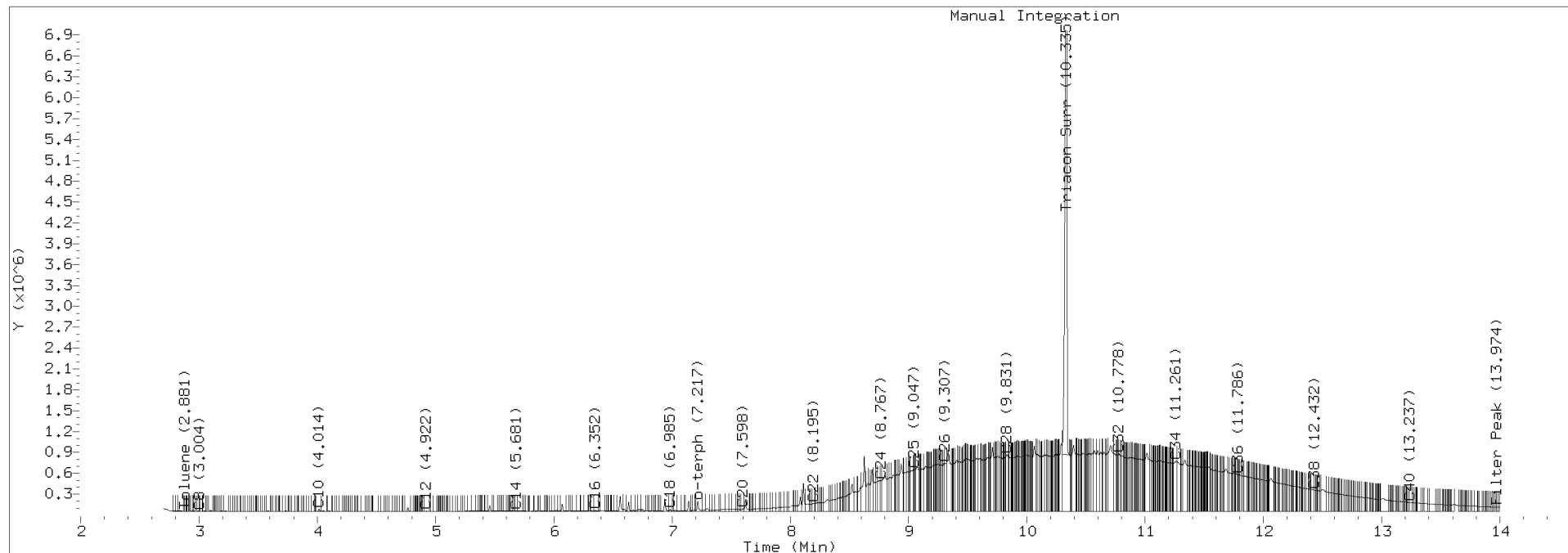
Surrogate	Area	Amount
o-Terphenyl	142967	0.6
Triacontane	9781412	56.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2406.D Injection: 24-JUN-2022 10:49

Lab ID:SEQ-ICV2





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2405.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-ICV1</u>	Injection Time:	<u>13:17</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	545	158638.4000	172807.7000		8.9	+/-15
o-Terphenyl	A	90.000	95.4	203634.1000	215827.7000		6.0	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2405.D

Date: 24-JUN-2022 13:17

Client ID:

Sample Info: SEQ-ICV1

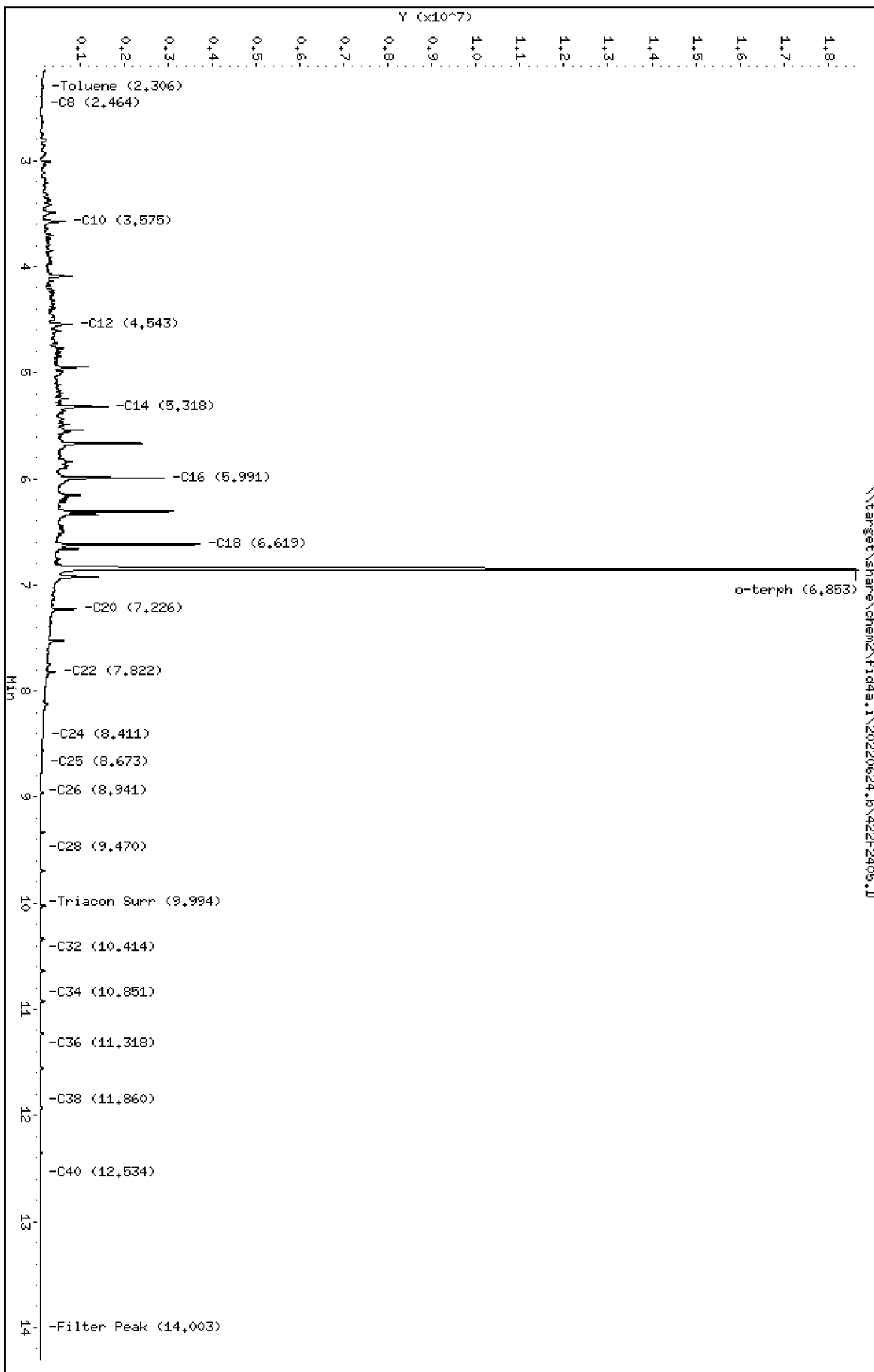
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2405.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV1  
Client ID:  
Injection: 24-JUN-2022 13:17  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

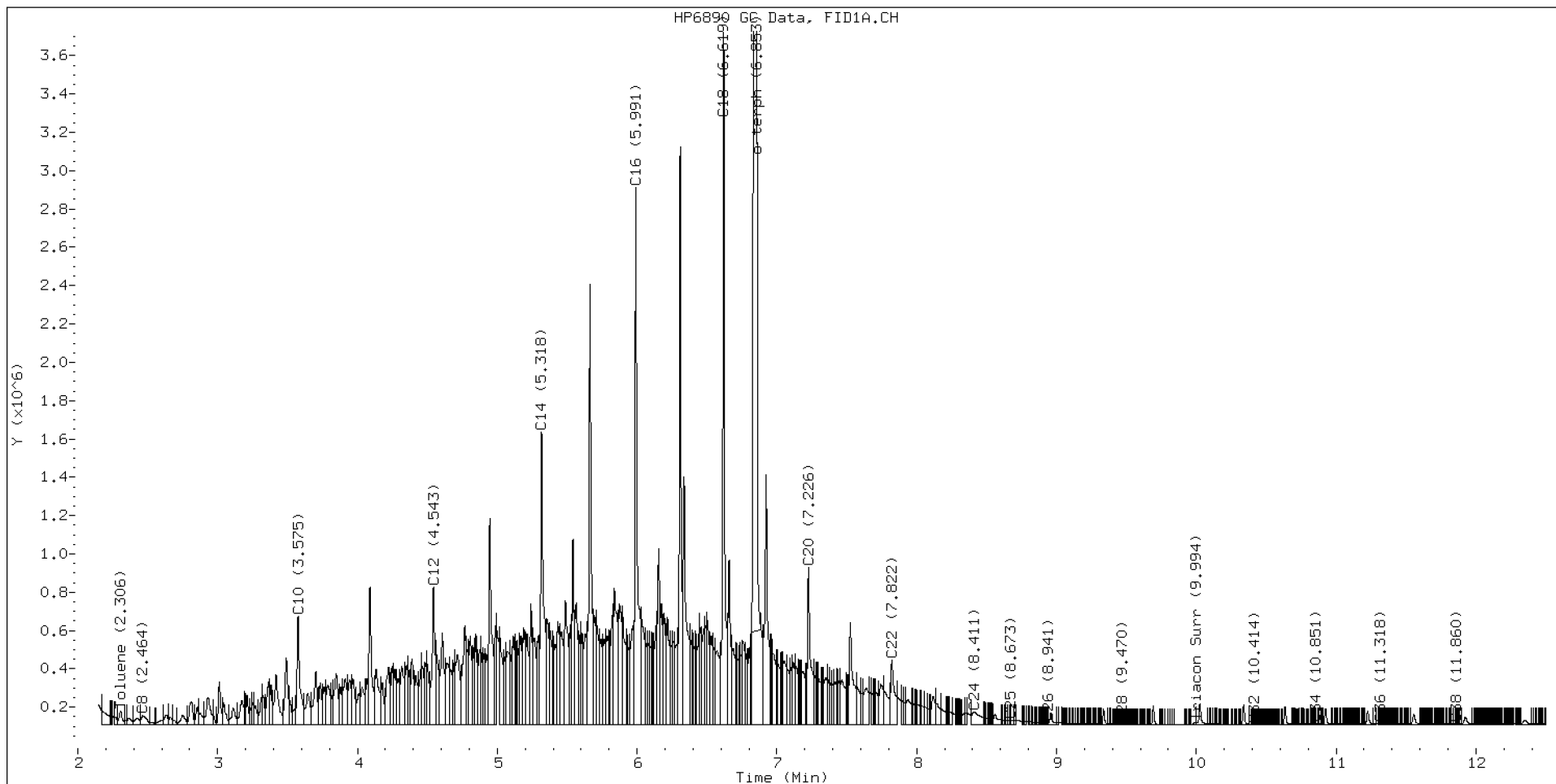
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.464	0.007	46265	126623	WATPHD	(C12-C24)	86403850	544.7
C10	3.575	-0.002	563693	823294	WATPHM	(C24-C38)	1646790	12.4
C12	4.543	-0.000	717759	966497	AK102	(C10-C25)	100543882	531.8
C14	5.318	-0.004	1529145	2129355	AK103	(C25-C36)	1192169	12.1
C16	5.991	-0.003	2805635	3177836	OR.DIES	(C10-C28)	101011104	532.4
C18	6.619	-0.003	3610591	3440387				
C20	7.226	-0.004	822011	1263371	JET-A	(C10-C18)	77304686	446.4
C22	7.822	-0.003	336924	674512				
C24	8.411	0.012	65490	262826				
C25	8.673	-0.004	19494	4856				
C26	8.941	-0.007	9714	4323				
C28	9.470	0.004	1677	628				
C32	10.414	-0.001	1858	532				
C34	10.851	-0.001	3044	1187				
Filter Peak	14.003	0.004	4269	1896				
C36	11.318	-0.000	4713	1618				
C38	11.860	-0.001	4518	3100				
C40	12.534	0.002	4383	1511				
o-terph	6.853	-0.003	18094082	19424493				
Triacon Surr	9.994	0.014	11141	12008	NAS DIES	(C10-C24)	100291270	531.6

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	19424493	95.4 M
Triacontane	12008	0.1

M Indicates the peak was manually integrated

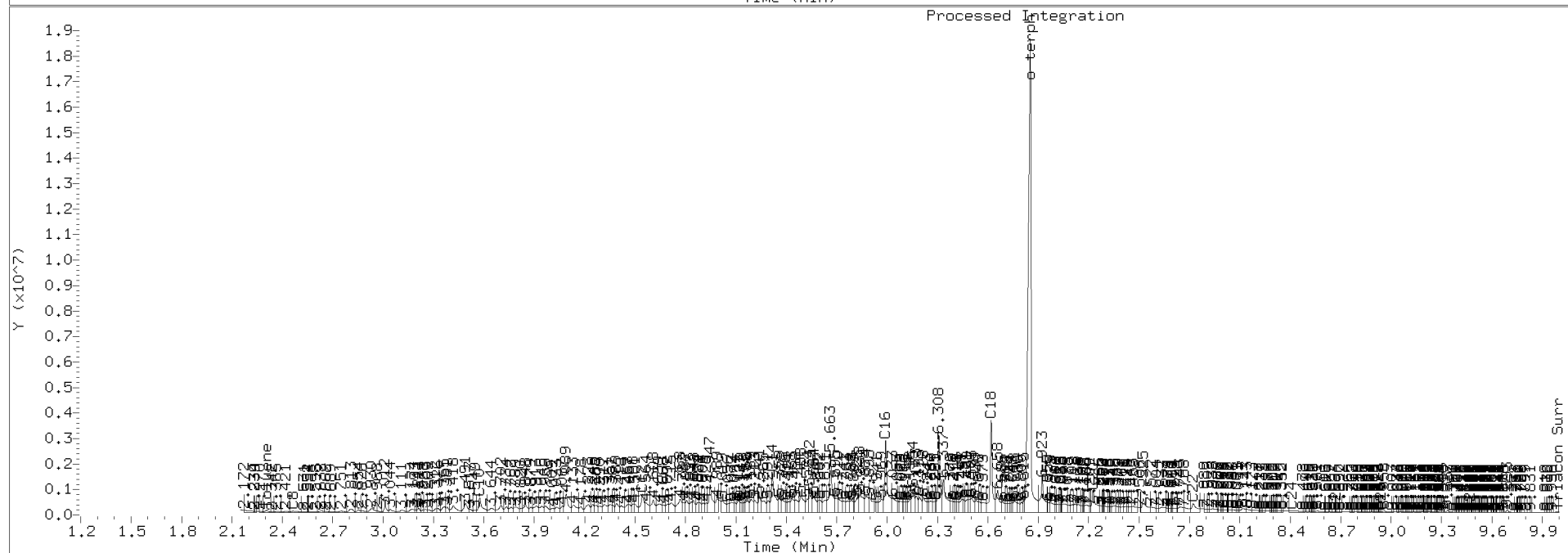
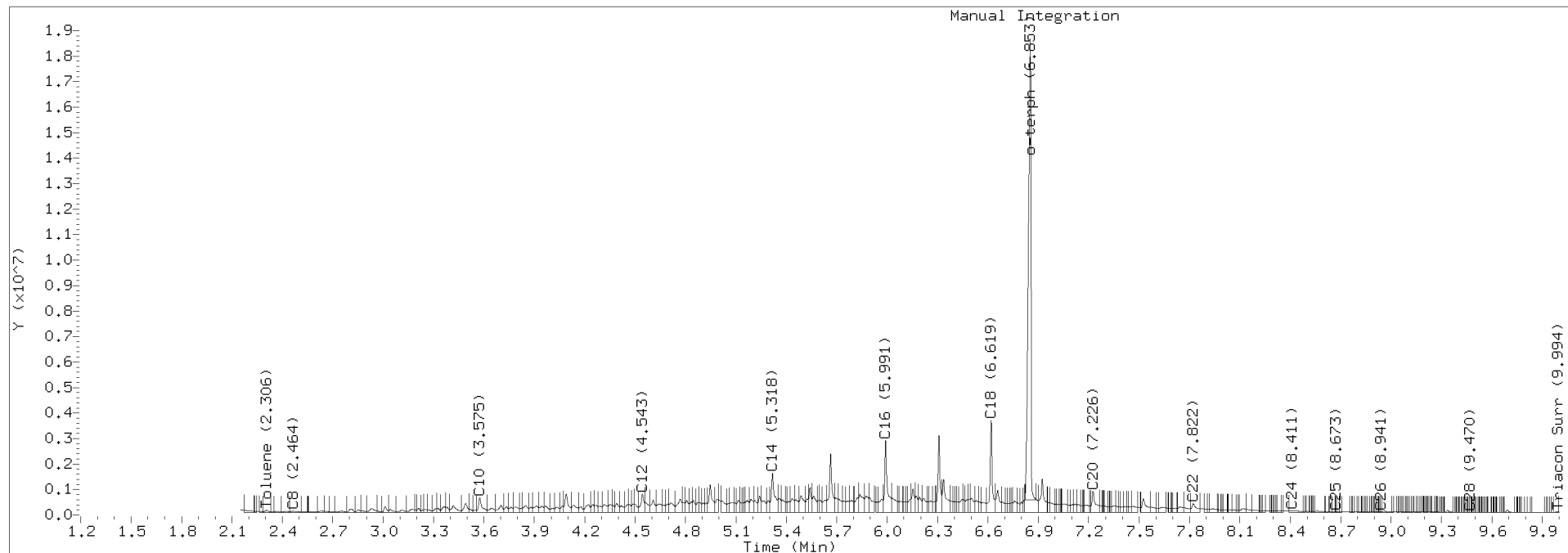
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2405.D Injection: 24-JUN-2022 13:17

Lab ID:SEQ-ICV1





**INITIAL CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2406.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-ICV2</u>	Injection Time:	<u>13:37</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	1020	132579.1000	135705.1000		2.4	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2406.D

Date: 24-JUN-2022 13:37

Client ID:

Sample Info: SEQ-ICV2

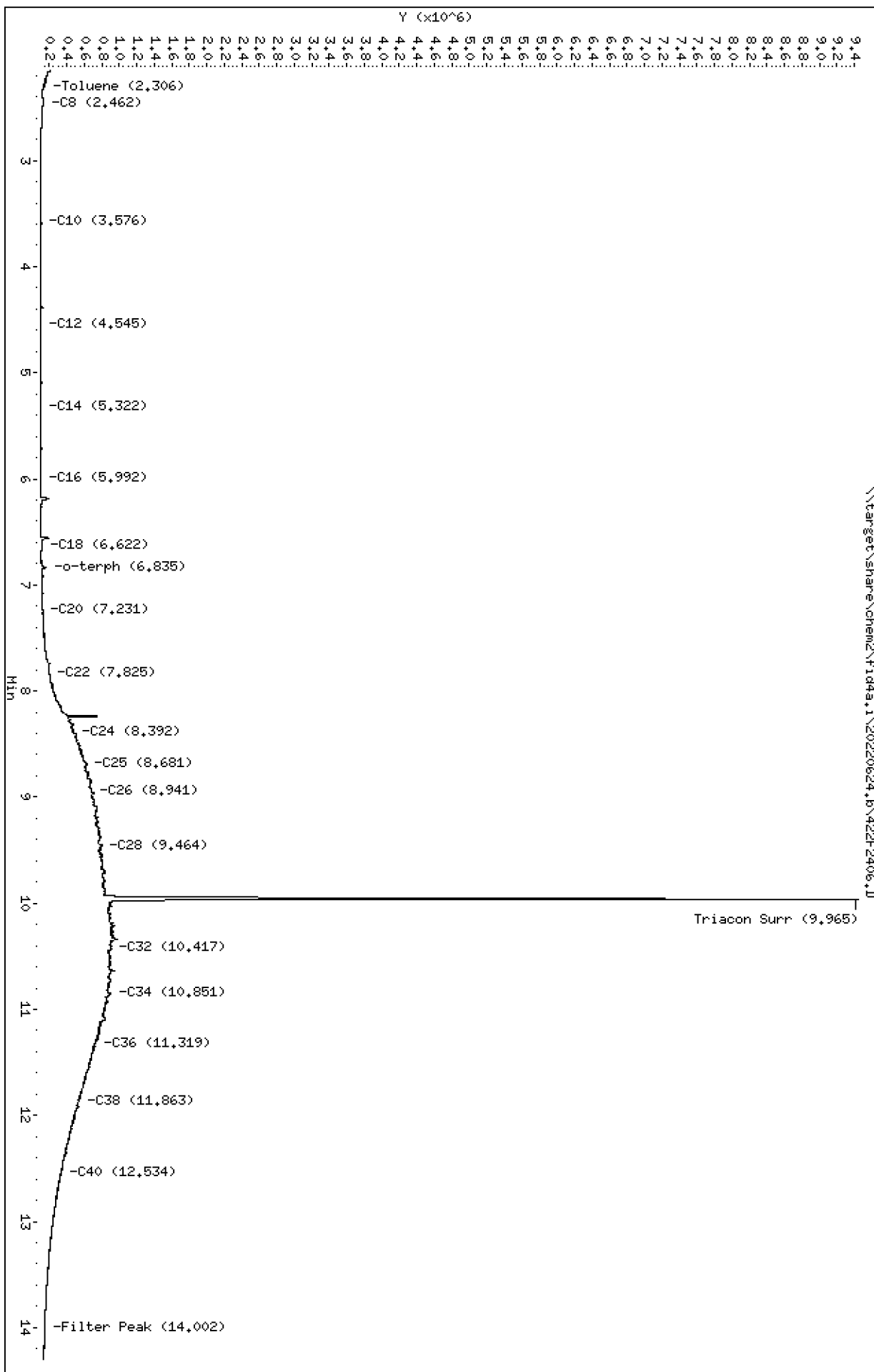
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2406.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-ICV2  
Client ID:  
Injection: 24-JUN-2022 13:37  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

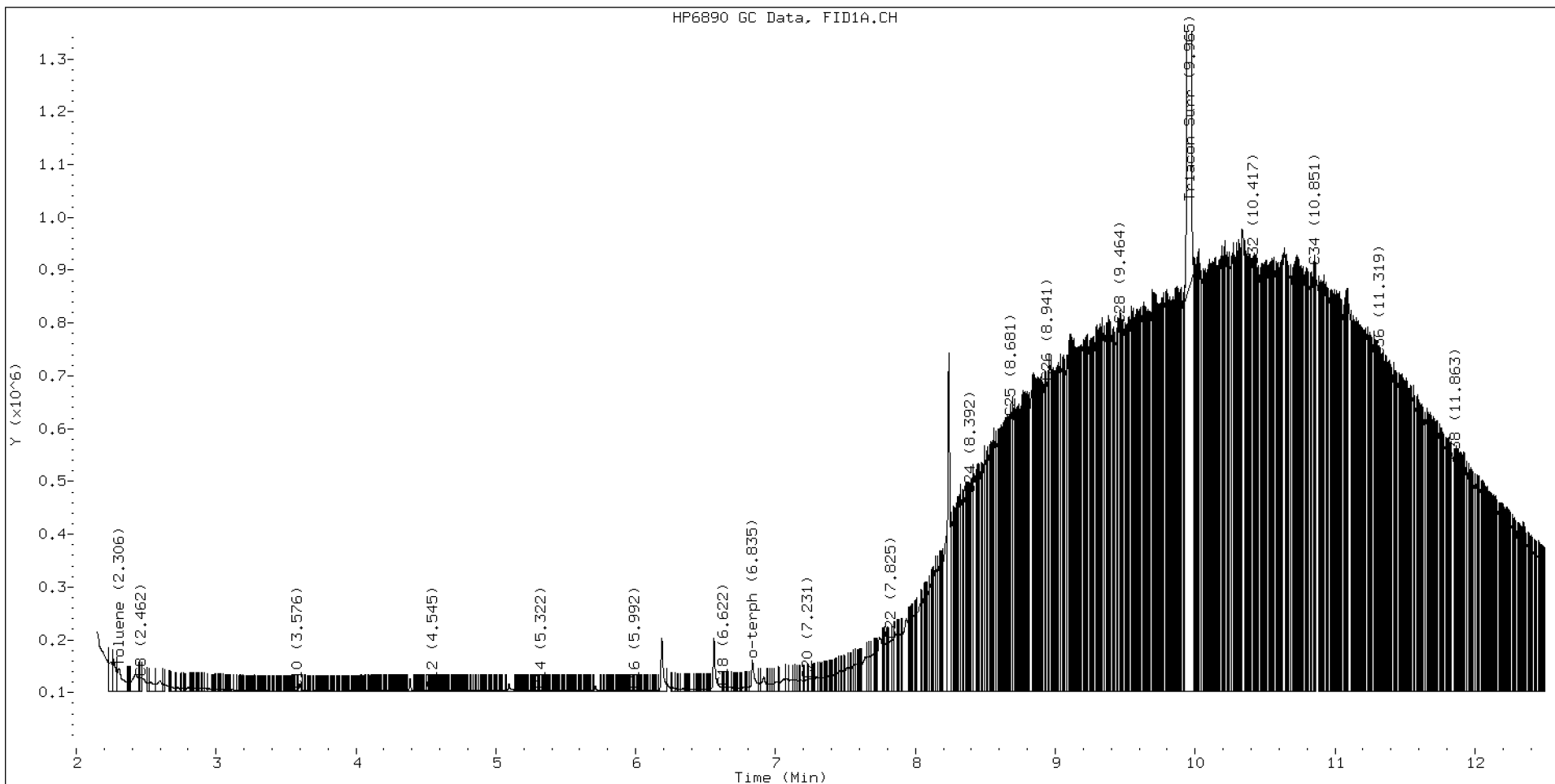
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.462	0.004	26772	21205	WATPHD	(C12-C24)	11937658	75.3
C10	3.576	-0.001	1481	667	WATPHM	(C24-C38)	135705093	1023.6
C12	4.545	0.001	2432	1045	AK102	(C10-C25)	16749615	88.6
C14	5.322	-0.000	2075	1409	AK103	(C25-C36)	114326000	1155.9
C16	5.992	-0.002	2472	721	OR.DIES	(C10-C28)	48792047	257.1
C18	6.622	-0.000	8137	3611				
C20	7.231	0.001	22224	3324	JET-A	(C10-C18)	707114	4.1
C22	7.825	-0.000	96409	118019				
C24	8.392	-0.007	372556	166329				
C25	8.681	0.003	519532	406622				
C26	8.941	-0.006	586025	377597				
C28	9.464	-0.002	693674	242104				
C32	10.417	0.002	805458	240492				
C34	10.851	-0.001	804855	477913				
Filter Peak	14.002	0.003	47206	18628				
C36	11.319	0.001	631330	345478				
C38	11.863	0.002	436718	108588				
C40	12.534	0.001	233897	69670				
o-terph	6.835	-0.021	58625	98490				
Triacon Surr	9.965	-0.015	8572766	8503895	NAS DIES	(C10-C24)	12057658	63.9

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	98490	0.5
Triacotane	8503895	48.8 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022

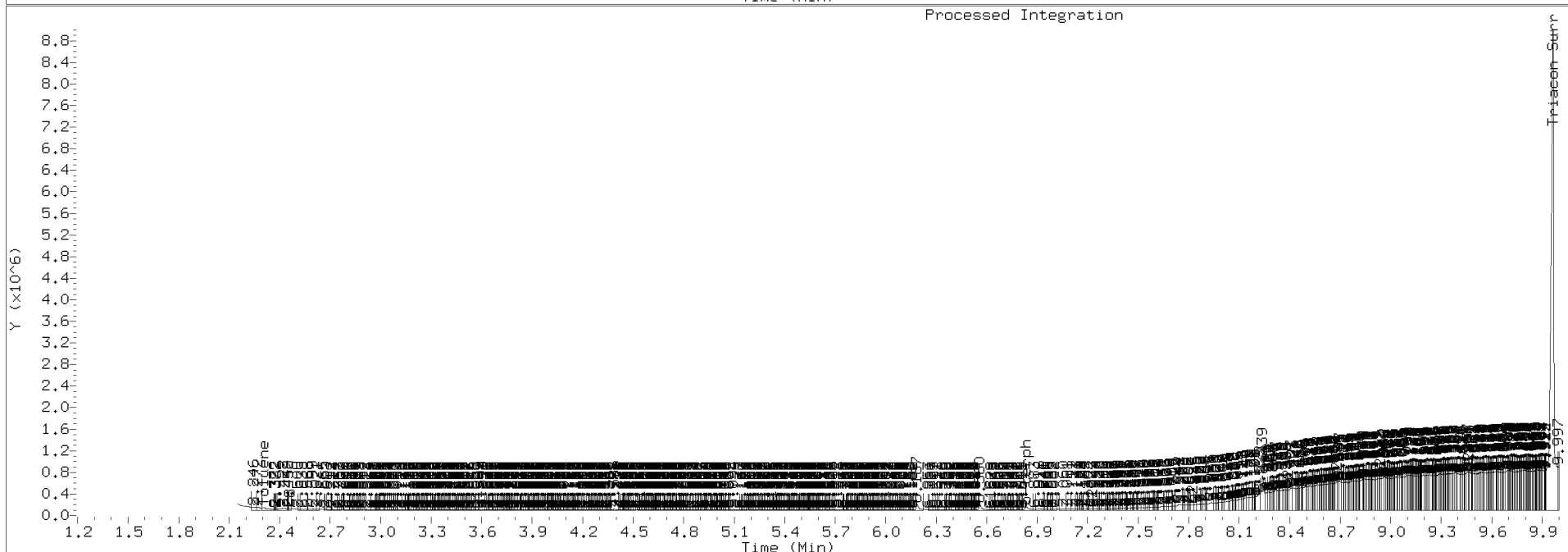
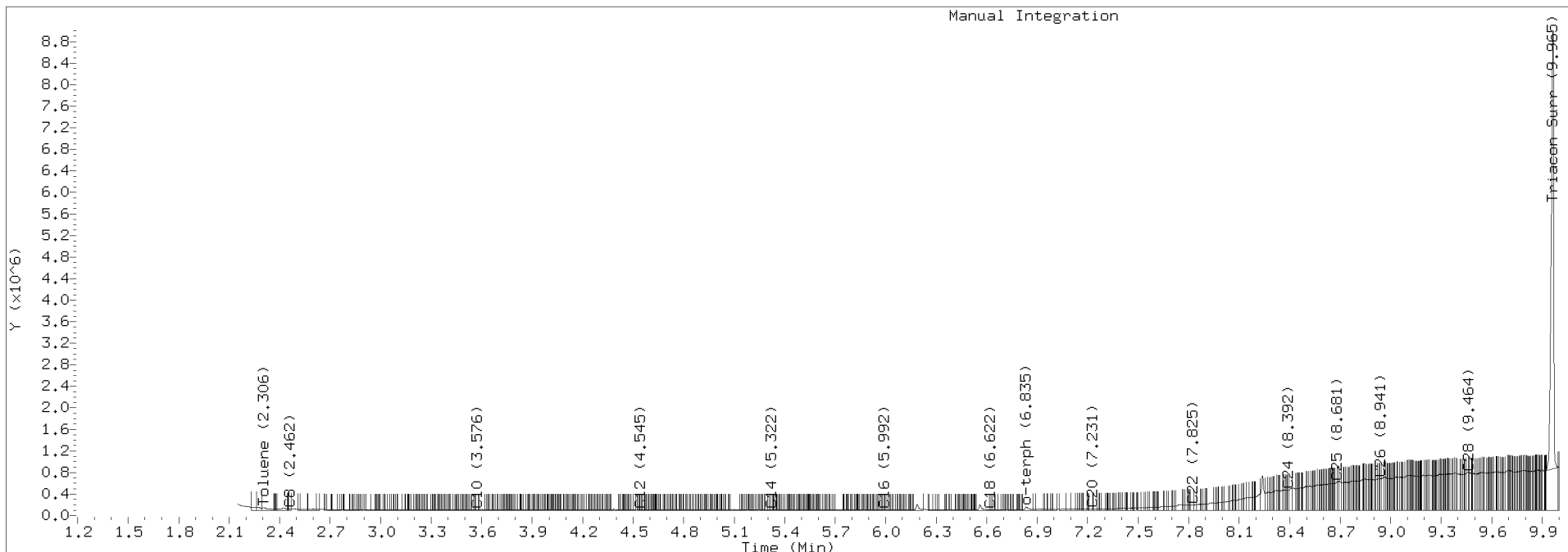




TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2406.D Injection: 24-JUN-2022 13:37

Lab ID:SEQ-ICV2





**SECOND-SOURCE  
CONTINUING CALIBRATION CHECK  
NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422A2011.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKA0208</u>	Injection Date:	<u>01/20/22</u>
Lab Sample ID:	<u>SKA0208-SCV1</u>	Injection Time:	<u>13:50</u>
Sequence Name:	<u>DIESEL SCV</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	579	158638.4	183584		15.7	+/-30

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220120\_b\42282011.D

Date: 20-JAN-2022 13:50

Client ID:

Sample Info: SKR0208-SCW1

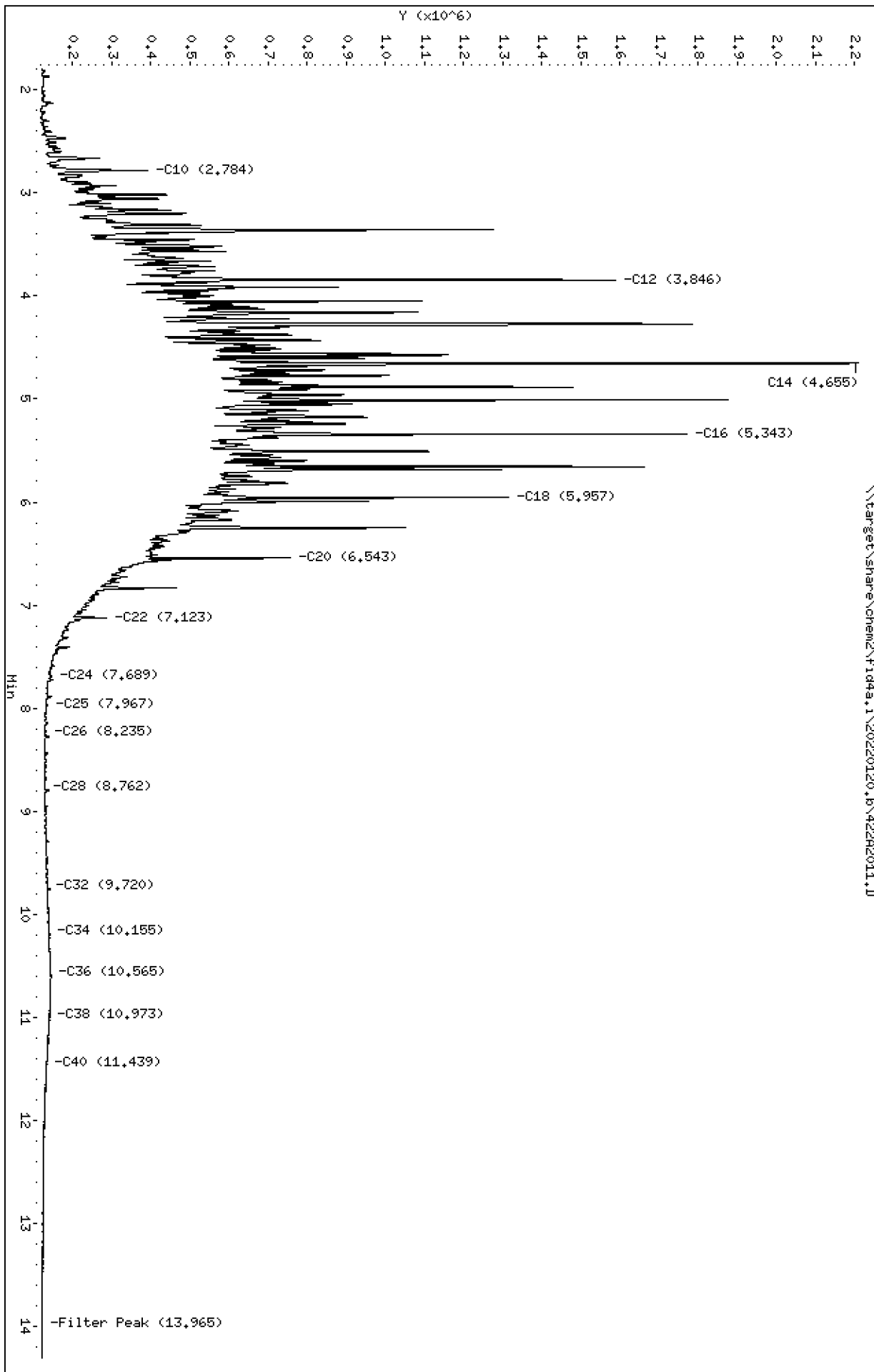
Column phase: RTX-1

Instrument: fid4a,1

Operator: WLB

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220120.b/422A2011.D  
Method: 20220120.b\FID4TPH.m  
Instrument: fid4a.i, VLB  
Report Date: 02/09/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SKA0208-SCV1  
Client ID:  
Injection: 20-JAN-2022 13:50  
Dilution Factor: 1  
RT Std: 422A2003.D

FID:4A RESULTS

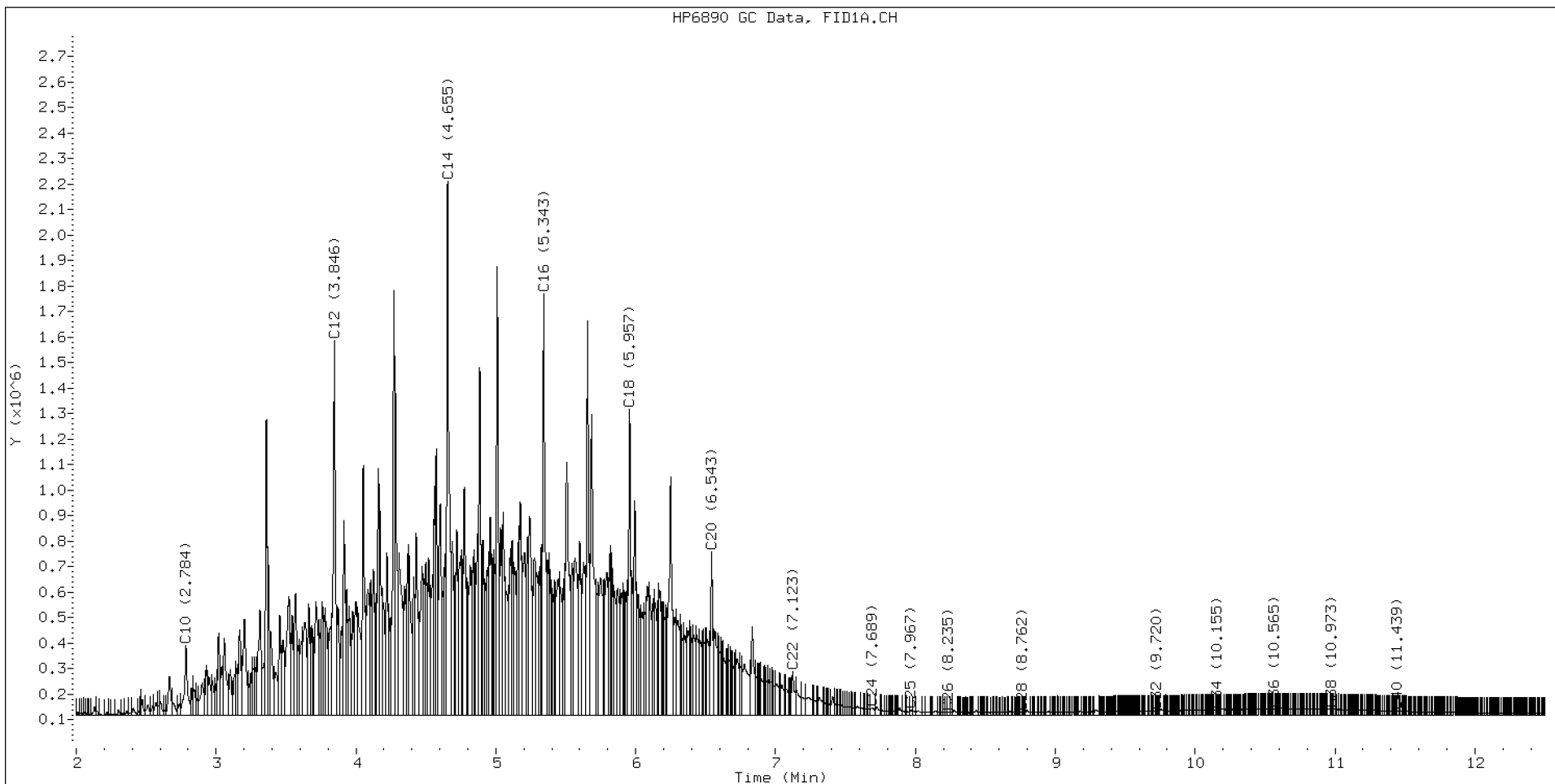
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.544	0.001	18500	21377	WATPHD	(C12-C24)	91791980	578.6
C10	2.784	-0.003	274520	418072	WATPHM	(C24-C38)	3249567	24.5
C12	3.846	-0.002	1470041	1730655	AK102	(C10-C25)	109259392	577.9
C14	4.655	-0.002	2091691	2520186	AK103	(C25-C36)	2486512	25.1
C16	5.343	-0.002	1652289	1980684	OR.DIES	(C10-C28)	109898714	579.2
C18	5.957	-0.005	1198312	1177531				
C20	6.543	-0.006	639233	695730				
C22	7.123	-0.007	169547	241250				
C24	7.689	-0.007	28257	52637				
C25	7.967	-0.007	19233	25038				
C26	8.235	-0.009	12361	12259				
C28	8.762	-0.002	11738	2920				
C32	9.720	0.003	17524	10151				
C34	10.155	0.000	21103	7290				
Filter Peak	13.965	0.003	4638	1151				
C36	10.565	-0.003	24473	16973				
C38	10.973	-0.002	22520	6721				
C40	11.439	0.001	15551	3097				
o-terph	----							
Triacon Surr	----				NAS DIES	(C10-C24)	109074547	578.1

Range Times: NW Diesel(3.848 - 7.697) AK102(2.79 - 7.97) Jet A(2.79 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.79 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	0	0.0
Triacontane	0	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422C0323.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKC0073</u>	Injection Date:	<u>03/03/22</u>
Lab Sample ID:	<u>SKC0073-CCV1</u>	Injection Time:	<u>16:12</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	474	158638.4	150447.9		-5.2	+/-15
o-Terphenyl	A	90.000	86.9	203634.1	196586.8		-3.4	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220303,b\42200323.D

Date: 03-MAR-2022 16:12

Client ID:

Sample Info: SEQ-CCV1

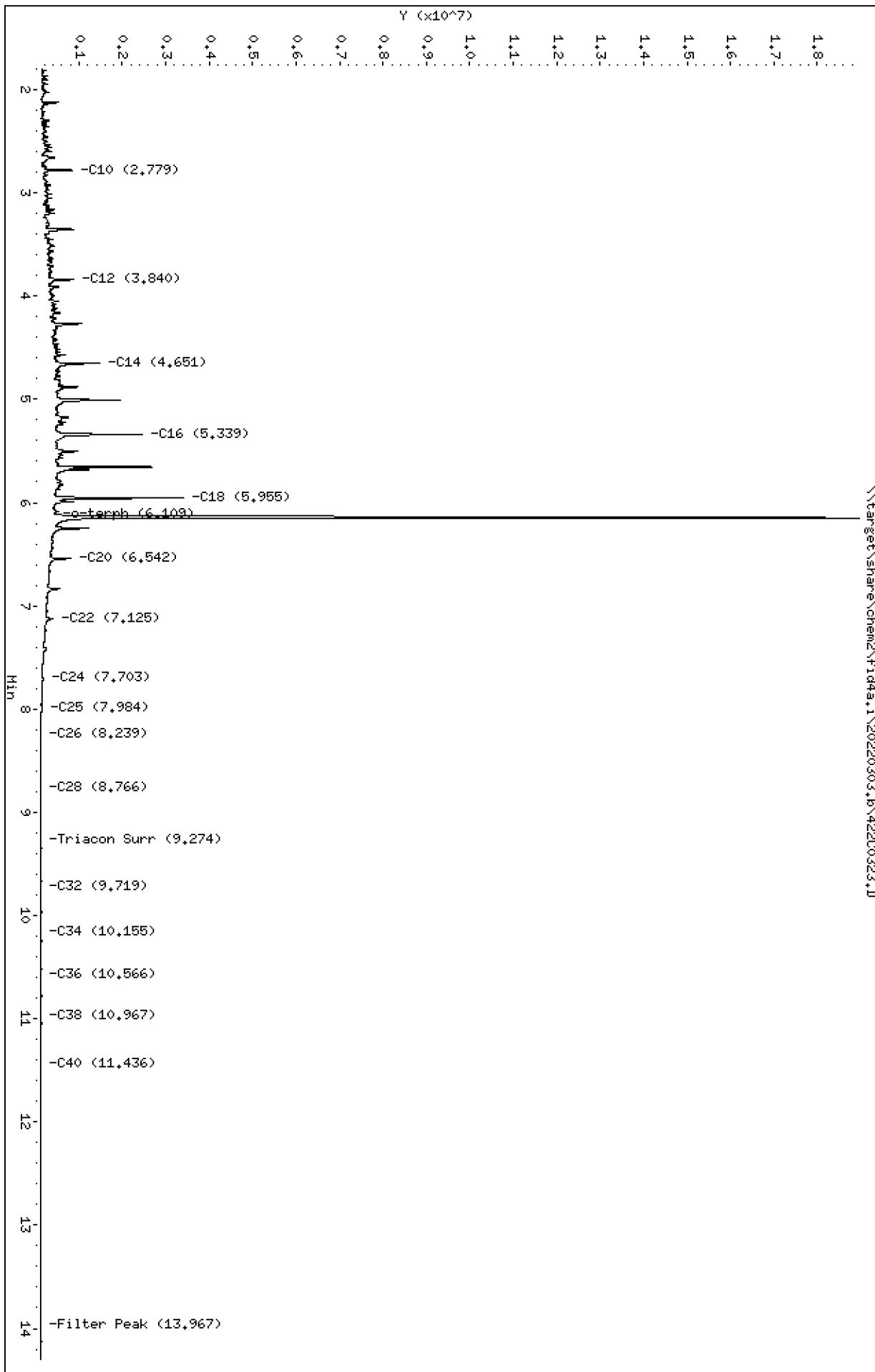
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220303.b/422C0323.D  
Method: 20220303.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 03/04/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV1  
Client ID:  
Injection: 03-MAR-2022 16:12  
Dilution Factor: 1  
RT Std: 422C0303.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.544	0.001	101061	64044	WATPHD	(C12-C24)	75223938	474.2
C10	2.779	-0.003	712017	703394	WATPHM	(C24-C38)	1146293	8.6
C12	3.840	-0.003	753727	981302	AK102	(C10-C25)	88635375	468.8
C14	4.651	-0.003	1345154	1820575	AK103	(C25-C36)	690288	7.0
C16	5.339	-0.005	2334938	4396431	OR.DIES	(C10-C28)	88962387	468.9
C18	5.955	-0.004	3299927	3250066				
C20	6.542	-0.005	690150	1431634	JET-A	(C10-C18)	69745143	402.7
C22	7.125	-0.002	270108	638416				
C24	7.703	0.007	53940	60457				
C25	7.984	0.010	20712	29738				
C26	8.239	-0.003	6896	2396				
C28	8.766	0.005	1114	352				
C32	9.719	0.003	1689	562				
C34	10.155	0.001	3645	721				
Filter Peak	13.967	0.002	15093	3011				
C36	10.566	-0.001	7764	2683				
C38	10.967	-0.005	11331	6735				
C40	11.436	-0.001	13087	3258				
o-terph	6.148	-0.003	18507079	17692811				
Triacon Surr	9.274	-0.002	633	225	NAS DIES	(C10-C24)	88430474	468.7

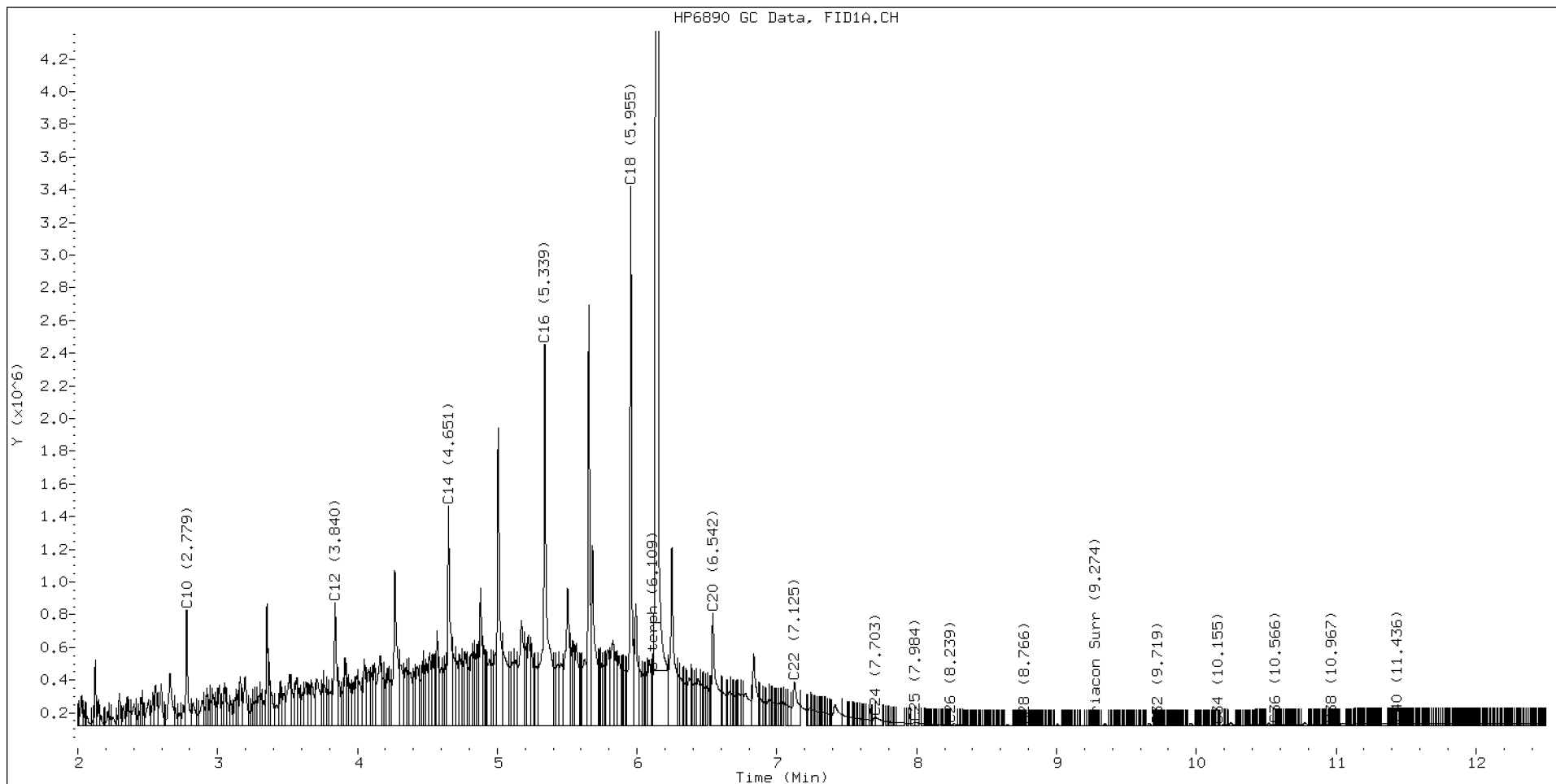
Range Times: NW Diesel(3.843 - 7.696) AK102(2.78 - 7.97) Jet A(2.78 - 5.96)  
NW M.Oil(7.70 - 10.97) AK103(7.97 - 10.57) OR Diesel(2.78 - 8.76)

Surrogate	Area	Amount
o-Terphenyl	17692811	86.9 M
Triacontane	225	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022

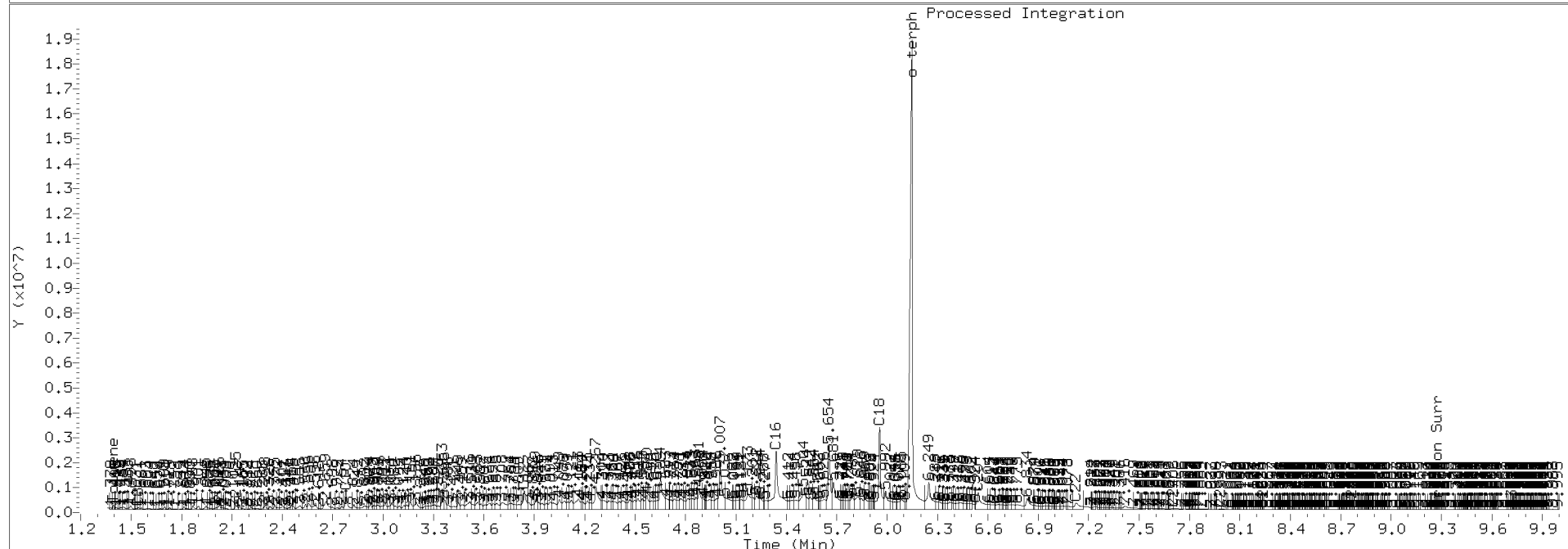
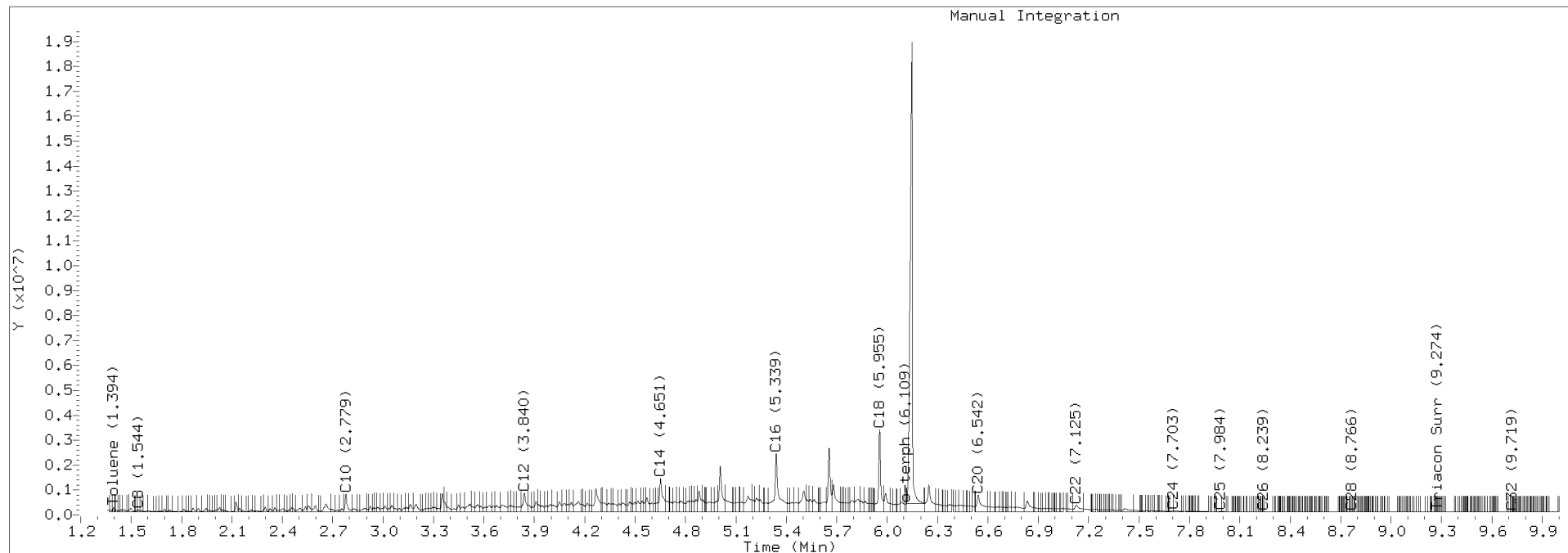




TPH Manual Integrations Report

Datafile: FID4A, 20220303.b/422C0323.D Injection: 03-MAR-2022 16:12

Lab ID:SEQ-CCV1





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422D2129.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKE0009</u>	Injection Date:	<u>04/22/22</u>
Lab Sample ID:	<u>SKE0009-CCV1</u>	Injection Time:	<u>01:26</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	528	158638.4	167465.6		5.6	+/-15
o-Terphenyl	A	90.000	90.8	203634.1	205473.8		0.9	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220421.b\422D2129.D

Date: 22-APR-2022 01:26

Client ID:

Sample Info: SEQ-CV1

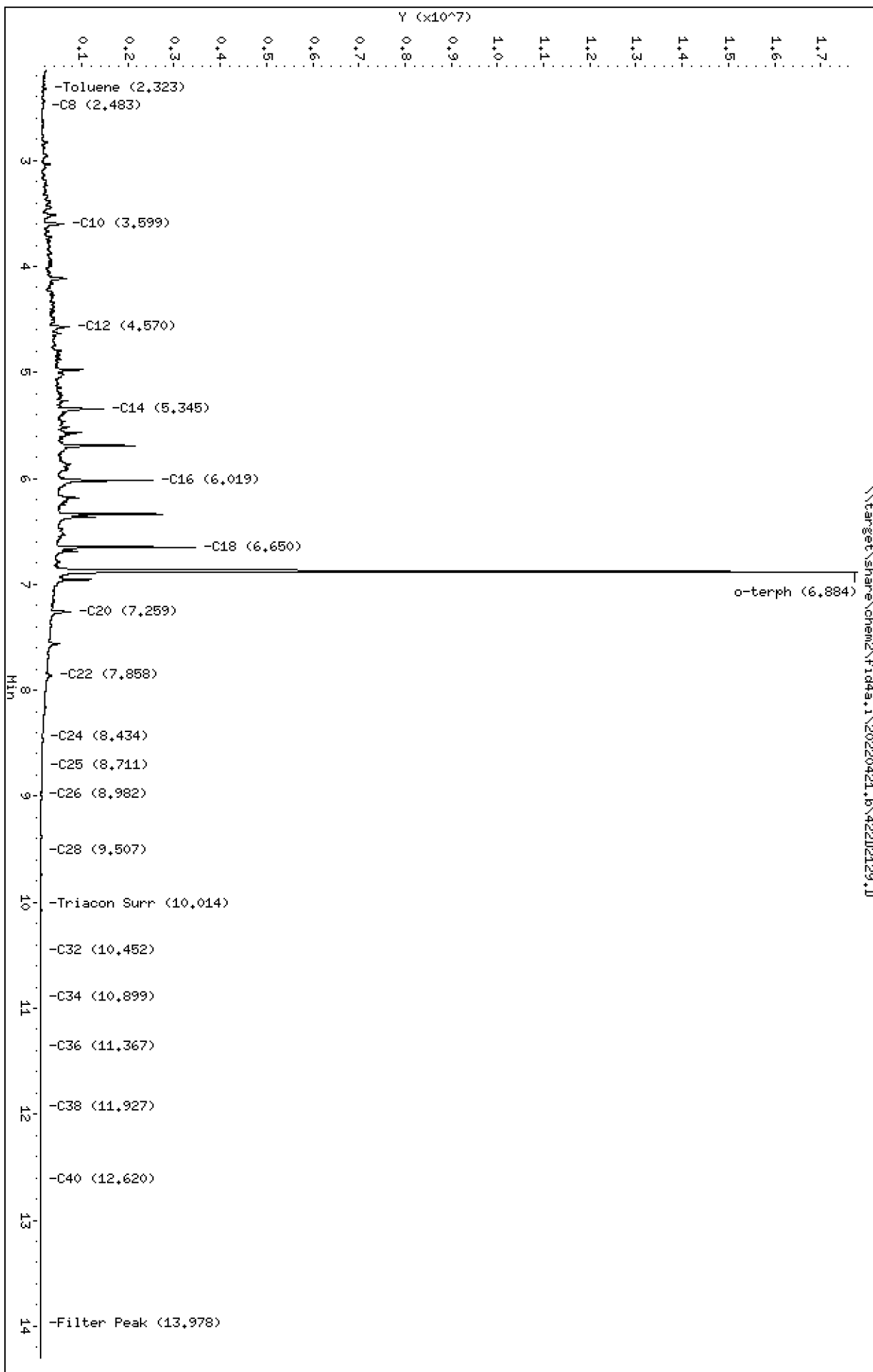
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220421.b/422D2129.D  
Method: 20220421.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 05/02/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV1  
Client ID:  
Injection: 22-APR-2022 01:26  
Dilution Factor: 1  
RT Std: 422D2103.D

FID:4A RESULTS

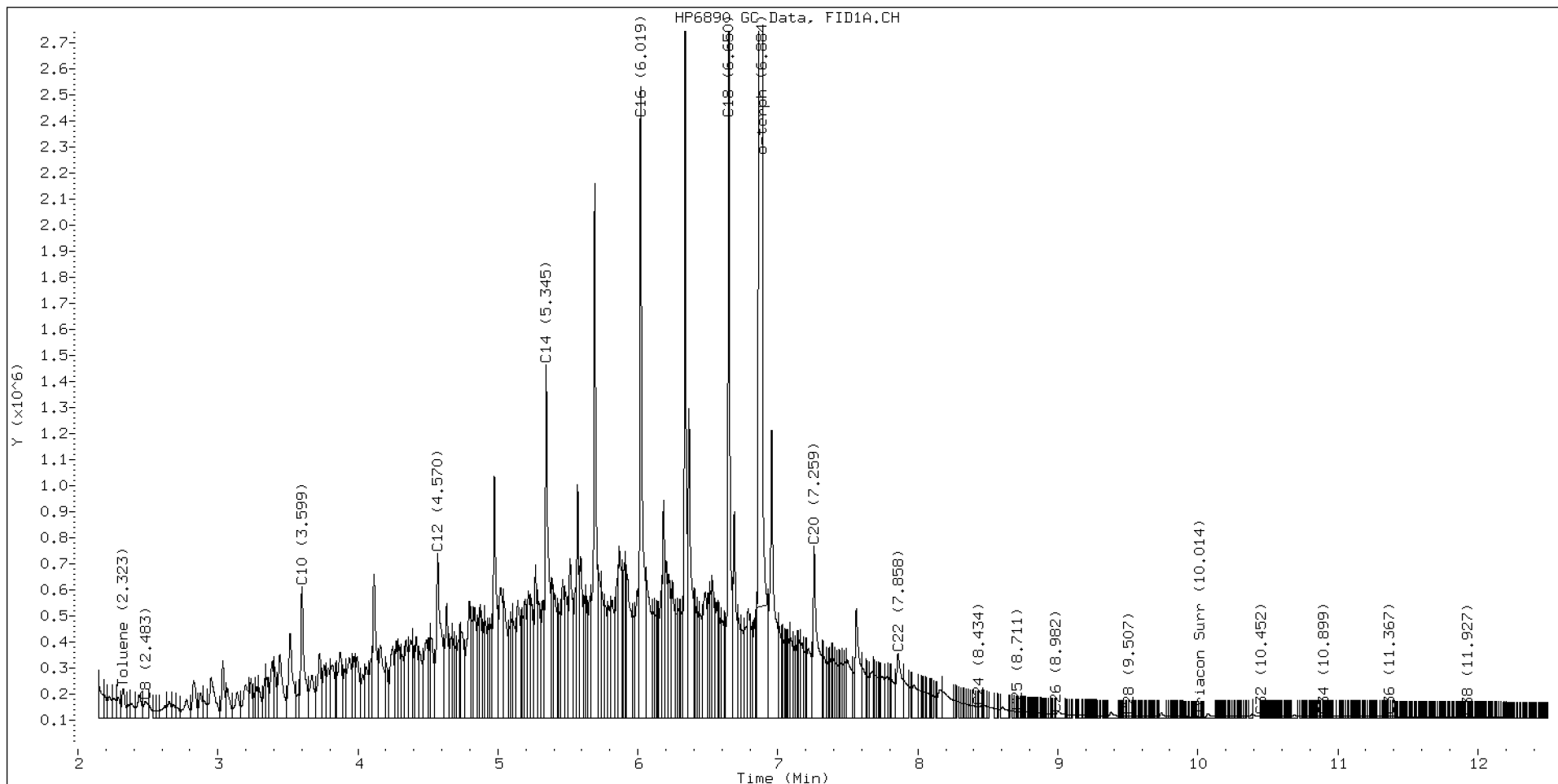
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.483	-0.019	63471	144147	WATPHD	(C12-C24)	83732775	527.8
C10	3.599	-0.005	500882	865831	WATPHM	(C24-C38)	1663006	12.5
C12	4.570	-0.001	632715	1475343	AK102	(C10-C25)	98051393	518.6
C14	5.345	-0.002	1355685	2096608	AK103	(C25-C36)	1304480	13.2
C16	6.019	-0.002	2422129	3042389	OR.DIES	(C10-C28)	98699632	520.2
C18	6.650	-0.003	3358803	3314418				
C20	7.259	-0.003	659055	1432934	JET-A	(C10-C18)	76045004	439.1
C22	7.858	-0.001	247440	634538				
C24	8.434	-0.002	41983	12555				
C25	8.711	-0.003	23544	7012				
C26	8.982	-0.002	14402	5716				
C28	9.507	0.003	6936	1723				
C32	10.452	-0.002	6544	4185				
C34	10.899	0.005	5926	2346				
Filter Peak	13.978	0.000	473	183	BUNKERC	(C10-C38)	99475020	1673.6
C36	11.367	-0.001	5449	2673				
C38	11.927	0.005	2582	1501				
C40	12.620	-0.003	422	159				
o-terph	6.884	-0.004	17257552	18492643				
Triacon Surr	10.014	-0.004	5154	3519	NAS DIES	(C10-C24)	97812014	518.4

Range Times: NW Diesel(4.571 - 8.436) AK102(3.60 - 8.71) Jet A(3.60 - 6.65)  
NW M.Oil(8.44 - 11.92) AK103(8.71 - 11.37) OR Diesel(3.60 - 9.50)

Surrogate	Area	Amount
o-Terphenyl	18492643	90.8 M
Triacontane	3519	0.0

M Indicates the peak was manually integrated

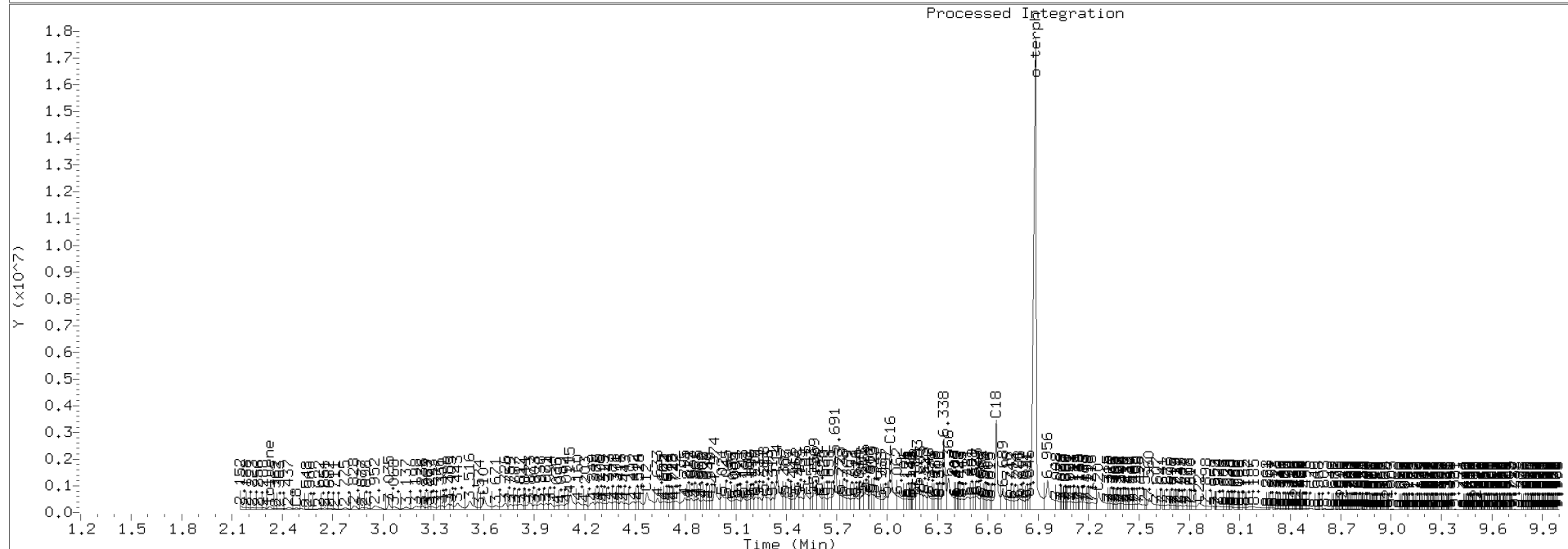
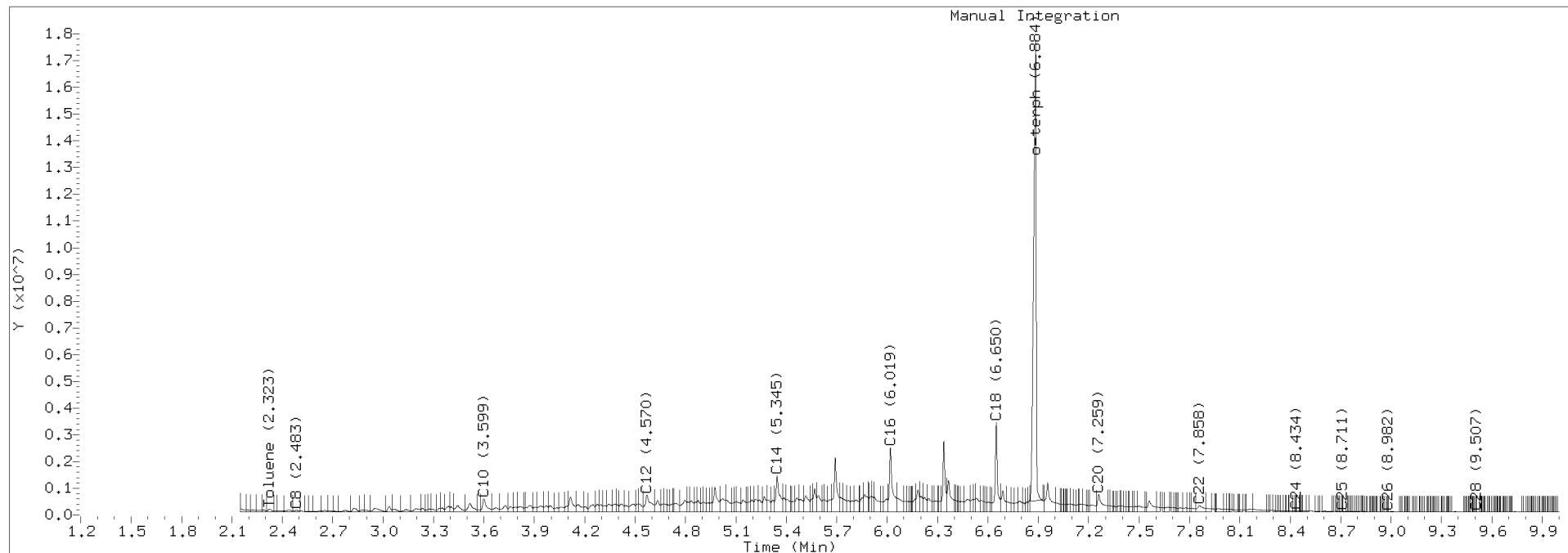
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022
Bunker C	59438.6	21-APR-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220421.b/422D2129.D Injection: 22-APR-2022 01:26

Lab ID:SEQ-CCV1





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2421.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0314-CCV1</u>	Injection Time:	<u>16:07</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	511	172426.7	176063.5		2.1	+/-15
o-Terphenyl	A	90.000	91.3	240679.3	244238.8		1.5	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid3b,1\20220624,8\32F2421.D

Date: 24-JUN-2022 16:07

Client ID:

Sample Info: SEQ-CCV1

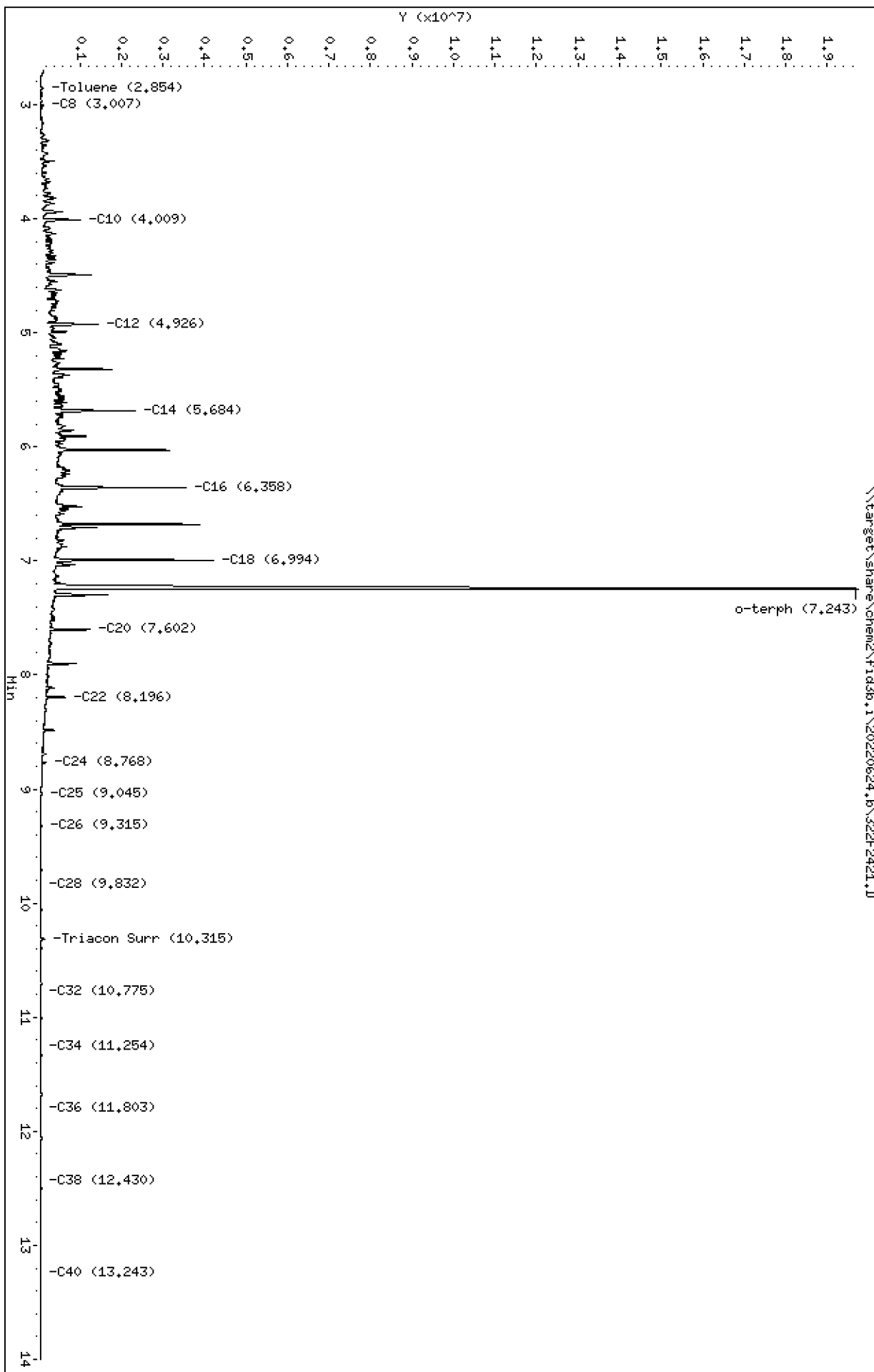
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2421.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV1  
Client ID:  
Injection: 24-JUN-2022 16:07  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.854	-0.004	57390	68306	WATPHG	(Tol-C12)	21169421	118.0
C8	3.007	-0.004	60604	51681	WATPHD	(C12-C24)	88031761	510.5
C10	4.009	-0.001	963940	894107	WATPHM	(C24-C38)	1911848	15.4
C12	4.926	0.001	1381020	1347520	AK102	(C10-C25)	104117226	510.9 M
C14	5.684	0.000	2270099	1819921	AK103	(C25-C36)	1280594	13.5
C16	6.358	0.000	3498229	2898953	OR.DIES	(C10-C28)	104450463	511.3 M
C18	6.994	0.002	4175007	3666075				
C20	7.602	-0.003	1188241	1202250				
C22	8.196	-0.005	608782	605652				
C24	8.768	-0.005	134537	158095				
C25	9.045	-0.006	47053	70592				
C26	9.315	-0.005	17485	18906				
C28	9.832	-0.003	4677	9598	IT.DIES	(C10-C24)	103897841	510.9
C32	10.775	-0.004	8767	3921				
C34	11.254	0.001	11372	20874	CREOSOT	(C12-C22)	85361609	1659.1
Filter Peak	13.968	-0.004	10426	7279				
C36	11.803	0.016	11044	7682	BUNKERC	(C10-C38)	105809689	1393.6
o-terph	7.243	0.002	19339341	21981494	JET-A	(C10-C18)	81292658	472.6
Triacon Surr	10.315	-0.029	83275	87269				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

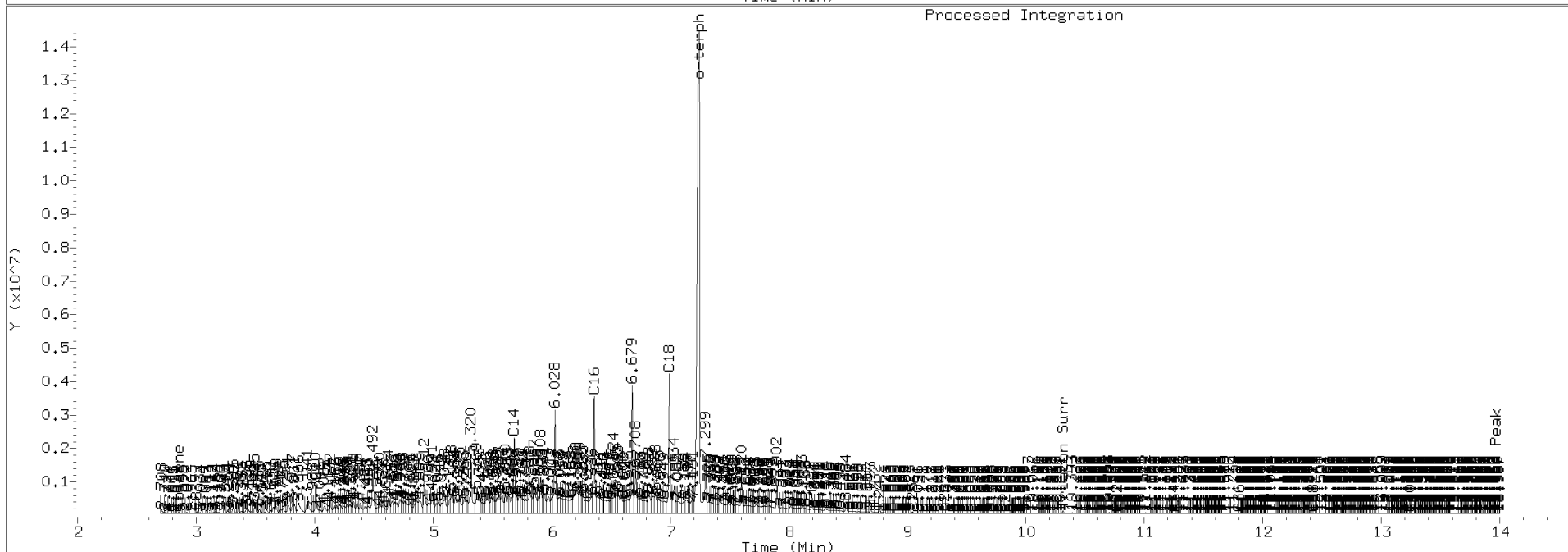
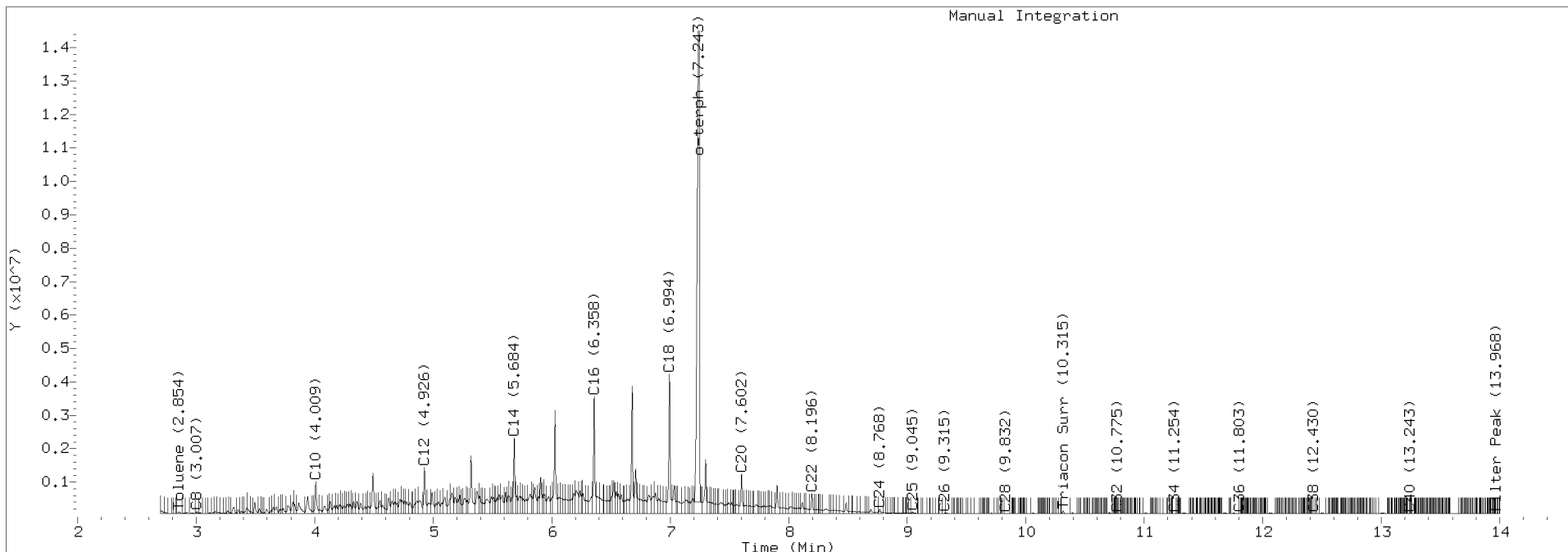
Surrogate	Area	Amount
o-Terphenyl	21981494	91.3
Triacontane	87269	0.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2421.D Injection: 24-JUN-2022 16:07

Lab ID:SEQ-CCV1





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2422.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0314-CCV2</u>	Injection Time:	<u>16:28</u>
Sequence Name:	<u>MOIL CCV</u>		

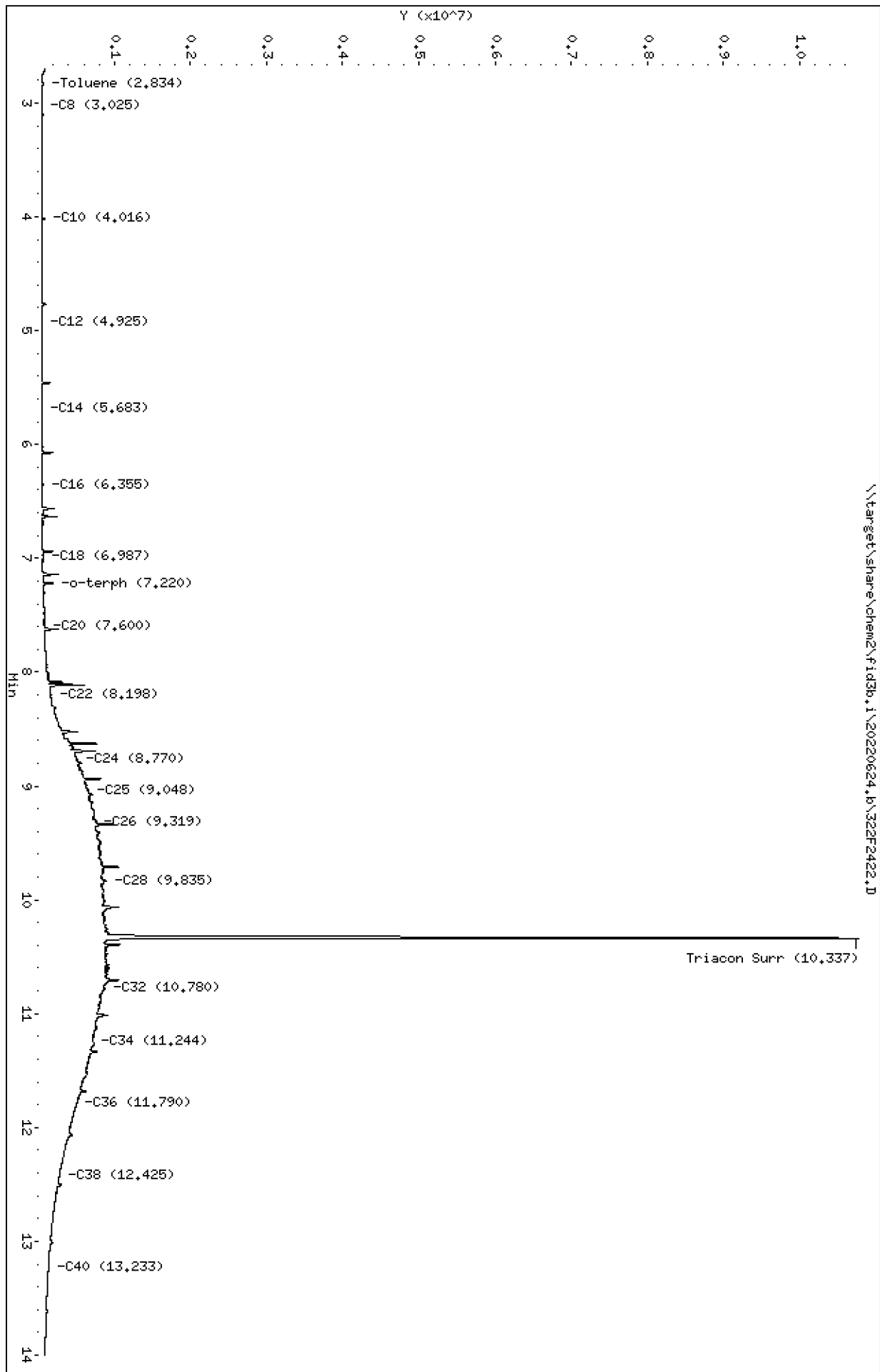
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1130	124145.6	140216.6		13.0	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2422.D  
 Date: 24-JUN-2022 16:28  
 Client ID:  
 Sample Info: SEQ-OCV2  
 Column phase: RTX-1

Instrument: fid3b,1  
 Operator: CTO  
 Column diameter: 0.25

\\target\share\chem2\fid3b,1\20220624,8\322F2422.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2422.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV2  
Client ID:  
Injection: 24-JUN-2022 16:28  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.834	-0.024	15154	24197	WATPHG	(Tol-C12)	372607	2.1
C8	3.025	0.015	4861	1675	WATPHD	(C12-C24)	15297534	88.7
C10	4.016	0.006	33885	30164	WATPHM	(C24-C38)	140216626	1129.5
C12	4.925	-0.000	2643	3836	AK102	(C10-C25)	21479834	105.4
C14	5.683	-0.001	6606	6071	AK103	(C25-C36)	122550723	1289.9 M
C16	6.355	-0.004	13358	14221	OR.DIES	(C10-C28)	59104102	289.3
C18	6.987	-0.005	24793	24018				
C20	7.600	-0.004	37443	41348				
C22	8.198	-0.003	117875	166968				
C24	8.770	-0.002	460603	385931				
C25	9.048	-0.003	617747	456594				
C26	9.319	-0.000	708576	176842				
C28	9.835	-0.000	841527	1103362	IT.DIES	(C10-C24)	15441218	75.9
C32	10.780	0.001	828514	980243				
C34	11.244	-0.009	667372	166072	CREOSOT	(C12-C22)	4738971	92.1
Filter Peak	13.975	0.002	40311	36165				
C36	11.790	0.003	452055	90374	BUNKERC	(C10-C38)	155657844	2050.1
o-terph	7.220	-0.022	142136	144866	JET-A	(C10-C18)	1122400	6.5
Triacon Surr	10.337	-0.007	9876536	9783257				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

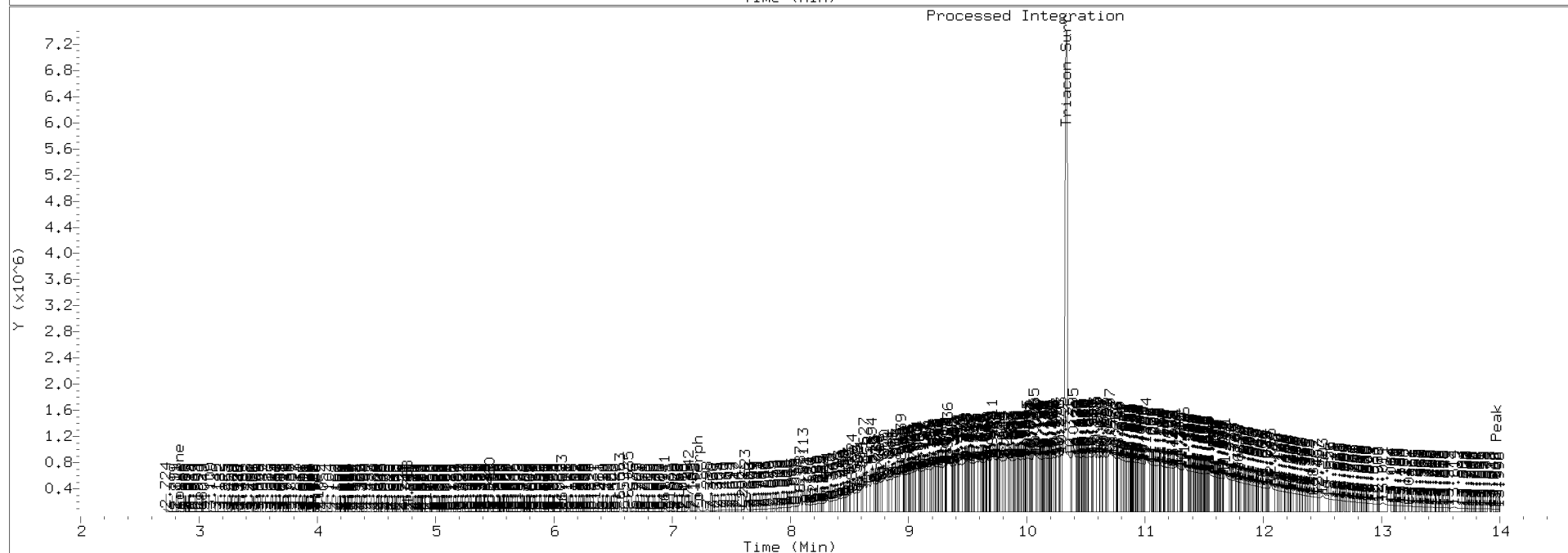
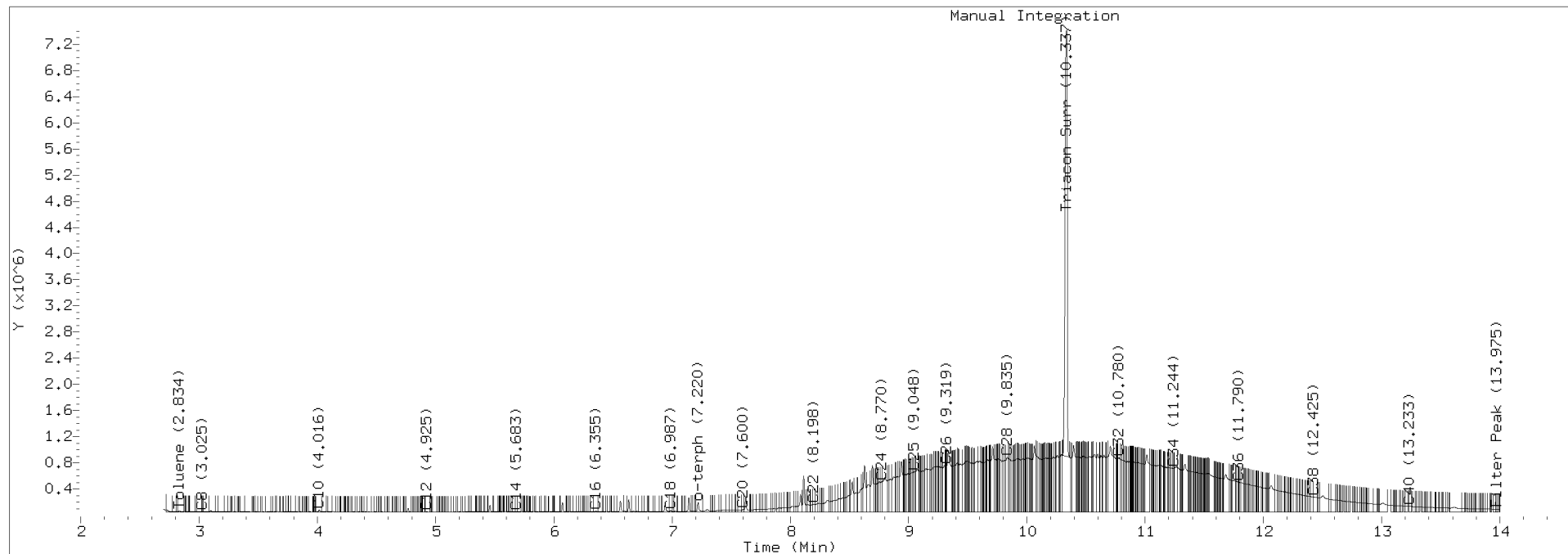
Surrogate	Area	Amount
o-Terphenyl	144866	0.6
Triacontane	9783257	56.9

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2422.D Injection: 24-JUN-2022 16:28

Lab ID:SEQ-CCV2





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2437.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0314-CCV3</u>	Injection Time:	<u>21:49</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	172426.7	167977.2		-2.6	+/-15
o-Terphenyl	A	90.000	85.3	240679.3	228076.4		-5.2	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2437.D

Date: 24-JUN-2022 21:49

Client ID:

Sample Info: SEQ-OCV3

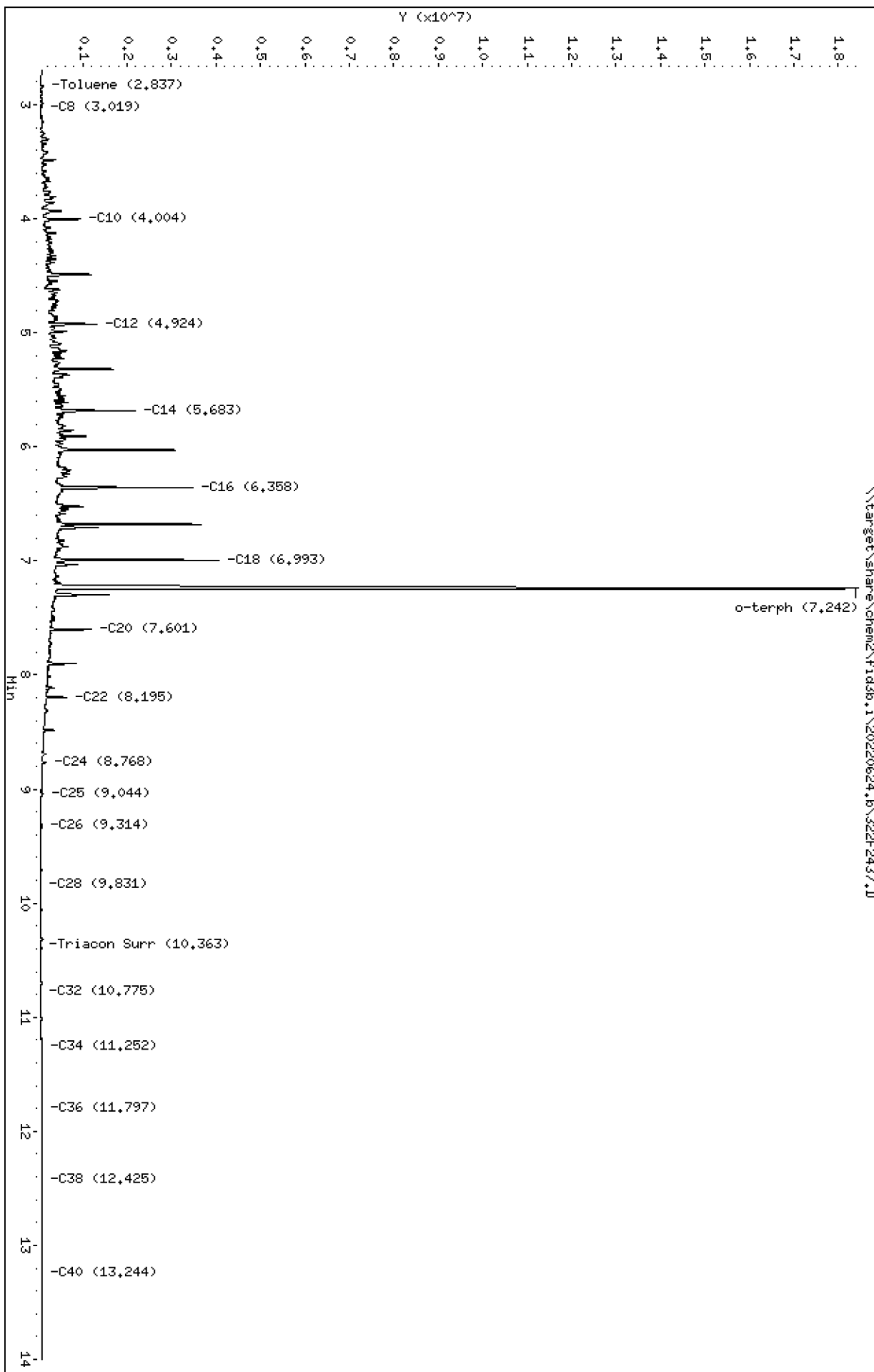
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2437.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV3  
Client ID:  
Injection: 24-JUN-2022 21:49  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.837	-0.021	54101	65431	WATPHG	(Tol-C12)	20159118	112.3
C8	3.019	0.009	30047	29536	WATPHD	(C12-C24)	83988597	487.1
C10	4.004	-0.006	885369	931264	WATPHM	(C24-C38)	2760437	22.2
C12	4.924	-0.001	1272053	1276262	AK102	(C10-C25)	99244523	487.0 M
C14	5.683	-0.001	2137314	1731339	AK103	(C25-C36)	1892034	19.9
C16	6.358	-0.001	3412163	2848671	OR.DIES	(C10-C28)	99644129	487.7 M
C18	6.993	0.000	4014628	3299925				
C20	7.601	-0.004	1146018	1140443				
C22	8.195	-0.006	572099	563193				
C24	8.768	-0.005	132151	150262				
C25	9.044	-0.006	48612	75389				
C26	9.314	-0.006	19635	20902				
C28	9.831	-0.004	6258	10385	IT.DIES	(C10-C24)	98991822	486.8
C32	10.775	-0.004	12887	13421				
C34	11.252	-0.001	16160	9649	CREOSOT	(C12-C22)	81431347	1582.7
Filter Peak	13.973	0.000	18939	30519				
C36	11.797	0.009	17818	8889	BUNKERC	(C10-C38)	101752259	1340.1
o-terph	7.242	0.000	18048898	20526877	JET-A	(C10-C18)	77377648	449.8
Triacon Surr	10.363	0.019	7523	4475				

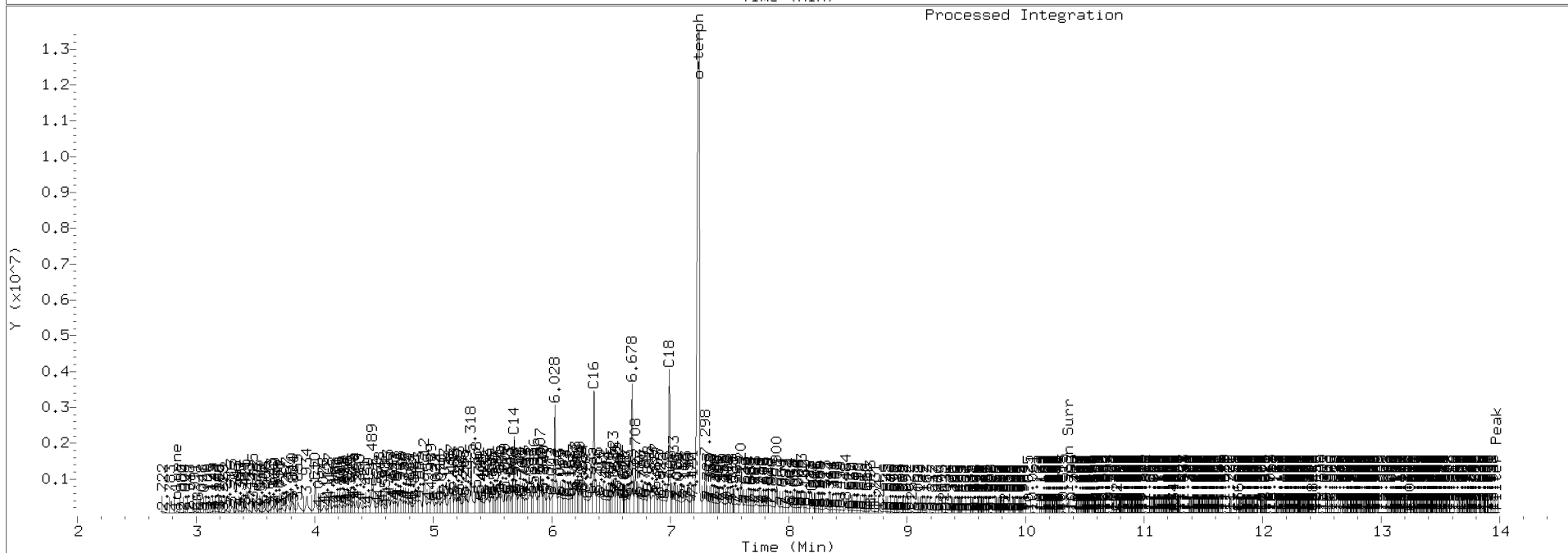
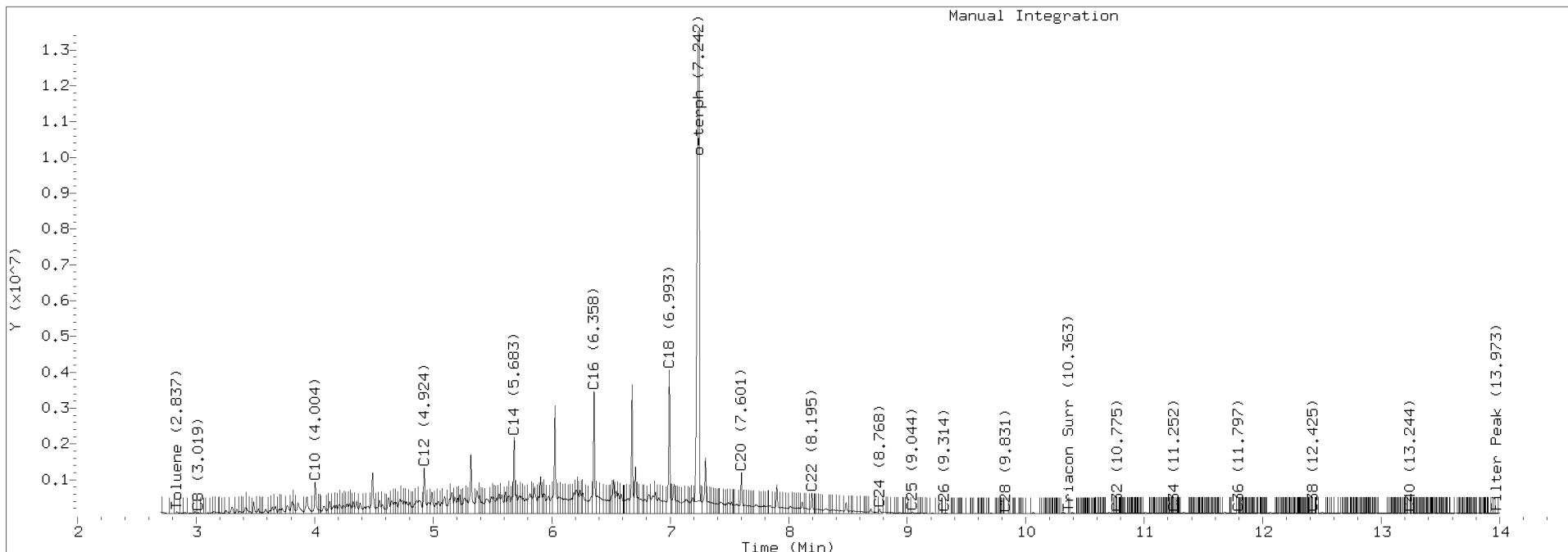
Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

Surrogate	Area	Amount
o-Terphenyl	20526877	85.3
Triacontane	4475	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2437.D Injection: 24-JUN-2022 21:49  
 Lab ID:SEQ-CCV3





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2438.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0314-CCV4</u>	Injection Time:	<u>22:10</u>
Sequence Name:	<u>MOIL CCV</u>		

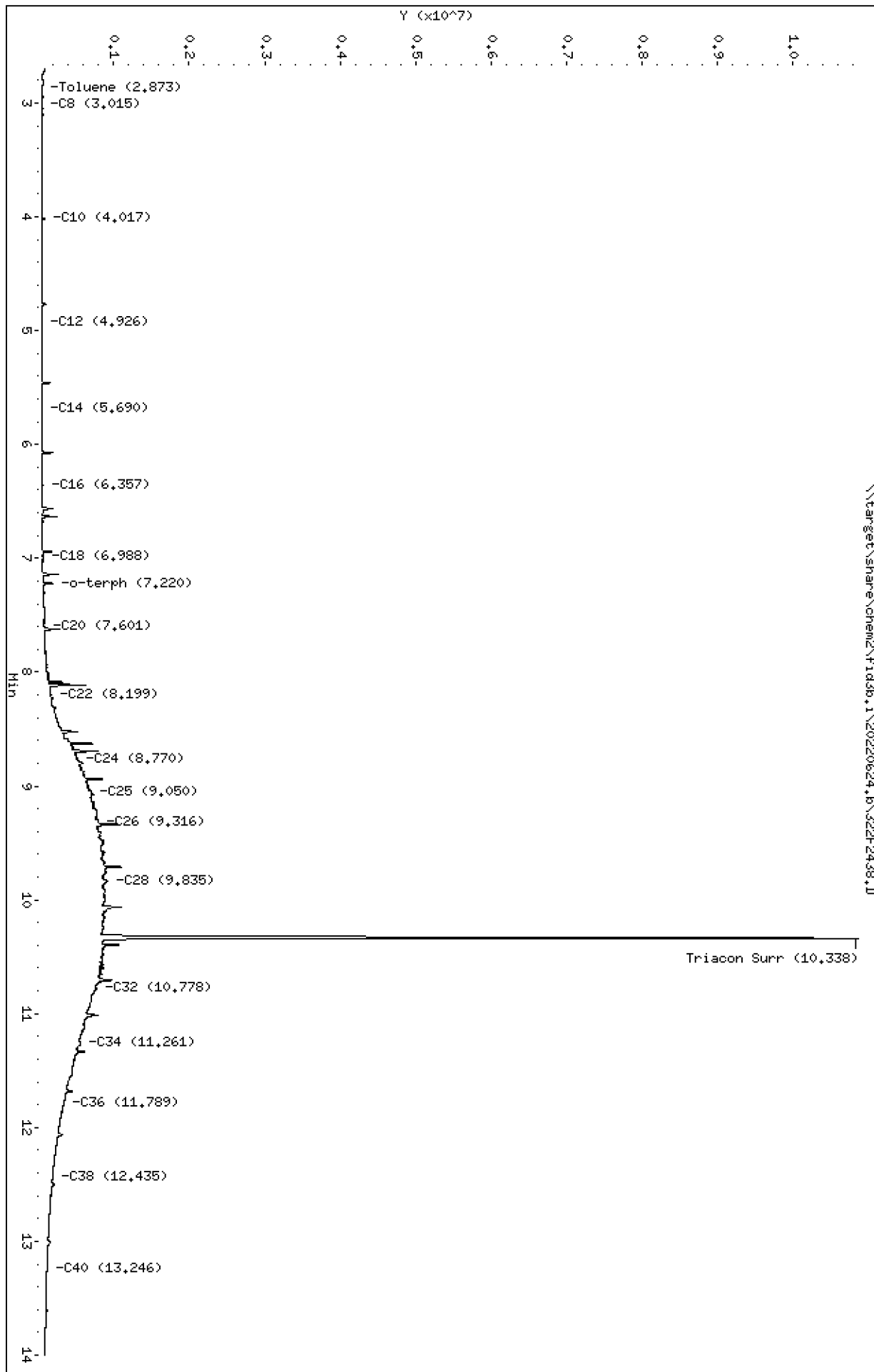
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Motor Oil Range Organics (C24-C38)	A	1000.0	1010	124145.6	124866.8		0.6	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2438.D  
Date: 24-JUN-2022 22:10  
Client ID:  
Sample Info: SEQ-OCV4  
Column phase: RTX-1

Instrument: fid3b,1  
Operator: CTO  
Column diameter: 0.25

\\target\share\chem2\fid3b,1\20220624,8\322F2438.D



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2438.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV4  
Client ID:  
Injection: 24-JUN-2022 22:10  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.873	0.015	5245	2603	WATPHG	(Tol-C12)	364248	2.0
C8	3.015	0.005	5209	2055	WATPHD	(C12-C24)	15516257	90.0
C10	4.017	0.007	34034	29199	WATPHM	(C24-C38)	124866847	1005.8
C12	4.926	0.002	1884	2470	AK102	(C10-C25)	21964250	107.8
C14	5.690	0.006	5295	4354	AK103	(C25-C36)	111507304	1173.7 M
C16	6.357	-0.001	10632	15219	OR.DIES	(C10-C28)	61412541	300.6
C18	6.988	-0.004	22931	24076				
C20	7.601	-0.003	37116	37929				
C22	8.199	-0.002	118962	150796				
C24	8.770	-0.003	471599	420117				
C25	9.050	-0.000	650215	769933				
C26	9.316	-0.003	748624	336251				
C28	9.835	-0.000	872266	1232600	IT.DIES	(C10-C24)	15644083	76.9
C32	10.778	-0.001	732848	865312				
C34	11.261	0.008	512958	607077	CREOSOT	(C12-C22)	4756206	92.4
Filter Peak	13.975	0.003	40061	18009				
C36	11.789	0.002	286061	198700	BUNKERC	(C10-C38)	140510931	1850.6
o-terph	7.220	-0.021	142181	146795	JET-A	(C10-C18)	1047682	6.1
Triacon Surr	10.338	-0.006	10010284	10132216				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

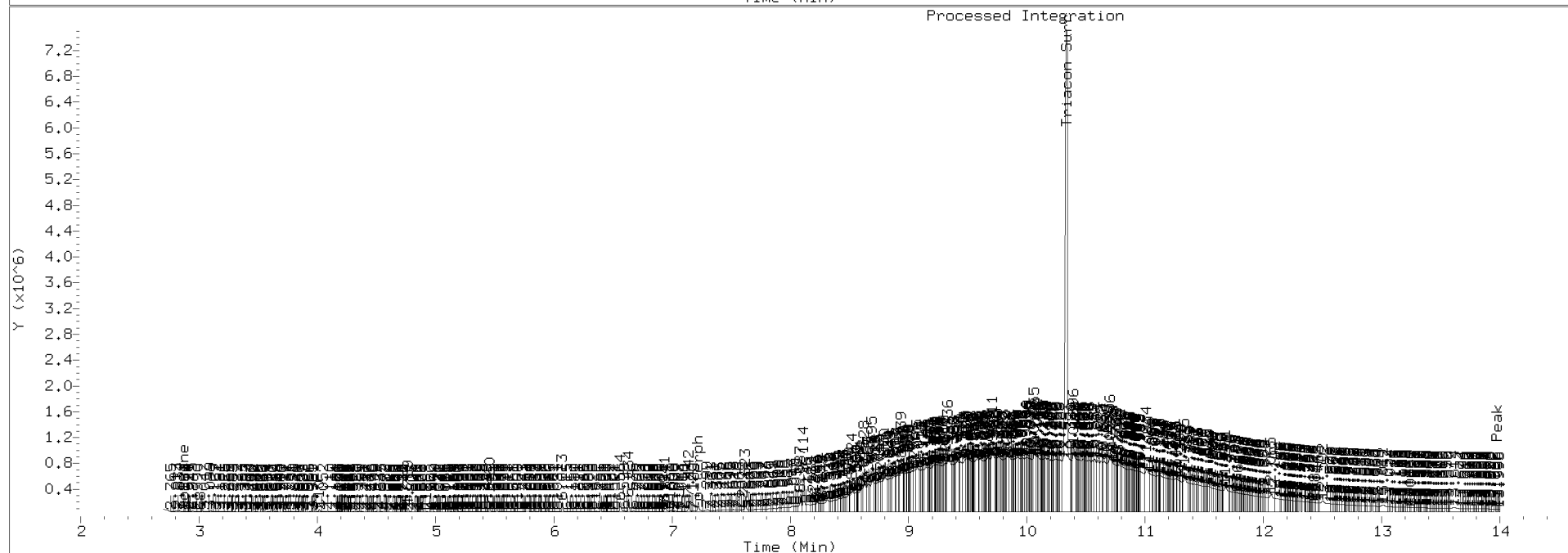
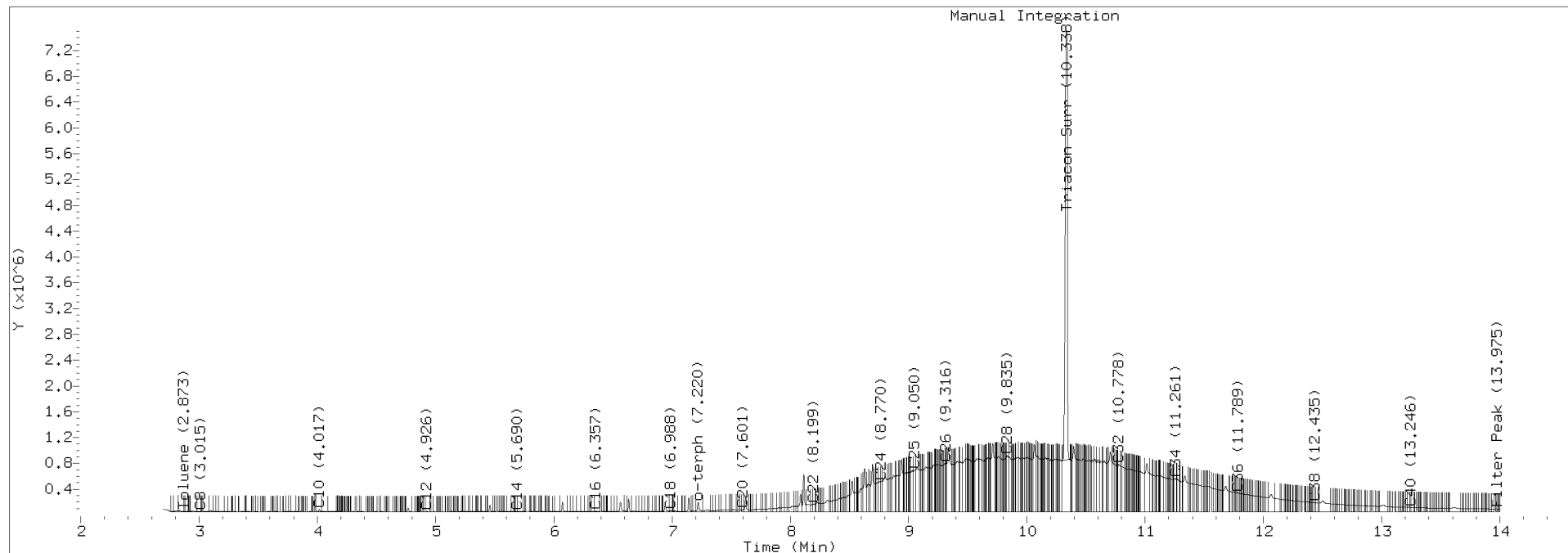
Surrogate	Area	Amount
o-Terphenyl	146795	0.6
Triacontane	10132216	59.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2438.D Injection: 24-JUN-2022 22:10

Lab ID:SEQ-CCV4





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2445.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0314-CCV5</u>	Injection Time:	<u>00:38</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	511	172426.7	176218.5		2.2	+/-15
o-Terphenyl	A	90.000	88.5	240679.3	236670.9		-1.7	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2445.D

Date: 25-JUN-2022 00:38

Client ID:

Sample Info: SEQ-OCV5

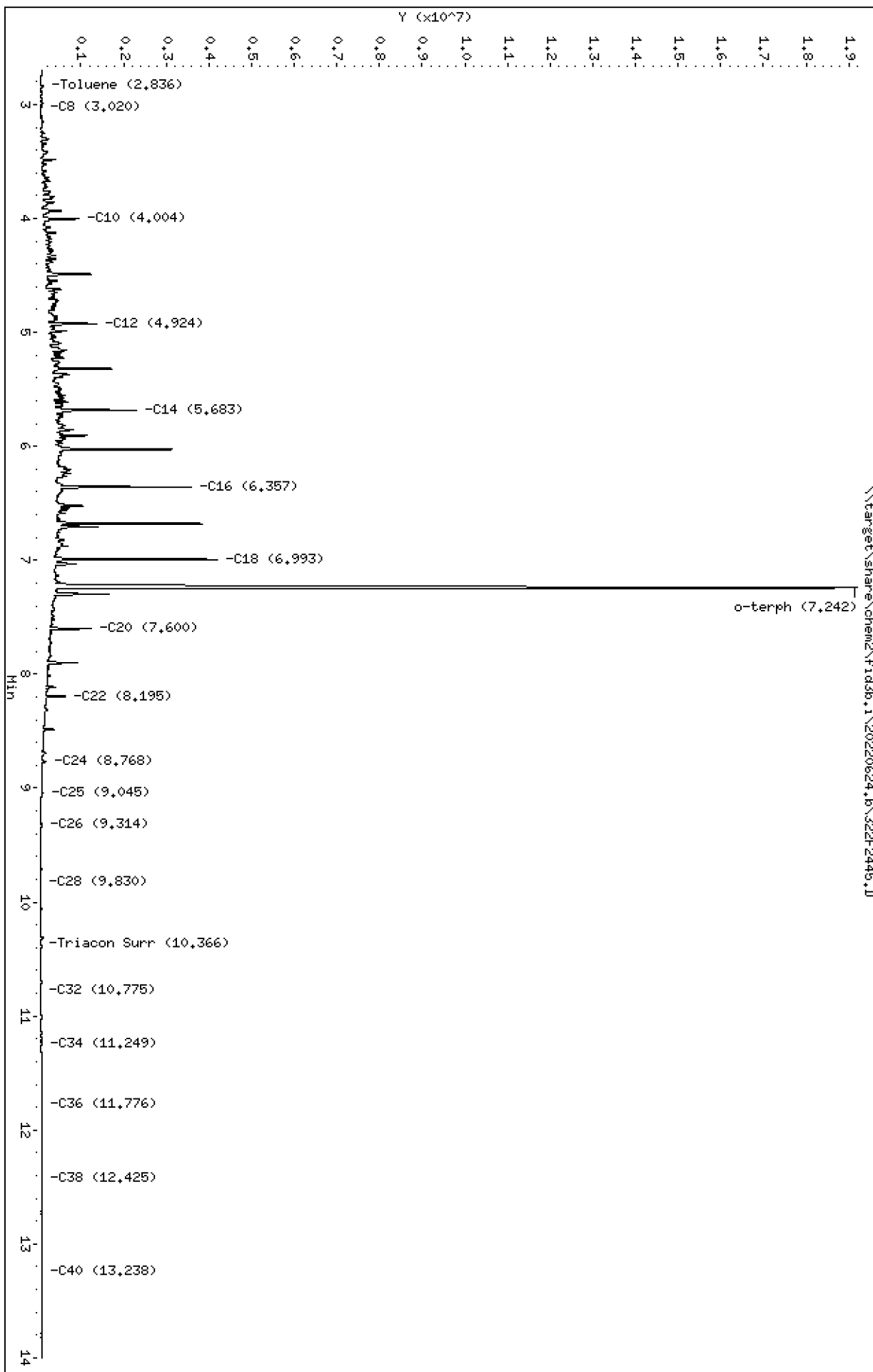
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2445.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV5  
Client ID:  
Injection: 25-JUN-2022 00:38  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.836	-0.022	55940	66854	WATPHG	(Tol-C12)	20849570	116.2
C8	3.020	0.009	32142	28660	WATPHD	(C12-C24)	88109275	511.0
C10	4.004	-0.007	909080	938198	WATPHM	(C24-C38)	2985427	24.0
C12	4.924	-0.001	1330826	1339548	AK102	(C10-C25)	104026195	510.5 M
C14	5.683	-0.001	2243950	1828799	AK103	(C25-C36)	2076539	21.9
C16	6.357	-0.001	3549427	2957755	OR.DIES	(C10-C28)	104524944	511.6 M
C18	6.993	0.001	4159528	3640002				
C20	7.600	-0.004	1187019	1208059				
C22	8.195	-0.005	588586	602338				
C24	8.768	-0.004	139053	151000				
C25	9.045	-0.006	51978	87448				
C26	9.314	-0.006	23251	24569				
C28	9.830	-0.004	8901	15351	IT.DIES	(C10-C24)	103731957	510.1
C32	10.775	-0.004	13318	11872				
C34	11.249	-0.004	16349	11376	CREOSOT	(C12-C22)	85317991	1658.2
Filter Peak	13.974	0.001	16903	15990				
C36	11.776	-0.011	17385	8688	BUNKERC	(C10-C38)	106717384	1405.5
o-terph	7.242	0.001	18794211	21300383	JET-A	(C10-C18)	80996230	470.8
Triacon Surr	10.366	0.022	8915	3101				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

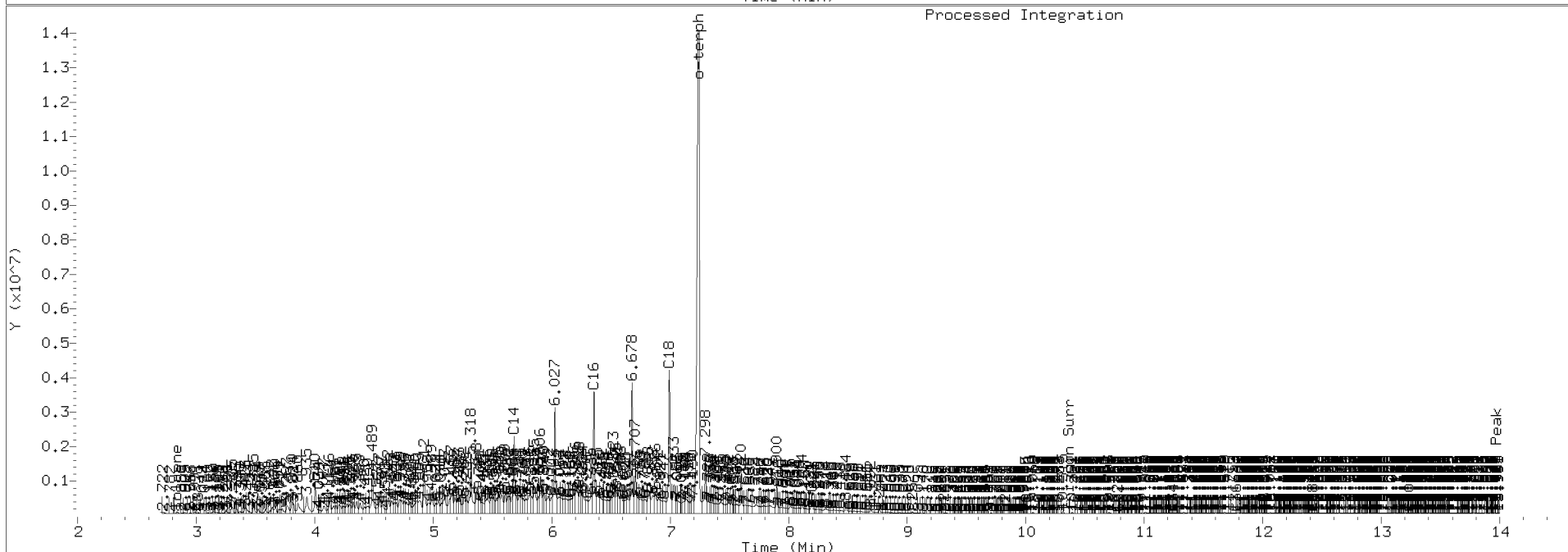
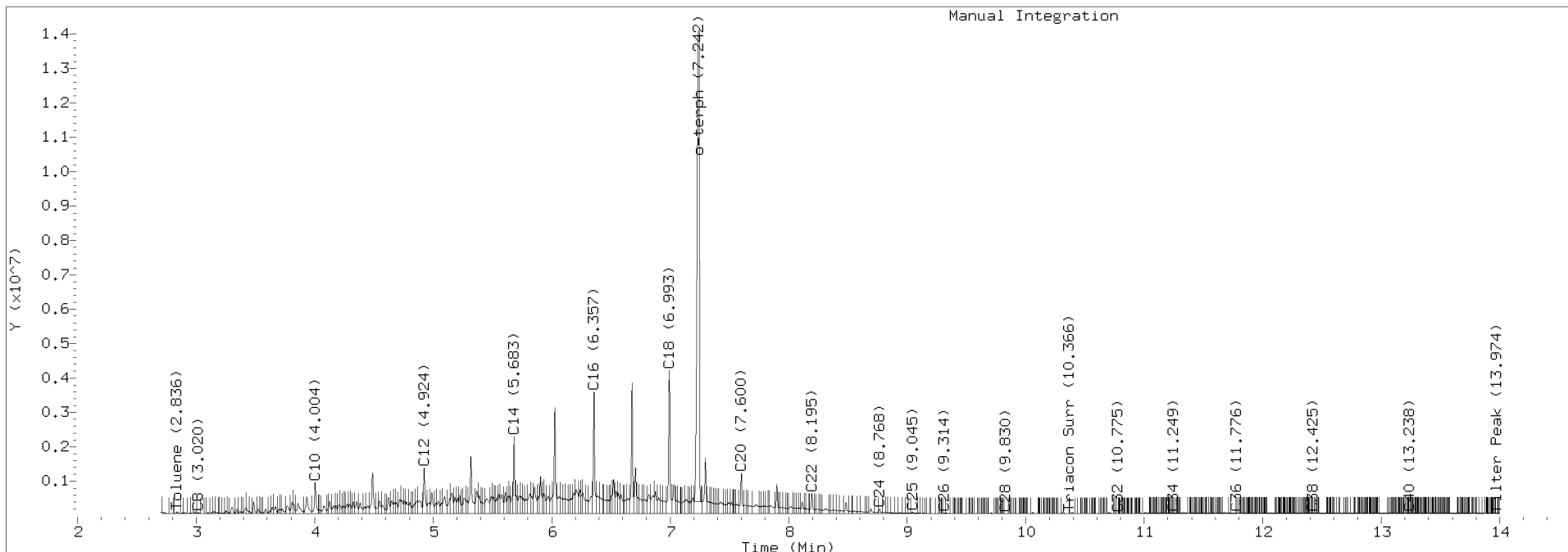
Surrogate	Area	Amount
o-Terphenyl	21300383	88.5
Triacontane	3101	0.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2445.D Injection: 25-JUN-2022 00:38

Lab ID:SEQ-CCV5





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2446.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0314-CCV6</u>	Injection Time:	<u>00:59</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	1050	124145.6	130216.6		4.9	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2446.D

Date: 25-JUN-2022 00:59

Client ID:

Sample Info: SEQ-OCW6

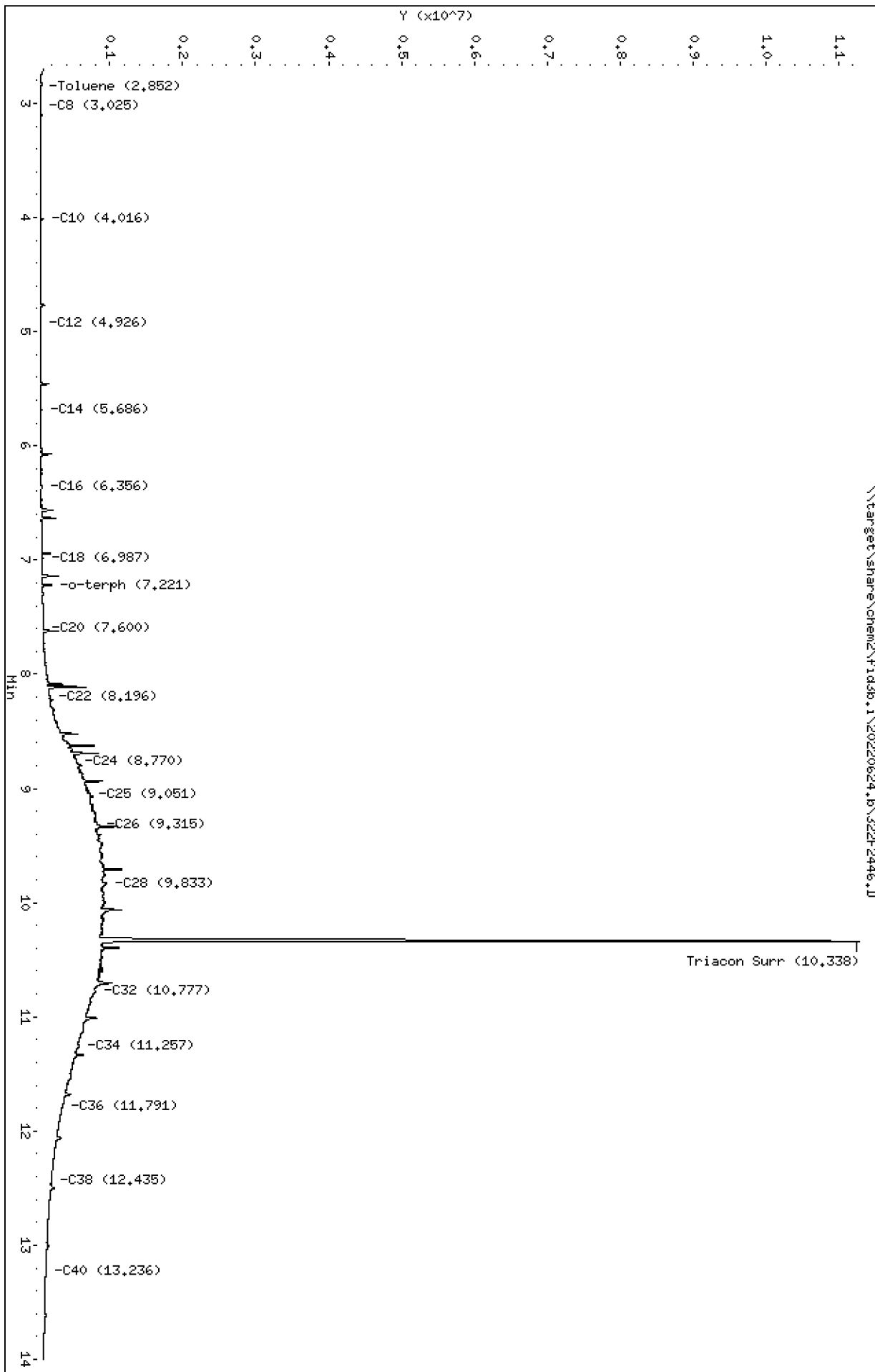
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2446.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV6  
Client ID:  
Injection: 25-JUN-2022 00:59  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.852	-0.006	7279	9297	WATPHG	(Tol-C12)	353155	2.0
C8	3.025	0.014	4252	1860	WATPHD	(C12-C24)	17065922	99.0
C10	4.016	0.005	35620	29788	WATPHM	(C24-C38)	130216623	1048.9
C12	4.926	0.002	3266	6031	AK102	(C10-C25)	23856895	117.1
C14	5.686	0.002	9677	8937	AK103	(C25-C36)	116281166	1223.9 M
C16	6.356	-0.002	17468	51166	OR.DIES	(C10-C28)	65176073	319.0
C18	6.987	-0.005	31270	45251				
C20	7.600	-0.005	44150	44022				
C22	8.196	-0.004	128971	175607				
C24	8.770	-0.003	496793	367922				
C25	9.051	-0.000	676572	730762				
C26	9.315	-0.005	784555	545765				
C28	9.833	-0.002	910724	1195853	IT.DIES	(C10-C24)	17223117	84.7
C32	10.777	-0.002	761985	1197288				
C34	11.257	0.004	531329	599413	CREOSOT	(C12-C22)	5795741	112.6
Filter Peak	13.970	-0.003	42817	23042				
C36	11.791	0.004	296169	206583	BUNKERC	(C10-C38)	147439740	1941.9
o-terph	7.221	-0.021	160075	177507	JET-A	(C10-C18)	1586760	9.2
Triacon Surr	10.338	-0.006	10402396	10558815				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

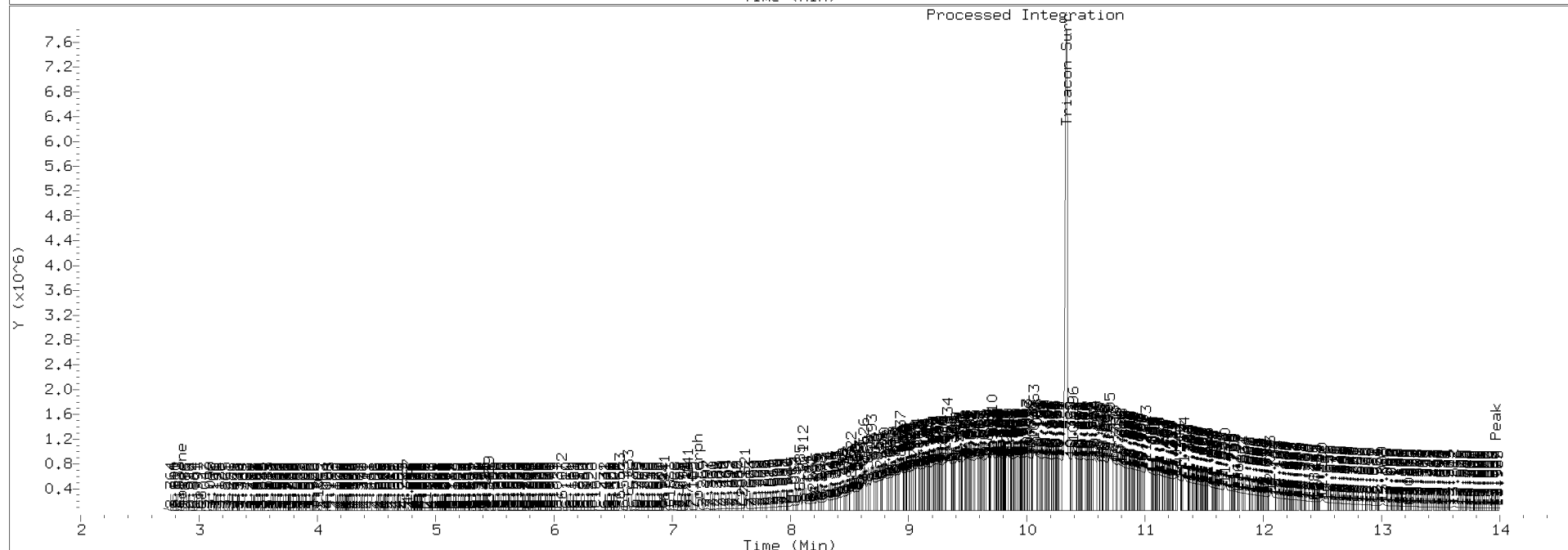
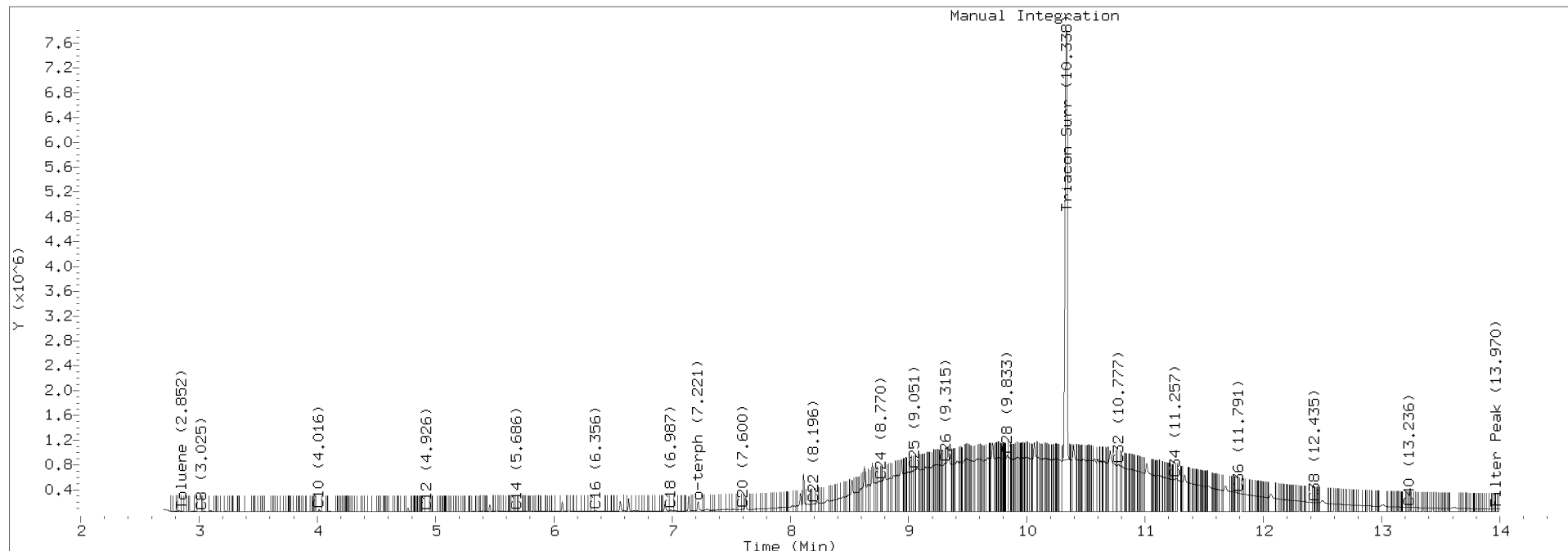
Surrogate	Area	Amount
o-Terphenyl	177507	0.7
Triacontane	10558815	61.4

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2446.D Injection: 25-JUN-2022 00:59

Lab ID:SEQ-CCV6





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2450.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0314-CCV7</u>	Injection Time:	<u>02:23</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	507	172426.7	174693.6		1.3	+/-15
o-Terphenyl	A	90.000	88.0	240679.3	235396.9		-2.2	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid3b,1\20220624,b\322F2450.D

Date: 25-JUN-2022 02:23

Client ID:

Sample Info: SEQ-CCV7

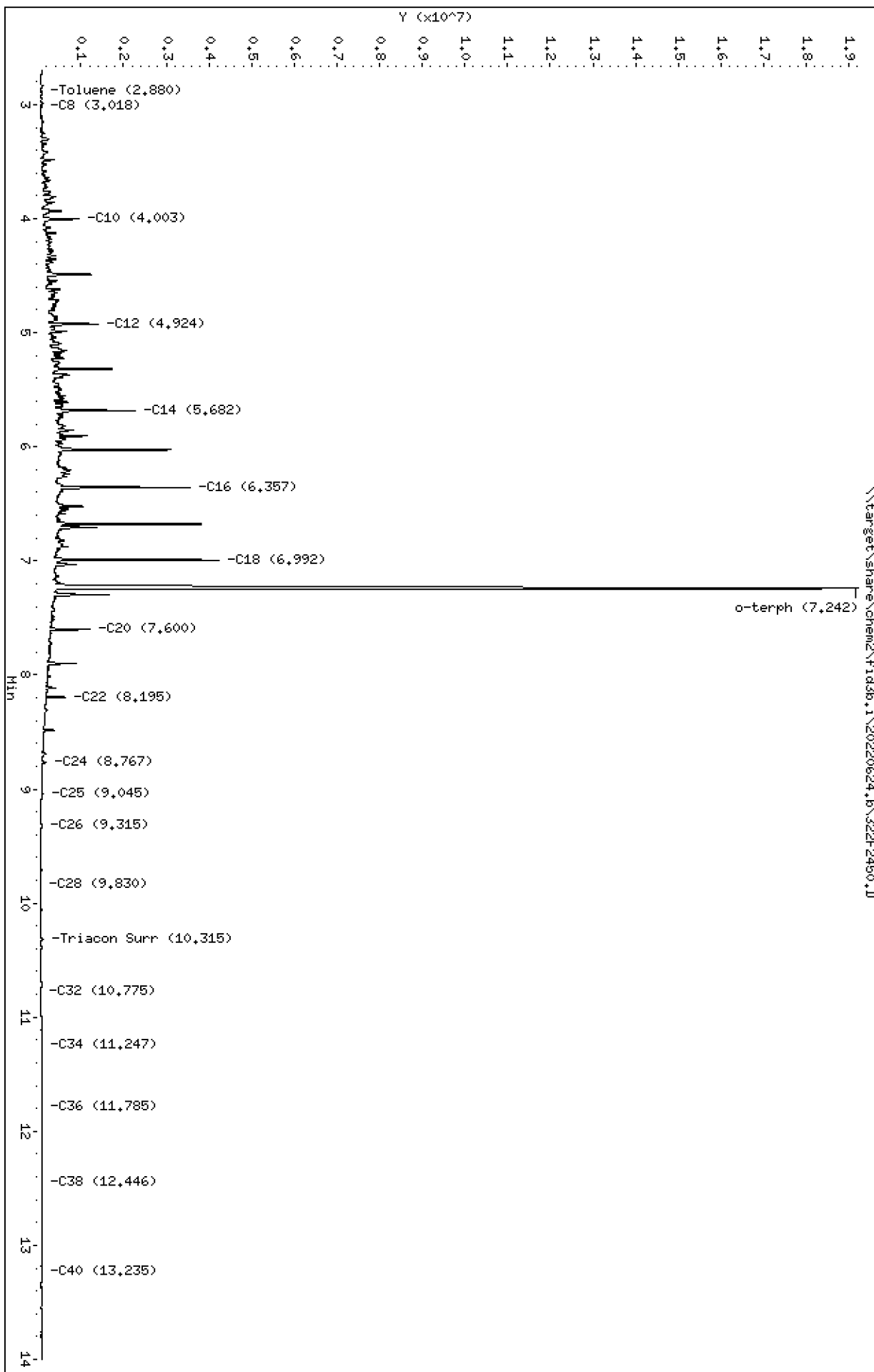
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2450.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV7  
Client ID:  
Injection: 25-JUN-2022 02:23  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.880	0.021	18377	18833	WATPHG	(Tol-C12)	20956044	116.8
C8	3.018	0.007	31335	29200	WATPHD	(C12-C24)	87346774	506.6
C10	4.003	-0.008	900975	954632	WATPHM	(C24-C38)	3106425	25.0
C12	4.924	-0.001	1338155	1340156	AK102	(C10-C25)	103331972	507.1 M
C14	5.682	-0.002	2212177	1823149	AK103	(C25-C36)	2206572	23.2
C16	6.357	-0.001	3494190	2912926	OR.DIES	(C10-C28)	103911673	508.6 M
C18	6.992	-0.000	4192090	3405083				
C20	7.600	-0.004	1164652	1204389				
C22	8.195	-0.006	585597	607117				
C24	8.767	-0.005	137649	170214				
C25	9.045	-0.006	52350	86558				
C26	9.315	-0.005	23733	23528				
C28	9.830	-0.004	10748	23139	IT.DIES	(C10-C24)	103034702	506.6
C32	10.775	-0.004	15459	14562				
C34	11.247	-0.006	17206	8597	CREOSOT	(C12-C22)	84644029	1645.1
Filter Peak	13.972	-0.000	16519	13126				
C36	11.785	-0.002	17795	6212	BUNKERC	(C10-C38)	106141127	1398.0
o-terph	7.242	0.001	18807207	21185724	JET-A	(C10-C18)	80708296	469.2
Triacon Surr	10.315	-0.029	56416	83813				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

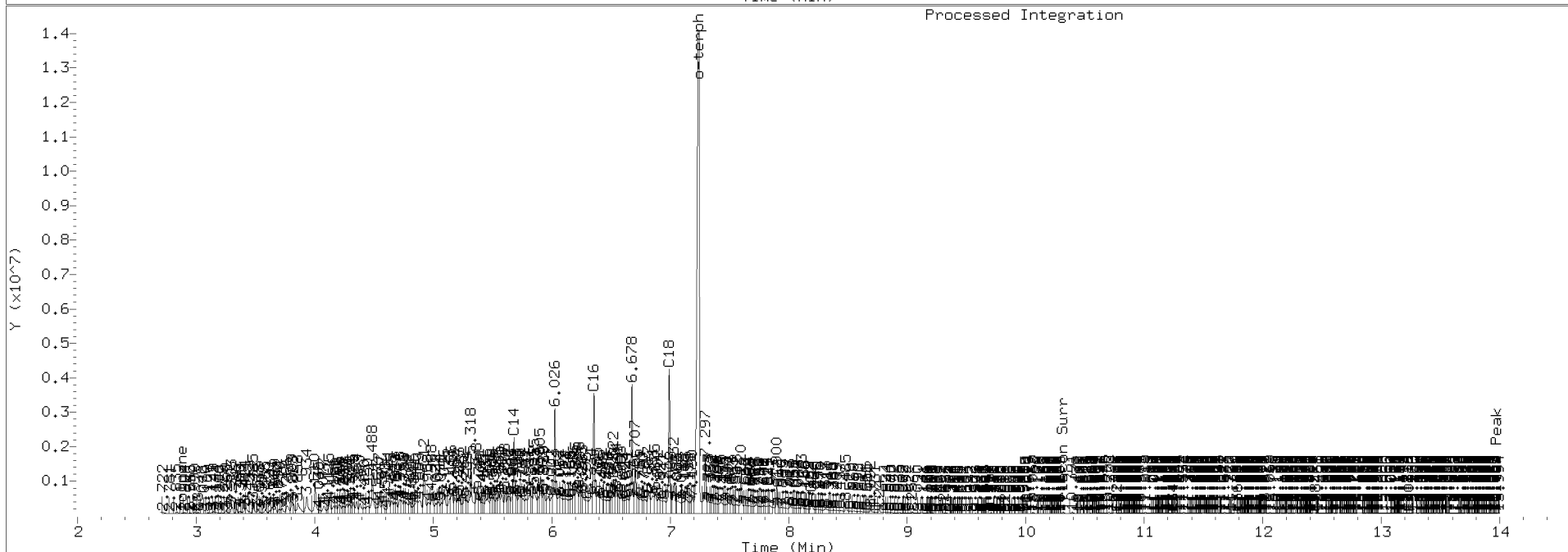
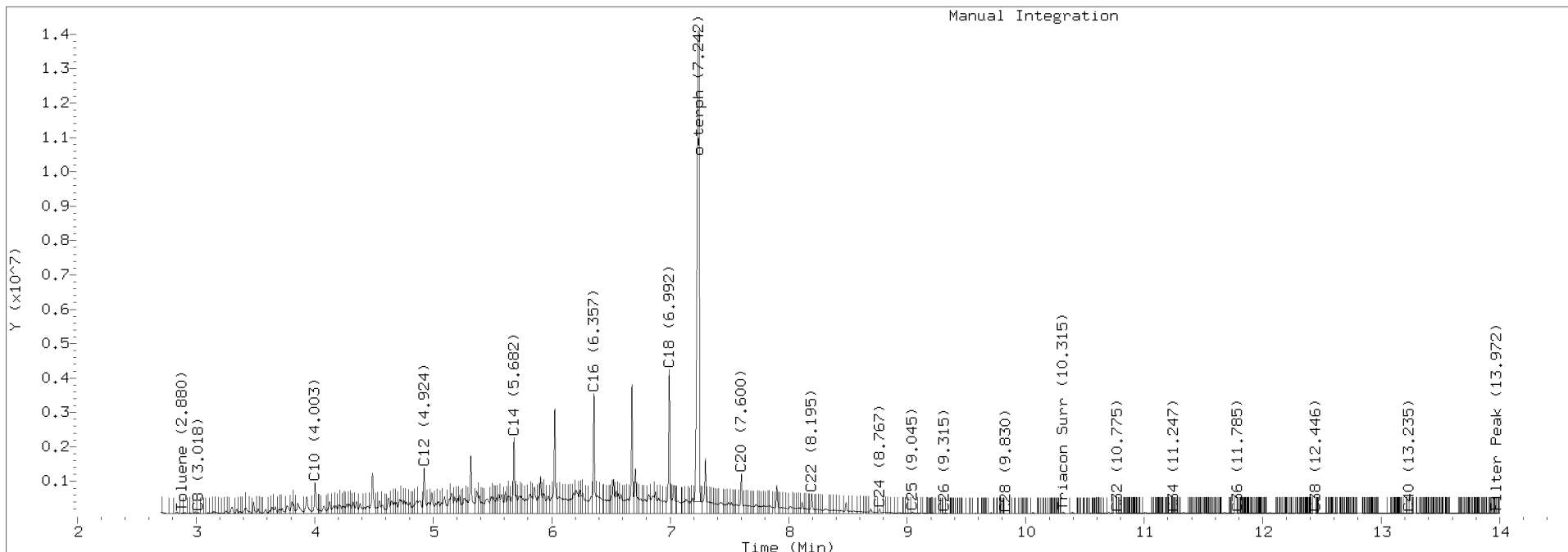
Surrogate	Area	Amount
o-Terphenyl	21185724	88.0
Triacontane	83813	0.5

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2450.D Injection: 25-JUN-2022 02:23

Lab ID:SEQ-CCV7





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID3</u>	Calibration:	<u>FF00020</u>
Lab File ID:	<u>322F2451.D</u>	Calibration Date:	<u>06/07/2022</u>
Sequence:	<u>SKF0314</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0314-CCV8</u>	Injection Time:	<u>02:44</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	124145.6	131100.2		5.6	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid3b,1\20220624,8\322F2451.D

Date: 25-JUN-2022 02:44

Client ID:

Sample Info: SEQ-OCV8

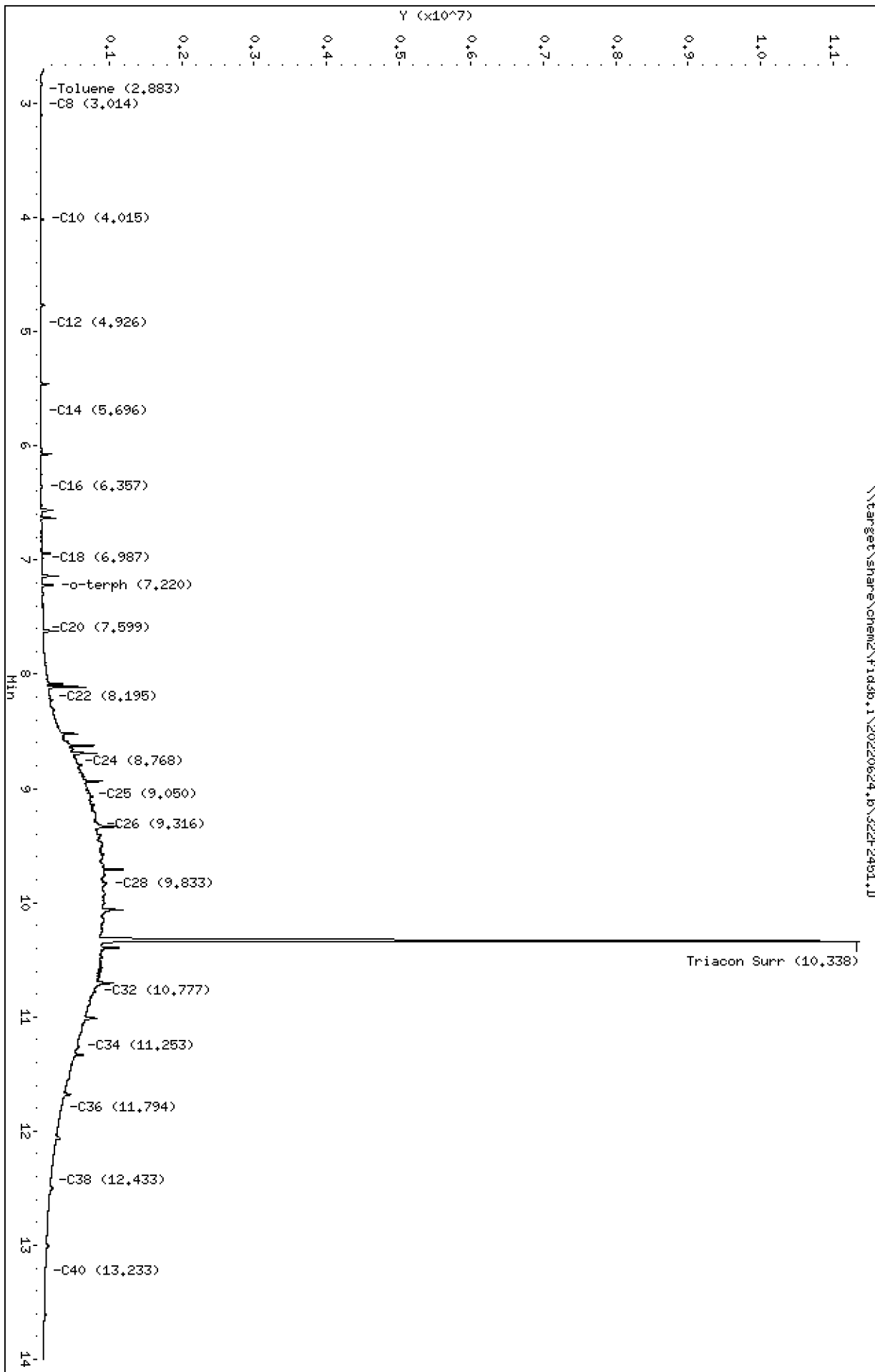
Column phase: RTX-1

Instrument: fid3b,1

Operator: CTO

Column diameter: 0.25

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Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/322F2451.D  
Method: 20220624.b\FID3TPH.m  
Instrument: fid3b.i, CTO  
Report Date: 06/27/2022  
Macro: FID3\_05052022  
Calibration Dates: Gas:xx-xx-xxxx Diesel:10-JAN-2022 M.Oil:15-DEC-2021

ARI ID: SEQ-CCV8  
Client ID:  
Injection: 25-JUN-2022 02:44  
Dilution Factor: 1  
RT Std: 322F2403.D

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	2.883	0.025	4622	5068	WATPHG	(Tol-C12)	333586	1.9
C8	3.014	0.004	3710	924	WATPHD	(C12-C24)	17136262	99.4
C10	4.015	0.005	35760	30804	WATPHM	(C24-C38)	131100199	1056.0
C12	4.926	0.001	2873	4290	AK102	(C10-C25)	23925013	117.4
C14	5.696	0.012	9479	32104	AK103	(C25-C36)	117523743	1237.0 M
C16	6.357	-0.001	16373	44027	OR.DIES	(C10-C28)	66471124	325.4
C18	6.987	-0.005	30089	34886				
C20	7.599	-0.005	43768	46471				
C22	8.195	-0.005	130806	164379				
C24	8.768	-0.005	501021	396174				
C25	9.050	-0.000	682389	272555				
C26	9.316	-0.004	792485	158275				
C28	9.833	-0.002	918033	1208037	IT.DIES	(C10-C24)	17283956	85.0
C32	10.777	-0.002	764404	1041858				
C34	11.253	0.000	522752	465344	CREOSOT	(C12-C22)	5655050	109.9
Filter Peak	13.975	0.003	38981	15542				
C36	11.794	0.007	286867	128476	BUNKERC	(C10-C38)	148384155	1954.3
o-terph	7.220	-0.021	172603	182267	JET-A	(C10-C18)	1496046	8.7
Triacon Surr	10.338	-0.006	10477335	10652734				

Range Times: NW Diesel(4.975 - 8.822) NW Gas(2.808 - 4.975) NW M.Oil(8.822 - 12.478)  
AK102(3.961 - 9.001) AK103(9.001 - 11.837) Jet A(3.961 - 7.042)

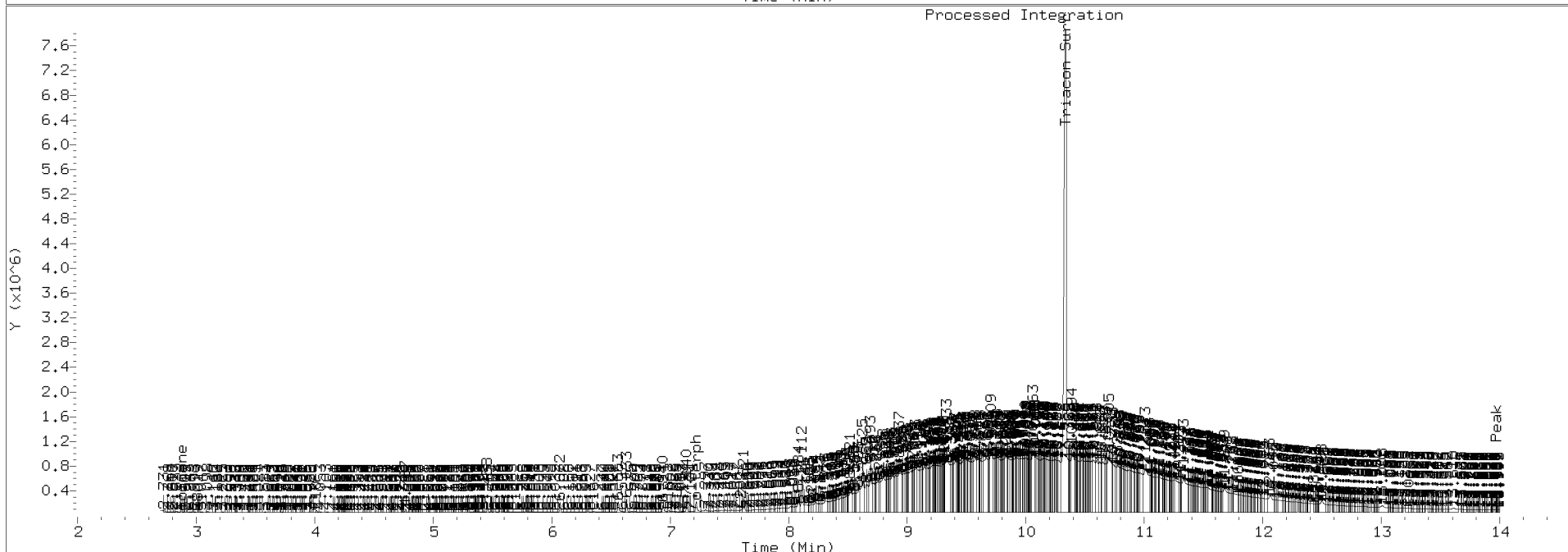
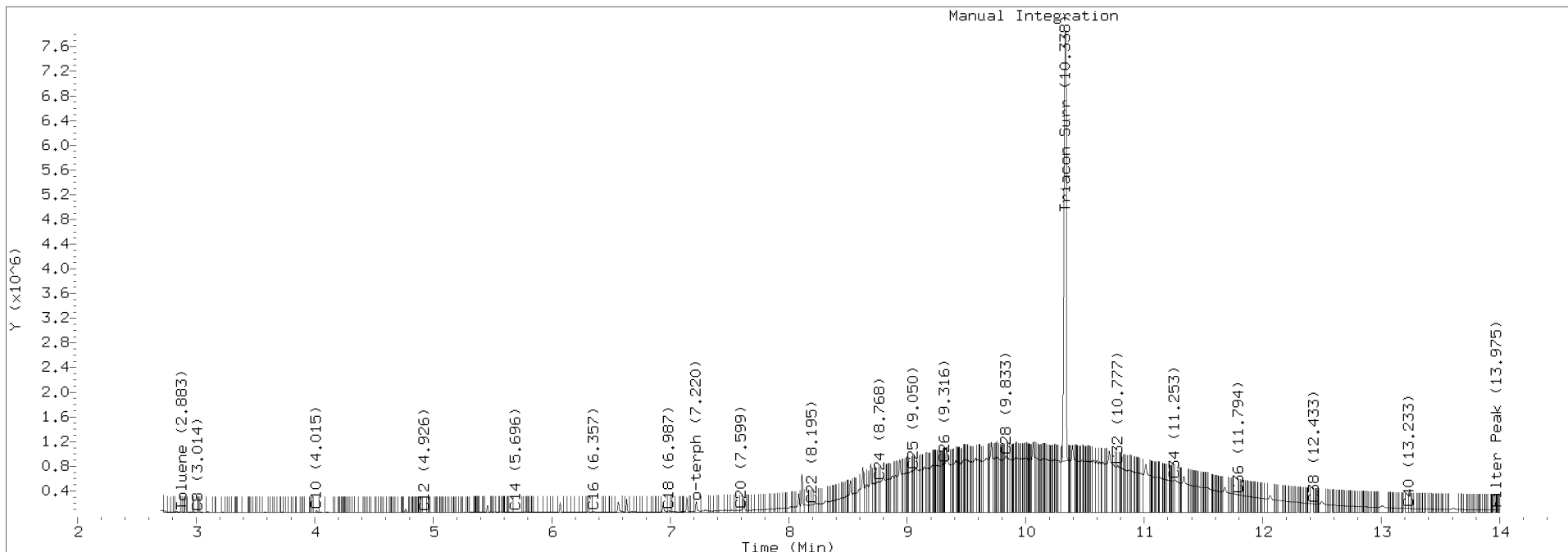
Surrogate	Area	Amount
o-Terphenyl	182267	0.8
Triacontane	10652734	62.0

Analyte	RF	Curve Date
Gas	179445.5	xx-xx-xxxx
Diesel	172426.7	10-JAN-2022
Motor Oil	124145.6	15-DEC-2021
AK102	203784.0	10-JAN-2022
AK103	95006.4	17-NOV-2021
JetA	172029.3	03-OCT-2018
OR Diesel	204295.0	10-JAN-2022
IT Diesel	203365.7	10-JAN-2022
Bunker C	75926.1	03-OCT-2018
Creosote	51451.5	07-FEB-2019

TPH Manual Integrations Report

Datafile: FID3B, 20220624.b/322F2451.D Injection: 25-JUN-2022 02:44

Lab ID:SEQ-CCV8





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2417.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-CCV1</u>	Injection Time:	<u>17:17</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	553	158638.4	175398.3		10.6	+/-15
o-Terphenyl	A	90.000	96.4	203634.1	218027		7.1	+/-15

\* Values outside of QC limits



Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2417.D

Date: 24-JUN-2022 17:17

Client ID:

Sample Info: SEQ-CV1

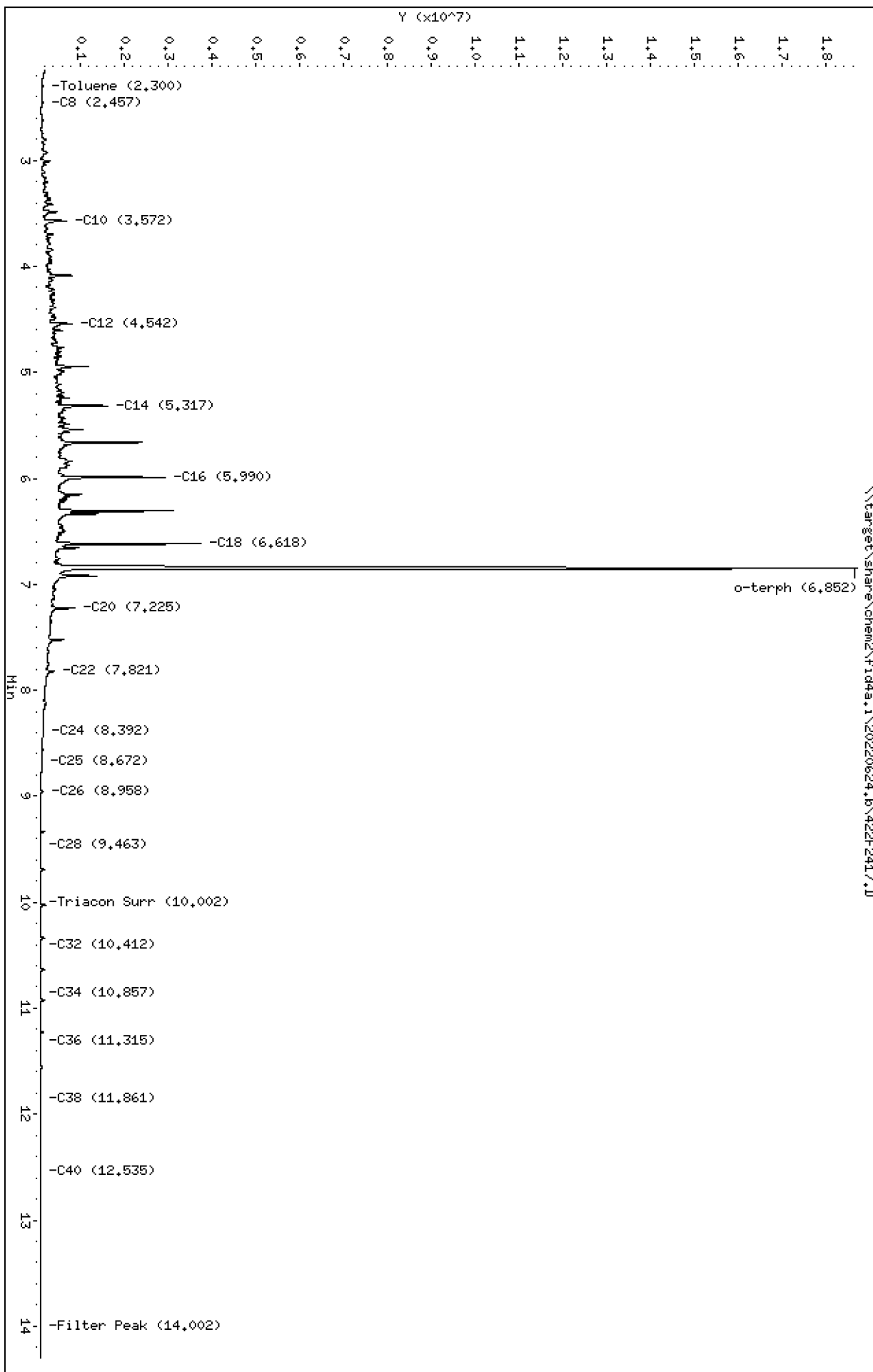
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2417.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV1  
Client ID:  
Injection: 24-JUN-2022 17:17  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

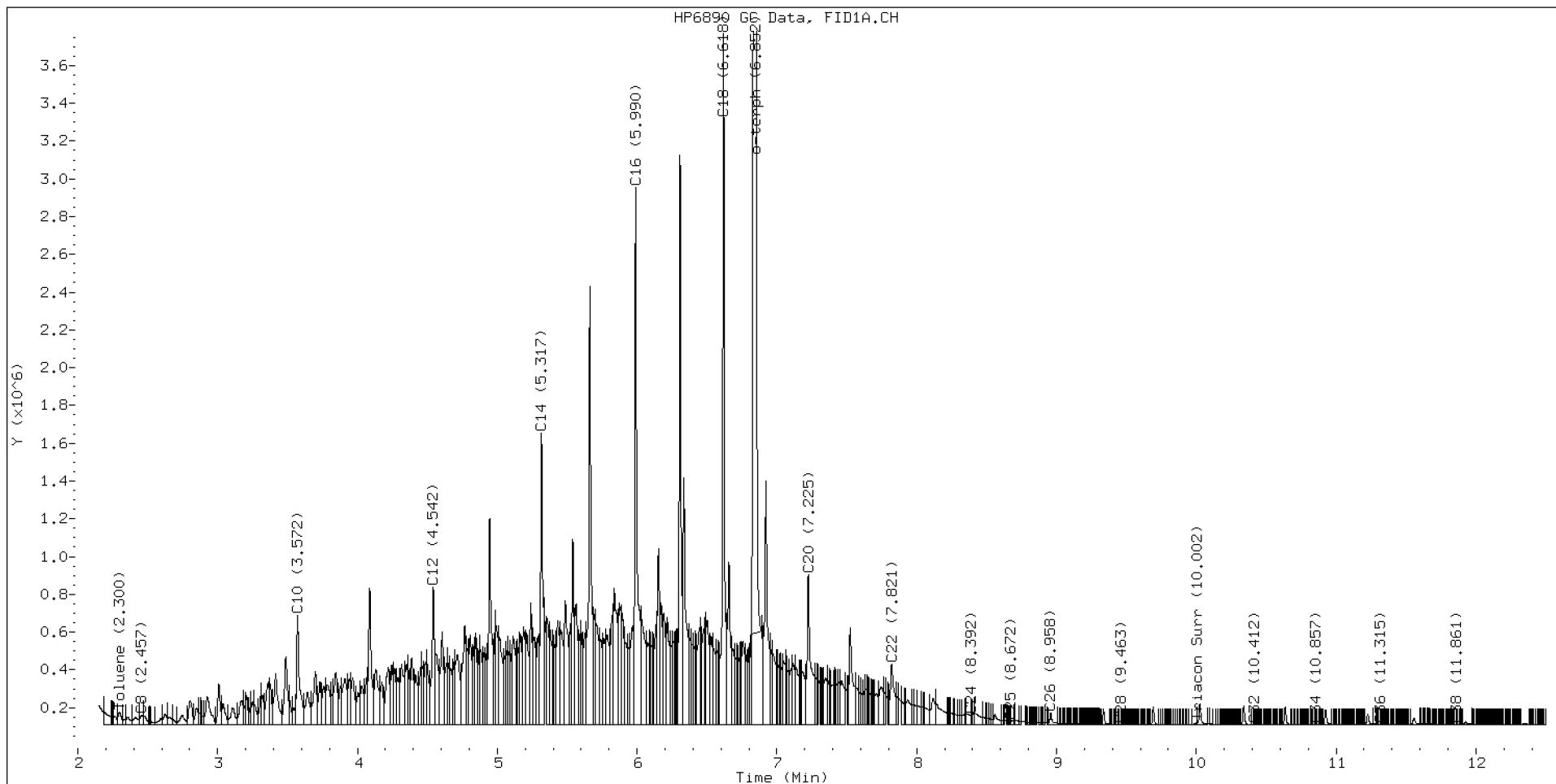
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.457	-0.001	51846	83726	WATPHD	(C12-C24)	87699141	552.8
C10	3.572	-0.005	578881	865334	WATPHM	(C24-C38)	1591691	12.0
C12	4.542	-0.002	726053	976643	AK102	(C10-C25)	102516055	542.2
C14	5.317	-0.005	1543096	1853383	AK103	(C25-C36)	1151166	11.6
C16	5.990	-0.004	2846736	3256345	OR.DIES	(C10-C28)	103012904	542.9
C18	6.618	-0.004	3658249	3468675				
C20	7.225	-0.005	793930	1503749	JET-A	(C10-C18)	79490662	459.0
C22	7.821	-0.004	318508	639741				
C24	8.392	-0.008	50258	12530				
C25	8.672	-0.005	19394	6757				
C26	8.958	0.011	60243	81329				
C28	9.463	-0.003	1947	825				
C32	10.412	-0.003	1141	481				
C34	10.857	0.005	1866	1085				
Filter Peak	14.002	0.003	1378	335				
C36	11.315	-0.003	3395	1325				
C38	11.861	-0.000	3156	1202				
C40	12.535	0.002	2024	393				
o-terph	6.852	-0.004	18111736	19622430				
Triacon Surr	10.002	0.022	9783	10684	NAS DIES	(C10-C24)	102221361	541.8

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	19622430	96.4 M
Triacontane	10684	0.1

M Indicates the peak was manually integrated

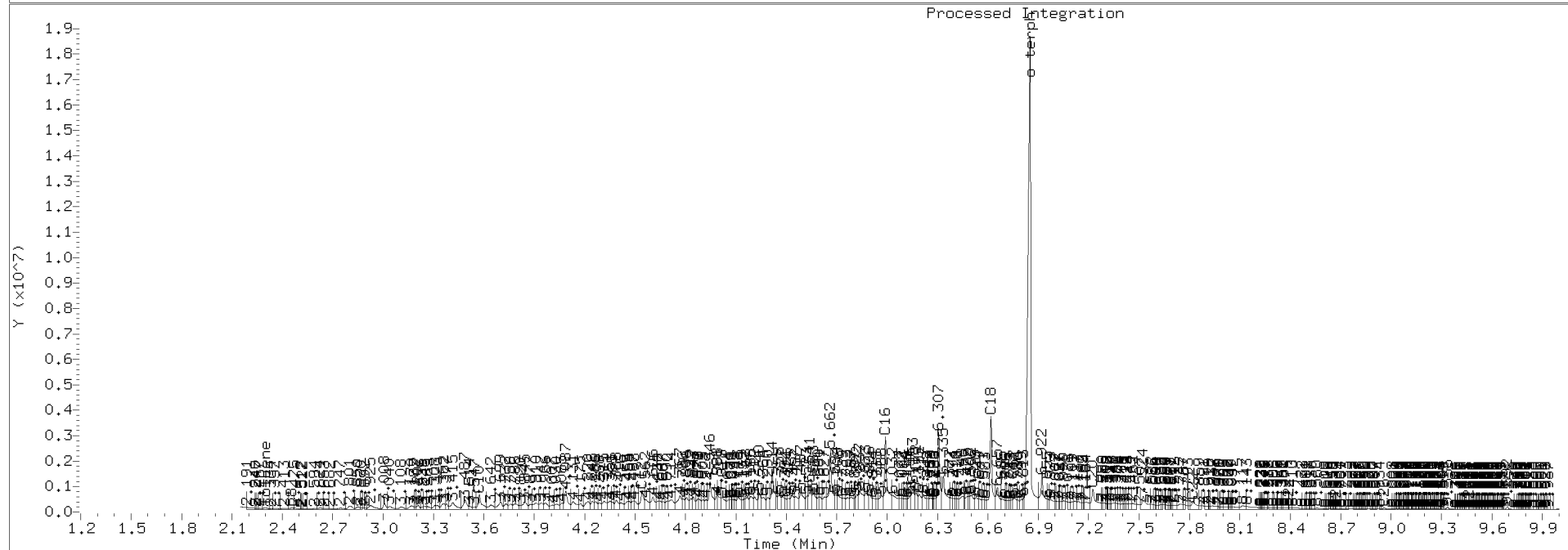
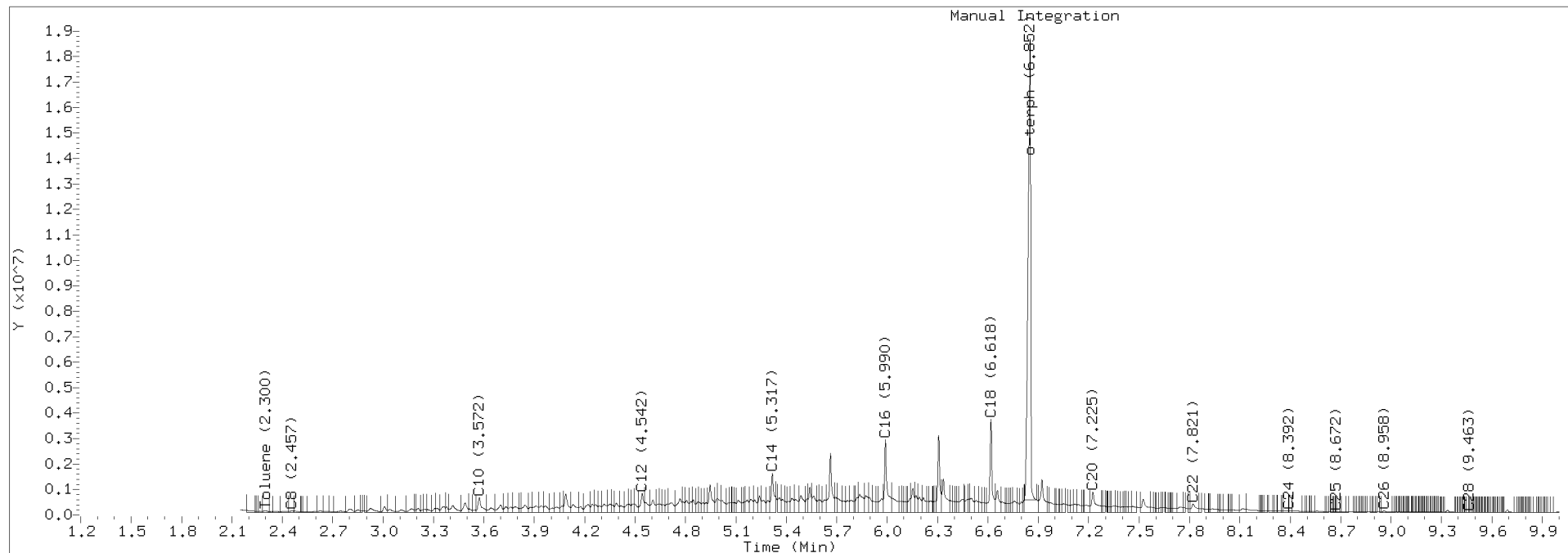
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2417.D Injection: 24-JUN-2022 17:17

Lab ID:SEQ-CCV1





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2418.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-CCV2</u>	Injection Time:	<u>17:37</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	1050	132579.1	139303.8		5.1	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2418.D

Date: 24-JUN-2022 17:37

Client ID:

Sample Info: SEQ-OCV2

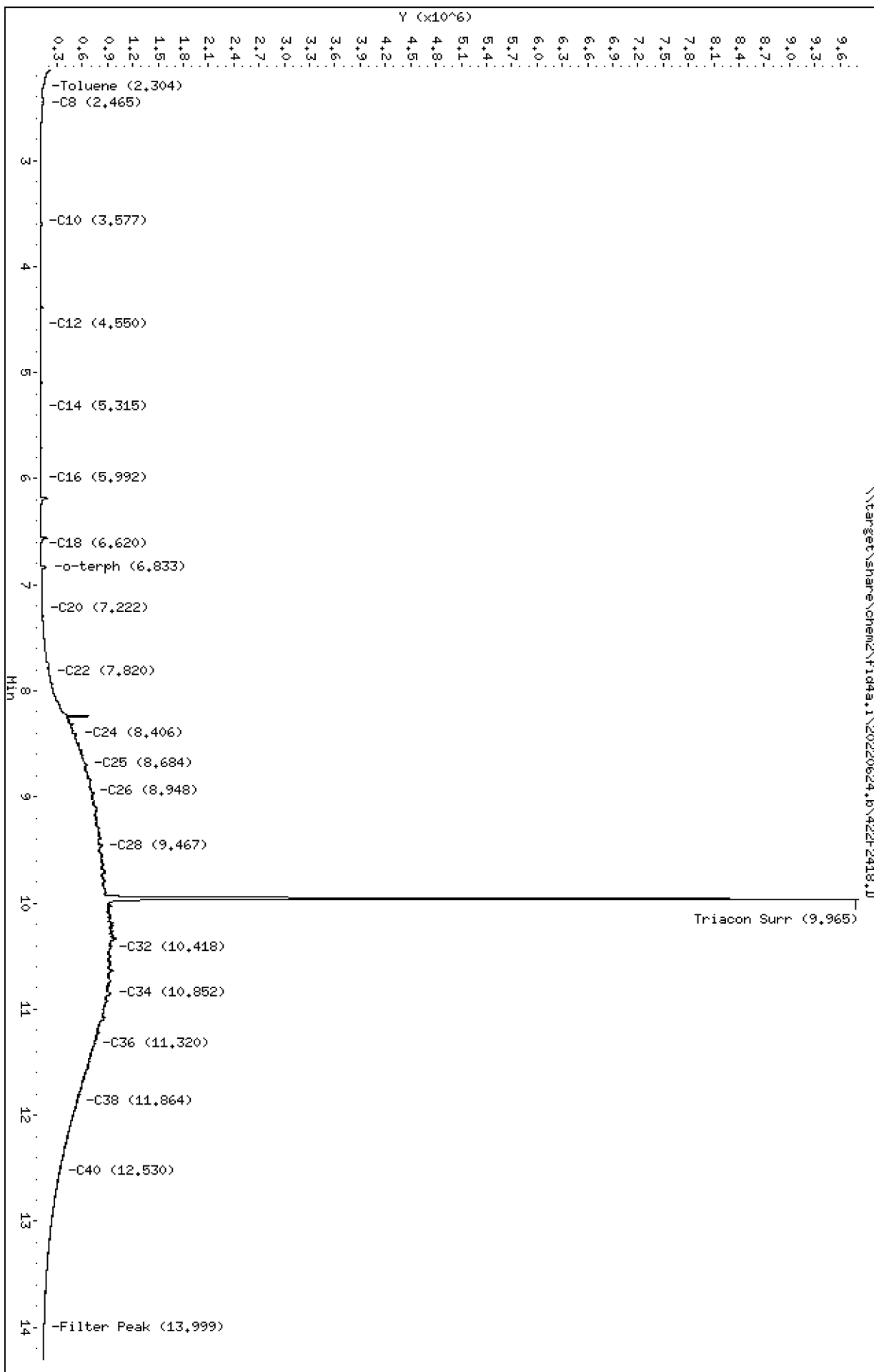
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2418.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV2  
Client ID:  
Injection: 24-JUN-2022 17:37  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

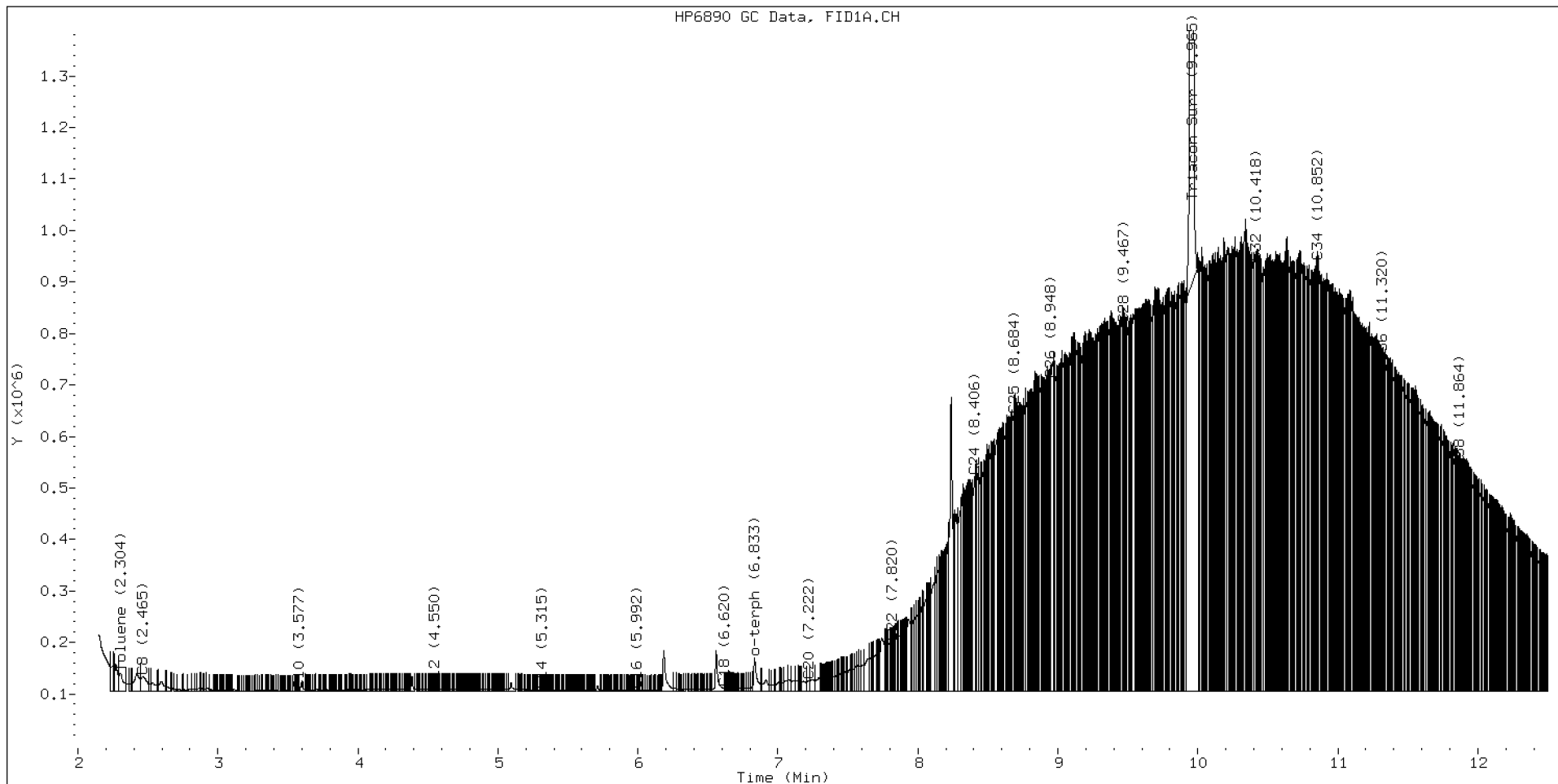
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.465	0.007	28521	83013	WATPHD	(C12-C24)	11906128	75.1
C10	3.577	0.000	1927	914	WATPHM	(C24-C38)	139303765	1050.7
C12	4.550	0.007	4223	1850	AK102	(C10-C25)	16797364	88.8
C14	5.315	-0.006	2404	1576	AK103	(C25-C36)	118015333	1193.2
C16	5.992	-0.002	1743	756	OR.DIES	(C10-C28)	49442002	260.6
C18	6.620	-0.002	6375	2199				
C20	7.222	-0.008	21147	24586	JET-A	(C10-C18)	767777	4.4
C22	7.820	-0.005	95334	47177				
C24	8.406	0.007	416530	437987				
C25	8.684	0.006	535400	422974				
C26	8.948	0.000	604493	330563				
C28	9.467	0.001	713336	106889				
C32	10.418	0.003	831371	248536				
C34	10.852	0.000	834711	412354				
Filter Peak	13.999	0.000	39047	21324				
C36	11.320	0.002	637211	95440				
C38	11.864	0.003	433614	107807				
C40	12.530	-0.002	223975	55886				
o-terph	6.833	-0.023	65658	104773				
Triacon Surr	9.965	-0.015	8915616	8870537	NAS DIES	(C10-C24)	12134622	64.3

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	104773	0.5
Triacotane	8870537	50.9 M

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022

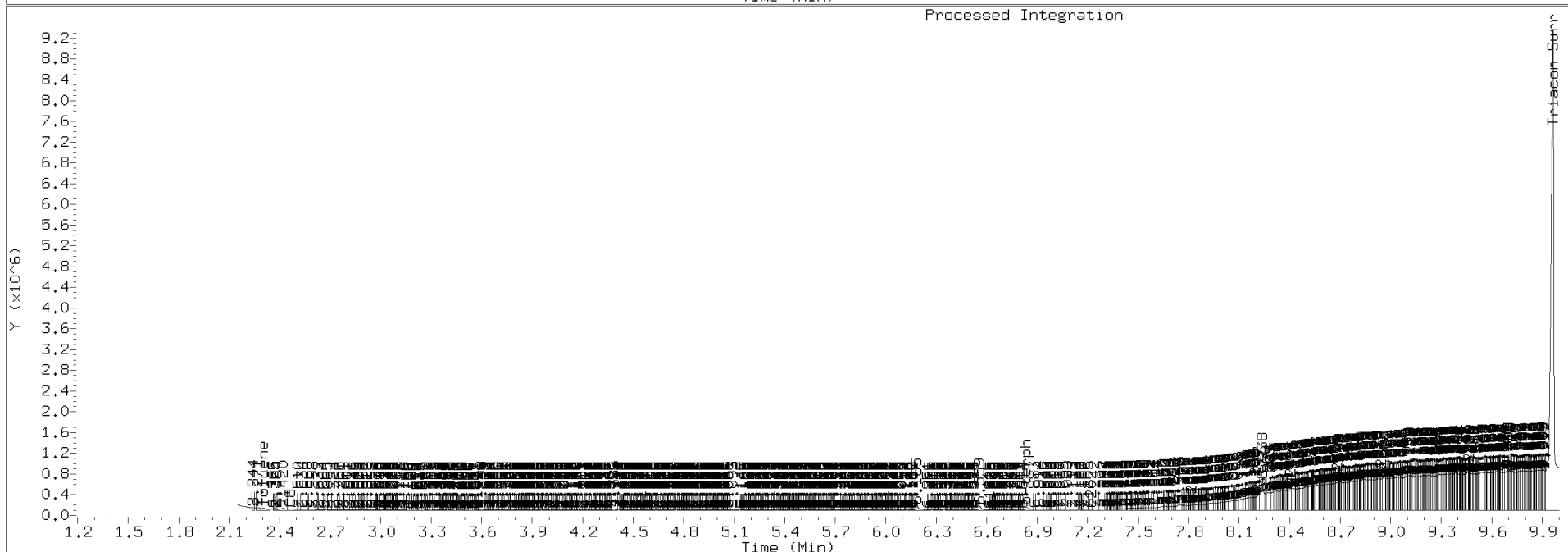
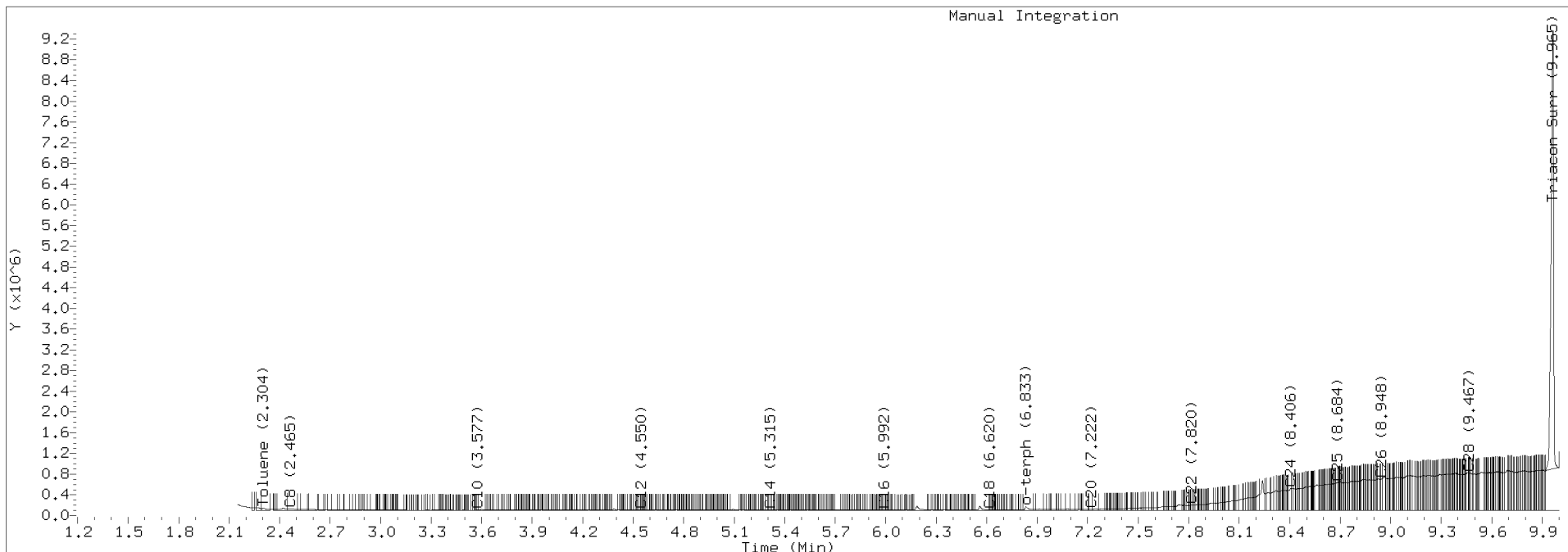




TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2418.D Injection: 24-JUN-2022 17:37

Lab ID:SEQ-CCV2





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2431.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-CCV3</u>	Injection Time:	<u>21:56</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	575	158638.4	182312.8		14.9	+/-15
o-Terphenyl	A	90.000	99.9	203634.1	226025.3		11.0	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2431.D

Date: 24-JUN-2022 21:56

Client ID:

Sample Info: SEQ-OCV3

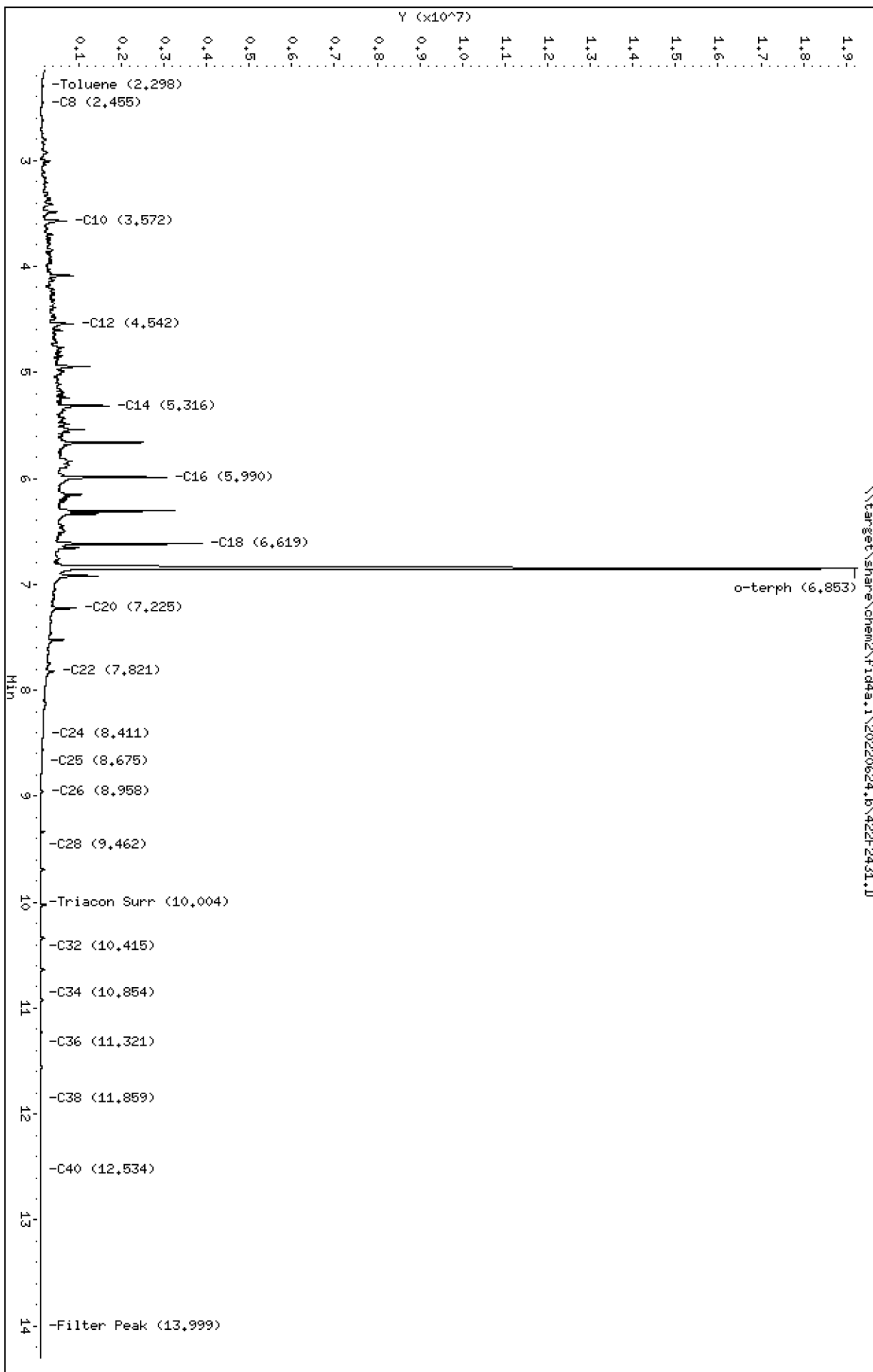
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2431.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV3  
Client ID:  
Injection: 24-JUN-2022 21:56  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

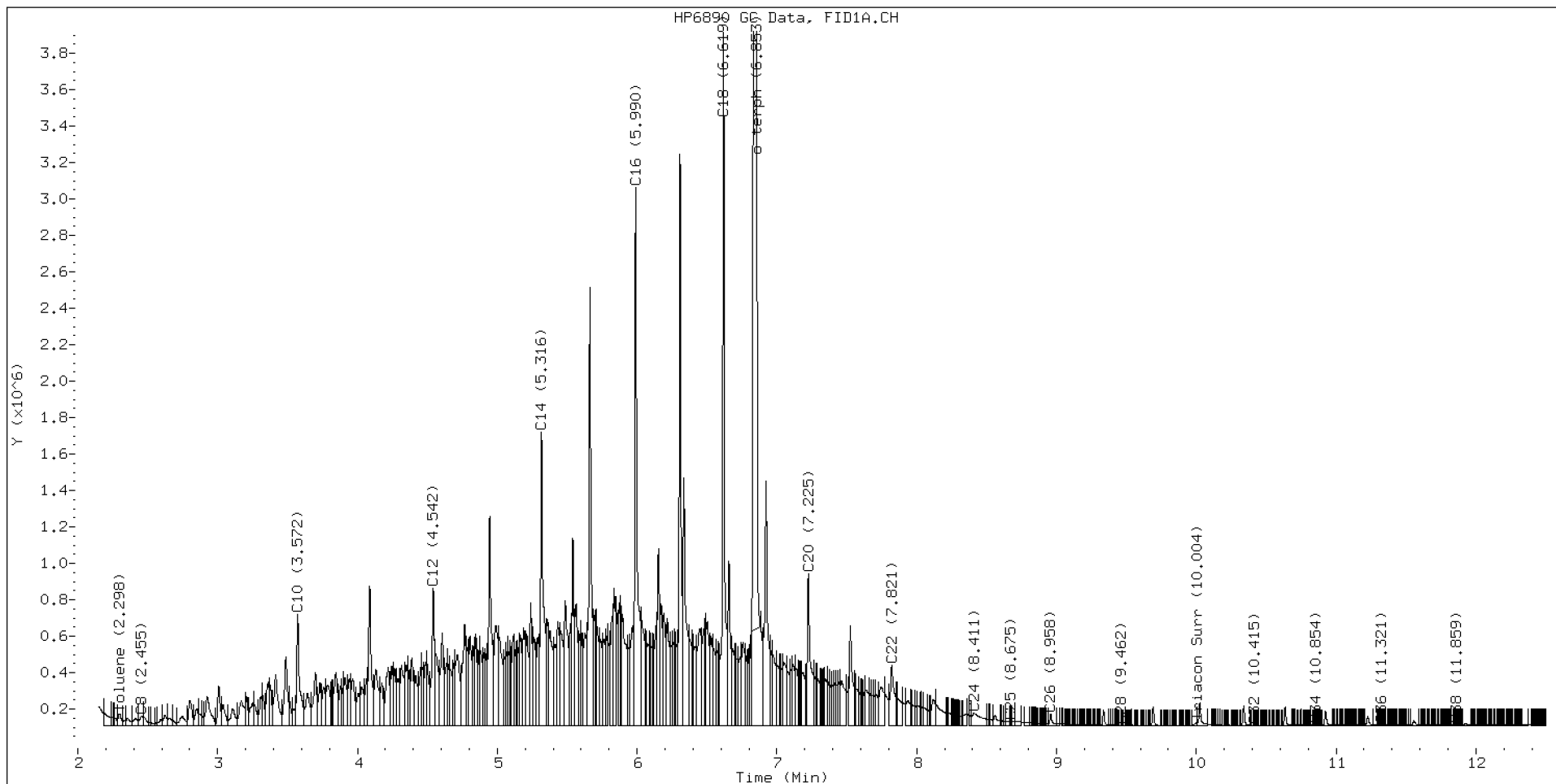
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.455	-0.002	51866	82259	WATPHD	(C12-C24)	91156401	574.6
C10	3.572	-0.005	608908	902461	WATPHM	(C24-C38)	1618028	12.2
C12	4.542	-0.001	755906	1023413	AK102	(C10-C25)	106515957	563.3
C14	5.316	-0.006	1610832	2255854	AK103	(C25-C36)	1224833	12.4
C16	5.990	-0.004	2954518	3377260	OR.DIES	(C10-C28)	107048088	564.2
C18	6.619	-0.004	3804170	3673572				
C20	7.225	-0.005	832610	1341412	JET-A	(C10-C18)	82199727	474.6
C22	7.821	-0.004	330831	647476				
C24	8.411	0.012	65858	321936				
C25	8.675	-0.002	20288	2026				
C26	8.958	0.010	64737	83306				
C28	9.462	-0.004	1820	952				
C32	10.415	0.000	1283	540				
C34	10.854	0.002	2322	1017				
Filter Peak	13.999	0.001	2022	891				
C36	11.321	0.004	3677	1266				
C38	11.859	-0.002	3175	1861				
C40	12.534	0.002	2725	1352				
o-terph	6.853	-0.003	18626197	20342278				
Triacon Surr	10.004	0.024	13717	17872	NAS DIES	(C10-C24)	106259571	563.2

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	20342278	99.9 M
Triacontane	17872	0.1

M Indicates the peak was manually integrated

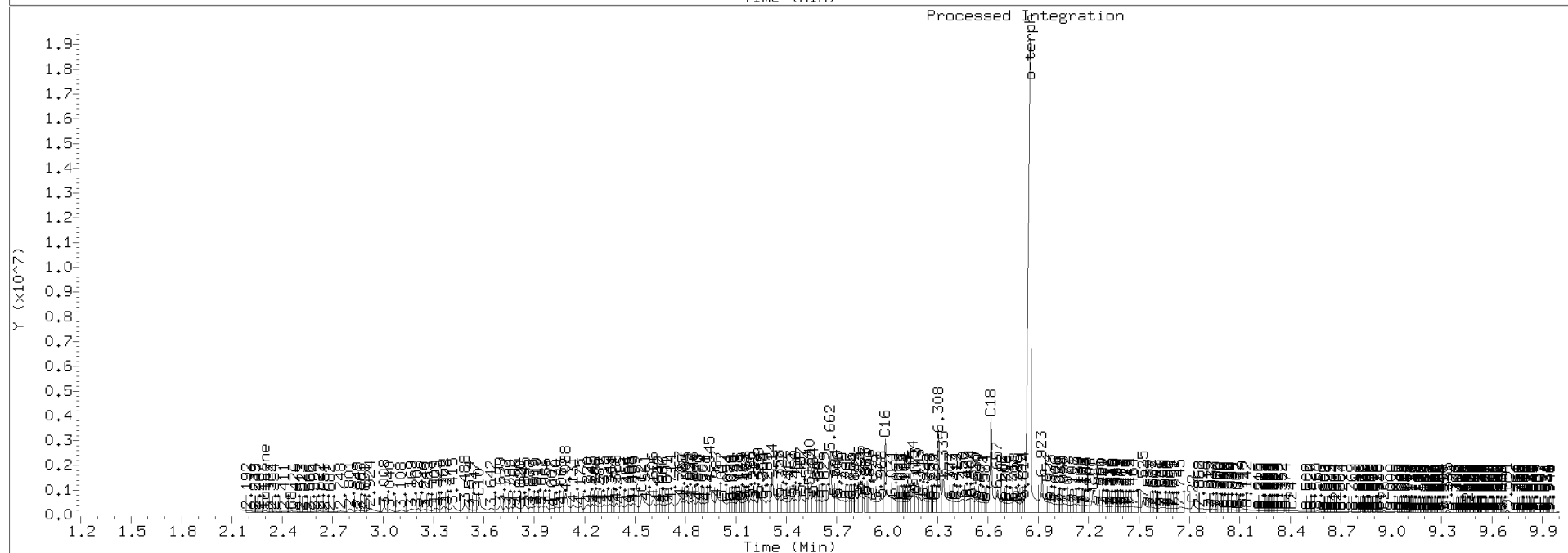
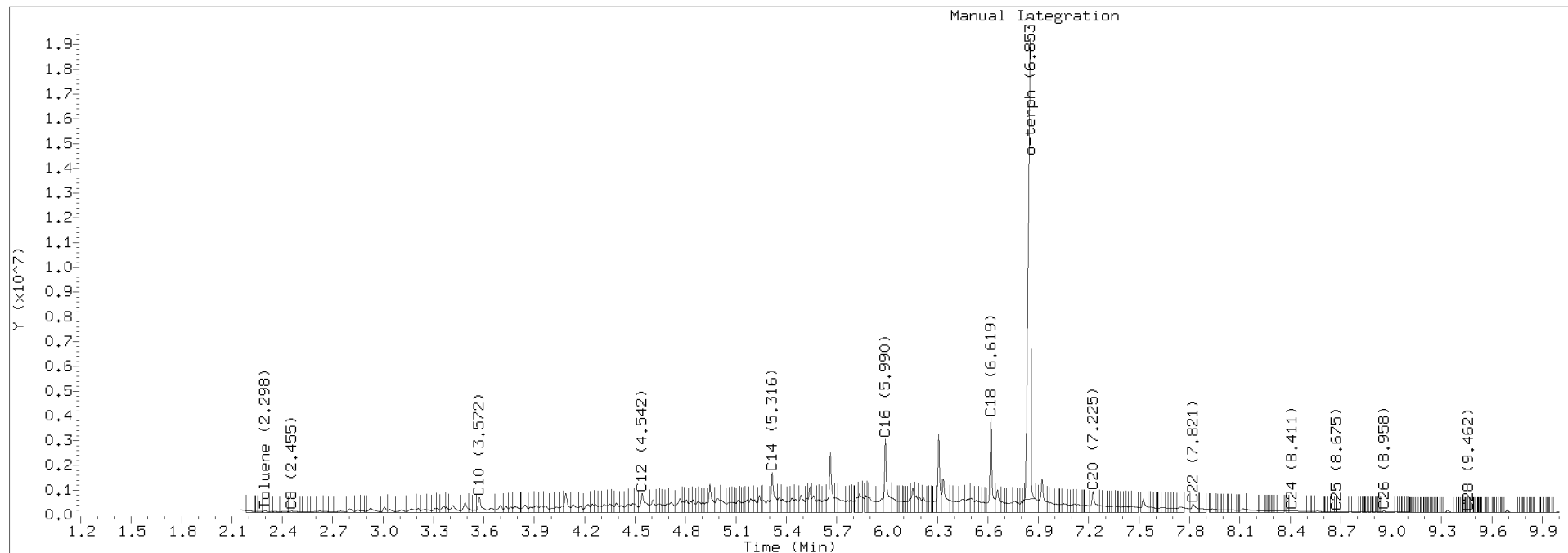
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2431.D Injection: 24-JUN-2022 21:56

Lab ID:SEQ-CCV3





**CONTINUING CALIBRATION CHECK**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>FA00054</u>
Lab File ID:	<u>422F2432.D</u>	Calibration Date:	<u>01/31/2022</u>
Sequence:	<u>SKF0318</u>	Injection Date:	<u>06/24/22</u>
Lab Sample ID:	<u>SKF0318-CCV4</u>	Injection Time:	<u>22:16</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	132579.1	140272.9		5.8	+/-15

\* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20220624,b\422F2432.D

Date: 24-JUN-2022 22:16

Client ID:

Sample Info: SEQ-OCV4

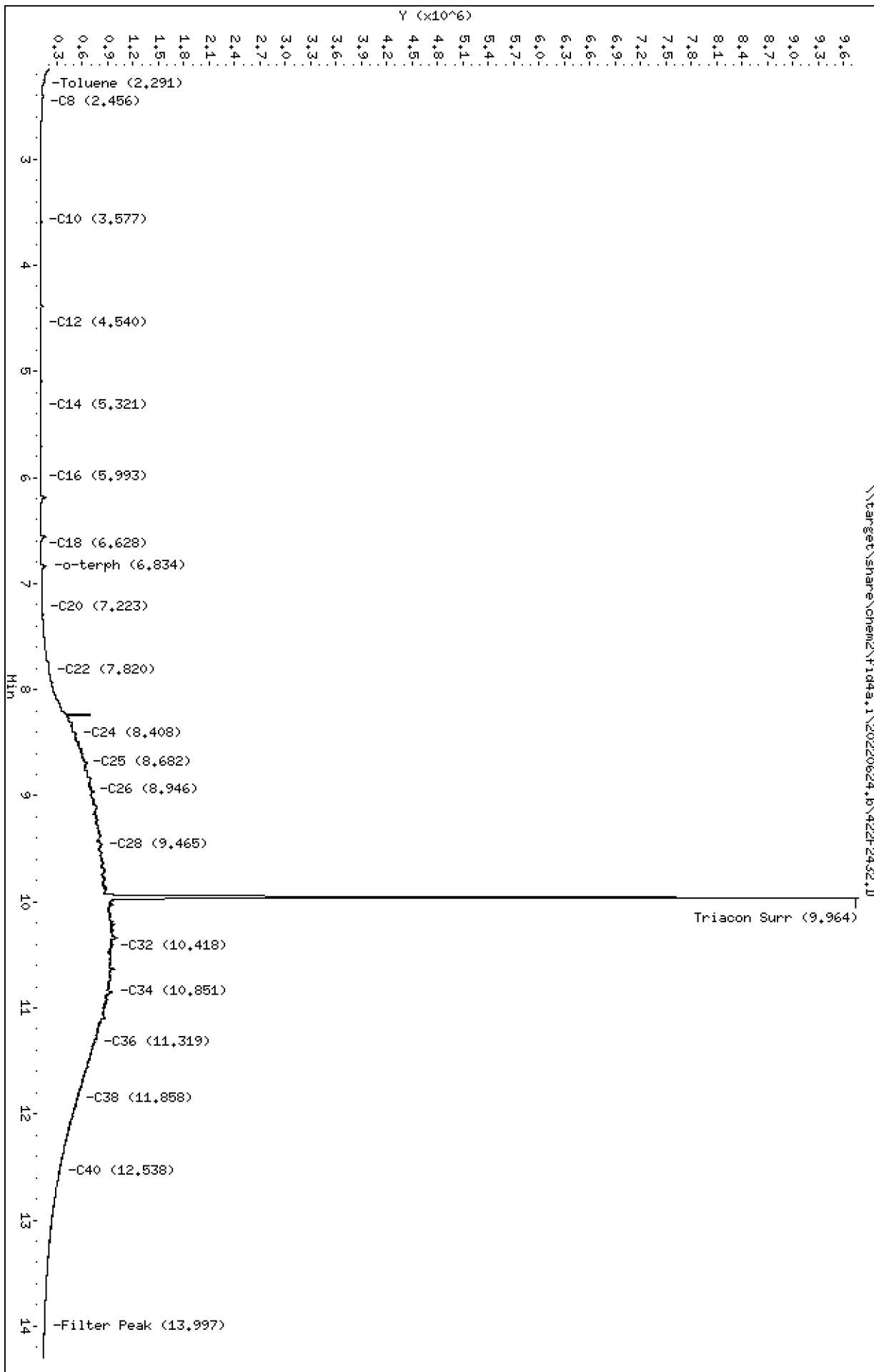
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1





Analytical Resources Inc.  
TPH Quantitation Report

Data file: 20220624.b/422F2432.D  
Method: 20220624.b\FID4TPH.m  
Instrument: fid4a.i, CTO  
Report Date: 06/27/2022  
Macro: 09-SEP-2019  
Calibration Dates: Gas:XX-XXX-XXXX Diesel:20-JAN-2022 M.Oil:06-JAN-2022

ARI ID: SEQ-CCV4  
Client ID:  
Injection: 24-JUN-2022 22:16  
Dilution Factor: 1  
RT Std: 422F2403.D

FID:4A RESULTS

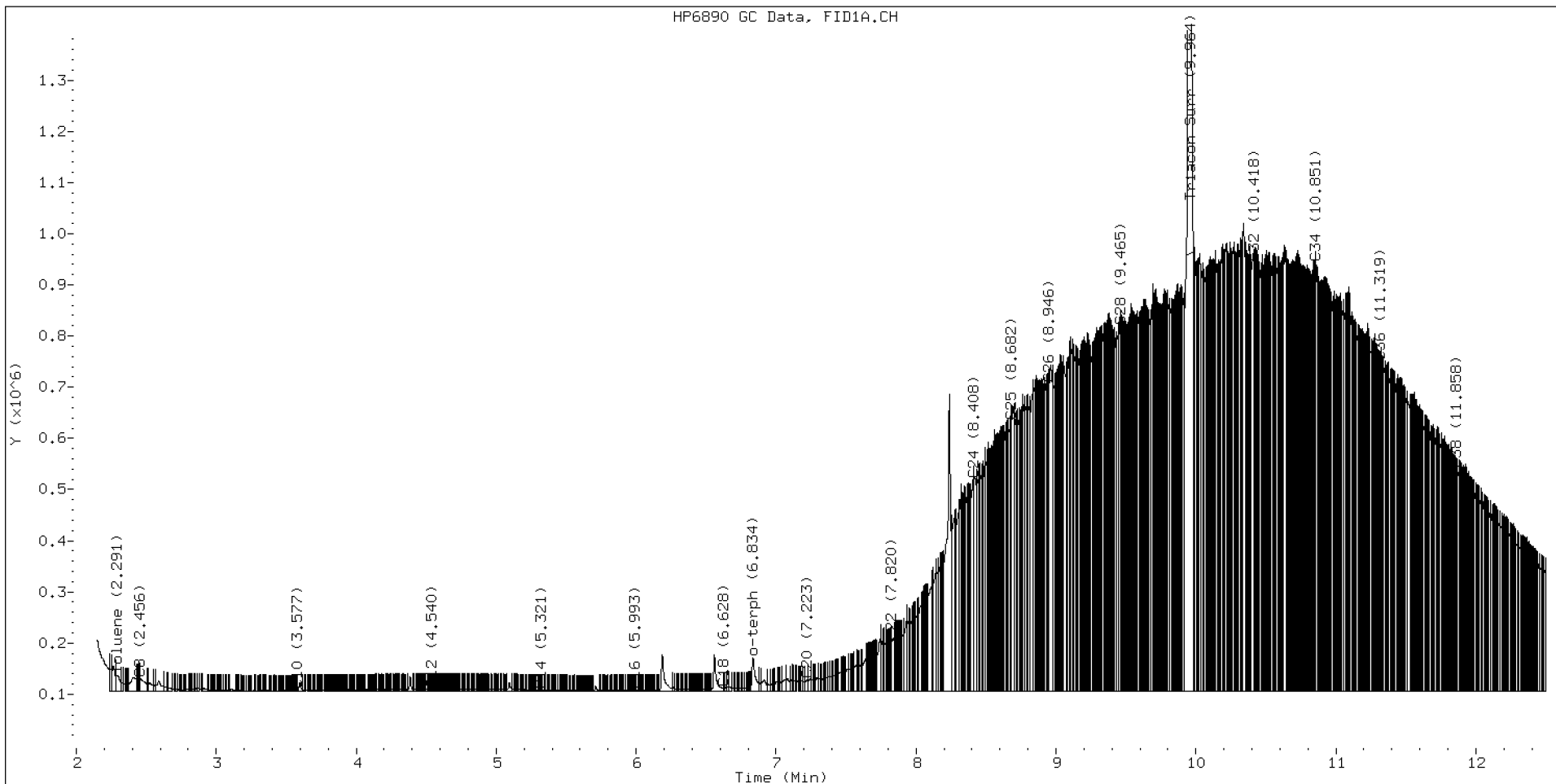
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	2.456	-0.002	24276	64872	WATPHD	(C12-C24)	11721790	73.9
C10	3.577	0.000	1553	559	WATPHM	(C24-C38)	140272901	1058.0
C12	4.540	-0.003	3543	868	AK102	(C10-C25)	16723011	88.4
C14	5.321	-0.001	1761	615	AK103	(C25-C36)	118864712	1201.8
C16	5.993	-0.002	1213	232	OR.DIES	(C10-C28)	49471435	260.7
C18	6.628	0.005	6466	3174				
C20	7.223	-0.007	21323	28787	JET-A	(C10-C18)	677099	3.9
C22	7.820	-0.005	95068	28357				
C24	8.408	0.009	413605	511227				
C25	8.682	0.004	527035	414522				
C26	8.946	-0.002	600406	178846				
C28	9.465	-0.001	712700	247778				
C32	10.418	0.003	836575	250261				
C34	10.851	-0.001	836668	621942				
Filter Peak	13.997	-0.002	44200	13202				
C36	11.319	0.002	643613	319269				
C38	11.858	-0.003	433824	193943				
C40	12.538	0.005	223950	122283				
o-terph	6.834	-0.022	64996	106352				
Triacon Surr	9.964	-0.016	8814132	8669250	NAS DIES	(C10-C24)	11905237	63.1

Range Times: NW Diesel(4.543 - 8.399) AK102(3.58 - 8.68) Jet A(3.58 - 6.62)  
NW M.Oil(8.40 - 11.86) AK103(8.68 - 11.32) OR Diesel(3.58 - 9.47)

Surrogate	Area	Amount
o-Terphenyl	106352	0.5
Triacotane	8669250	49.8 M

M Indicates the peak was manually integrated

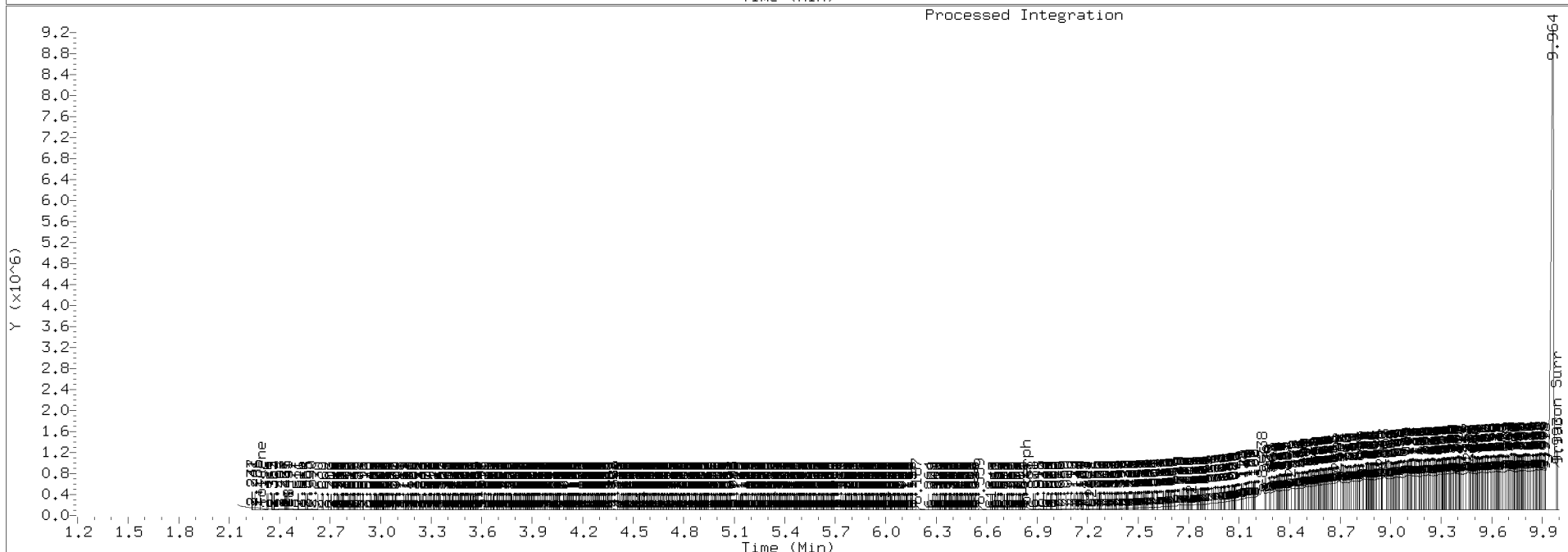
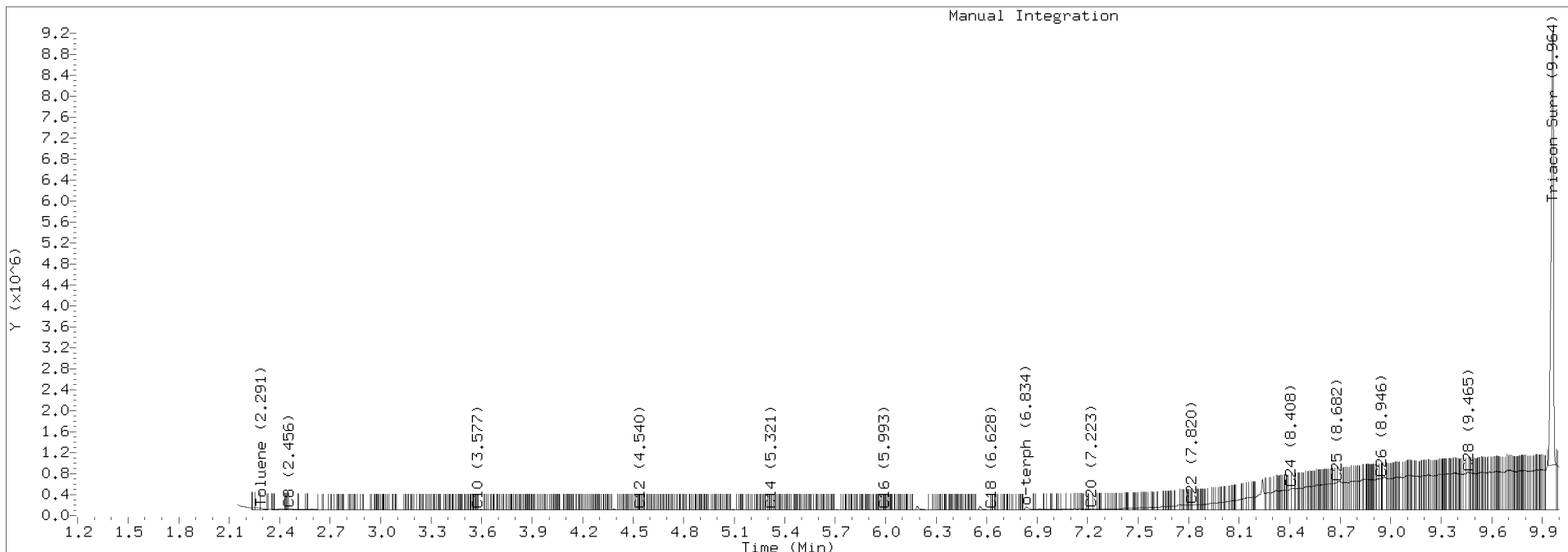
Analyte	RF	Curve Date
o-Terph Surr	203634.1	
Triacon Surr	174221.0	
Gas	15000.0	XX-XXX-XXXX
Diesel	158638.4	20-JAN-2022
Motor Oil	132579.1	06-JAN-2022
AK102	189076.1	20-JAN-2022
AK103	98909.5	06-JAN-2022
JetA	173192.9	03-MAR-2022
OR Diesel	189743.0	20-JAN-2022
NAS Diesel	188673.2	20-JAN-2022



TPH Manual Integrations Report

Datafile: FID4A, 20220624.b/422F2432.D Injection: 24-JUN-2022 22:16

Lab ID:SEQ-CCV4





## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKA0028

Instrument: FID4

Calibration: FA00013

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKA0028-IBL1	422A0603.D	NA	01/06/22 09:59
Instrument Blank	SKA0028-IBL2	422A0604.D	NA	01/06/22 10:19
DIESEL 50	SKA0028-CAL1	422A0620.D	NA	01/06/22 17:04
DIESEL 100	SKA0028-CAL2	422A0621.D	NA	01/06/22 17:24
DIESEL 250	SKA0028-CAL3	422A0622.D	NA	01/06/22 17:44
DIESEL 500	SKA0028-CAL4	422A0623.D	NA	01/06/22 18:04
DIESEL 1000	SKA0028-CAL5	422A0624.D	NA	01/06/22 18:23
DIESEL 2500	SKA0028-CAL6	422A0625.D	NA	01/06/22 18:43
MOIL 100	SKA0028-CAL7	422A0626.D	NA	01/06/22 19:03
MOIL 250	SKA0028-CAL8	422A0627.D	NA	01/06/22 19:23
MOIL 500	SKA0028-CAL9	422A0628.D	NA	01/06/22 19:43
MOIL 1000	SKA0028-CALA	422A0629.D	NA	01/06/22 20:02
MOIL 2500	SKA0028-CALB	422A0630.D	NA	01/06/22 20:22
MOIL 5000	SKA0028-CALC	422A0631.D	NA	01/06/22 20:42
DIESEL SCV	SKA0028-SCV1	422A0632.D	NA	01/06/22 21:02
MOIL SCV	SKA0028-SCV2	422A0633.D	NA	01/06/22 21:21
AK103 100	SKA0028-CALD	422A0634.D	NA	01/06/22 21:41
AK103 250	SKA0028-CALE	422A0635.D	NA	01/06/22 22:01
AK103 500	SKA0028-CALF	422A0636.D	NA	01/06/22 22:21
AK103 1000	SKA0028-CALG	422A0637.D	NA	01/06/22 22:40
AK103 2500	SKA0028-CALH	422A0638.D	NA	01/06/22 23:00
AK103 5000	SKA0028-CALI	422A0639.D	NA	01/06/22 23:20



ANALYSIS SEQUENCE

SKA0028

Instrument: FID4  
Calibration ID: FA00013

Printed: 1/7/2022 6:12:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0028-IBL1	QC		1		J002430			
SKA0028-IBL2	QC		2		J012751			
SKA0028-CAL1	QC		3		K000192			
SKA0028-CAL2	QC		4		K000193			
SKA0028-CAL3	QC		5		K000194			
SKA0028-CAL4	QC		6		K000195			
SKA0028-CAL5	QC		7		K000196			
SKA0028-CAL6	QC		8		J012752			
SKA0028-CAL7	QC		9		J011839			
SKA0028-CAL8	QC		10		J011838			
SKA0028-CAL9	QC		11		J011837			
SKA0028-CALA	QC		12		J011836			
SKA0028-CALB	QC		13		J011835			
SKA0028-CALC	QC		14		J010293			
SKA0028-SCV1	QC		15		J009677			
SKA0028-SCV2	QC		16		J012167			
SKA0028-CALD	QC		17		J012178			
SKA0028-CALE	QC		18		J012179			
SKA0028-CALF	QC		19		J012180			
SKA0028-CALG	QC		20		J012181			
SKA0028-CALH	QC		21		J012182			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



## GC LOG SUMMARY FOR DATABATCH - fid4a.i\20220106.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	06-JAN-2022	09:20	422A0601.D	1	RINSE	
2	06-JAN-2022	09:40	422A0602.D	1	RINSE	
3	06-JAN-2022	09:59	422A0603.D	1	SKA0028-IBL1	
4	06-JAN-2022	10:19	422A0604.D	1	SKA0028-IBL2	
5	06-JAN-2022	10:39	422A0605.D	1	SKA0028-ICV1	
6	06-JAN-2022	10:59	422A0606.D	1	SKA0028-ICV2	
7	06-JAN-2022	11:19	422A0607.D	1	BKA0056-BLK1	
8	06-JAN-2022	11:38	422A0608.D	1	BKA0056-BS1	
9	06-JAN-2022	11:58	422A0609.D	1	BKA0056-MRL1	
10	06-JAN-2022	12:18	422A0610.D	1	BKA0056-MRL2	
11	06-JAN-2022	12:38	422A0611.D	1	22A0041-01	
12	06-JAN-2022	12:58	422A0612.D	10	22A0041-01	
13	06-JAN-2022	13:17	422A0613.D	10	22A0041-02	
14	06-JAN-2022	13:37	422A0614.D	20	22A0041-01	
15	06-JAN-2022	13:57	422A0615.D	20	22A0041-02	
16	06-JAN-2022	14:17	422A0616.D	20	22A0041-03	
17	06-JAN-2022	14:37	422A0617.D	20	22A0041-04	
18	06-JAN-2022	14:56	422A0618.D	1	SKA0028-CCV1	
19	06-JAN-2022	15:16	422A0619.D	1	SKA0028-CCV2	
20	06-JAN-2022	17:04	422A0620.D	1	SKA0028-CAL1	
21	06-JAN-2022	17:24	422A0621.D	1	SKA0028-CAL2	
22	06-JAN-2022	17:44	422A0622.D	1	SKA0028-CAL3	
23	06-JAN-2022	18:04	422A0623.D	1	SKA0028-CAL4	
24	06-JAN-2022	18:23	422A0624.D	1	SKA0028-CAL5	
25	06-JAN-2022	18:43	422A0625.D	1	SKA0028-CAL6	
26	06-JAN-2022	19:03	422A0626.D	1	SKA0028-CAL7	
27	06-JAN-2022	19:23	422A0627.D	1	SKA0028-CAL8	
28	06-JAN-2022	19:43	422A0628.D	1	SKA0028-CAL9	
29	06-JAN-2022	20:02	422A0629.D	1	SKA0028-CALA	
30	06-JAN-2022	20:22	422A0630.D	1	SKA0028-CALB	
31	06-JAN-2022	20:42	422A0631.D	1	SKA0028-CALC	
32	06-JAN-2022	21:02	422A0632.D	1	SKA0028-SCV1	
33	06-JAN-2022	21:21	422A0633.D	1	SKA0028-SCV2	
34	06-JAN-2022	21:41	422A0634.D	1	SKA0028-CALD	
35	06-JAN-2022	22:01	422A0635.D	1	SKA0028-CALE	
36	06-JAN-2022	22:21	422A0636.D	1	SKA0028-CALF	
37	06-JAN-2022	22:40	422A0637.D	1	SKA0028-CALG	
38	06-JAN-2022	23:00	422A0638.D	1	SKA0028-CALH	
39	06-JAN-2022	23:20	422A0639.D	1	SKA0028-CALI	
40	06-JAN-2022	23:40	422A0640.D	1	SKA0028-SCV3	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 06-JAN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0920	422A0601.D	RINSE		1	NO MANUAL INTEGRATION
0940	422A0602.D	RINSE		1	NO MANUAL INTEGRATION
0959	422A0603.D	SKA0028-IBL1		1	Toluene,
1019	422A0604.D	SKA0028-IBL2		1	NO MANUAL INTEGRATION
1039	422A0605.D	SKA0028-ICV1		1	o-terph,
1059	422A0606.D	SKA0028-ICV2		1	Triacon Surr,
1119	422A0607.D	BKA0056-BLK1		1	NO MANUAL INTEGRATION
1138	422A0608.D	BKA0056-BS1		1	o-terph,
1158	422A0609.D	BKA0056-MRL1		1	o-terph, Triacon Surr,
1218	422A0610.D	BKA0056-MRL2		1	o-terph, Triacon Surr,
1238	422A0611.D	22A0041-01		1	o-terph,
1258	422A0612.D	22A0041-01		10	Triacon Surr,
1317	422A0613.D	22A0041-02		10	NO MANUAL INTEGRATION
1337	422A0614.D	22A0041-01		20	o-terph, Triacon Surr,
1357	422A0615.D	22A0041-02		20	o-terph, Triacon Surr,
1417	422A0616.D	22A0041-03		20	o-terph, Triacon Surr,
1437	422A0617.D	22A0041-04		20	NO MANUAL INTEGRATION



MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1456	422A0618.D	SKA0028-CCV1		1	o-terph,
1516	422A0619.D	SKA0028-CCV2		1	NO MANUAL INTEGRATION
1704	422A0620.D	SKA0028-CAL1		1	o-terph,
1724	422A0621.D	SKA0028-CAL2		1	o-terph,
1744	422A0622.D	SKA0028-CAL3		1	o-terph,
1804	422A0623.D	SKA0028-CAL4		1	o-terph,
1823	422A0624.D	SKA0028-CAL5		1	o-terph,
1843	422A0625.D	SKA0028-CAL6		1	o-terph,
1903	422A0626.D	SKA0028-CAL7		1	Triacon Surr,
1923	422A0627.D	SKA0028-CAL8		1	Triacon Surr,
1943	422A0628.D	SKA0028-CAL9		1	Triacon Surr,
2002	422A0629.D	SKA0028-CALA		1	Triacon Surr,
2022	422A0630.D	SKA0028-CALB		1	Triacon Surr,
2042	422A0631.D	SKA0028-CALC		1	Triacon Surr,
2102	422A0632.D	SKA0028-SCV1		1	NO MANUAL INTEGRATION
2121	422A0633.D	SKA0028-SCV2		1	NO MANUAL INTEGRATION
2141	422A0634.D	SKA0028-CALD		1	Triacon Surr,
2201	422A0635.D	SKA0028-CALE		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220106.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2221	422A0636.D	SKA0028-CALF		1	Triacon Surr,
2240	422A0637.D	SKA0028-CALG		1	Triacon Surr,
2300	422A0638.D	SKA0028-CALH		1	Triacon Surr,
2320	422A0639.D	SKA0028-CALI		1	Triacon Surr,
2340	422A0640.D	SKA0028-SCV3		1	Triacon Surr,

Security Status Report

Date: 07-Jan-2022 18:09

422A0601.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0602.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0603.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0604.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0605.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0606.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0607.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0608.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0609.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0610.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0611.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0612.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0613.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0614.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0615.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0616.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0617.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0618.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0619.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0620.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0621.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0622.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0623.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0624.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0625.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0626.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0627.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0628.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0629.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0630.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0631.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0632.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0633.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0634.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0635.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0636.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0637.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0638.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0639.D	Data Locked	tokala,	07-Jan-2022	17:54
422A0640.D	Data Locked	tokala,	07-Jan-2022	17:54



**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKA0077

Instrument: FID3

Calibration: FA00031

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKA0077-IBL1	322A1003.D	NA	01/10/22 17:57
Instrument Blank	SKA0077-IBL2	322A1004.D	NA	01/10/22 18:17
DIESEL 50	SKA0077-CAL1	322A1005.D	NA	01/10/22 18:36
DIESEL 100	SKA0077-CAL2	322A1006.D	NA	01/10/22 18:56
DIESEL 250	SKA0077-CAL3	322A1007.D	NA	01/10/22 19:16
DIESEL 500	SKA0077-CAL4	322A1008.D	NA	01/10/22 19:36
DIESEL 1000	SKA0077-CAL5	322A1009.D	NA	01/10/22 19:56
DIESEL 2500	SKA0077-CAL6	322A1010.D	NA	01/10/22 20:16
DIESEL SCV	SKA0077-SCV1	322A1011.D	NA	01/10/22 20:36



**ANALYSIS SEQUENCE**

SKA0077

Instrument: FID3  
Calibration ID: FA00031

**Printed: 1/12/2022 2:03:07PM**

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0077-IBL1	QC		1		J002430			
SKA0077-IBL2	QC		2		J012751			
SKA0077-CAL1	QC		3		K000192			
SKA0077-CAL2	QC		4		K000193			
SKA0077-CAL3	QC		5		K000194			
SKA0077-CAL4	QC		6		K000195			
SKA0077-CAL5	QC		7		K000196			
SKA0077-CAL6	QC		8		J012752			
SKA0077-SCV1	QC		9		J009677			

\_\_\_\_\_  
Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Data Processed By \_\_\_\_\_ Date \_\_\_\_\_

## GC LOG SUMMARY FOR DATABATCH - fid3b.i\20220110.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	10-JAN-2022	17:17	322A1001.D	1	RINSE	
2	10-JAN-2022	17:37	322A1002.D	1	RINSE	
3	10-JAN-2022	17:57	322A1003.D	1	SKA0077-IBL1	
4	10-JAN-2022	18:17	322A1004.D	1	SKA0077-IBL2	
5	10-JAN-2022	18:36	322A1005.D	1	SKA0077-CAL1	
6	10-JAN-2022	18:56	322A1006.D	1	SKA0077-CAL2	
7	10-JAN-2022	19:16	322A1007.D	1	SKA0077-CAL3	
8	10-JAN-2022	19:36	322A1008.D	1	SKA0077-CAL4	
9	10-JAN-2022	19:56	322A1009.D	1	SKA0077-CAL5	
10	10-JAN-2022	20:16	322A1010.D	1	SKA0077-CAL6	
11	10-JAN-2022	20:36	322A1011.D	1	SKA0077-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220110.b

ARI Job No.: RINS Method: i\20220110.b\FID3TPH.m Instrument: fid3b.i Date: 10-JAN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1717	322A1001.D	RINSE		1	NO MANUAL INTEGRATION
1737	322A1002.D	RINSE		1	NO MANUAL INTEGRATION
1757	322A1003.D	SKA0077-IBL1		1	NO MANUAL INTEGRATION
1817	322A1004.D	SKA0077-IBL2		1	NO MANUAL INTEGRATION
1836	322A1005.D	SKA0077-CAL1		1	o-terph,
1856	322A1006.D	SKA0077-CAL2		1	o-terph,
1916	322A1007.D	SKA0077-CAL3		1	o-terph,
1936	322A1008.D	SKA0077-CAL4		1	o-terph,
1956	322A1009.D	SKA0077-CAL5		1	o-terph,
2016	322A1010.D	SKA0077-CAL6		1	o-terph,
2036	322A1011.D	SKA0077-SCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 12-Jan-2022 13:58

322A1001.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1002.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1003.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1004.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1005.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1006.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1007.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1008.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1009.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1010.D	Data Locked	victoria, 12-Jan-2022 13:58
322A1011.D	Data Locked	victoria, 12-Jan-2022 13:58





**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKA0208

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKA0208-IBL1	422A2003.D	NA	01/20/22 11:11
Instrument Blank	SKA0208-IBL2	422A2004.D	NA	01/20/22 11:31
DIESEL 50	SKA0208-CAL1	422A2005.D	NA	01/20/22 11:51
DIESEL 100	SKA0208-CAL2	422A2006.D	NA	01/20/22 12:11
DIESEL 250	SKA0208-CAL3	422A2007.D	NA	01/20/22 12:30
DIESEL 500	SKA0208-CAL4	422A2008.D	NA	01/20/22 12:50
DIESEL 1000	SKA0208-CAL5	422A2009.D	NA	01/20/22 13:10
DIESEL 2500	SKA0208-CAL6	422A2010.D	NA	01/20/22 13:30
DIESEL SCV	SKA0208-SCV1	422A2011.D	NA	01/20/22 13:50



ANALYSIS SEQUENCE

SKA0208

Instrument: FID4  
Calibration ID: FA00054

Printed: 1/31/2022 12:44:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKA0208-IBL1	QC		1		J002430			
SKA0208-IBL2	QC		2		J012751			
SKA0208-CAL1	QC		3		K000192			
SKA0208-CAL2	QC		4		K000193			
SKA0208-CAL3	QC		5		K000194			
SKA0208-CAL4	QC		6		K000195			
SKA0208-CAL5	QC		7		K000196			
SKA0208-CAL6	QC		8		J012752			
SKA0208-SCV1	QC		9		J009677			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_

## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	20-JAN-2022	10:32	422A2001.D	1	RINSE	
2	20-JAN-2022	10:51	422A2002.D	1	RINSE	
3	20-JAN-2022	11:11	422A2003.D	1	SKA0208-IBL1	
4	20-JAN-2022	11:31	422A2004.D	1	SKA0208-IBL2	
5	20-JAN-2022	11:51	422A2005.D	1	SKA0208-CAL1	
6	20-JAN-2022	12:11	422A2006.D	1	SKA0208-CAL2	
7	20-JAN-2022	12:30	422A2007.D	1	SKA0208-CAL3	
8	20-JAN-2022	12:50	422A2008.D	1	SKA0208-CAL4	
9	20-JAN-2022	13:10	422A2009.D	1	SKA0208-CAL5	
10	20-JAN-2022	13:30	422A2010.D	1	SKA0208-CAL6	
11	20-JAN-2022	13:50	422A2011.D	1	SKA0208-SCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220120.b

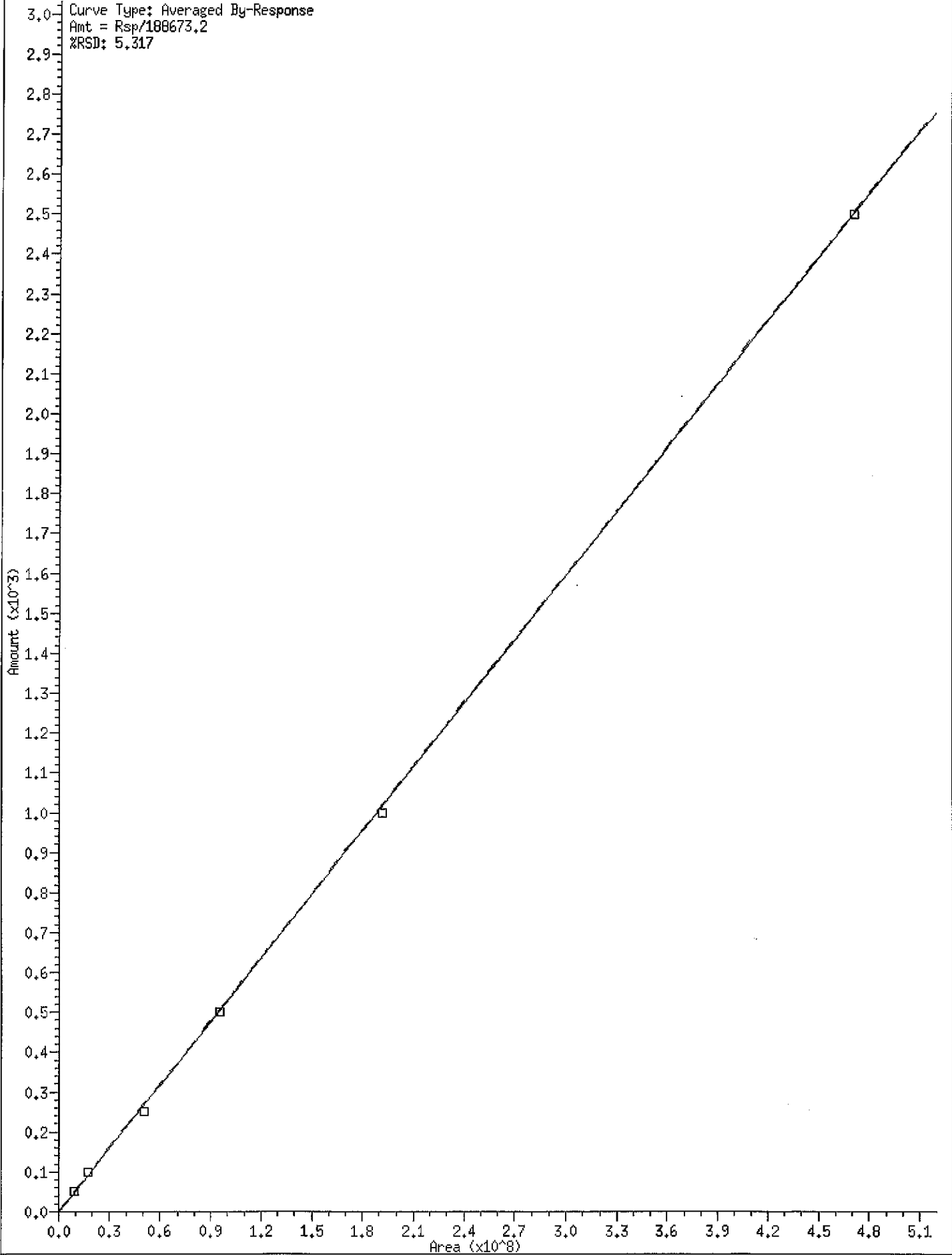
ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 20-JAN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1032	422A2001.D	RINSE		1	NO MANUAL INTEGRATION
1051	422A2002.D	RINSE		1	NO MANUAL INTEGRATION
1111	422A2003.D	SKA0208-IBL1		1	NO MANUAL INTEGRATION
1131	422A2004.D	SKA0208-IBL2		1	NO MANUAL INTEGRATION
1151	422A2005.D	SKA0208-CAL1		1	o-terph,
1211	422A2006.D	SKA0208-CAL2		1	o-terph,
1230	422A2007.D	SKA0208-CAL3		1	o-terph,
1250	422A2008.D	SKA0208-CAL4		1	o-terph,
1310	422A2009.D	SKA0208-CAL5		1	o-terph,
1330	422A2010.D	SKA0208-CAL6		1	o-terph,
1350	422A2011.D	SKA0208-SCV1		1	NO MANUAL INTEGRATION

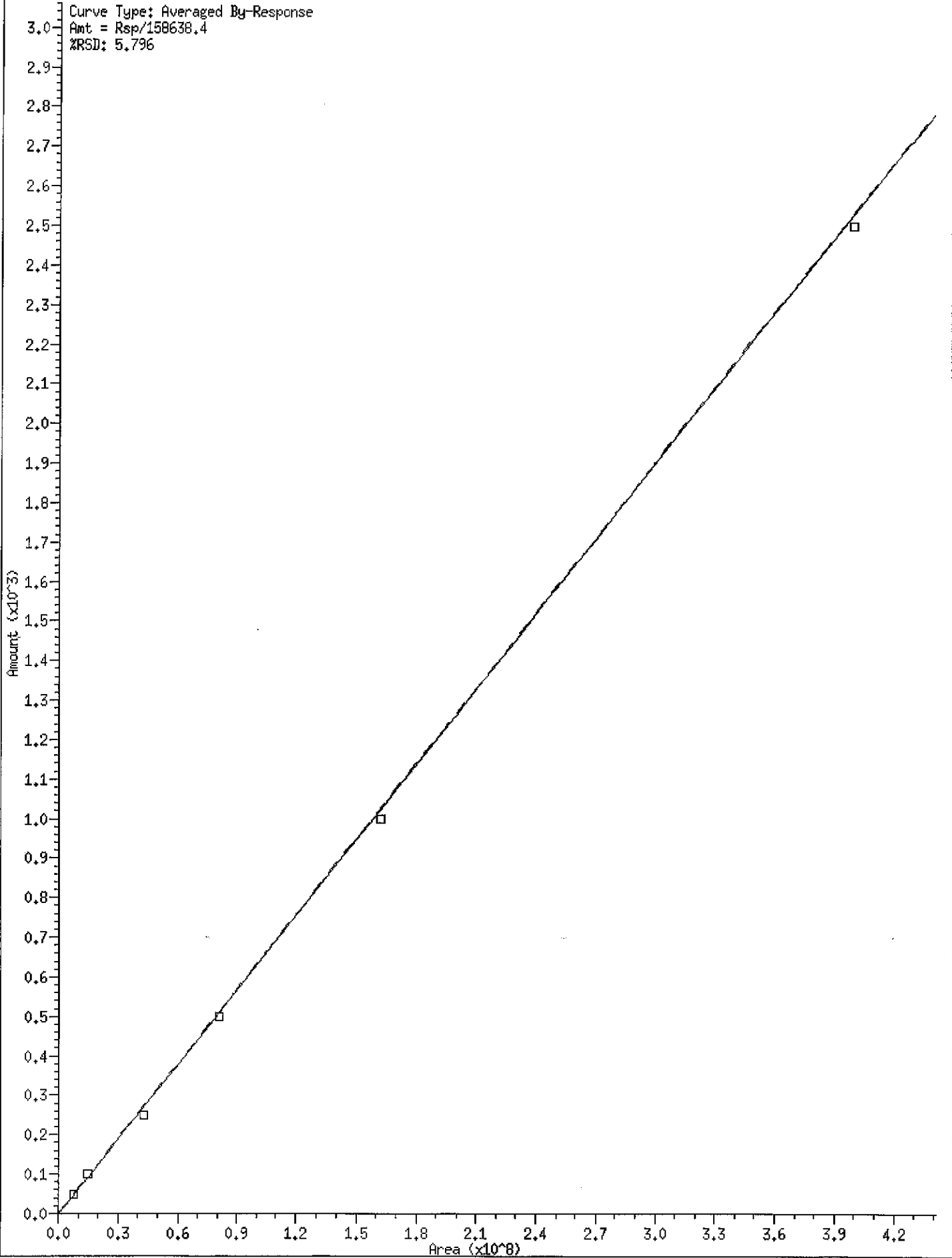
Security Status Report

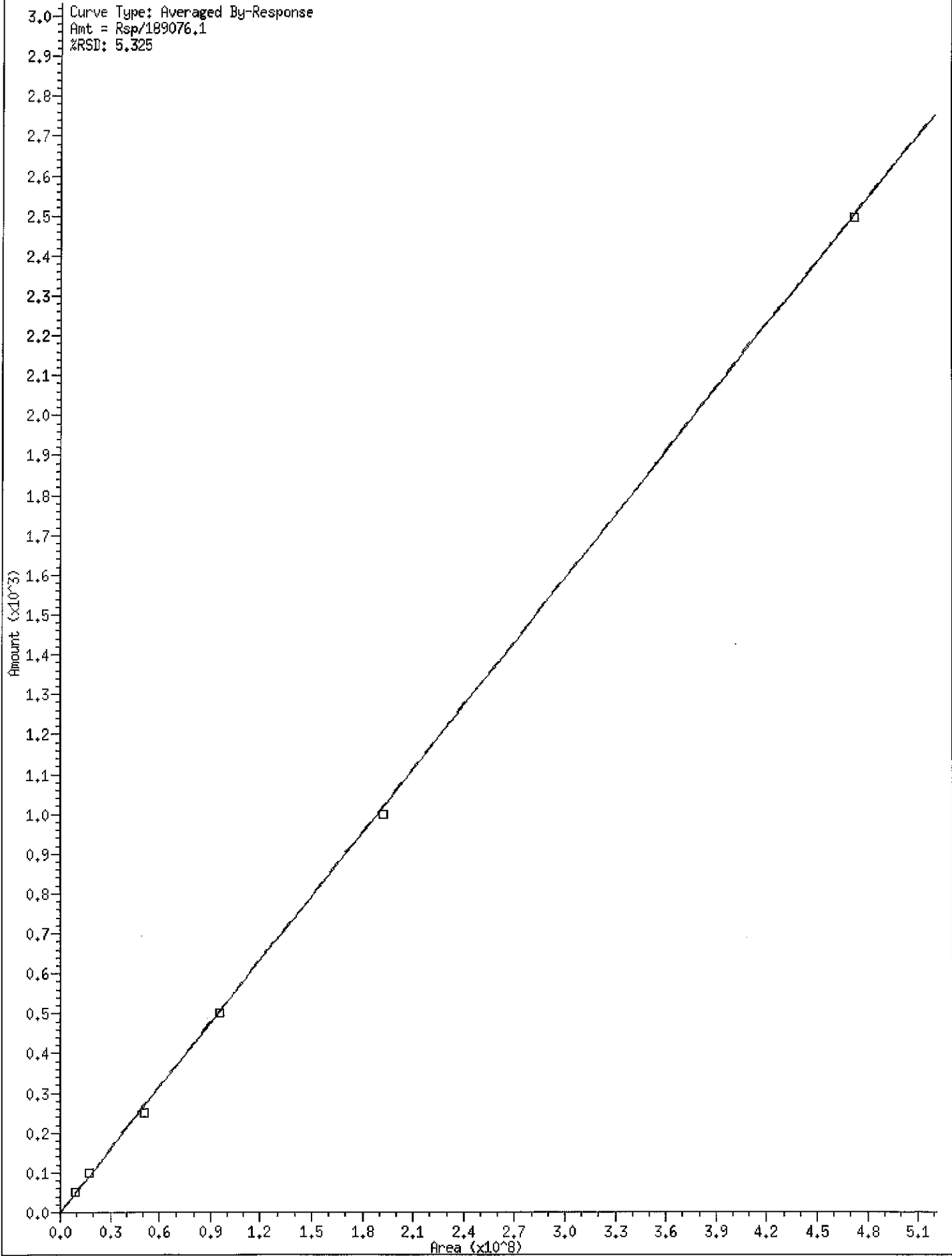
Date: 31-Jan-2022 12:44

422A2001.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2002.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2003.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2004.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2005.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2006.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2007.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2008.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2009.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2010.D	Data Locked	victoria, 21-Jan-2022 13:24
422A2011.D	Data Locked	victoria, 28-Jan-2022 13:52

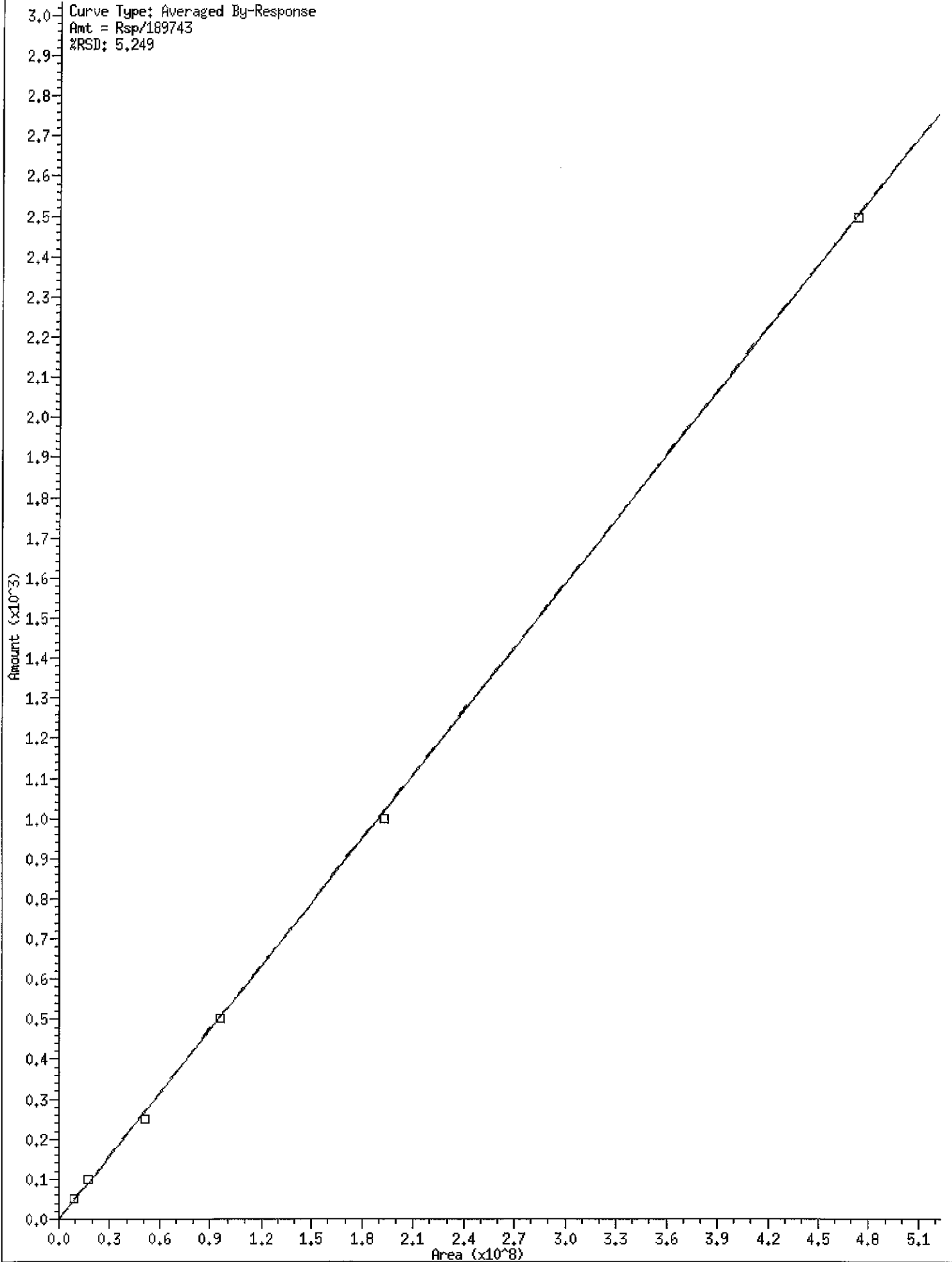


Curve Type: Averaged By-Response  
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%RSD: 5.796

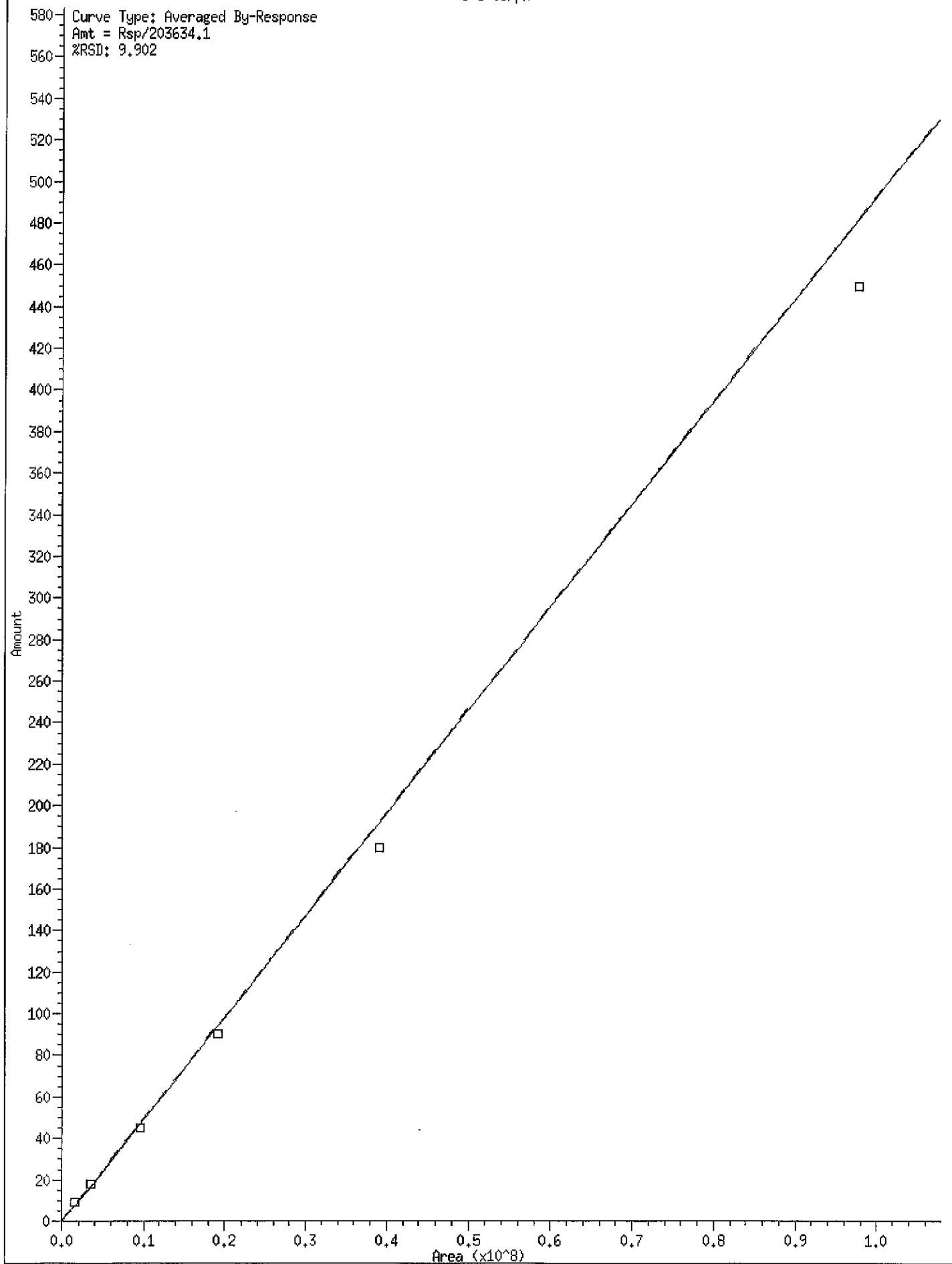








\* 8 a-terph



ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m
Batch File: \\target\share\chem2\fid4a.i\20220120.b
Inst ID: fid4a.i

Table with 8 columns: ID, RT01, RT02, RT03, RT04, RT05, RT06, RT07, RT08. Rows include FILENAME, INJ. DATE, and INJ. TIME for various samples.

Main data table with columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, RT07, RT08, EXPECT RT, RT WINDOW, AVG RT, STD DEV. Lists compounds like Toluene, Mineral Oil, C8, C10, C12, C14, C16, C18, o-terph, C20, C22, C24, C25, C26, C28.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid4a.i\20220120.b\FID4TPH.m  
Batch File: \\target\share\chem2\fid4a.i\20220120.b  
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
15 Triacon Surr	9.277	9.273	9.273	9.280	9.275	9.286	9.266	9.273	9.277	9.227-9.327	9.276	0.006
16 C32	9.717	9.711	9.713	9.720	9.711	9.709	9.718	9.706	9.717	9.667-9.767	9.713	0.005
17 C34	10.155	10.156	10.147	10.153	10.158	10.154	10.156	10.161	10.155	10.105-10.205	10.155	0.004
18 Filter Peak	13.962	13.962	13.963	13.963	13.962	13.960	13.960	13.961	13.962	13.862-14.062	13.962	0.001
19 C36	10.568	10.567	10.572	10.567	10.567	10.573	10.563	10.567	10.568	10.518-10.618	10.568	0.003
20 C38	10.974	10.980	10.978	10.975	10.973	10.970	10.975	10.978	10.974	10.924-11.024	10.975	0.003
21 C40	11.438	11.438	11.441	11.440	11.441	11.434	11.439	11.440	11.438	11.388-11.488	11.439	0.002
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	+++++	+++++



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKC0073

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKC0073-IBL1	422C0303.D	NA	03/03/22 09:36
Instrument Blank	SKC0073-IBL2	422C0304.D	NA	03/03/22 09:55
DIESEL ICV	SKC0073-ICV1	422C0305.D	NA	03/03/22 10:15
MOIL ICV	SKC0073-ICV2	422C0306.D	NA	03/03/22 10:35
ZZZZZ	BKB0614-BLK1	422C0307.D	Water	03/03/22 10:55
ZZZZZ	BKB0614-BS1	422C0308.D	Water	03/03/22 11:14
ZZZZZ	BKB0614-BSD1	422C0309.D	Water	03/03/22 11:34
ZZZZZ	22B0355-01	422C0310.D	Water	03/03/22 11:54
ZZZZZ	22B0358-01	422C0311.D	Water	03/03/22 12:14
ZZZZZ	BKB0555-BLK1	422C0312.D	Water	03/03/22 12:34
ZZZZZ	BKB0555-BS1	422C0313.D	Water	03/03/22 12:53
ZZZZZ	BKB0555-BSD1	422C0314.D	Water	03/03/22 13:13
ZZZZZ	22B0322-01	422C0315.D	Water	03/03/22 13:33
ZZZZZ	22B0322-02	422C0316.D	Water	03/03/22 13:53
ZZZZZ	22B0322-03	422C0317.D	Water	03/03/22 14:13
ZZZZZ	22B0322-04	422C0318.D	Water	03/03/22 14:32
ZZZZZ	22B0322-05	422C0319.D	Water	03/03/22 14:52
ZZZZZ	22B0322-06	422C0320.D	Water	03/03/22 15:12
ZZZZZ	22B0322-07	422C0321.D	Water	03/03/22 15:32
ZZZZZ	22B0322-08	422C0322.D	Water	03/03/22 15:52
DIESEL CCV	SKC0073-CCV1	422C0323.D	NA	03/03/22 16:12
MOIL CCV	SKC0073-CCV2	422C0324.D	NA	03/03/22 16:31
ZZZZZ	22B0328-01	422C0328.D	Solid	03/03/22 17:51
ZZZZZ	22B0328-02	422C0329.D	Solid	03/03/22 18:10
ZZZZZ	22B0328-03	422C0330.D	Solid	03/03/22 18:30
ZZZZZ	22B0328-04	422C0331.D	Solid	03/03/22 18:50
ZZZZZ	BKB0476-BLK1	422C0332.D	Water	03/03/22 19:10
ZZZZZ	BKB0476-BS1	422C0333.D	Water	03/03/22 19:30
ZZZZZ	22B0279-01	422C0334.D	Water	03/03/22 19:49



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKC0073

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	BKB0553-BLK1	422C0335.D	Solid	03/03/22 20:09
ZZZZZ	BKB0553-BS1	422C0336.D	Solid	03/03/22 20:29
ZZZZZ	BKB0553-BSD1	422C0337.D	Solid	03/03/22 20:48
ZZZZZ	22B0199-01	422C0338.D	Solid	03/03/22 21:08
DIESEL CCV	SKC0073-CCV3	422C0339.D	NA	03/03/22 21:28
MOIL CCV	SKC0073-CCV4	422C0340.D	NA	03/03/22 21:47
JETA 500	SKC0073-CAL1	422C0341.D	NA	03/03/22 22:07
JETA ICV	SKC0073-ICV3	422C0341.D	NA	03/03/22 22:07
ZZZZZ	BKB0527-BLK1	422C0342.D	Water	03/03/22 22:27
ZZZZZ	BKB0527-BS1	422C0343.D	Water	03/03/22 22:46
ZZZZZ	BKB0527-BSD1	422C0344.D	Water	03/03/22 23:06
ZZZZZ	22B0296-01	422C0345.D	Water	03/03/22 23:26
ZZZZZ	22B0296-02	422C0346.D	Water	03/03/22 23:45
ZZZZZ	22B0296-03	422C0347.D	Water	03/04/22 00:05
ZZZZZ	22B0296-04	422C0348.D	Water	03/04/22 00:25
ZZZZZ	BKB0375-BLK1	422C0349.D	Water	03/04/22 00:44
ZZZZZ	BKB0375-BS1	422C0350.D	Water	03/04/22 01:04
ZZZZZ	BKB0375-BSD1	422C0351.D	Water	03/04/22 01:24
ZZZZZ	22B0208-01	422C0352.D	Water	03/04/22 01:43
ZZZZZ	22B0208-02	422C0353.D	Water	03/04/22 02:03
ZZZZZ	22B0219-01	422C0354.D	Water	03/04/22 02:23
ZZZZZ	22B0220-01	422C0355.D	Water	03/04/22 02:42
ZZZZZ	22B0220-02	422C0356.D	Water	03/04/22 03:02
ZZZZZ	22B0220-03	422C0357.D	Water	03/04/22 03:22
DIESEL CCV	SKC0073-CCV5	422C0358.D	NA	03/04/22 03:41
MOIL CCV	SKC0073-CCV6	422C0359.D	NA	03/04/22 04:01
JETA CCV	SKC0073-CCV7	422C0360.D	NA	03/04/22 04:21



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKE0009

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKE0009-IBL1	422D2103.D	NA	04/21/22 16:50
Instrument Blank	SKE0009-IBL2	422D2104.D	NA	04/21/22 17:10
BUN KERC	SKE0009-CAL1	422D2105.D	NA	04/21/22 17:30
BUN KERC	SKE0009-CAL2	422D2106.D	NA	04/21/22 17:50
BUN KERC	SKE0009-CAL3	422D2107.D	NA	04/21/22 18:10
BUN KERC	SKE0009-CAL4	422D2108.D	NA	04/21/22 18:30
BUN KERC	SKE0009-CAL5	422D2109.D	NA	04/21/22 18:50
BUN KERC	SKE0009-CAL6	422D2110.D	NA	04/21/22 19:10
DIESEL ICV	SKE0009-ICV1	422D2111.D	NA	04/21/22 19:29
MOIL ICV	SKE0009-ICV2	422D2112.D	NA	04/21/22 19:49
A/SBunkerC CCV	SKE0009-ICV3	422D2113.D	NA	04/21/22 20:09
ZZZZZ	BKD0059-BLK1	422D2114.D	Water	04/21/22 20:29
ZZZZZ	BKD0059-BS1	422D2115.D	Water	04/21/22 20:49
ZZZZZ	BKD0059-BSD1	422D2116.D	Water	04/21/22 21:09
ZZZZZ	22D0015-01	422D2117.D	Water	04/21/22 21:29
ZZZZZ	22D0015-02	422D2118.D	Water	04/21/22 21:48
ZZZZZ	22D0015-03	422D2121.D	Water	04/21/22 22:48
ZZZZZ	22D0015-04	422D2122.D	Water	04/21/22 23:08
ZZZZZ	22D0015-05	422D2123.D	Water	04/21/22 23:27
ZZZZZ	22D0015-06	422D2124.D	Water	04/21/22 23:47
ZZZZZ	22D0015-07	422D2125.D	Water	04/22/22 00:07
ZZZZZ	22D0015-08	422D2126.D	Water	04/22/22 00:27
ZZZZZ	22D0015-09	422D2127.D	Water	04/22/22 00:46
ZZZZZ	22D0015-10	422D2128.D	Water	04/22/22 01:06
DIESEL CCV	SKE0009-CCV1	422D2129.D	NA	04/22/22 01:26
MOIL CCV	SKE0009-CCV2	422D2130.D	NA	04/22/22 01:45
A/SBunkerC CCV	SKE0009-CCV3	422D2131.D	NA	04/22/22 02:05
ZZZZZ	22D0015-11	422D2132.D	Water	04/22/22 02:25
ZZZZZ	22D0015-12	422D2133.D	Water	04/22/22 02:44



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKE0009

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
<i>ZZZZZ</i>	22D0015-13	422D2134.D	Water	04/22/22 03:04
<i>ZZZZZ</i>	22D0015-14	422D2135.D	Water	04/22/22 03:24
DIESEL CCV	SKE0009-CCV4	422D2136.D	NA	04/22/22 03:43
MOIL CCV	SKE0009-CCV5	422D2137.D	NA	04/22/22 04:03
A/SBunkerC CCV	SKE0009-CCV6	422D2138.D	NA	04/22/22 04:23





**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0084

Instrument: FID3

Calibration: FF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKF0084-IBL1	322F0103.D	NA	06/06/22 12:50
Instrument Blank	SKF0084-IBL2	322F0104.D	NA	06/06/22 13:11
TPHD MOIL 100	SKF0084-CAL1	322F0107.D	NA	06/06/22 14:15
TPHD MOIL 250	SKF0084-CAL2	322F0108.D	NA	06/06/22 14:36
TPHD MOIL 500	SKF0084-CAL3	322F0109.D	NA	06/06/22 14:57
TPHD MOIL 1000	SKF0084-CAL4	322F0110.D	NA	06/06/22 15:18
TPHD MOIL 2500	SKF0084-CAL5	322F0111.D	NA	06/06/22 15:39
TPHD MOIL 5000	SKF0084-CAL6	322F0112.D	NA	06/06/22 16:00



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0314

Instrument: FID3

Calibration: FF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKF0314-IBL1	322F2403.D	NA	06/24/22 09:46
Instrument Blank	SKF0314-IBL2	322F2404.D	NA	06/24/22 10:07
DIESEL ICV	SKF0314-ICV1	322F2405.D	NA	06/24/22 10:28
MOIL ICV	SKF0314-ICV2	322F2406.D	NA	06/24/22 10:49
Blank	BKF0468-BLK1	322F2407.D	Solid	06/24/22 11:10
LCS	BKF0468-BS1	322F2408.D	Solid	06/24/22 11:31
LCS Dup	BKF0468-BSD1	322F2409.D	Solid	06/24/22 11:52
Z1A-3-MS	22F0267-02	322F2410.D	Solid	06/24/22 12:13
Z1A-6-MS	22F0267-04	322F2411.D	Solid	06/24/22 12:34
Z1A-9-MS	22F0267-06	322F2412.D	Solid	06/24/22 12:56
Z1A-9-MS	BKF0468-MS1	322F2413.D	Solid	06/24/22 13:17
Z1A-9-MS	BKF0468-MSD1	322F2414.D	Solid	06/24/22 13:38
Z1A-12-MS	22F0267-08	322F2415.D	Solid	06/24/22 13:59
DUP-1-MS	22F0267-14	322F2416.D	Solid	06/24/22 14:21
Z1B-1-MS	22F0267-17	322F2417.D	Solid	06/24/22 14:42
Z1B-2-MS	22F0267-19	322F2418.D	Solid	06/24/22 15:03
Z1B-3-MS	22F0267-21	322F2419.D	Solid	06/24/22 15:24
Z1B-4-MS	22F0267-23	322F2420.D	Solid	06/24/22 15:45
DIESEL CCV	SKF0314-CCV1	322F2421.D	NA	06/24/22 16:07
MOIL CCV	SKF0314-CCV2	322F2422.D	NA	06/24/22 16:28
Blank	BKF0467-BLK1	322F2423.D	Solid	06/24/22 16:49
LCS	BKF0467-BS1	322F2424.D	Solid	06/24/22 17:10
LCS Dup	BKF0467-BSD1	322F2425.D	Solid	06/24/22 17:32
Z1A-12-MS	BKF0467-MS1	322F2426.D	Solid	06/24/22 17:53
Z1A-12-MS	BKF0467-MSD1	322F2427.D	Solid	06/24/22 18:14
Z1A-3-MS	22F0267-01	322F2428.D	Solid	06/24/22 18:35
Z1A-6-MS	22F0267-03	322F2429.D	Solid	06/24/22 18:56
Z1A-9-MS	22F0267-05	322F2430.D	Solid	06/24/22 19:18
Z1A-12-MS	22F0267-07	322F2431.D	Solid	06/24/22 19:39



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0314

Instrument: FID3

Calibration: FF00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DUP-1-MS	22F0267-13	322F2432.D	Solid	06/24/22 20:00
Z1B-1-MS	22F0267-16	322F2433.D	Solid	06/24/22 20:24
Z1B-2-MS	22F0267-18	322F2434.D	Solid	06/24/22 20:45
Z1B-3-MS	22F0267-20	322F2435.D	Solid	06/24/22 21:07
Z1B-4-MS	22F0267-22	322F2436.D	Solid	06/24/22 21:28
DIESEL CCV	SKF0314-CCV3	322F2437.D	NA	06/24/22 21:49
MOIL CCV	SKF0314-CCV4	322F2438.D	NA	06/24/22 22:10
ZZZZZ	22F0306-01	322F2442.D	Solid	06/24/22 23:35
ZZZZZ	22F0306-02	322F2443.D	Solid	06/24/22 23:56
ZZZZZ	22F0306-03	322F2444.D	Solid	06/25/22 00:17
DIESEL CCV	SKF0314-CCV5	322F2445.D	NA	06/25/22 00:38
MOIL CCV	SKF0314-CCV6	322F2446.D	NA	06/25/22 00:59
ZZZZZ	BKF0497-BLK1	322F2447.D	Solid	06/25/22 01:20
ZZZZZ	BKF0497-BS1	322F2448.D	Solid	06/25/22 01:41
ZZZZZ	22F0341-01	322F2449.D	Solid	06/25/22 02:02
DIESEL CCV	SKF0314-CCV7	322F2450.D	NA	06/25/22 02:23
MOIL CCV	SKF0314-CCV8	322F2451.D	NA	06/25/22 02:44



**ANALYSIS SEQUENCE**

**SKF0314**

Instrument: FID3  
Calibration ID: FF00020

Printed: 6/27/2022 9:53:26AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKF0314-IBL1	QC		1		J010599			
SKF0314-IBL2	QC		2		J012751			
SKF0314-ICV1	QC		3		J012753			
SKF0314-ICV2	QC		4		K003637			
BKF0468-BLK1	QC		5					
BKF0468-BS1	QC		6					
BKF0468-BSD1	QC		7					
22F0267-02	PH NW (Extractables) low lev	A 01	8				GeoEngineers	
22F0267-04	PH NW (Extractables) low lev	A 01	9				GeoEngineers	
22F0267-06	PH NW (Extractables) low lev	A 01	10				GeoEngineers	
BKF0468-MS1	QC		11					
BKF0468-MSD1	QC		12					
22F0267-08	PH NW (Extractables) low lev	A 01	13				GeoEngineers	
22F0267-14	PH NW (Extractables) low lev	A 01	14				GeoEngineers	
22F0267-17	PH NW (Extractables) low lev	A 01	15				GeoEngineers	
22F0267-19	PH NW (Extractables) low lev	A 01	16				GeoEngineers	
22F0267-21	PH NW (Extractables) low lev	A 01	17				GeoEngineers	
22F0267-23	PH NW (Extractables) low lev	A 01	18				GeoEngineers	
SKF0314-CCV1	QC		19		J012753			
SKF0314-CCV2	QC		20		K003637			
BKF0467-BLK1	QC		21					

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



ANALYSIS SEQUENCE

SKF0314

Instrument: FID3  
Calibration ID: FF00020

Printed: 6/27/2022 9:53:26AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
BKF0467-BS1	QC		22					
BKF0467-BSD1	QC		23					
BKF0467-MS1	QC		24					
BKF0467-MSD1	QC		25					
22F0267-01	PH NW (Extractables) low lev	A 01	26				GeoEngineers	
22F0267-03	PH NW (Extractables) low lev	A 01	27				GeoEngineers	
22F0267-05	PH NW (Extractables) low lev	A 01	28				GeoEngineers	
22F0267-07	PH NW (Extractables) low lev	A 01	29				GeoEngineers	
22F0267-13	PH NW (Extractables) low lev	A 01	30				GeoEngineers	
22F0267-16	PH NW (Extractables) low lev	A 01	31				GeoEngineers	
22F0267-18	PH NW (Extractables) low lev	A 01	32				GeoEngineers	
22F0267-20	PH NW (Extractables) low lev	A 01	33				GeoEngineers	
22F0267-22	PH NW (Extractables) low lev	A 01	34				GeoEngineers	
SKF0314-CCV3	QC		35		J012753			
SKF0314-CCV4	QC		36		K003637			
BKF0536-BLK1	QC		37					
BKF0536-BS1	QC		38					
BKF0536-BSD1	QC		39					
22F0306-01	TPH NW (Extractables)	A 02	40				First Strike Environmental	
22F0306-02	TPH NW (Extractables)	A 02	41				First Strike Environmental	
22F0306-03	TPH NW (Extractables)	A 02	42				First Strike Environmental	

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



## GC LOG SUMMARY FOR DATABATCH - fid3b.i\20220624.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	24-JUN-2022	09:03	322F2401.D	1	RINSE	
2	24-JUN-2022	09:24	322F2402.D	1	RINSE	
3	24-JUN-2022	09:46	322F2403.D	1	SEQ-IBL1	
4	24-JUN-2022	10:07	322F2404.D	1	SEQ-IBL2	
5	24-JUN-2022	10:28	322F2405.D	1	SEQ-ICV1	
6	24-JUN-2022	10:49	322F2406.D	1	SEQ-ICV2	
7	24-JUN-2022	11:10	322F2407.D	1	BKF0468-BLK1	
8	24-JUN-2022	11:31	322F2408.D	1	BKF0468-BS1	
9	24-JUN-2022	11:52	322F2409.D	1	BKF0468-BSD1	
10	24-JUN-2022	12:13	322F2410.D	1	22F0267-02	
11	24-JUN-2022	12:34	322F2411.D	10	22F0267-04	
12	24-JUN-2022	12:56	322F2412.D	1	22F0267-06	
13	24-JUN-2022	13:17	322F2413.D	1	BKF0468-MS1	
14	24-JUN-2022	13:38	322F2414.D	1	BKF0468-MSD1	
15	24-JUN-2022	13:59	322F2415.D	5	22F0267-08	
16	24-JUN-2022	14:21	322F2416.D	1	22F0267-14	
17	24-JUN-2022	14:42	322F2417.D	1	22F0267-17	
18	24-JUN-2022	15:03	322F2418.D	1	22F0267-19	
19	24-JUN-2022	15:24	322F2419.D	1	22F0267-21	
20	24-JUN-2022	15:45	322F2420.D	1	22F0267-23	
21	24-JUN-2022	16:07	322F2421.D	1	SEQ-CCV1	
22	24-JUN-2022	16:28	322F2422.D	1	SEQ-CCV2	
23	24-JUN-2022	16:49	322F2423.D	1	BKF0467-BLK1	
24	24-JUN-2022	17:10	322F2424.D	1	BKF0467-BS1	
25	24-JUN-2022	17:32	322F2425.D	1	BKF0467-BSD1	
26	24-JUN-2022	17:53	322F2426.D	1	BKF0467-MS1	
27	24-JUN-2022	18:14	322F2427.D	1	BKF0467-MSD1	
28	24-JUN-2022	18:35	322F2428.D	1	22F0267-01	
29	24-JUN-2022	18:56	322F2429.D	10	22F0267-03	
30	24-JUN-2022	19:18	322F2430.D	1	22F0267-05	
31	24-JUN-2022	19:39	322F2431.D	1	22F0267-07	
32	24-JUN-2022	20:00	322F2432.D	1	22F0267-13	
33	24-JUN-2022	20:24	322F2433.D	1	22F0267-16	
34	24-JUN-2022	20:45	322F2434.D	1	22F0267-18	
35	24-JUN-2022	21:07	322F2435.D	1	22F0267-20	
36	24-JUN-2022	21:28	322F2436.D	5	22F0267-22	
37	24-JUN-2022	21:49	322F2437.D	1	SEQ-CCV3	
38	24-JUN-2022	22:10	322F2438.D	1	SEQ-CCV4	
39	24-JUN-2022	22:31	322F2439.D	1	BKF0356-BLK1	
40	24-JUN-2022	22:52	322F2440.D	1	BKF0356-BS1	
41	24-JUN-2022	23:14	322F2441.D	1	BKF0356-BSD1	
42	24-JUN-2022	23:35	322F2442.D	1	22F0306-01	
43	24-JUN-2022	23:56	322F2443.D	1	22F0306-02	
44	25-JUN-2022	00:17	322F2444.D	1	22F0306-03	
45	25-JUN-2022	00:38	322F2445.D	1	SEQ-CCV5	
46	25-JUN-2022	00:59	322F2446.D	1	SEQ-CCV6	
47	25-JUN-2022	01:20	322F2447.D	1	BKF0497-BLK1	
48	25-JUN-2022	01:41	322F2448.D	1	BKF0497-BS1	
49	25-JUN-2022	02:02	322F2449.D	10	22F0341-01	
50	25-JUN-2022	02:23	322F2450.D	1	SEQ-CCV7	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220624.b

	Inject Date/Time	Filename	DF	LabID	ClientID
51	25-JUN-2022 02:44	322F2451.D	1	SEQ-CCV8	



MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220624.b

ARI Job No.: RINS Method: i\20220624.b\FID3TPH.m Instrument: fid3b.i Date: 24-JUN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0903	322F2401.D	RINSE		1	NO MANUAL INTEGRATION
0924	322F2402.D	RINSE		1	NO MANUAL INTEGRATION
0946	322F2403.D	SEQ-IBL1		1	Toluene,
1007	322F2404.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1028	322F2405.D	SEQ-ICV1		1	o-terph,
1049	322F2406.D	SEQ-ICV2		1	Triacon Surr,
1110	322F2407.D	BKF0468-BLK1		1	NO MANUAL INTEGRATION
1131	322F2408.D	BKF0468-BS1		1	o-terph,
1152	322F2409.D	BKF0468-BSD1		1	o-terph,
1213	322F2410.D	22F0267-02		1	o-terph, Triacon Surr,
1234	322F2411.D	22F0267-04		10	o-terph, Triacon Surr,
1256	322F2412.D	22F0267-06		1	o-terph, Triacon Surr,
1317	322F2413.D	BKF0468-MS1		1	o-terph, Triacon Surr,
1338	322F2414.D	BKF0468-MSD1		1	o-terph, Triacon Surr,
1359	322F2415.D	22F0267-08		5	o-terph, Triacon Surr,
1421	322F2416.D	22F0267-14		1	Triacon Surr,
1442	322F2417.D	22F0267-17		1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220624.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1503	322F2418.D	22F0267-19	1		Triacon Surr,
1524	322F2419.D	22F0267-21	1		NO MANUAL INTEGRATION
1545	322F2420.D	22F0267-23	1		Triacon Surr,
1607	322F2421.D	SEQ-CCV1	1		o-terph,
1628	322F2422.D	SEQ-CCV2	1		Triacon Surr,
1649	322F2423.D	BKF0467-BLK1	1		NO MANUAL INTEGRATION
1710	322F2424.D	BKF0467-BS1	1		o-terph,
1732	322F2425.D	BKF0467-BSD1	1		o-terph,
1753	322F2426.D	BKF0467-MS1	1		o-terph, Triacon Surr,
1814	322F2427.D	BKF0467-MSD1	1		o-terph, Triacon Surr,
1835	322F2428.D	22F0267-01	1		o-terph, Triacon Surr,
1856	322F2429.D	22F0267-03	10		o-terph, Triacon Surr,
1918	322F2430.D	22F0267-05	1		Triacon Surr,
1939	322F2431.D	22F0267-07	1		o-terph, Triacon Surr,
2000	322F2432.D	22F0267-13	1		Triacon Surr,
2024	322F2433.D	22F0267-16	1		Triacon Surr,
2045	322F2434.D	22F0267-18	1		Triacon Surr,
2107	322F2435.D	22F0267-20	1		NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid3b.i\20220624.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2128	322F2436.D	22F0267-22	5		Triacon Surr,
2149	322F2437.D	SEQ-CCV3	1		o-terph,
2210	322F2438.D	SEQ-CCV4	1		Triacon Surr,
2231	322F2439.D	BKF0356-BLK1	1		NO MANUAL INTEGRATION
2252	322F2440.D	BKF0356-BS1	1		o-terph,
2314	322F2441.D	BKF0356-BSD1	1		o-terph,
2335	322F2442.D	22F0306-01	1		NO MANUAL INTEGRATION
2356	322F2443.D	22F0306-02	1		o-terph, Triacon Surr,
0017	322F2444.D	22F0306-03	1		o-terph, Triacon Surr,
0038	322F2445.D	SEQ-CCV5	1		o-terph,
0059	322F2446.D	SEQ-CCV6	1		Triacon Surr,
0120	322F2447.D	BKF0497-BLK1	1		NO MANUAL INTEGRATION
0141	322F2448.D	BKF0497-BS1	1		o-terph,
0202	322F2449.D	22F0341-01	10		o-terph, Triacon Surr,
0223	322F2450.D	SEQ-CCV7	1		o-terph,
0244	322F2451.D	SEQ-CCV8	1		Triacon Surr,

Security Status Report

Date: 27-Jun-2022 09:36

322F2401.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2402.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2403.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2404.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2405.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2406.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2407.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2408.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2409.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2410.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2411.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2412.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2413.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2414.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2415.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2416.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2417.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2418.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2419.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2420.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2421.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2422.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2423.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2424.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2425.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2426.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2427.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2428.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2429.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2430.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2431.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2432.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2433.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2434.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2435.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2436.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2437.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2438.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2439.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2440.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2441.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2442.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2443.D	Data Locked	christopher,	27-Jun-2022	09:34
322F2444.D	Data Locked	christopher,	27-Jun-2022	09:34

322F2445.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2446.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2447.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2448.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2449.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2450.D	Data Locked	christopher, 27-Jun-2022 09:34
322F2451.D	Data Locked	christopher, 27-Jun-2022 09:34

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## ANALYSIS BATCH (SEQUENCE) SUMMARY

### NWTPH-Dx

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0318

Instrument: FID4

Calibration: FA00054

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SKF0318-IBL1	422F2403.D	NA	06/24/22 12:37
Instrument Blank	SKF0318-IBL2	422F2404.D	NA	06/24/22 12:57
DIESEL ICV	SKF0318-ICV1	422F2405.D	NA	06/24/22 13:17
MOIL ICV	SKF0318-ICV2	422F2406.D	NA	06/24/22 13:37
ZZZZZ	BKF0410-BLK1	422F2407.D	Water	06/24/22 13:57
ZZZZZ	BKF0410-BS1	422F2408.D	Water	06/24/22 14:17
ZZZZZ	BKF0410-BSD1	422F2409.D	Water	06/24/22 14:37
ZZZZZ	22F0229-18	422F2412.D	Water	06/24/22 15:37
ZZZZZ	22F0229-22	422F2413.D	Water	06/24/22 15:57
ZZZZZ	22F0239-18	422F2414.D	Water	06/24/22 16:17
ZZZZZ	22F0239-19	422F2415.D	Water	06/24/22 16:37
ZZZZZ	22F0239-20	422F2416.D	Water	06/24/22 16:57
DIESEL CCV	SKF0318-CCV1	422F2417.D	NA	06/24/22 17:17
MOIL CCV	SKF0318-CCV2	422F2418.D	NA	06/24/22 17:37
Blank	BKF0451-BLK1	422F2419.D	Water	06/24/22 17:56
LCS	BKF0451-BS1	422F2420.D	Water	06/24/22 18:16
LCS Dup	BKF0451-BSD1	422F2421.D	Water	06/24/22 18:36
Z1A-3-PW	22F0267-09	422F2422.D	Water	06/24/22 18:56
Z1A-6-PW	22F0267-10	422F2423.D	Water	06/24/22 19:16
Z1A-9-PW	22F0267-11	422F2424.D	Water	06/24/22 19:36
Z1A-12-PW	22F0267-12	422F2425.D	Water	06/24/22 19:56
DUP-1-PW	22F0267-15	422F2426.D	Water	06/24/22 20:16
Z1B-1-PW	22F0267-24	422F2427.D	Water	06/24/22 20:36
Z1B-2-PW	22F0267-25	422F2428.D	Water	06/24/22 20:56
Z1B-3-PW	22F0267-26	422F2429.D	Water	06/24/22 21:16
Z1B-4-PW	22F0267-27	422F2430.D	Water	06/24/22 21:36
DIESEL CCV	SKF0318-CCV3	422F2431.D	NA	06/24/22 21:56
MOIL CCV	SKF0318-CCV4	422F2432.D	NA	06/24/22 22:16



ANALYSIS SEQUENCE

SKF0318

Instrument: FID4  
Calibration ID: FA00054

Printed: 6/27/2022 11:28:26AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SKF0318-IBL1	QC		1		J010599			
SKF0318-IBL2	QC		2		J012751			
SKF0318-ICV1	QC		3		J012753			
SKF0318-ICV2	QC		4		K003637			
BKF0410-BLK1	QC		5					
BKF0410-BS1	QC		6					
BKF0410-BSD1	QC		7					
BKF0410-MS1	QC		8					
BKF0410-MSD1	QC		9					
22F0229-18	PH NW (Extractables) low lev	A 01	10				The Boeing Company	
22F0229-22	PH NW (Extractables) low lev	A 01	11				The Boeing Company	
22F0239-18	PH NW (Extractables) low lev	A 01	12				The Boeing Company	
22F0239-19	PH NW (Extractables) low lev	A 01	13				The Boeing Company	
22F0239-20	PH NW (Extractables) low lev	A 01	14				The Boeing Company	
SKF0318-CCV1	QC		15		J012753			
SKF0318-CCV2	QC		16		K003637			
BKF0451-BLK1	QC		17					
BKF0451-BS1	QC		18					
BKF0451-BSD1	QC		19					
22F0267-09	PH NW (Extractables) low lev	E 01	20				GeoEngineers	
22F0267-10	PH NW (Extractables) low lev	E 01	21				GeoEngineers	

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



ANALYSIS SEQUENCE

SKF0318

Instrument: FID4  
Calibration ID: FA00054

Printed: 6/27/2022 11:28:26AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
22F0267-11	PH NW (Extractables) low lev	E 01	22				GeoEngineers	
22F0267-12	PH NW (Extractables) low lev	E 01	23				GeoEngineers	
22F0267-15	PH NW (Extractables) low lev	E 01	24				GeoEngineers	
22F0267-24	PH NW (Extractables) low lev	E 01	25				GeoEngineers	
22F0267-25	PH NW (Extractables) low lev	E 01	26				GeoEngineers	
22F0267-26	PH NW (Extractables) low lev	E 01	27				GeoEngineers	
22F0267-27	PH NW (Extractables) low lev	E 01	28				GeoEngineers	
SKF0318-CCV3	QC		29		J012753			
SKF0318-CCV4	QC		30		K003637			

Samples Loaded By \_\_\_\_\_ Date \_\_\_\_\_

Data Processed By \_\_\_\_\_ Date \_\_\_\_\_



## GC LOG SUMMARY FOR DATABATCH - fid4a.i\20220624.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	24-JUN-2022	11:58	422F2401.D	1	RINSE	
2	24-JUN-2022	12:17	422F2402.D	1	RINSE	
3	24-JUN-2022	12:37	422F2403.D	1	SEQ-IBL1	
4	24-JUN-2022	12:57	422F2404.D	1	SEQ-IBL2	
5	24-JUN-2022	13:17	422F2405.D	1	SEQ-ICV1	
6	24-JUN-2022	13:37	422F2406.D	1	SEQ-ICV2	
7	24-JUN-2022	13:57	422F2407.D	1	BKF0410-BLK1	
8	24-JUN-2022	14:17	422F2408.D	1	BKF0410-BS1	
9	24-JUN-2022	14:37	422F2409.D	1	BKF0410-BSD1	
10	24-JUN-2022	14:57	422F2410.D	1	BKF0410-MS1	
11	24-JUN-2022	15:17	422F2411.D	1	BKF0410-MSD1	
12	24-JUN-2022	15:37	422F2412.D	1	22F0229-18	
13	24-JUN-2022	15:57	422F2413.D	1	22F0229-22	
14	24-JUN-2022	16:17	422F2414.D	1	22F0239-18	
15	24-JUN-2022	16:37	422F2415.D	10	22F0239-19	
16	24-JUN-2022	16:57	422F2416.D	1	22F0239-20	
17	24-JUN-2022	17:17	422F2417.D	1	SEQ-CCV1	
18	24-JUN-2022	17:37	422F2418.D	1	SEQ-CCV2	
19	24-JUN-2022	17:56	422F2419.D	1	BKF0451-BLK1	
20	24-JUN-2022	18:16	422F2420.D	1	BKF0451-BS1	
21	24-JUN-2022	18:36	422F2421.D	1	BKF0451-BSD1	
22	24-JUN-2022	18:56	422F2422.D	1	22F0267-09	
23	24-JUN-2022	19:16	422F2423.D	1	22F0267-10	
24	24-JUN-2022	19:36	422F2424.D	1	22F0267-11	
25	24-JUN-2022	19:56	422F2425.D	1	22F0267-12	
26	24-JUN-2022	20:16	422F2426.D	1	22F0267-15	
27	24-JUN-2022	20:36	422F2427.D	1	22F0267-24	
28	24-JUN-2022	20:56	422F2428.D	1	22F0267-25	
29	24-JUN-2022	21:16	422F2429.D	1	22F0267-26	
30	24-JUN-2022	21:36	422F2430.D	1	22F0267-27	
31	24-JUN-2022	21:56	422F2431.D	1	SEQ-CCV3	
32	24-JUN-2022	22:16	422F2432.D	1	SEQ-CCV4	
33	24-JUN-2022	22:36	422F2433.D	1	BKF0470-BLK1	
34	24-JUN-2022	22:55	422F2434.D	1	BKF0470-BS1	
35	24-JUN-2022	23:15	422F2435.D	1	BKF0470-BSD1	
36	24-JUN-2022	23:35	422F2436.D	1	BKF0470-MS1	
37	24-JUN-2022	23:55	422F2437.D	1	BKF0470-MSD1	
38	25-JUN-2022	00:15	422F2438.D	5	22F0282-01	
39	25-JUN-2022	00:35	422F2439.D	10	22F0282-02	
40	25-JUN-2022	00:54	422F2440.D	10	22F0282-03	
41	25-JUN-2022	01:14	422F2441.D	1	22F0282-04	
42	25-JUN-2022	01:34	422F2442.D	1	22F0282-05	
43	25-JUN-2022	01:54	422F2443.D	1	SEQ-CCV5	
44	25-JUN-2022	02:13	422F2444.D	1	SEQ-CCV6	
45	25-JUN-2022	02:33	422F2445.D	10	22F0282-06	
46	25-JUN-2022	02:53	422F2446.D	1	22F0282-07	
47	25-JUN-2022	03:13	422F2447.D	1	22F0282-08	
48	25-JUN-2022	03:32	422F2448.D	10	22F0282-09	
49	25-JUN-2022	03:52	422F2449.D	1	22F0282-10	
50	25-JUN-2022	04:12	422F2450.D	1	22F0282-11	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220624.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	25-JUN-2022	04:32	422F2451.D	1	SEQ-CCV7	
52	25-JUN-2022	04:52	422F2452.D	1	SEQ-CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220624.b

ARI Job No.: RINS Method: FID4TPH.m Instrument: fid4a.i Date: 24-JUN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1158	422F2401.D	RINSE		1	NO MANUAL INTEGRATION
1217	422F2402.D	RINSE		1	NO MANUAL INTEGRATION
1237	422F2403.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
1257	422F2404.D	SEQ-IBL2		1	NO MANUAL INTEGRATION
1317	422F2405.D	SEQ-ICV1		1	o-terph,
1337	422F2406.D	SEQ-ICV2		1	Triacon Surr,
1357	422F2407.D	BKF0410-BLK1		1	NO MANUAL INTEGRATION
1417	422F2408.D	BKF0410-BS1		1	o-terph,
1437	422F2409.D	BKF0410-BSD1		1	o-terph,
1457	422F2410.D	BKF0410-MS1		1	o-terph,
1517	422F2411.D	BKF0410-MSD1		1	o-terph,
1537	422F2412.D	22F0229-18		1	NO MANUAL INTEGRATION
1557	422F2413.D	22F0229-22		1	NO MANUAL INTEGRATION
1617	422F2414.D	22F0239-18		1	NO MANUAL INTEGRATION
1637	422F2415.D	22F0239-19		10	Triacon Surr,
1657	422F2416.D	22F0239-20		1	Triacon Surr,
1717	422F2417.D	SEQ-CCV1		1	o-terph,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220624.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	422F2418.D	SEQ-CCV2	1	Triacon Surr,	
1756	422F2419.D	BKF0451-BLK1	1	NO MANUAL INTEGRATION	
1816	422F2420.D	BKF0451-BS1	1	o-terph,	
1836	422F2421.D	BKF0451-BSD1	1	o-terph,	
1856	422F2422.D	22F0267-09	1	NO MANUAL INTEGRATION	
1916	422F2423.D	22F0267-10	1	NO MANUAL INTEGRATION	
1936	422F2424.D	22F0267-11	1	NO MANUAL INTEGRATION	
1956	422F2425.D	22F0267-12	1	NO MANUAL INTEGRATION	
2016	422F2426.D	22F0267-15	1	NO MANUAL INTEGRATION	
2036	422F2427.D	22F0267-24	1	NO MANUAL INTEGRATION	
2056	422F2428.D	22F0267-25	1	NO MANUAL INTEGRATION	
2116	422F2429.D	22F0267-26	1	NO MANUAL INTEGRATION	
2136	422F2430.D	22F0267-27	1	NO MANUAL INTEGRATION	
2156	422F2431.D	SEQ-CCV3	1	o-terph,	
2216	422F2432.D	SEQ-CCV4	1	Triacon Surr,	
2236	422F2433.D	BKF0470-BLK1	1	NO MANUAL INTEGRATION	
2255	422F2434.D	BKF0470-BS1	1	NO MANUAL INTEGRATION	
2315	422F2435.D	BKF0470-BSD1	1	NO MANUAL INTEGRATION	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid4a.i\20220624.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2335	422F2436.D	BKF0470-MS1		1	NO MANUAL INTEGRATION
2355	422F2437.D	BKF0470-MSD1		1	NO MANUAL INTEGRATION
0015	422F2438.D	22F0282-01		5	NO MANUAL INTEGRATION
0035	422F2439.D	22F0282-02		10	NO MANUAL INTEGRATION
0054	422F2440.D	22F0282-03		10	NO MANUAL INTEGRATION
0114	422F2441.D	22F0282-04		1	NO MANUAL INTEGRATION
0134	422F2442.D	22F0282-05		1	NO MANUAL INTEGRATION
0154	422F2443.D	SEQ-CCV5		1	o-terph,
0213	422F2444.D	SEQ-CCV6		1	Triacon Surr,
0233	422F2445.D	22F0282-06		10	NO MANUAL INTEGRATION
0253	422F2446.D	22F0282-07		1	NO MANUAL INTEGRATION
0313	422F2447.D	22F0282-08		1	NO MANUAL INTEGRATION
0332	422F2448.D	22F0282-09		10	NO MANUAL INTEGRATION
0352	422F2449.D	22F0282-10		1	NO MANUAL INTEGRATION
0412	422F2450.D	22F0282-11		1	NO MANUAL INTEGRATION
0432	422F2451.D	SEQ-CCV7		1	o-terph,
0452	422F2452.D	SEQ-CCV8		1	Triacon Surr,

Security Status Report

Date: 27-Jun-2022 11:24

422F2401.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2402.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2403.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2404.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2405.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2406.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2407.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2408.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2409.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2410.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2411.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2412.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2413.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2414.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2415.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2416.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2417.D	Data Locked	christopher,	27-Jun-2022	11:24
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422F2420.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2421.D	Data Locked	christopher,	27-Jun-2022	11:24
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422F2423.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2424.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2425.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2426.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2427.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2428.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2429.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2430.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2431.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2432.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2433.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2434.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2435.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2436.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2437.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2438.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2439.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2440.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2441.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2442.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2443.D	Data Locked	christopher,	27-Jun-2022	11:24
422F2444.D	Data Locked	christopher,	27-Jun-2022	11:24

422F2445.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2446.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2447.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2448.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2449.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2450.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2451.D	Data Locked	christopher, 27-Jun-2022 11:24
422F2452.D	Data Locked	christopher, 27-Jun-2022 11:24



**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG/WO:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Sequence:	<u>SKC0073</u>	Instrument:	<u>FID4</u>
Calibration:	<u>FA00054</u>	Calibration Date:	<u>01/20/2022</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKC0073-ICV1 (Water)</b>			Lab File ID: 422C0305.D			Analyzed: 03/03/22 10:15		
o-Terphenyl	90.000	91.9	85 - 115	6.15	6.155	-0.0050	N/A	
<b>SKC0073-CCV1 (Water)</b>			Lab File ID: 422C0323.D			Analyzed: 03/03/22 16:12		
o-Terphenyl	90.000	96.6	85 - 115	6.15	6.155	-0.0050	N/A	
<b>SKC0073-ICV3 (Water)</b>			Lab File ID: 422C0341.D			Analyzed: 03/03/22 22:07		
o-Terphenyl	90.000	107	85 - 115	6.15	6.155	-0.0050	N/A	





**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG/WO:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Sequence:	<u>SKE0009</u>	Instrument:	<u>FID4</u>
Calibration:	<u>FA00054</u>	Calibration Date:	<u>01/20/2022</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKE0009-ICV1 (Water)</b>			Lab File ID: 422D2111.D		Analyzed: 04/21/22 19:29			
o-Terphenyl	90.000	101	85 - 115	6.88	6.155	0.7250	N/A	
<b>SKE0009-ICV3 (Water)</b>			Lab File ID: 422D2113.D		Analyzed: 04/21/22 20:09			
o-Terphenyl	45.000	98.7	85 - 115	6.87	6.155	0.7150	N/A	
<b>SKE0009-CCV1 (Water)</b>			Lab File ID: 422D2129.D		Analyzed: 04/22/22 01:26			
o-Terphenyl	90.000	101	85 - 115	6.88	6.155	0.7250	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0314  
Calibration: FF00020

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: FID3  
Calibration Date: 06/06/2022

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKF0314-IBL1 (Solid)</b>			Lab File ID: 322F2403.D		Analyzed: 06/24/22 09:46			
o-Terphenyl	100.00	109	50 - 150	7.24	7.32	-0.0800	N/A	
<b>SKF0314-IBL2 (Solid)</b>			Lab File ID: 322F2404.D		Analyzed: 06/24/22 10:07			
o-Terphenyl	100.00	111	50 - 150	7.24	7.32	-0.0800	N/A	
<b>SKF0314-ICV1 (Solid)</b>			Lab File ID: 322F2405.D		Analyzed: 06/24/22 10:28			
o-Terphenyl	90.000	112	85 - 115	7.24	7.32	-0.0800	N/A	
<b>BKF0468-BLK1 (Solid)</b>			Lab File ID: 322F2407.D		Analyzed: 06/24/22 11:10			
o-Terphenyl	11.250	95.6	50 - 150	7.24	7.32	-0.0800	N/A	
<b>BKF0468-BS1 (Solid)</b>			Lab File ID: 322F2408.D		Analyzed: 06/24/22 11:31			
o-Terphenyl	11.250	99.2	50 - 150	7.25	7.32	-0.0700	N/A	
<b>BKF0468-BSD1 (Solid)</b>			Lab File ID: 322F2409.D		Analyzed: 06/24/22 11:52			
o-Terphenyl	11.250	101	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-02 (Solid)</b>			Lab File ID: 322F2410.D		Analyzed: 06/24/22 12:13			
o-Terphenyl	25.872	68.9	50 - 150	7.24	7.32	-0.0800	N/A	
<b>22F0267-04 (Solid)</b>			Lab File ID: 322F2411.D		Analyzed: 06/24/22 12:34			
o-Terphenyl	29.587	76.4	50 - 150	7.22	7.32	-0.1000	N/A	
<b>22F0267-06 (Solid)</b>			Lab File ID: 322F2412.D		Analyzed: 06/24/22 12:56			
o-Terphenyl	14.258	82.8	50 - 150	7.25	7.32	-0.0700	N/A	
<b>BKF0468-MS1 (Solid)</b>			Lab File ID: 322F2413.D		Analyzed: 06/24/22 13:17			
o-Terphenyl	14.329	92.1	50 - 150	7.25	7.32	-0.0700	N/A	
<b>BKF0468-MSD1 (Solid)</b>			Lab File ID: 322F2414.D		Analyzed: 06/24/22 13:38			
o-Terphenyl	14.329	78.8	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-08 (Solid)</b>			Lab File ID: 322F2415.D		Analyzed: 06/24/22 13:59			
o-Terphenyl	13.669	90.0	50 - 150	7.23	7.32	-0.0900	N/A	
<b>22F0267-14 (Solid)</b>			Lab File ID: 322F2416.D		Analyzed: 06/24/22 14:21			
o-Terphenyl	13.270	98.0	50 - 150	7.25	7.32	-0.0700	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0314  
Calibration: FF00020

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: FID3  
Calibration Date: 06/06/2022

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>22F0267-17 (Solid)</b>			Lab File ID: 322F2417.D		Analyzed: 06/24/22 14:42			
o-Terphenyl	13.533	87.5	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-19 (Solid)</b>			Lab File ID: 322F2418.D		Analyzed: 06/24/22 15:03			
o-Terphenyl	11.921	85.0	50 - 150	7.24	7.32	-0.0800	N/A	
<b>22F0267-21 (Solid)</b>			Lab File ID: 322F2419.D		Analyzed: 06/24/22 15:24			
o-Terphenyl	12.844	79.8	50 - 150	7.24	7.32	-0.0800	N/A	
<b>22F0267-23 (Solid)</b>			Lab File ID: 322F2420.D		Analyzed: 06/24/22 15:45			
o-Terphenyl	13.868	90.2	50 - 150	7.24	7.32	-0.0800	N/A	
<b>SKF0314-CCV1 (Solid)</b>			Lab File ID: 322F2421.D		Analyzed: 06/24/22 16:07			
o-Terphenyl	90.000	101	85 - 115	7.24	7.32	-0.0800	N/A	
<b>BKF0467-BLK1 (Solid)</b>			Lab File ID: 322F2423.D		Analyzed: 06/24/22 16:49			
o-Terphenyl	11.250	96.5	50 - 150	7.24	7.32	-0.0800	N/A	
<b>BKF0467-BS1 (Solid)</b>			Lab File ID: 322F2424.D		Analyzed: 06/24/22 17:10			
o-Terphenyl	11.250	91.5	50 - 150	7.25	7.32	-0.0700	N/A	
<b>BKF0467-BSD1 (Solid)</b>			Lab File ID: 322F2425.D		Analyzed: 06/24/22 17:32			
o-Terphenyl	11.250	102	50 - 150	7.25	7.32	-0.0700	N/A	
<b>BKF0467-MS1 (Solid)</b>			Lab File ID: 322F2426.D		Analyzed: 06/24/22 17:53			
o-Terphenyl	13.515	91.4	50 - 150	7.27	7.32	-0.0500	N/A	
<b>BKF0467-MSD1 (Solid)</b>			Lab File ID: 322F2427.D		Analyzed: 06/24/22 18:14			
o-Terphenyl	13.515	90.2	50 - 150	7.26	7.32	-0.0600	N/A	
<b>22F0267-01 (Solid)</b>			Lab File ID: 322F2428.D		Analyzed: 06/24/22 18:35			
o-Terphenyl	21.889	83.8	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-03 (Solid)</b>			Lab File ID: 322F2429.D		Analyzed: 06/24/22 18:56			
o-Terphenyl	37.363	75.1	50 - 150	7.22	7.32	-0.1000	N/A	
<b>22F0267-05 (Solid)</b>			Lab File ID: 322F2430.D		Analyzed: 06/24/22 19:18			
o-Terphenyl	14.178	86.3	50 - 150	7.25	7.32	-0.0700	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0314  
Calibration: FF00020

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: FID3  
Calibration Date: 06/06/2022

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>22F0267-07 (Solid)</b>			Lab File ID: 322F2431.D		Analyzed: 06/24/22 19:39			
o-Terphenyl	13.475	83.0	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-13 (Solid)</b>			Lab File ID: 322F2432.D		Analyzed: 06/24/22 20:00			
o-Terphenyl	13.270	92.8	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-16 (Solid)</b>			Lab File ID: 322F2433.D		Analyzed: 06/24/22 20:24			
o-Terphenyl	13.305	89.5	50 - 150	7.25	7.32	-0.0700	N/A	
<b>22F0267-18 (Solid)</b>			Lab File ID: 322F2434.D		Analyzed: 06/24/22 20:45			
o-Terphenyl	12.774	91.6	50 - 150	7.24	7.32	-0.0800	N/A	
<b>22F0267-20 (Solid)</b>			Lab File ID: 322F2435.D		Analyzed: 06/24/22 21:07			
o-Terphenyl	13.022	91.1	50 - 150	7.24	7.32	-0.0800	N/A	
<b>22F0267-22 (Solid)</b>			Lab File ID: 322F2436.D		Analyzed: 06/24/22 21:28			
o-Terphenyl	13.892	84.0	50 - 150	7.23	7.32	-0.0900	N/A	
<b>SKF0314-CCV3 (Solid)</b>			Lab File ID: 322F2437.D		Analyzed: 06/24/22 21:49			
o-Terphenyl	90.000	94.8	85 - 115	7.24	7.32	-0.0800	N/A	
<b>SKF0314-CCV5 (Solid)</b>			Lab File ID: 322F2445.D		Analyzed: 06/25/22 00:38			
o-Terphenyl	90.000	98.3	85 - 115	7.24	7.32	-0.0800	N/A	
<b>SKF0314-CCV7 (Solid)</b>			Lab File ID: 322F2450.D		Analyzed: 06/25/22 02:23			
o-Terphenyl	90.000	97.8	85 - 115	7.24	7.32	-0.0800	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**NWTPH-Dx**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0318  
Calibration: FA00054

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: FID4  
Calibration Date: 04/21/2022

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKF0318-IBL1 (Water)</b>			Lab File ID: 422F2403.D			Analyzed: 06/24/22 12:37		
o-Terphenyl	100.00	113	50 - 150	6.86	6.155	0.7050	N/A	
<b>SKF0318-IBL2 (Water)</b>			Lab File ID: 422F2404.D			Analyzed: 06/24/22 12:57		
o-Terphenyl	100.00	107	50 - 150	6.85	6.155	0.6950	N/A	
<b>SKF0318-ICV1 (Water)</b>			Lab File ID: 422F2405.D			Analyzed: 06/24/22 13:17		
o-Terphenyl	90.000	106	85 - 115	6.85	6.155	0.6950	N/A	
<b>SKF0318-CCV1 (Water)</b>			Lab File ID: 422F2417.D			Analyzed: 06/24/22 17:17		
o-Terphenyl	90.000	107	85 - 115	6.85	6.155	0.6950	N/A	
<b>BKF0451-BLK1 (Water)</b>			Lab File ID: 422F2419.D			Analyzed: 06/24/22 17:56		
o-Terphenyl	0.22500	87.4	50 - 150	6.85	6.155	0.6950	N/A	
<b>BKF0451-BS1 (Water)</b>			Lab File ID: 422F2420.D			Analyzed: 06/24/22 18:16		
o-Terphenyl	0.22500	87.3	50 - 150	6.85	6.155	0.6950	N/A	
<b>BKF0451-BSD1 (Water)</b>			Lab File ID: 422F2421.D			Analyzed: 06/24/22 18:36		
o-Terphenyl	0.22500	89.7	50 - 150	6.86	6.155	0.7050	N/A	
<b>22F0267-09 (Water)</b>			Lab File ID: 422F2422.D			Analyzed: 06/24/22 18:56		
o-Terphenyl	0.22500	93.5	50 - 150	6.85	6.155	0.6950	N/A	
<b>22F0267-10 (Water)</b>			Lab File ID: 422F2423.D			Analyzed: 06/24/22 19:16		
o-Terphenyl	0.22500	97.0	50 - 150	6.85	6.155	0.6950	N/A	
<b>22F0267-11 (Water)</b>			Lab File ID: 422F2424.D			Analyzed: 06/24/22 19:36		
o-Terphenyl	0.22500	110	50 - 150	6.85	6.155	0.6950	N/A	
<b>22F0267-12 (Water)</b>			Lab File ID: 422F2425.D			Analyzed: 06/24/22 19:56		
o-Terphenyl	0.22500	98.9	50 - 150	6.85	6.155	0.6950	N/A	
<b>22F0267-15 (Water)</b>			Lab File ID: 422F2426.D			Analyzed: 06/24/22 20:16		
o-Terphenyl	0.22500	95.4	50 - 150	6.85	6.155	0.6950	N/A	
<b>22F0267-24 (Water)</b>			Lab File ID: 422F2427.D			Analyzed: 06/24/22 20:36		
o-Terphenyl	0.22500	97.1	50 - 150	6.85	6.155	0.6950	N/A	





## HOLDING TIME SUMMARY

Analysis: **NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1A-3-MS 22F0267-01	06/14/22 13:00	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 18:35	3	40	
Z1A-3-MS 22F0267-02	06/14/22 13:00	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 12:13	3	40	
Z1A-6-MS 22F0267-03	06/14/22 13:10	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 18:56	3	40	
Z1A-6-MS 22F0267-04	06/14/22 13:10	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 12:34	3	40	
Z1A-9-MS 22F0267-05	06/15/22 10:20	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 19:18	3	40	
Z1A-9-MS 22F0267-06	06/15/22 10:20	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 12:56	3	40	
Z1A-12-MS 22F0267-07	06/15/22 09:55	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 19:39	3	40	
Z1A-12-MS 22F0267-08	06/15/22 09:55	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 13:59	3	40	
Z1A-3-PW 22F0267-09	06/14/22 13:30	06/16/22 10:54	06/22/22 09:33	7	14	06/24/22 18:56	2	40	
Z1A-6-PW 22F0267-10	06/14/22 13:40	06/16/22 10:54	06/22/22 09:33	7	14	06/24/22 19:16	2	40	
Z1A-9-PW 22F0267-11	06/15/22 10:30	06/16/22 10:54	06/22/22 09:33	6	14	06/24/22 19:36	2	40	
Z1A-12-PW 22F0267-12	06/15/22 10:00	06/16/22 10:54	06/22/22 09:33	6	14	06/24/22 19:56	2	40	
DUP-1-MS 22F0267-13	06/14/22 10:20	06/16/22 10:54	06/21/22 11:11	7	14	06/24/22 20:00	3	40	
DUP-1-MS 22F0267-14	06/14/22 10:20	06/16/22 10:54	06/21/22 11:00	7	14	06/24/22 14:21	3	40	
DUP-1-PW 22F0267-15	06/15/22 12:30	06/16/22 10:54	06/22/22 09:33	6	14	06/24/22 20:16	2	40	
Z1B-1-MS 22F0267-16	06/14/22 10:15	06/16/22 10:54	06/21/22 11:11	7	14	06/24/22 20:24	3	40	
Z1B-1-MS 22F0267-17	06/14/22 10:15	06/16/22 10:54	06/21/22 11:00	7	14	06/24/22 14:42	3	40	
Z1B-2-MS 22F0267-18	06/14/22 10:30	06/16/22 10:54	06/21/22 11:11	7	14	06/24/22 20:45	3	40	
Z1B-2-MS 22F0267-19	06/14/22 10:30	06/16/22 10:54	06/21/22 11:00	7	14	06/24/22 15:03	3	40	
Z1B-3-MS 22F0267-20	06/14/22 15:05	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 21:07	3	40	
Z1B-3-MS 22F0267-21	06/14/22 15:05	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 15:24	3	40	
Z1B-4-MS 22F0267-22	06/15/22 09:45	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 21:28	3	40	



## HOLDING TIME SUMMARY

Analysis: **NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1B-4-MS 22F0267-23	06/15/22 09:45	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 15:45	3	40	
Z1B-1-PW 22F0267-24	06/14/22 11:10	06/16/22 10:54	06/22/22 09:33	7	14	06/24/22 20:36	2	40	
Z1B-2-PW 22F0267-25	06/14/22 11:50	06/16/22 10:54	06/22/22 09:33	7	14	06/24/22 20:56	2	40	
Z1B-3-PW 22F0267-26	06/15/22 09:40	06/16/22 10:54	06/22/22 09:33	6	14	06/24/22 21:16	2	40	
Z1B-4-PW 22F0267-27	06/15/22 09:50	06/16/22 10:54	06/22/22 09:33	6	14	06/24/22 21:36	3	40	
Matrix Spike BKF0467-MS1	06/15/22 09:55	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 17:53	3	40	
Matrix Spike Dup BKF0467-MSD1	06/15/22 09:55	06/16/22 10:54	06/21/22 11:11	6	14	06/24/22 18:14	3	40	
Matrix Spike BKF0468-MS1	06/15/22 10:20	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 13:17	3	40	
Matrix Spike Dup BKF0468-MSD1	06/15/22 10:20	06/16/22 10:54	06/21/22 11:00	6	14	06/24/22 13:38	3	40	

\* Indicates hold time exceedance.





**METHOD DETECTION  
AND REPORTING LIMITS**

**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Instrument: FID3

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg



**METHOD DETECTION  
AND REPORTING LIMITS**

**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Instrument: FID3

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L



**METHOD DETECTION  
AND REPORTING LIMITS**

**NWTPH-Dx**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Instrument: FID4

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L

- I-6884 - Chevron Motor Oil SAE 30
- I-6885 - Valvoline Motor Oil SAE 30
- I-6886 - Valvoline Motor Oil SAE 5W-30
- I-6887 - Valvoline Motor Oil SAE 40
- I-6888 - Mobil 1 Synthetic Motor Oil 10W30

Mrs  
5/13/11

Ans N Geben  
5/13/11

**B000124**

TPHD MOIL Chevron Stock 30W  
Expires 7/20/2020  
Prepared By Jonathon Walter 7/20/2010



OFFICE P.O. BOX 1156, SPRINGFIELD, MO. 65801  
PHONE (417) 862-3333



STORE PHONE # 425 821-8080  
REMIT TO: PO BOX 790098  
ST LOUIS MO 63179-0098

BILL TO 999990 SHIP TO

INVOICE NUMBER 2508 248050  
INVOICE TYPE CHG. CARD SALE  
INVOICE DATE 5/13/11

CASH SALE  
CHEVRON INJECTOR CLEANER  
SAVE INSTANTLY  
BUY 1 GET 1 FREE 00000

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILLED BY	CHECKED BY							
5				00:02:50									
TAX	R	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE	
		1		CAS EDGE 10-30	EA		10t Motor Oil	14.75	5.99			5.99	
		1		CAS EDGE 10-30	EA		10t Motor Oil	14.75	5.99			5.99	
		1		MOB 1-10-30	EA		10t Synthc Oil	13.98	8.19			8.19	
		1		VAL 5-30	EA		10t Motor Oil	7.95	4.69			4.69	
		1		VAL HD30	EA		10t Motor Oil	7.95	4.69			4.69	
		1		VAL HD40	EA		10t Motor Oil	7.95	4.69			4.69	
		1		CHP HD30	EA		MOTOR OIL	6.25	3.69			3.69	
MFG. DEFECT WARRANTY													
CREDIT CARD MASTER CARD 1264								EXPIRATION DATE		RX/XX		AUTHORIZATION 96694Z	
TOTALS 7 CUSTOMER COPY								72.44		37.93		SUB-TOTAL 37.93	
CUSTOMER SIGNATURE								CASH TEND.		MISC.		TAX / FEES	
								CHANGE		TOTAL			



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INVOICE DATE 5/13/11

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CHEVRON INJECTOR CLEANER  
SAVE INSTANTLY  
BUY 1 GET 1 FREE 00000

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILLED BY	CHECKED BY						
5				00:02:50								
TAX	R	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE

I-6884 - Chevron Motor Oil SAE 30  
 I-6885 - Valvoline Motor Oil SAE 30  
 I-6886 - Valvoline Motor Oil SAE 5W-30  
 I-6887 - Valvoline Motor Oil SAE 40  
 I-6888 - Mobil 1 Synthetic Motor Oil 10W30

Mrs  
5/13/11

Ans N Gebro  
5/13/11

**B000146**

TPHD MOIL Valvoline 30W  
 Expires 5/13/2039  
 Prepared By Jonathon Walter 5/13/2011



OFFICE P.O. BOX 1156, SPRINGFIELD, MO. 65801  
 PHONE (417) 862-3333



STORE PHONE # 425 821-8080  
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 ST LOUIS MO 63179-0098

BILL TO 999990 SHIP TO

CASH SALE  
 CHEVRON INJECTOR CLEANER  
 SAVE INSTANTLY  
 BUY 1 GET 1 FREE 00000

INVOICE NUMBER 2509-219059  
 INVOICE TYPE CHG. CARD SALE  
 INVOICE DATE 5/13/11

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILLED BY	CHECKED BY							
5				00:02:50									
TAX	R	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE	
		1		CAS EDGE 10-30	EA		10t Motor Oil	14.75	5.99			5.99	
		1		CAS EDGE 10-30	EA		10t Motor Oil	14.75	5.99			5.99	
		1		MOB 1-10-30	EA		10t Synthc Oil	13.98	4.69			4.69	
		1		VAL 5-30	EA		10t Motor Oil	7.95	4.69			4.69	
		1		VAL HD30	EA		10t Motor Oil	7.95	4.69			4.69	
		1		VAL HD40	EA		10t Motor Oil	7.95	4.69			4.69	
		1		CHP HD30	EA		MOTOR OIL	6.25	3.69			3.69	
MFG. DEFECT WARRANTY													
CREDIT CARD MASTER CARD 1264								EXPIRATION DATE		RX/XX		AUTHORIZATION 96694Z	
TOTALS 7 CUSTOMER COPY								72.44		37.93		SUB-TOTAL 37.93	
CUSTOMER SIGNATURE								CASH TEND.		MISC.		TAX / FEES	
								CHANGE		TOTAL			



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 PHONE (417) 862-3333



STORE PHONE # 425 821-8080  
 REMIT TO: PO BOX 790098  
 ST LOUIS MO 63179-0098

BILL TO 999990 SHIP TO

CASH SALE  
 CHEVRON INJECTOR CLEANER  
 SAVE INSTANTLY  
 BUY 1 GET 1 FREE 00000

INVOICE NUMBER 2508-219059  
 INVOICE TYPE CHG. CARD SALE  
 INVOICE DATE 5/13/11

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILLED BY	CHECKED BY						
5				00:02:50								
TAX	R	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE

# Certificate of analysis

**E003343**

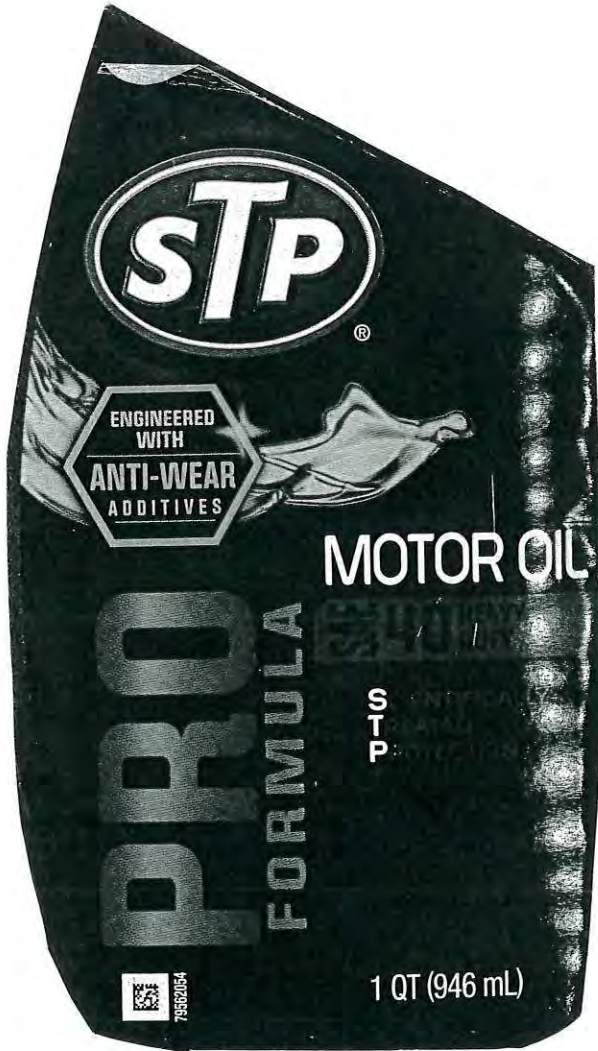
TPHD O-Terphenyl Neat  
Expires 12/31/2079  
*Prepared By Jonathon Walter 8/10/2016*

Product No.:	A19680
Product:	o-Terphenyl, 98%
Lot No.:	10114703
Appearance	White, crystalline powder
Melting point	55.0-55.9°C
Assay (GC)	99.9+ %

This document has been electronically generated and does not require a signature.

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**ThermoFisher**  
S C I E N T I F I C



front



back

**G004796**

TPHD MOIL STP 40W

Expires 12/31/2079

Prepared By Joshua Rains 5/25/2018

G 004796

# 5264



# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:	Page: <u>2</u> of <u>2</u>
ARI Client Company: <u>London Assoc Inc</u>	Phone: <u>509 327-9737</u>	Date: <u>3-27-19</u>
Client Contact: <u>Ryan Reich</u>		Ice Present? <u>Yes</u>
Client Project Name: <u>Avista Central Steams Plant (CSP)</u>		No. of Coolers: <u>2</u>
Client Project #: <u>0236040</u>	Samplers: <u>Ryan Reich</u>	Cooler Temps: <u>2.7°C 2.4°C</u>



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	
MW 28-032719	3-27-19	15:45	w	2	X									
MW 25-032819	3-28-19	9:05	w	2	X									
MW 7-032819	3-28-19	9:55	w	2	X									
EW 3-102418	10-24-18	13:00	Product liquid	2										Site Bunker C Standard

H003225

NWTPH-DX to Bunker C

**H003225**

TPHD Bunker C Site Specific (Avista)  
 Expires 4/1/2046  
 Prepared By Susan Dunning 3/29/2019

Comments/Special Instructions * w/ acid silica gel cleanup	Relinquished by: (Signature) <u>Ryan Reich</u>	Received by: (Signature) <u>Jacob Walte</u>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: <u>Ryan Reich</u>	Printed Name: <u>Jacob Walte</u>	Printed Name:	Printed Name:
	Company: <u>London Assoc</u>	Company: <u>ARI</u>	Company:	Company:
	Date & Time: <u>3-28-19 16:30</u>	Date & Time: <u>03/29/19 0950</u>	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:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.





Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: 7.16.19 - not requested.

Chemical: Pentacosane-n

Manufacturer: Chem service

Product #: NA

Lot #: 184 - 125 A

Purity: 99%

Analyst: VTS

**H006758**  
n-Pentacosane-Neat  
Solvent / Lot: NA  
Prep: 7/15/2019 by VS  
Exp: 1/12/2030  
Location: GC

# CERTIFICATE OF ANALYSIS

**Catalog No:** DRH-004S-R1-5X  
**Description:** Calibration/Window Defining Hydrocarbon Standard  
**Lot:** 219041075  
**Solvent:** Chloroform  
**Hazards:** Refer to SDS for complete safety information

**Date Certified:** Apr 8, 2019  
**Expiration:** Apr 8, 2029  
**Sample Size:** 1 mL  
**Components:** 17  
**Storage Condition:** Ambient (>5 °C)/Sonicate



## Certified Reference Material



Component	CAS #	Purity % (GC/MS)	Prepared Concentration <sup>2</sup> (µg/mL)	Certified Analyte Concentration <sup>1</sup> (µg/mL)
n-Octane	111-65-9	100.0	1017	1017
Decane	124-18-5	100.0	1014	1014
Dodecane	112-40-3	98.1	1013	994
n-Tetradecane	629-59-4	99.9	1008	1007
Hexadecane	544-76-3	98.9	1004	993
n-Octadecane	593-45-3	99.1	1013	1004
Eicosane	112-95-8	99.8	1008	1006
Docosane	629-97-0	99.1	1002	993
n-Tetracosane	646-31-1	100.0	1000	1000
Hexacosane	630-01-3	99.5	1008	1003
n-Octacosane	630-02-4	99.0	1017	1007
n-Triacontane	638-68-6	100.0	1017	1017
Dotriacontane	544-85-4	98.0	1014	994
Tetraatriacontane	14167-59-0	99.0	1012	1002
Hexatriacontane	630-06-8	98.0	1003	983
n-Octatriacontane	7194-85-6	98.5	1009	994
Tetracontane	4181-95-7	99.0	1009	999

**H007050**

NWTPH-Dx RT Hydrocarbon Stock  
Expires 4/8/2029  
Prepared By Joshua Rains 7/24/2019

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.


<sup>2</sup> All weights are traceable through NIST, Test No. 684/289871-17

<sup>1</sup> Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is  $\pm 2.4\%$ . This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By:   
Larry Decker, Organic QC Manager

Appendix 13.1

ALTERNATE CERTIFICATE OF ANALYSIS

An effort has been made to locate the Certificate of Analysis for the below chemical and the manufacturer of the chemical was unable to provide a certificate at the time of request by ARI. This form is serving as a substitute for documentation purposes.

Date Requested from Manufacturer: 09/20/19 purchased at gas station

Chemical: Diesel #2 NEAT

**H009117**  
TPHD Diesel #2 (76)  
Expires 12/31/2079  
Prepared By Joshua Rains 9/20/2019

Manufacturer: 76 gas station

Product #: N/A

17009117

Lot #: N/A

09/20/19

Purity: NEAT

Analyst: JR

13310 Interurban Ave S  
Tukwila Wa 98168

STANLEY H & REBECCA  
00081106449  
13310 INTERURBAN A  
TUKWILA , WA  
09/20/2019 415774136  
11:10:20 AM

3605  
MASTERCARD

INVOICE 110939  
AUTH 00-024386  
REF370230920191109

PUMP# 8  
DIESEL 2 0.058G  
PRICE/GAL \$3.599

FUEL TOTAL \$ 0.20

CREDIT \$ 0.20

COMPLETION  
SWIPE Exp.Date:\*/\*\*  
Batch: 37 Seq Num: 23  
Term ID: 8  
Workstation ID: 00  
Your opinion  
counts! Enter to  
Win 1 of 60 \$25  
gas gift cards!!!  
Provide feedback  
[www.gasvisit.com](http://www.gasvisit.com)  
Learn how to earn  
50 cents/gallon in  
fuel statement  
credits. Go to  
[drivesavvy.com](http://drivesavvy.com) or  
see details at the  
pump. Restrictions  
apply. Offer  
expires 9/30/19.  
18

H009117  
M  
09/20/19

COMPLETE A SURVEY  
[WWW.GASVISIT.COM](http://WWW.GASVISIT.COM)  
REGISTER TO WIN!!



# CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 31233 **Lot No.:** A0170640

**Description :** Diesel Fuel #2 Standard (Unweathered)  
Diesel Fuel #2 Standard (Unweathered) 5,000 µg/mL, Methylene Chloride, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 30, 2028 **Storage:** 25°C nominal

**Ship:** Ambient

### CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diesel Fuel #2 - Single Source CAS # 68334-30-5.C (Lot 032404SZ) Purity ----%	5,008.0 µg/mL	+/- 29.3897	µg/mL	Gravimetric
			+/- 149.1577	µg/mL	Unstressed
			+/- 159.0749	µg/mL	Stressed

**Solvent:** Methylene chloride  
CAS # 75-09-2  
Purity 99%

**J006454**

DIESEL#2 2ND SOURCE stock  
Expires 4/30/2028  
Prepared By Joshua Rains 6/18/2021

**Column:**  
30m x 0.25mm x 0.25µm  
Rtx-5 (cat.#10223)

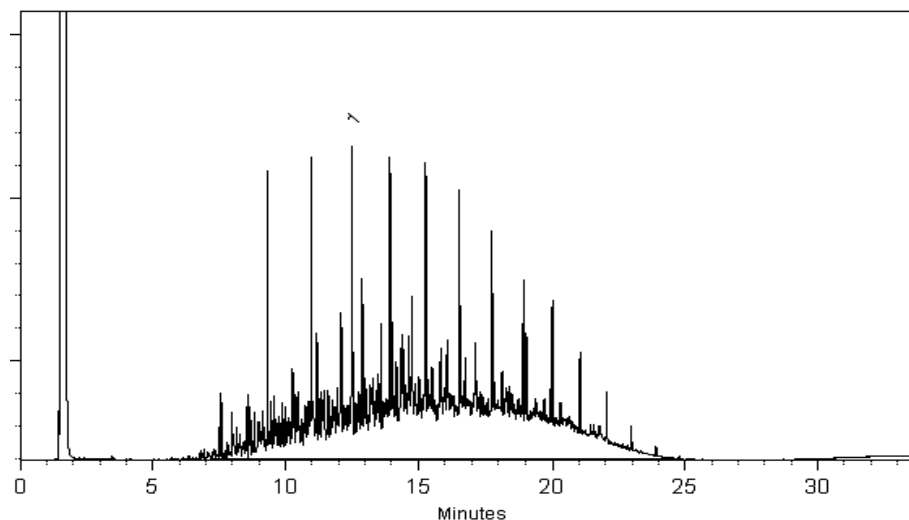
**Carrier Gas:**  
hydrogen-constant pressure 10 psi.

**Temp. Program:**  
40°C (hold 2 min.) to 330°C  
@ 10°C/min. (hold 10 min.)

**Inj. Temp:**  
250°C

**Det. Temp:**  
330°C

**Det. Type:**  
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

  
Erik Strommer - Operations Tech I

**Date Mixed:** 25-Mar-2021      **Balance:** 1128353505

  
Marlina Cowan - Operations Tech I

**Date Passed:** 30-Mar-2021

Manufactured under Restek's ISO 9001:2015  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.



Version	00
Molecular weight	422.82
Quality Test / Release Date	01/10/2012
Molecular Formula	C30 H62
CAS No	638-68-6
Linear Formula	CH3(CH2)28CH3
Flash Point (°C)	238

## Certificate of Analysis

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Acros Organics expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Unless otherwise stated, these products are not intended for dialysis, parenteral, or injectable use without further processing. The following are the actual analytical results obtained:

<b>Catalog Number</b>	27805	<b>Quality Test / Release Date</b>	01/10/2012
<b>Lot Number</b>	A0314709		
<b>Description</b>	Triacontane, 98%		
<b>Country of Origin</b>	SWEDEN		
<b>Declaration of Origin</b>			

<b>BSE/TSE comment 1</b>	
--------------------------	--

<b>Chemical Comment</b>	
-------------------------	--

Result name	Units	Specifications	Test Value
Appearance		WHITE SHINY FLAKES	WHITE SHINY FLAKES
Infrared spectrometry		AUTHENTIC	AUTHENTIC
Melting point		65°C to 67°C	67°C
Separat. techn. GC		>=97.5 %	99.4 %



A handwritten signature in black ink, appearing to read "L. Van Den Broek".

L. Van Den Broek, QA Manager

Issued: 07-26-2013

Acros Organics  
 ENA23, zone1, nr 1350, Janssen Pharmaceuticaalaan 3a, B-2440 Geel, Belgium  
 Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>  
 1 Regent Lane, Fair Lawn, NJ 07410, USA Fax 201-796-1329

**J007974**

TPHD Triacontane NEAT

Expires 1/30/2079

Prepared By Christopher T. Orcilla 8/3/2021



## Certificate of Analysis

1 Reagent Lane  
 Fair Lawn, NJ 07410  
 201.796.7100 tel  
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System  
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T291	Quality Test / Release Date	04/03/2021
Lot Number	210437		
Description	TOLUENE - OPTIMA		
Country of Origin	United States	Suggested Retest Date	Apr/2026
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear colorless liquid free of suspended matter
ASSAY	%	>= 99.8	100.0
BENZENE	%	<= 0.05	<0.005
COLOR	APHA	<= 10	5
EVAPORATION RESIDUE	ppm	<= 1	0.2
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 285 NM	ABSORBANCE UNITS	<= 1	0.54
OPTICAL ABS AT 300 NM	ABSORBANCE UNITS	<= 0.1	0.03
OPTICAL ABS AT 325 NM	ABSORBANCE UNITS	<= 0.02	0.01
OPTICAL ABS AT 350 NM	ABSORBANCE UNITS	<= 0.005	<0.001
PESTICIDE RESIDUE ANALYSIS	NG/L	<= 10	<1
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.4930 - 1.4950	1.4942
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFUR COMPOUNDS	%	<= 0.003	<0.0001
WATER (H2O)	%	<= 0.02	0.001



Julian Burton - Quality Control Manager - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
 If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.



**Z1A-3-PW**

**Dual Column**

**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>		SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>		
Project: <u>RG Haley Site-Bellingham</u>		
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-09 A</u>	File ID: <u>22062507.D</u>
Sampled: <u>06/14/22 13:30</u>	Prepared: <u>06/21/22 13:54</u>	Analyzed: <u>06/25/22 13:22</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>	Initial/Final: <u>500 mL / 50 mL</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKF0340</u>	Calibration: <u>EK00019</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U

SURROGATES	Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>	<i>1</i>	<i>2.5000</i>	<i>1.76</i>	<i>70.4</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062507.D  
Data file 2: /20220625.b/20220625.b/22062507.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-09  
Client ID:  
Injection Date: 25-JUN-2022 13:22  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
----			----			0.0	0.0	---	Pentachlorophenol
6.817	-0.057	1102671	----			6.5	0.0	---	2,4,6-Trichlorophenol
7.425	-0.031	318594	7.787	-0.051	277348	1.9	0.3	152.8*	2,3,6-Trichlorophenol
----			8.881	0.357	495378	0.0	1.0	---	2,4,5-Trichlorophenol
----			----			0.0	0.0	---	2,3,4-Trichlorophenol
9.492	-0.009	288328032	----			1115.8	0.0	---	2,3,5,6-Tetrachlorophenol
11.089	-0.105	9969223	----			61.8	0.0	---	2,3,4,5-Tetrachlorophenol
----			6.654	-0.044	2743932	0.0	57.1	---	2,4-Dichlorophenol
10.723	-0.009	3813874	11.385	-0.003	39540182	17.6	25.1	35.1	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

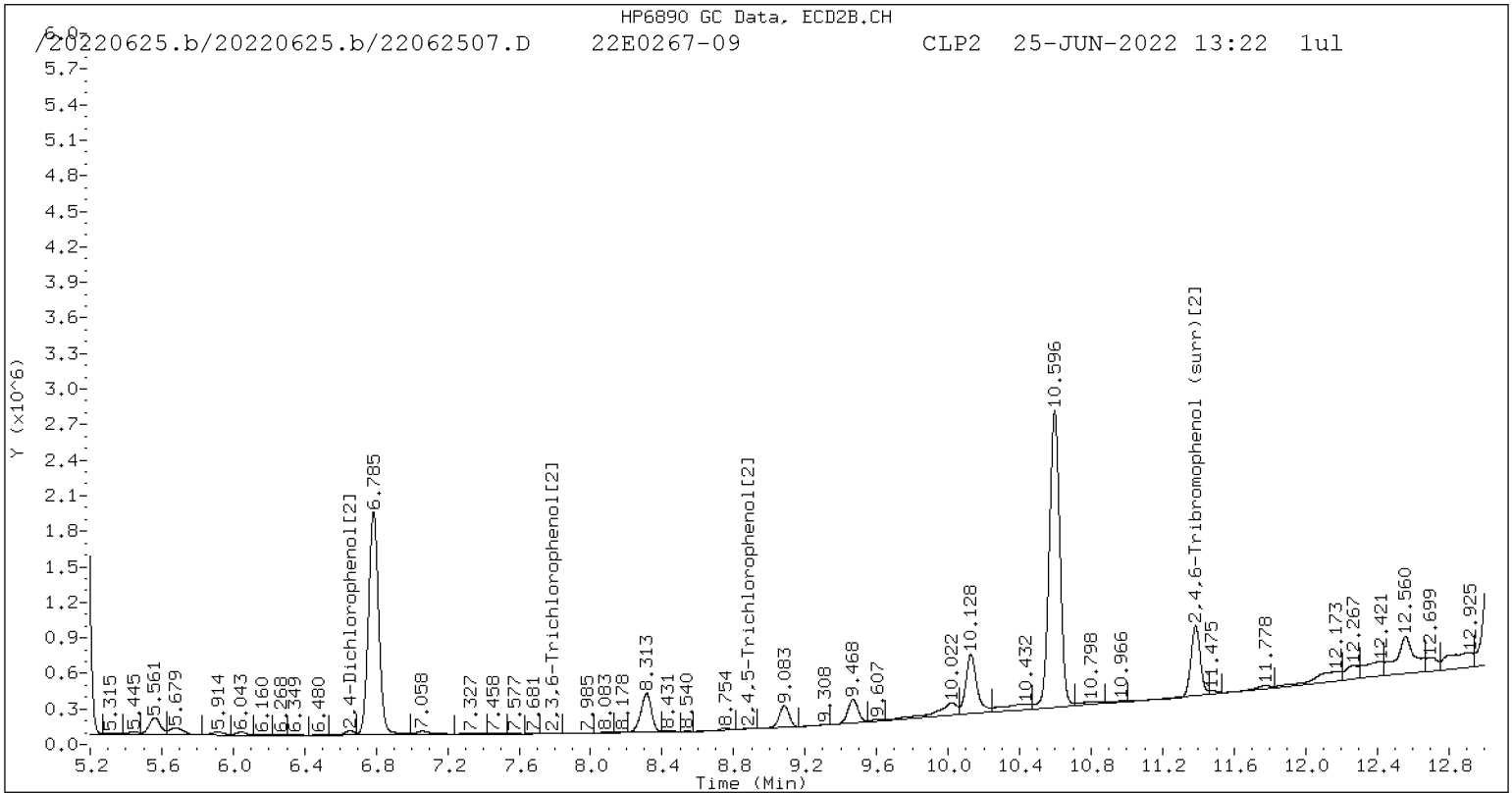
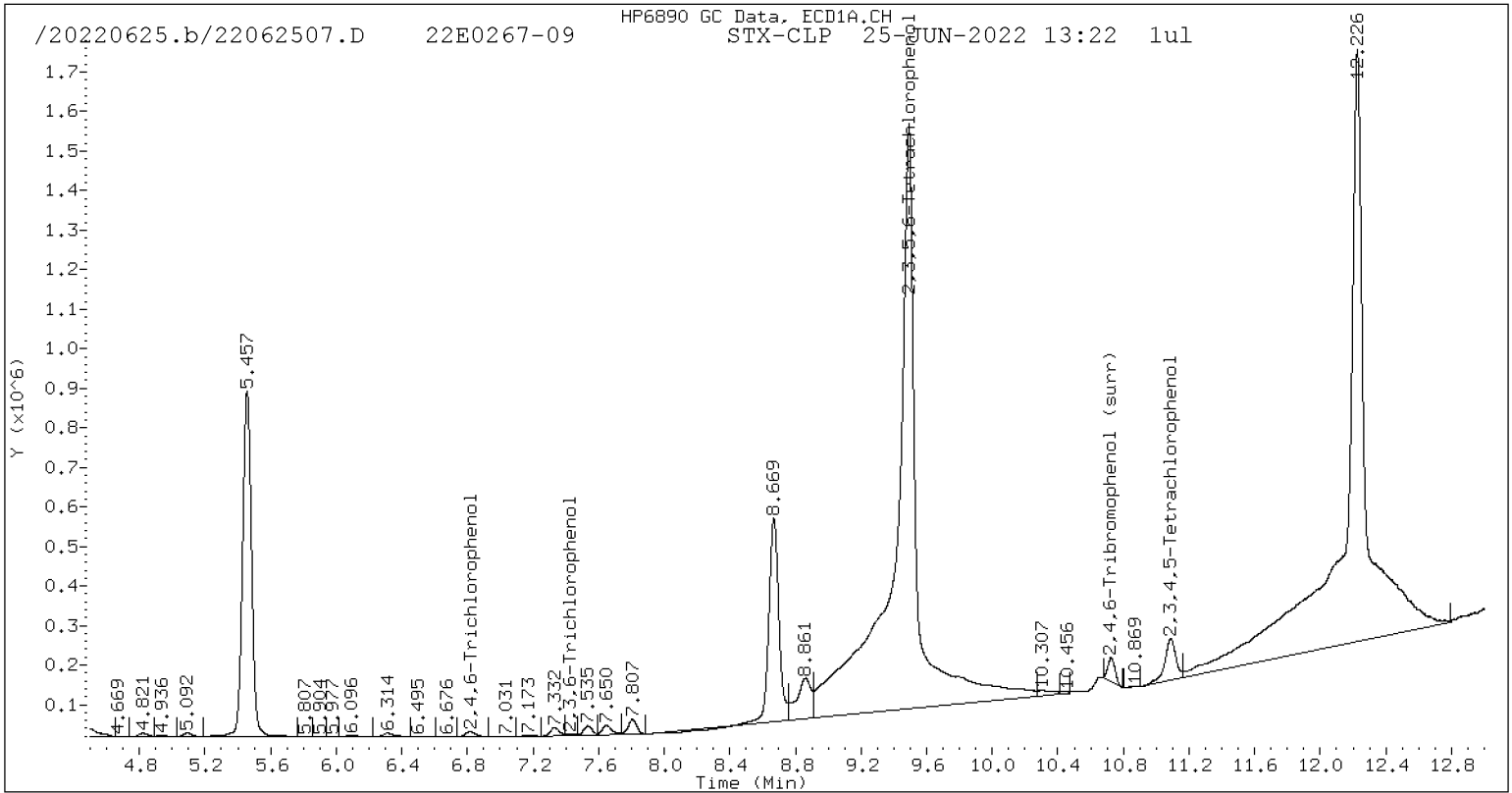
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	70.4	100.3	70.4~	0- 0

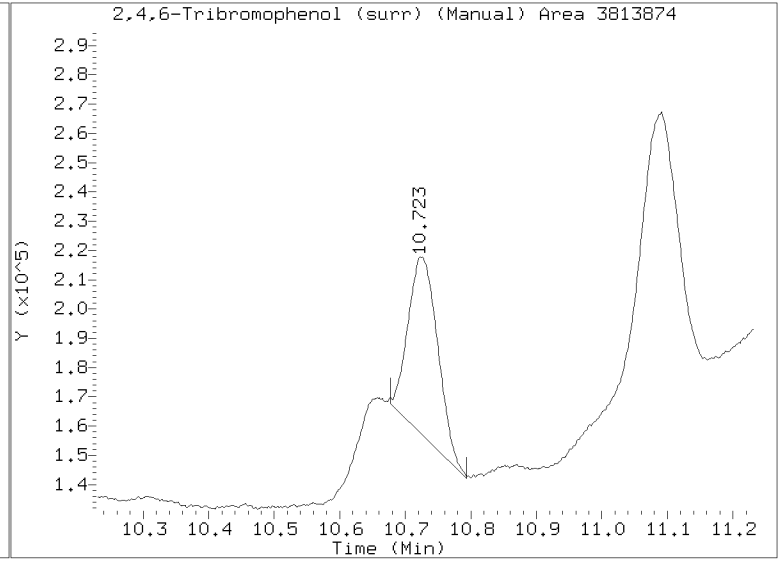
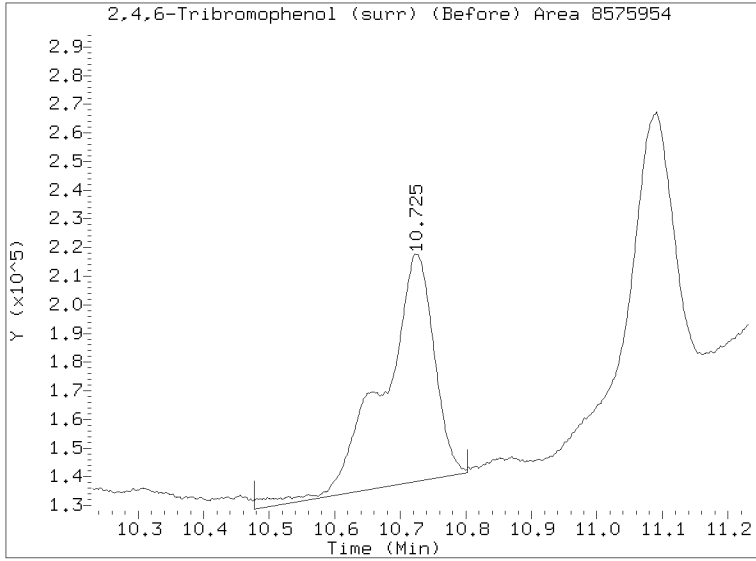
~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062507.D  
Injection Date: 25-JUN-2022 13:22  
Lab ID:22E0267-09 Client ID:  
Report Date: 06/29/2022 10:42





**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-09RE1 A</u>
Sampled: <u>06/14/22 13:30</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKG0311</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22072907.D</u>
	Analyzed: <u>07/28/22 12:50</u>
	Initial/Final: <u>500 mL / 10 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	3.00	3.00	3.00	Y1, U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>5.71</i>	<i>228</i>	<i>26 - 120</i>	<i>*</i>

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072907.D  
 Data file 2: /20220729.b/20220729.b/22072907.D  
 Method: \20220729.b\PCP.m  
 Compound Sublist: pcpcal.sub  
 Instrument, Inj. Vol.: ecd8.i, 1ul  
 Operator: YZ

ARI ID: 22E0267-09RE1  
 Client ID:  
 Injection Date: 28-JUL-2022 12:50  
 Report Date: 07/29/2022 13:54  
 Units: ng/mL  
 Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
12.089	0.002	42663473	12.426	-0.002	120701924	136.6	55.9	83.8*	Pentachlorophenol N
6.873	-0.023	50858715	7.022	0.021	80843083	298.5	68.3	125.5*	2,4,6-Trichlorophenol
7.440	-0.038	154667034	7.912	0.055	140107200	918.5	128.0	151.1*	2,3,6-Trichlorophenol
8.450	0.025	5829609	8.947	-0.017	937721666	83.8	1942.9	183.5*	2,4,5-Trichlorophenol
9.183	-0.028	4704778	9.988	0.019	387634058	54.0	621.4	168.0*	2,3,4-Trichlorophenol
9.495	-0.030	127027735	9.854	0.020	275714670	491.6	161.0	101.3*	2,3,5,6-Tetrachlorophenol
----			11.895	-0.010	591203661	0.0	526.8	---	2,3,4,5-Tetrachlorophenol
6.247	0.005	50415410	----			7808.7	0.0	---	2,4-Dichlorophenol
10.724	-0.033	61907993	11.455	0.042	175483650	285.6	111.3	87.8*	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

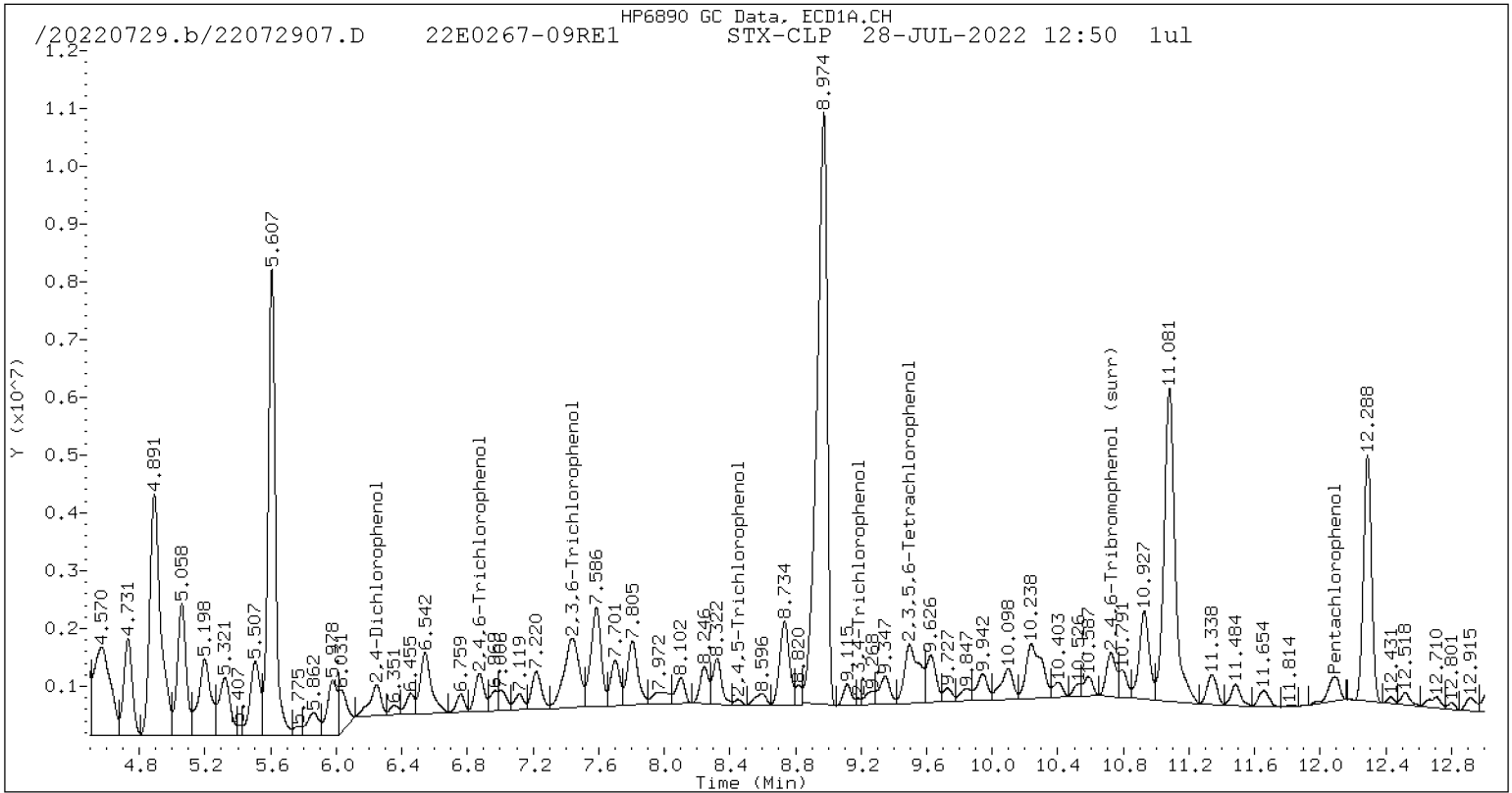
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

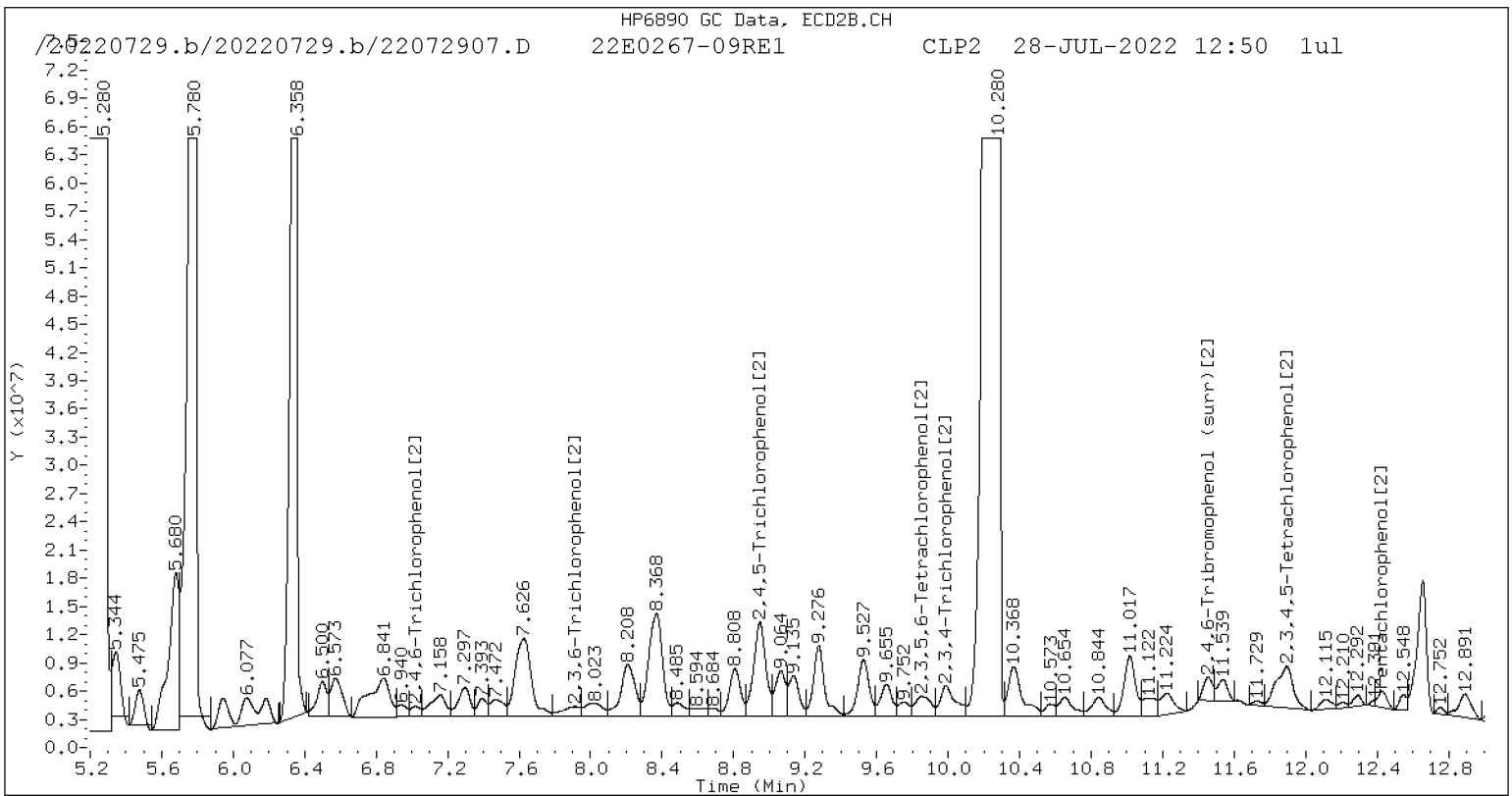
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	1142.5	445.1	445.1~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: YES

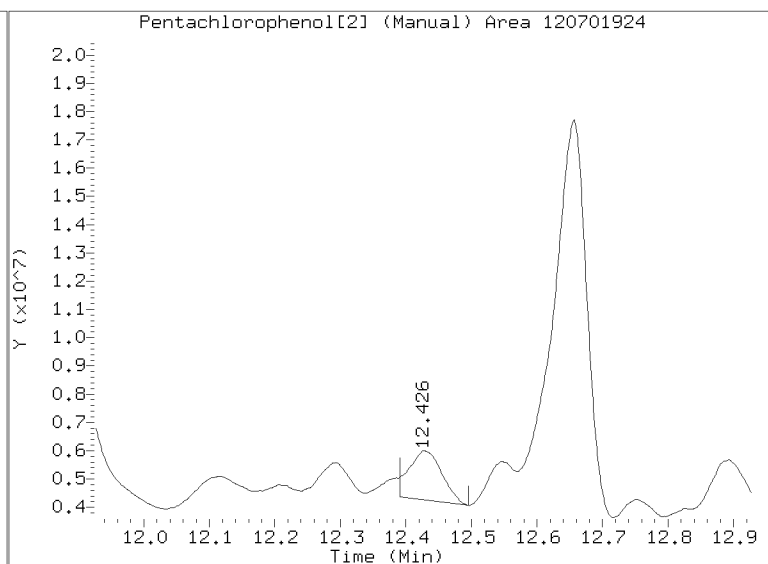
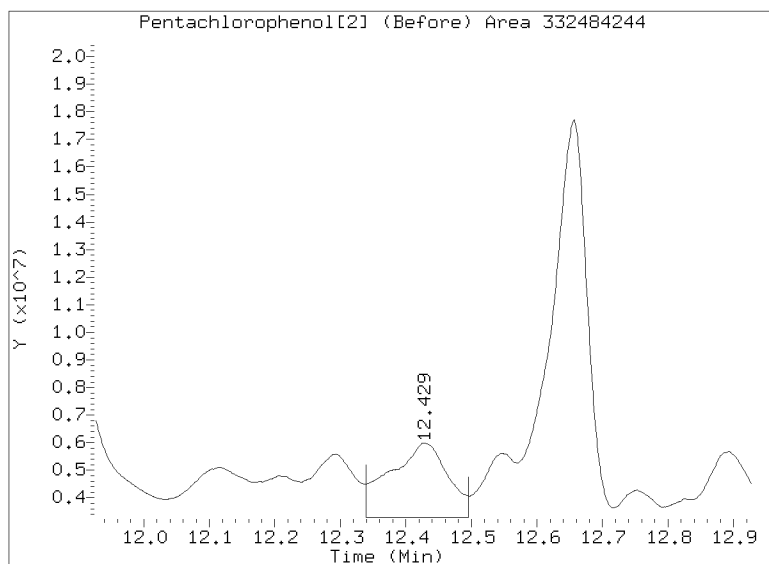
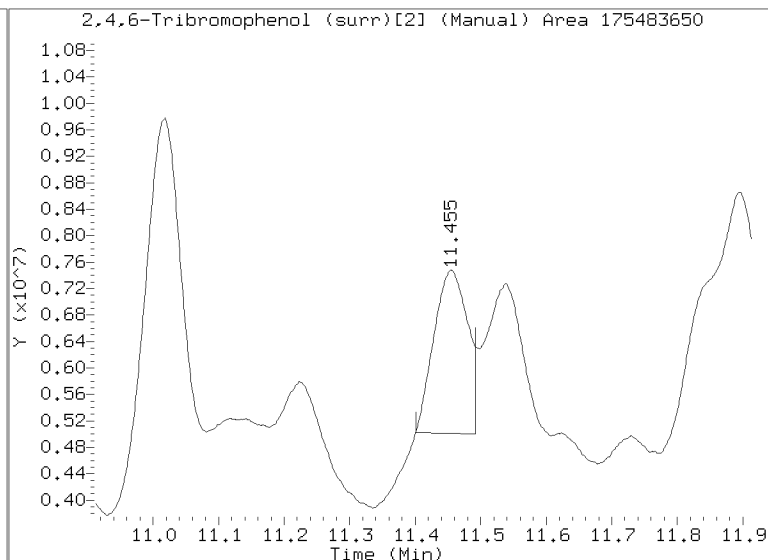
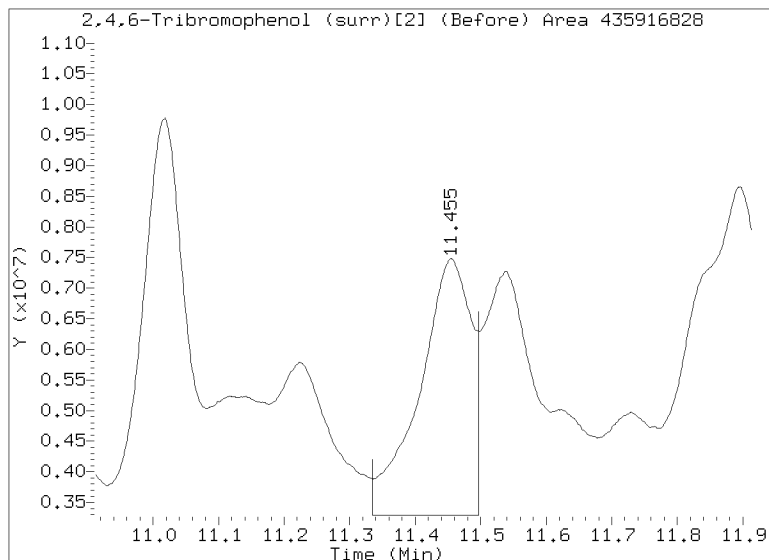


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072907.D

Injection Date: 28-JUL-2022 12:50

Lab ID:22E0267-09RE1 Client ID:





**Dual Column**

**ORGANIC ANALYSIS DATA SHEET  
EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-10 A</u>
Sampled: <u>06/14/22 13:40</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKF0340</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22062508.D</u>
	Analyzed: <u>06/25/22 13:40</u>
	Initial/Final: <u>500 mL / 50 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol		1	2.5000	1.95	77.9	26 - 120	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062508.D  
Data file 2: /20220625.b/22062508.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-10  
Client ID:  
Injection Date: 25-JUN-2022 13:40  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
6.815	-0.060 748077	----	0.0	0.0	---	Pentachlorophenol
7.422	-0.034 343700	7.789 -0.049 285031	2.0	0.3	154.8*	2,4,6-Trichlorophenol
----	----	8.888 0.364 356364	0.0	0.7	---	2,3,6-Trichlorophenol
----	----	----	0.0	0.0	---	2,4,5-Trichlorophenol
9.490	-0.011 223294958	----	1864.1	0.0	---	2,3,4-Trichlorophenol
11.089	-0.105 3158990	----	19.6	0.0	---	2,3,5,6-Tetrachlorophenol
----	----	6.650 -0.048 3232684	0.0	67.3	---	2,3,4,5-Tetrachlorophenol
10.725	-0.007 4218540	11.385 -0.004 40248449	19.5	25.5	26.9	2,4-Dichlorophenol
						2,4,6-Tribromophenol (surr)

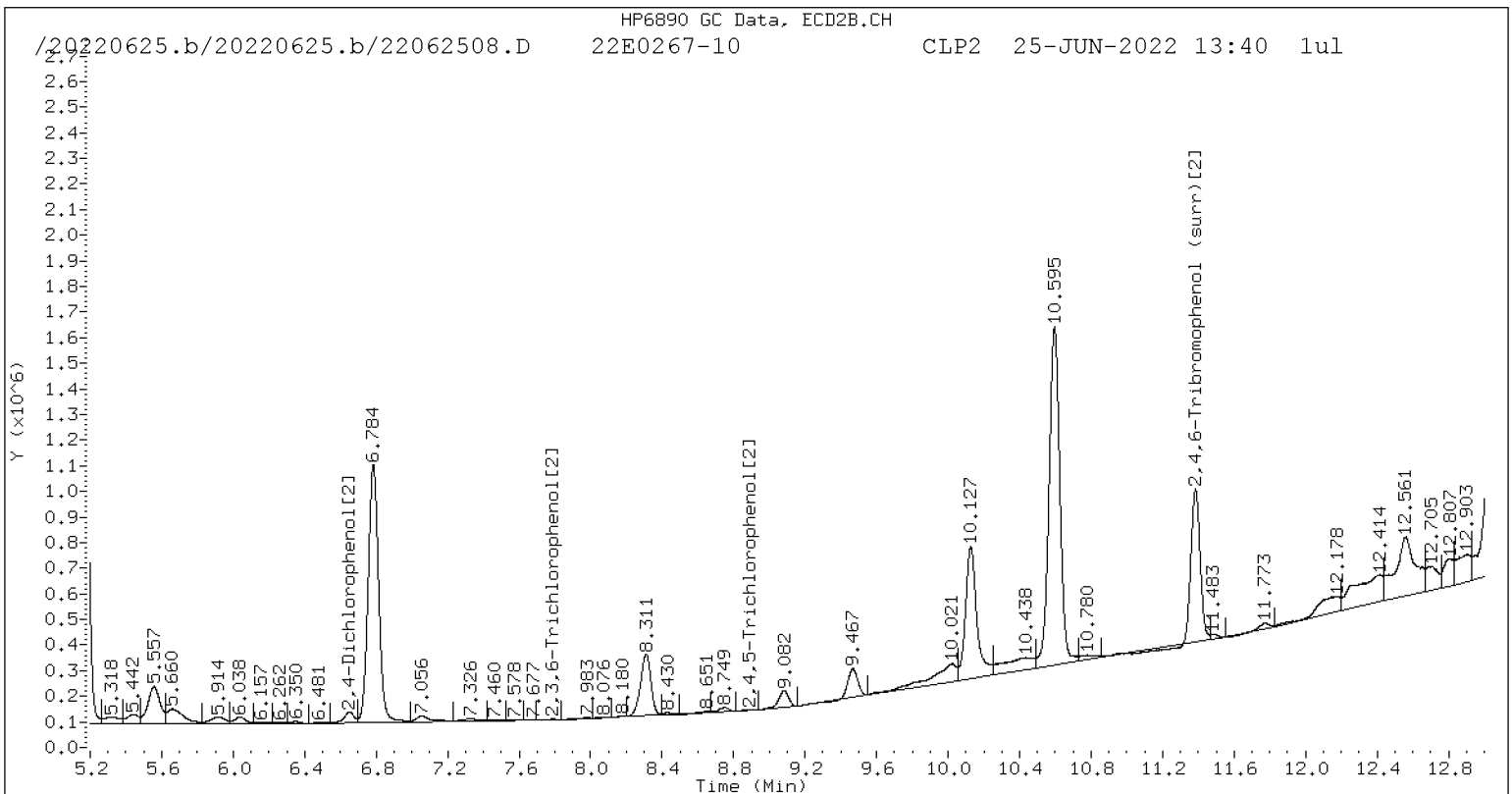
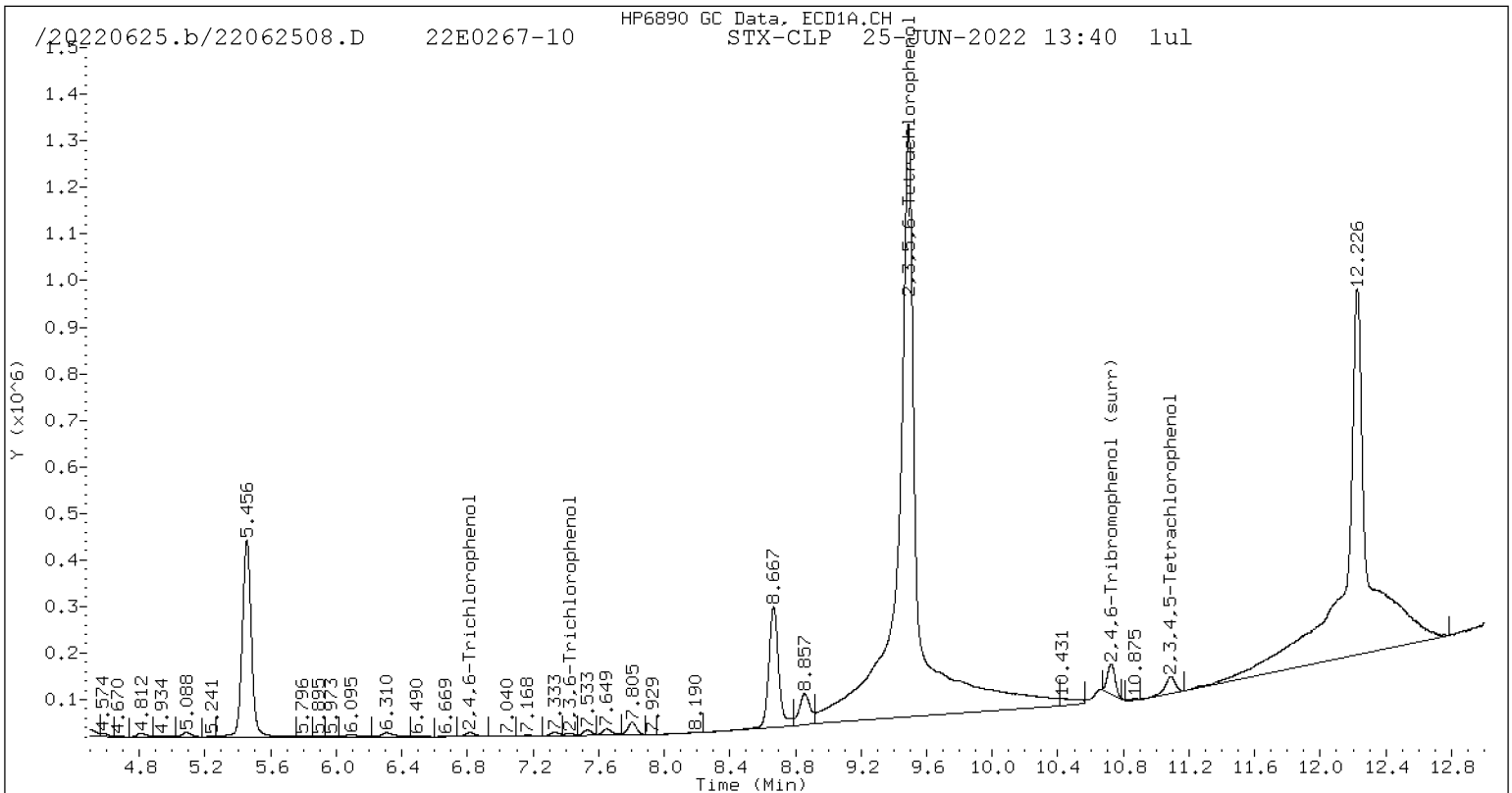
- \* Indicates RPD > 40%
- A Indicates Peak Height was used for Column 1 quantitation instead of Area
- B Indicates Peak Height was used for Column 2 quantitation instead of Area
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	77.9	102.1	77.9~	0- 0

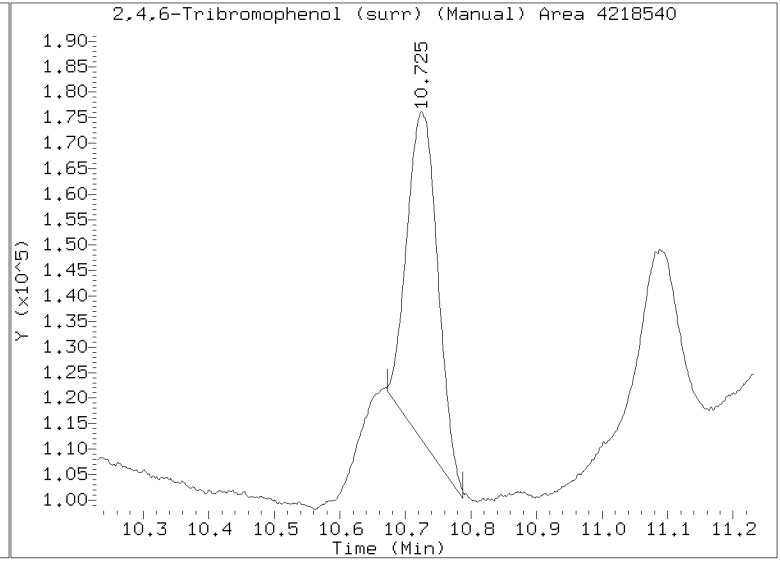
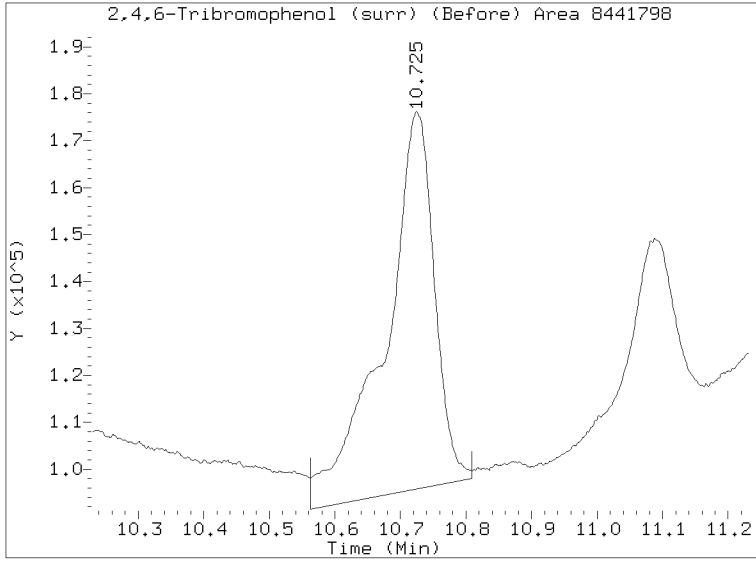
~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062508.D  
Injection Date: 25-JUN-2022 13:40  
Lab ID:22E0267-10 Client ID:  
Report Date: 06/29/2022 10:42





**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>		
Project:	<u>RG Haley Site-Bellingham</u>		
Matrix:	<u>Water</u>	Laboratory ID:	<u>22F0267-10RE1 A</u>
		File ID:	<u>22072908.D</u>
Sampled:	<u>06/14/22 13:40</u>	Prepared:	<u>06/21/22 13:54</u>
		Analyzed:	<u>07/28/22 13:08</u>
% Solids:		Preparation:	<u>EPA 3510C SepF</u>
		Initial/Final:	<u>500 mL / 10 mL</u>
Batch:	<u>BKF0449</u>	Sequence:	<u>SKG0311</u>
		Calibration:	<u>EK00019</u>
Instrument:	<u>ECD8</u>	Column 1:	<u>STX-CLP</u>
		Column 2:	<u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	2.00	2.00	2.00	Y1, U

SURROGATES	Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>	<i>1</i>	<i>2.5000</i>	<i>3.13</i>	<i>125</i>	<i>26 - 120</i>	<i>*</i>

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072908.D  
Data file 2: /20220729.b/22072908.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-10RE1  
Client ID:  
Injection Date: 28-JUL-2022 13:08  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.087	-0.001 21843023	12.419 -0.009 63101788	70.0	29.2 82.1*		Pentachlorophenol
6.871	-0.025 66937879	7.012 0.011 58445252	392.9	49.4 155.3*		2,4,6-Trichlorophenol
7.429	-0.048 112828366	7.917 0.059 106790603	670.0	97.5 149.2*		2,3,6-Trichlorophenol
8.443	0.018 3217899	8.936 -0.029 527974415	46.3	1094.0 183.8*		2,4,5-Trichlorophenol
----		9.978 0.009 192287252	0.0	308.3 ---		2,3,4-Trichlorophenol
9.554	0.028 250002101	9.842 0.008 225968905	967.5	132.0 152.0*		2,3,5,6-Tetrachlorophenol
----		11.875 -0.030 122090907	0.0	108.8 ---		2,3,4,5-Tetrachlorophenol
6.230	-0.012 22299679	6.712 -0.006 113352966	3453.9	2359.6 37.6		2,4-Dichlorophenol
10.781	0.024 33900965	11.441 0.028 216728543	156.4	137.4 12.9		2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

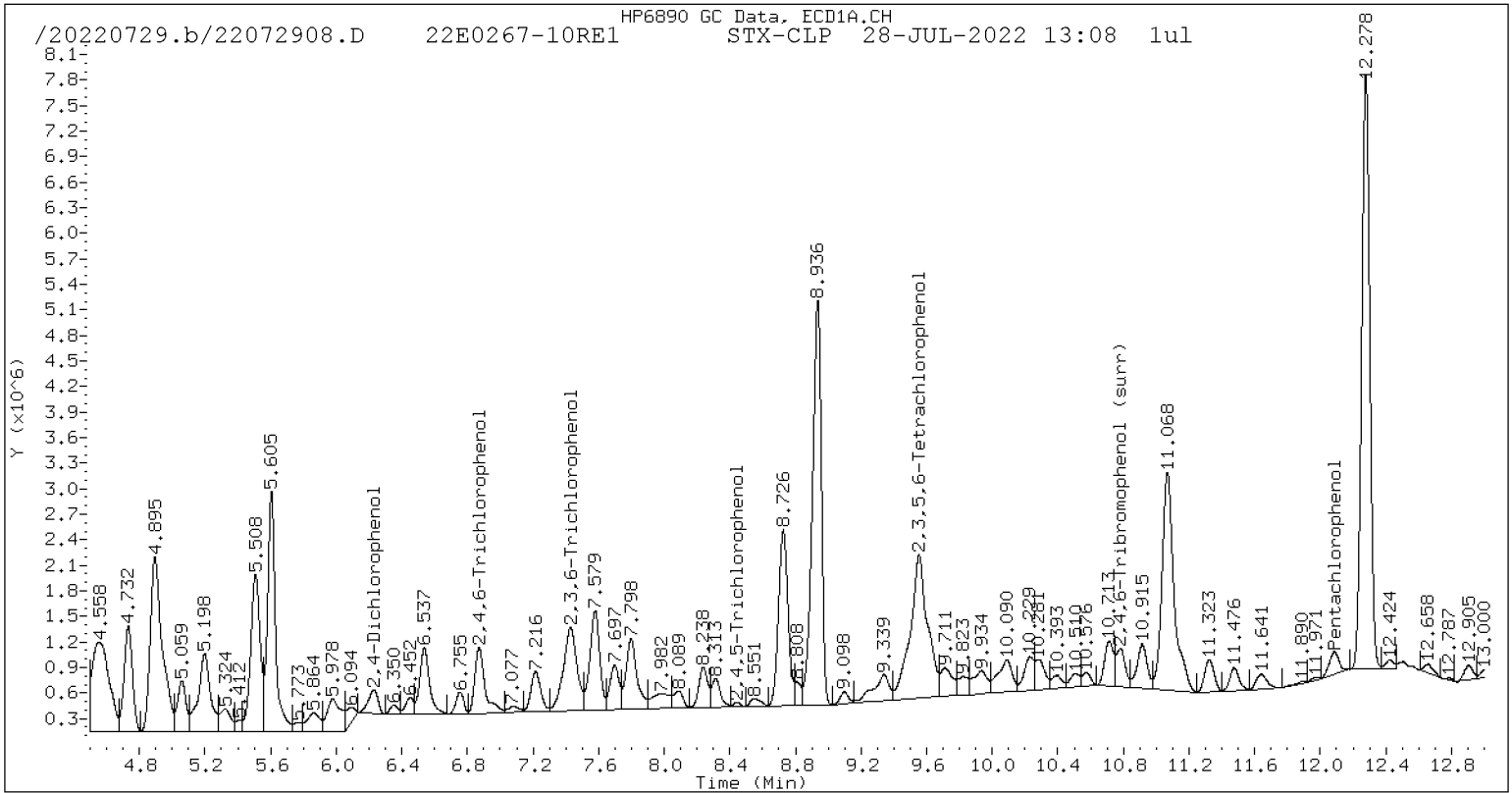
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

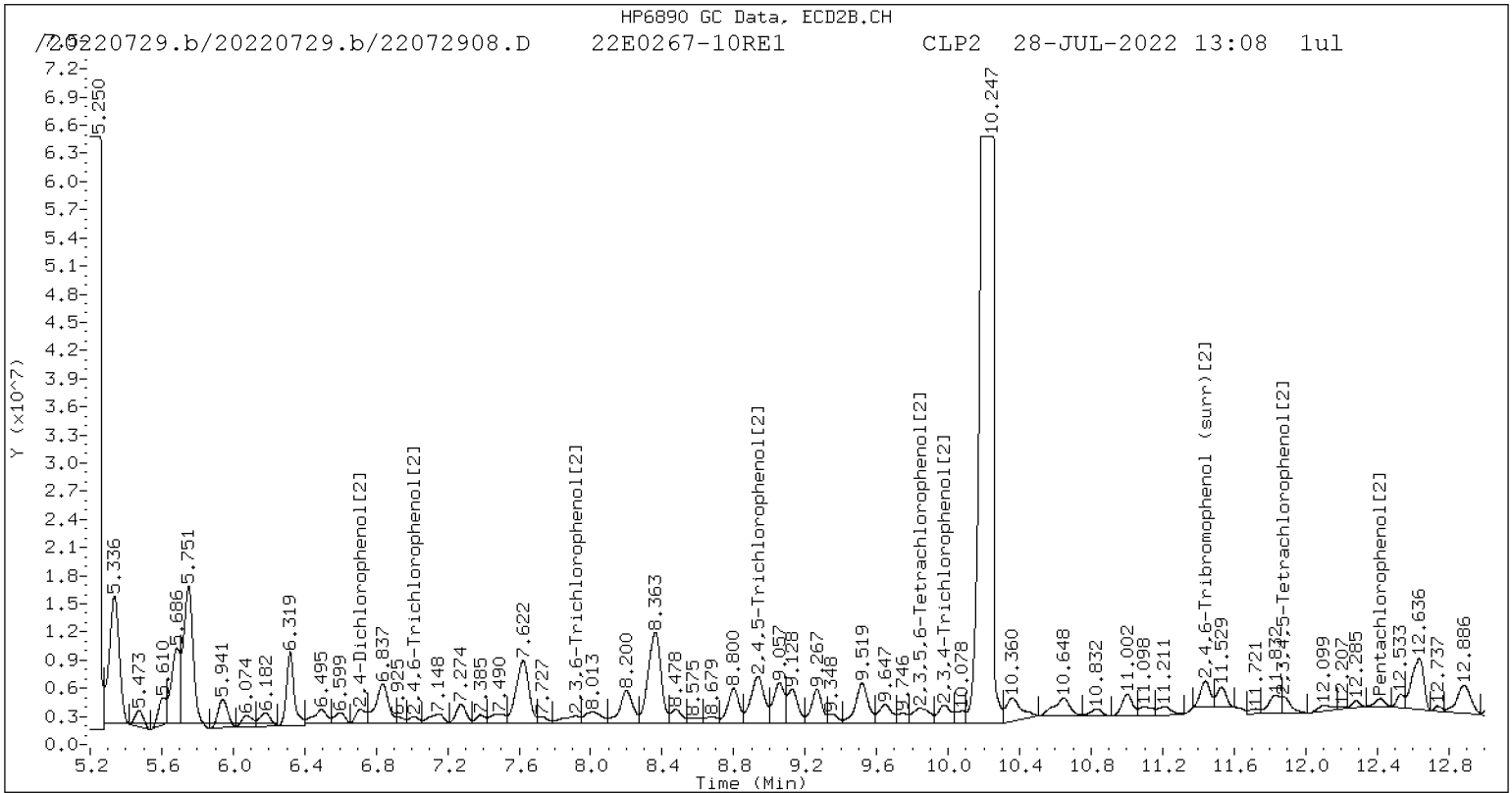
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	625.6	549.8	549.8~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: YES

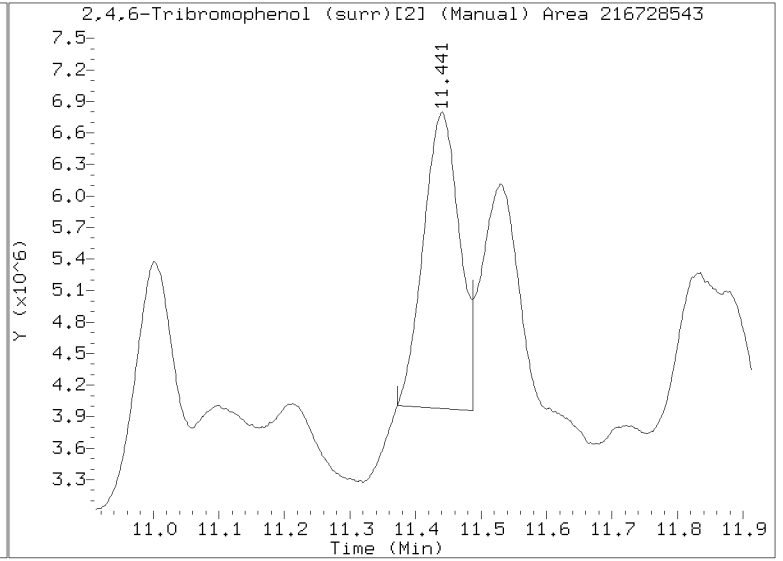
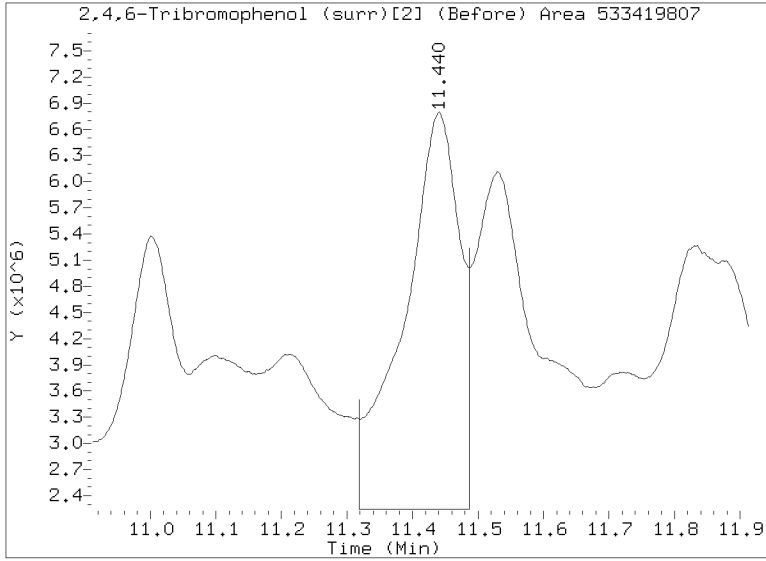


Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072908.D

Injection Date: 28-JUL-2022 13:08

Lab ID:22E0267-10RE1 Client ID:





**ORGANIC ANALYSIS DATA SHEET  
EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-11 A</u>
Sampled: <u>06/15/22 10:30</u>	File ID: <u>22062509.D</u>
% Solids:	Prepared: <u>06/21/22 13:54</u>
Batch: <u>BKF0449</u>	Analyzed: <u>06/25/22 13:58</u>
Instrument: <u>ECD8</u>	Preparation: <u>EPA 3510C SepF</u>
	Initial/Final: <u>500 mL / 50 mL</u>
	Sequence: <u>SKF0340</u>
	Calibration: <u>EK00019</u>
	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.61</i>	<i>104</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062509.D  
Data file 2: /20220625.b/22062509.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-11  
Client ID:  
Injection Date: 25-JUN-2022 13:58  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
6.817	-0.058	379839	7.423	-0.032	184333	0.0	0.0	---	Pentachlorophenol
7.423	-0.032	184333	7.789	-0.049	66757	1.1	0.1	178.9*	2,4,6-Trichlorophenol
			8.882	0.358	209047	0.0	0.4	---	2,3,6-Trichlorophenol
						0.0	0.0	---	2,4,5-Trichlorophenol
9.482	-0.019	75164184				290.9	0.0	---	2,3,4-Trichlorophenol
11.089	-0.104	1187702				7.4	0.0	---	2,3,5,6-Tetrachlorophenol
			6.652	-0.046	5258887	0.0	109.5	---	2,3,4,5-Tetrachlorophenol
10.727	-0.005	5650150	11.386	-0.003	43991820	26.1	27.9	6.8	2,4-Dichlorophenol
									2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

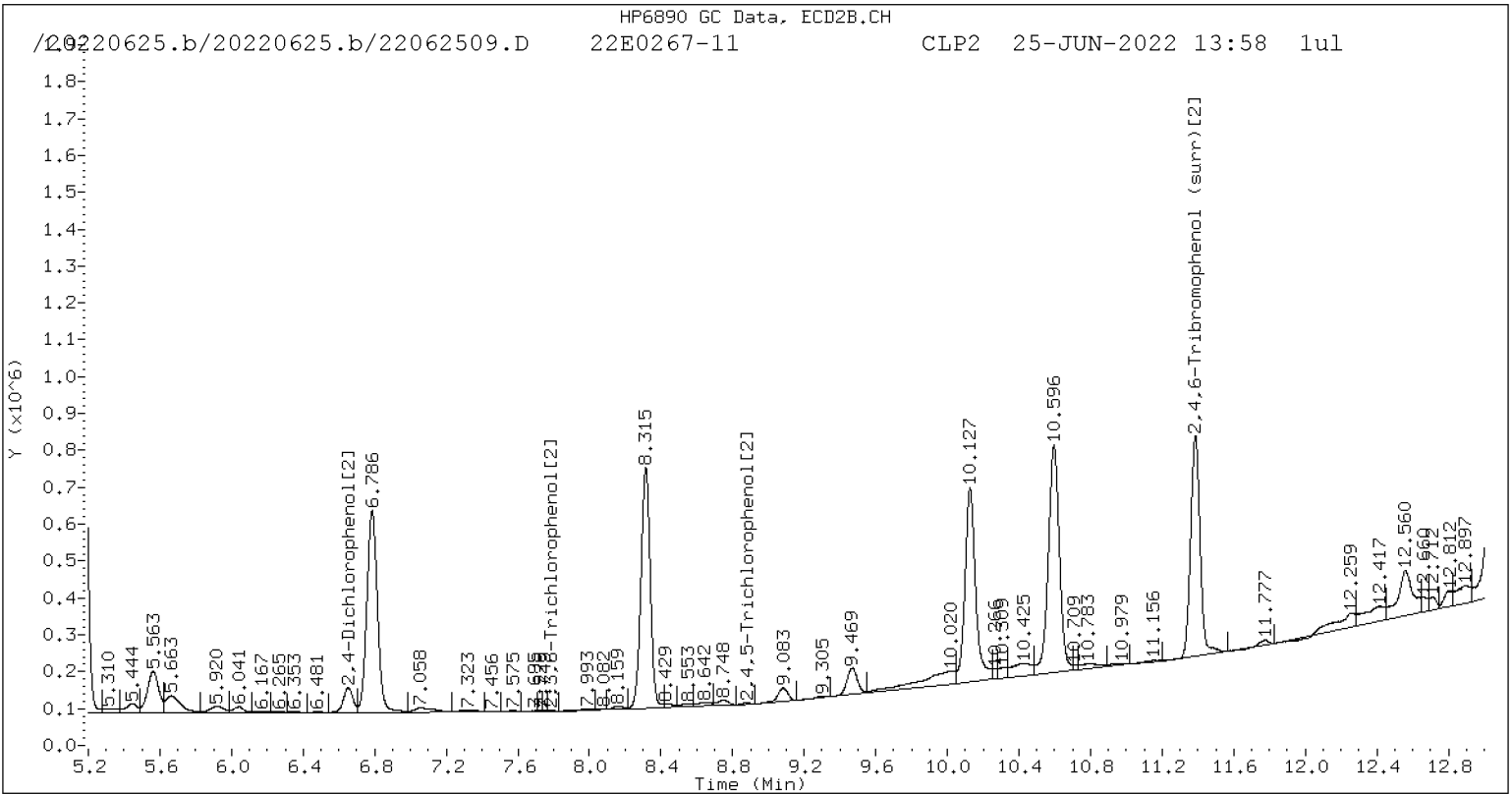
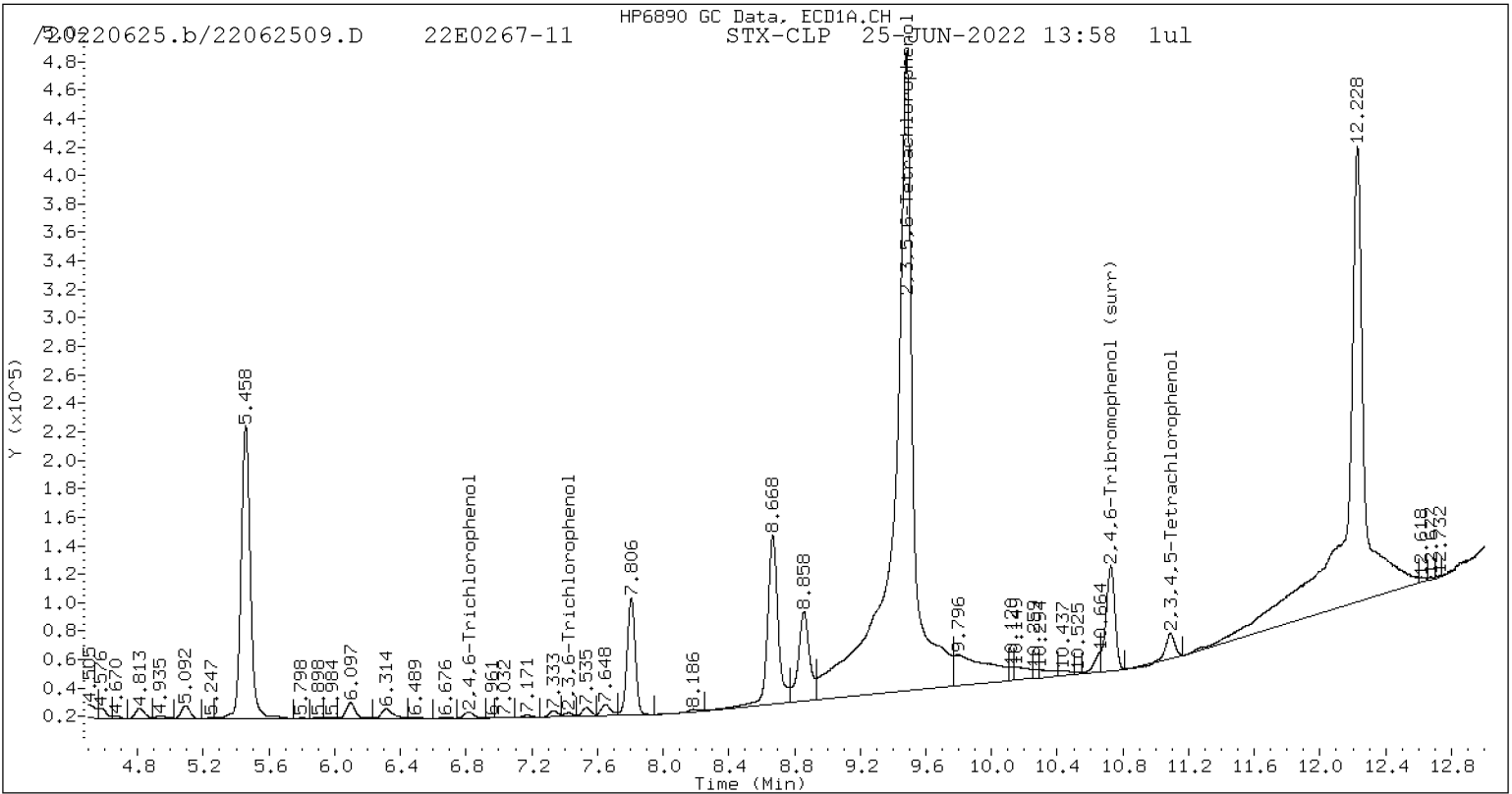
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	104.3	111.6	104.3~	0- 0

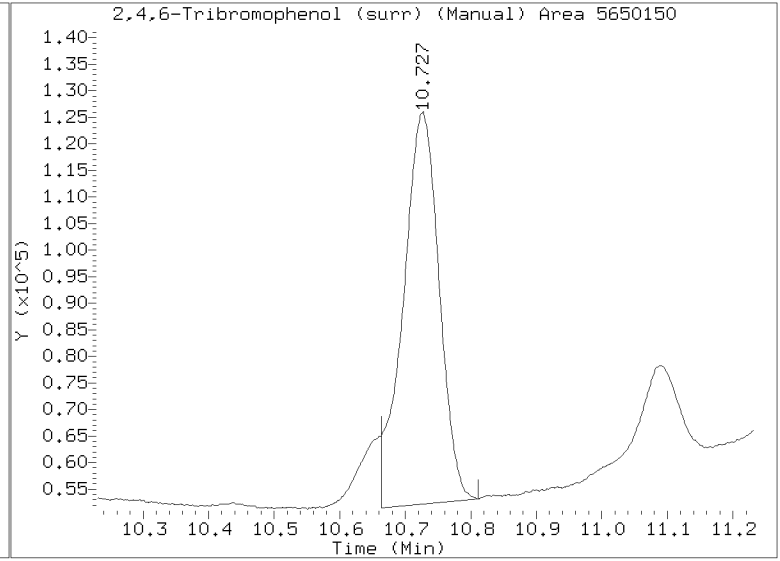
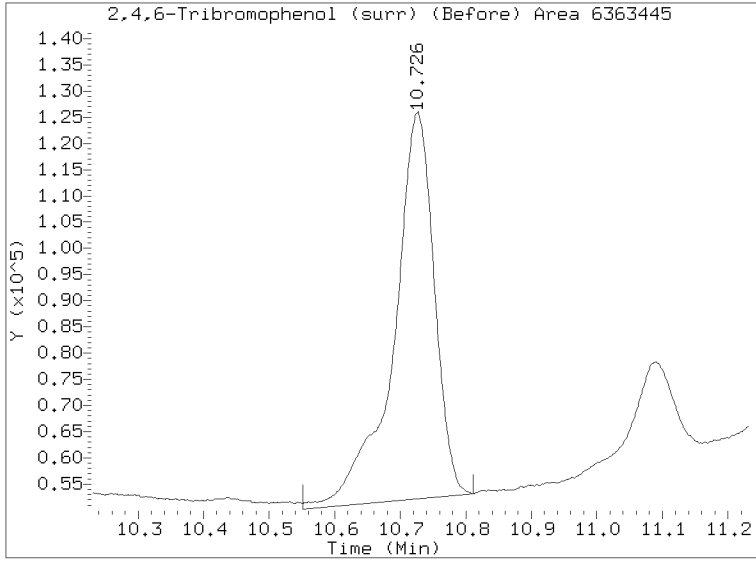
~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062509.D  
Injection Date: 25-JUN-2022 13:58  
Lab ID:22E0267-11 Client ID:  
Report Date: 06/29/2022 10:42





**Dual Column**

**Z1A-9-PW**

**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-11RE1 A</u>
Sampled: <u>06/15/22 10:30</u>	File ID: <u>22072909.D</u>
% Solids:	Prepared: <u>06/21/22 13:54</u>
Batch: <u>BKF0449</u>	Analyzed: <u>07/28/22 13:26</u>
Instrument: <u>ECD8</u>	Preparation: <u>EPA 3510C SepF</u>
	Initial/Final: <u>500 mL / 10 mL</u>
	Sequence: <u>SKG0311</u>
	Calibration: <u>EK00019</u>
	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.02	0.02	0.05	U
<b>SURROGATES</b>		<b>Col #</b>	<b>ADDED (ug/L)</b>	<b>CONC (ug/L)</b>	<b>% REC</b>	<b>QC LIMITS</b>	<b>Q</b>
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.95</i>	<i>118</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072909.D  
Data file 2: /20220729.b/22072909.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-11RE1  
Client ID:  
Injection Date: 28-JUL-2022 13:26  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	on col	CLP2 on col	RPD	Compound/Flag
6.861	-0.035	4131850	6.987	-0.014	1494973	24.3	1.3	180.2*	2,4,6-Trichlorophenol
7.464	-0.013	4897577	7.831	-0.027	2098044	29.1	1.9	175.3*	2,3,6-Trichlorophenol
8.382	-0.043	144991	8.916	-0.049	18521476	2.1	38.4	179.4*	2,4,5-Trichlorophenol
9.549	0.023	340170592	9.837	0.003	9200647	1316.4	5.4	198.4*	2,3,5,6-Tetrachlorophenol
10.774	0.017	32007098	11.434	0.021	241697850	147.7	153.3	3.7	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

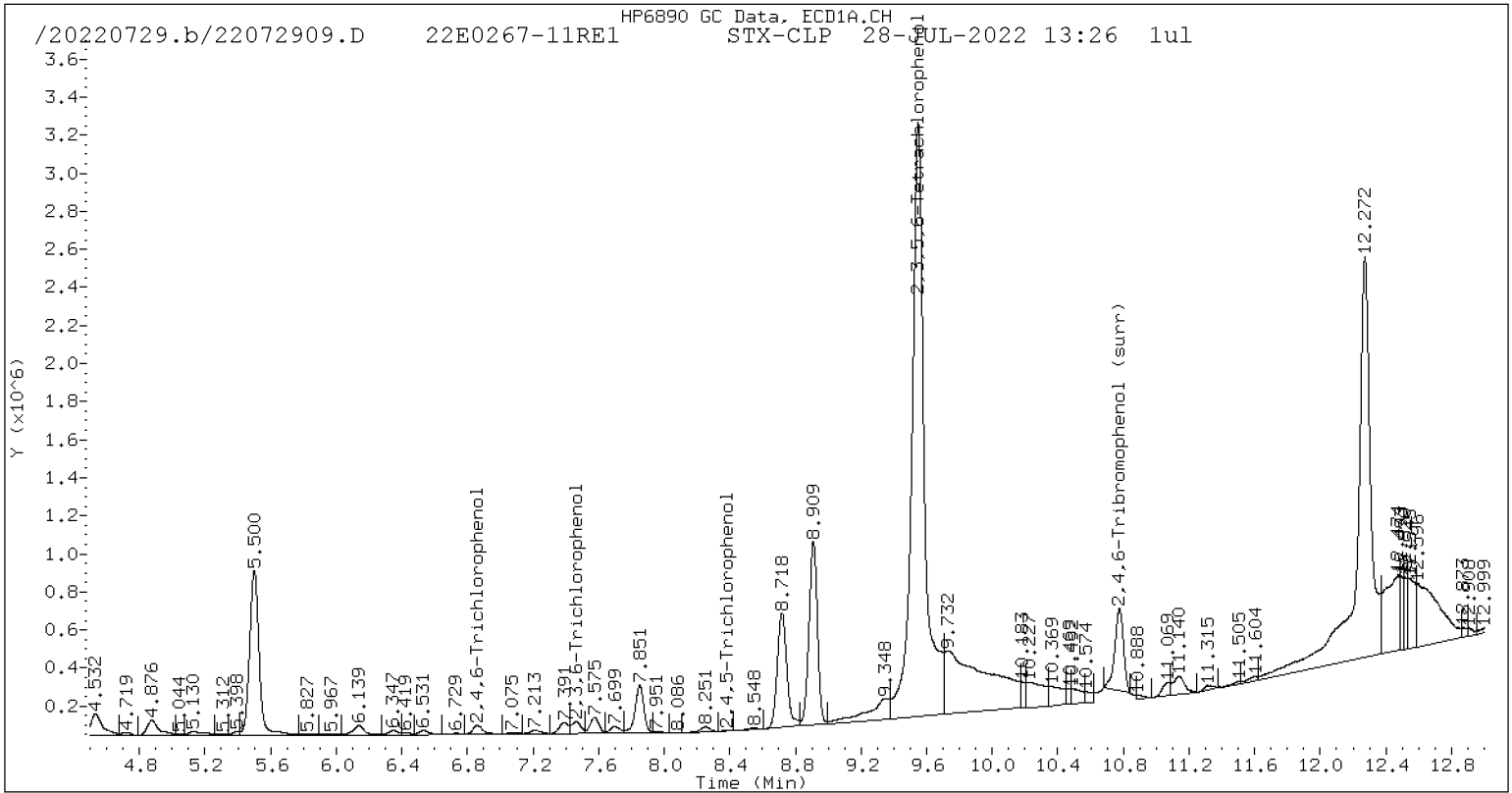
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

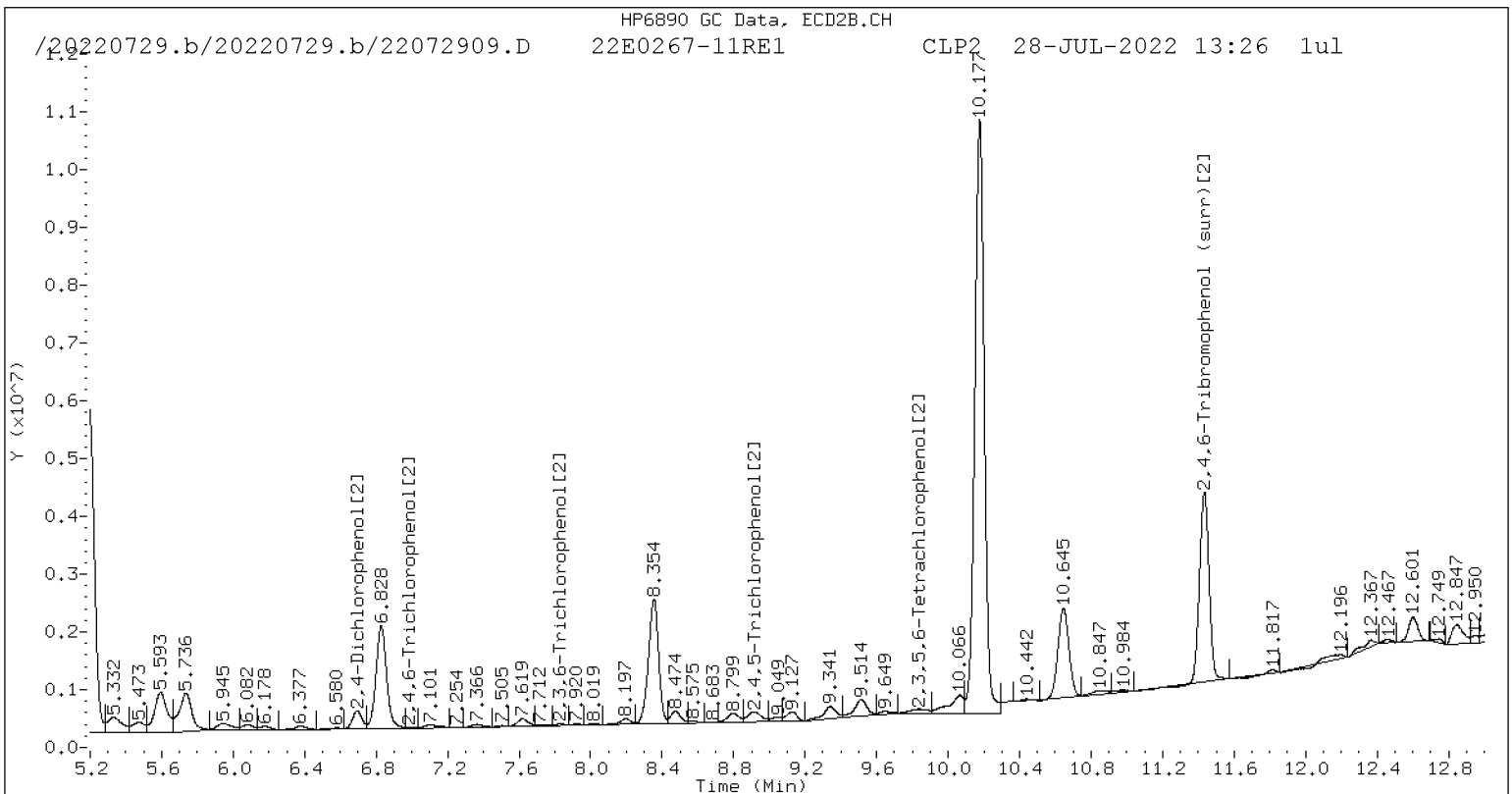
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	590.7	613.1	590.7~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: YES

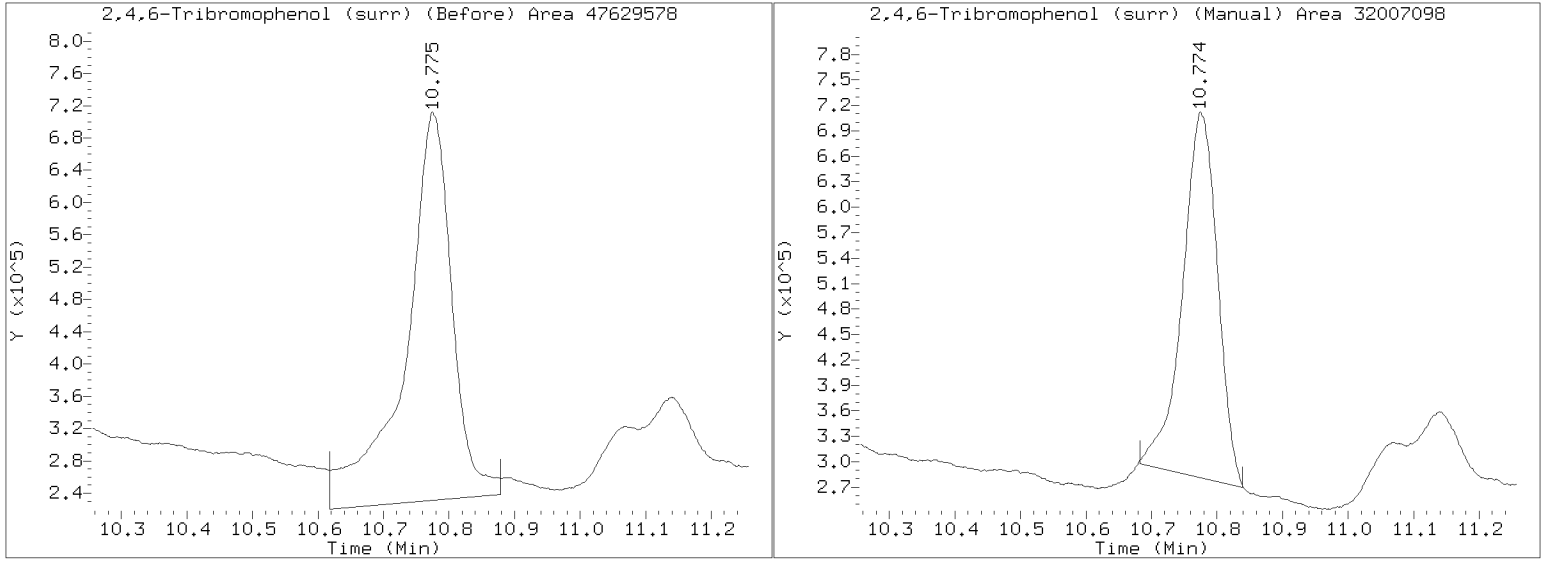


CLP-2 Manual Integration: NO



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072909.D  
Injection Date: 28-JUL-2022 13:26  
Lab ID:22E0267-11RE1 Client ID:  
Report Date: 07/29/2022 13:54





**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-12 A</u>
Sampled: <u>06/15/22 10:00</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKF0340</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22062510.D</u>
	Analyzed: <u>06/25/22 14:16</u>
	Initial/Final: <u>500 mL / 50 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.77</i>	<i>111</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062510.D  
Data file 2: /20220625.b/20220625.b/22062510.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-12  
Client ID:  
Injection Date: 25-JUN-2022 14:16  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
6.818	-0.056	39269	6.977	-0.003	161003	0.2	0.1	51.5*	2,4,6-Trichlorophenol
7.419	-0.036	89683	7.861	0.023	7327	0.5	0.0	195.0*	2,3,6-Trichlorophenol
8.328	-0.074	205429	8.945	0.421	231225	3.0	0.5	144.2*	2,4,5-Trichlorophenol
9.493	-0.007	972473	9.828	0.018	803901	3.8	0.5	155.6*	2,3,5,6-Tetrachlorophenol
11.094	-0.099	157412	6.653	-0.045	545972	0.0	11.4	---	2,4-Dichlorophenol
10.731	-0.001	5993211	11.390	0.002	50322516	27.7	31.9	14.3	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

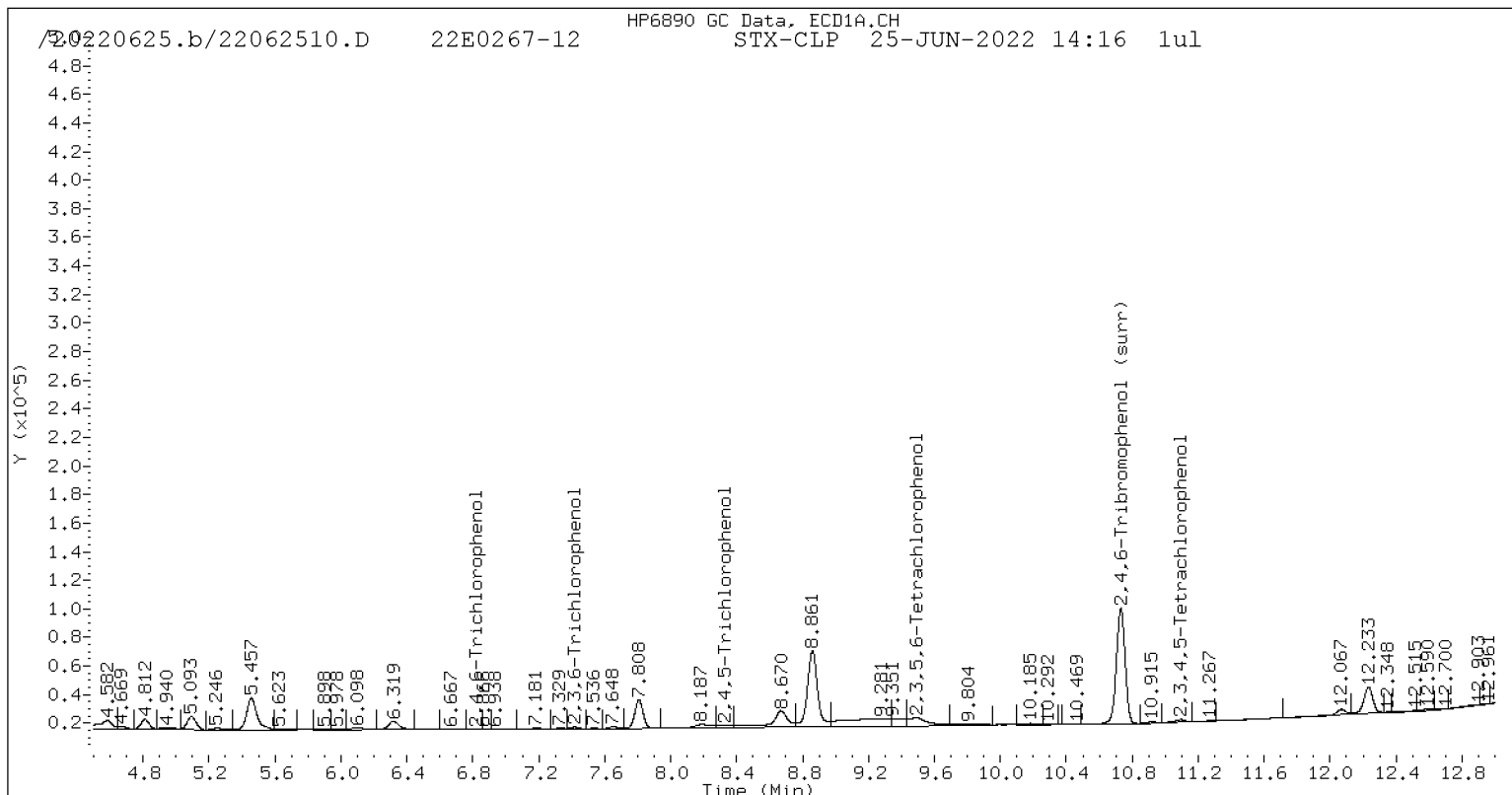
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

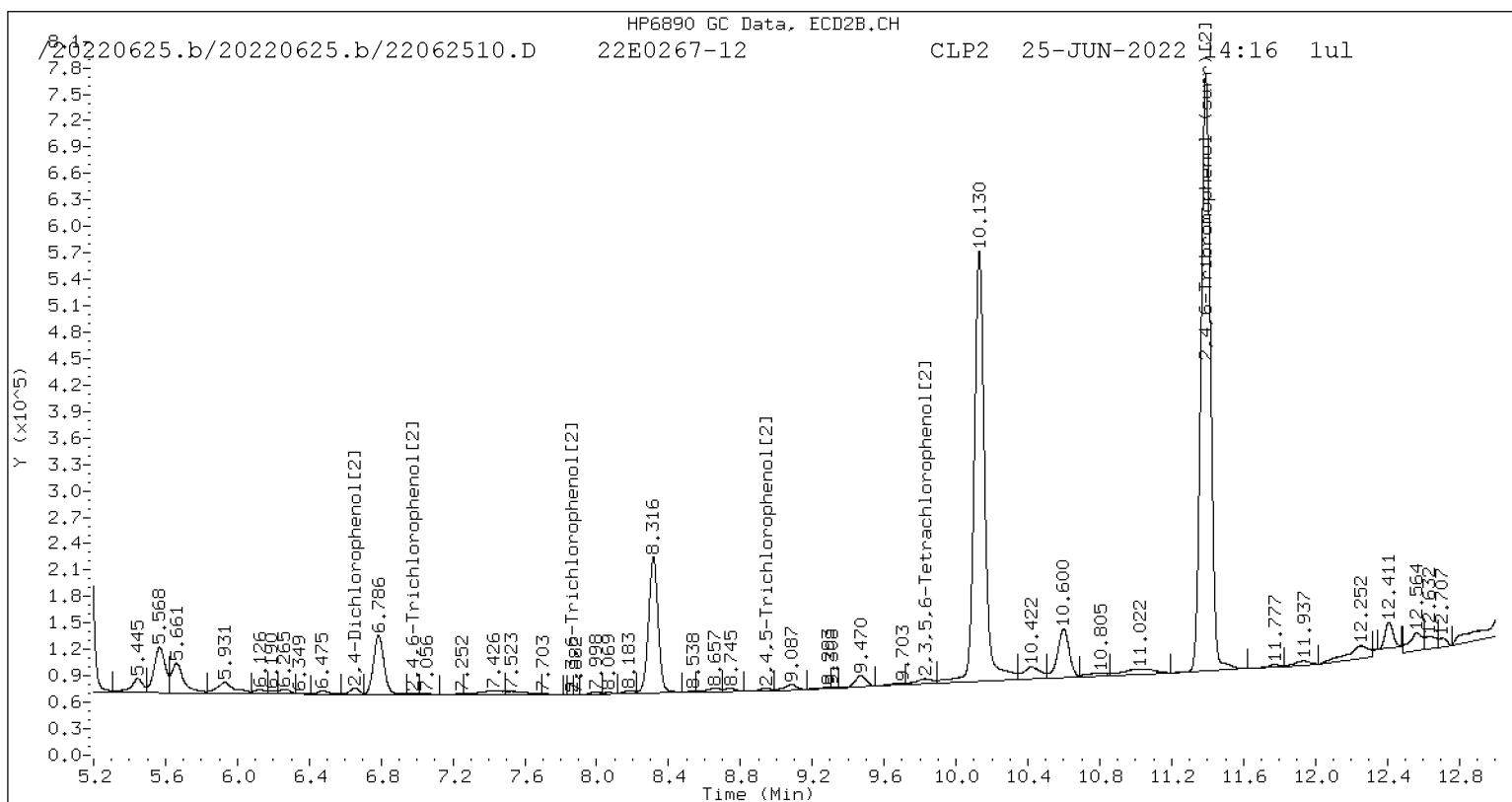
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	110.6	127.6	110.6~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-12RE1 A</u>
Sampled: <u>06/15/22 10:00</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKG0311</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22072910.D</u>
	Analyzed: <u>07/28/22 13:44</u>
	Initial/Final: <u>500 mL / 10 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.14	0.02	0.05	
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.68</i>	<i>107</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072910.D  
Data file 2: /20220729.b/22072910.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-12RE1  
Client ID:  
Injection Date: 28-JUL-2022 13:44  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
12.109	0.022	2221012	12.450	0.022	12165617	7.1	5.6	23.2	Pentachlorophenol M
6.862	-0.034	351104	7.020	0.019	884132	2.1	0.7	93.6*	2,4,6-Trichlorophenol
7.463	-0.014	5156340	----			30.6	0.0	---	2,3,6-Trichlorophenol
8.372	-0.052	814522	8.987	0.022	1783514	11.7	3.7	104.1*	2,4,5-Trichlorophenol
9.216	0.006	4286005	----			49.2	0.0	---	2,3,4-Trichlorophenol
9.524	-0.001	18943049	9.877	0.043	2529428	73.3	1.5	192.1*	2,3,5,6-Tetrachlorophenol
----			----			0.0	0.0	---	2,3,4,5-Tetrachlorophenol
6.214	-0.029	165733	6.697	-0.021	2348319	25.7	48.9	62.3*	2,4-Dichlorophenol
10.779	0.022	29088776	11.437	0.024	216326649	134.2	137.2	2.2	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

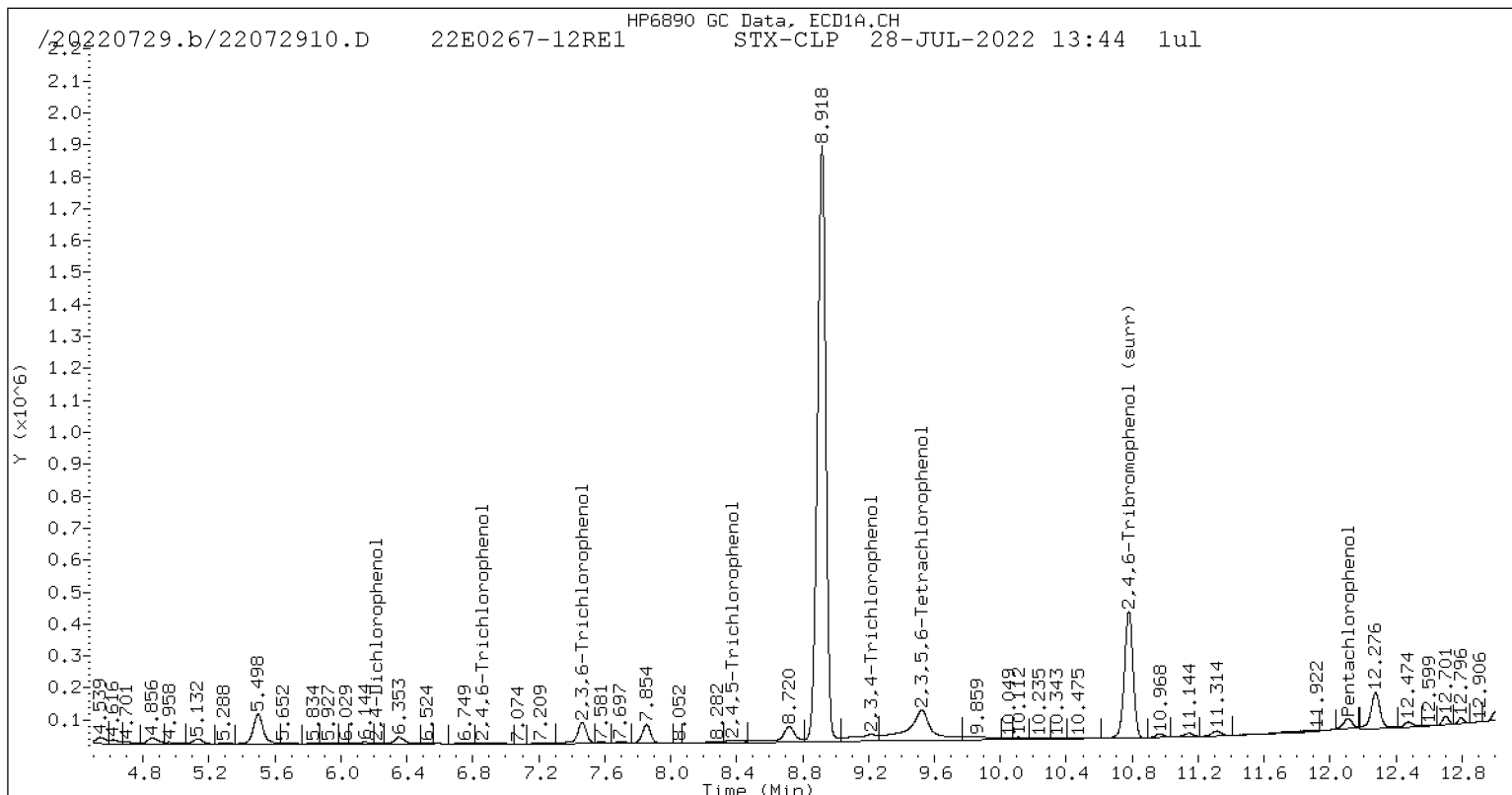
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

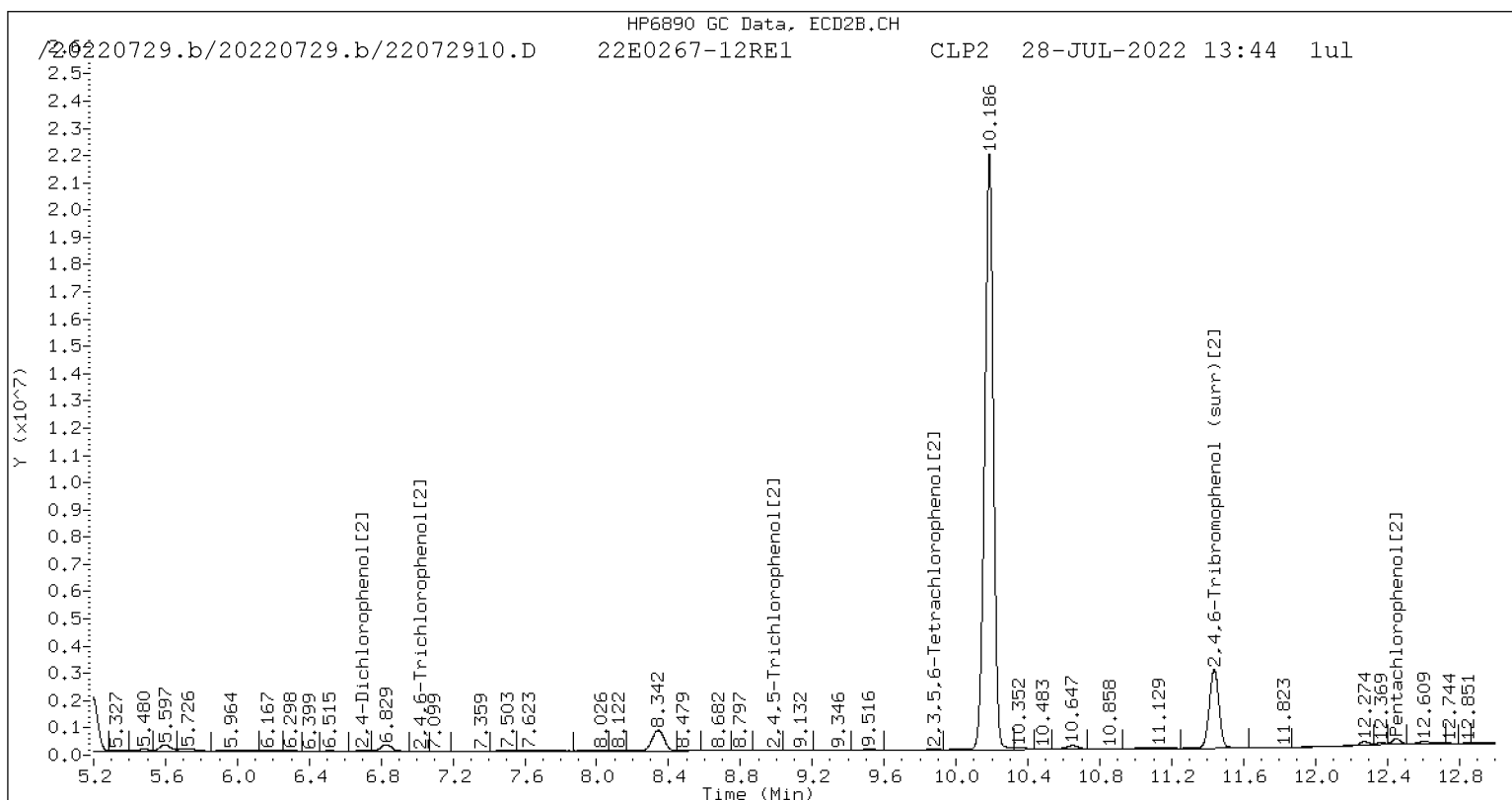
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	536.8	548.7	536.8~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



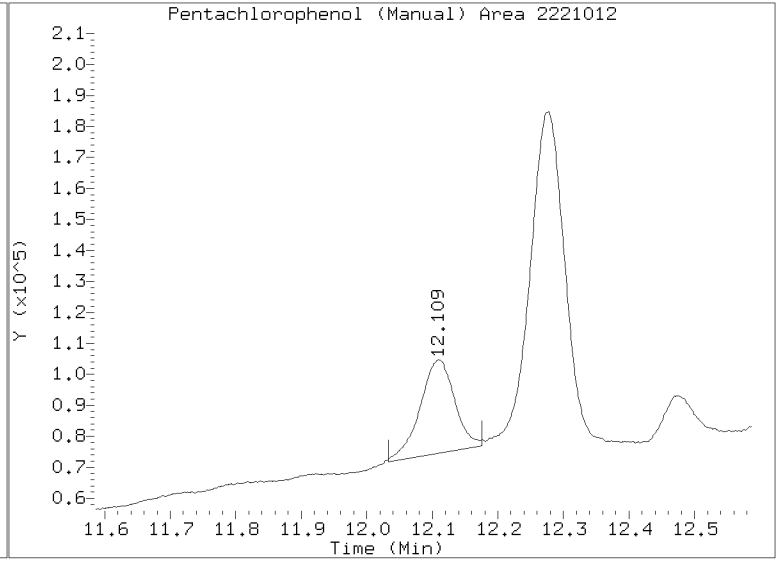
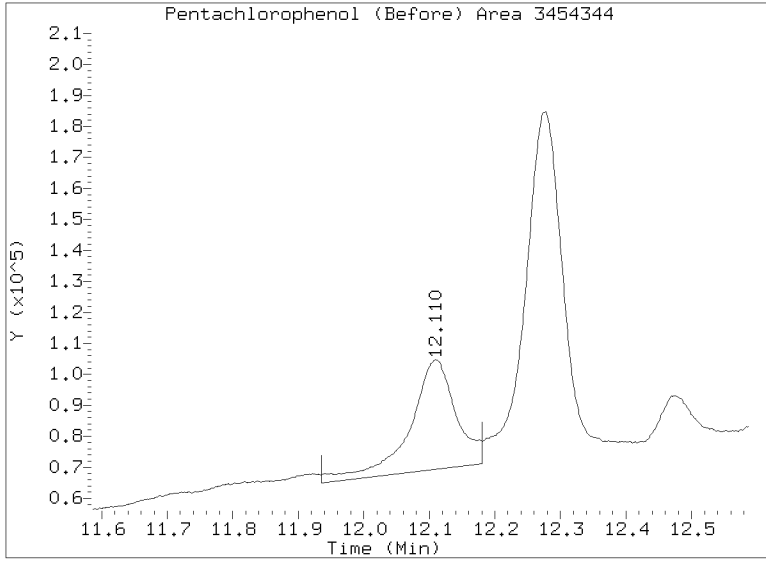
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: NO

Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072910.D  
Injection Date: 28-JUL-2022 13:44  
Lab ID:22E0267-12RE1 Client ID:  
Report Date: 07/29/2022 13:54







**Dual Column**

**DUP-1-PW**

**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>		SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>		
Project: <u>RG Haley Site-Bellingham</u>		
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-15 A</u>	File ID: <u>22062511.D</u>
Sampled: <u>06/15/22 12:30</u>	Prepared: <u>06/21/22 13:54</u>	Analyzed: <u>06/25/22 14:34</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>	Initial/Final: <u>500 mL / 50 mL</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKF0340</u>	Calibration: <u>EK00019</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.16</i>	<i>86.5</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062511.D  
Data file 2: /20220625.b/22062511.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-15  
Client ID:  
Injection Date: 25-JUN-2022 14:34  
Report Date: 06/29/2022 10:44  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	CLP2 Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
----		12.407 -0.001 4380196			0.0	2.0	---	Pentachlorophenol
6.820	-0.054 684034	----			4.0	0.0	---	2,4,6-Trichlorophenol
7.429	-0.027 331356	7.784 -0.054 151933			2.0	0.1	173.6*	2,3,6-Trichlorophenol
8.348	-0.055 69741	8.886 0.362 267805			1.0	0.6	57.5*	2,4,5-Trichlorophenol
----		----			0.0	0.0	---	2,3,4-Trichlorophenol
9.494	-0.007 194304399	----			751.9	0.0	---	2,3,5,6-Tetrachlorophenol
11.092	-0.102 2729753	----			16.9	0.0	---	2,3,4,5-Tetrachlorophenol
----		6.654 -0.044 4009337			0.0	83.5	---	2,4-Dichlorophenol
10.724	-0.007 4684957	11.384 -0.004 49656691			21.6	31.5	37.2	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

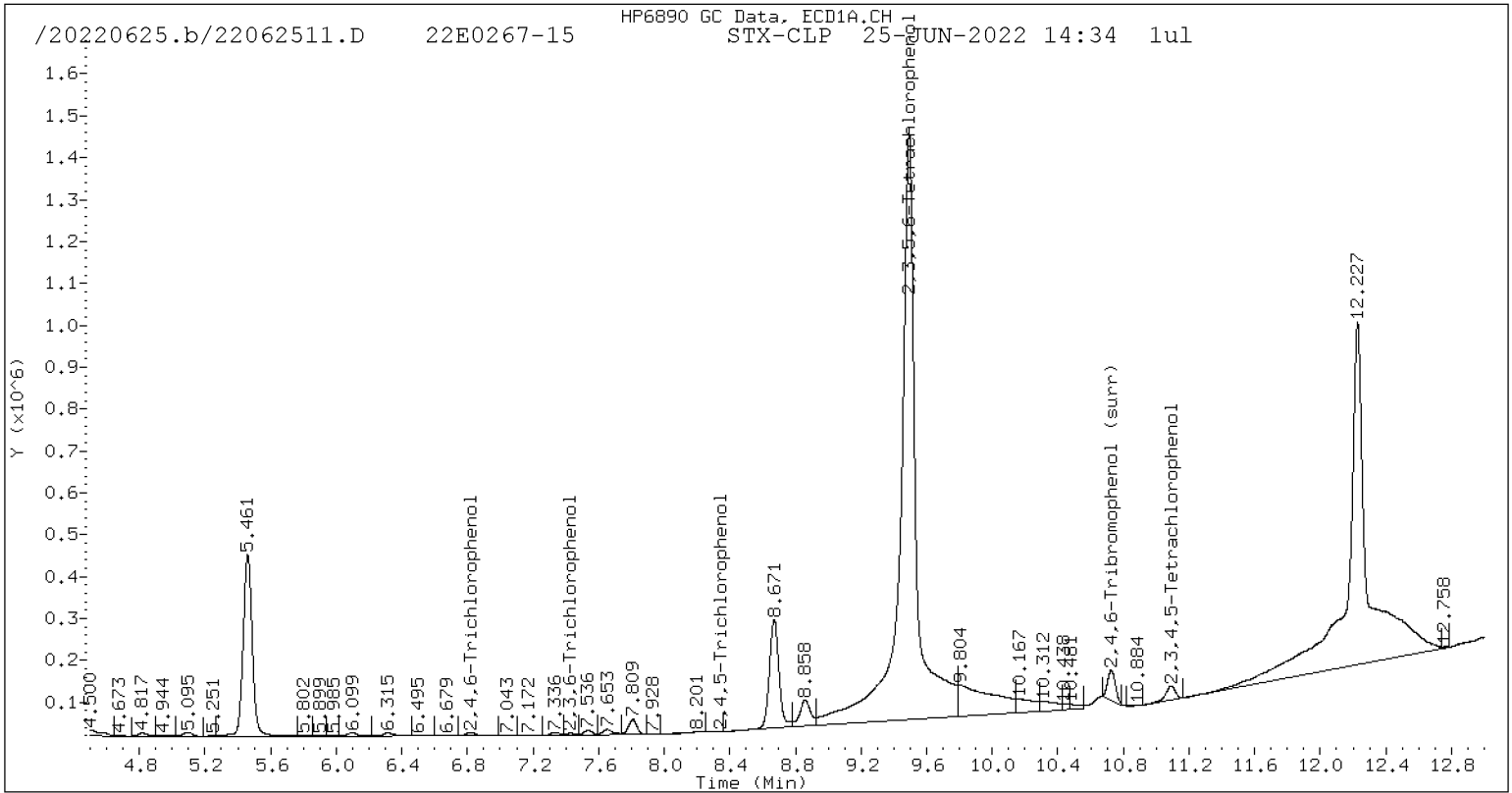
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

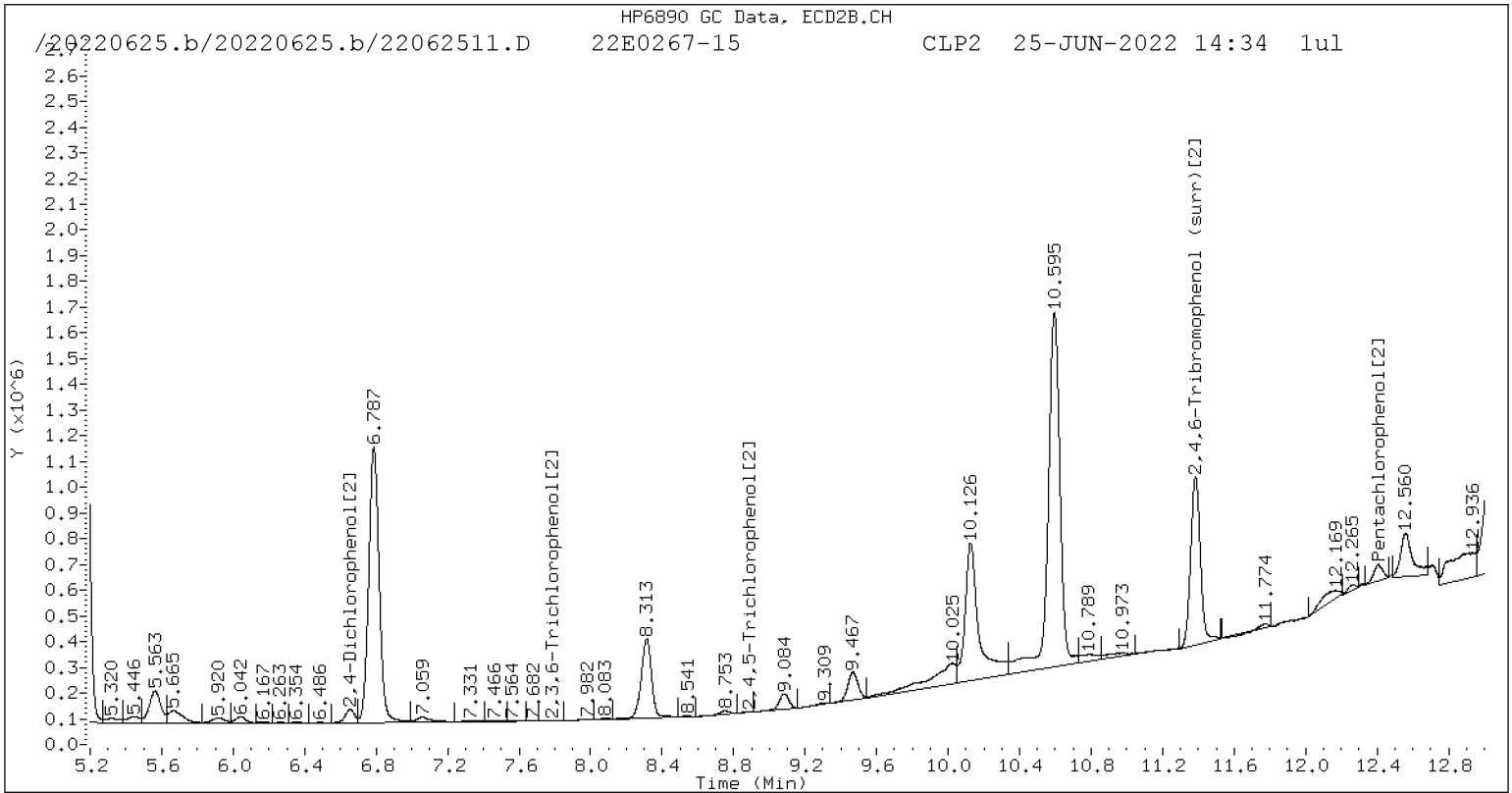
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	86.5	126.0	86.5~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



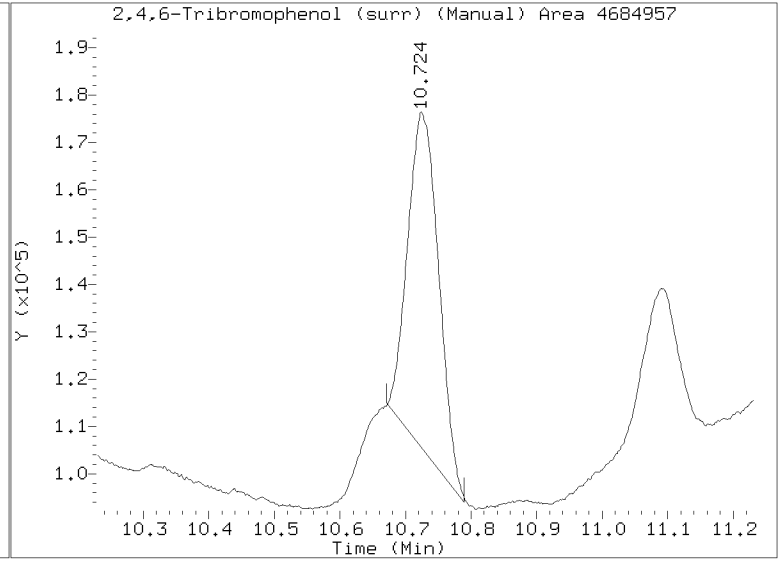
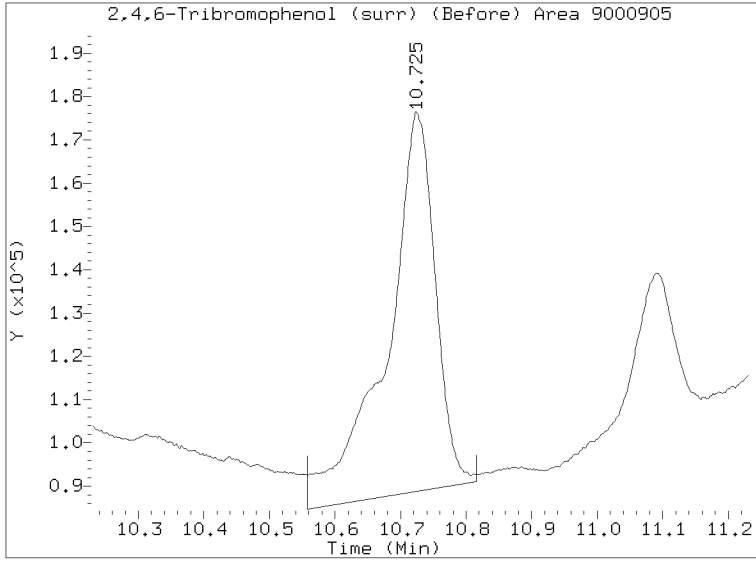
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: YES

Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062511.D  
Injection Date: 25-JUN-2022 14:34  
Lab ID:22E0267-15 Client ID:  
Report Date: 06/29/2022 10:44

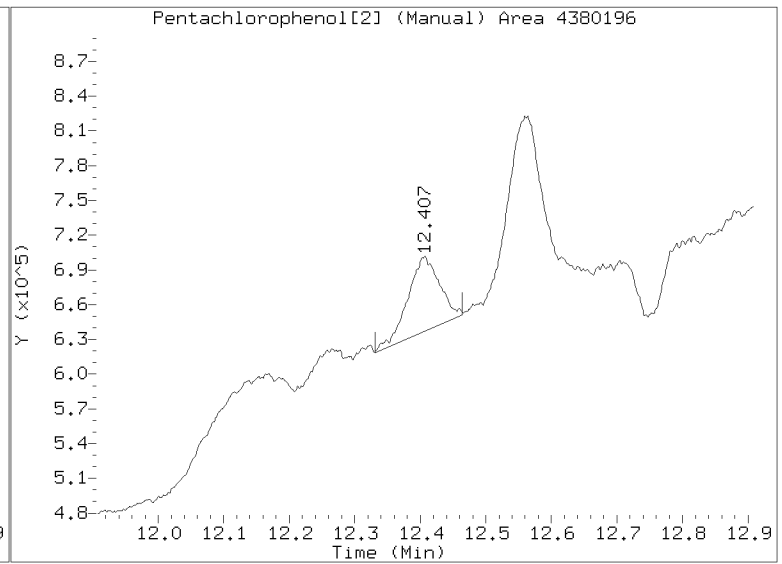
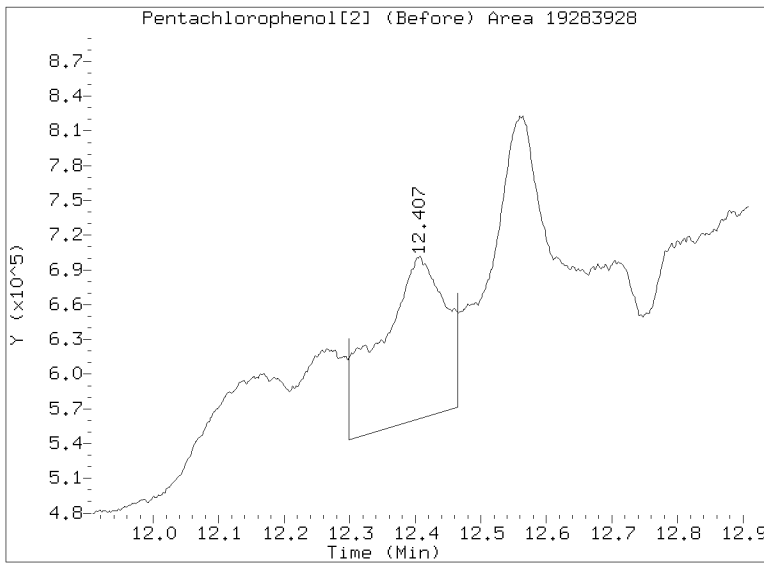
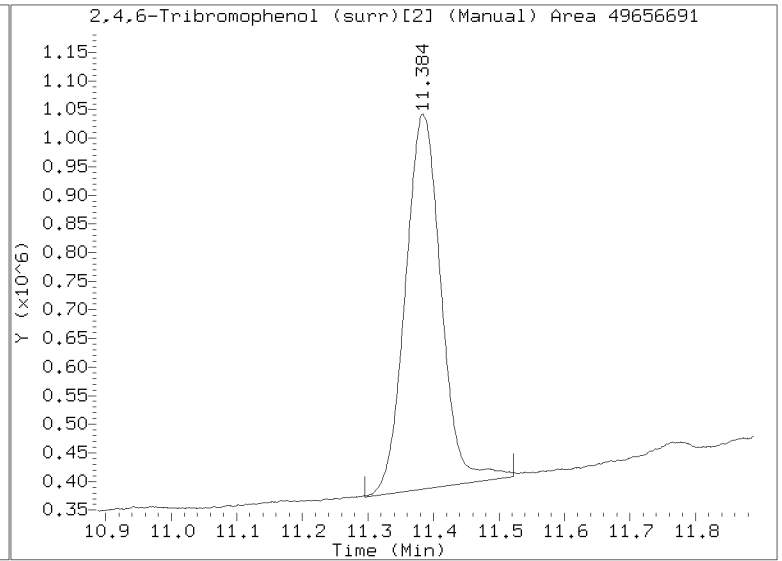
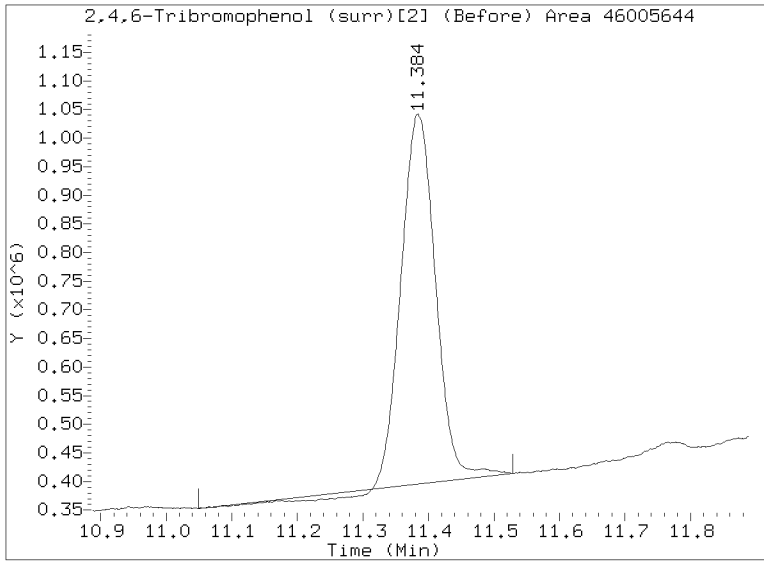


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220625.b/20220625.b/22062511.D

Injection Date: 25-JUN-2022 14:34

Lab ID:22E0267-15 Client ID:





DUP-1-PW

**Dual Column**

**ORGANIC ANALYSIS DATA SHEET  
EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-15RE1 A</u>
Sampled: <u>06/15/22 12:30</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKG0311</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22072911.D</u>
	Analyzed: <u>07/28/22 14:02</u>
	Initial/Final: <u>500 mL / 10 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	1.40	1.40	1.40	Y1, U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>3.47</i>	<i>139</i>	<i>26 - 120</i>	<i>*</i>

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072911.D  
Data file 2: /20220729.b/22072911.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-15RE1  
Client ID:  
Injection Date: 28-JUL-2022 14:02  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.091	0.004	16756247	12.425	-0.003	57457661	53.7	26.6	67.4*	Pentachlorophenol N
6.865	-0.031	84582727	7.005	0.003	59345967	496.4	50.2	163.3*	2,4,6-Trichlorophenol
7.421	-0.057	106918768	7.843	-0.015	97848940	634.9	89.4	150.6*	2,3,6-Trichlorophenol
8.441	0.017	4227026	8.933	-0.031	200072509	60.8	414.5	148.9*	2,4,5-Trichlorophenol
9.254	0.044	14443799	9.976	0.007	84940750	165.7	136.2	19.6	2,3,4-Trichlorophenol
9.551	0.025	279810833	9.874	0.040	47930830	1082.8	28.0	189.9*	2,3,5,6-Tetrachlorophenol
----			11.887	-0.018	121085019	0.0	107.9	---	2,3,4,5-Tetrachlorophenol
6.220	-0.022	28324077	6.701	-0.017	161925513	4387.0	3370.7	26.2	2,4-Dichlorophenol
10.781	0.024	37653682	11.441	0.028	149922726	173.7	95.1	58.5*	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

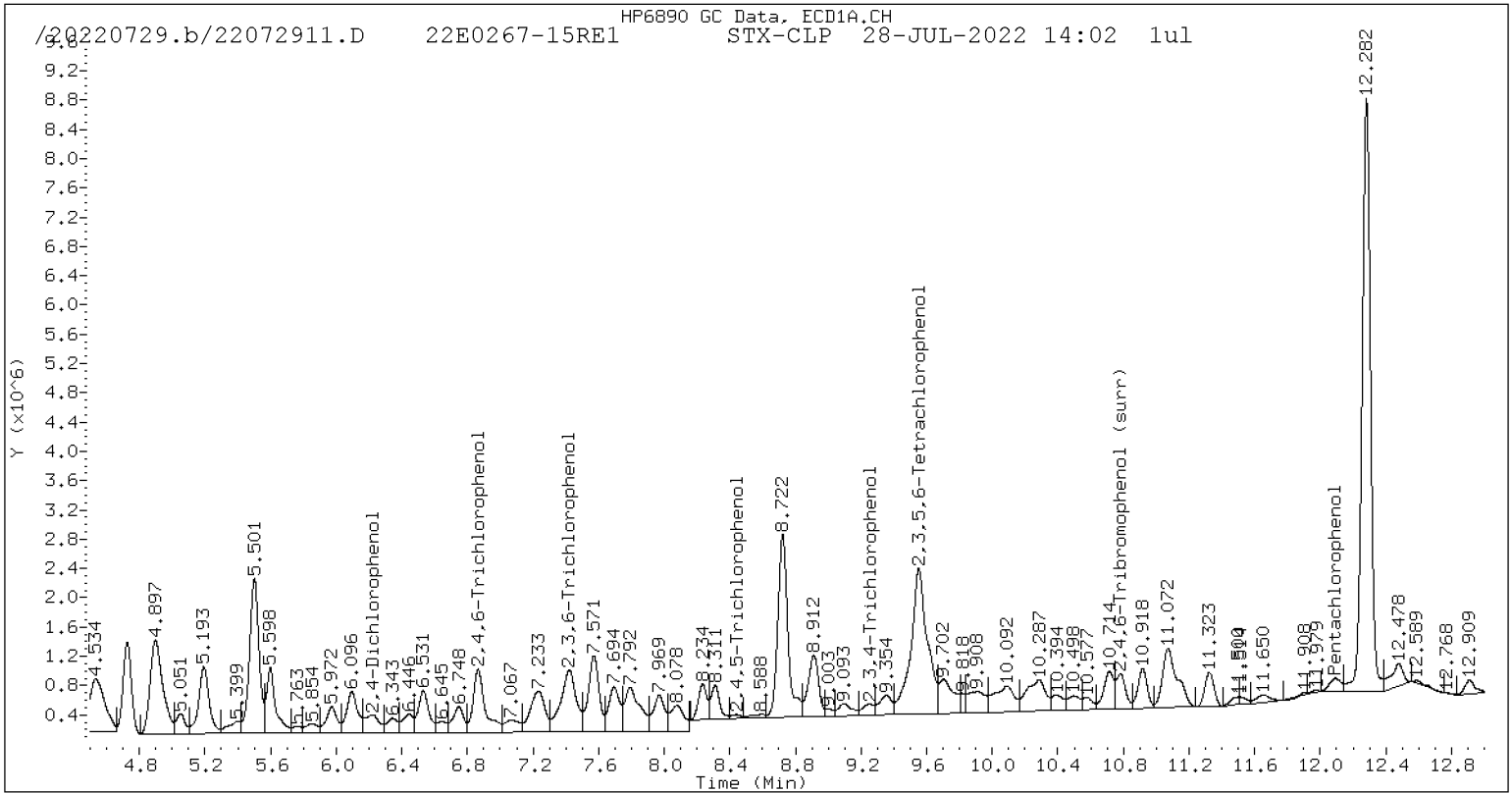
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

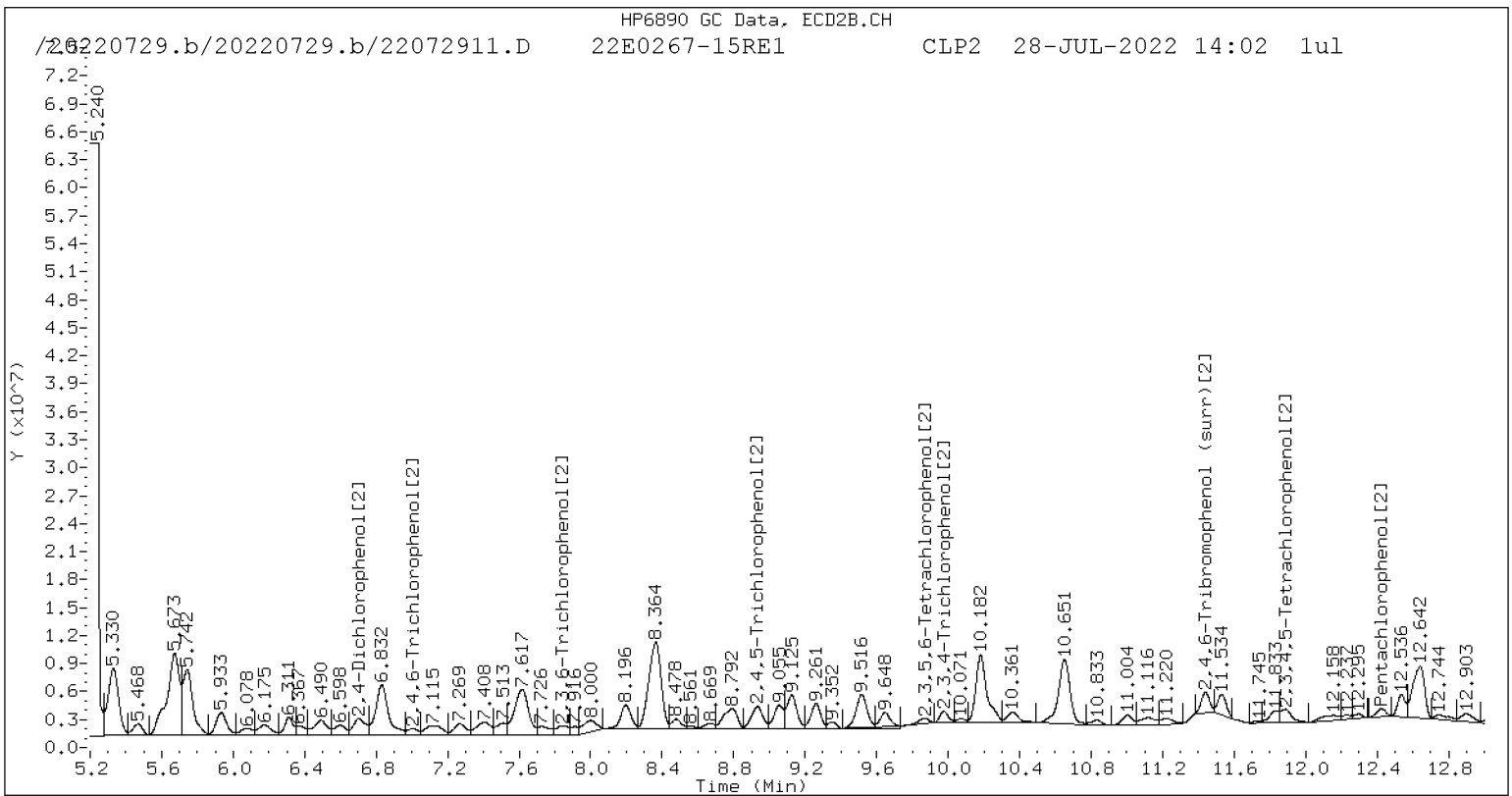
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	694.9	380.3	380.3~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: YES

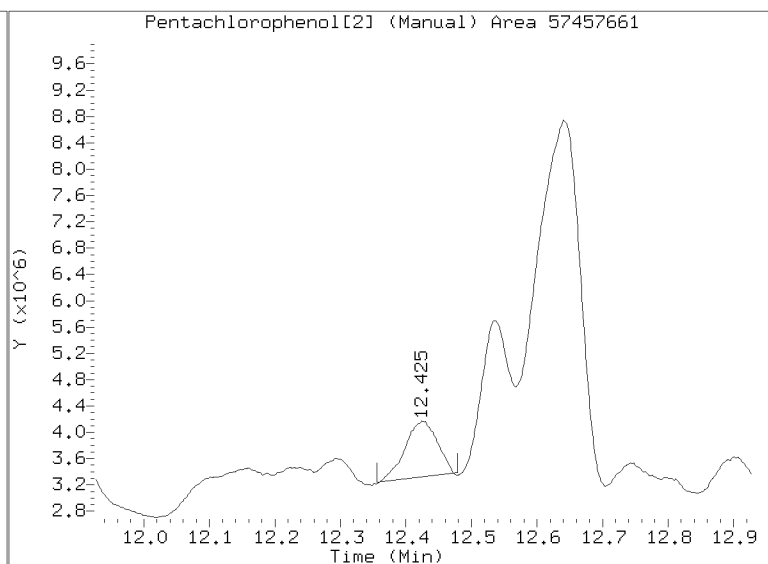
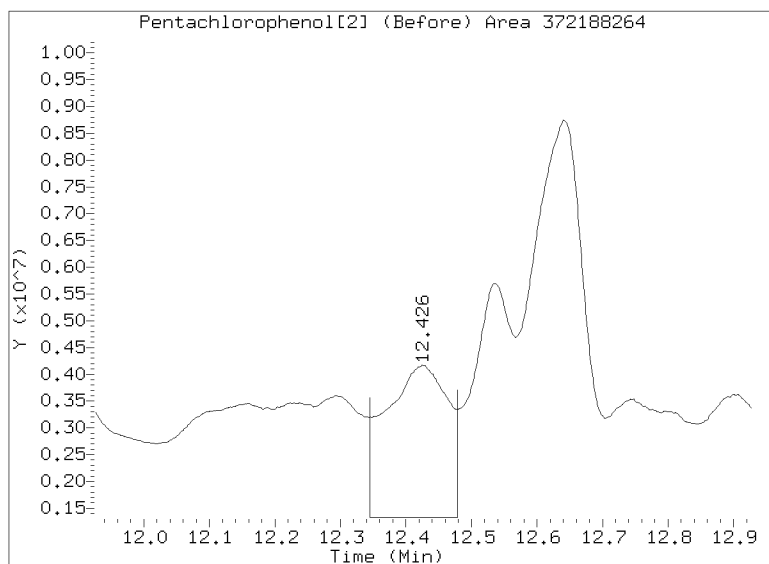
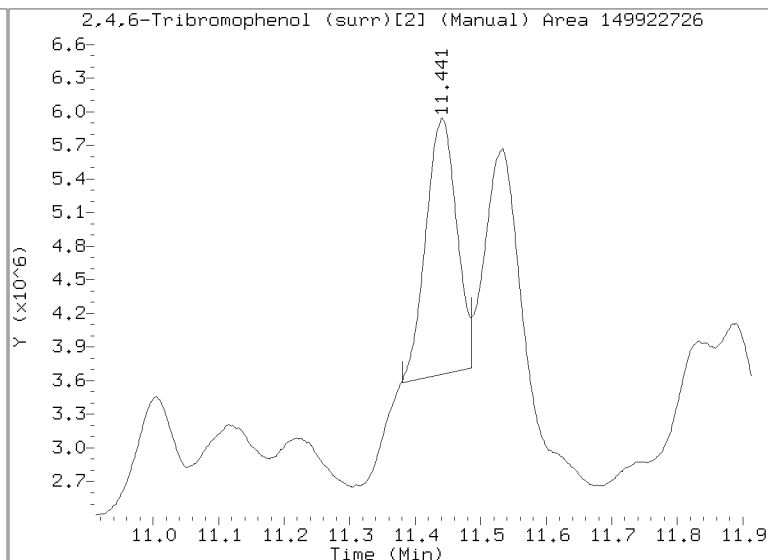
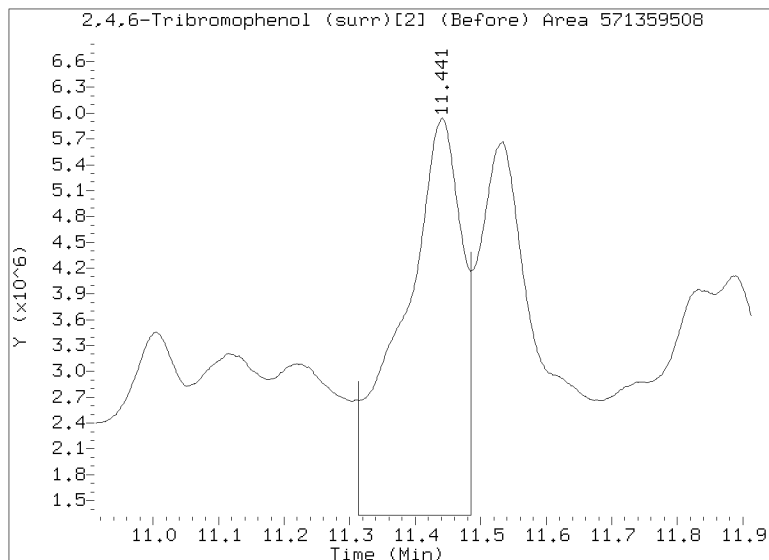


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072911.D

Injection Date: 28-JUL-2022 14:02

Lab ID:22E0267-15RE1 Client ID:





**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>	
Client: <u>GeoEngineers</u>		
Project: <u>RG Haley Site-Bellingham</u>		
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-24 A</u>	File ID: <u>22062512.D</u>
Sampled: <u>06/14/22 11:10</u>	Prepared: <u>06/21/22 13:54</u>	Analyzed: <u>06/25/22 14:52</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>	Initial/Final: <u>500 mL / 50 mL</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKF0340</u>	Calibration: <u>EK00019</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.44</i>	<i>97.5</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062512.D  
Data file 2: /20220625.b/20220625.b/22062512.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-24  
Client ID:  
Injection Date: 25-JUN-2022 14:52  
Report Date: 06/29/2022 10:44  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
----		12.407 -0.002	3637122	0.0	1.7	---		Pentachlorophenol
----		6.949 -0.031	73672	0.0	0.1	---		2,4,6-Trichlorophenol
7.416	-0.040 94834	7.841 0.003	52983	0.6	0.0	168.3*		2,3,6-Trichlorophenol
8.310	-0.092 68078	----		1.0	0.0	---		2,4,5-Trichlorophenol
9.161	-0.025 33691	9.882 -0.063	52316	0.4	0.1	128.7*		2,3,4-Trichlorophenol
9.507	0.006 31361	9.765 -0.045	195212	0.1	0.1	6.3		2,3,5,6-Tetrachlorophenol
11.095	-0.099 10640	11.772 -0.109	54551	0.1	0.0	30.3		2,3,4,5-Tetrachlorophenol
----		6.652 -0.046	236340	0.0	4.9	---		2,4-Dichlorophenol
10.726	-0.005 5282979	11.387 -0.002	46599586	24.4	29.6	19.2		2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

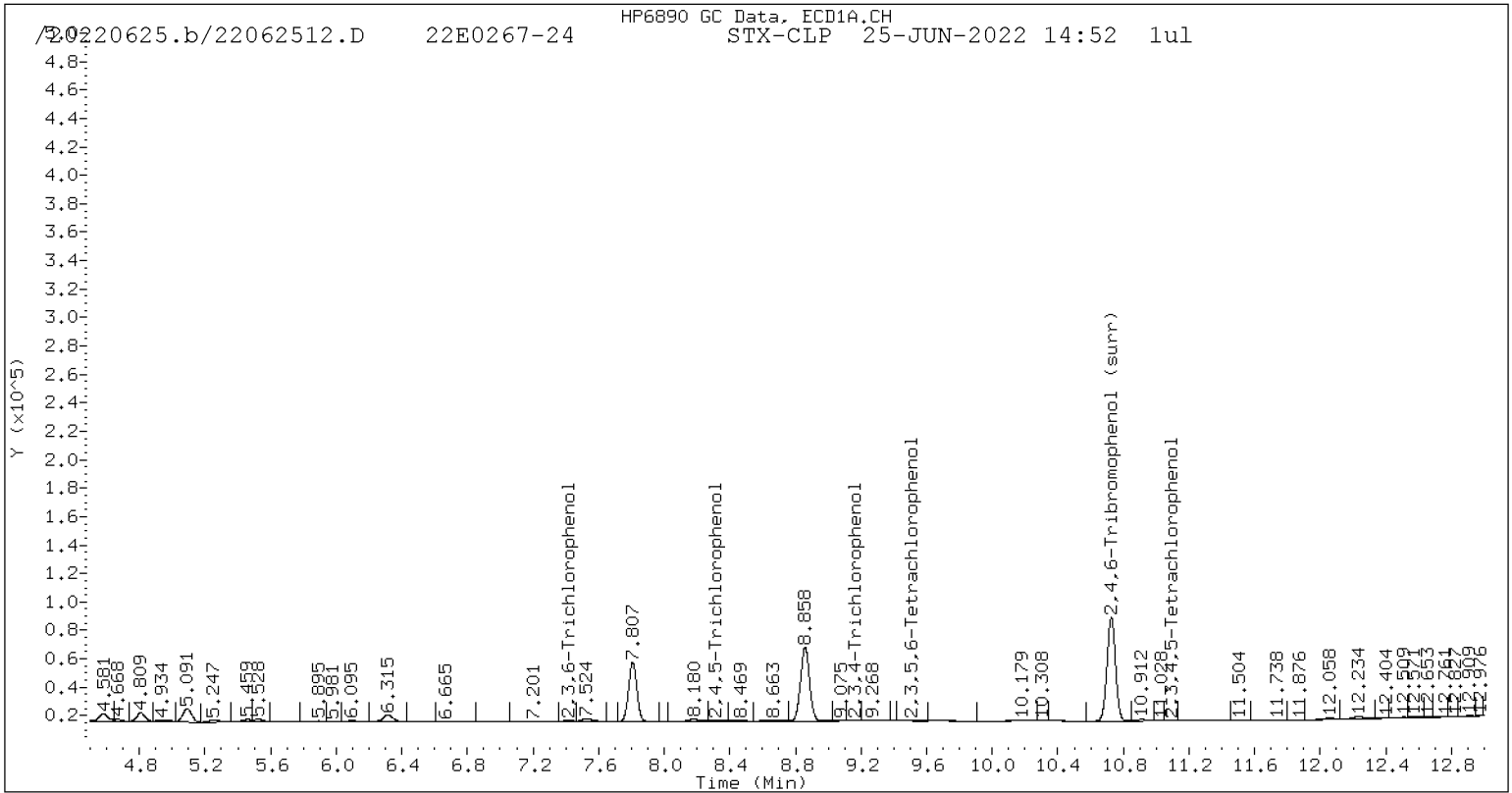
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

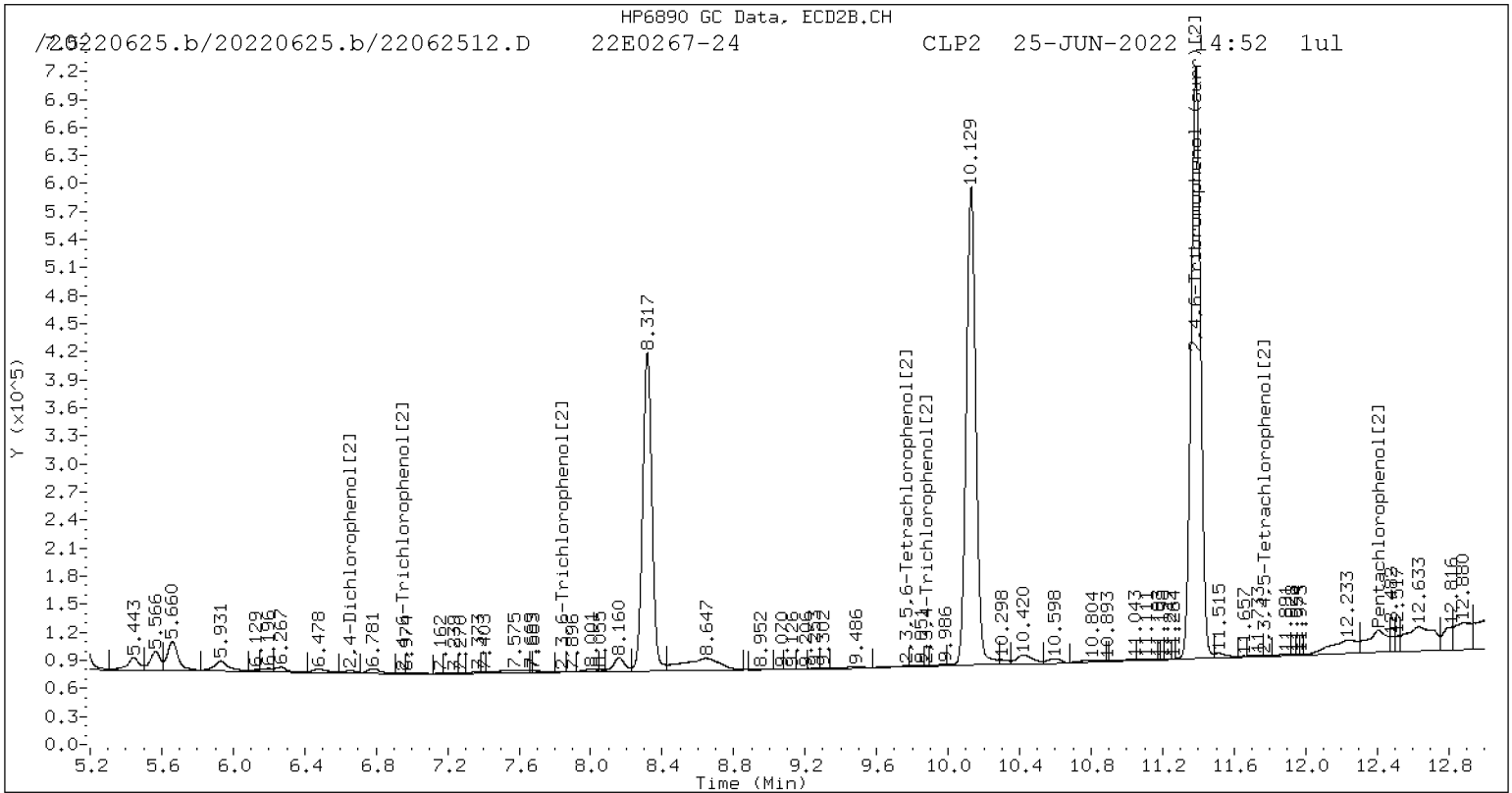
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	97.5	118.2	97.5~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**Dual Column**

**Z1B-1-PW**

**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>		SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>		
Project: <u>RG Haley Site-Bellingham</u>		
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-24RE1 A</u>	File ID: <u>22072912.D</u>
Sampled: <u>06/14/22 11:10</u>	Prepared: <u>06/21/22 13:54</u>	Analyzed: <u>07/28/22 14:20</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>	Initial/Final: <u>500 mL / 10 mL</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKG0311</u>	Calibration: <u>EK00019</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.02	0.02	0.05	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.75</i>	<i>110</i>	<i>26 - 120</i>	

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072912.D  
Data file 2: /20220729.b/22072912.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-24RE1  
Client ID:  
Injection Date: 28-JUL-2022 14:20  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
12.119	0.031	563638	----			1.8	0.0	---	Pentachlorophenol
6.915	0.019	71511	7.027	0.026	3066405	0.4	2.6	144.2*	2,4,6-Trichlorophenol
7.473	-0.005	1922465	----			11.4	0.0	---	2,3,6-Trichlorophenol
8.464	0.040	183364	8.908	-0.056	24541655	2.6	50.8	180.3*	2,4,5-Trichlorophenol
9.224	0.014	402572	9.932	-0.037	235072	4.6	0.4	169.8*	2,3,4-Trichlorophenol
9.583	0.057	614238	9.836	0.002	211676	2.4	0.1	180.2*	2,3,5,6-Tetrachlorophenol
----			11.962	0.057	1157594	0.0	1.0	---	2,3,4,5-Tetrachlorophenol
6.231	-0.011	431523	6.702	-0.016	748089	66.8	15.6	124.4*	2,4-Dichlorophenol
10.791	0.034	29854281	11.450	0.037	236335196	137.7	149.9	8.4	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

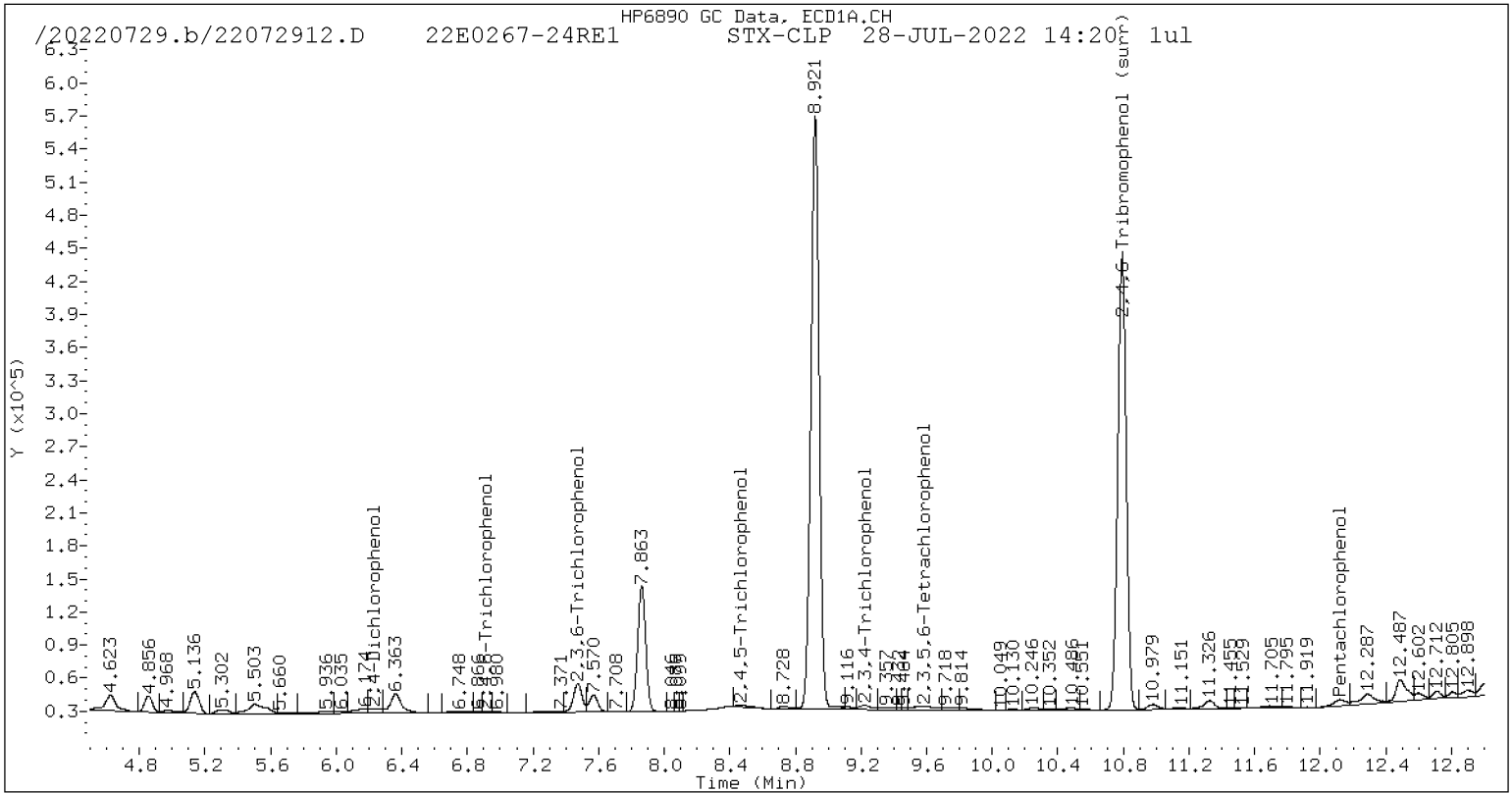
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

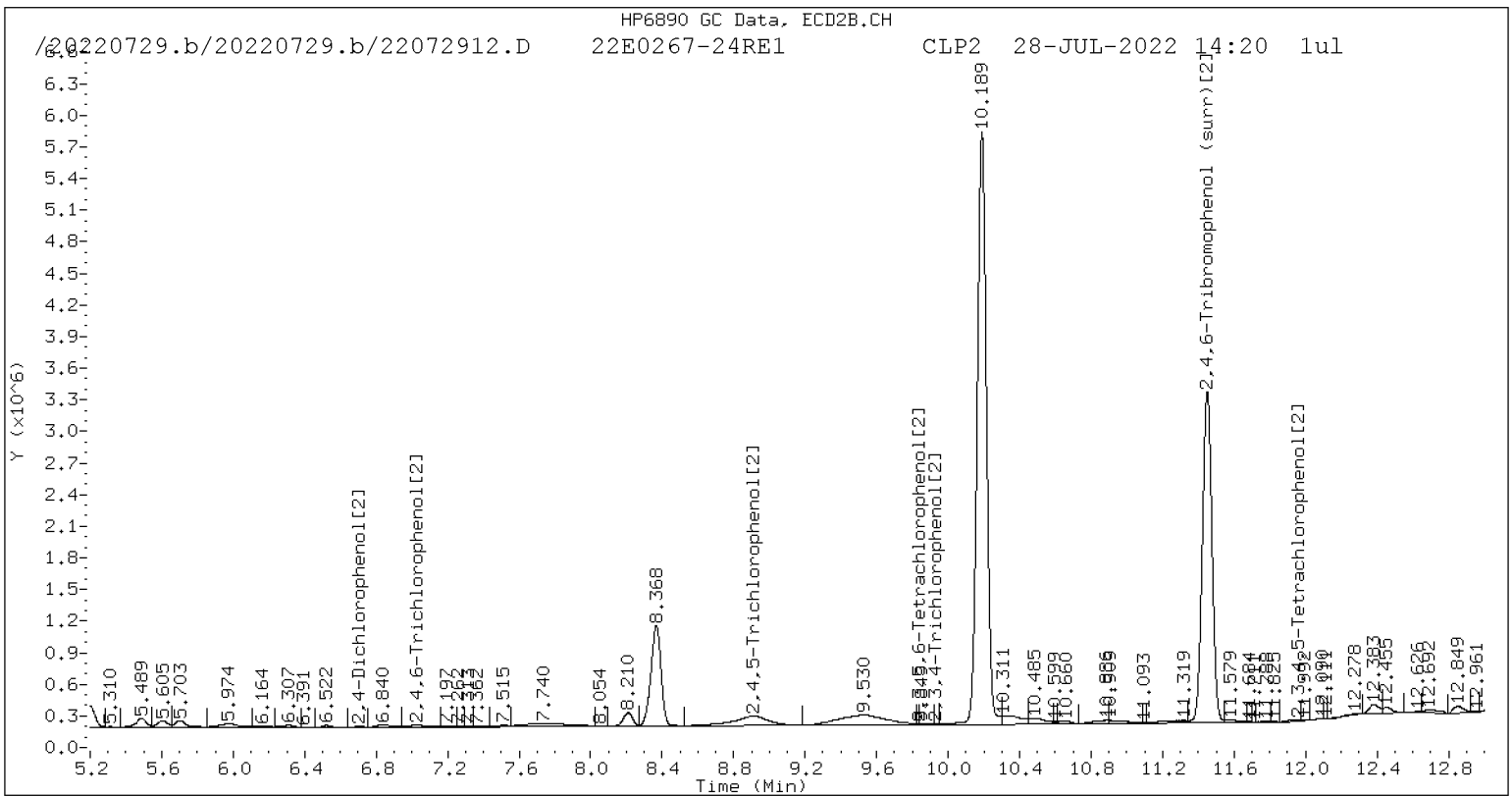
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	550.9	599.5	550.9~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-25 A</u>
Sampled: <u>06/14/22 11:50</u>	File ID: <u>22062513.D</u>
% Solids:	Prepared: <u>06/21/22 13:54</u>
Batch: <u>BKF0449</u>	Analyzed: <u>06/25/22 15:10</u>
Instrument: <u>ECD8</u>	Initial/Final: <u>500 mL / 50 mL</u>
	Preparation: <u>EPA 3510C SepF</u>
	Sequence: <u>SKF0340</u>
	Calibration: <u>EK00019</u>
	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.09	0.09	0.25	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>2.17</i>	<i>86.9</i>	<i>26 - 120</i>	



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062513.D  
Data file 2: /20220625.b/22062513.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-25  
Client ID:  
Injection Date: 25-JUN-2022 15:10  
Report Date: 06/29/2022 10:44  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
----			12.336	-0.073	2976649	0.0	1.4	---	Pentachlorophenol
6.815	-0.059	449490	----			2.6	0.0	---	2,4,6-Trichlorophenol
7.422	-0.033	217783	7.785	-0.053	82646	1.3	0.1	177.9*	2,3,6-Trichlorophenol
----			8.533	0.009	281992	0.0	0.6	---	2,4,5-Trichlorophenol
----			----			0.0	0.0	---	2,3,4-Trichlorophenol
9.488	-0.012	108298955	----			419.1	0.0	---	2,3,5,6-Tetrachlorophenol
11.090	-0.103	2225945	11.785	-0.096	627201	13.8	0.6	184.4*	2,3,4,5-Tetrachlorophenol
----			6.651	-0.047	5645035	0.0	117.5	---	2,4-Dichlorophenol
10.727	-0.004	4706543	11.388	-0.000	44067836	21.7	27.9	25.1	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

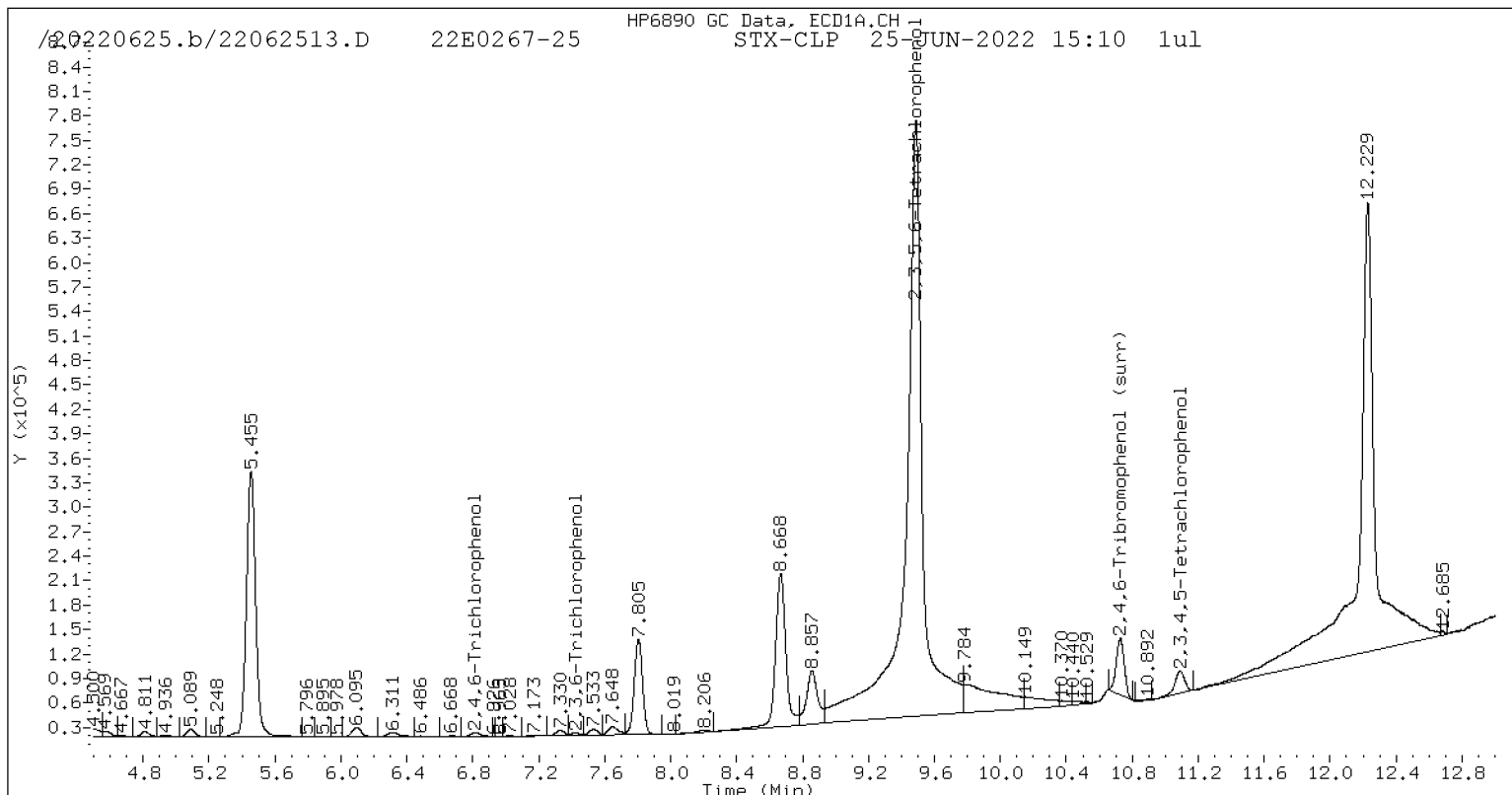
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

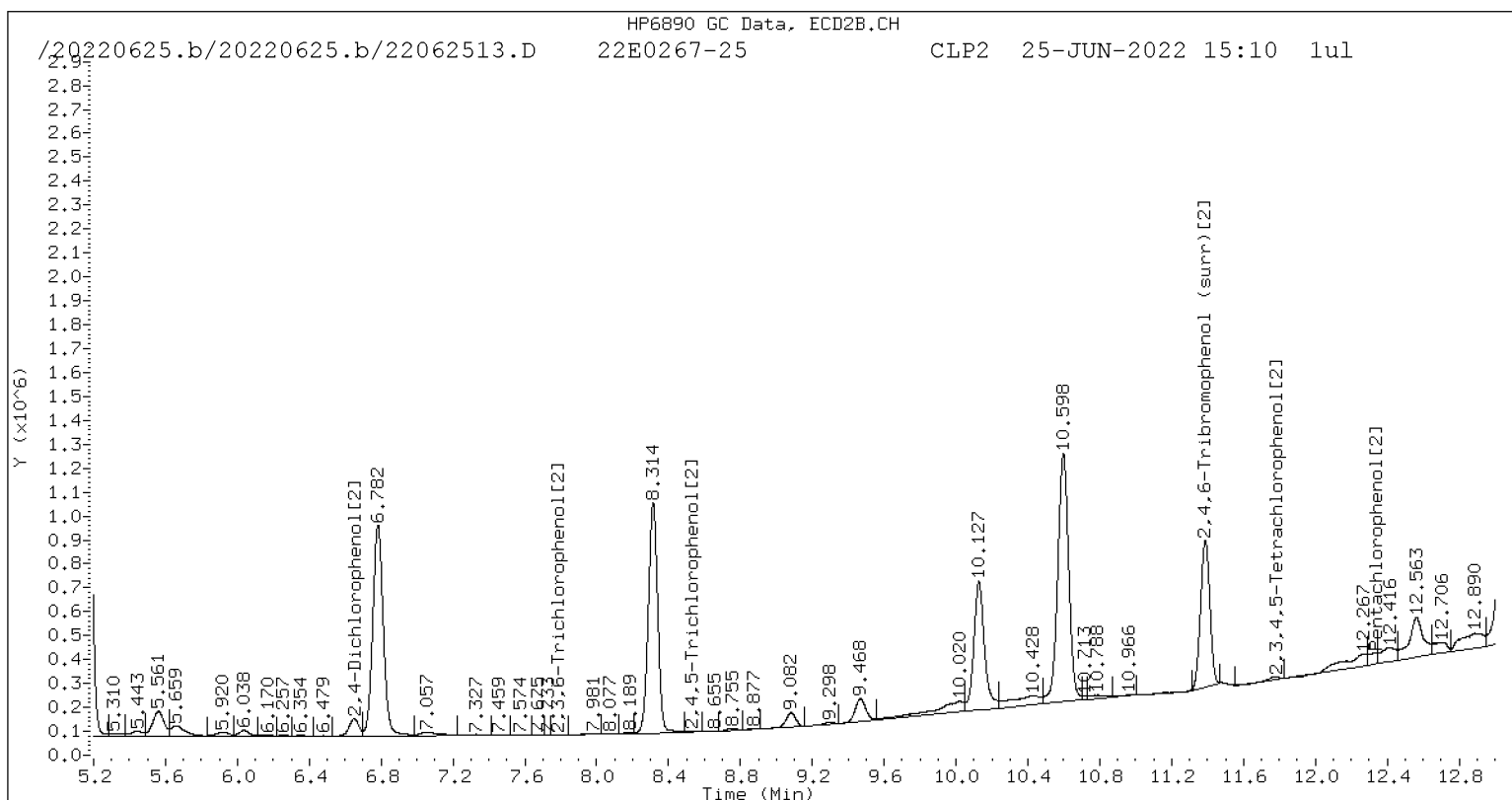
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	86.9	111.8	86.9~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



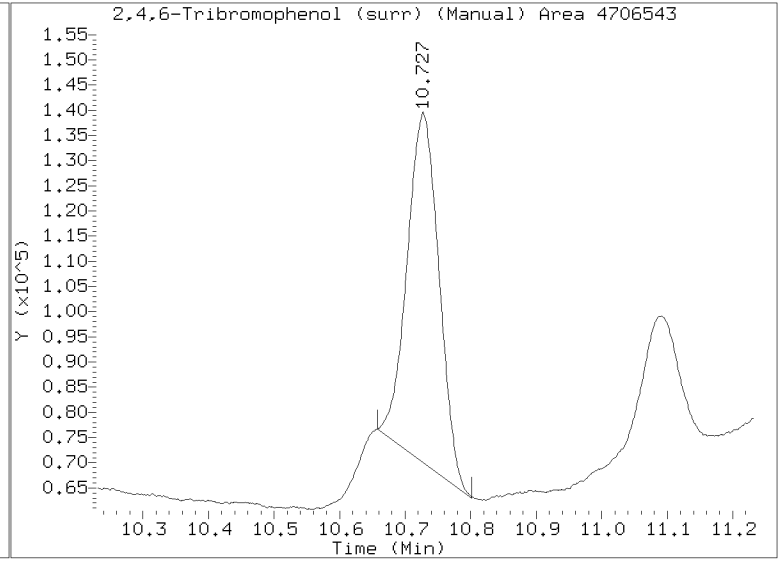
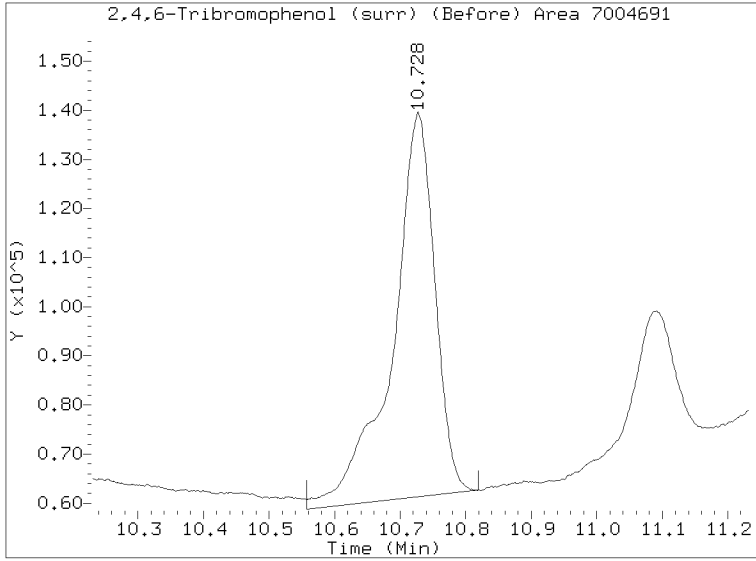
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: YES

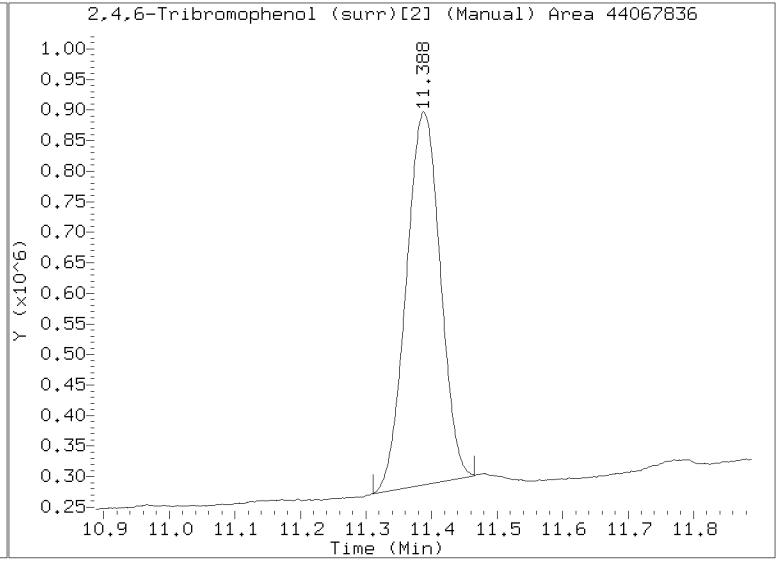
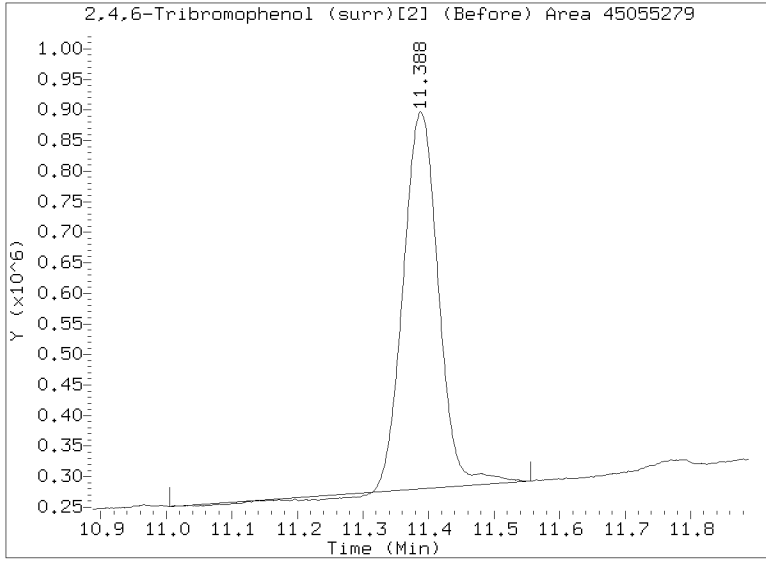
Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062513.D  
Injection Date: 25-JUN-2022 15:10  
Lab ID:22E0267-25 Client ID:  
Report Date: 06/29/2022 10:44



Manual Peak Adjustment Report, CLP-2

Datafile: /20220625.b/20220625.b/22062513.D  
Injection Date: 25-JUN-2022 15:10  
Lab ID:22E0267-25 Client ID:





**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: 22F0267-25RE1 A

File ID: 22072913.D

Sampled: 06/14/22 11:50

Prepared: 06/21/22 13:54

Analyzed: 07/28/22 14:38

% Solids:

Preparation: EPA 3510C SepF

Initial/Final: 500 mL / 10 mL

Batch: BKF0449

Sequence: SKG0311

Calibration: EK00019

Instrument: ECD8

Column 1: STX-CLP

Column 2: STX-CLP2

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.02	0.02	0.05	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>3.40</i>	<i>136</i>	<i>26 - 120</i>	<i>*</i>

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072913.D  
Data file 2: /20220729.b/22072913.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-25RE1  
Client ID:  
Injection Date: 28-JUL-2022 14:38  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
6.870	-0.026 14250288	12.433 0.005 9656641	0.0	4.5	---	Pentachlorophenol
8.462	0.038 74155	7.843 -0.015 11539296	83.6	2.6 187.8*	---	2,4,6-Trichlorophenol
9.562	0.036 513617273	8.933 -0.032 44564692	0.0	10.5	---	2,3,6-Trichlorophenol
6.225	-0.017 1957782	9.982 0.013 23817132	1.1	92.3 195.4*	---	2,4,5-Trichlorophenol
10.786	0.030 36818507	9.881 0.047 30084143	0.0	38.2	---	2,3,4-Trichlorophenol
		----	1987.7	17.6 196.5*	---	2,3,5,6-Tetrachlorophenol
			0.0	0.0	---	2,3,4,5-Tetrachlorophenol
		6.701 -0.017 41397804	303.2	861.8 95.9*	---	2,4-Dichlorophenol
		11.446 0.034 218197878	169.9	138.4 20.4	---	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

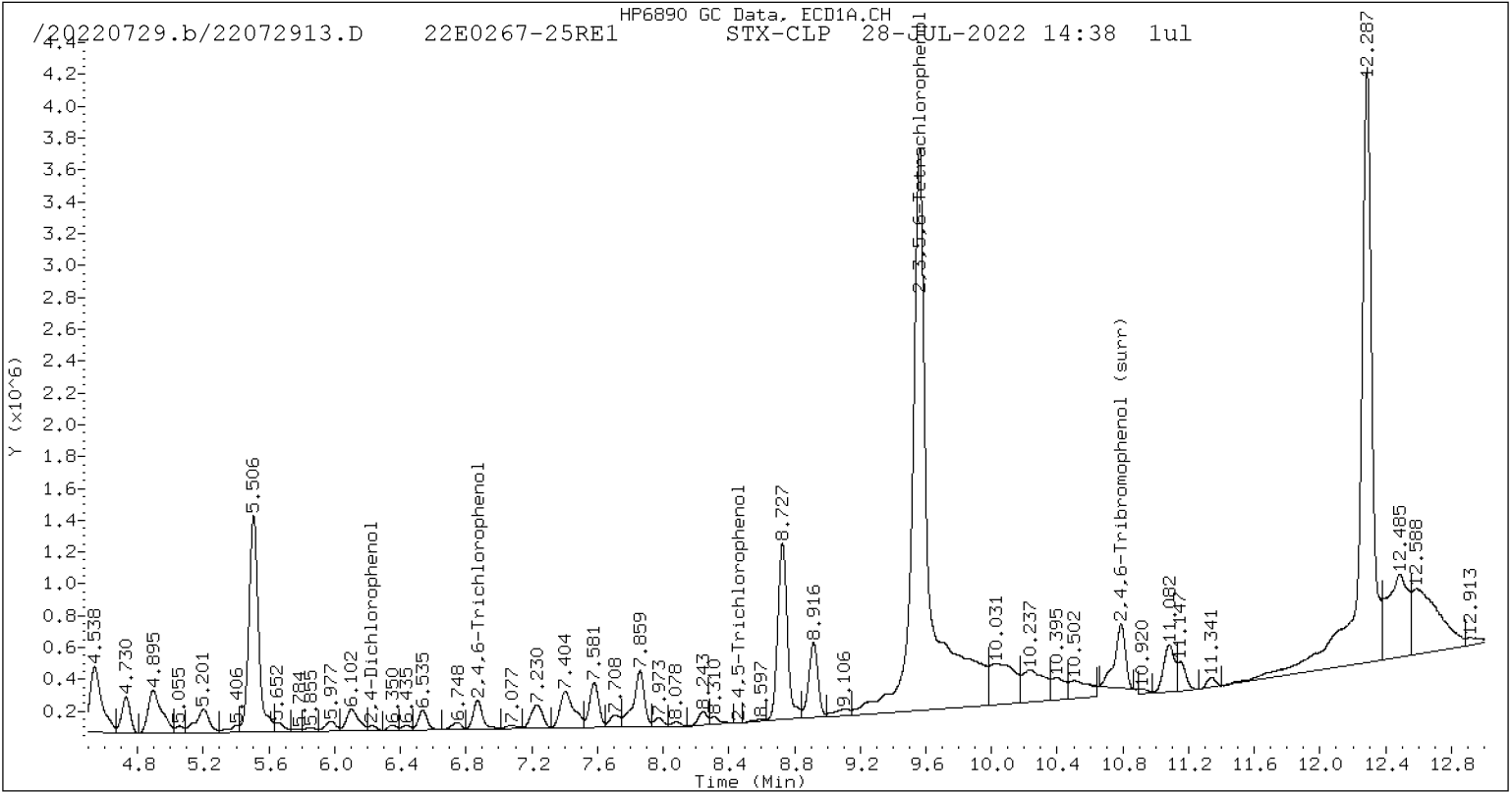
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

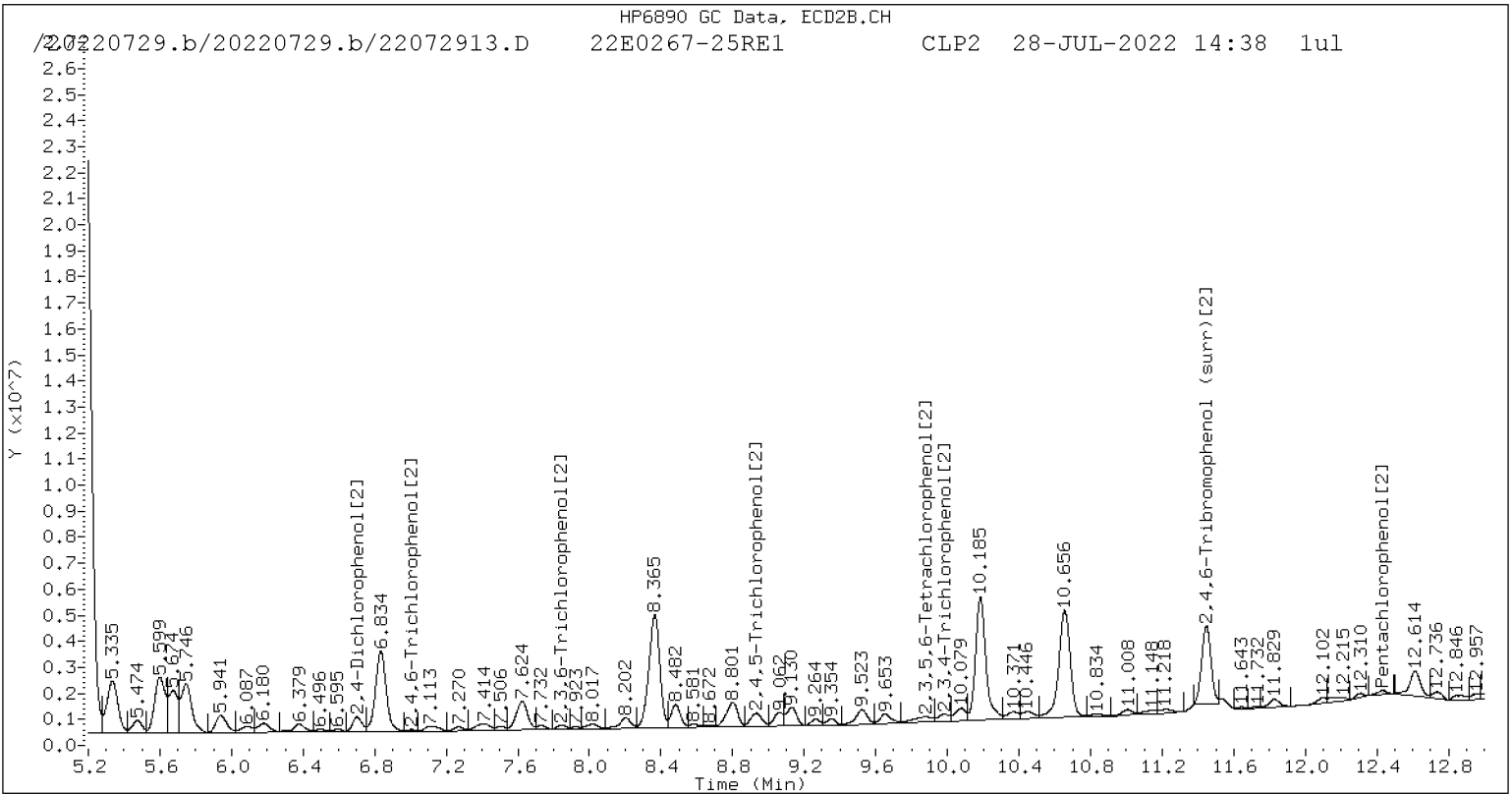
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	679.5	553.5	553.5~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



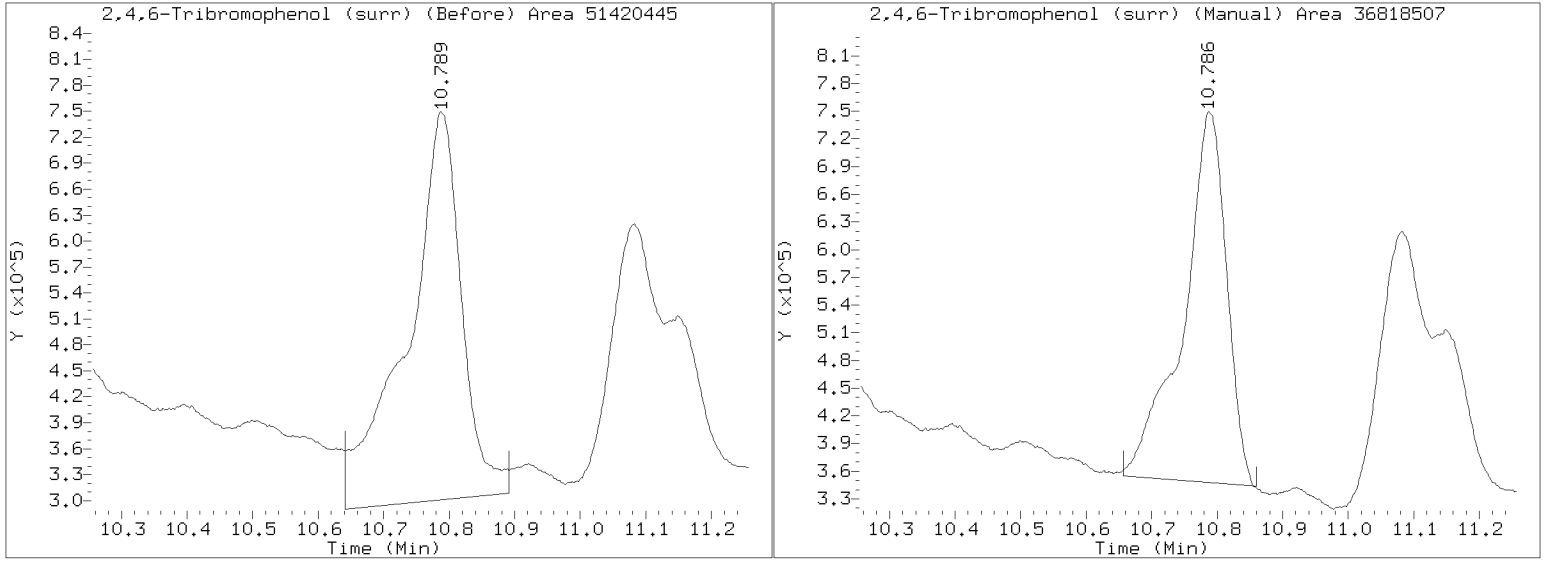
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: YES

Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072913.D  
Injection Date: 28-JUL-2022 14:38  
Lab ID:22E0267-25RE1 Client ID:  
Report Date: 07/29/2022 13:54



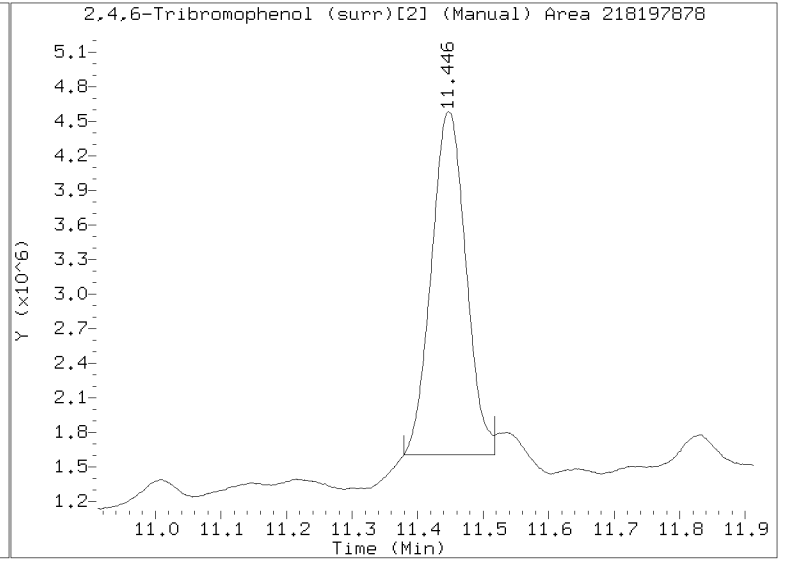
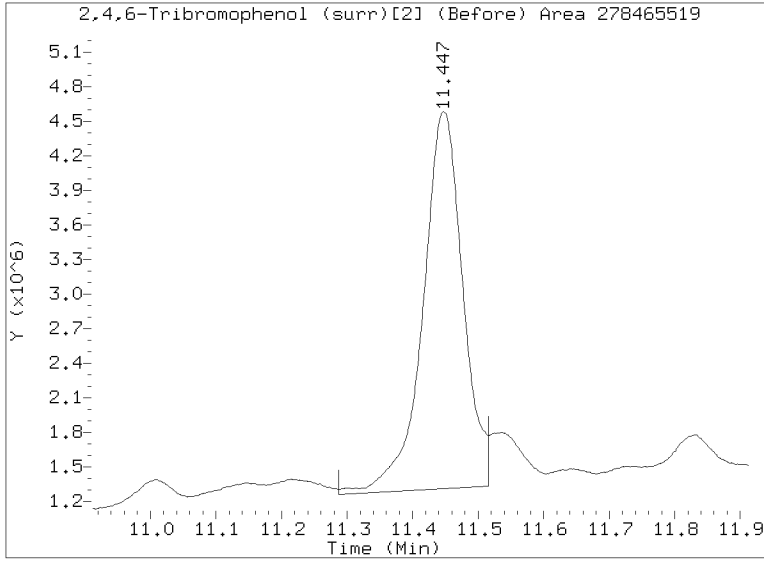


Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072913.D

Injection Date: 28-JUL-2022 14:38

Lab ID:22E0267-25RE1 Client ID:





Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062514.D  
Data file 2: /20220625.b/22062514.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-26  
Client ID:  
Injection Date: 25-JUN-2022 15:28  
Report Date: 06/29/2022 10:44  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag	
----			----		0.0	0.0	---	Pentachlorophenol	
----			6.971	-0.010	106278	0.0	0.1	---	2,4,6-Trichlorophenol
7.423	-0.033	97266	7.847	0.010	21774	0.6	0.0	186.7*	2,3,6-Trichlorophenol
8.310	-0.093	113361	----			1.6	0.0	---	2,4,5-Trichlorophenol
9.156	-0.031	31916	9.869	-0.076	56319	0.4	0.1	120.9*	2,3,4-Trichlorophenol
9.514	0.013	32343	9.725	-0.085	45792	0.1	0.0	129.6*	2,3,5,6-Tetrachlorophenol
11.187	-0.006	20935	11.769	-0.112	147661	0.1	0.1	1.3	2,3,4,5-Tetrachlorophenol
6.108	-0.114	90745	6.659	-0.039	117298	14.1	2.4	140.8*	2,4-Dichlorophenol
10.731	-0.001	4212873	11.389	0.001	36208946	19.4	23.0	16.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

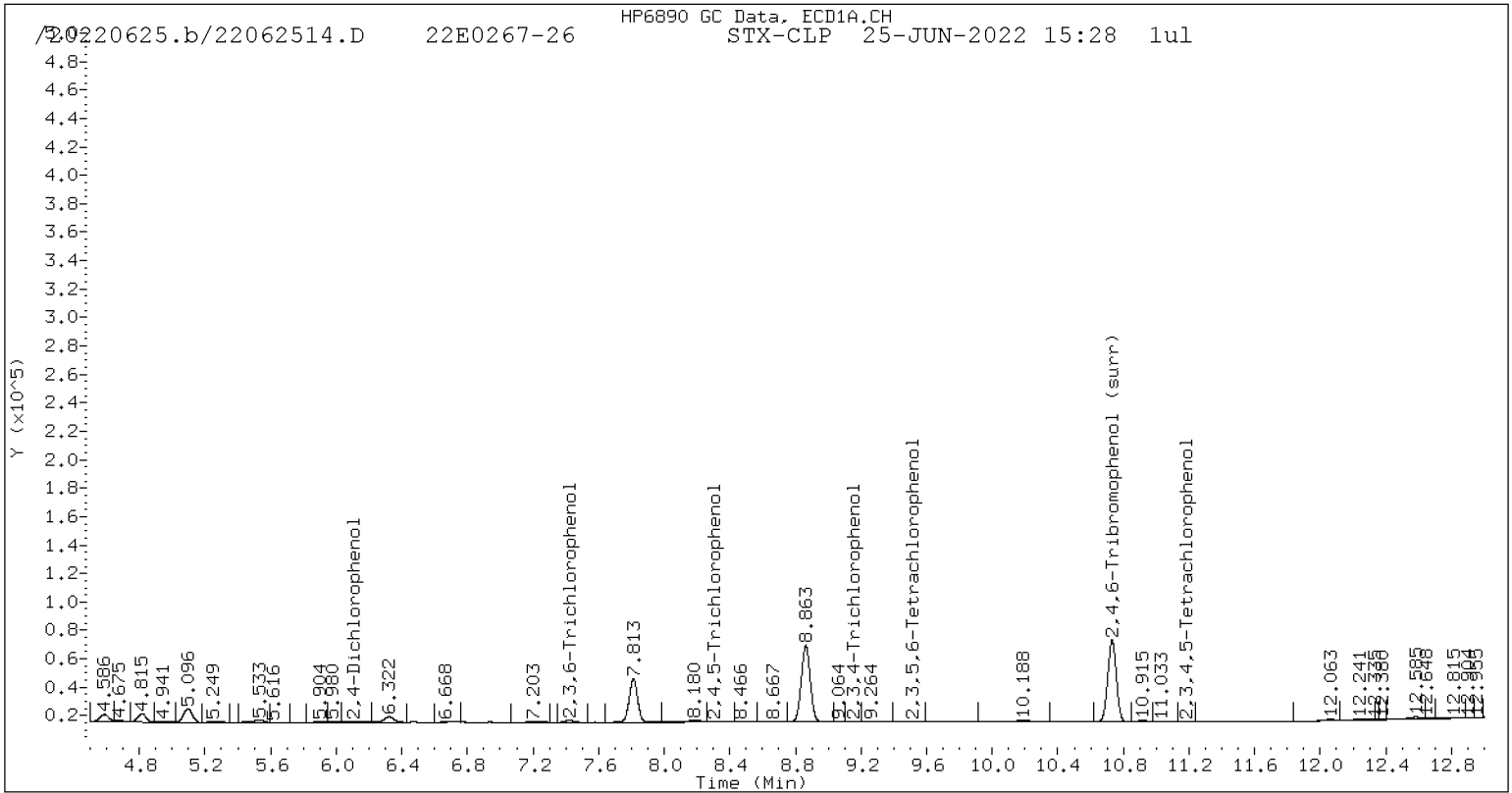
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

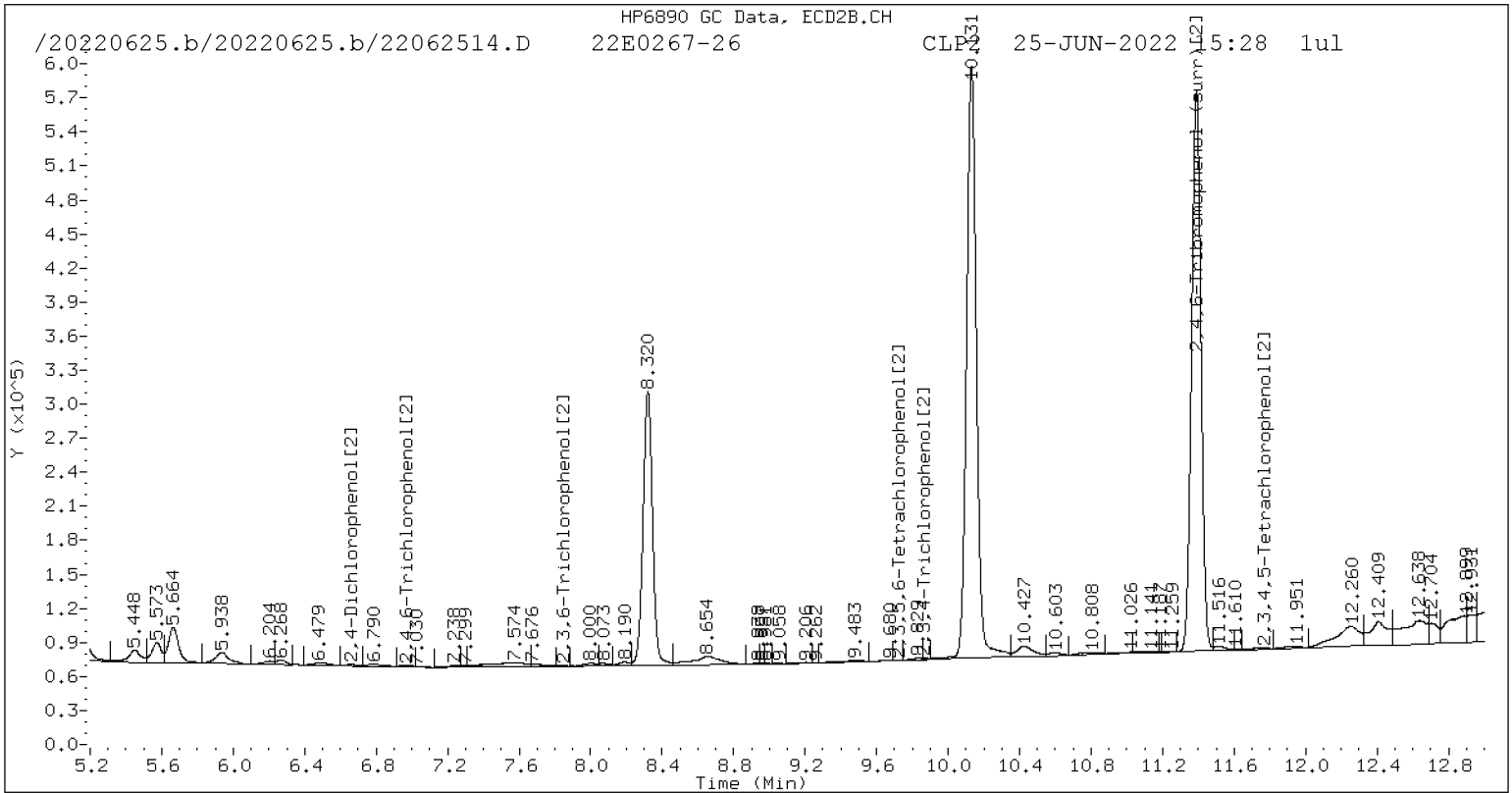
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	77.7	91.8	77.7~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072914.D  
Data file 2: /20220729.b/20220729.b/22072914.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-26RE1  
Client ID:  
Injection Date: 28-JUL-2022 14:56  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
12.117	0.030	452171	----			1.4	0.0	---	Pentachlorophenol
6.922	0.026	126667	7.037	0.036	928229	0.7	0.8	5.4	2,4,6-Trichlorophenol
7.477	-0.000	1311919	----			7.8	0.0	---	2,3,6-Trichlorophenol
8.408	-0.016	349114	8.944	-0.020	1312891	5.0	2.7	59.4*	2,4,5-Trichlorophenol
9.221	0.011	113696	----			1.3	0.0	---	2,3,4-Trichlorophenol
9.583	0.057	82443	9.788	-0.046	79181	0.3	0.0	149.4*	2,3,5,6-Tetrachlorophenol
----			11.949	0.044	329941	0.0	0.3	---	2,3,4,5-Tetrachlorophenol
6.229	-0.013	610482	6.706	-0.012	561849	94.6	11.7	156.0*	2,4-Dichlorophenol
10.791	0.035	28264524	11.450	0.037	230646778	130.4	146.3	11.5	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

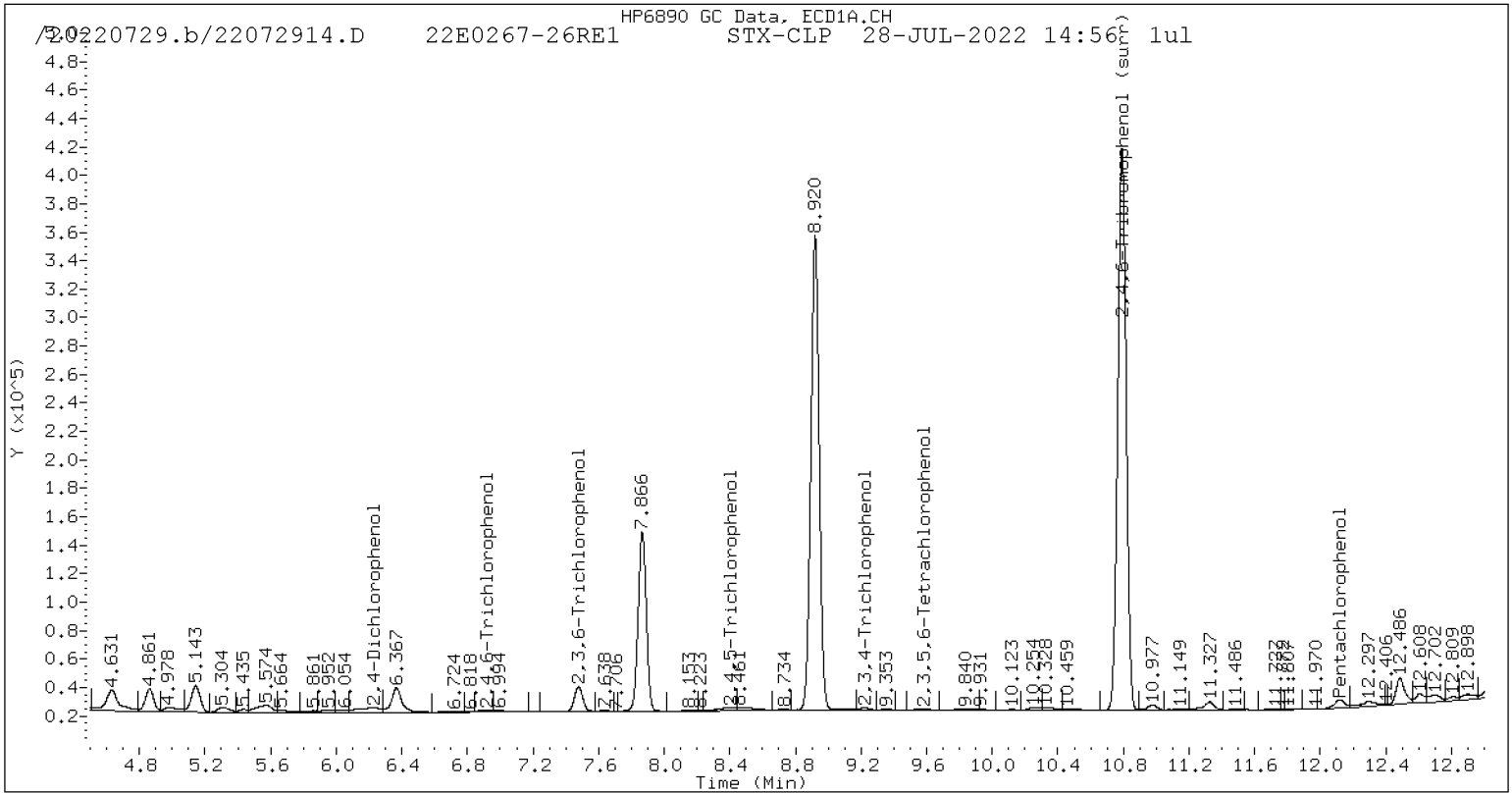
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

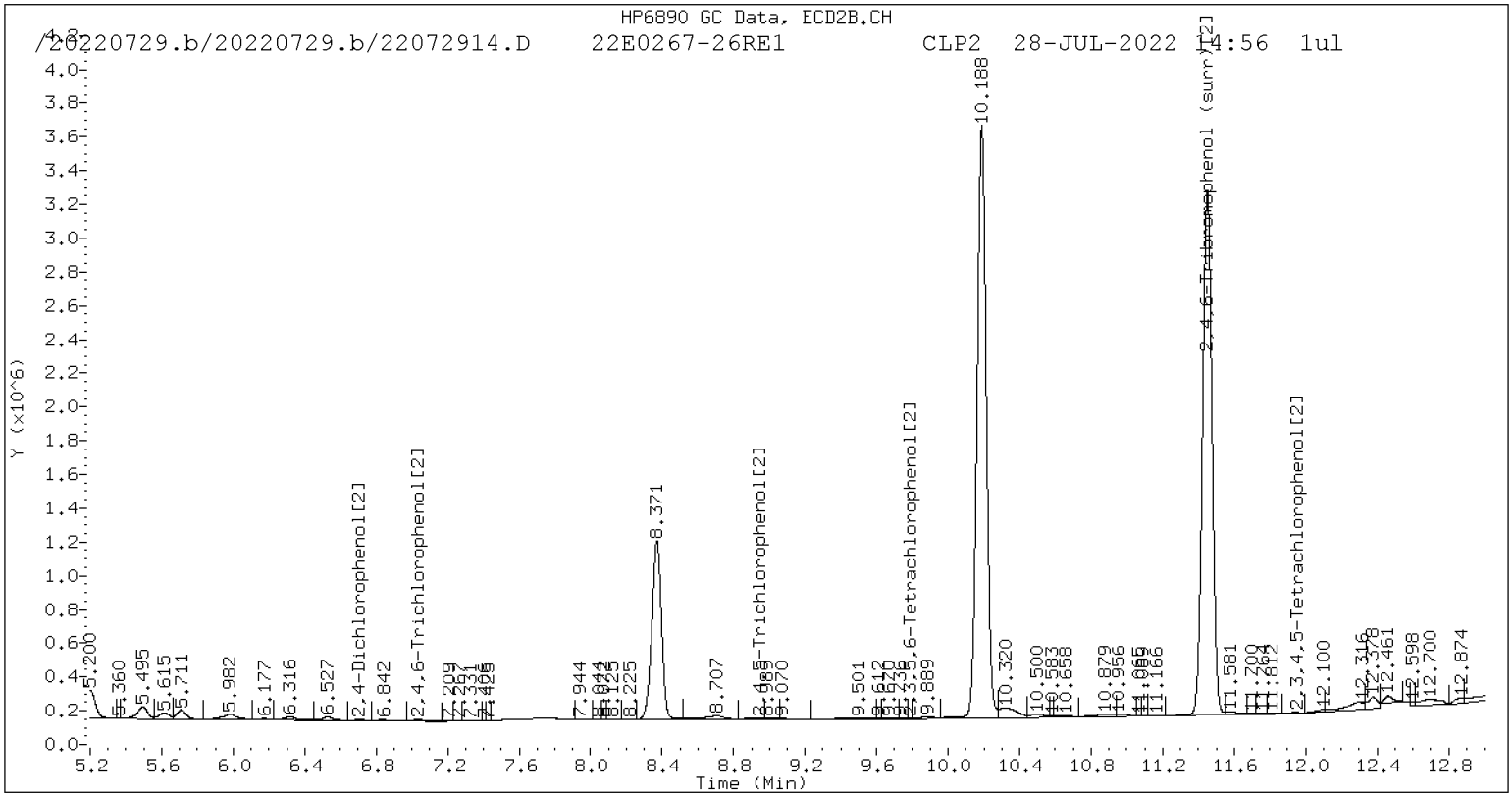
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	521.6	585.1	521.6~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO





Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062515.D  
Data file 2: /20220625.b/20220625.b/22062515.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-27  
Client ID:  
Injection Date: 25-JUN-2022 15:46  
Report Date: 06/29/2022 10:44  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
----		----		0.0	0.0	--- Pentachlorophenol
----		6.969 -0.011 225245		0.0	0.2	--- 2,4,6-Trichlorophenol
7.422 -0.033 107603		----		0.6	0.0	--- 2,3,6-Trichlorophenol
8.323 -0.080 34408		8.519 -0.005 199597		0.5	0.4 17.9	2,4,5-Trichlorophenol
9.160 -0.027 24003		9.859 -0.086 40125		0.3	0.1 124.2*	2,3,4-Trichlorophenol
----		9.757 -0.053 6894		0.0	0.0	--- 2,3,5,6-Tetrachlorophenol
----		----		0.0	0.0	--- 2,3,4,5-Tetrachlorophenol
----		6.656 -0.042 192455		0.0	4.0	--- 2,4-Dichlorophenol
10.729 -0.002 4639142		11.390 0.002 41087937		21.4	26.1 19.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

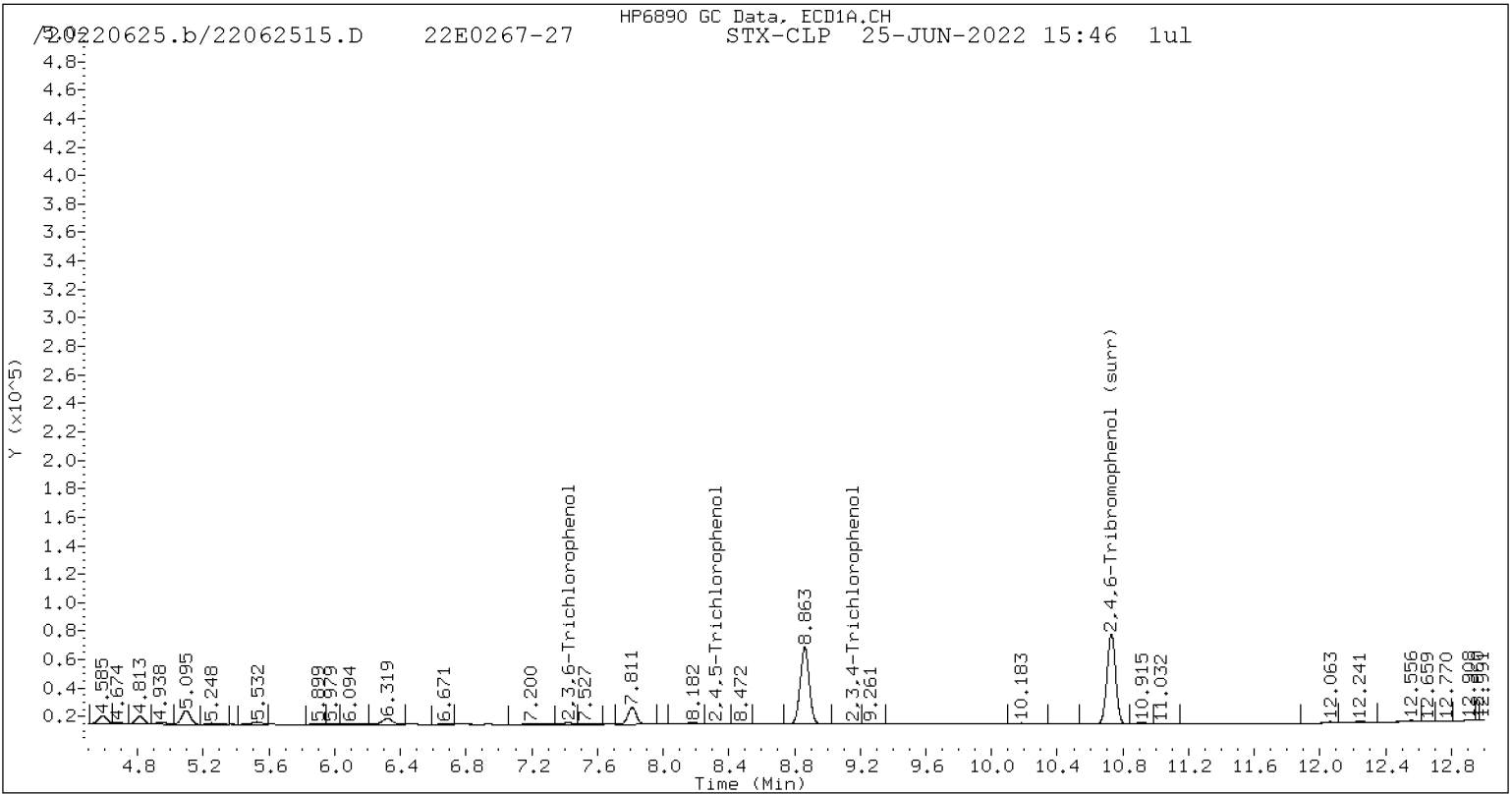
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

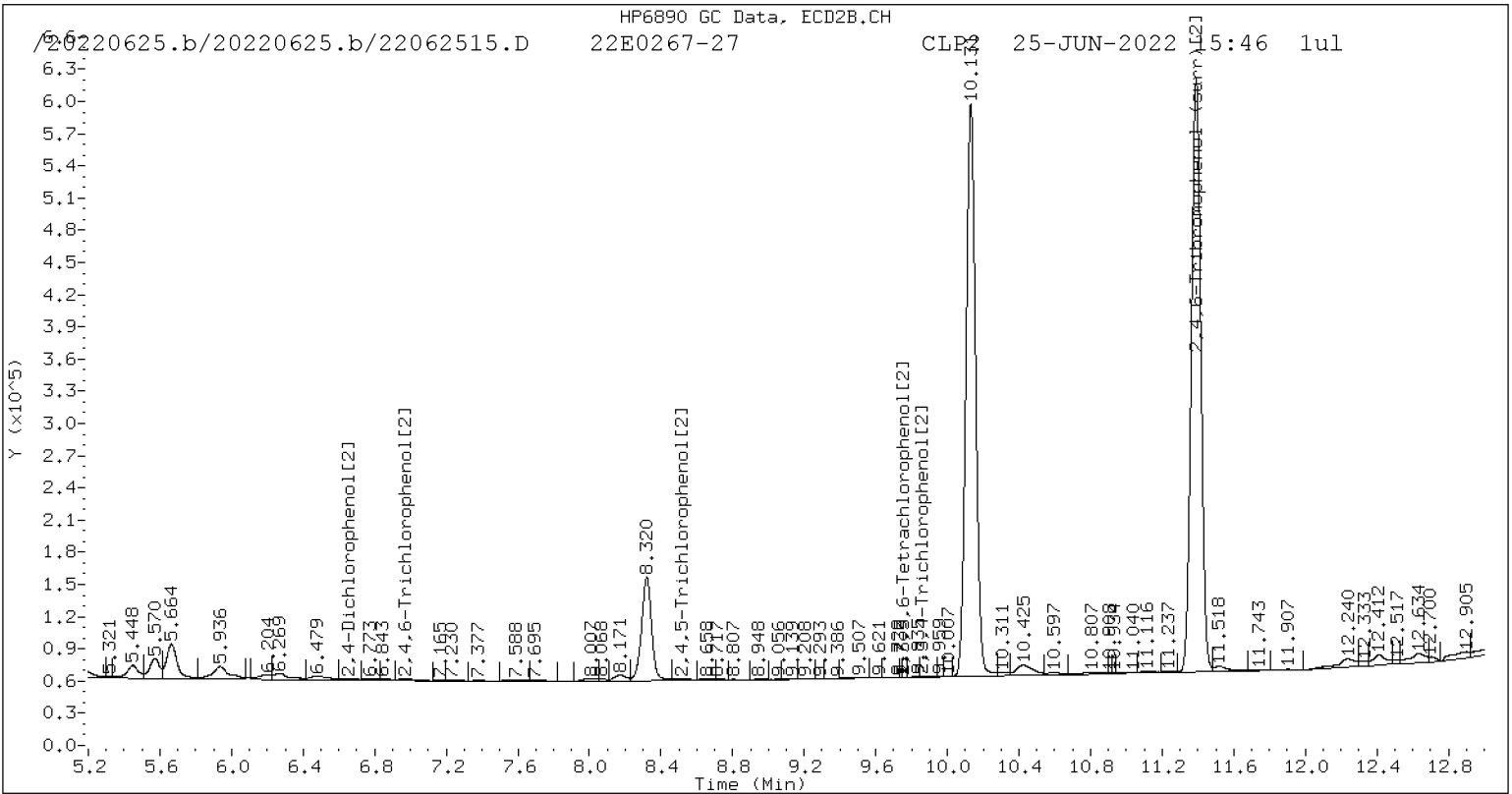
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	85.6	104.2	85.6~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**ORGANIC ANALYSIS DATA SHEET**  
**EPA 8041A**

Laboratory: <u>Analytical Resources, LLC</u>	SDG: <u>22F0267</u>
Client: <u>GeoEngineers</u>	
Project: <u>RG Haley Site-Bellingham</u>	
Matrix: <u>Water</u>	Laboratory ID: <u>22F0267-27RE1 A</u>
Sampled: <u>06/15/22 09:50</u>	Prepared: <u>06/21/22 13:54</u>
% Solids:	Preparation: <u>EPA 3510C SepF</u>
Batch: <u>BKF0449</u>	Sequence: <u>SKG0311</u>
Instrument: <u>ECD8</u>	Column 1: <u>STX-CLP</u>
	Column 2: <u>STX-CLP2</u>
	File ID: <u>22072915.D</u>
	Analyzed: <u>07/28/22 15:14</u>
	Initial/Final: <u>500 mL / 10 mL</u>
	Calibration: <u>EK00019</u>

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/L)	MDL	MRL	Q
87-86-5	Pentachlorophenol	1	1	0.02	0.02	0.05	U
SURROGATES		Col #	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
<i>2,4,6-Tribromophenol</i>		<i>1</i>	<i>2.5000</i>	<i>3.19</i>	<i>127</i>	<i>26 - 120</i>	<i>*</i>

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072915.D  
Data file 2: /20220729.b/22072915.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: 22E0267-27RE1  
Client ID:  
Injection Date: 28-JUL-2022 15:14  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag	
12.120	0.032	323262	----		1.0	0.0	---	Pentachlorophenol	
6.929	0.033	22350	7.036	0.034	460066	0.1	0.4	99.1*	2,4,6-Trichlorophenol
7.477	-0.000	1569884	----		9.3	0.0	---		2,3,6-Trichlorophenol
8.374	-0.050	37948	8.996	0.031	146454	0.5	0.3	57.0*	2,4,5-Trichlorophenol
9.228	0.018	230506	10.018	0.049	166666	2.6	0.3	163.3*	2,3,4-Trichlorophenol
9.585	0.059	43608	9.886	0.052	494912	0.2	0.3	52.5*	2,3,5,6-Tetrachlorophenol
11.159	-0.061	27636	11.965	0.060	298576	0.2	0.3	43.3*	2,3,4,5-Tetrachlorophenol
----			6.710	-0.008	663917	0.0	13.8	---	2,4-Dichlorophenol
10.796	0.039	34527667	11.454	0.041	272009062	159.3	172.5	8.0	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

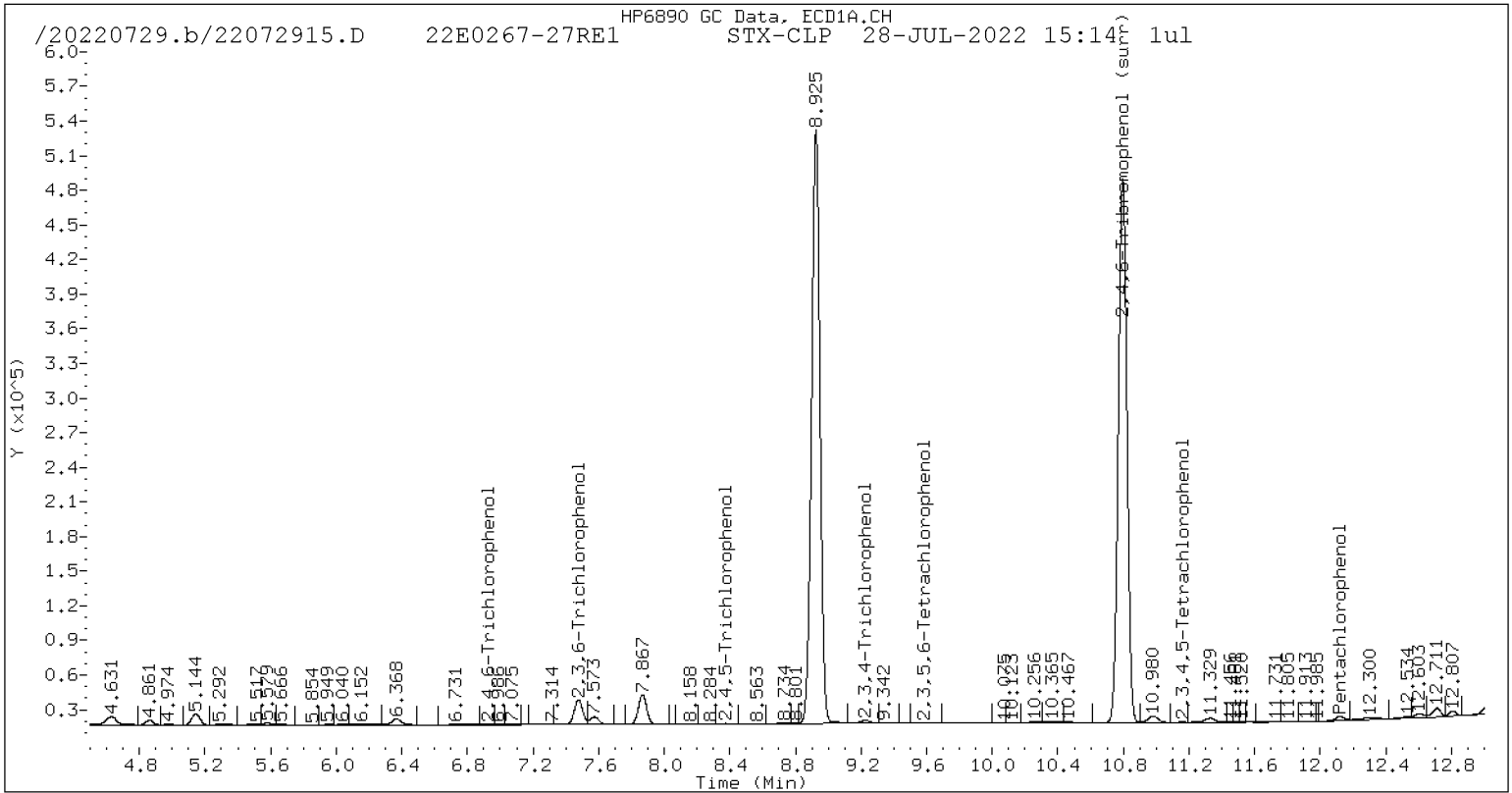
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

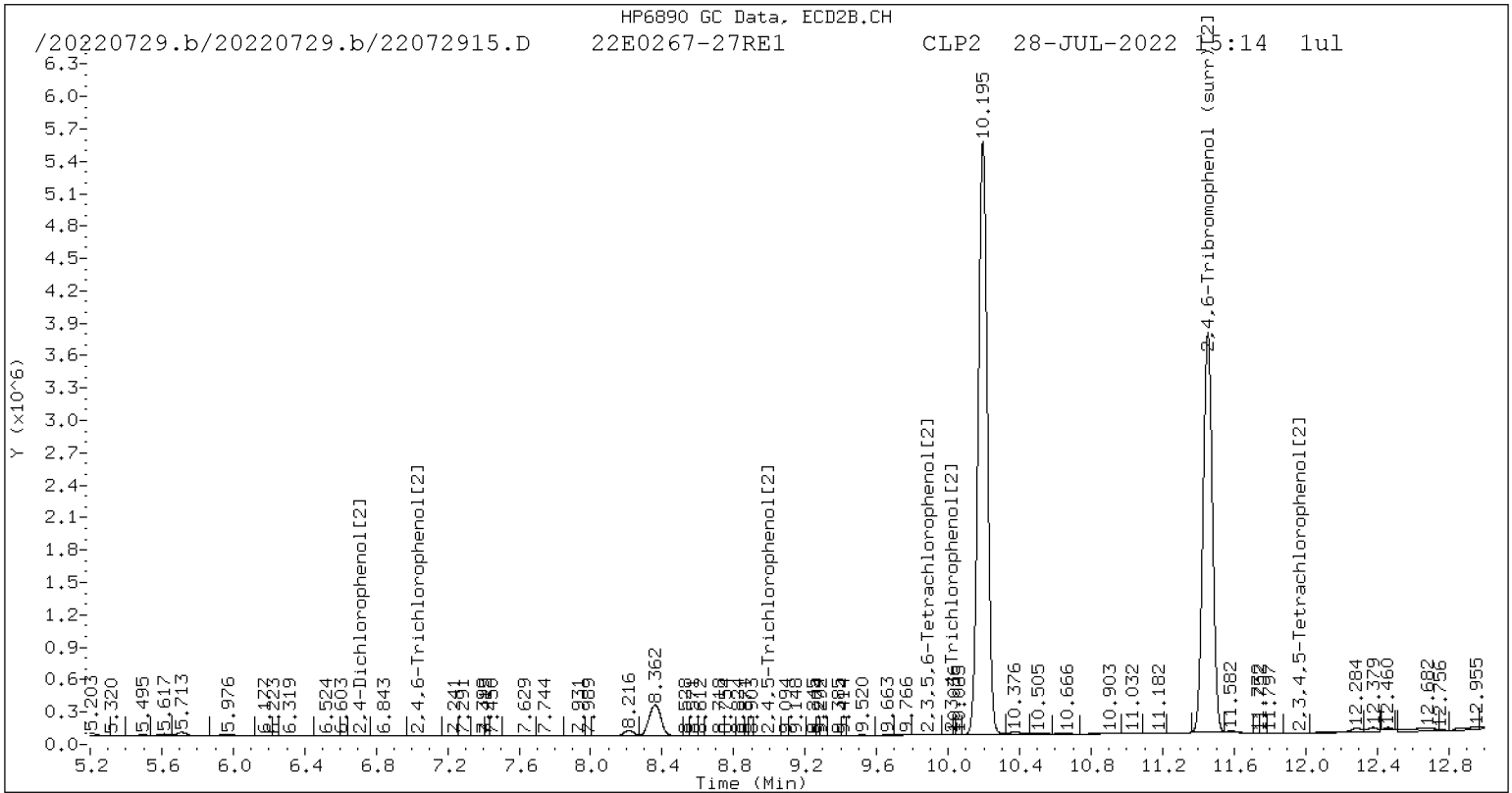
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	637.2	690.0	637.2~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**PREPARATION BATCH SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0449      Batch Matrix: Water

Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-PW	22F0267-09	22062507.D	06/21/22 13:54	Waters PCP Only
Z1A-3-PW	22F0267-09RE1	22072907.D	06/21/22 13:54	Waters PCP Only
Z1A-6-PW	22F0267-10	22062508.D	06/21/22 13:54	Waters PCP Only
Z1A-6-PW	22F0267-10RE1	22072908.D	06/21/22 13:54	Waters PCP Only
Z1A-9-PW	22F0267-11	22062509.D	06/21/22 13:54	Waters PCP Only
Z1A-9-PW	22F0267-11RE1	22072909.D	06/21/22 13:54	Waters PCP Only
Z1A-12-PW	22F0267-12	22062510.D	06/21/22 13:54	Waters PCP Only
Z1A-12-PW	22F0267-12RE1	22072910.D	06/21/22 13:54	Waters PCP Only
DUP-1-PW	22F0267-15	22062511.D	06/21/22 13:54	Waters PCP Only
DUP-1-PW	22F0267-15RE1	22072911.D	06/21/22 13:54	Waters PCP Only
Z1B-1-PW	22F0267-24	22062512.D	06/21/22 13:54	Waters PCP Only
Z1B-1-PW	22F0267-24RE1	22072912.D	06/21/22 13:54	Waters PCP Only
Z1B-2-PW	22F0267-25	22062513.D	06/21/22 13:54	Waters PCP Only
Z1B-2-PW	22F0267-25RE1	22072913.D	06/21/22 13:54	Waters PCP Only
Z1B-3-PW	22F0267-26	22062514.D	06/21/22 13:54	Waters PCP Only
Z1B-3-PW	22F0267-26RE1	22072914.D	06/21/22 13:54	Waters PCP Only
Z1B-4-PW	22F0267-27	22062515.D	06/21/22 13:54	Waters PCP Only
Z1B-4-PW	22F0267-27RE1	22072915.D	06/21/22 13:54	Waters PCP Only
Blank	BKF0449-BLK1	22062504.D	06/21/22 13:54	
LCS	BKF0449-BS1	22062505.D	06/21/22 13:54	
LCS Dup	BKF0449-BSD1	22062506.D	06/21/22 13:54	



VIAL @ 10mL FEV. GC WILL GET IT TO 50mL FEV.

Analytical Resources, LLC  
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BKF0449

Prepared using: EPA 3510C SepF  
8041A Chlorinated Phenols in Water (Version:PCP Only)

Matrix: Water Date Prepared: 6/21/22 Balance ID: \_\_\_\_\_ Set Up By: AO 6/21/22

WO Comments  
22F0267: Porewaters -Processing 6.7 L of sediment S520. Processing 10L Sediment S575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups<E>

The following standards may be missing from this batch!

Designator	Description
QLS 16	QLS Spike

Analysis: 8041A Chlorinated Phenols

Lab Number & Container	Initial (mL) Actual	Actual	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
22F0267-09 A	500.00	<u>500.00</u>	50 _____	10 _____	
22F0267-10 A	500.00	↓	50 _____	10 _____	
22F0267-11 A	500.00	↓	50 _____	10 _____	
22F0267-12 A	500.00	↓	50 _____	10 _____	
22F0267-15 A	500.00	↓	50 _____	10 _____	
22F0267-24 A	500.00	↓	50 _____	10 _____	
22F0267-25 A	500.00	↓	50 _____	10 _____	
22F0267-26 A	500.00	↓	50 _____	10 _____	
22F0267-27 A	500.00	↓	50 _____	10 _____	

Batch QC

Lab Number	Initial (mL) Actual	Actual	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BKF0449-BLK1	500.00	<u>500.00</u>	50 _____	10 _____	
BKF0449-BS1	500.00	↓	50 _____	10 _____	
BKF0449-BSD1	500.00	↓	50 _____	10 _____	

Client ID verified By: AO Date: 6/21/22 Preparation Reviewed By: M 6/23/22 Date: 6/21/22 Extraction Date and Time: 13:54





Batch: BKF0449

Prepared using: EPA 3510C SepF  
8041A Chlorinated Phenols in Water (Version:PCP Only)

WO Comments

22F0267: Porewaters -Processing 6.7 L of sediment \$520. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Steps

Reagents Used

Surrogates & Spike Standards Used

Prep Steps	Station/Reagent	Standard ID	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
KD 80-85°C Hexane Exchange (2 X 20mL) 100°C  1 (2) 3 4 (5) 6  mab 6/23/22 Analyst/Date	Separatory Funnel Analyst: <i>ssw/SP</i> Date: <i>6/21/22</i>		Surrogate	F <i>6/21/22</i> K002918 Exp: 09/28/2022	100µL	<i>CPD</i>	<i>SP</i>
	Methylene Chloride	K004735	12.5µg/mL				
	1:1 Sulfuric Acid/DI H2O	K003392	Spike	6 <i>6/21/22</i> J012378 Exp: 11/20/2022	100µL	<i>CPD</i>	<i>SP</i>
	Anhydrous Sodium Sulfate	K005218	12.5µg/mL				
TurboVap  1 2 3 (4)  m 6/23/22 Analyst/Date	KD Analyst: <i>mab</i> Date: <i>6/23/22</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).				
	Methylene Chloride	K004645					
	Hexane	K004447					
Vialing  m 6/23/22 Analyst/Date	Vialing Analyst: <i>m</i> Date: <i>6/23/22</i>						
	Hexane	K004407					
Derivatize by GC  N/A Analyst/Date							





Batch: BKF0449

Prepared using: EPA 3510C SepF  
8041A Chlorinated Phenols in Water (Version:PCP Only)

**WO Comments**  
22F0267: Porewaters -Processing 6.7 L of sediment \$320. Processing 10L Sediment \$575. <G>MS/MSD</G><E>Samples request with and without AS cleanups.  
Logged as separate samples with version for the cleanups</E>

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none"><li>1. Add surr/spike.</li><li>2. Acidify all with 1:1 Sulfuric Acid</li><li>3. Check pH &lt; 2.</li><li>4. Extract 3X with 30mL DCM.</li><li>5. KD (NO Drying Column) at 80° to 5mL.</li><li>6. Exchange (2 X with 20mL) Hexane at 100°.</li><li>7. Turbo Vap.</li><li>8. Vial at 10mL into scintillation vials using Hexane.</li><li>9. GC Analyst to Derivatize and adjust for 50 mL FEV.</li></ol> <p>Archive <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p>	



Extraction Parameter: PCR Extraction Batch BKFG449

Total Solids Batch: NA Work Order(s): 22F0267

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 type="checkbox"/> Other (Details)=	
<b>Aqueous:</b>	
<input type="checkbox"/> No Anomalies	
<input checked="" type="checkbox"/> Turbid/Color= <u>Slight Yellow 267-9,10,11,12,24,26,27. Cloudy + Slight Yellow 267-15,25</u>	<u>AA 6-21-22</u>
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input checked="" type="checkbox"/> Oily, obvious fuel/sulfur odors= <u>Sulfur 267-9,10,11,15,25. Fuel odor 267-12</u>	<u>AA 6-21-22</u>
<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>267-09 had ~20ml of water run into flask after 2nd shake. Extract poured through &amp; decanted prior to 3rd shake.</u>	
<u>267-15 poured through &amp; decanted after 3rd shake completed</u>	
<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**  
**EPA 8041A**

<b>Blank</b>
--------------

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Water</u>	Laboratory ID:	<u>BKF0449-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>06/21/22 13:54</u>
Solids:		Preparation:	<u>EPA 3510C SepF</u>
Batch:	<u>BKF0449</u>	Sequence:	<u>SKF0340</u>
Instrument:	<u>ECD8</u>	Column:	<u>STX-CLP</u>
		File ID:	<u>22062504.D</u>
		Analyzed:	<u>06/25/22 12:29</u>
		Initial/Final:	<u>500 mL / 50 mL</u>
		Calibration:	<u>EK00019</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
87-86-5	Pentachlorophenol	1	0.09	U	0.09	0.25
SURROGATES		ADDED (ug/L)	CONC. (ug/L)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol		2.5000	1.48	59.4	26 - 120	
2,4,6-Tribromophenol [2C]		2.5000	1.68	67.2	26 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062504.D  
Data file 2: /20220625.b/22062504.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpca1.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: BKF449-BLK1  
Client ID:  
Injection Date: 25-JUN-2022 12:29  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
-----		-----		0.0	0.0	--- Pentachlorophenol
-----		6.955 -0.026 195781		0.0	0.2	--- 2,4,6-Trichlorophenol
-----		7.809 -0.028 117389		0.0	0.1	--- 2,3,6-Trichlorophenol
-----		8.870 0.346 190659		0.0	0.4	--- 2,4,5-Trichlorophenol
-----		9.932 -0.013 15828		0.0	0.0	--- 2,3,4-Trichlorophenol
-----		9.790 -0.020 244979		0.0	0.1	--- 2,3,5,6-Tetrachlorophenol
-----		11.855 -0.025 223275		0.0	0.2	--- 2,3,4,5-Tetrachlorophenol
-----		6.644 -0.054 175960		0.0	3.7	--- 2,4-Dichlorophenol
10.705 -0.027 3217434		11.365 -0.023 26486118		14.8	16.8 12.3	2,4,6-Tribromophenol (surr)

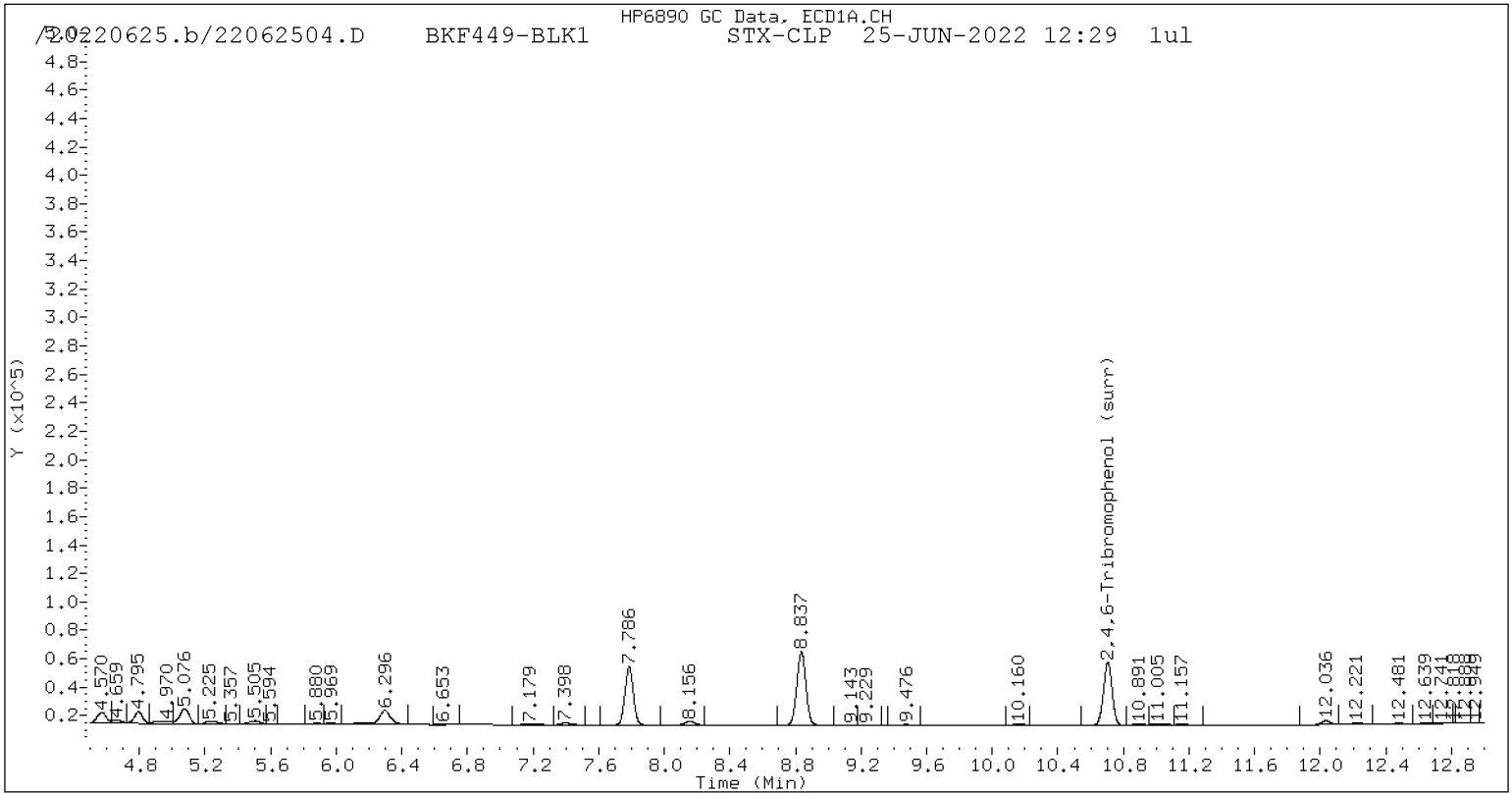
- \* Indicates RPD > 40%
- A Indicates Peak Height was used for Column 1 quantitation instead of Area
- B Indicates Peak Height was used for Column 2 quantitation instead of Area
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

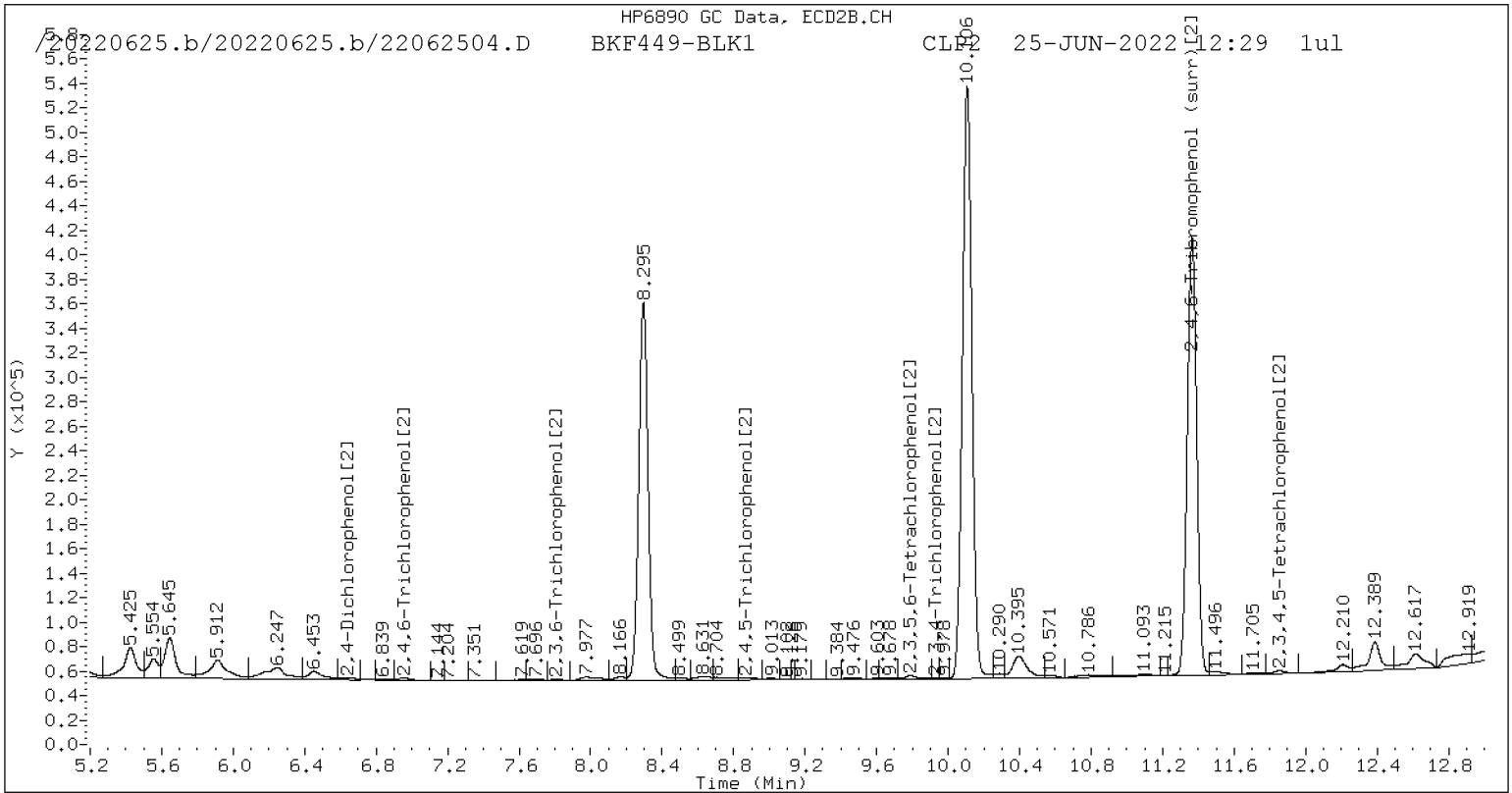
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	59.4	67.2	59.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**LCS / LCS DUPLICATE RECOVERY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Matrix: Water  
 Batch: BKF0449  
 Preparation: EPA 3510C SepF  
 Initial/Final: 500 mL / 50 mL

SDG: 22F0267  
 Project: RG Haley Site-Bellingham  
 Analyzed: 06/25/22 12:47  
 Laboratory ID: BKF0449-BS1  
 Sequence Name: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Pentachlorophenol [2C]	2.50	1.43		57.1	48 - 120

\* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Pentachlorophenol [2C]	2.50	1.70		68.2	17.8	30	48 - 120

\* Indicates values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062505.D  
Data file 2: /20220625.b/22062505.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: BKF449-BS1  
Client ID:  
Injection Date: 25-JUN-2022 12:47  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.048	-0.015	4293634	12.395	-0.014	30789666	13.8	14.3	3.7	Pentachlorophenol
6.860	-0.014	1742605	6.967	-0.013	13027604	10.2	11.0	7.4	2,4,6-Trichlorophenol
7.440	-0.016	2367326	7.824	-0.013	12666238	14.1	11.6	19.4	2,3,6-Trichlorophenol
8.389	-0.013	581861	8.931	0.407	4241716	8.4	8.8	4.9	2,4,5-Trichlorophenol
9.174	-0.013	522126	9.934	-0.011	3426689	6.0	5.5	8.6	2,3,4-Trichlorophenol
9.489	-0.012	3105992	9.800	-0.011	22666614	12.0	13.2	9.6	2,3,5,6-Tetrachlorophenol
11.180	-0.014	2210079	11.866	-0.014	16200862	13.7	14.4	5.2	2,3,4,5-Tetrachlorophenol
6.306	0.083	868663	6.685	-0.013	905525	134.5	18.8	150.8*	2,4-Dichlorophenol M
10.718	-0.014	3040662	11.374	-0.015	24833905	14.0	15.7	11.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

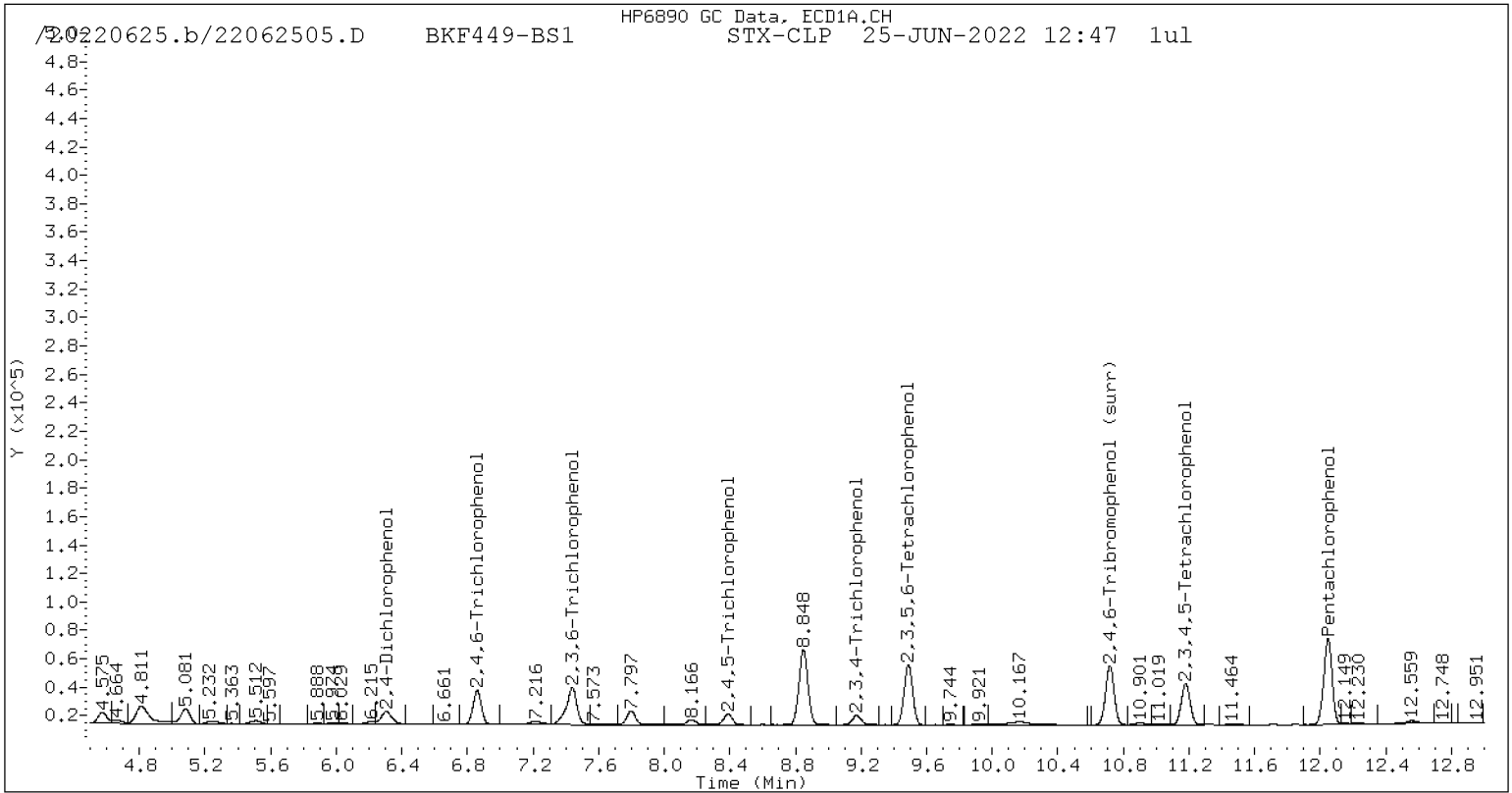
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

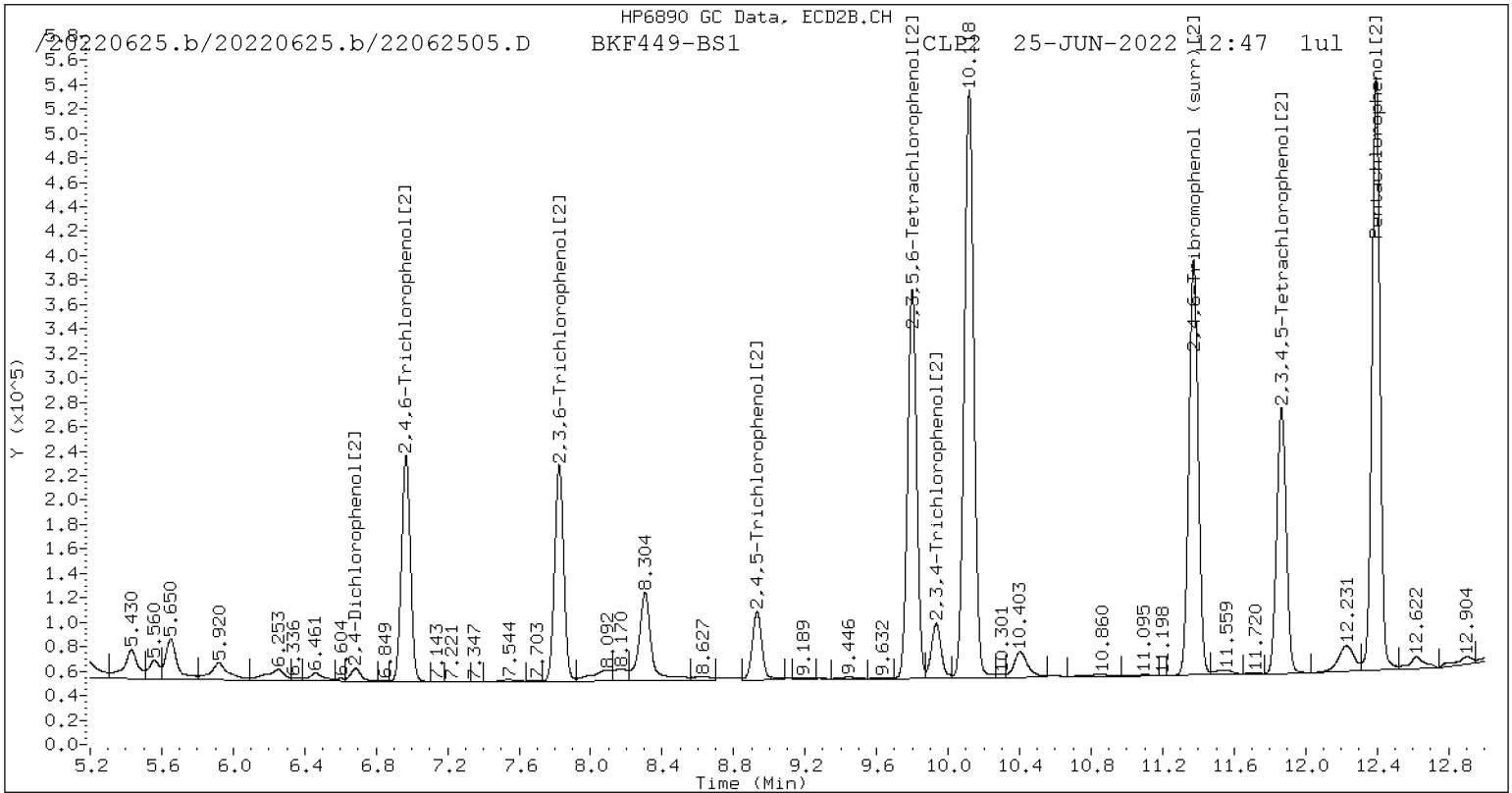
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	56.1	63.0	56.1~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: YES

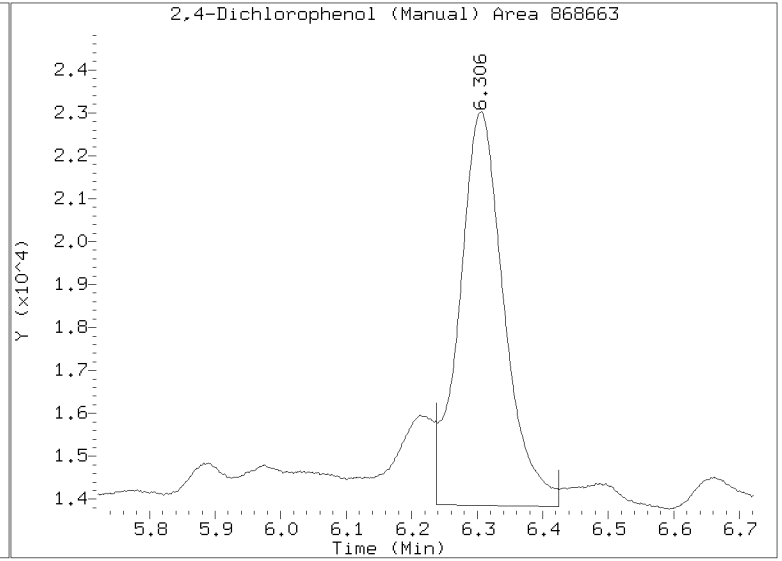
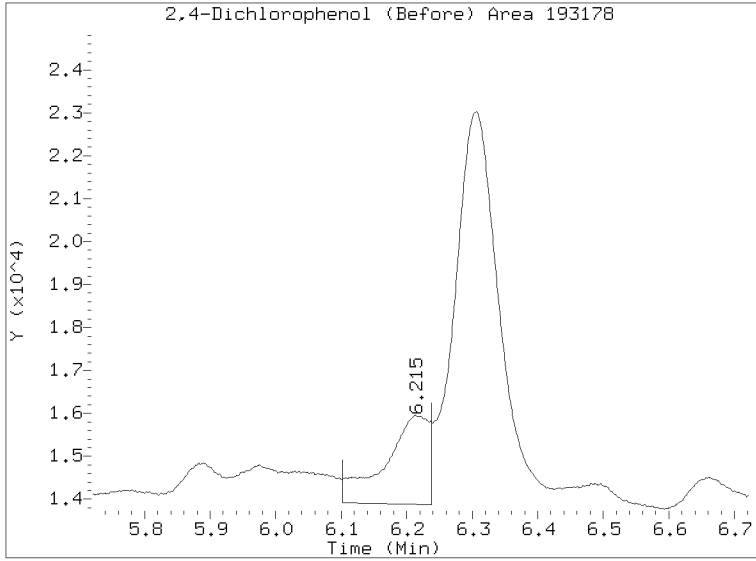


CLP-2 Manual Integration: NO



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062505.D  
Injection Date: 25-JUN-2022 12:47  
Lab ID: BKF449-BS1 Client ID:  
Report Date: 06/29/2022 10:42



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062506.D  
Data file 2: /20220625.b/20220625.b/22062506.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: BKF449-BSD1  
Client ID:  
Injection Date: 25-JUN-2022 13:04  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.058	-0.005 5132209	12.406 -0.003 36792189		16.4	17.0	3.6		Pentachlorophenol
6.870	-0.004 2340397	6.979 -0.002 18688277		13.7	15.8	13.9		2,4,6-Trichlorophenol
7.449	-0.007 3214146	7.835 -0.003 18164416		19.1	16.6	14.0		2,3,6-Trichlorophenol
8.397	-0.005 767510	8.940 0.416 5722433		11.0	11.9	7.2		2,4,5-Trichlorophenol
9.181	-0.006 661508	9.944 -0.001 4598552		7.6	7.4	2.9		2,3,4-Trichlorophenol
9.496	-0.005 4038799	9.808 -0.002 30797476		15.6	18.0	14.0		2,3,5,6-Tetrachlorophenol
11.189	-0.004 2735588	11.879 -0.002 20623294		17.0	18.4	8.0		2,3,4,5-Tetrachlorophenol
6.317	0.095 811284	6.697 -0.001 1157608		125.7	24.1	135.6*		2,4-Dichlorophenol M
10.726	-0.005 3749014	11.387 -0.001 31382546		17.3	19.9	14.0		2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

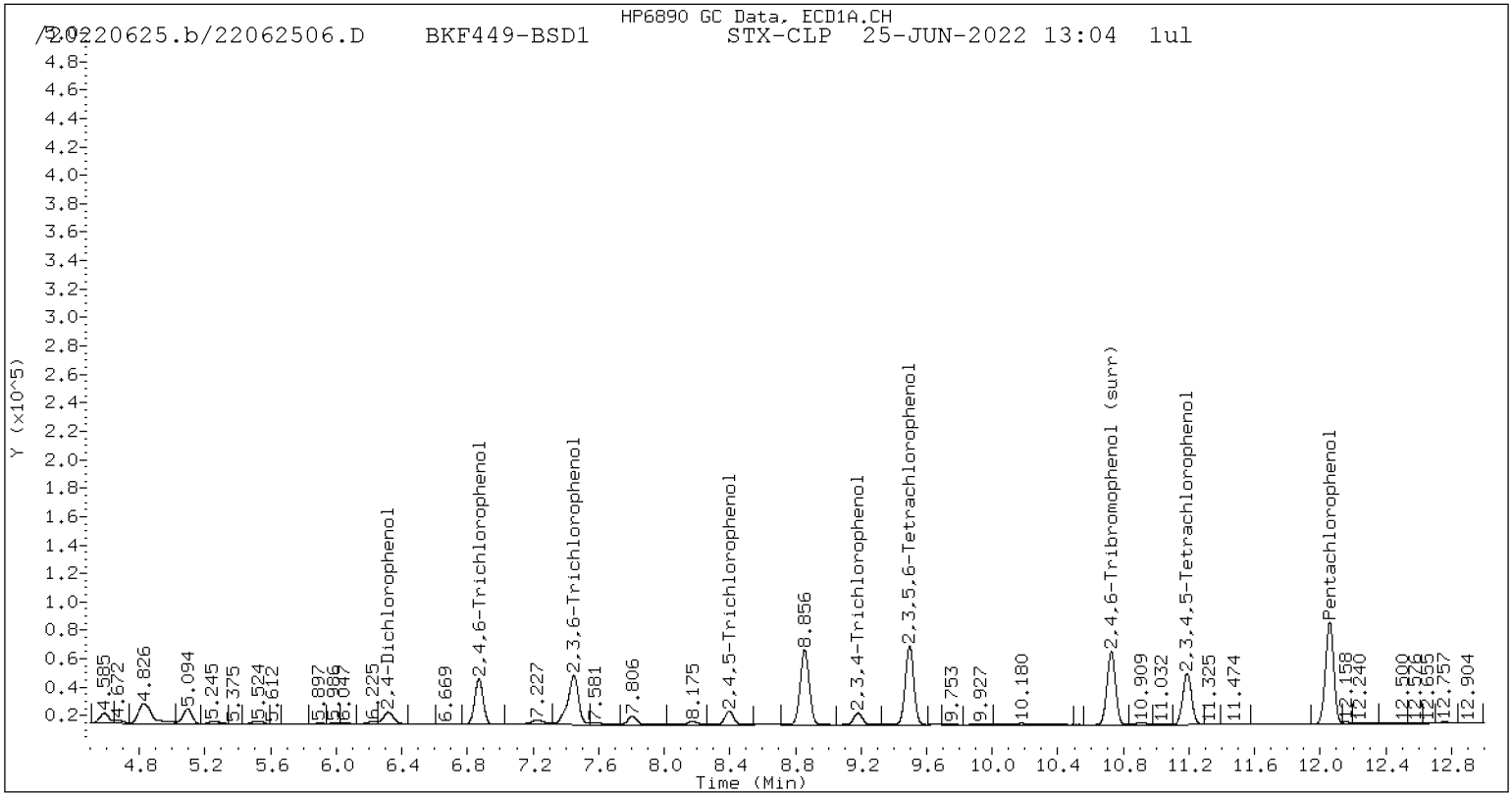
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

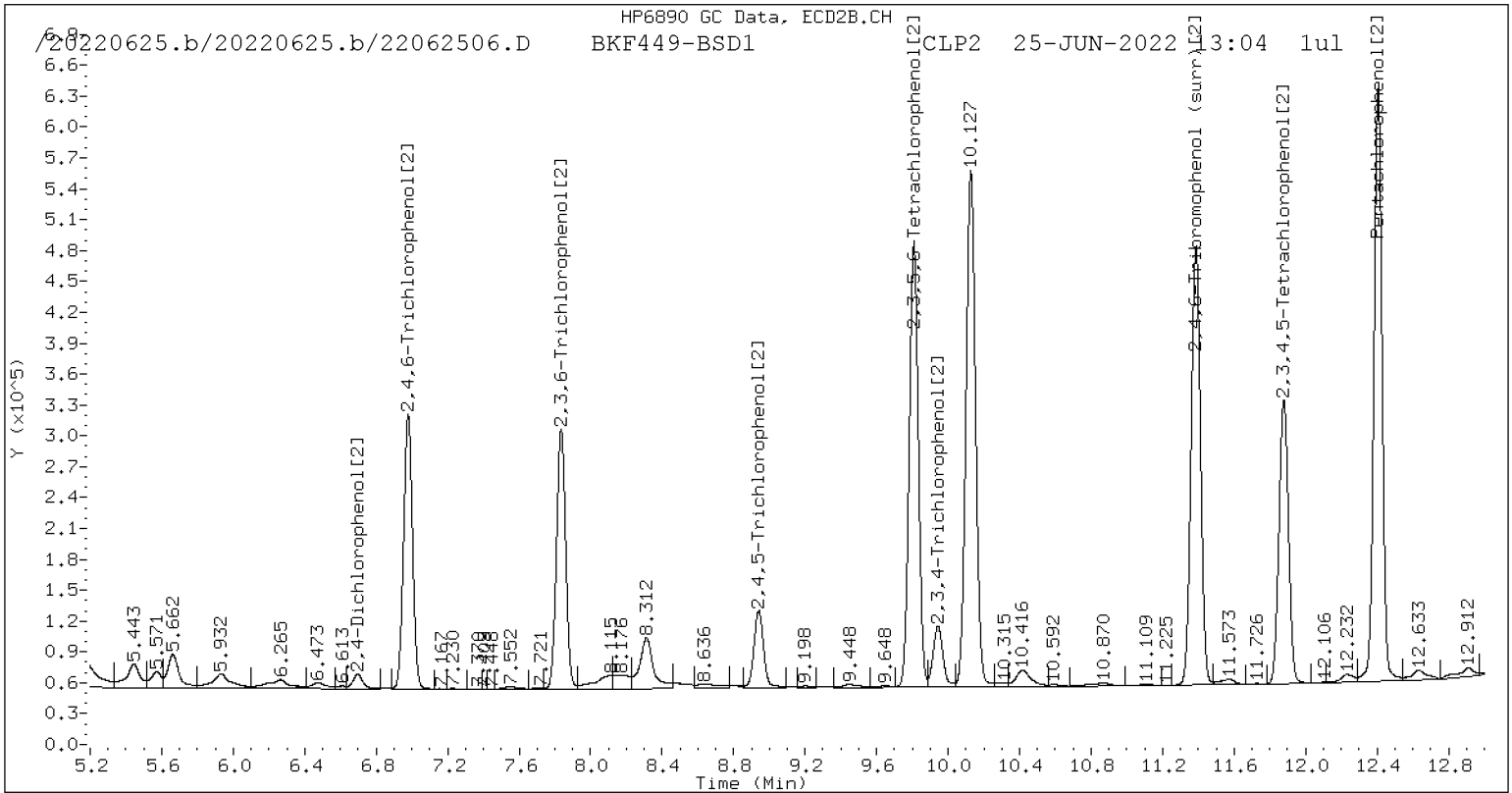
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	69.2	79.6	69.2~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



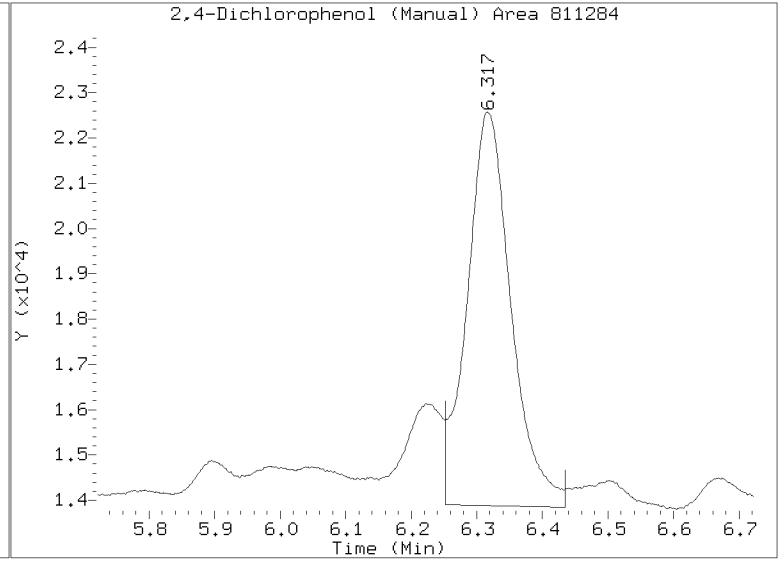
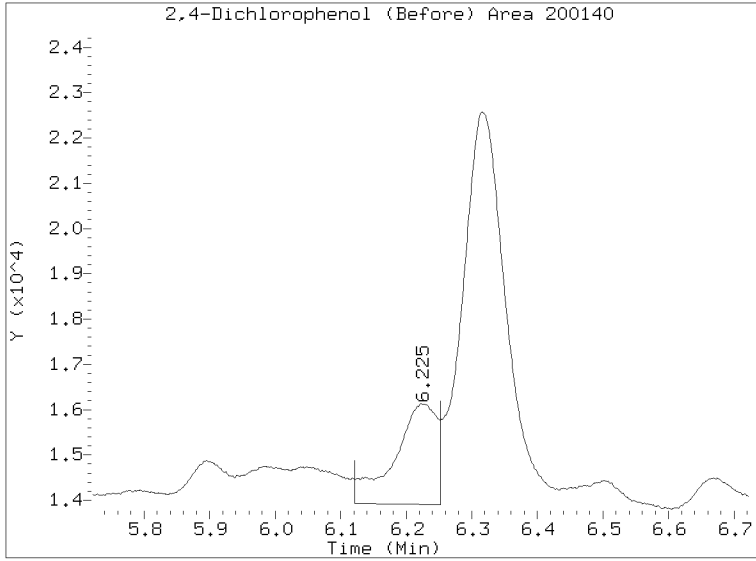
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: NO

Manual Peak Adjustment Report, STX-CLP

Datafile: /20220625.b/22062506.D  
Injection Date: 25-JUN-2022 13:04  
Lab ID: BKF449-BSD1 Client ID:  
Report Date: 06/29/2022 10:42





**INITIAL CALIBRATION DATA  
EPA 8041A**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	EK00019	Instrument:	ECD8
Calibration Date:	11/04/2021	Column (1):	STX-CLP
Comments:	PCP		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Pentachlorophenol	2.5	347805.2	6.25	329618.9	12.5	308574.2	25	302154.4	50	298210.2	100	286949.4
2,4,6-Tribromophenol	2.5	241204	6.25	229545.8	12.5	214893.6	25	210301.8	50	206101.4	100	198449.4



**INITIAL CALIBRATION DATA**  
**EPA 8041A**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	EK00019	Instrument:	ECD8
Calibration Date:	11/04/2021	Column (1):	STX-CLP
Comments:	PCP		

<b>COMPOUND</b>	<b>Mean RF</b>	<b>RF RSD</b>	<b>Linear COD</b>	<b>Quad COD</b>	<b>Limit Type &amp; Limit</b>	<b>Q</b>
Pentachlorophenol	312218.7	7.2			RSD (20)	
2,4,6-Tribromophenol	216749.3	7.3			RSD (20)	





**INITIAL CALIBRATION DATA**  
**EPA 8041A**

Laboratory:	Analytical Resources, LLC	SDG:	22F0267
Client:	GeoEngineers	Project:	RG Haley Site-Bellingham
Calibration:	EK00019	Instrument:	ECD8
Calibration Date:	11/04/2021	Column (2):	STX-CLP2
Comments:	PCP		

<b>COMPOUND</b>	<b>Mean RF</b>	<b>RF RSD</b>	<b>Linear COD</b>	<b>Quad COD</b>	<b>Limit Type &amp; Limit</b>	<b>Q</b>
Pentachlorophenol [2C]	2158094	4.1			RSD (20)	
2,4,6-Tribromophenol [2C]	1576894	5.4			RSD (20)	





ANALYSIS SEQUENCE

SJK0057

Instrument: ECD8                      Element Column ID: I004683/I00468  
Calibration ID: EK00019            Tune File:  
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJK0057-CAL1	CIPhenols 2.5	QC		1	J011897		
SJK0057-CAL2	CIPhenols 5	QC		2	J011896		
SJK0057-CAL3	CIPhenols 10	QC		3	J011895		
SJK0057-CAL4	CIPhenols 25	QC		4	J011894		
SJK0057-CAL5	CIPhenols 50	QC		5	J011893		
SJK0057-CAL6	CIPhenols 100	QC		6	J005465		
SJK0057-SCV1	CIPhenols SCV 25	QC		7	J011892		
SJK0057-ICV1	Initial Cal Check	QC		8	J011894		
BJJ0741-BLK1	Blank	QC		9			
BJJ0741-BLK2	Blank	QC		10			
BJJ0741-BLK3	Blank	QC		11			
BJJ0741-BS1	LCS	QC		12			
21I0197-01	MDL-1	8041A Chlorinated Phenols	A 01	13			
21I0197-02	MDL-2	8041A Chlorinated Phenols	A 01	14			
21I0197-03	MDL-3	8041A Chlorinated Phenols	A 01	15			
21I0435-09	PE1274-1.2ML	8041A Chlorinated Phenols	A 01	16			
SJK0057-CCV1	CIPhenols CCV1	QC		17	J011894		

## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20211104.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	04-NOV-2021	11:09	21110401E8.D	1	SJK0057-CAL1	
2	04-NOV-2021	11:26	21110402E8.D	1	SJK0057-CAL2	
3	04-NOV-2021	11:44	21110403E8.D	1	SJK0057-CAL3	
4	04-NOV-2021	12:02	21110404E8.D	1	SJK0057-CAL4	
5	04-NOV-2021	12:20	21110405E8.D	1	SJK0057-CAL5	
6	04-NOV-2021	12:38	21110406E8.D	1	SJK0057-CAL6	
7	04-NOV-2021	12:56	21110407E8.D	1	SJK0057-SCV1	
8	04-NOV-2021	13:14	21110408E8.D	1	SJK0057-ICV1	
9	04-NOV-2021	13:32	21110409E8.D	1	BJI0741-BLK1	
10	04-NOV-2021	13:49	21110410E8.D	1	BJI0741-BLK2	
11	04-NOV-2021	14:07	21110411E8.D	1	BJI0741-BLK3	
12	04-NOV-2021	14:25	21110412E8.D	1	BJI0741-BS1	
13	04-NOV-2021	14:43	21110413E8.D	1	21J0197-01	
14	04-NOV-2021	15:01	21110414E8.D	1	21J0197-02	
15	04-NOV-2021	15:19	21110415E8.D	1	21J0197-03	
16	04-NOV-2021	15:36	21110416E8.D	20	21I0435-05RE1	20
17	04-NOV-2021	15:54	21110417E8.D	1	SJK0057-CCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20211104.b

ARI Job No.: SJK0 Method: PCP.m Instrument: ecd8.i Date: 04-NOV-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1109	21110401E8.D	SJK0057-CAL1		1	2,4-Dichlorophenol,
1126	21110402E8.D	SJK0057-CAL2		1	NO MANUAL INTEGRATION
1144	21110403E8.D	SJK0057-CAL3		1	NO MANUAL INTEGRATION
1202	21110404E8.D	SJK0057-CAL4		1	NO MANUAL INTEGRATION
1220	21110405E8.D	SJK0057-CAL5		1	NO MANUAL INTEGRATION
1238	21110406E8.D	SJK0057-CAL6		1	NO MANUAL INTEGRATION
1256	21110407E8.D	SJK0057-SCV1		1	NO MANUAL INTEGRATION
1314	21110408E8.D	SJK0057-ICV1		1	NO MANUAL INTEGRATION
1332	21110409E8.D	BJI0741-BLK1		1	NO MANUAL INTEGRATION
1349	21110410E8.D	BJI0741-BLK2		1	NO MANUAL INTEGRATION
1407	21110411E8.D	BJI0741-BLK3		1	NO MANUAL INTEGRATION
1425	21110412E8.D	BJI0741-BS1		1	NO MANUAL INTEGRATION
1443	21110413E8.D	21J0197-01		1	NO MANUAL INTEGRATION
1501	21110414E8.D	21J0197-02		1	NO MANUAL INTEGRATION
1519	21110415E8.D	21J0197-03		1	NO MANUAL INTEGRATION
1536	21110416E8.D	21I0435-05RE1	20	20	NO MANUAL INTEGRATION
1554	21110417E8.D	SJK0057-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 05-Nov-2021 10:08

21110401E8.D	Data Locked	yev, 05-
21110402E8.D	Data Locked	yev, 05-
21110403E8.D	Data Locked	yev, 05-
21110404E8.D	Data Locked	yev, 05-
21110405E8.D	Data Locked	yev, 05-
21110406E8.D	Data Locked	yev, 05-
21110407E8.D	Data Locked	yev, 05-
21110408E8.D	Data Locked	yev, 05-
21110409E8.D	Data Locked	yev, 05-
21110410E8.D	Data Locked	yev, 05-
21110411E8.D	Data Locked	yev, 05-
21110412E8.D	Data Locked	yev, 05-
21110413E8.D	Data Locked	yev, 05-
21110414E8.D	Data Locked	yev, 05-
21110415E8.D	Data Locked	yev, 05-
21110416E8.D	Data Locked	yev, 05-
21110417E8.D	Data Locked	yev, 05-

ARI Labs, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd8.i\20211104.b\PCP.m  
Batch File: \\target\share\chem4\ecd8.i\20211104.b  
Inst ID: ecd8.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	21110401E8	21110402E8	21110403E8	21110404E8	21110405E8	21110406E8
INJ. DATE:	04-NOV-2021	04-NOV-2021	04-NOV-2021	04-NOV-2021	04-NOV-2021	04-NOV-2021
INJ. TIME:	11:09	11:26	11:44	12:02	12:20	12:38

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 2,4-Dichlorophenol	5.744	5.738	5.743	5.743	5.746	5.745	5.753	5.683-5.823	5.743	0.003
2 2,4,6-Trichlorophenol	6.379	6.374	6.377	6.379	6.380	6.389	6.389	6.319-6.459	6.378	0.002
3 2,3,6-Trichlorophenol	6.949	6.945	6.948	6.950	6.951	6.951	6.960	6.890-7.030	6.949	0.002
4 2,4,5-Trichlorophenol	7.893	7.888	7.890	7.893	7.893	7.893	7.903	7.833-7.973	7.892	0.002
5 2,3,5,6-Tetrachlorophe	8.975	8.972	8.974	8.977	8.976	8.977	8.986	8.916-9.056	8.975	0.002
6 2,3,4-Trichlorophenol	8.668	8.665	8.666	8.670	8.669	8.670	8.679	8.609-8.749	8.668	0.002
7 2,4,6-Tribromophenol	10.196	10.192	10.194	10.197	10.196	10.198	10.207	10.137-10.277	10.196	0.002
8 2,3,4,5-Tetrachlorophe	10.666	10.662	10.664	10.668	10.665	10.668	10.677	10.607-10.747	10.666	0.002
9 Pentachlorophenol	11.527	11.523	11.525	11.529	11.526	11.529	11.538	11.468-11.608	11.527	0.002
35 2-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.930-1.070	+++++	+++++
36 3-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	11.811	11.741-11.881	+++++	+++++
37 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	11.507	11.437-11.577	+++++	+++++
38 3,4-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	12.812	12.742-12.882	+++++	+++++
39 3,5-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	11.737	11.667-11.807	+++++	+++++
40 3,4,5-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	16.463	16.393-16.533	+++++	+++++

Reviewer 1 \_\_\_\_\_  
Reviewer 2 \_\_\_\_\_

Date: \_\_\_\_\_  
Date: \_\_\_\_\_

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd8.i\20211104.b\PCP.m\PCPB.m
Batch File: \\target\share\chem4\ecd8.i\20211104.b\20211104.b
Inst ID: ecd8.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: 21110401E8 21110402E8 21110403E8 21110404E8 21110405E8 21110406E8
INJ. DATE: 04-NOV-2021 04-NOV-2021 04-NOV-2021 04-NOV-2021 04-NOV-2021 04-NOV-2021
INJ. TIME: 11:09 11:26 11:44 12:02 12:20 12:38

Table with 11 columns: Compound, RT01, RT02, RT03, RT04, RT05, RT06, EXPEC RT, RT WINDOW, AVG RT, STD DEV. Rows include various chlorophenol and tetrachlorophenol compounds with their respective retention times and standard deviations.

Reviewer 1 \_\_\_\_\_ Date: \_\_\_\_\_
Reviewer 2 \_\_\_\_\_ Date: \_\_\_\_\_

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-NOV-2021 11:09  
 End Cal Date : 04-NOV-2021 12:38  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 4.14  
 Integrator : HP Genie  
 Method file : \\target\share\chem4\ecd8.i\20211104.b\PCP.m  
 Last Edit : 04-Nov-2021 13:25 ecd8.i  
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd8.i\20211104.b\21110401.D  
 Level 2: \\target\share\chem4\ecd8.i\20211104.b\21110402.D  
 Level 3: \\target\share\chem4\ecd8.i\20211104.b\21110403.D  
 Level 4: \\target\share\chem4\ecd8.i\20211104.b\21110404.D  
 Level 5: \\target\share\chem4\ecd8.i\20211104.b\21110405.D  
 Level 6: \\target\share\chem4\ecd8.i\20211104.b\21110406.D

Compound	2.500 Level 1	6.250 Level 2	12.500 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	RRF	% RSD
1 2,4-Dichlorophenol	7793	7787	6830	6167	5391	4770	6456	19.299
2 2,4,6-Trichlorophenol	193727	185261	170022	164641	157540	151099	170382	9.595
3 2,3,6-Trichlorophenol	195708	181807	167866	161773	155007	148223	168398	10.476
4 2,4,5-Trichlorophenol	81693	80232	72785	66793	60614	55178	69549	15.298
5 2,3,5,6-Tetrachlorophenol	285434	274289	255594	251382	245110	238604	258402	6.942
6 2,3,4-Trichlorophenol	102273	99543	90196	83866	76201	70957	87173	14.369
8 2,3,4,5-Tetrachlorophenol	188652	177387	161850	153834	147146	138623	161249	11.693
9 Pentachlorophenol	347805	329619	308574	302154	298210	286949	312219	7.188
35 2-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 3-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 3,4-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 3,5-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 3,4,5-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 2,4,6-Tribromophenol (surr)	241204	229546	214894	210302	206101	198449	216749	7.310

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-NOV-2021 11:09  
 End Cal Date : 04-NOV-2021 12:38  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 4.14  
 Integrator : HP Genie  
 Method file : \\target\share\chem4\ecd8.i\20211104.b\PCP.m\PCPB.m  
 Last Edit : 04-Nov-2021 13:29 ecd8.i  
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110401.D  
 Level 2: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110402.D  
 Level 3: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110403.D  
 Level 4: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110404.D  
 Level 5: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110405.D  
 Level 6: \\target\share\chem4\ecd8.i\20211104.b\20211104.b\21110406.D

Compound	2.500 Level 1	6.250 Level 2	12.500 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	RRF	% RSD
1 2,4-Dichlorophenol[2]	59134	56205	49637	45360	40868	37027	48038	17.961
2 2,4,6-Trichlorophenol[2]	1346209	1269748	1167729	1151598	1104685	1060101	1183345	8.993
3 2,3,6-Trichlorophenol[2]	1242970	1170438	1090364	1063159	1023270	979196	1094899	8.872
4 2,4,5-Trichlorophenol[2]	607683	539687	488609	451927	420932	386949	482631	16.790
5 2,3,5,6-Tetrachlorophenol[2]	1945617	1765041	1692574	1664614	1628297	1577404	1712258	7.621
6 2,3,4-Trichlorophenol[2]	749983	676196	641956	590651	566284	517568	623773	13.353
8 2,3,4,5-Tetrachlorophenol[2]	1339584	1158012	1128610	1080019	1043332	983492	1122175	10.973
9 Pentachlorophenol[2]	2294919	2193833	2181638	2134271	2111021	2032884	2158094	4.093
35 2-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
36 3-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
37 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 3,4-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
39 3,5-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 3,4,5-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 2,4,6-Tribromophenol (surr)[2]	1705756	1616834	1596498	1562003	1523046	1457230	1576894	5.383



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110401E8.D  
Data file 2: /20211104.b/20211104.b/21110401E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL1  
Client ID:  
Injection Date: 04-NOV-2021 11:09  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.527	-0.011	869513	11.923	-0.025	5737297	2.8	2.7	4.6	Pentachlorophenol
6.379	-0.009	484317	6.461	-0.033	3365522	2.8	2.8	0.1	2,4,6-Trichlorophenol
6.949	-0.011	489271	7.306	-0.034	3107425	2.9	2.8	2.3	2,3,6-Trichlorophenol
7.893	-0.010	204233	8.412	-0.032	1519207	2.9	3.1	6.9	2,4,5-Trichlorophenol
8.668	-0.010	255683	9.408	-0.030	1874958	2.9	3.0	2.5	2,3,4-Trichlorophenol
8.975	-0.011	713586	9.268	-0.031	4864042	2.8	2.8	2.8	2,3,5,6-Tetrachlorophenol
10.666	-0.012	471630	11.343	-0.026	3348960	2.9	3.0	2.0	2,3,4,5-Tetrachlorophenol
5.743	-0.010	194831	6.188	-0.033	1478361	30.2	30.8	2.0	2,4-Dichlorophenol MN
10.196	-0.011	603010	10.839	-0.027	4264391	2.8	2.7	2.8	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

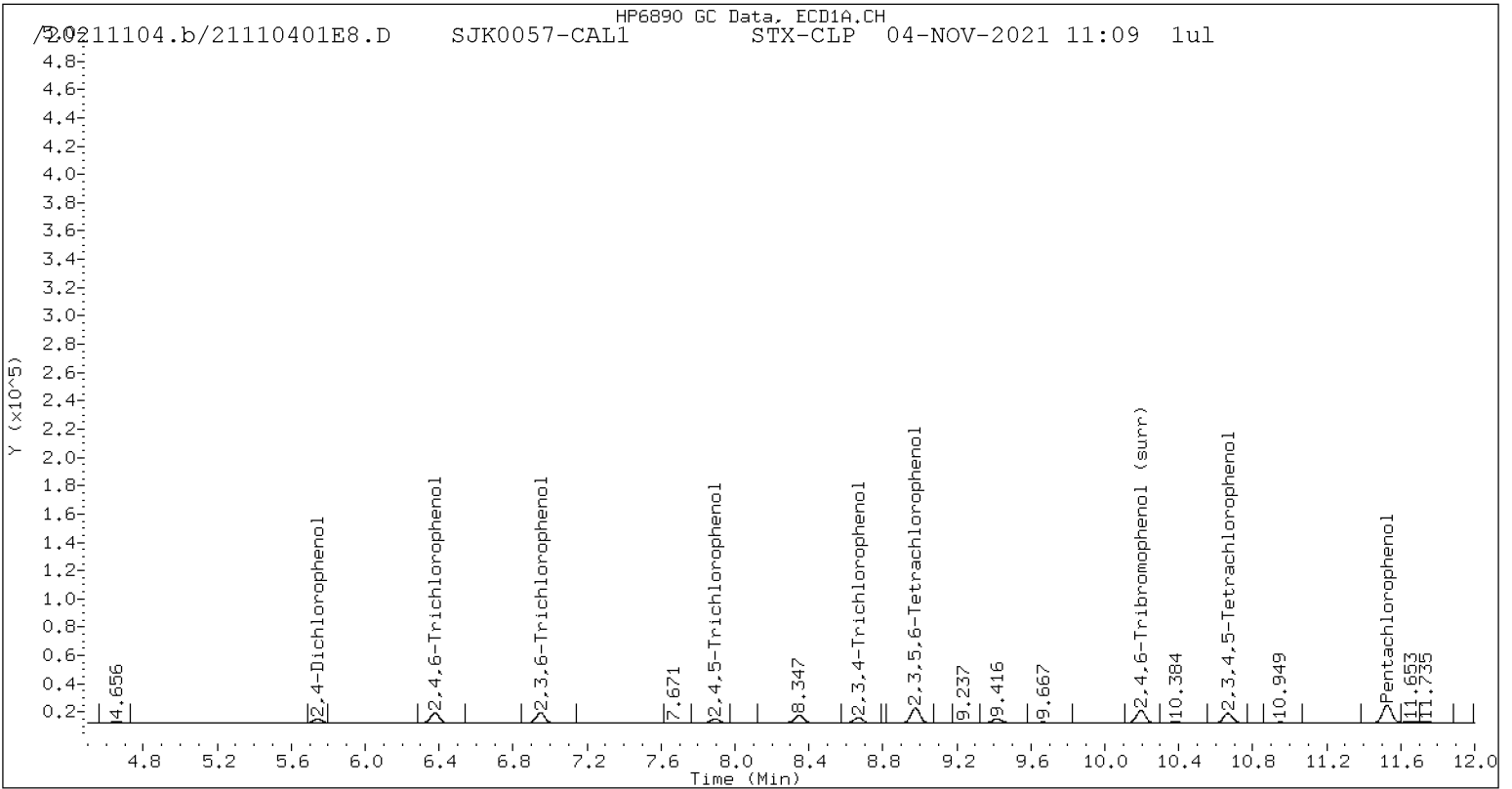
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

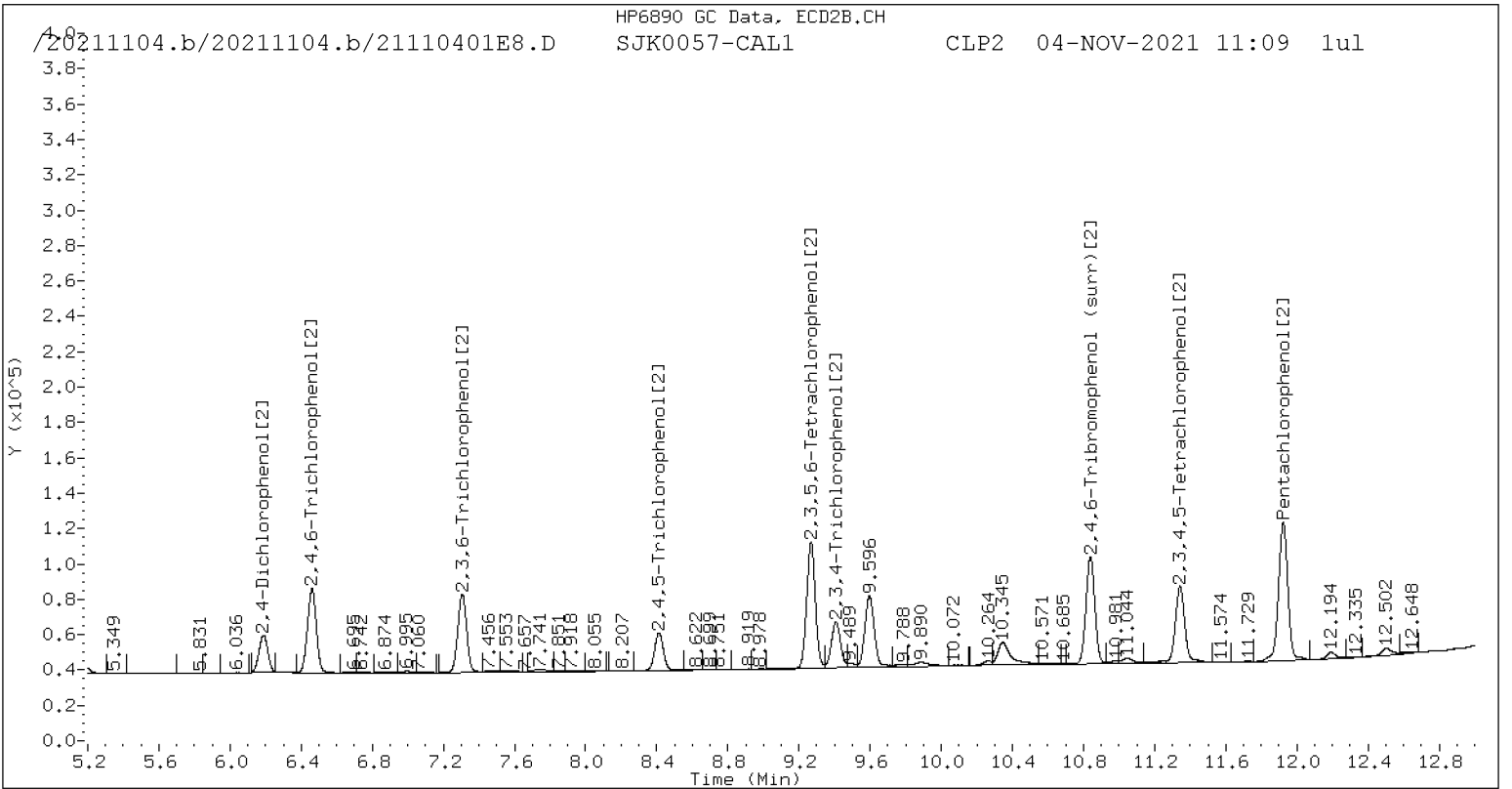
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	11.1	10.8	10.8~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: YES



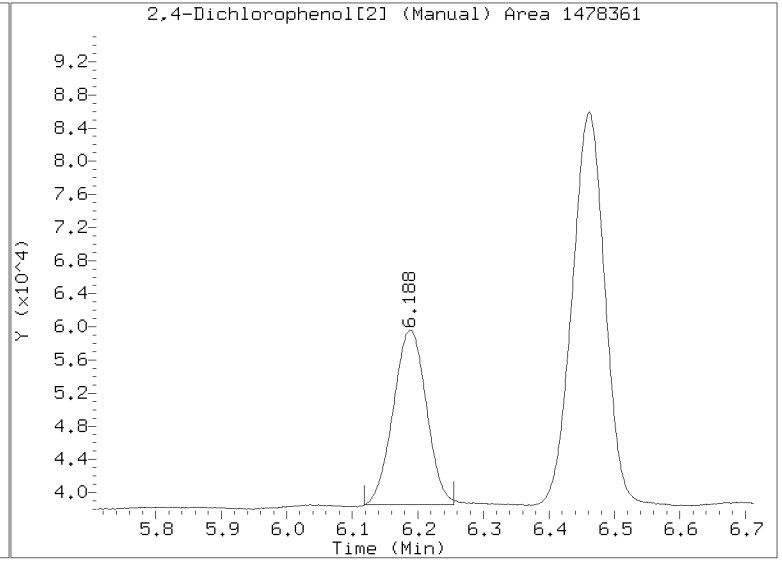
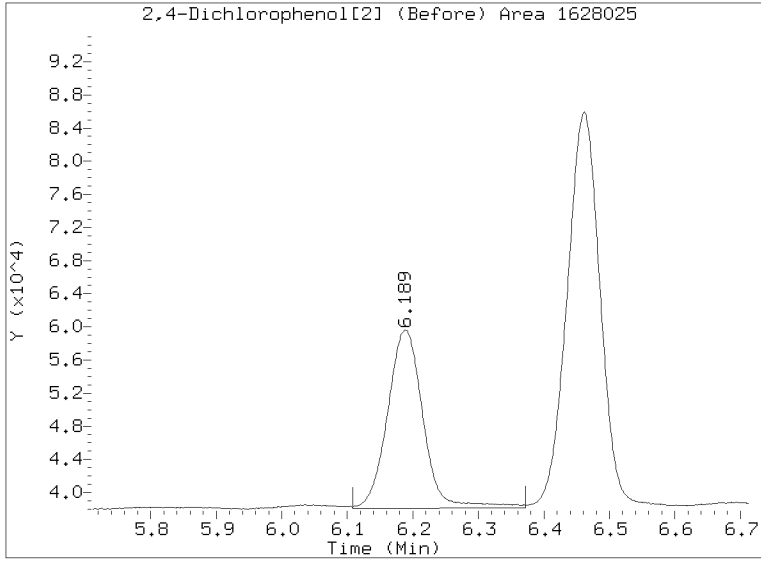
CLP-2 Manual Integration: YES

Manual Peak Adjustment Report, CLP-2

Datafile: /20211104.b/20211104.b/21110401.D

Injection Date: 04-NOV-2021 11:09

Lab ID: SJK0057-CAL1 Client ID:



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110402E8.D  
Data file 2: /20211104.b/20211104.b/21110402E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL2  
Client ID:  
Injection Date: 04-NOV-2021 11:26  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response	on col	on col		
11.523	-0.015	2060118	11.933	-0.016	13711456	6.6	6.4	3.8	Pentachlorophenol
6.374	-0.015	1157880	6.479	-0.016	7935923	6.8	6.7	1.3	2,4,6-Trichlorophenol
6.945	-0.015	1136295	7.324	-0.016	7315239	6.7	6.7	1.0	2,3,6-Trichlorophenol
7.888	-0.015	501447	8.428	-0.016	3373042	7.2	7.0	3.1	2,4,5-Trichlorophenol
8.665	-0.014	622146	9.422	-0.016	4226226	7.1	6.8	5.2	2,3,4-Trichlorophenol
8.972	-0.014	1714305	9.282	-0.017	11031509	6.6	6.4	2.9	2,3,5,6-Tetrachlorophenol
10.662	-0.015	1108671	11.353	-0.016	7237572	6.9	6.4	6.4	2,3,4,5-Tetrachlorophenol
5.738	-0.015	486698	6.204	-0.017	3512825	75.4	73.1	3.0	2,4-Dichlorophenol N
10.192	-0.016	1434661	10.850	-0.016	10105210	6.6	6.4	3.2	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

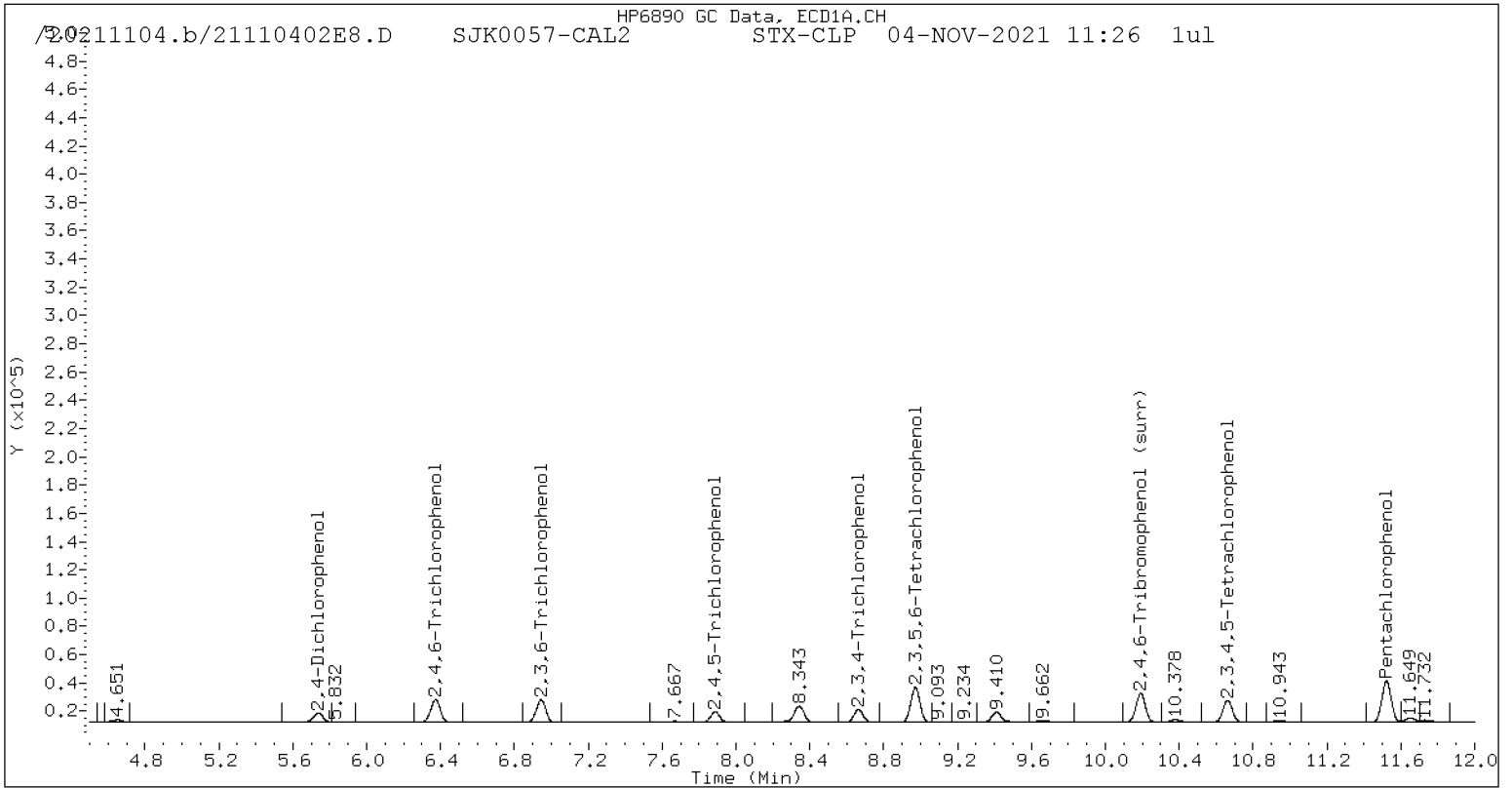
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

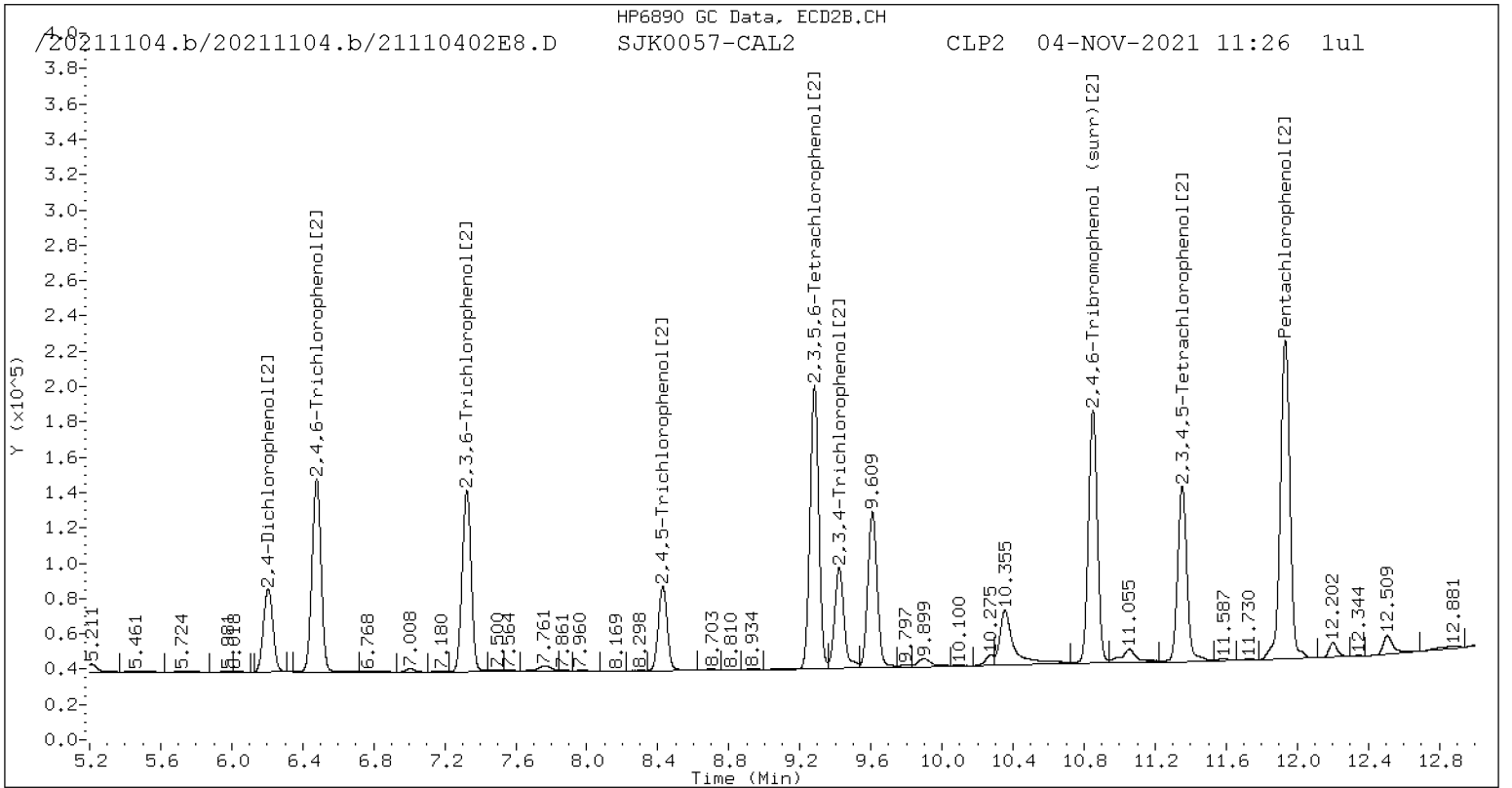
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	26.5	25.6	25.6~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



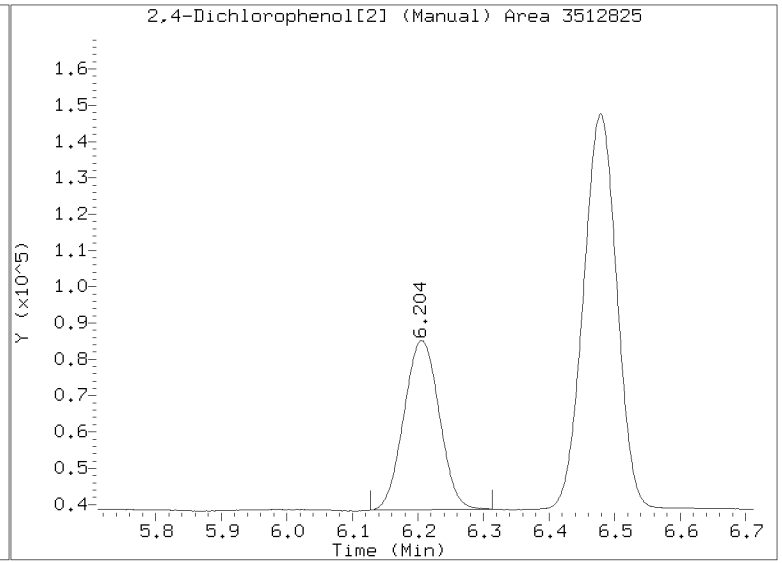
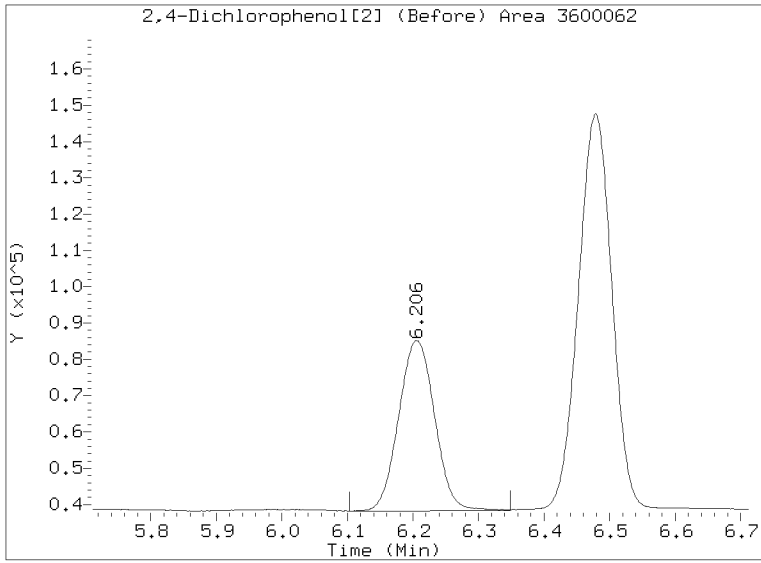
CLP-2 Manual Integration: YES

Manual Peak Adjustment Report, CLP-2

Datafile: /20211104.b/20211104.b/21110402.D

Injection Date: 04-NOV-2021 11:26

Lab ID: SJK0057-CAL2 Client ID:



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110403E8.D  
Data file 2: /20211104.b/20211104.b/21110403E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL3  
Client ID:  
Injection Date: 04-NOV-2021 11:44  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.525	-0.013	3857177	11.936	-0.013	27270470	12.4	12.6	2.3	Pentachlorophenol
6.377	-0.012	2125270	6.484	-0.011	14596607	12.5	12.3	1.1	2,4,6-Trichlorophenol
6.948	-0.012	2098331	7.327	-0.013	13629552	12.5	12.4	0.1	2,3,6-Trichlorophenol
7.890	-0.013	909817	8.431	-0.013	6107614	13.1	12.7	3.3	2,4,5-Trichlorophenol
8.666	-0.012	1127456	9.424	-0.013	8024444	12.9	12.9	0.5	2,3,4-Trichlorophenol
8.974	-0.012	3194928	9.285	-0.014	21157178	12.4	12.4	0.1	2,3,5,6-Tetrachlorophenol
10.664	-0.013	2023126	11.356	-0.012	14107628	12.5	12.6	0.2	2,3,4,5-Tetrachlorophenol
5.743	-0.010	853778	6.210	-0.011	6204566	132.2	129.2	2.4	2,4-Dichlorophenol
10.194	-0.013	2686170	10.854	-0.013	19956224	12.4	12.7	2.1	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

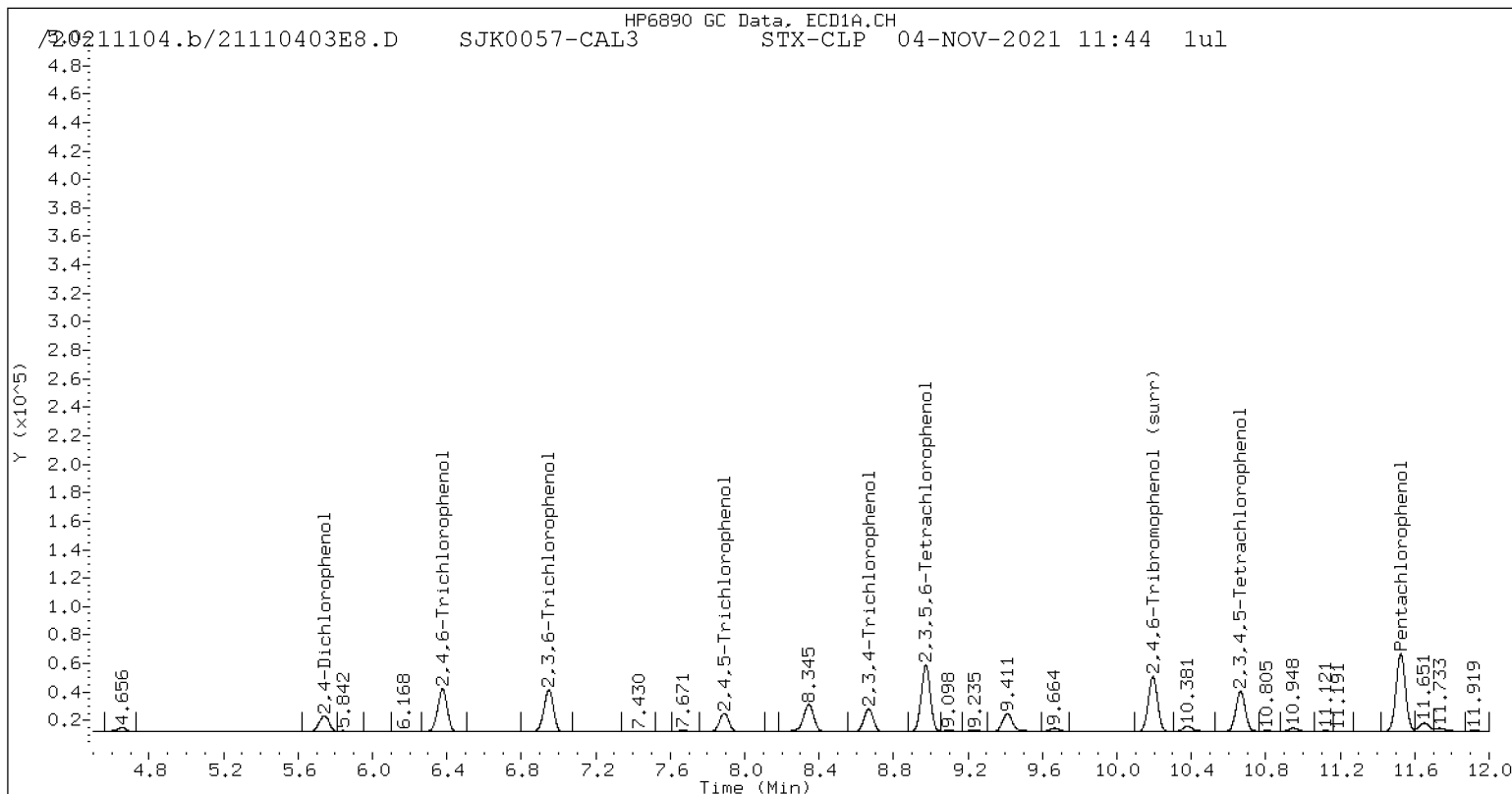
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

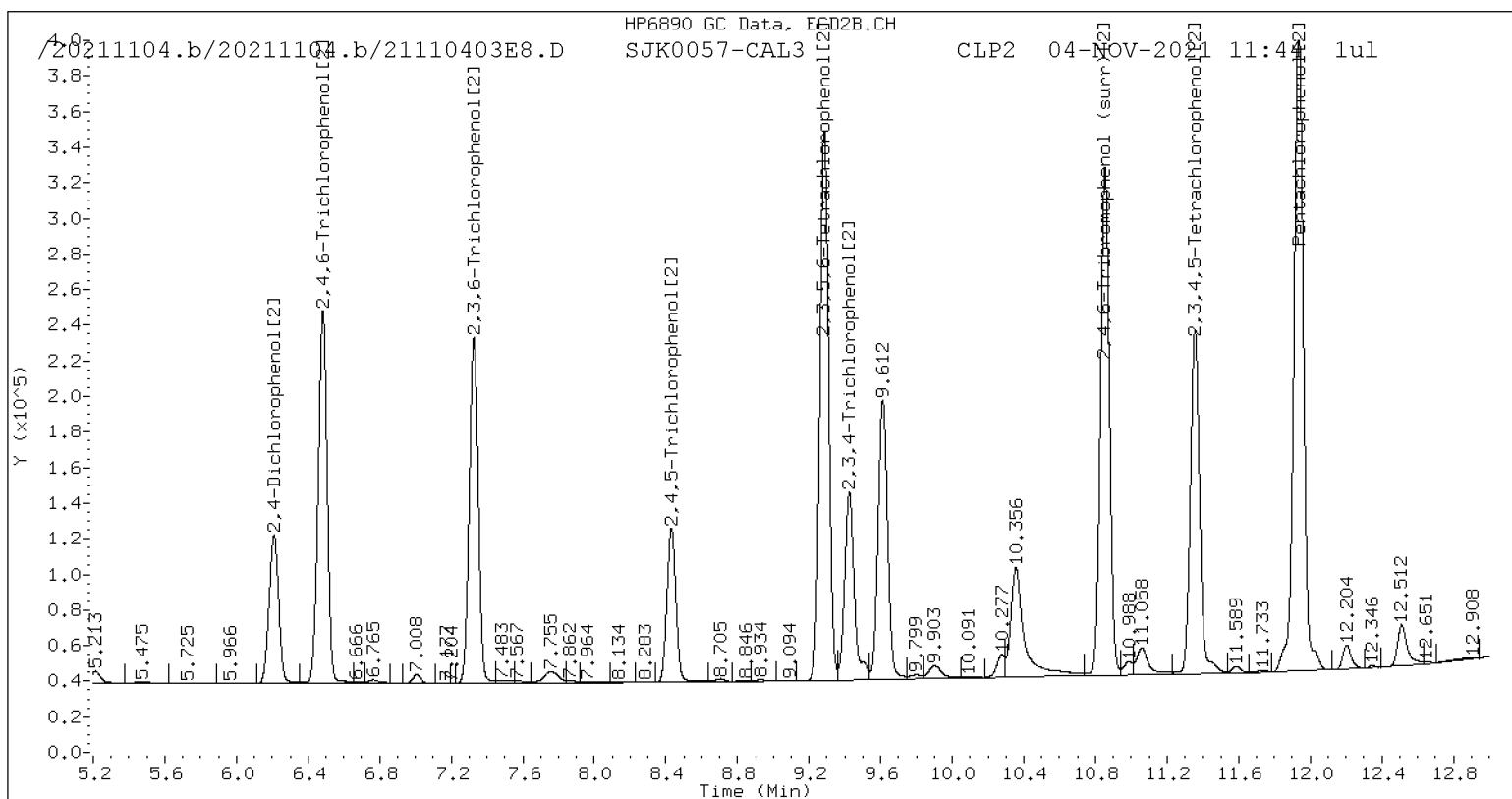
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	49.6	50.6	49.6~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110404E8.D  
Data file 2: /20211104.b/20211104.b/21110404E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL4  
Client ID:  
Injection Date: 04-NOV-2021 12:02  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.529	-0.009	7553860	11.940	-0.009	53356763	24.2	24.7	2.2	Pentachlorophenol
6.379	-0.010	4116027	6.484	-0.010	28789938	24.2	24.3	0.7	2,4,6-Trichlorophenol
6.950	-0.011	4044335	7.330	-0.010	26578965	24.0	24.3	1.1	2,3,6-Trichlorophenol
7.893	-0.009	1669828	8.434	-0.009	11298173	24.0	23.4	2.5	2,4,5-Trichlorophenol
8.670	-0.008	2096649	9.428	-0.010	14766266	24.1	23.7	1.6	2,3,4-Trichlorophenol
8.977	-0.009	6284556	9.289	-0.010	41615345	24.3	24.3	0.1	2,3,5,6-Tetrachlorophenol
10.668	-0.009	3845859	11.360	-0.009	27000467	23.9	24.1	0.9	2,3,4,5-Tetrachlorophenol
5.743	-0.010	1541738	6.212	-0.009	11339971	238.8	236.1	1.2	2,4-Dichlorophenol
10.197	-0.010	5257545	10.857	-0.009	39050063	24.3	24.8	2.1	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

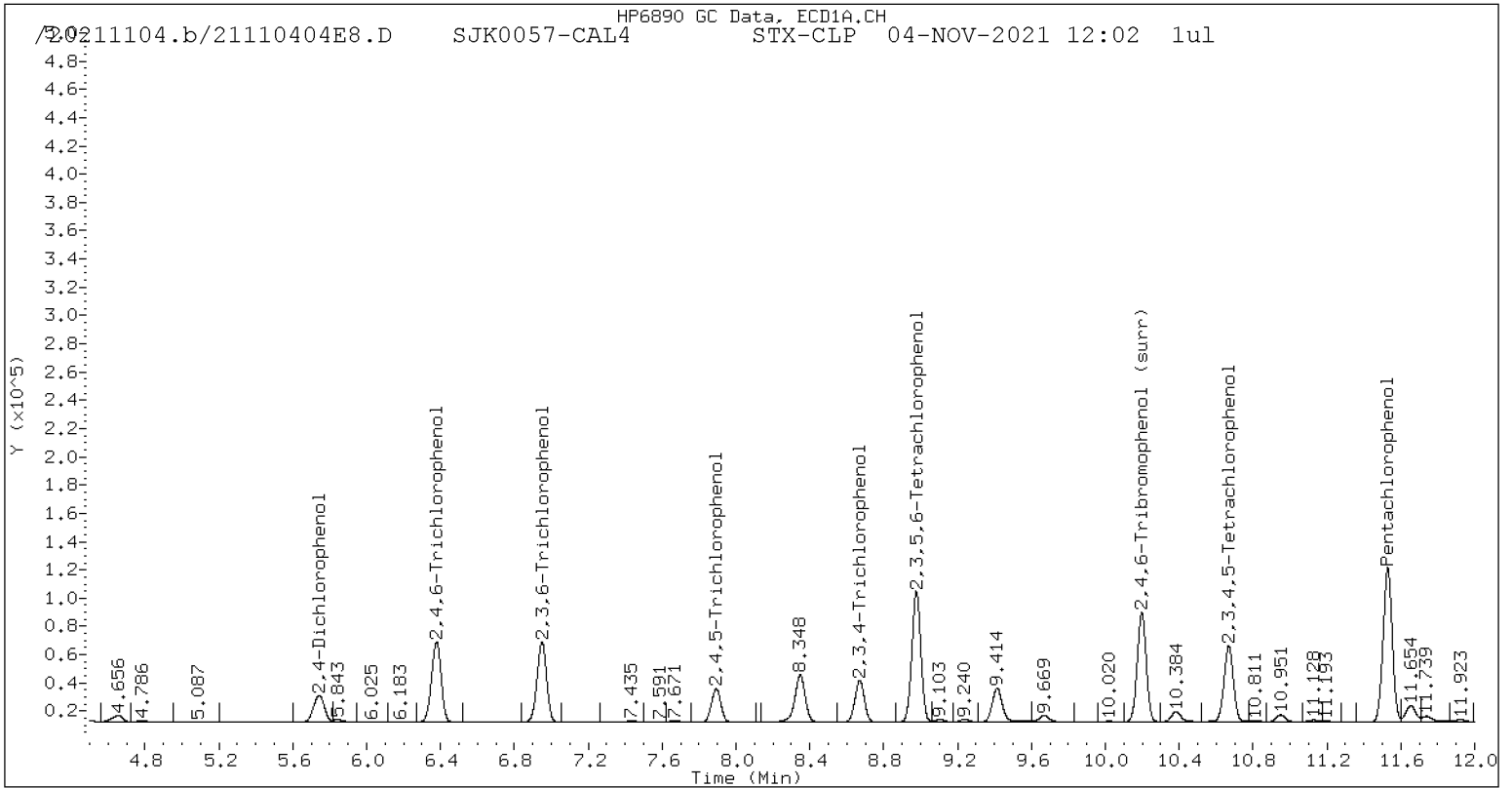
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

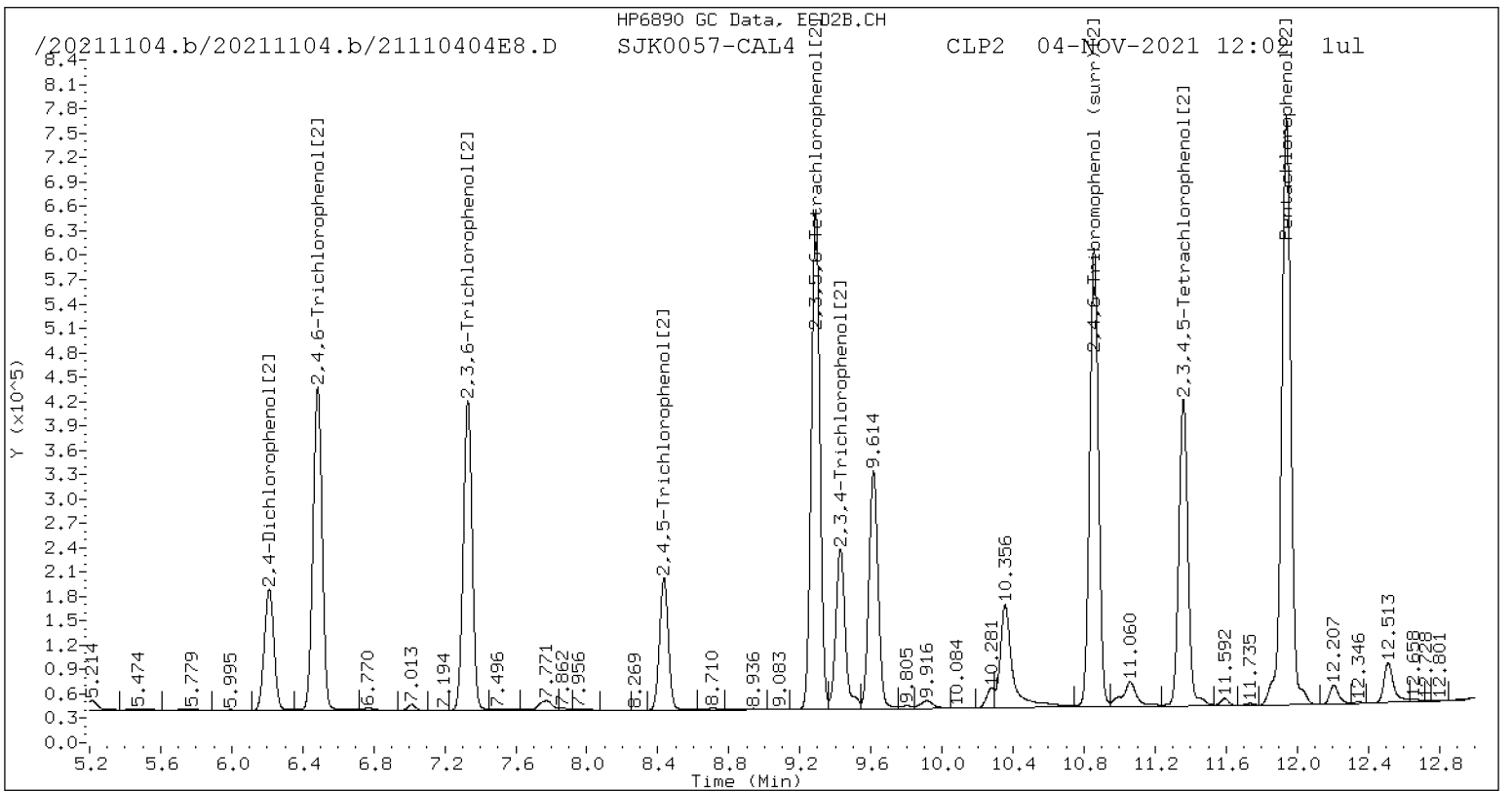
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	97.0	99.1	97.0~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110405E8.D  
Data file 2: /20211104.b/20211104.b/21110405E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL5  
Client ID:  
Injection Date: 04-NOV-2021 12:20  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.526	-0.012 14910505	11.937 -0.012 105551036	47.8	48.9	2.4	Pentachlorophenol
6.380	-0.009 7876991	6.485 -0.010 55234226	46.2	46.7	1.0	2,4,6-Trichlorophenol
6.951	-0.010 7750369	7.329 -0.011 51163486	46.0	46.7	1.5	2,3,6-Trichlorophenol
7.893	-0.010 3030681	8.432 -0.011 21046575	43.6	43.6	0.1	2,4,5-Trichlorophenol
8.669	-0.010 3810032	9.425 -0.013 28314191	43.7	45.4	3.8	2,3,4-Trichlorophenol
8.976	-0.010 12255502	9.287 -0.012 81414862	47.4	47.5	0.3	2,3,5,6-Tetrachlorophenol
10.665	-0.012 7357299	11.357 -0.012 52166583	45.6	46.5	1.9	2,3,4,5-Tetrachlorophenol
5.746	-0.007 2695319	6.212 -0.009 20433901	417.5	425.4	1.9	2,4-Dichlorophenol
10.196	-0.011 10305070	10.854 -0.012 76152283	47.5	48.3	1.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

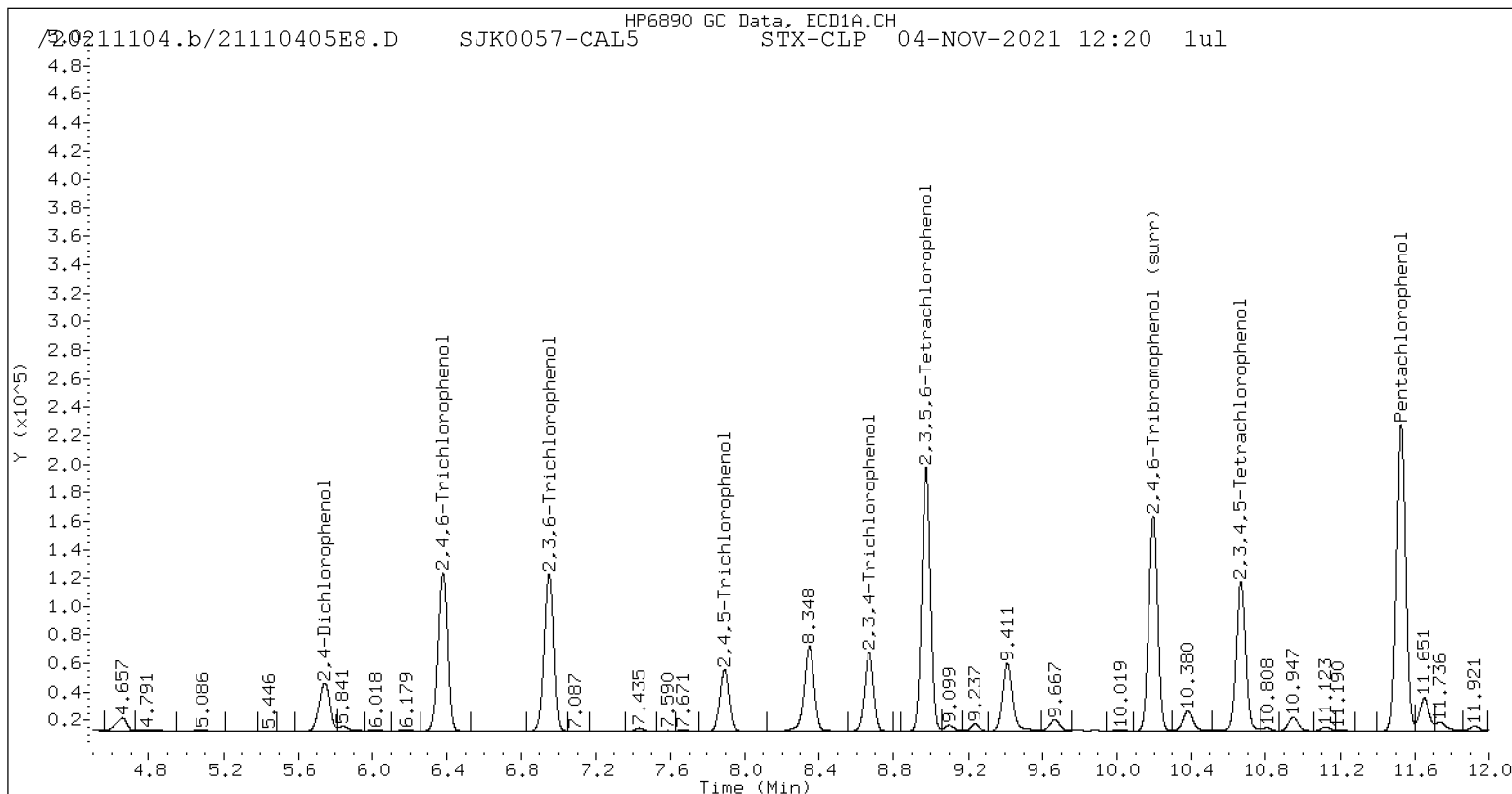
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

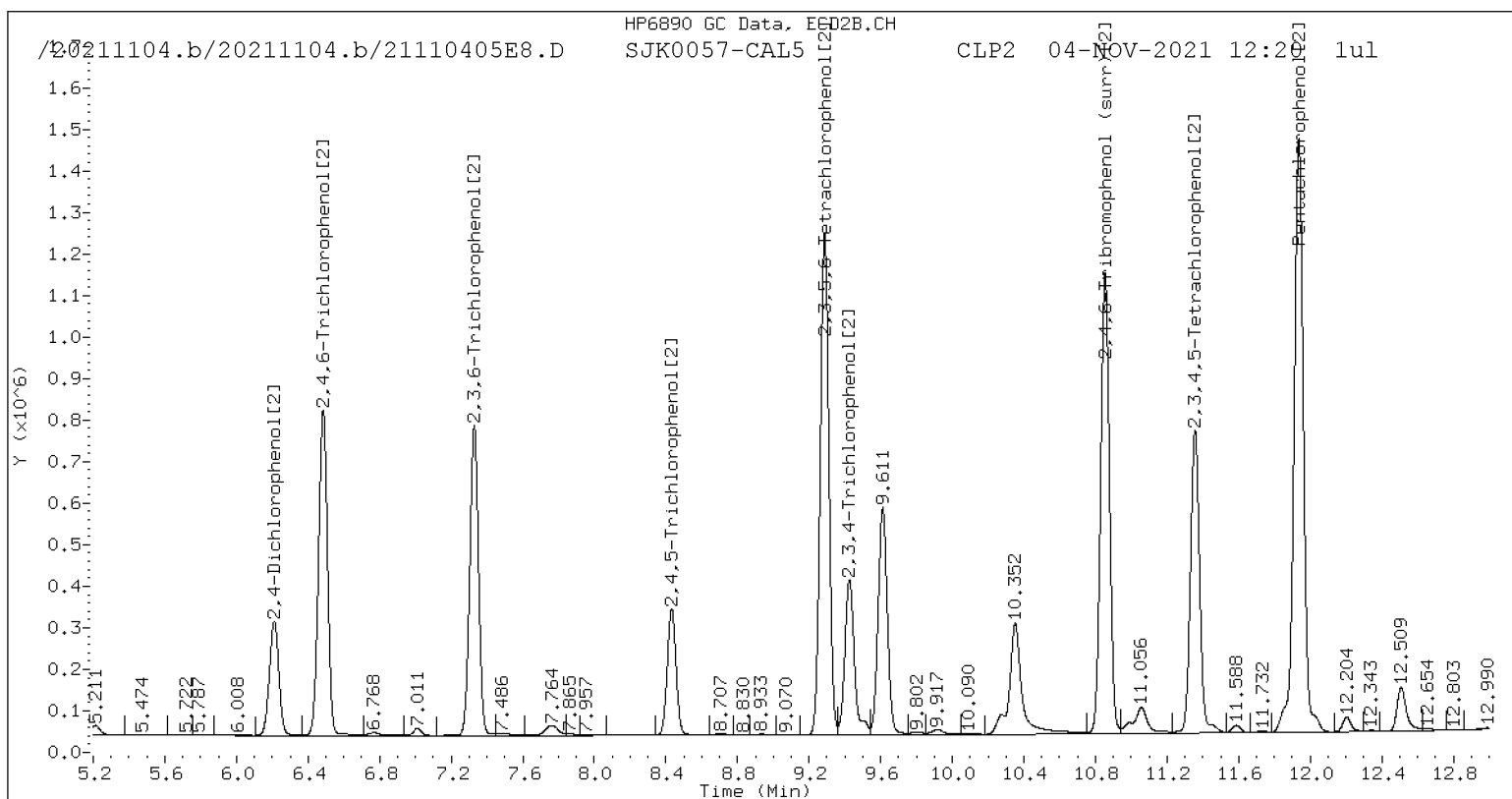
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	190.2	193.2	190.2~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110406E8.D  
Data file 2: /20211104.b/20211104.b/21110406E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CAL6  
Client ID:  
Injection Date: 04-NOV-2021 12:38  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.529	-0.009	28694935	11.940	-0.009	203288435	91.9	94.2	2.5	Pentachlorophenol
6.380	-0.008	15109946	6.486	-0.009	106010134	88.7	89.6	1.0	2,4,6-Trichlorophenol
6.951	-0.009	14822307	7.330	-0.010	97919559	88.0	89.4	1.6	2,3,6-Trichlorophenol
7.893	-0.009	5517821	8.434	-0.010	38694867	79.3	80.2	1.1	2,4,5-Trichlorophenol
8.670	-0.008	7095704	9.428	-0.010	51756770	81.4	83.0	1.9	2,3,4-Trichlorophenol
8.977	-0.009	23860360	9.289	-0.009	157740356	92.3	92.1	0.2	2,3,5,6-Tetrachlorophenol
10.668	-0.009	13862316	11.359	-0.009	98349211	86.0	87.6	1.9	2,3,4,5-Tetrachlorophenol
5.745	-0.008	4769646	6.212	-0.009	37027017	738.8	770.8	4.2	2,4-Dichlorophenol
10.198	-0.009	19844940	10.857	-0.009	145722974	91.6	92.4	0.9	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

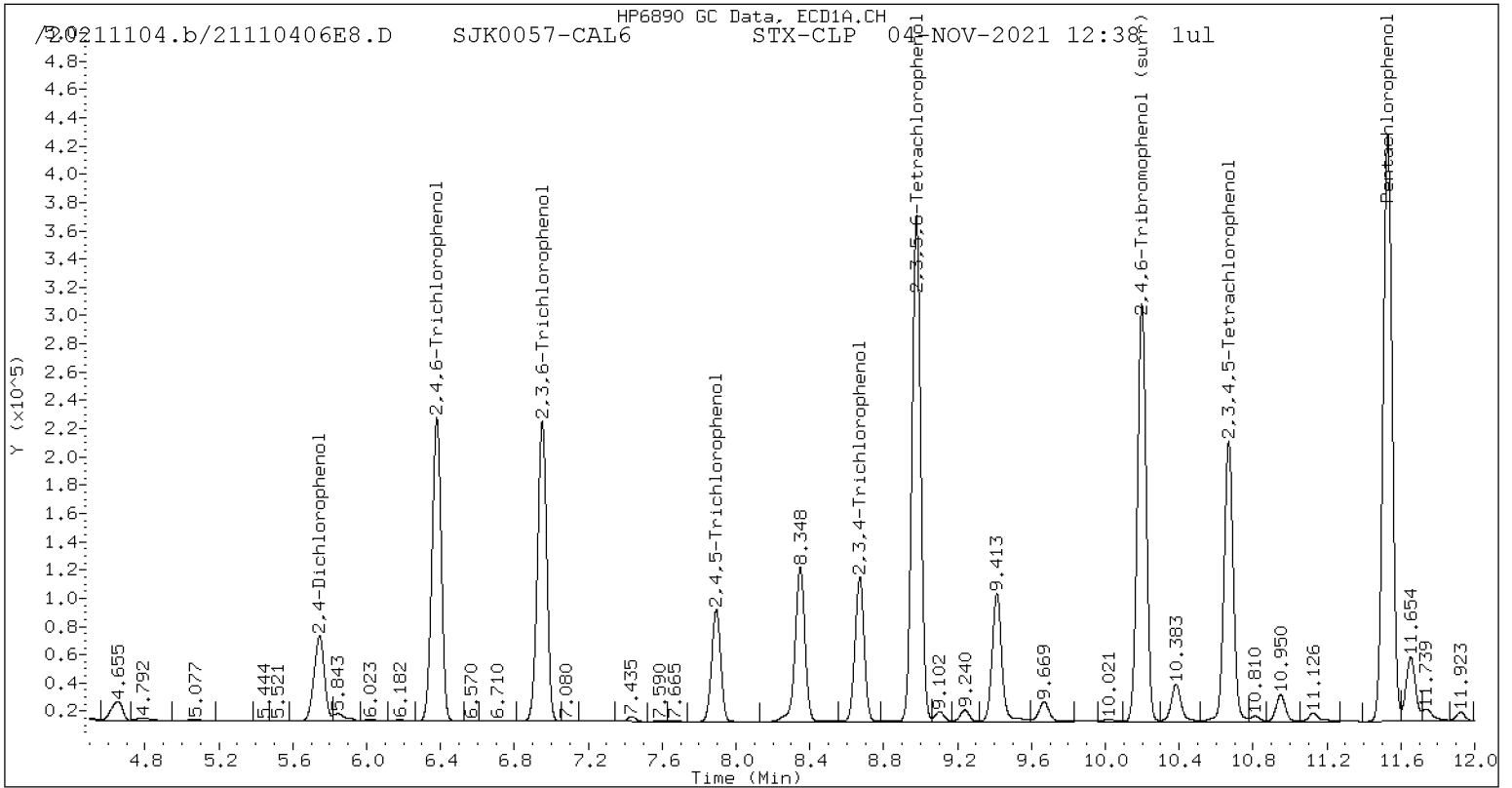
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

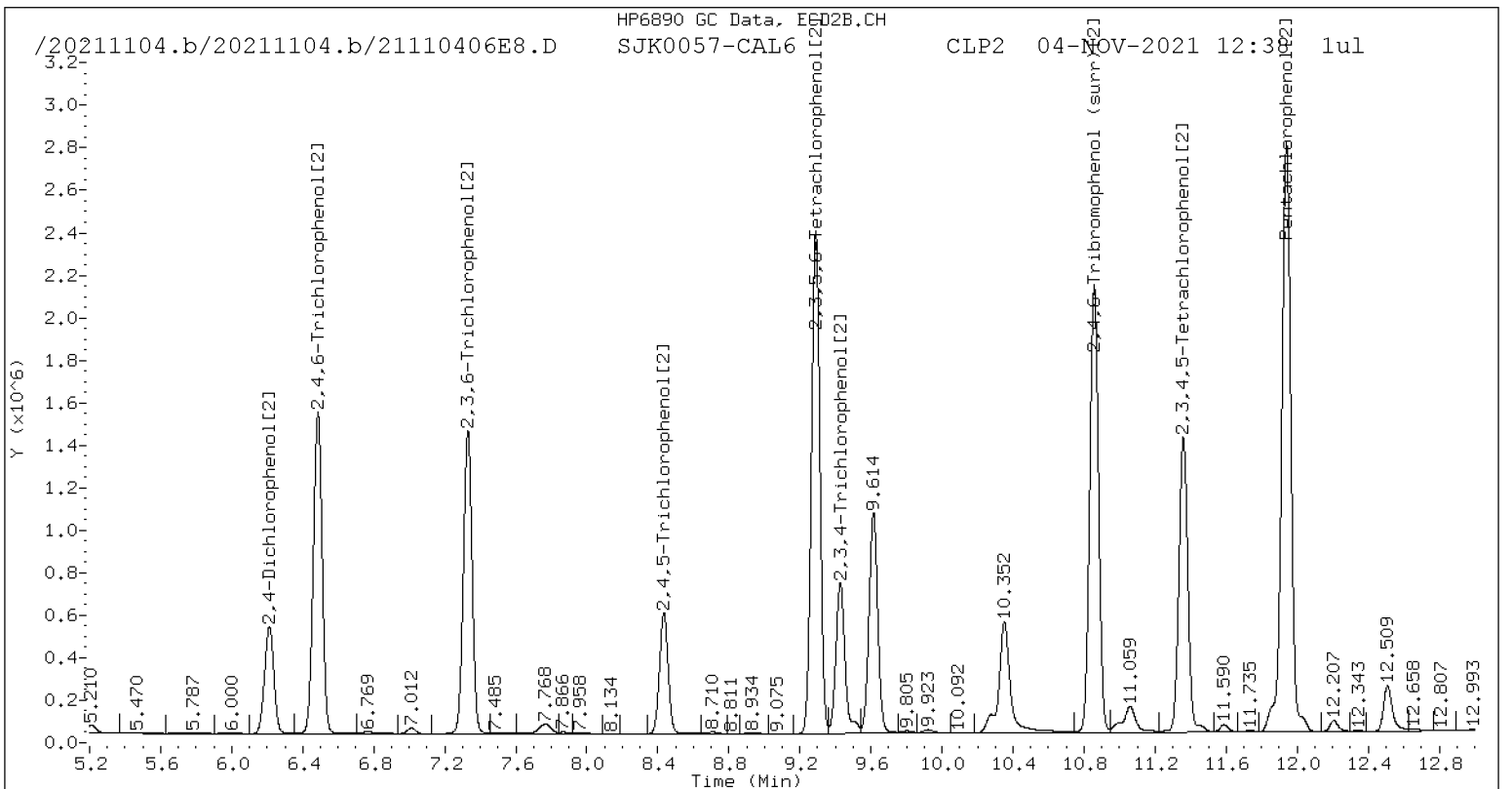
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	366.2	369.6	366.2~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110407E8.D  
Data file 2: /20211104.b/20211104.b/21110407E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-SCV1  
Client ID:  
Injection Date: 04-NOV-2021 12:56  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.534	-0.004	7349757	11.945	-0.004	49441592	23.5	22.9	2.7	Pentachlorophenol
6.384	-0.005	4378085	6.490	-0.005	30298659	25.7	25.6	0.4	2,4,6-Trichlorophenol
6.955	-0.005	4190656	7.335	-0.005	27447637	24.9	25.1	0.7	2,3,6-Trichlorophenol
7.898	-0.004	1883628	8.440	-0.004	12385209	27.1	25.7	5.4	2,4,5-Trichlorophenol
8.674	-0.004	2312830	9.433	-0.005	15826088	26.5	25.4	4.5	2,3,4-Trichlorophenol
8.983	-0.003	6212276	9.294	-0.004	40541896	24.0	23.7	1.5	2,3,5,6-Tetrachlorophenol
10.674	-0.003	4444233	11.364	-0.004	29466632	27.6	26.3	4.8	2,3,4,5-Tetrachlorophenol
5.748	-0.005	1590177	6.213	-0.008	14608891	246.3	304.1	21.0	2,4-Dichlorophenol
10.203	-0.004	5225722	10.862	-0.004	39006506	24.1	24.7	2.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

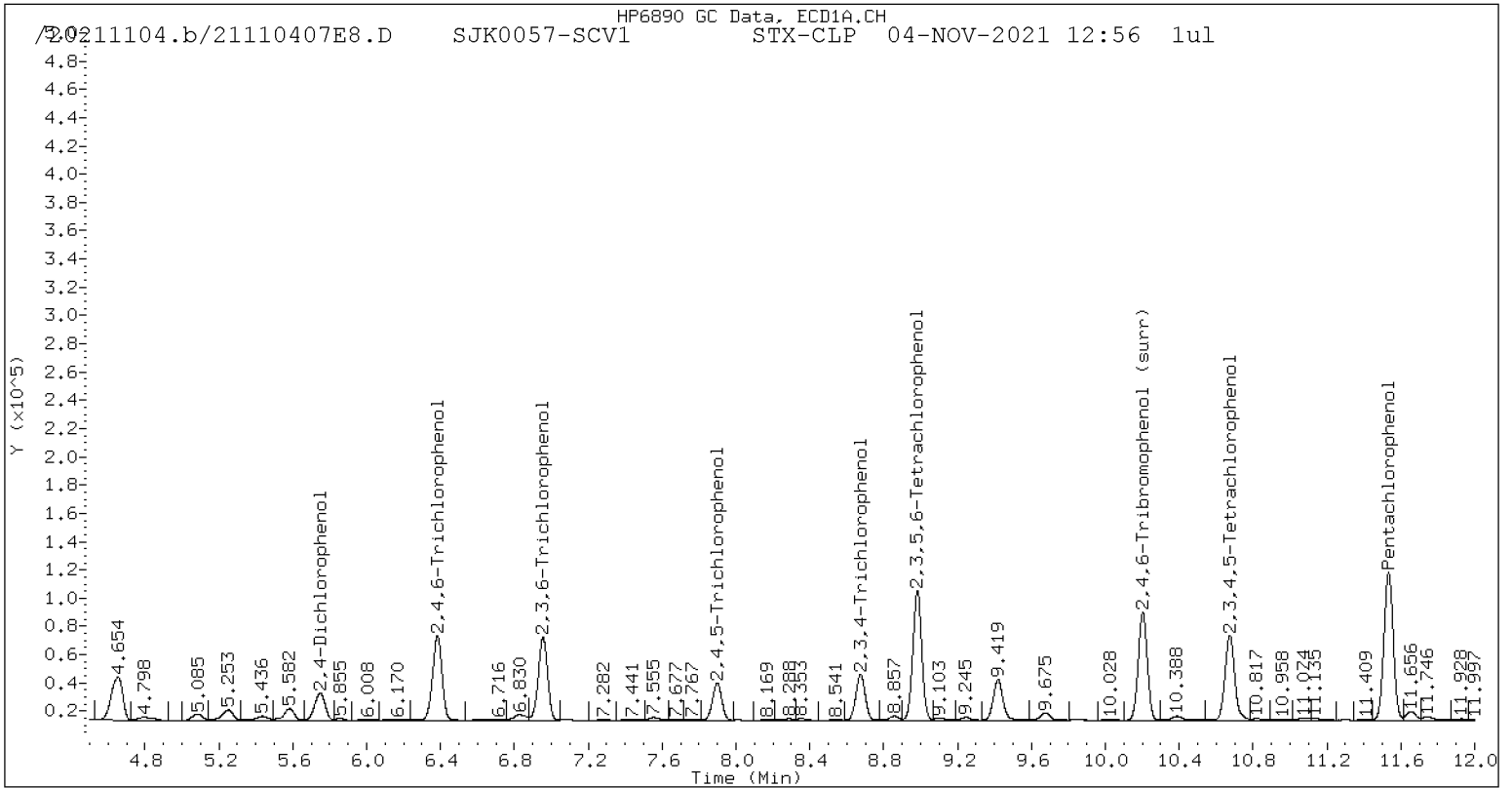
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

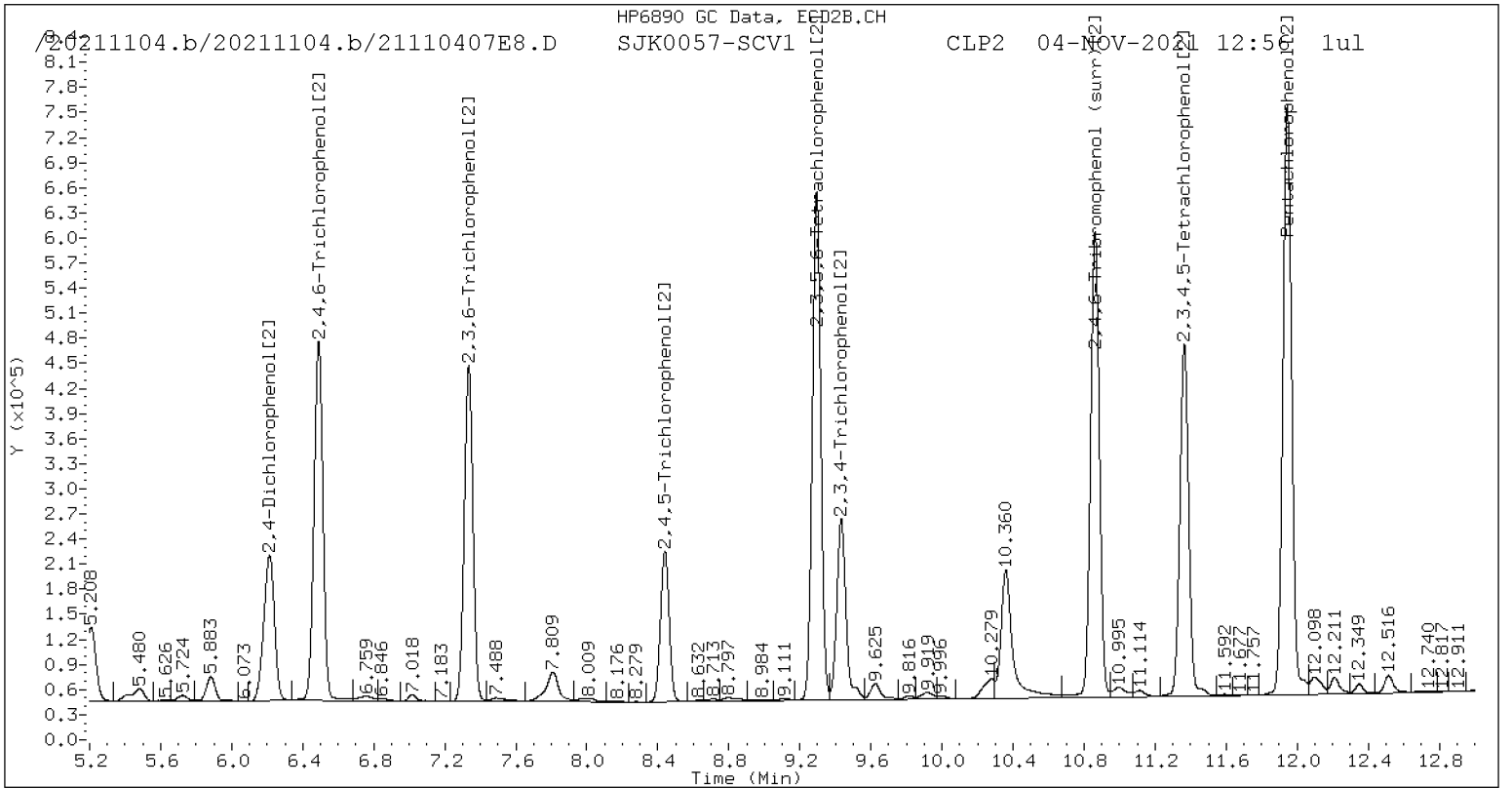
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	96.4	98.9	96.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO





**SECOND-SOURCE CALIBRATION VERIFICATION**  
**EPA 8041A**

**Laboratory:** Analytical Resources, LLC

**SDG:** 22F0267

**Client:** GeoEngineers

**Project:** RG Haley Site-Bellingham

**Calibration:** EK00019

**Laboratory ID:** SJK0057-SCV1

**Sequence:** SJK0057

**Sequence Name:** CIPhenols SCV 25

**Standard ID:** J011892

<b>ANALYTE</b>	<b>EXPECTED (ng/mL)</b>	<b>FOUND (ng/mL)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
Pentachlorophenol	25.000	23.5	-5.8	20.00
Pentachlorophenol [2C]	25.000	22.9	-8.4	20.00
2,4,6-Tribromophenol	25.000	24.1	-3.6	20.00
2,4,6-Tribromophenol [2C]	25.000	24.7	-1.1	20.00

\* Indicates values outside of QC limits  
[2C] indicates second-column analyte.

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110407E8.D  
Data file 2: /20211104.b/20211104.b/21110407E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-SCV1  
Client ID:  
Injection Date: 04-NOV-2021 12:56  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.534	-0.004	7349757	11.945	-0.004	49441592	23.5	22.9	2.7	Pentachlorophenol
6.384	-0.005	4378085	6.490	-0.005	30298659	25.7	25.6	0.4	2,4,6-Trichlorophenol
6.955	-0.005	4190656	7.335	-0.005	27447637	24.9	25.1	0.7	2,3,6-Trichlorophenol
7.898	-0.004	1883628	8.440	-0.004	12385209	27.1	25.7	5.4	2,4,5-Trichlorophenol
8.674	-0.004	2312830	9.433	-0.005	15826088	26.5	25.4	4.5	2,3,4-Trichlorophenol
8.983	-0.003	6212276	9.294	-0.004	40541896	24.0	23.7	1.5	2,3,5,6-Tetrachlorophenol
10.674	-0.003	4444233	11.364	-0.004	29466632	27.6	26.3	4.8	2,3,4,5-Tetrachlorophenol
5.748	-0.005	1590177	6.213	-0.008	14608891	246.3	304.1	21.0	2,4-Dichlorophenol
10.203	-0.004	5225722	10.862	-0.004	39006506	24.1	24.7	2.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

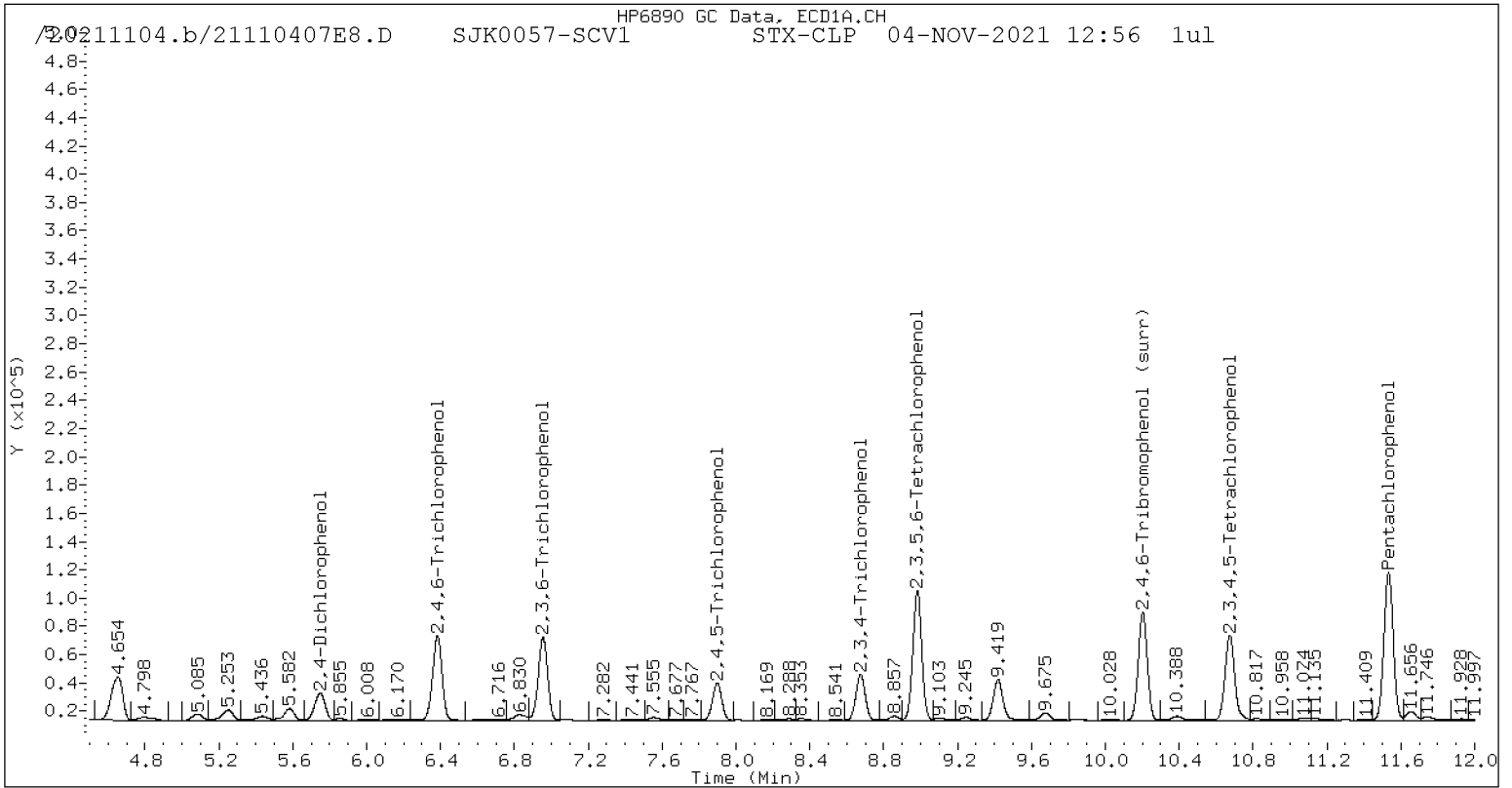
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

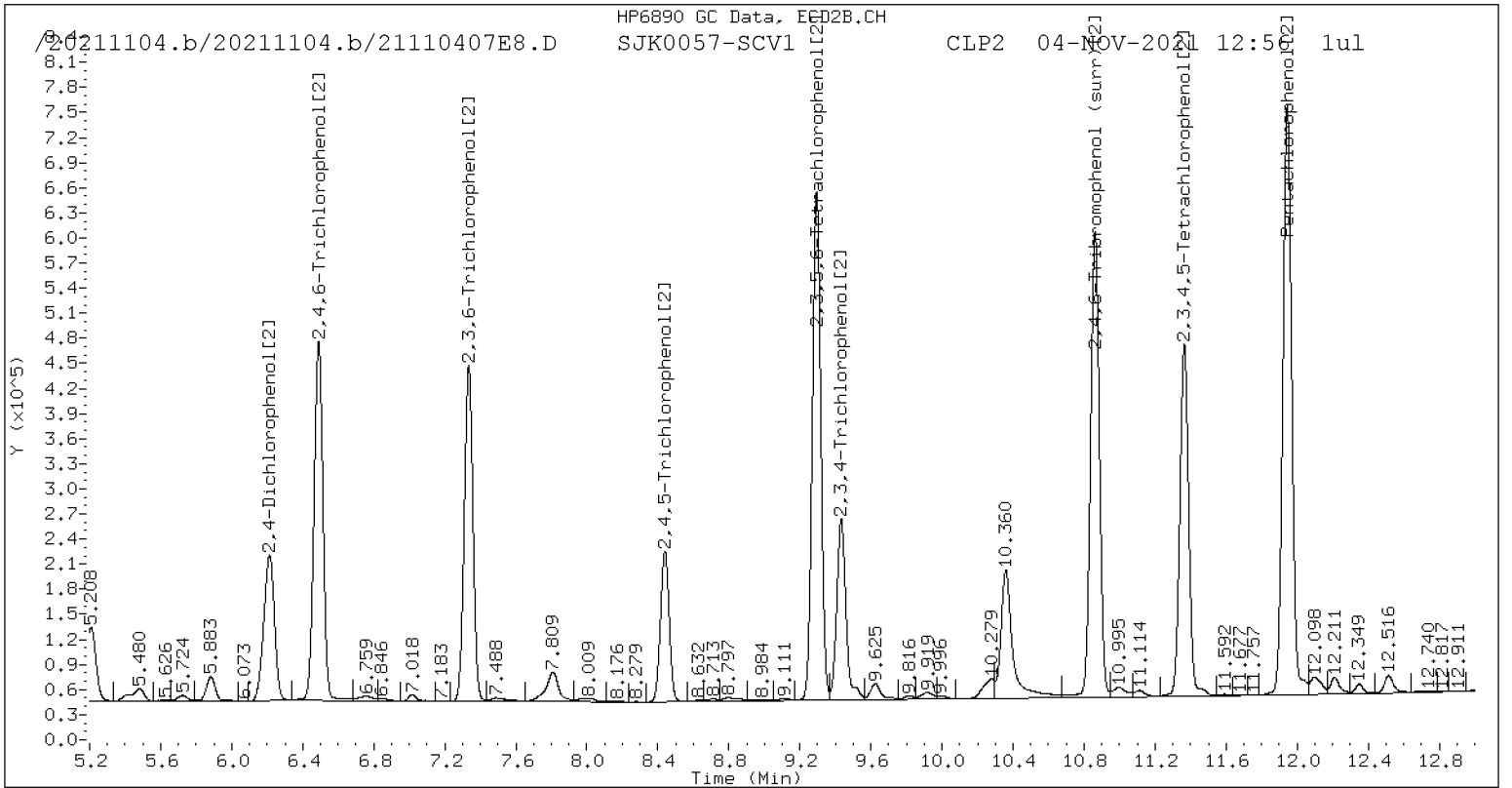
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	96.4	98.9	96.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110408E8.D  
Data file 2: /20211104.b/20211104.b/21110408E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-ICV1  
Client ID:  
Injection Date: 04-NOV-2021 13:14  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.538	0.000	7516563	11.949	0.000	53563171	24.1	24.8	3.0	Pentachlorophenol
6.389	0.000	4078977	6.495	0.000	28614596	23.9	24.2	1.0	2,4,6-Trichlorophenol
6.960	0.000	4008801	7.340	0.000	26508895	23.8	24.2	1.7	2,3,6-Trichlorophenol
7.903	0.000	1653933	8.444	0.000	11308588	23.8	23.4	1.5	2,4,5-Trichlorophenol
8.679	0.000	2052775	9.438	0.000	14163806	23.5	22.7	3.6	2,3,4-Trichlorophenol
8.986	0.000	6221185	9.299	0.000	41449848	24.1	24.2	0.5	2,3,5,6-Tetrachlorophenol
10.677	0.000	3884242	11.369	0.000	27274632	24.1	24.3	0.9	2,3,4,5-Tetrachlorophenol
5.753	0.000	1521426	6.221	0.000	11306865	235.6	235.4	0.1	2,4-Dichlorophenol
10.207	0.000	5225614	10.866	0.000	39026424	24.1	24.7	2.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

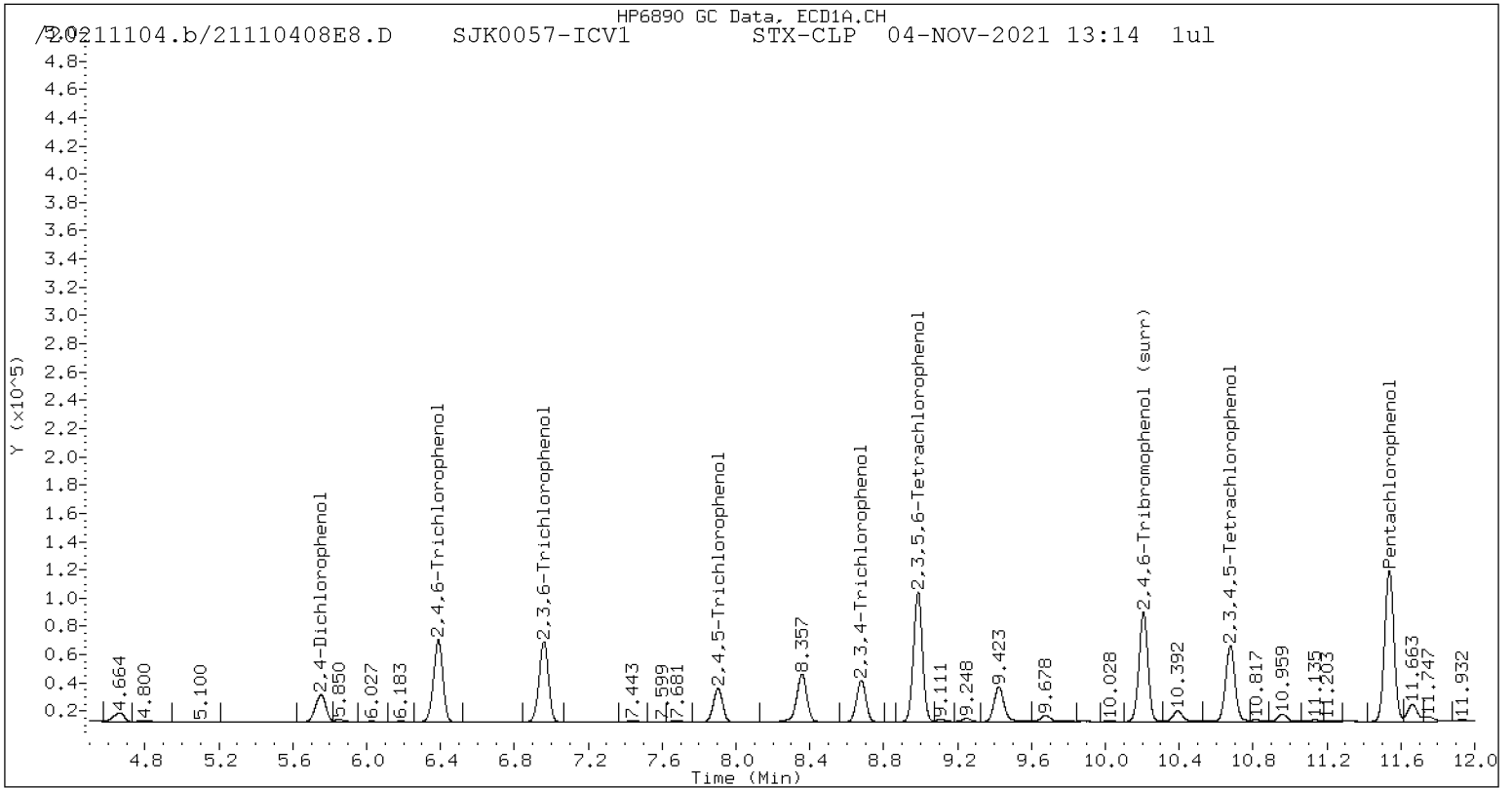
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

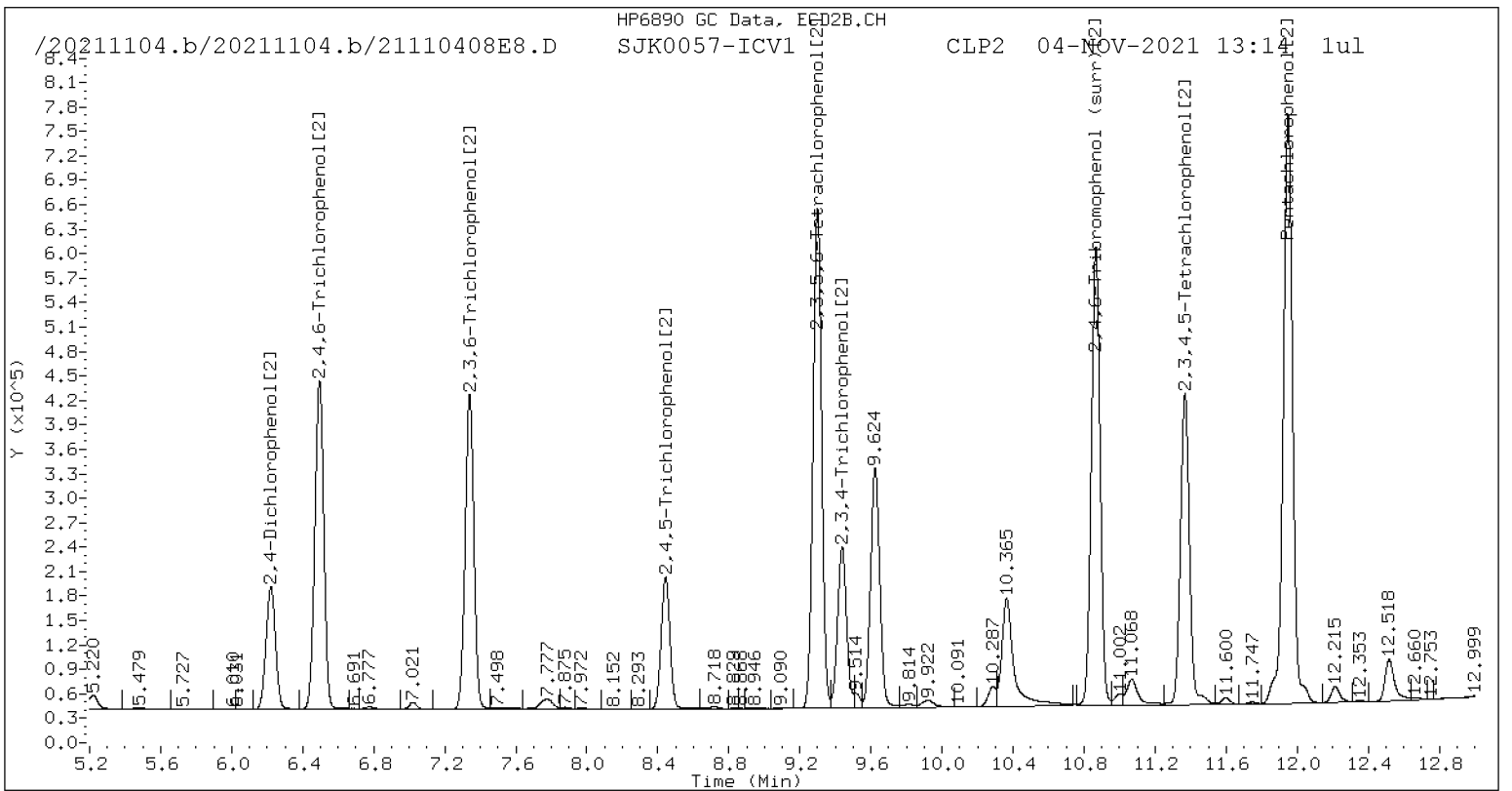
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	96.4	99.0	96.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**INITIAL CALIBRATION CHECK**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>ECD8</u>	Calibration:	<u>EK00019</u>
Lab File ID:	<u>22062503.D</u>	Calibration Date:	<u>11/04/2021</u>
Sequence:	<u>SKF0340</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0340-ICV1</u>	Injection Time:	<u>12:11</u>
Sequence Name:	<u>Initial Cal Check</u>		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Pentachlorophenol	A	25.000	24.1	312218.7000	301174.0000		-3.6	+/-20
Pentachlorophenol [2C]	A	25.000	26.5	2158094.0000	2286206.0000		6.0	+/-20
2,4,6-Tribromophenol	A	25.000	20.5	216749.3000	177614.2000		-18.0	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	25.4	1576894.0000	1603947.0000		1.6	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062503.D  
Data file 2: /20220625.b/22062503.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SKF0340-ICV1  
Client ID:  
Injection Date: 25-JUN-2022 12:11  
Report Date: 06/29/2022 10:42  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.031	-0.033	7529350	12.381	-0.027	57155145	24.1	26.5	9.4	Pentachlorophenol
6.844	-0.030	3482970	6.952	-0.028	28436088	20.4	24.0	16.1	2,4,6-Trichlorophenol
7.424	-0.031	3406501	7.808	-0.029	26631597	20.2	24.3	18.4	2,3,6-Trichlorophenol
8.371	-0.031	1427212	8.914	0.390	11367381	20.5	23.6	13.8	2,4,5-Trichlorophenol N
9.155	-0.032	1797997	9.915	-0.030	14032227	20.6	22.5	8.7	2,3,4-Trichlorophenol
9.469	-0.032	5342451	9.780	-0.030	41940496	20.7	24.5	16.9	2,3,5,6-Tetrachlorophenol
11.162	-0.032	3265167	11.849	-0.031	26149564	20.2	23.3	14.0	2,3,4,5-Tetrachlorophenol
6.193	-0.029	1368791	6.670	-0.028	10907667	212.0	227.1	6.9	2,4-Dichlorophenol
10.699	-0.033	4440355	11.356	-0.032	40098671	20.5	25.4	21.5	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

N Indicates Column 2 peak was manually integrated

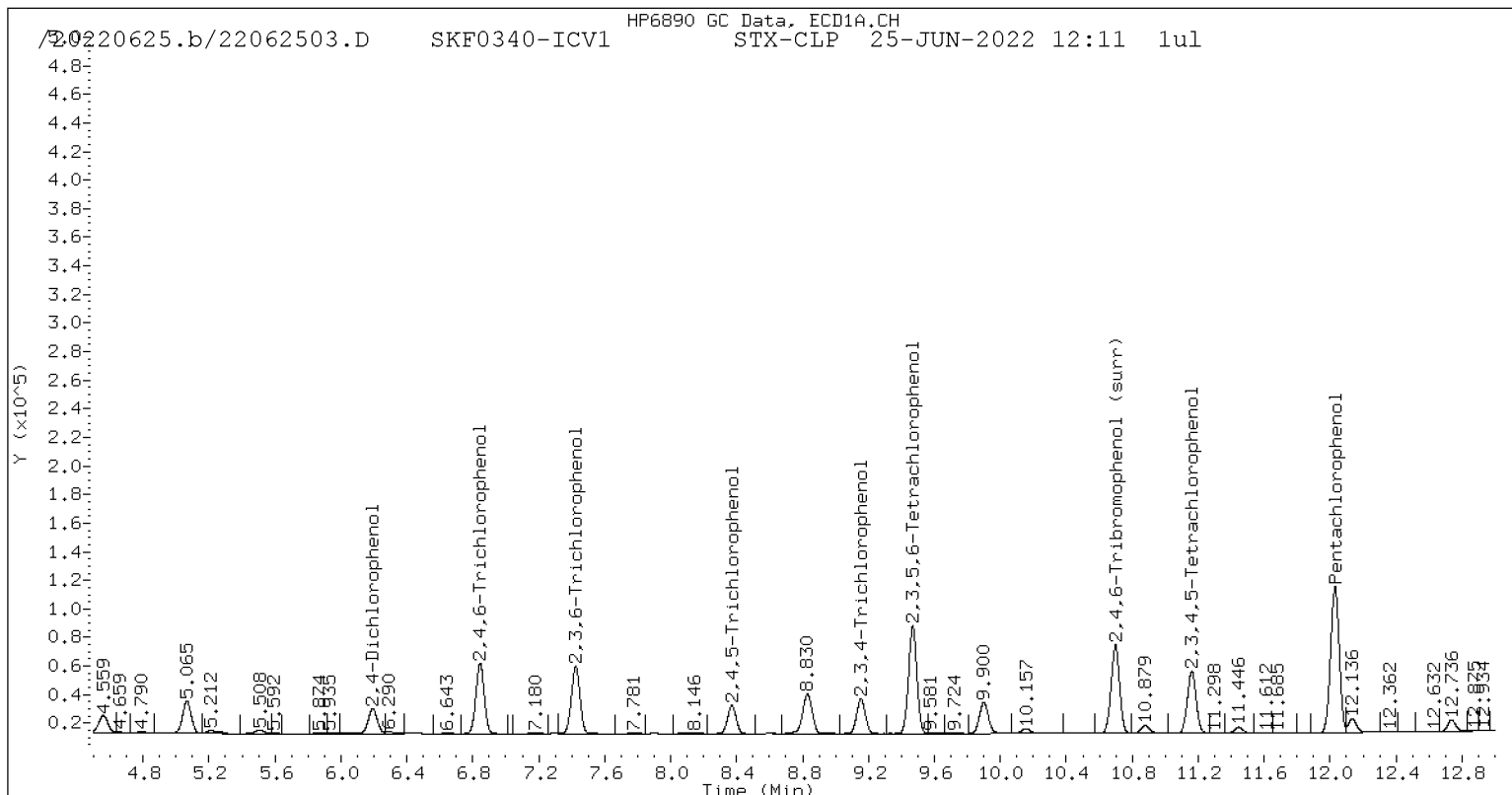
SURROGATE/SPIKE PERCENT RECOVERY

SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	81.9	101.7	81.9~	0- 0

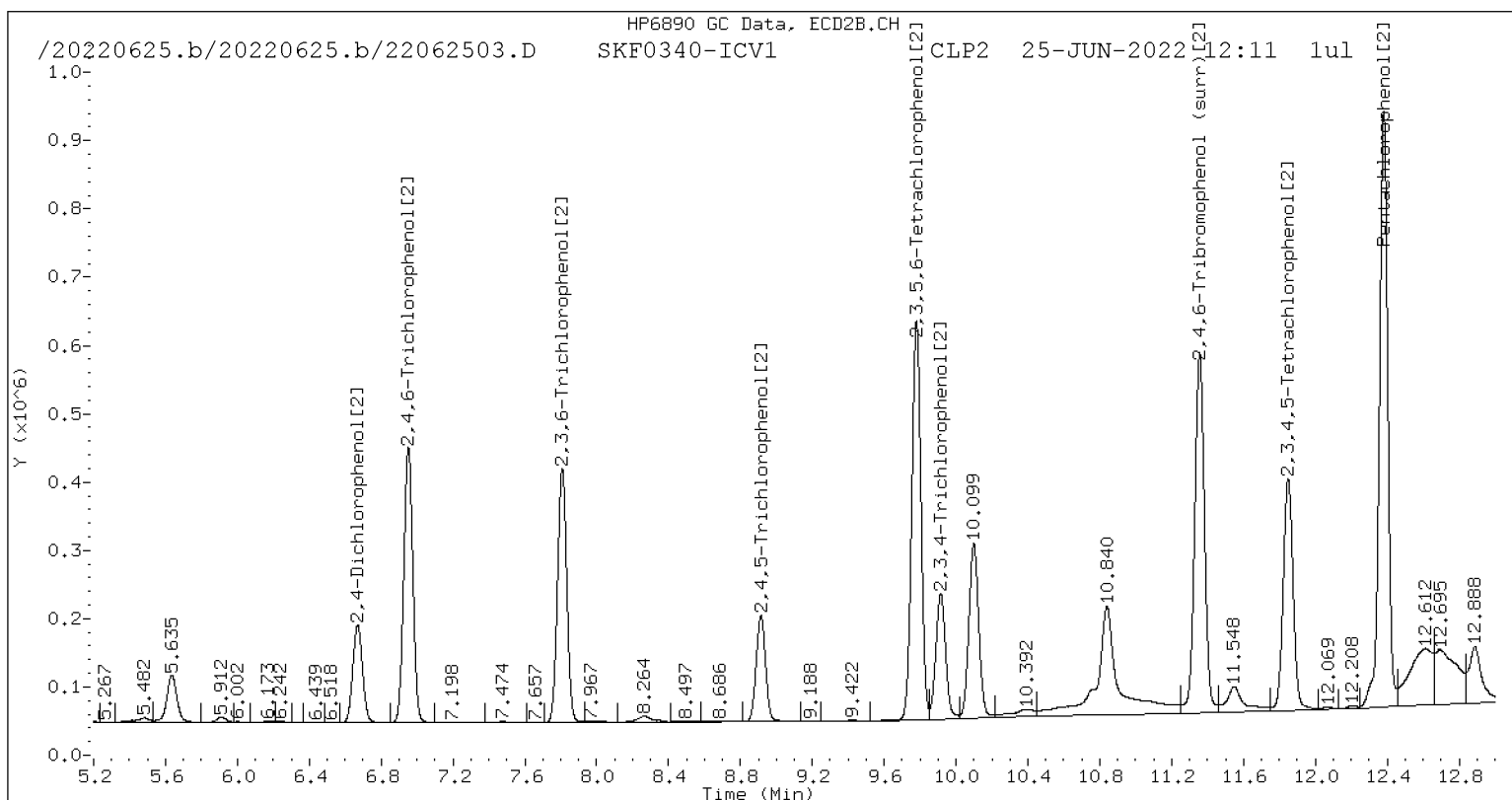
~ Indicates recovery outside QC Limits



PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



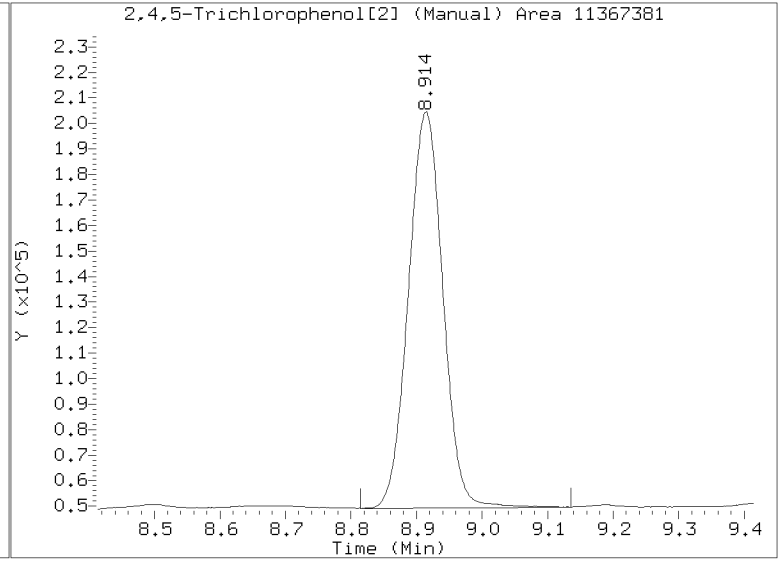
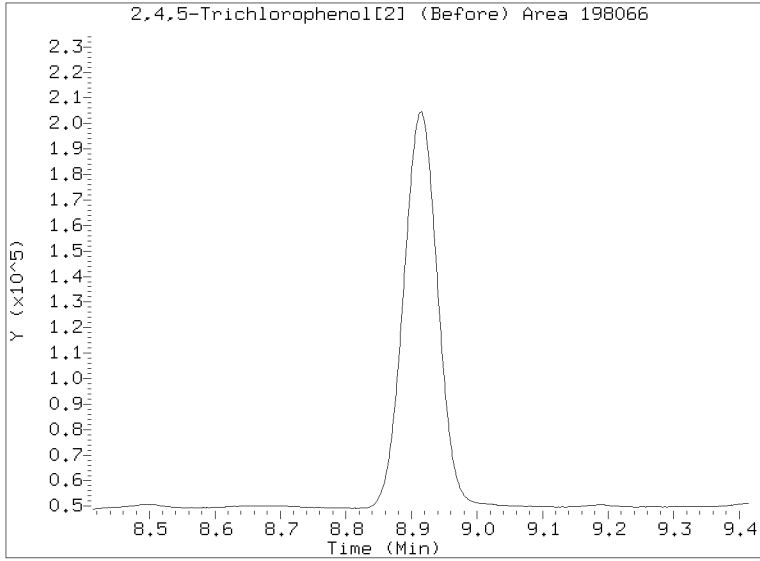
CLP-2 Manual Integration: YES

Manual Peak Adjustment Report, CLP-2

Datafile: /20220625.b/20220625.b/22062503.D

Injection Date: 25-JUN-2022 12:11

Lab ID:SKF0340-ICV1 Client ID:





**INITIAL CALIBRATION CHECK**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: ECD8

Calibration: EK00019

Lab File ID: 22072903.D

Calibration Date: 11/04/2021

Sequence: SKG0311

Injection Date: 07/28/22

Lab Sample ID: SKG0311-ICV1

Injection Time: 11:38

Sequence Name: Initial Cal Check

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Pentachlorophenol	A	25.000	20.1	312218.7000	251131.6000		-19.6	+/-20
Pentachlorophenol [2C]	A	25.000	19.0	2158094.0000	1637608.0000		-24.0	+/-20 *
2,4,6-Tribromophenol	A	25.000	20.3	216749.3000	176342.8000		-18.8	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	20.9	1576894.0000	1317925.0000		-16.4	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072903.D  
Data file 2: /20220729.b/20220729.b/22072903.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpca1.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SKG0311-ICV1  
Client ID:  
Injection Date: 28-JUL-2022 11:38  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.087	0.000	6278289	12.428	0.000	40940212	20.1	19.0	5.8	Pentachlorophenol MN
6.896	0.000	3461633	7.001	0.000	25734387	20.3	21.7	6.8	2,4,6-Trichlorophenol MN
7.477	0.000	3382157	7.858	0.000	23906032	20.1	21.8	8.3	2,3,6-Trichlorophenol MN
8.424	0.000	1418341	8.965	0.000	10715603	20.4	22.2	8.5	2,4,5-Trichlorophenol MN
9.210	0.000	1770671	9.969	0.000	12786591	20.3	20.5	0.9	2,3,4-Trichlorophenol MN
9.526	0.000	5263063	9.834	0.000	37830754	20.4	22.1	8.1	2,3,5,6-Tetrachlorophenol
11.221	0.000	3250291	11.905	0.000	21838154	20.2	19.5	3.5	2,3,4,5-Tetrachlorophenol
6.242	0.000	1366694	6.718	0.000	9942857	211.7	207.0	2.2	2,4-Dichlorophenol MN
10.757	0.000	4408570	11.413	0.000	32948120	20.3	20.9	2.7	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

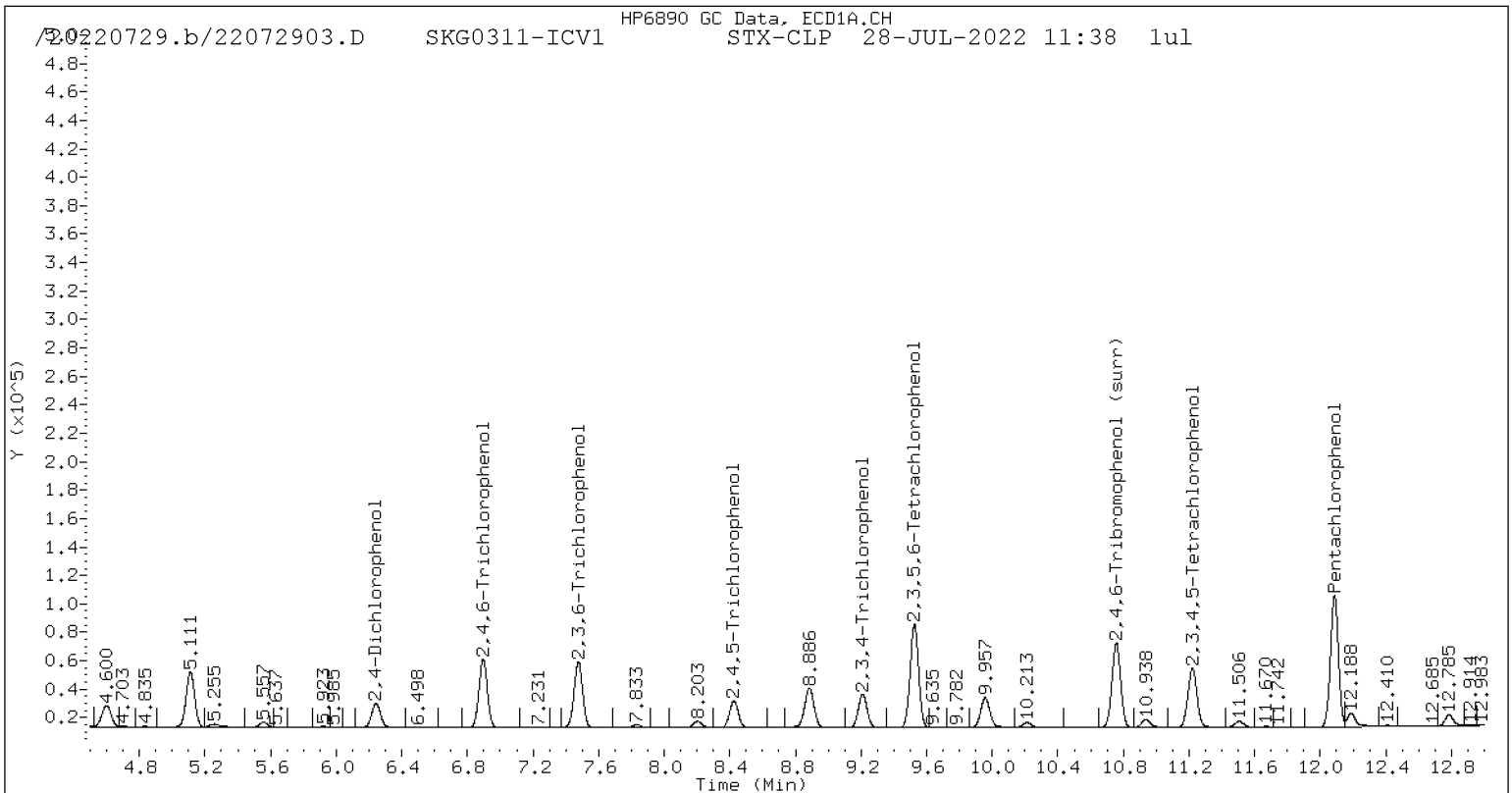
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

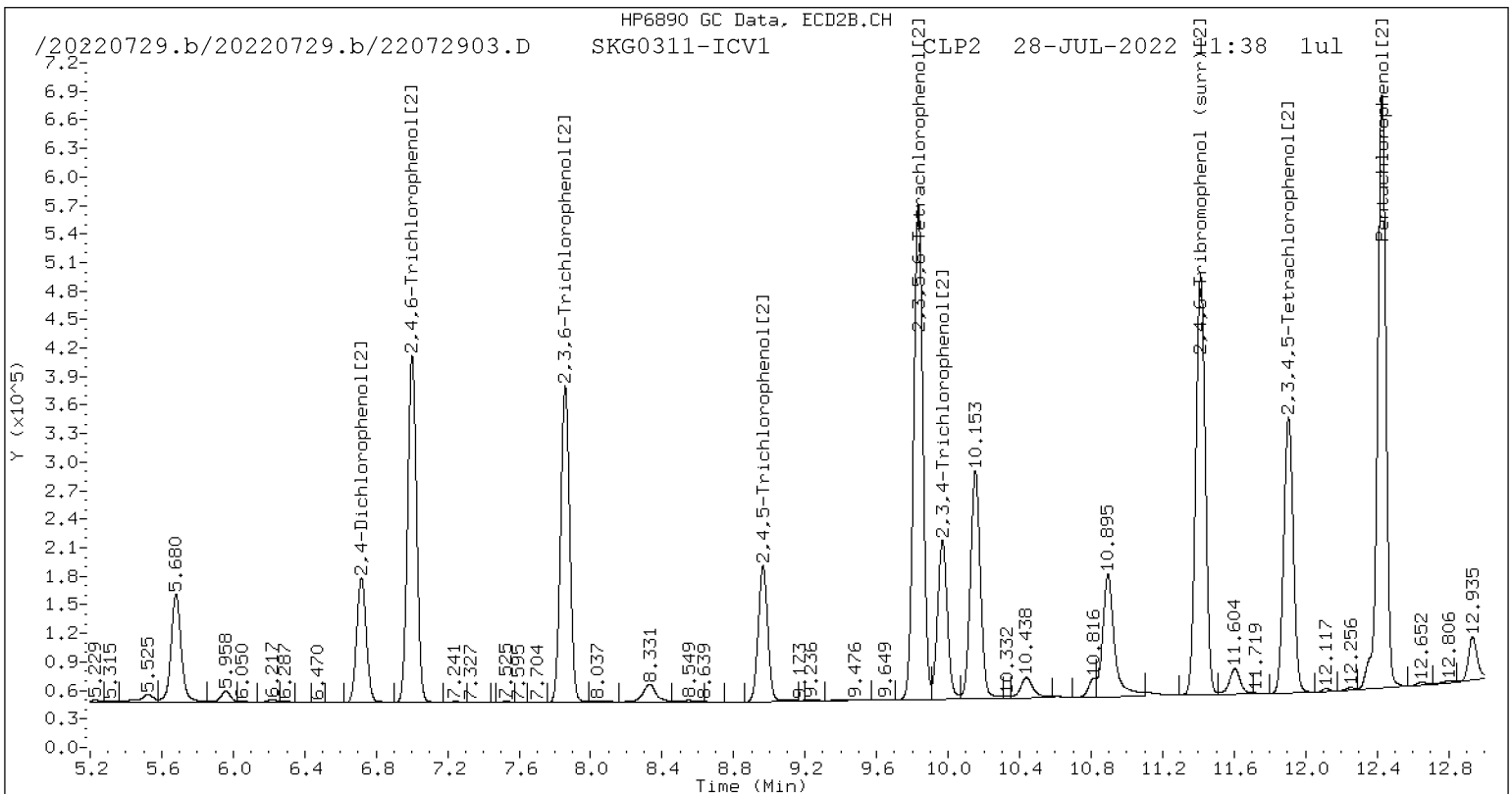
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	81.4	83.6	81.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



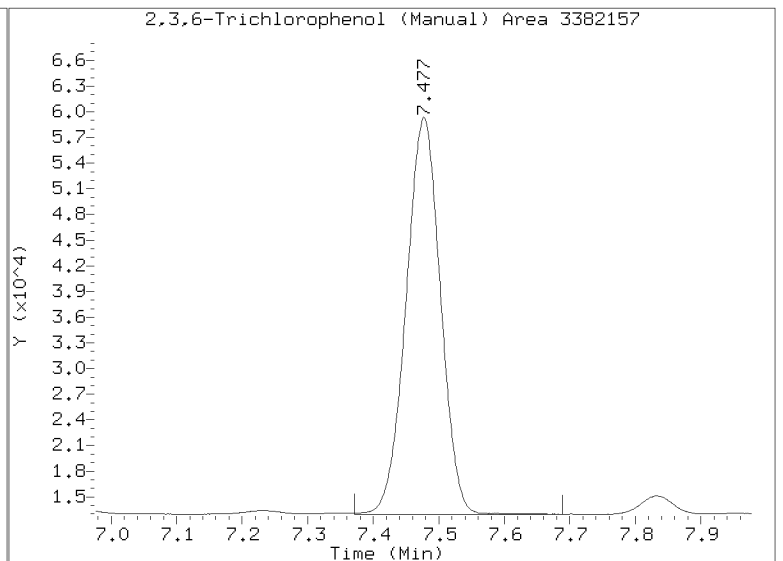
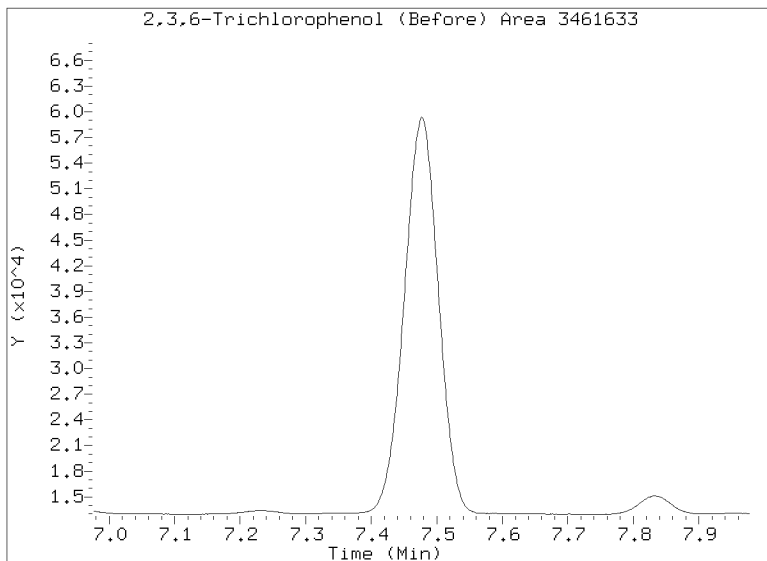
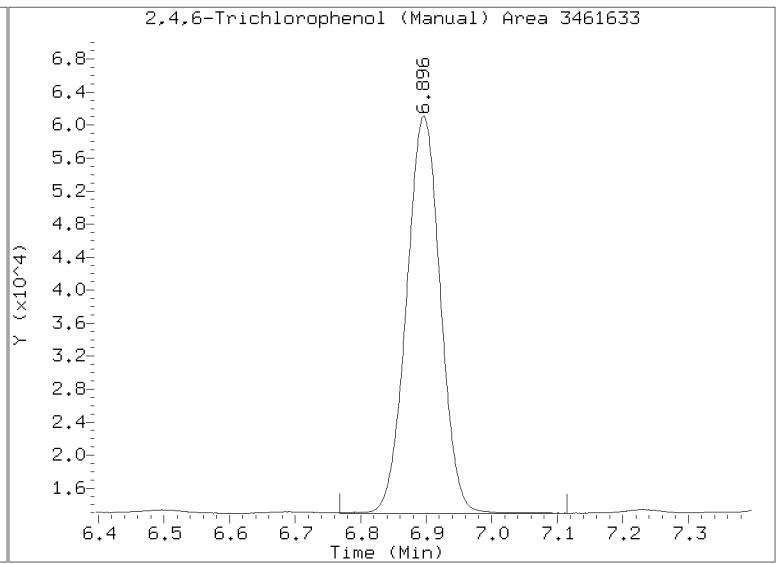
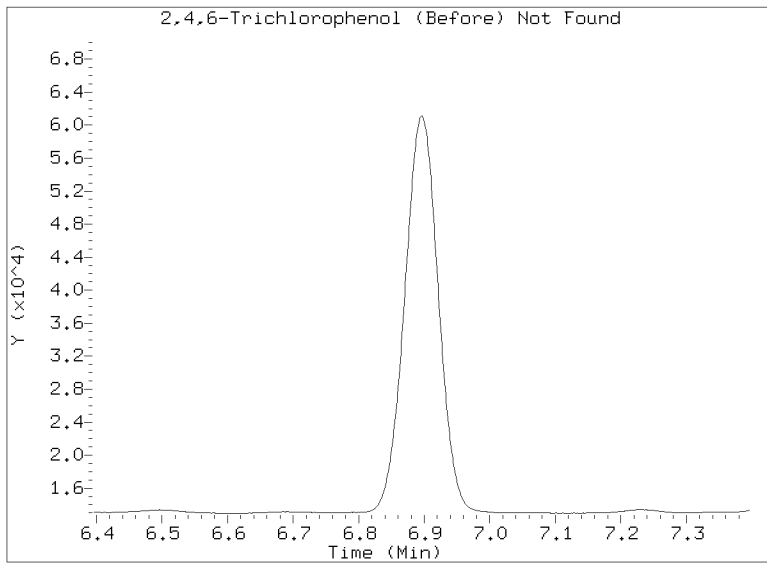
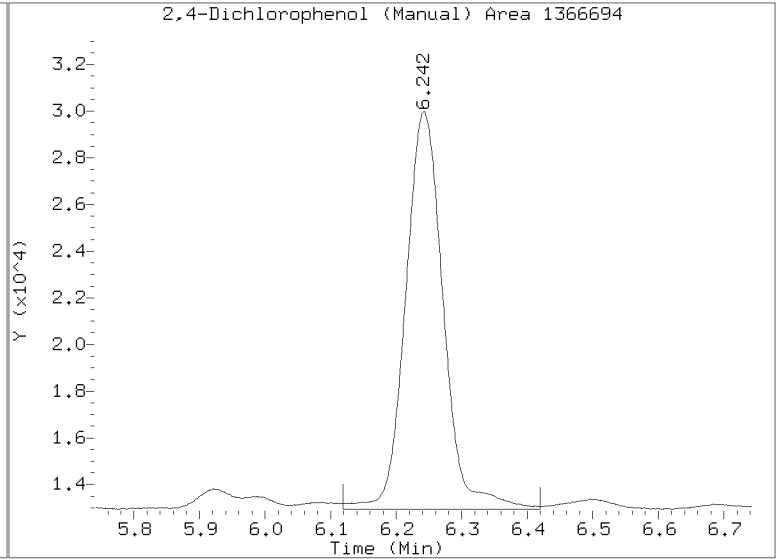
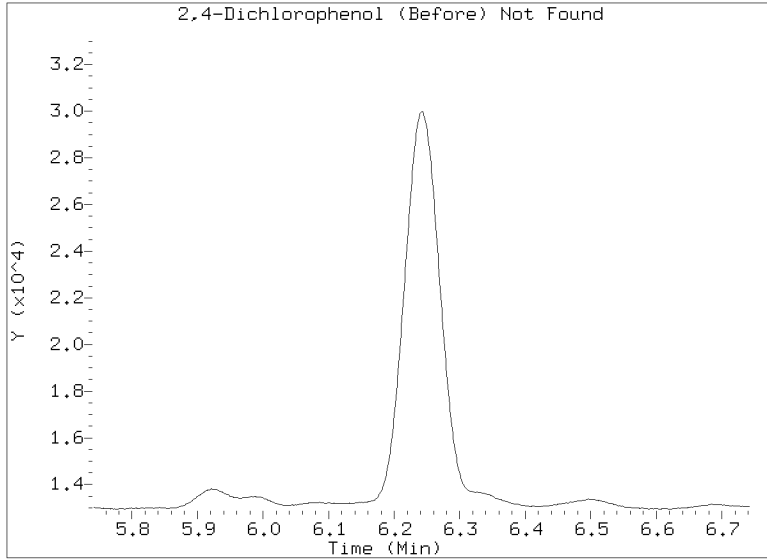
STX-CLP Manual Integration: YES



CLP-2 Manual Integration: YES

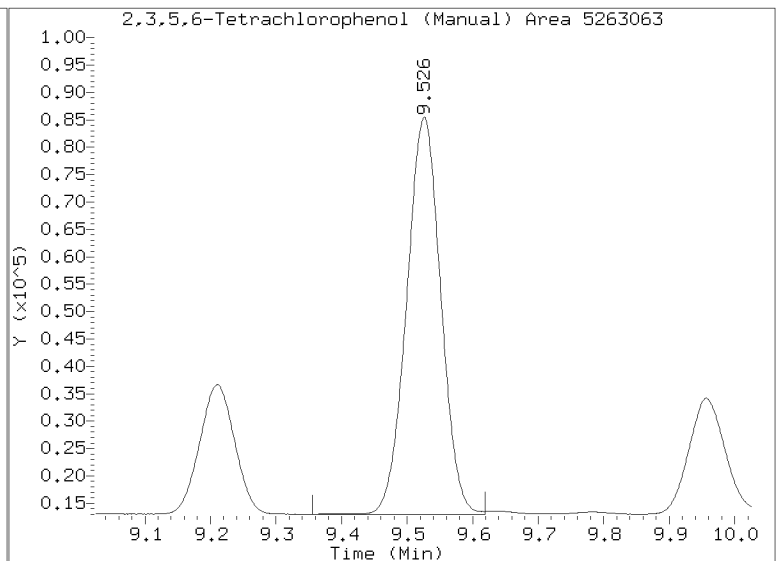
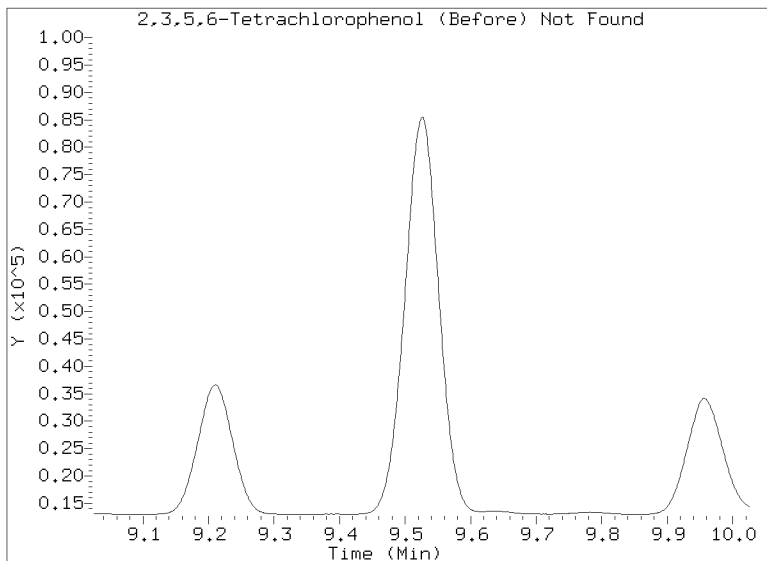
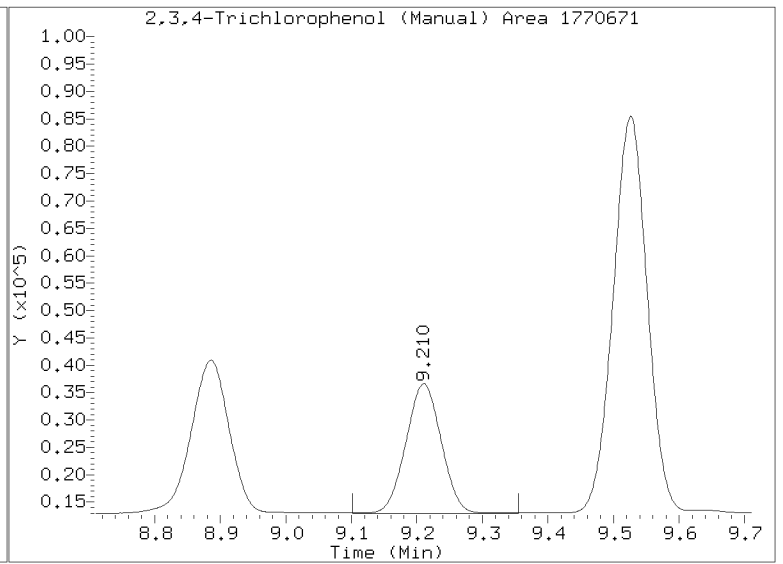
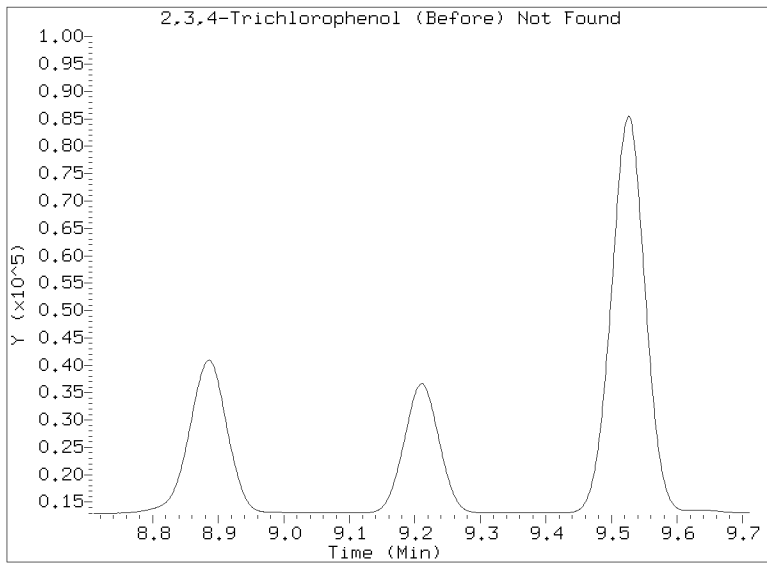
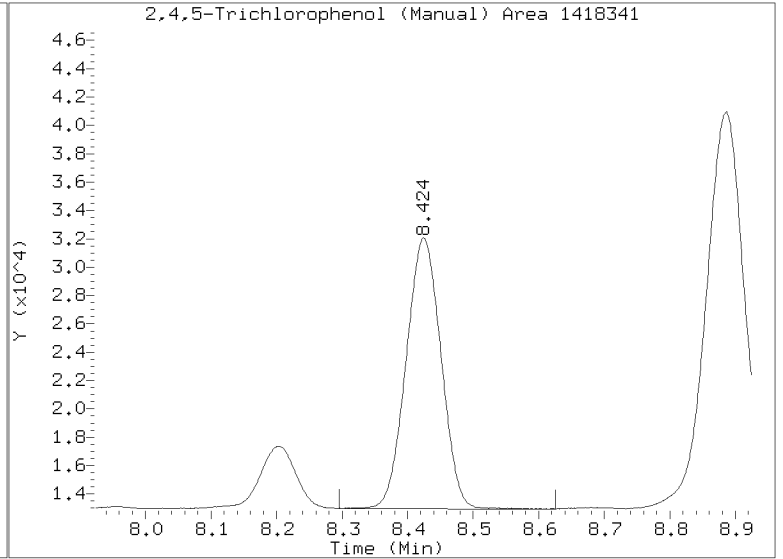
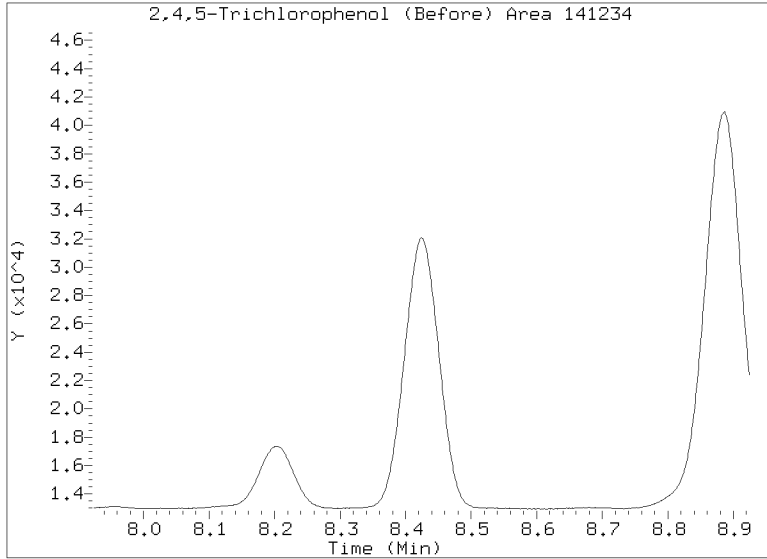
Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072903.D  
Injection Date: 28-JUL-2022 11:38  
Lab ID:SKG0311-ICV1 Client ID:  
Report Date: 07/29/2022 13:54



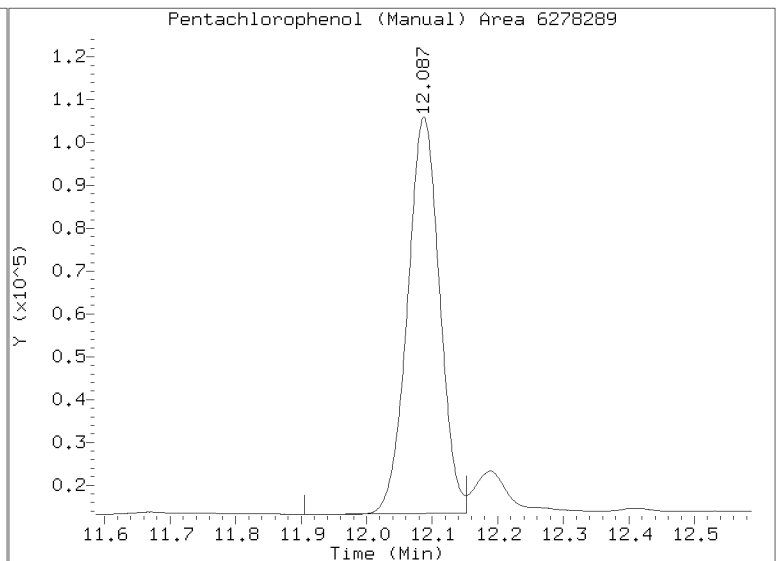
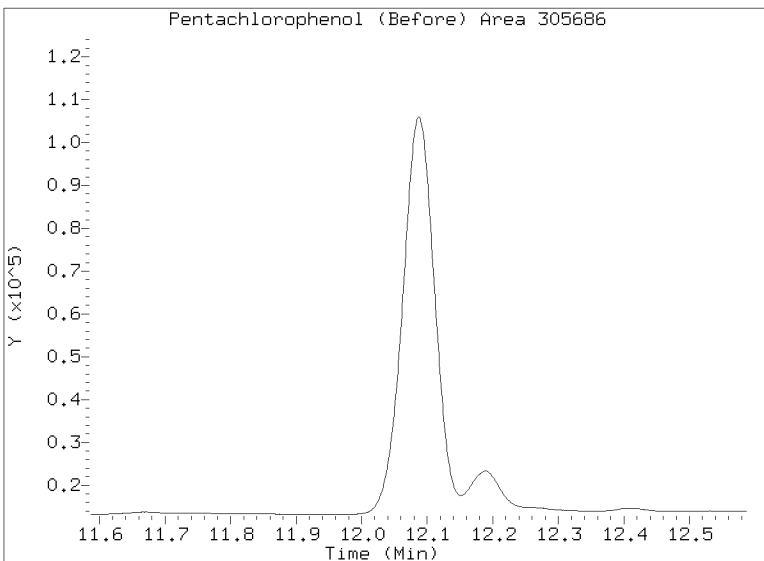
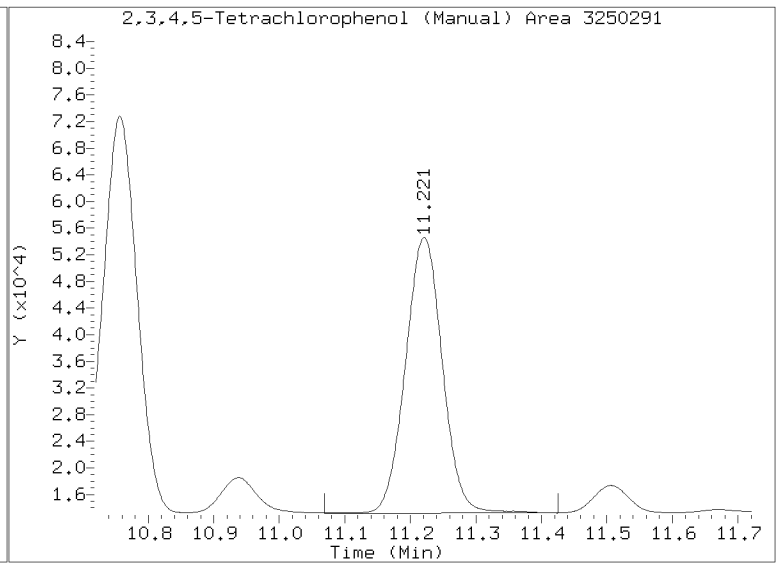
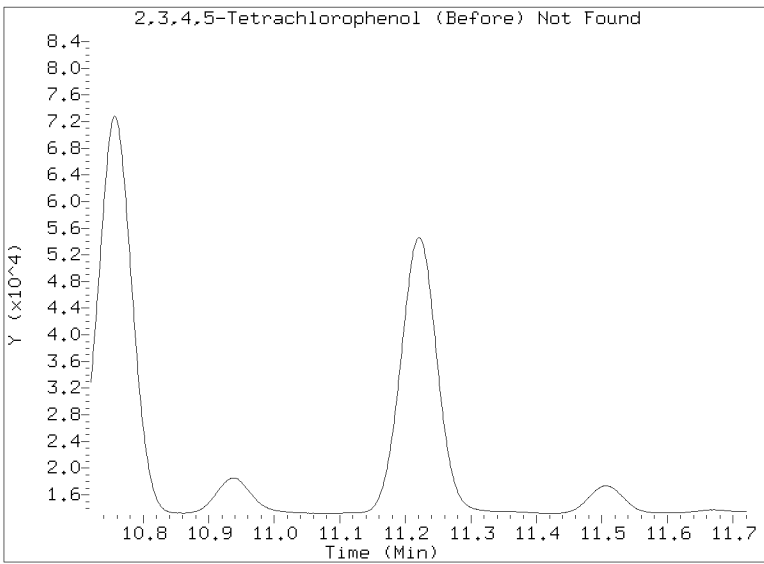
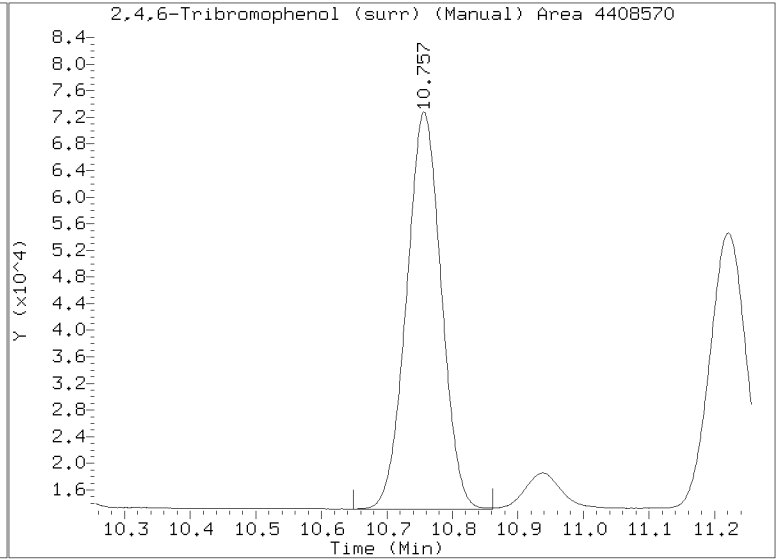
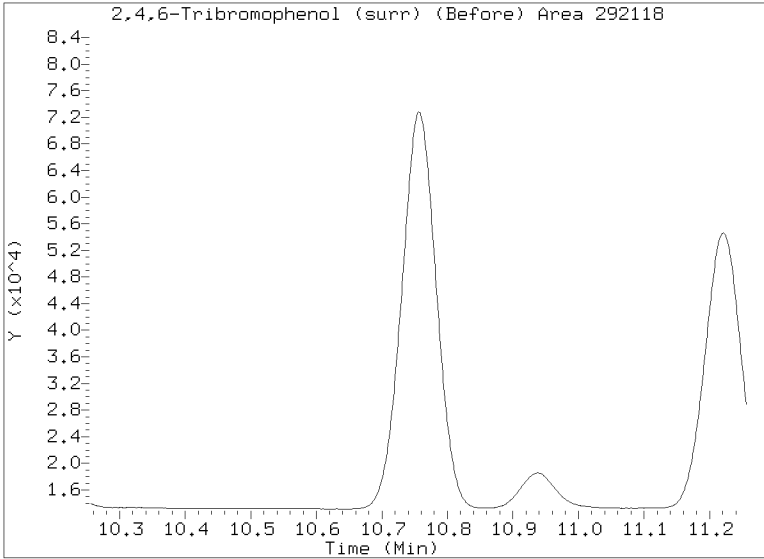
Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072903.D  
Injection Date: 28-JUL-2022 11:38  
Lab ID:SKG0311-ICV1 Client ID:  
Report Date: 07/29/2022 13:54



Manual Peak Adjustment Report, STX-CLP

Datafile: /20220729.b/22072903.D  
Injection Date: 28-JUL-2022 11:38  
Lab ID:SKG0311-ICV1 Client ID:  
Report Date: 07/29/2022 13:54



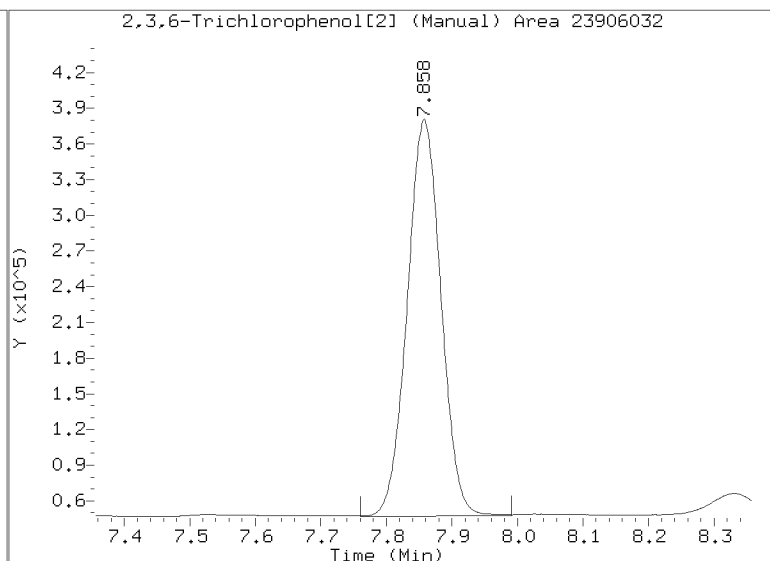
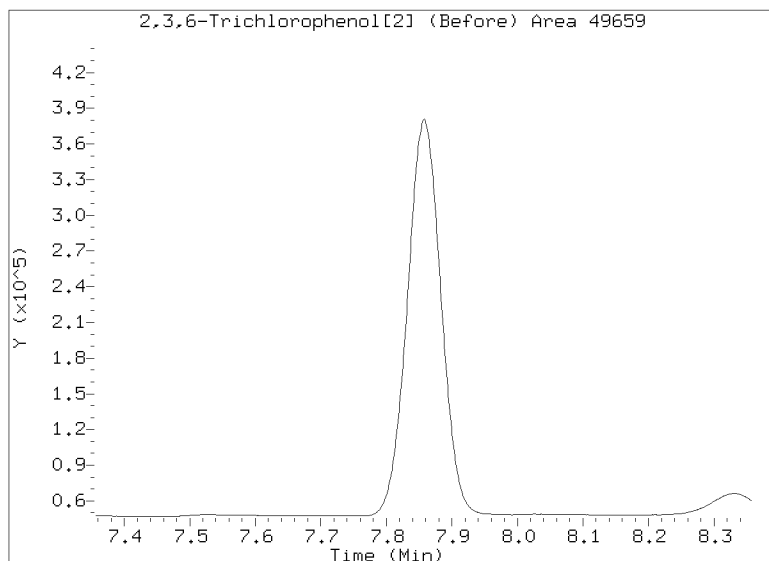
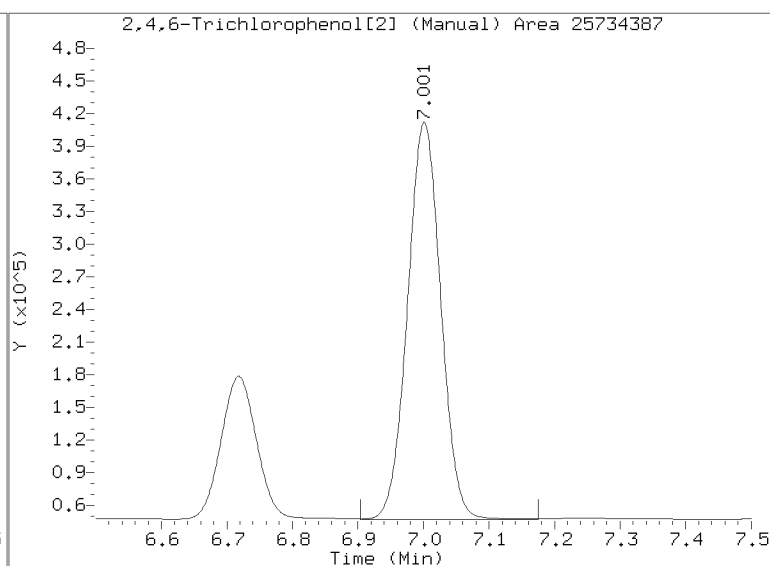
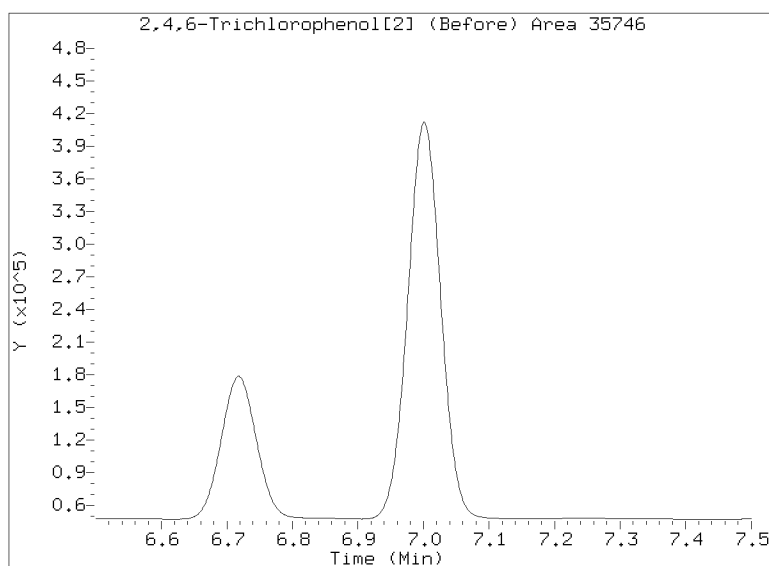
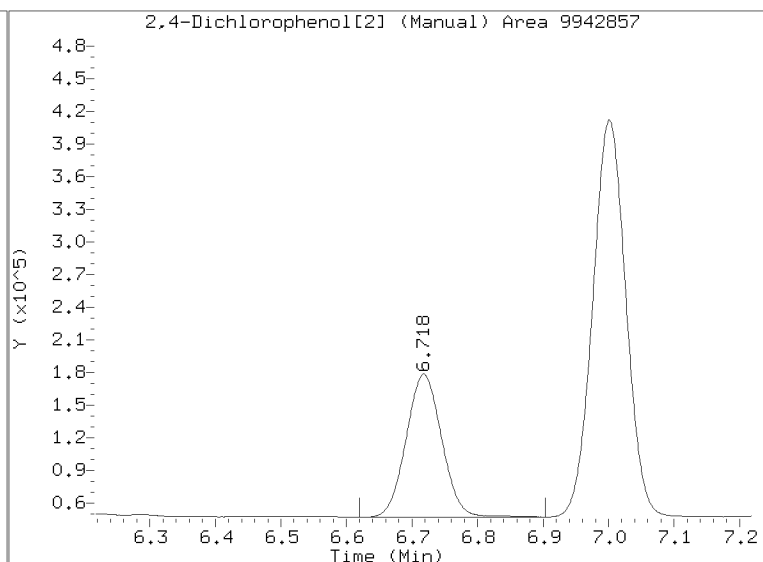
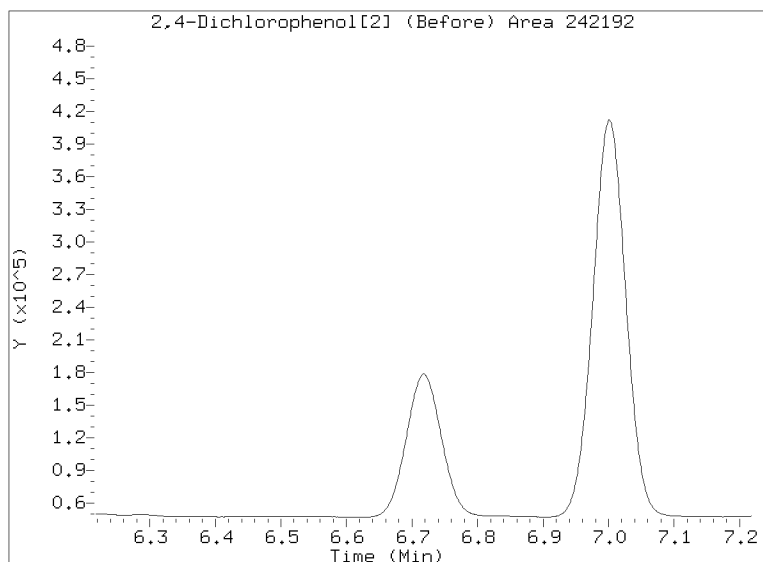


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072903.D

Injection Date: 28-JUL-2022 11:38

Lab ID:SKG0311-ICV1 Client ID:

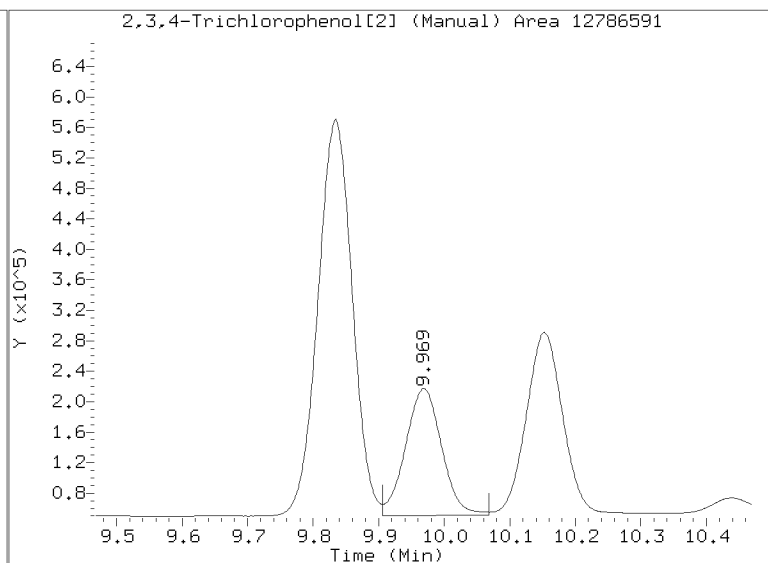
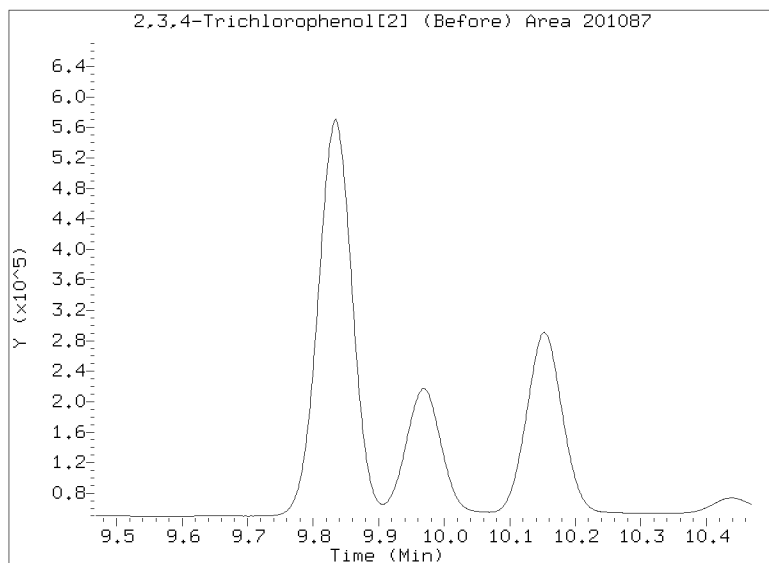
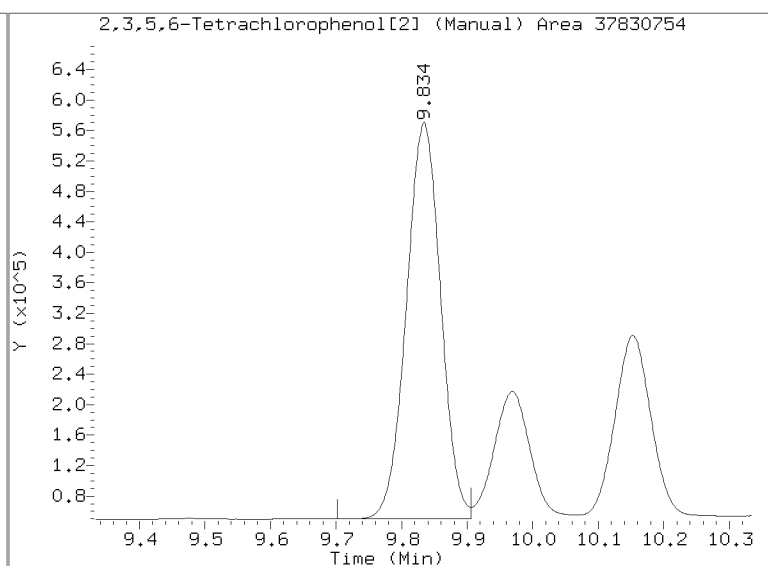
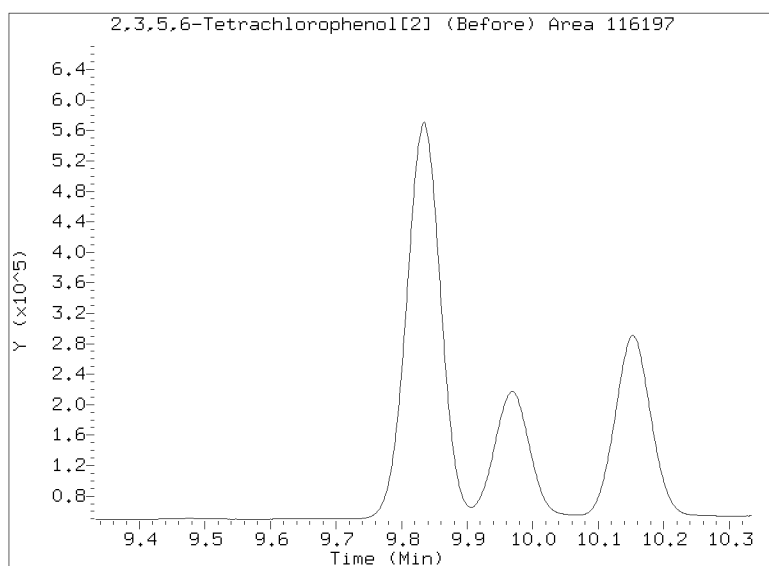
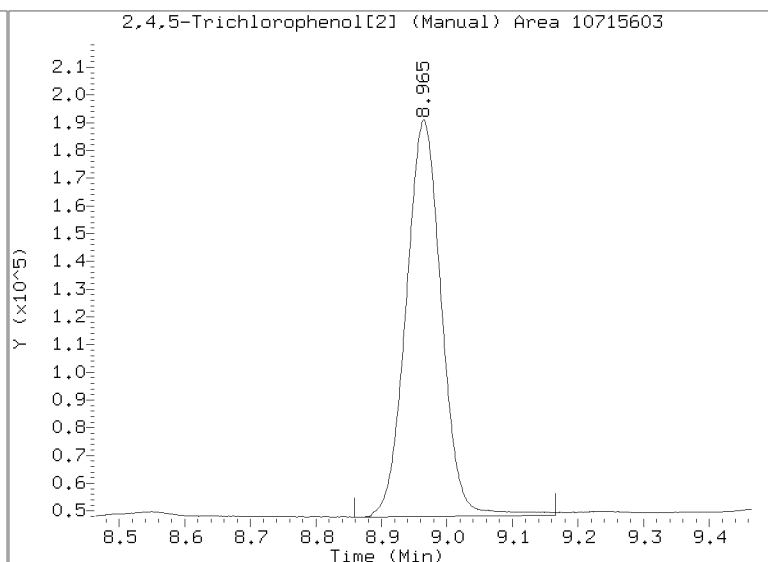
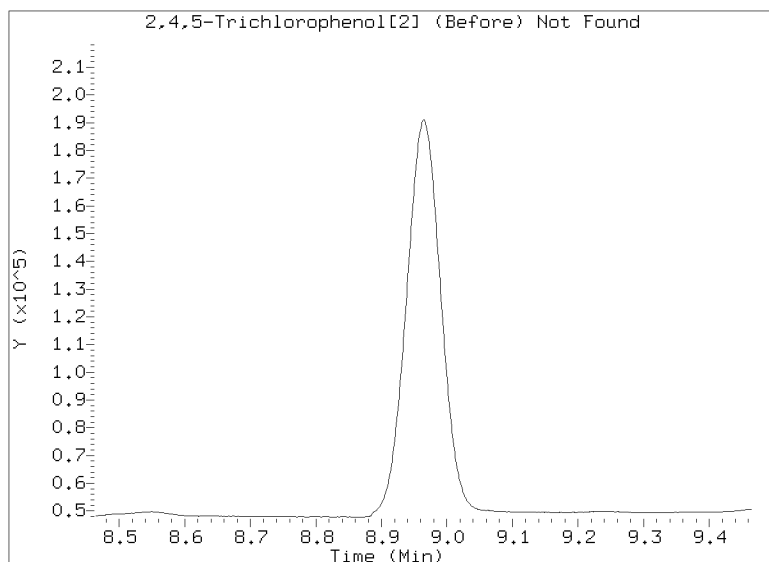


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072903.D

Injection Date: 28-JUL-2022 11:38

Lab ID:SKG0311-ICV1 Client ID:

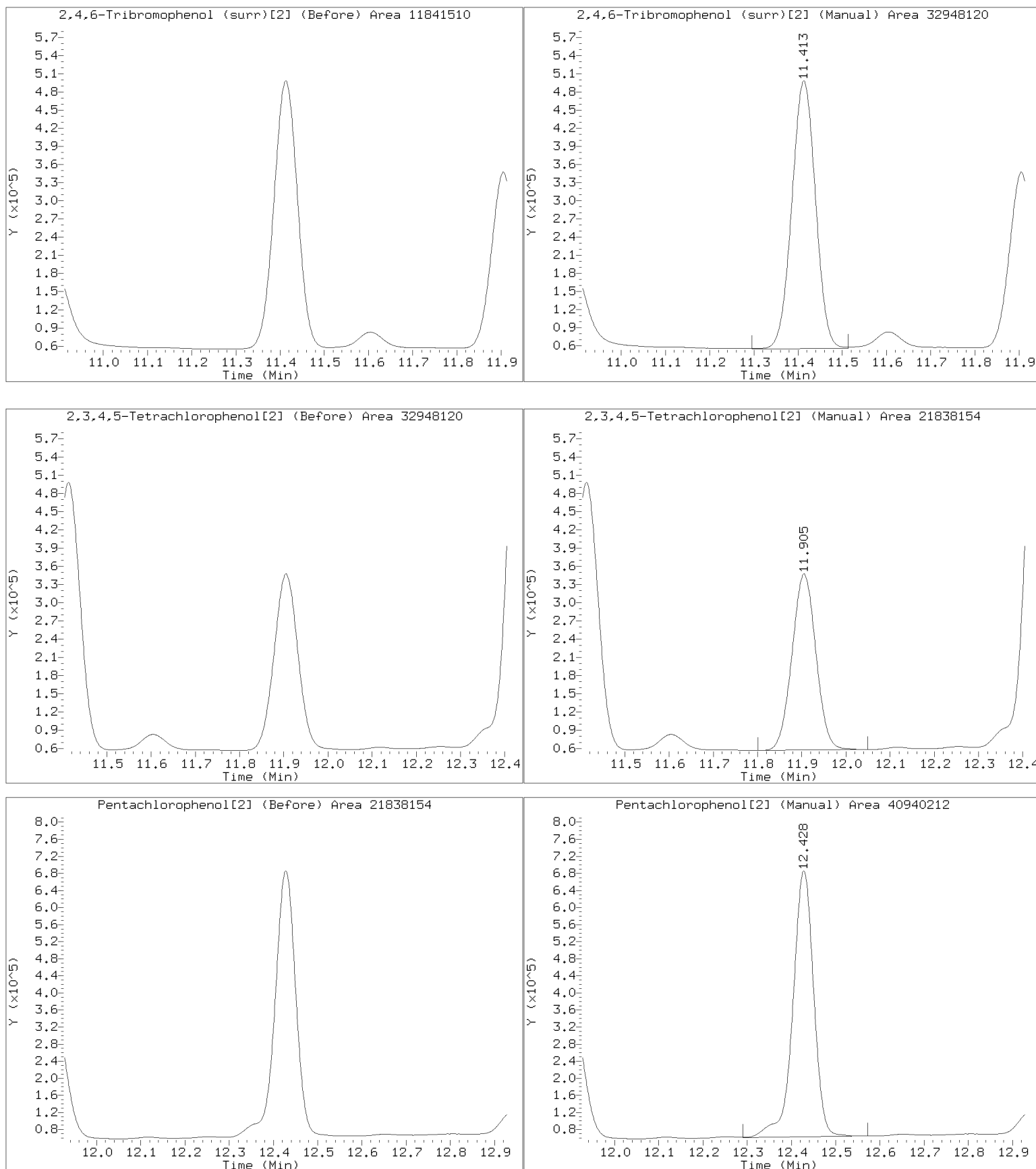


# Manual Peak Adjustment Report, CLP-2

Datafile: /20220729.b/20220729.b/22072903.D

Injection Date: 28-JUL-2022 11:38

Lab ID:SKG0311-ICV1 Client ID:





**CONTINUING CALIBRATION CHECK**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>ECD8</u>	Calibration:	<u>EK00019</u>
Lab File ID:	<u>21110417E8.D</u>	Calibration Date:	<u>11/04/2021</u>
Sequence:	<u>SJK0057</u>	Injection Date:	<u>11/04/21</u>
Lab Sample ID:	<u>SJK0057-CCV1</u>	Injection Time:	<u>15:54</u>
Sequence Name:	<u>ClPhenols CCV1</u>		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Pentachlorophenol	A	25.000	24.6	312218.7	307280.4		-1.6	+/-20
Pentachlorophenol [2C]	A	25.000	25.6	2158094	2206153		2.2	+/-20
2,4,6-Tribromophenol	A	25.000	24.6	216749.3	213371.7		-1.6	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	25.7	1576894	1618250		2.6	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110417E8.D  
Data file 2: /20211104.b/20211104.b/21110417E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-CCV1  
Client ID:  
Injection Date: 04-NOV-2021 15:54  
Report Date: 11/05/2021 10:07  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.550	0.012 7682009	11.961 0.012 55153821		24.6	25.6	3.8	Pentachlorophenol
6.395	0.007 4167701	6.501 0.006 29993611		24.5	25.3	3.6	2,4,6-Trichlorophenol
6.968	0.008 4082483	7.348 0.008 27757389		24.2	25.4	4.5	2,3,6-Trichlorophenol
7.912	0.009 1682363	8.453 0.009 11694374		24.2	24.2	0.2	2,4,5-Trichlorophenol
8.689	0.010 2105744	9.446 0.008 15056008		24.2	24.1	0.1	2,3,4-Trichlorophenol
8.997	0.010 6366706	9.308 0.009 43319409		24.6	25.3	2.6	2,3,5,6-Tetrachlorophenol
10.688	0.011 3892525	11.380 0.011 28266785		24.1	25.2	4.3	2,3,4,5-Tetrachlorophenol
5.758	0.005 1567400	6.226 0.005 11775159		242.8	245.1	1.0	2,4-Dichlorophenol
10.217	0.010 5334293	10.878 0.011 40456251		24.6	25.7	4.2	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

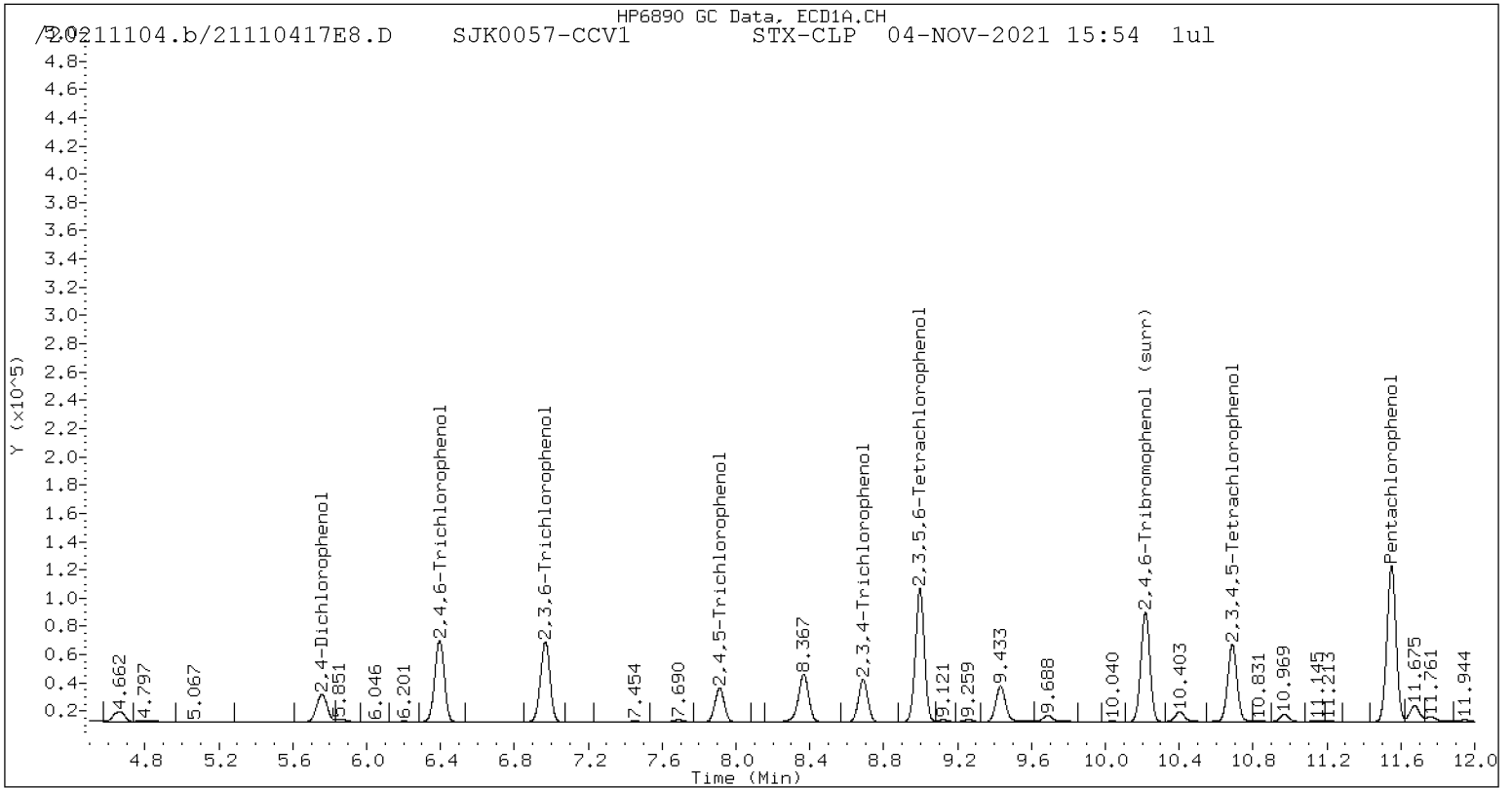
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

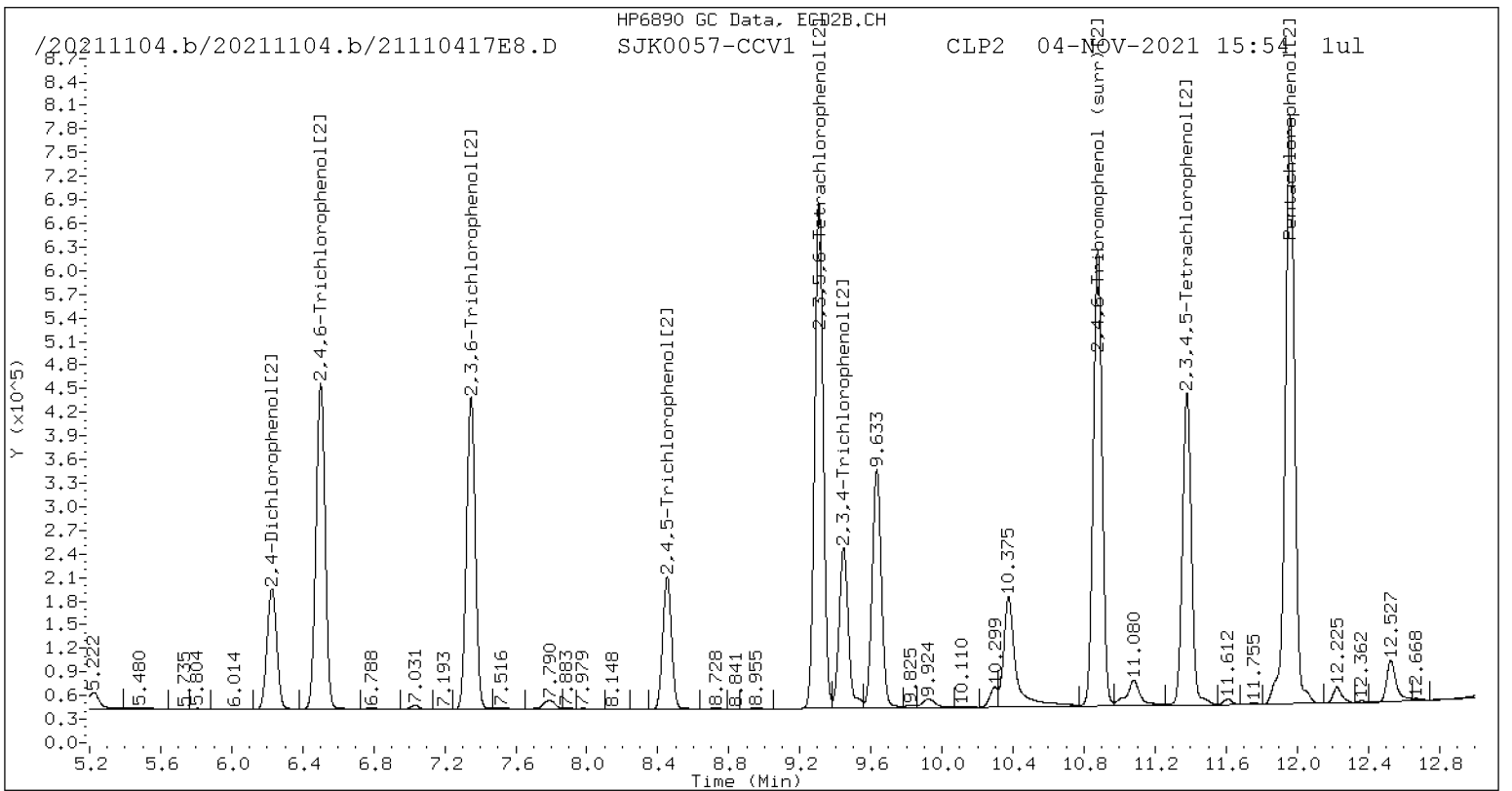
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	98.4	102.6	98.4~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**SECOND-SOURCE  
CONTINUING CALIBRATION CHECK  
EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: ECD8

Calibration: EK00019

Lab File ID: 21110407E8.D

Calibration Date: 11/04/2021

Sequence: SJK0057

Injection Date: 11/04/21

Lab Sample ID: SJK0057-SCV1

Injection Time: 12:56

Sequence Name: CIPhenols SCV 25

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Pentachlorophenol	A	25.000	23.5	312218.7	293990.3		-5.8	+/-20
Pentachlorophenol [2C]	A	25.000	22.9	2158094	1977664		-8.4	+/-20
2,4,6-Tribromophenol	A	25.000	24.1	216749.3	209028.9		-3.6	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	24.7	1576894	1560260		-1.1	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20211104.b/21110407E8.D  
Data file 2: /20211104.b/20211104.b/21110407E8.D  
Method: \20211104.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SJK0057-SCV1  
Client ID:  
Injection Date: 04-NOV-2021 12:56  
Report Date: 11/05/2021 10:06  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
11.534	-0.004	7349757	11.945	-0.004	49441592	23.5	22.9	2.7	Pentachlorophenol
6.384	-0.005	4378085	6.490	-0.005	30298659	25.7	25.6	0.4	2,4,6-Trichlorophenol
6.955	-0.005	4190656	7.335	-0.005	27447637	24.9	25.1	0.7	2,3,6-Trichlorophenol
7.898	-0.004	1883628	8.440	-0.004	12385209	27.1	25.7	5.4	2,4,5-Trichlorophenol
8.674	-0.004	2312830	9.433	-0.005	15826088	26.5	25.4	4.5	2,3,4-Trichlorophenol
8.983	-0.003	6212276	9.294	-0.004	40541896	24.0	23.7	1.5	2,3,5,6-Tetrachlorophenol
10.674	-0.003	4444233	11.364	-0.004	29466632	27.6	26.3	4.8	2,3,4,5-Tetrachlorophenol
5.748	-0.005	1590177	6.213	-0.008	14608891	246.3	304.1	21.0	2,4-Dichlorophenol
10.203	-0.004	5225722	10.862	-0.004	39006506	24.1	24.7	2.6	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

N Indicates Column 2 peak was manually integrated

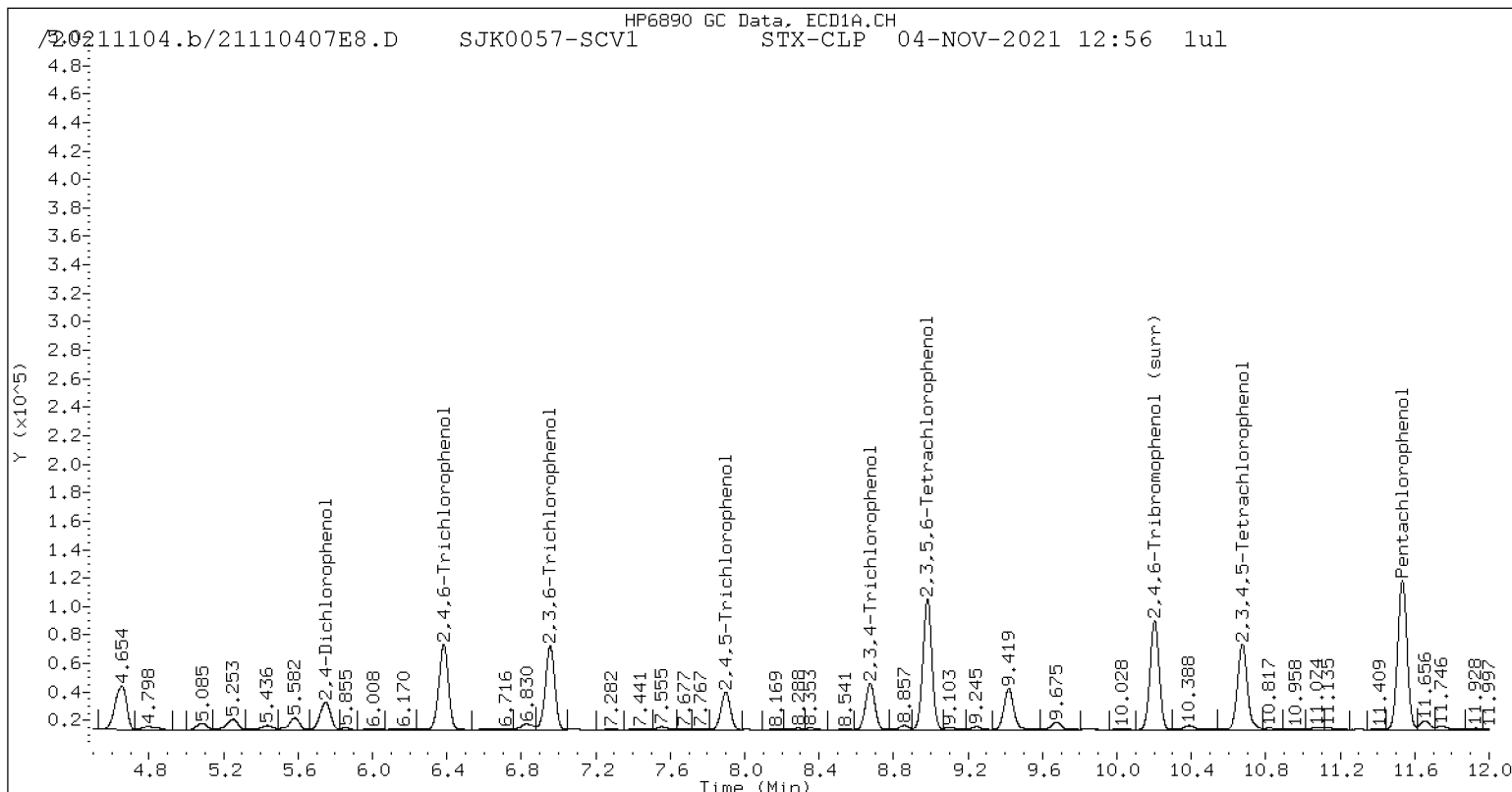
SURROGATE/SPIKE PERCENT RECOVERY

SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	96.4	98.9	96.4~	0- 0

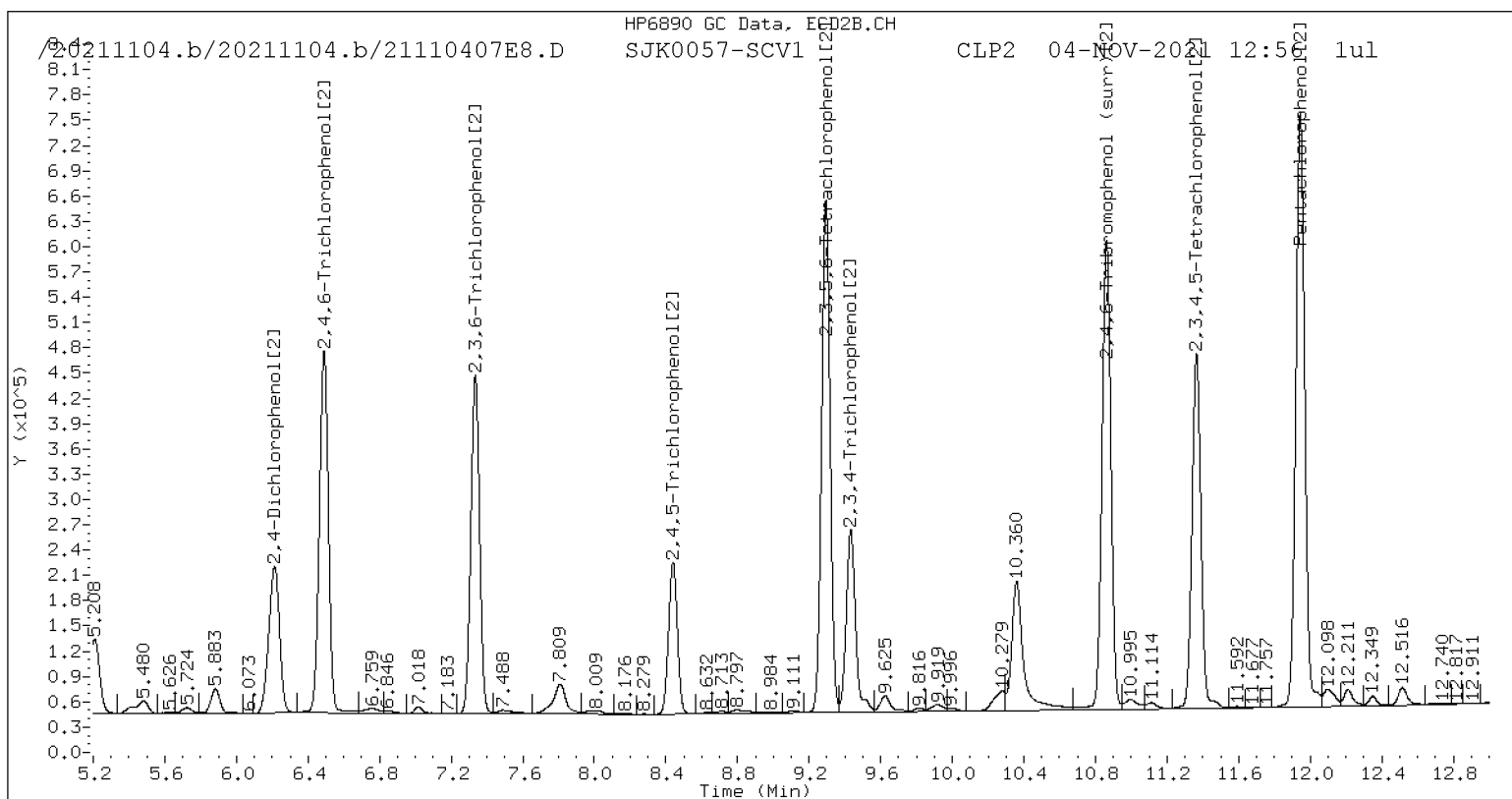
~ Indicates recovery outside QC Limits



PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**CONTINUING CALIBRATION CHECK**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>ECD8</u>	Calibration:	<u>EK00019</u>
Lab File ID:	<u>22062517.D</u>	Calibration Date:	<u>11/04/2021</u>
Sequence:	<u>SKF0340</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0340-CCV1</u>	Injection Time:	<u>16:21</u>
Sequence Name:	<u>CIPhenols CCV1</u>		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Pentachlorophenol	A	25.000	26.2	312218.7	327644.3		4.8	+/-20
Pentachlorophenol [2C]	A	25.000	29.6	2158094	2552722		18.4	+/-20
2,4,6-Tribromophenol	A	25.000	21.2	216749.3	184189.8		-15.2	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	25.8	1576894	1629608		3.2	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062517.D  
Data file 2: /20220625.b/22062517.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SKF0340-CCV1  
Client ID:  
Injection Date: 25-JUN-2022 16:21  
Report Date: 06/29/2022 11:18  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.064	0.000 8191108	12.409 0.000 63818051	26.2	29.6	12.0	Pentachlorophenol N
6.874	0.000 3576150	6.981 0.000 30901541	21.0	26.1	21.8	2,4,6-Trichlorophenol
7.455	0.000 3510588	7.838 0.000 28657209	20.8	26.2	22.7	2,3,6-Trichlorophenol
8.402	0.000 1494163	8.944 0.000 12253596	21.5	25.4	16.7	2,4,5-Trichlorophenol N
9.187	0.000 1867796	9.944 0.000 15053315	21.4	24.1	11.9	2,3,4-Trichlorophenol
9.501	0.000 5530964	9.810 0.000 44823865	21.4	26.2	20.1	2,3,5,6-Tetrachlorophenol
11.193	0.000 3370759	11.880 0.000 27998981	20.9	25.0	17.6	2,3,4,5-Tetrachlorophenol
6.222	0.000 1397527	6.698 0.000 11692248	216.5	243.4	11.7	2,4-Dichlorophenol
10.732	0.000 4604744	11.388 0.000 40740190	21.2	25.8	19.5	2,4,6-Tribromophenol (surr)

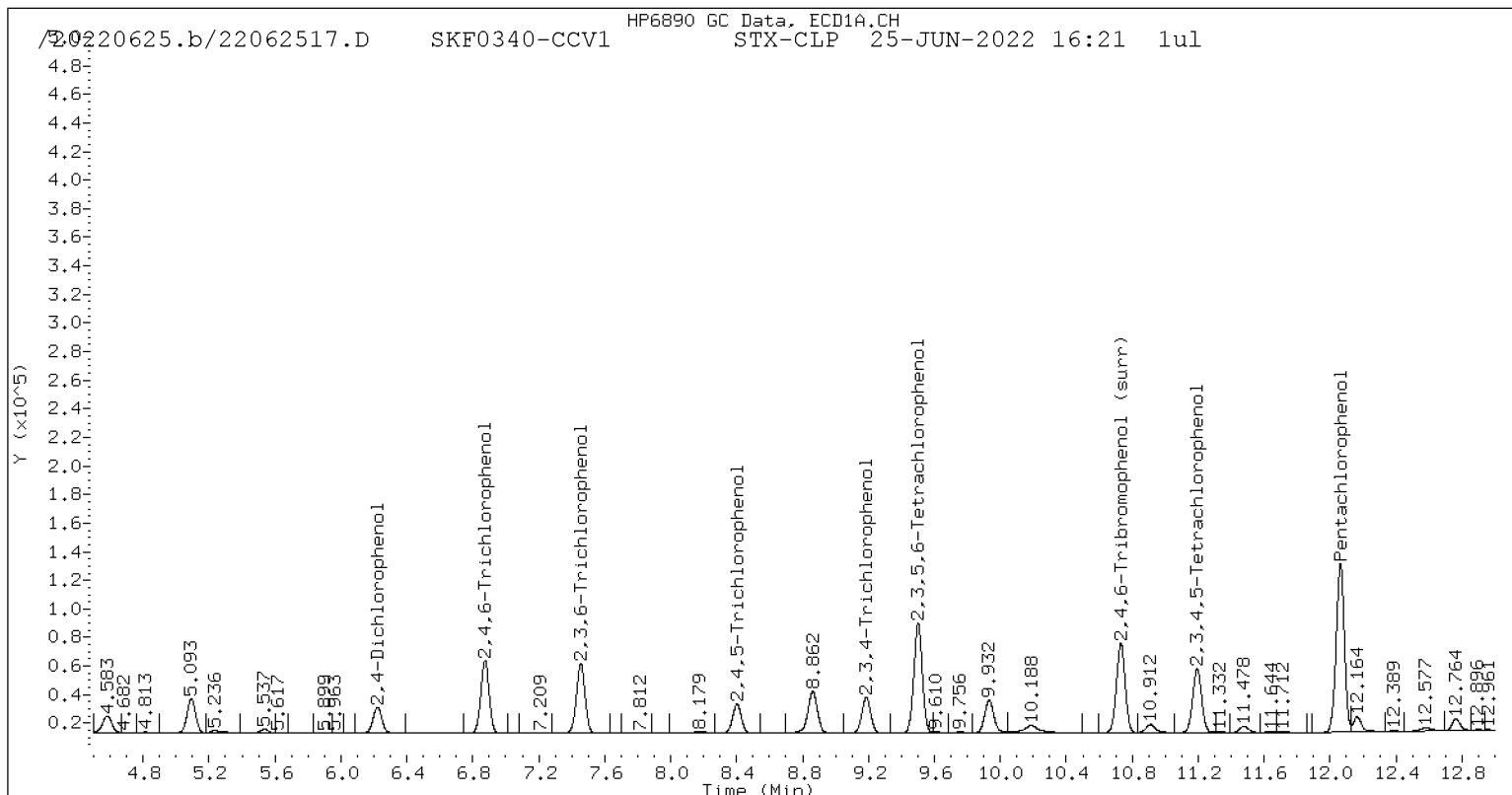
- \* Indicates RPD > 40%
- A Indicates Peak Height was used for Column 1 quantitation instead of Area
- B Indicates Peak Height was used for Column 2 quantitation instead of Area
- M Indicates Column 1 peak was manually integrated
- N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

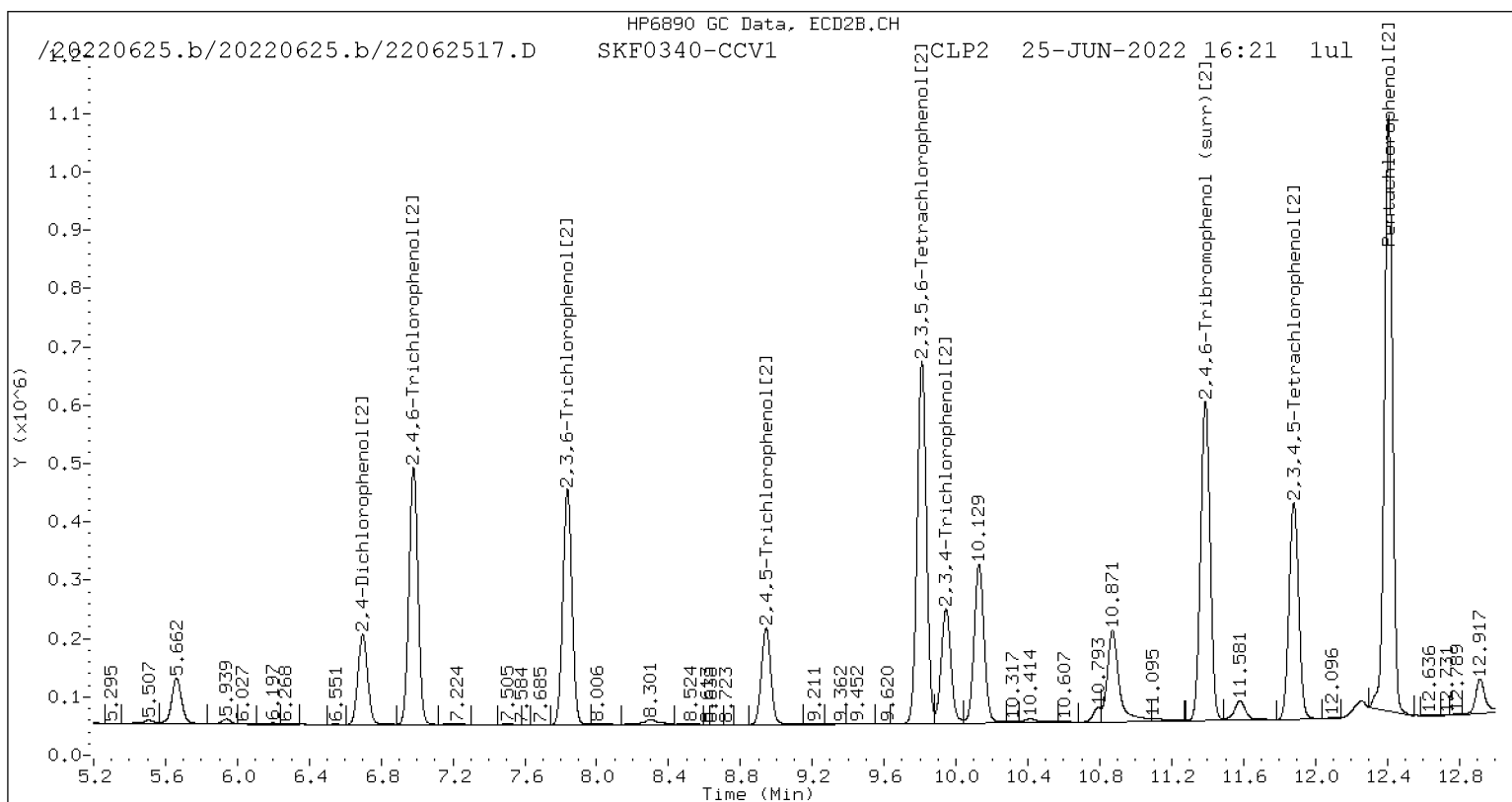
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	85.0	103.3	85.0~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



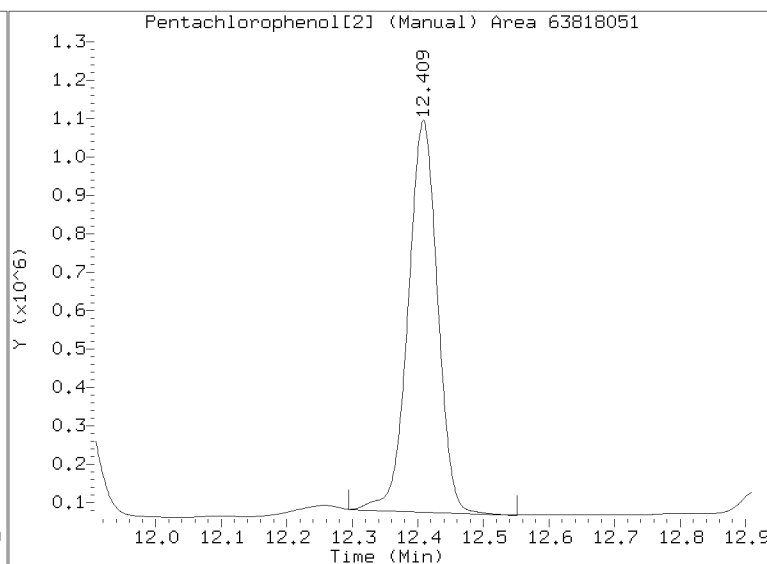
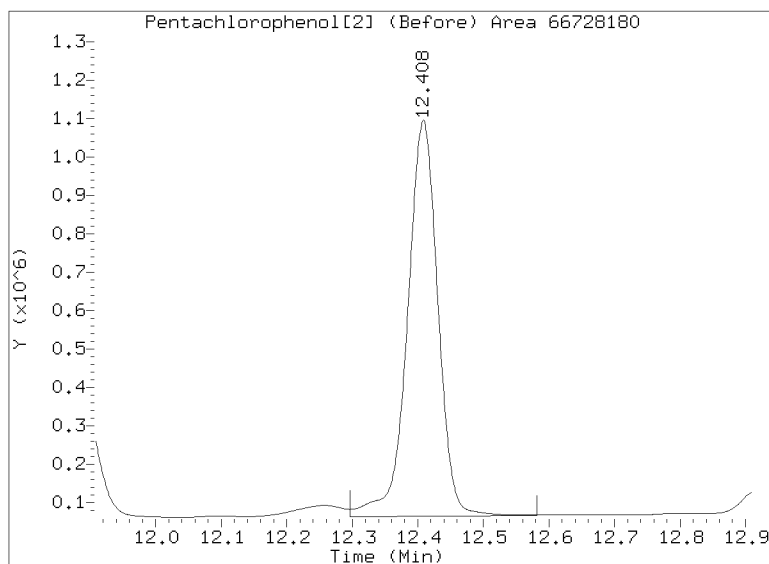
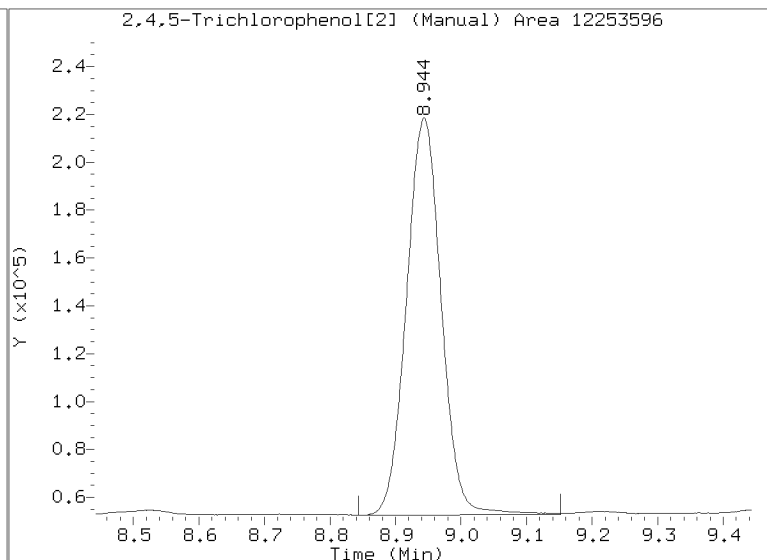
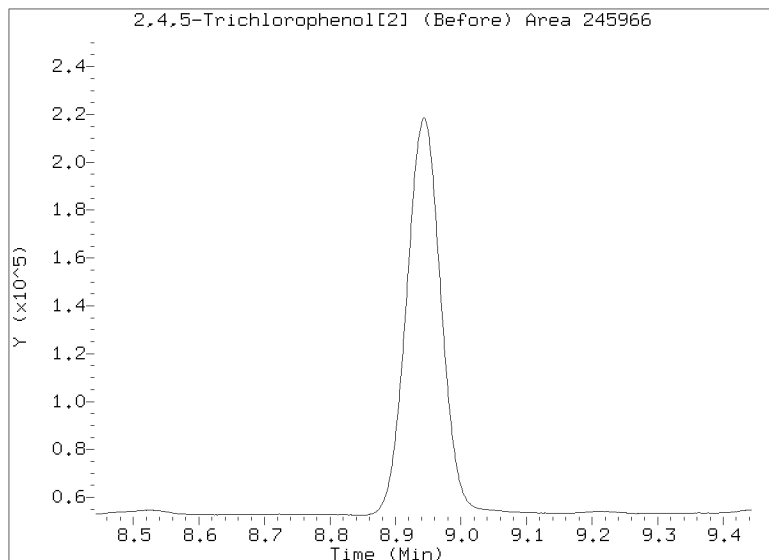
CLP-2 Manual Integration: YES

# Manual Peak Adjustment Report, CLP-2

Datafile: /20220625.b/20220625.b/22062517.D

Injection Date: 25-JUN-2022 16:21

Lab ID:SKF0340-CCV1 Client ID:





**CONTINUING CALIBRATION CHECK**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>ECD8</u>	Calibration:	<u>EK00019</u>
Lab File ID:	<u>22062524.D</u>	Calibration Date:	<u>11/04/2021</u>
Sequence:	<u>SKF0340</u>	Injection Date:	<u>06/25/22</u>
Lab Sample ID:	<u>SKF0340-CCV2</u>	Injection Time:	<u>18:27</u>
Sequence Name:	<u>Calibration Check</u>		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Pentachlorophenol	A	25.000	26.9	312218.7	335752.1		7.5	+/-20
Pentachlorophenol [2C]	A	25.000	29.8	2158094	2569057		19.0	+/-20
2,4,6-Tribromophenol	A	25.000	21.6	216749.3	187107.4		-13.7	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	27.3	1576894	1721410		9.2	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220625.b/22062524.D  
Data file 2: /20220625.b/20220625.b/22062524.D  
Method: \20220625.b\PCP.m  
Compound Sublist: pcpca1.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SKF0340-CCV2  
Client ID:  
Injection Date: 25-JUN-2022 18:27  
Report Date: 06/29/2022 11:18  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift Response	CLP2 Col Shift Response	RT	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.069	0.005 8393803	0.004 64226419	12.413	26.9	29.8	10.2	Pentachlorophenol N
6.879	0.005 3632703	0.005 31048621	6.986	21.3	26.2	20.7	2,4,6-Trichlorophenol
7.461	0.005 3565650	0.005 28578377	7.843	21.2	26.1	20.8	2,3,6-Trichlorophenol
8.408	0.005 1500631	0.004 12167304	8.947	21.6	25.2	15.5	2,4,5-Trichlorophenol N
9.192	0.005 1889233	0.005 16327899	9.950	21.7	26.2	18.8	2,3,4-Trichlorophenol
9.507	0.006 5630501	0.005 47982570	9.816	21.8	28.0	25.0	2,3,5,6-Tetrachlorophenol
11.199	0.006 3415548	0.005 29693103	11.886	21.2	26.5	22.2	2,3,4,5-Tetrachlorophenol
6.227	0.005 1412434	0.005 11816567	6.703	218.8	246.0	11.7	2,4-Dichlorophenol
10.736	0.005 4677684	0.005 43035256	11.394	21.6	27.3	23.4	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

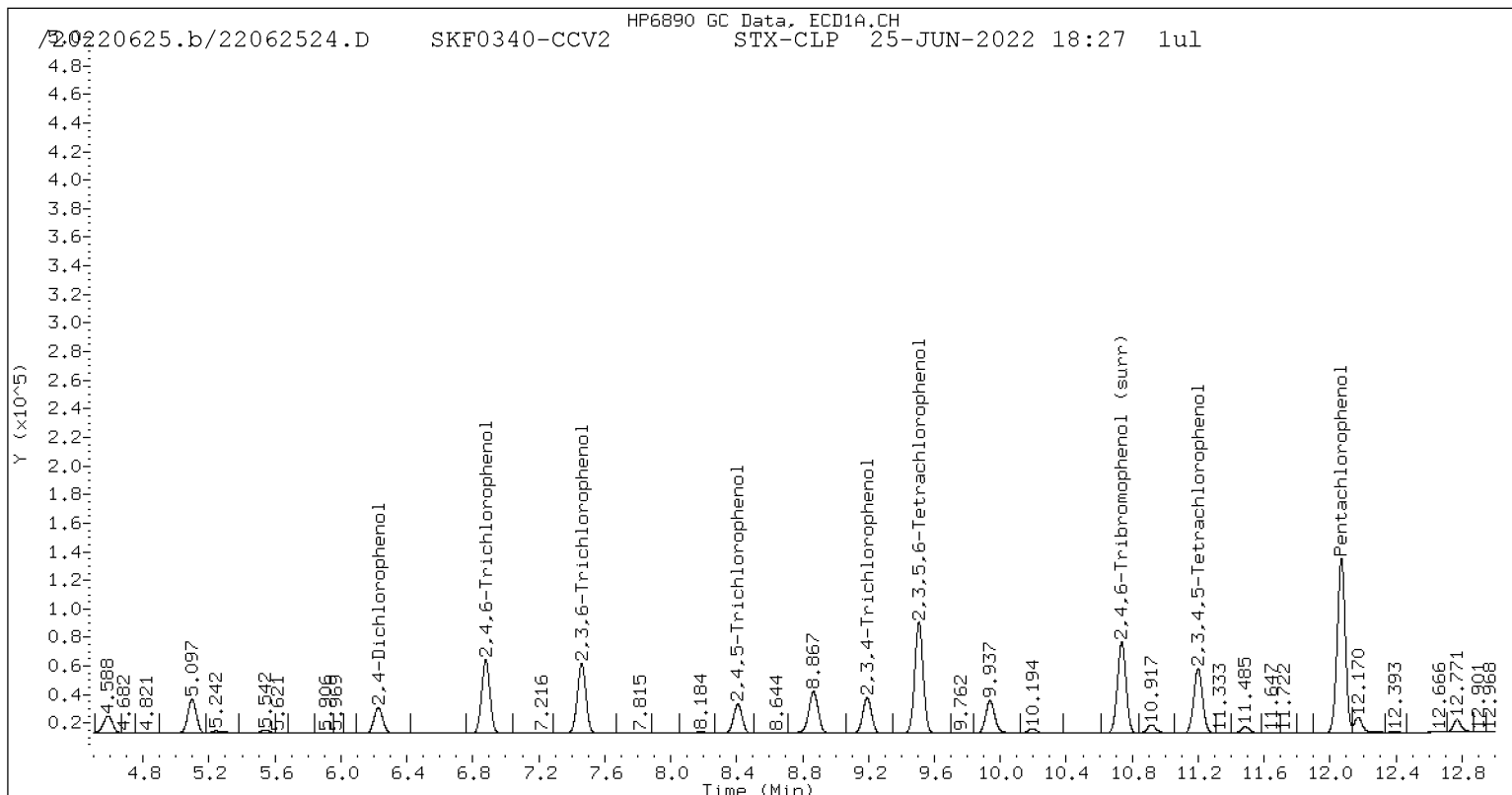
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

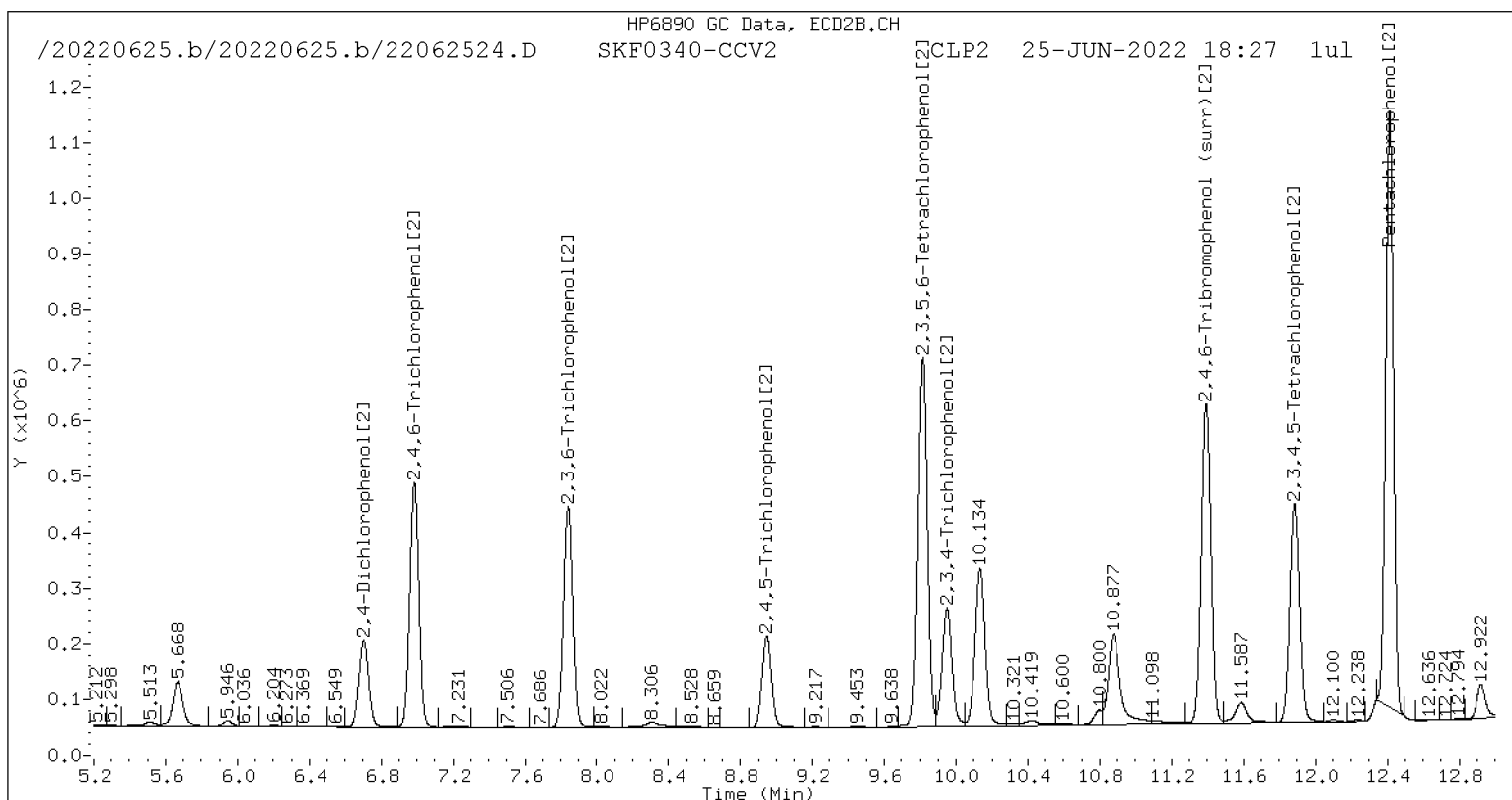
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	86.3	109.2	86.3~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: YES

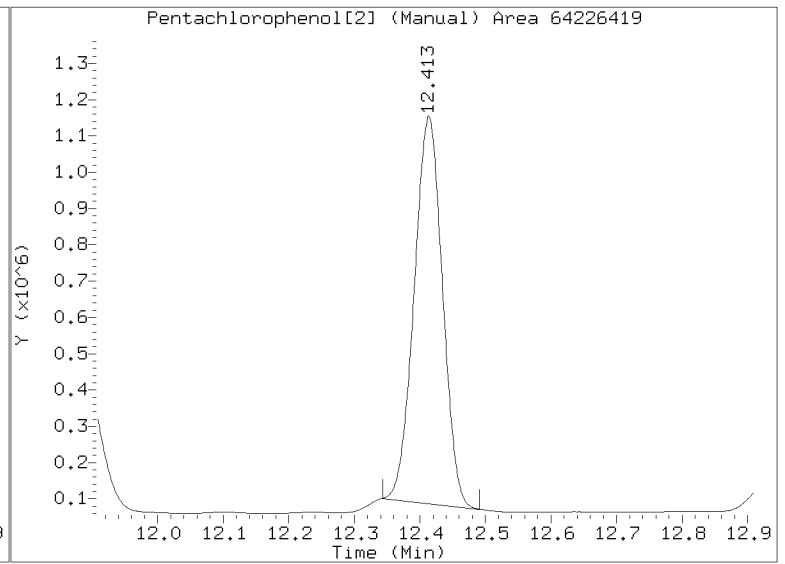
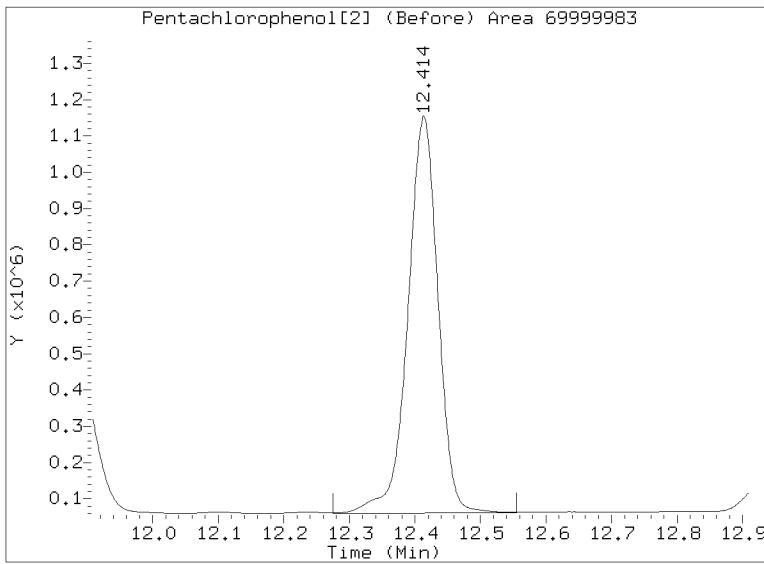
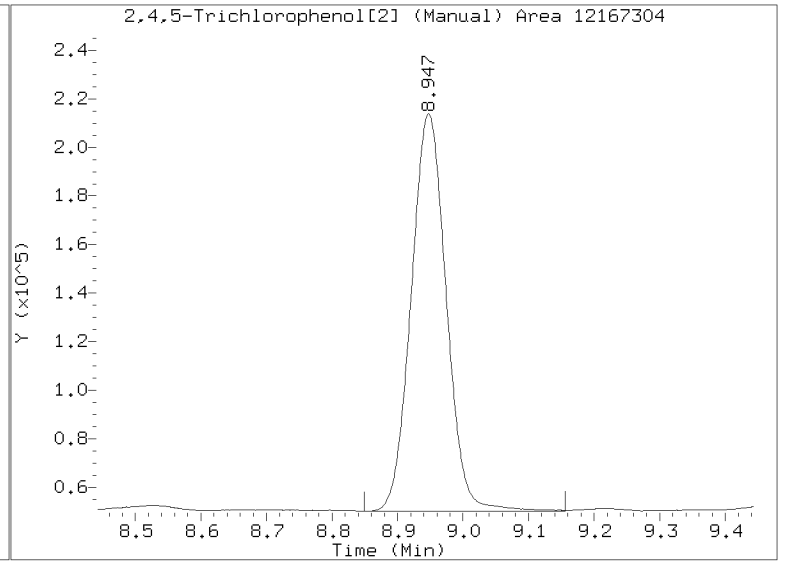
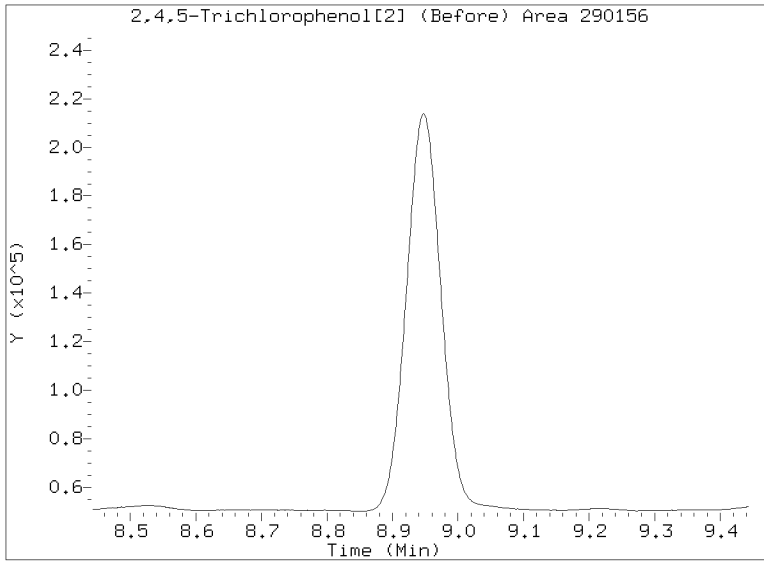


Manual Peak Adjustment Report, CLP-2

Datafile: /20220625.b/20220625.b/22062524.D

Injection Date: 25-JUN-2022 18:27

Lab ID:SKF0340-CCV2 Client ID:





**CONTINUING CALIBRATION CHECK**  
**EPA 8041A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Instrument ID:	<u>ECD8</u>	Calibration:	<u>EK00019</u>
Lab File ID:	<u>22072916.D</u>	Calibration Date:	<u>11/04/2021</u>
Sequence:	<u>SKG0311</u>	Injection Date:	<u>07/28/22</u>
Lab Sample ID:	<u>SKG0311-CCV1</u>	Injection Time:	<u>15:32</u>
Sequence Name:	<u>CIPhenols CCV1</u>		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Pentachlorophenol	A	25.000	20.6	312218.7	257451		-17.5	+/-20
Pentachlorophenol [2C]	A	25.000	22.9	2158094	1972670		-8.6	+/-20
2,4,6-Tribromophenol	A	25.000	21.8	216749.3	188964.9		-12.8	+/-20
2,4,6-Tribromophenol [2C]	A	25.000	24.2	1576894	1524333		-3.3	+/-20

\* Values outside of QC limits

Analytical Resources Inc.  
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20220729.b/22072916.D  
Data file 2: /20220729.b/22072916.D  
Method: \20220729.b\PCP.m  
Compound Sublist: pcpcal.sub  
Instrument, Inj. Vol.: ecd8.i, 1ul  
Operator: YZ

ARI ID: SKG0311-CCV1  
Client ID:  
Injection Date: 28-JUL-2022 15:32  
Report Date: 07/29/2022 13:54  
Units: ng/mL  
Dilution Factor: 1.000

RT	STX-CLP Col Shift	Response	RT	CLP2 Col Shift	Response	STX-CLP on col	CLP2 on col	RPD	Compound/Flag
12.118	0.030	6436276	12.458	0.030	49316763	20.6	22.9	10.3	Pentachlorophenol
6.926	0.029	3657871	7.031	0.029	30022057	21.5	25.4	16.7	2,4,6-Trichlorophenol
7.507	0.030	3646021	7.888	0.031	27577519	21.7	25.2	15.1	2,3,6-Trichlorophenol
8.455	0.031	1670947	8.996	0.032	11474948	24.0	23.8	1.0	2,4,5-Trichlorophenol
9.241	0.030	1782883	10.001	0.032	14118896	20.5	22.6	10.1	2,3,4-Trichlorophenol
9.556	0.031	5393558	9.866	0.032	42817188	20.9	25.0	18.0	2,3,5,6-Tetrachlorophenol
11.253	0.032	3469736	11.940	0.035	25238441	21.5	22.5	4.4	2,3,4,5-Tetrachlorophenol
6.271	0.029	1420412	6.747	0.029	11626473	220.0	242.0	9.5	2,4-Dichlorophenol
10.789	0.033	4724122	11.448	0.035	38108323	21.8	24.2	10.3	2,4,6-Tribromophenol (surr)

\* Indicates RPD > 40%

A Indicates Peak Height was used for Column 1 quantitation instead of Area

B Indicates Peak Height was used for Column 2 quantitation instead of Area

M Indicates Column 1 peak was manually integrated

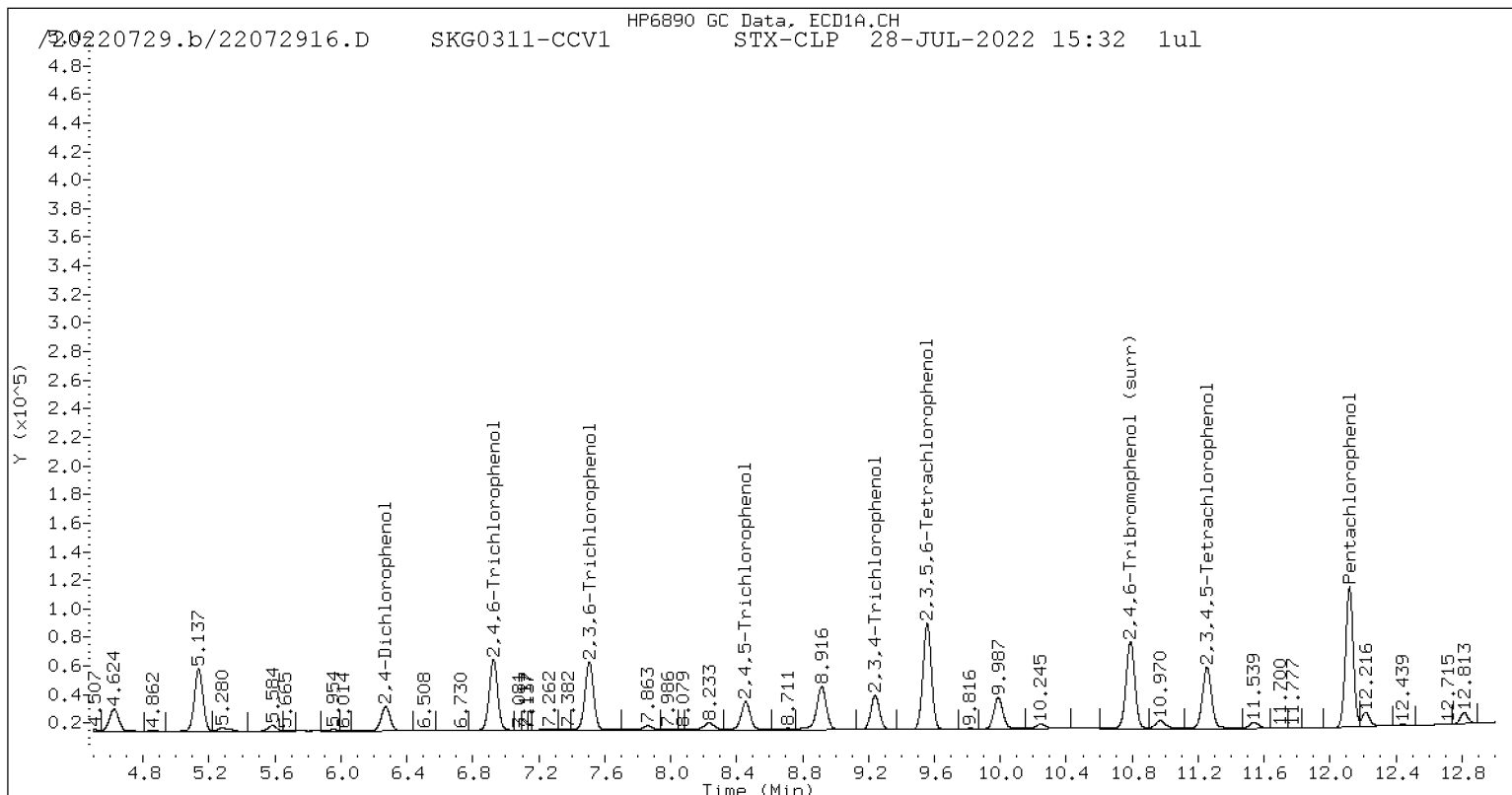
N Indicates Column 2 peak was manually integrated

SURROGATE/SPIKE PERCENT RECOVERY

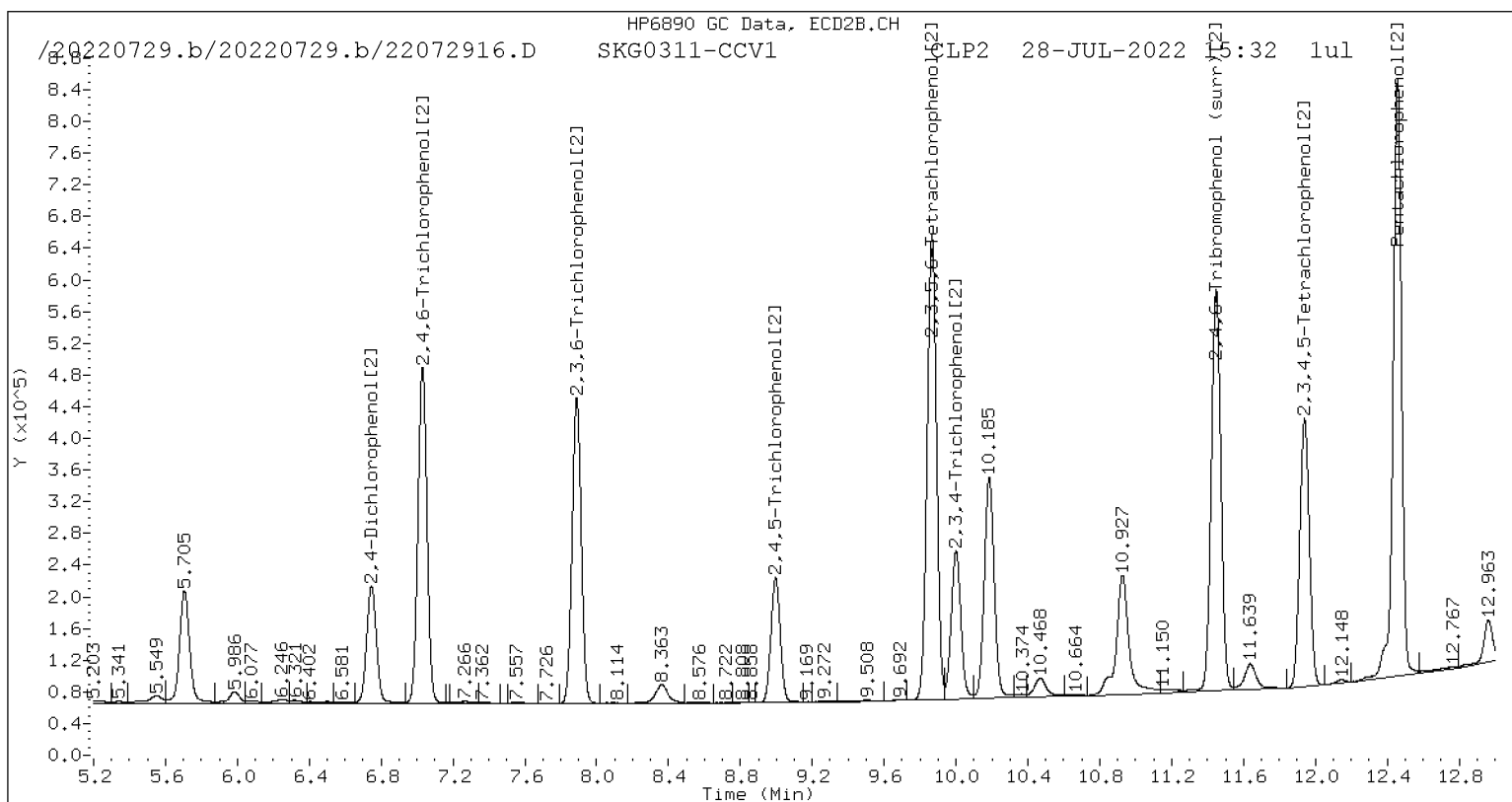
SURR/SPIKE	Col1	Col2	Lower	Limits
2,4,6-Tribromophenol (surr)	87.2	96.7	87.2~	0- 0

~ Indicates recovery outside QC Limits

PCP Dual Column Chromatograms



STX-CLP Manual Integration: NO



CLP-2 Manual Integration: NO



**Dual Column**  
**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SJK0057

Instrument: ECD8

Calibration: EK00019

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SJK0057-CAL1	21110401E8.D	21110401E8.D	NA	11/04/21 11:09
Cal Standard	SJK0057-CAL2	21110402E8.D	21110402E8.D	NA	11/04/21 11:26
Cal Standard	SJK0057-CAL3	21110403E8.D	21110403E8.D	NA	11/04/21 11:44
Cal Standard	SJK0057-CAL4	21110404E8.D	21110404E8.D	NA	11/04/21 12:02
Cal Standard	SJK0057-CAL5	21110405E8.D	21110405E8.D	NA	11/04/21 12:20
Cal Standard	SJK0057-CAL6	21110406E8.D	21110406E8.D	NA	11/04/21 12:38
Secondary Cal Check	SJK0057-SCV1	21110407E8.D	21110407E8.D	NA	11/04/21 12:56
Initial Cal Check	SJK0057-ICV1	21110408E8.D	21110408E8.D	NA	11/04/21 13:14
Calibration Check	SJK0057-CCV1	21110417E8.D	21110417E8.D	NA	11/04/21 15:54



ANALYSIS SEQUENCE

SJK0057

Instrument: ECD8                      Element Column ID: I004683/I00468  
Calibration ID: EK00019            Tune File:  
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJK0057-CAL1	CIPhenols 2.5	QC		1	J011897		
SJK0057-CAL2	CIPhenols 5	QC		2	J011896		
SJK0057-CAL3	CIPhenols 10	QC		3	J011895		
SJK0057-CAL4	CIPhenols 25	QC		4	J011894		
SJK0057-CAL5	CIPhenols 50	QC		5	J011893		
SJK0057-CAL6	CIPhenols 100	QC		6	J005465		
SJK0057-SCV1	CIPhenols SCV 25	QC		7	J011892		
SJK0057-ICV1	Initial Cal Check	QC		8	J011894		
BJJ0741-BLK1	Blank	QC		9			
BJJ0741-BLK2	Blank	QC		10			
BJJ0741-BLK3	Blank	QC		11			
BJJ0741-BS1	LCS	QC		12			
21I0197-01	MDL-1	8041A Chlorinated Phenols	A 01	13			
21I0197-02	MDL-2	8041A Chlorinated Phenols	A 01	14			
21I0197-03	MDL-3	8041A Chlorinated Phenols	A 01	15			
21I0435-09	PE1274-1.2ML	8041A Chlorinated Phenols	A 01	16			
SJK0057-CCV1	CIPhenols CCV1	QC		17	J011894		

## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20211104.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	04-NOV-2021	11:09	21110401E8.D	1	SJK0057-CAL1	
2	04-NOV-2021	11:26	21110402E8.D	1	SJK0057-CAL2	
3	04-NOV-2021	11:44	21110403E8.D	1	SJK0057-CAL3	
4	04-NOV-2021	12:02	21110404E8.D	1	SJK0057-CAL4	
5	04-NOV-2021	12:20	21110405E8.D	1	SJK0057-CAL5	
6	04-NOV-2021	12:38	21110406E8.D	1	SJK0057-CAL6	
7	04-NOV-2021	12:56	21110407E8.D	1	SJK0057-SCV1	
8	04-NOV-2021	13:14	21110408E8.D	1	SJK0057-ICV1	
9	04-NOV-2021	13:32	21110409E8.D	1	BJI0741-BLK1	
10	04-NOV-2021	13:49	21110410E8.D	1	BJI0741-BLK2	
11	04-NOV-2021	14:07	21110411E8.D	1	BJI0741-BLK3	
12	04-NOV-2021	14:25	21110412E8.D	1	BJI0741-BS1	
13	04-NOV-2021	14:43	21110413E8.D	1	21J0197-01	
14	04-NOV-2021	15:01	21110414E8.D	1	21J0197-02	
15	04-NOV-2021	15:19	21110415E8.D	1	21J0197-03	
16	04-NOV-2021	15:36	21110416E8.D	20	21I0435-05RE1	20
17	04-NOV-2021	15:54	21110417E8.D	1	SJK0057-CCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20211104.b

ARI Job No.: SJK0 Method: PCP.m Instrument: ecd8.i Date: 04-NOV-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1109	21110401E8.D	SJK0057-CAL1		1	2,4-Dichlorophenol,
1126	21110402E8.D	SJK0057-CAL2		1	NO MANUAL INTEGRATION
1144	21110403E8.D	SJK0057-CAL3		1	NO MANUAL INTEGRATION
1202	21110404E8.D	SJK0057-CAL4		1	NO MANUAL INTEGRATION
1220	21110405E8.D	SJK0057-CAL5		1	NO MANUAL INTEGRATION
1238	21110406E8.D	SJK0057-CAL6		1	NO MANUAL INTEGRATION
1256	21110407E8.D	SJK0057-SCV1		1	NO MANUAL INTEGRATION
1314	21110408E8.D	SJK0057-ICV1		1	NO MANUAL INTEGRATION
1332	21110409E8.D	BJI0741-BLK1		1	NO MANUAL INTEGRATION
1349	21110410E8.D	BJI0741-BLK2		1	NO MANUAL INTEGRATION
1407	21110411E8.D	BJI0741-BLK3		1	NO MANUAL INTEGRATION
1425	21110412E8.D	BJI0741-BS1		1	NO MANUAL INTEGRATION
1443	21110413E8.D	21J0197-01		1	NO MANUAL INTEGRATION
1501	21110414E8.D	21J0197-02		1	NO MANUAL INTEGRATION
1519	21110415E8.D	21J0197-03		1	NO MANUAL INTEGRATION
1536	21110416E8.D	21I0435-05RE1	20	20	NO MANUAL INTEGRATION
1554	21110417E8.D	SJK0057-CCV1		1	NO MANUAL INTEGRATION



Security Status Report

Date: 05-Nov-2021 10:08

21110401E8.D	Data Locked	yev, 05-
21110402E8.D	Data Locked	yev, 05-
21110403E8.D	Data Locked	yev, 05-
21110404E8.D	Data Locked	yev, 05-
21110405E8.D	Data Locked	yev, 05-
21110406E8.D	Data Locked	yev, 05-
21110407E8.D	Data Locked	yev, 05-
21110408E8.D	Data Locked	yev, 05-
21110409E8.D	Data Locked	yev, 05-
21110410E8.D	Data Locked	yev, 05-
21110411E8.D	Data Locked	yev, 05-
21110412E8.D	Data Locked	yev, 05-
21110413E8.D	Data Locked	yev, 05-
21110414E8.D	Data Locked	yev, 05-
21110415E8.D	Data Locked	yev, 05-
21110416E8.D	Data Locked	yev, 05-
21110417E8.D	Data Locked	yev, 05-



**Dual Column**  
**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0340

Instrument: ECD8

Calibration: EK00019

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SKF0340-ICV1	22062503.D	22062503.D	NA	06/25/22 12:11
Blank	BKF0449-BLK1	22062504.D	22062504.D	Water	06/25/22 12:29
LCS	BKF0449-BS1	22062505.D	22062505.D	Water	06/25/22 12:47
LCS Dup	BKF0449-BSD1	22062506.D	22062506.D	Water	06/25/22 13:04
Z1A-3-PW	22F0267-09	22062507.D	22062507.D	Water	06/25/22 13:22
Z1A-6-PW	22F0267-10	22062508.D	22062508.D	Water	06/25/22 13:40
Z1A-9-PW	22F0267-11	22062509.D	22062509.D	Water	06/25/22 13:58
Z1A-12-PW	22F0267-12	22062510.D	22062510.D	Water	06/25/22 14:16
DUP-1-PW	22F0267-15	22062511.D	22062511.D	Water	06/25/22 14:34
Z1B-1-PW	22F0267-24	22062512.D	22062512.D	Water	06/25/22 14:52
Z1B-2-PW	22F0267-25	22062513.D	22062513.D	Water	06/25/22 15:10
Z1B-3-PW	22F0267-26	22062514.D	22062514.D	Water	06/25/22 15:28
Z1B-4-PW	22F0267-27	22062515.D	22062515.D	Water	06/25/22 15:46
Calibration Check	SKF0340-CCV1	22062517.D	22062517.D	NA	06/25/22 16:21
Calibration Check	SKF0340-CCV2	22062524.D	22062524.D	NA	06/25/22 18:27



ANALYSIS SEQUENCE

SKF0340

Instrument: ECD8                      Element Column ID: I4682/I4683  
Calibration ID: EK00019            Tune File:  
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SKF0340-ICV1	Initial Cal Check	QC		1	K003972		
BKF0449-BLK1	Blank	QC		2			
BKF0449-BS1	LCS	QC		3			
BKF0449-BSD1	LCS Dup	QC		4			
22F0267-09	Z1A-3-PW	8041A Chlorinated Phenols	A 01	5			Waters PCP Only
22F0267-10	Z1A-6-PW	8041A Chlorinated Phenols	A 01	6			Waters PCP Only
22F0267-11	Z1A-9-PW	8041A Chlorinated Phenols	A 01	7			Waters PCP Only
22F0267-12	Z1A-12-PW	8041A Chlorinated Phenols	A 01	8			Waters PCP Only
22F0267-15	DUP-1-PW	8041A Chlorinated Phenols	A 01	9			Waters PCP Only
22F0267-24	Z1B-1-PW	8041A Chlorinated Phenols	A 01	10			Waters PCP Only
22F0267-25	Z1B-2-PW	8041A Chlorinated Phenols	A 01	11			Waters PCP Only
22F0267-26	Z1B-3-PW	8041A Chlorinated Phenols	A 01	12			Waters PCP Only
22F0267-27	Z1B-4-PW	8041A Chlorinated Phenols	A 01	13			Waters PCP Only
22E0349-18RE2	IPC-2205-117	8041A Pentachlorophenol Low Level	A 01	14			Added 6/28/2022 by YZ
SKF0340-CCV1	ClPhenols CCV1	QC		15	K003972		
22E0389-04RE1	IPC-2205-125	8041A Chlorinated Phenols	A 01	16			Added 6/28/2022 by YZ
22E0389-05RE1	IPC-2205-126	8041A Chlorinated Phenols	A 01	17			Added 6/28/2022 by YZ
22E0389-06RE1	IPC-2205-127	8041A Chlorinated Phenols	A 01	18			Added 6/28/2022 by YZ
22E0389-07RE1	IPC-2205-128	8041A Chlorinated Phenols	A 01	19			Added 6/28/2022 by YZ
22E0389-10RE1	IPC-2205-131	8041A Chlorinated Phenols	A 01	20			Added 6/28/2022 by YZ
22E0389-11RE1	IPC-2205-132	8041A Chlorinated Phenols	A 01	21			Added 6/28/2022 by YZ
SKF0340-CCV2	Calibration Check	QC		22	K003972		



ANALYSIS SEQUENCE

SKF0340

Instrument: ECD8                      Element Column ID: I4682/I4683  
Calibration ID: EK00019              Tune File:  
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
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## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20220625.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	25-JUN-2022	12:11	22062503.D	1	SKF0340-ICV1	
2	25-JUN-2022	12:29	22062504.D	1	BKF449-BLK1	
3	25-JUN-2022	12:47	22062505.D	1	BKF449-BS1	
4	25-JUN-2022	13:04	22062506.D	1	BKF449-BSD1	
5	25-JUN-2022	13:22	22062507.D	1	22E0267-09	
6	25-JUN-2022	13:40	22062508.D	1	22E0267-10	
7	25-JUN-2022	13:58	22062509.D	1	22E0267-11	
8	25-JUN-2022	14:16	22062510.D	1	22E0267-12	
9	25-JUN-2022	14:34	22062511.D	1	22E0267-15	
10	25-JUN-2022	14:52	22062512.D	1	22E0267-24	
11	25-JUN-2022	15:10	22062513.D	1	22E0267-25	
12	25-JUN-2022	15:28	22062514.D	1	22E0267-26	
13	25-JUN-2022	15:46	22062515.D	1	22E0267-27	
14	25-JUN-2022	16:03	22062516.D	20	22E0349-18RE1	20
15	25-JUN-2022	16:21	22062517.D	1	SKF0340-CCV1	
16	25-JUN-2022	16:39	22062518.D	20	22E0389-04RE1	20
17	25-JUN-2022	16:57	22062519.D	50	22E0389-05RE1	50
18	25-JUN-2022	17:15	22062520.D	50	22E0389-06RE1	50
19	25-JUN-2022	17:33	22062521.D	20	22E0389-07RE1	20
20	25-JUN-2022	17:51	22062522.D	50	22E0389-10RE1	50
21	25-JUN-2022	18:09	22062523.D	50	22E0389-11RE1	50
22	25-JUN-2022	18:27	22062524.D	1	SKF0340-CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20220625.b

ARI Job No.: SKF0 Method: PCP.m Instrument: ecd8.i Date: 25-JUN-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1211	22062503.D	SKF0340-ICV1		1	NO MANUAL INTEGRATION
1229	22062504.D	BKF449-BLK1		1	NO MANUAL INTEGRATION
1247	22062505.D	BKF449-BS1		1	2,4-Dichlorophenol,
1304	22062506.D	BKF449-BSD1		1	2,4-Dichlorophenol,
1322	22062507.D	22E0267-09		1	2,4,6-Tribromophenol (surr),
1340	22062508.D	22E0267-10		1	2,4,6-Tribromophenol (surr),
1358	22062509.D	22E0267-11		1	2,4,6-Tribromophenol (surr),
1416	22062510.D	22E0267-12		1	NO MANUAL INTEGRATION
1434	22062511.D	22E0267-15		1	2,4,6-Tribromophenol (surr),
1452	22062512.D	22E0267-24		1	NO MANUAL INTEGRATION
1510	22062513.D	22E0267-25		1	2,4,6-Tribromophenol (surr),
1528	22062514.D	22E0267-26		1	NO MANUAL INTEGRATION
1546	22062515.D	22E0267-27		1	NO MANUAL INTEGRATION
1603	22062516.D	22E0349-18RE1	20	20	Pentachlorophenol, 2,4,6-Tribromophenol (surr),
1621	22062517.D	SKF0340-CCV1		1	NO MANUAL INTEGRATION
1639	22062518.D	22E0389-04RE1	20	20	NO MANUAL INTEGRATION
1657	22062519.D	22E0389-05RE1	50	50	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20220625.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1715	22062520.D	22E0389-06RE1	50	50	NO MANUAL INTEGRATION
1733	22062521.D	22E0389-07RE1	20	20	NO MANUAL INTEGRATION
1751	22062522.D	22E0389-10RE1	50	50	NO MANUAL INTEGRATION
1809	22062523.D	22E0389-11RE1	50	50	NO MANUAL INTEGRATION
1827	22062524.D	SKF0340-CCV2		1	NO MANUAL INTEGRATION

Security Status Report

Date: 29-Jun-2022 10:46

22062503.D	Data Locked	yev, 29-
22062504.D	Data Locked	yev, 29-
22062505.D	Data Locked	yev, 29-
22062506.D	Data Locked	yev, 29-
22062507.D	Data Locked	yev, 29-
22062508.D	Data Locked	yev, 29-
22062509.D	Data Locked	yev, 29-
22062510.D	Data Locked	yev, 29-
22062511.D	Data Locked	yev, 29-
22062512.D	Data Locked	yev, 29-
22062513.D	Data Locked	yev, 29-
22062514.D	Data Locked	yev, 29-
22062515.D	Data Locked	yev, 29-
22062516.D	Data Locked	yev, 29-
22062517.D	Data Locked	yev, 29-
22062518.D	Data Locked	yev, 29-
22062519.D	Data Locked	yev, 29-
22062520.D	Data Locked	yev, 29-
22062521.D	Data Locked	yev, 29-
22062522.D	Data Locked	yev, 29-
22062523.D	Data Locked	yev, 29-
22062524.D	Data Locked	yev, 29-





**Dual Column**  
**ANALYSIS BATCH (SEQUENCE) SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKG0311

Instrument: ECD8

Calibration: EK00019

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SKG0311-ICV1	22072903.D	22072903.D	NA	07/28/22 11:38
Z1A-3-PW	22F0267-09RE1	22072907.D	22072907.D	Water	07/28/22 12:50
Z1A-6-PW	22F0267-10RE1	22072908.D	22072908.D	Water	07/28/22 13:08
Z1A-9-PW	22F0267-11RE1	22072909.D	22072909.D	Water	07/28/22 13:26
Z1A-12-PW	22F0267-12RE1	22072910.D	22072910.D	Water	07/28/22 13:44
DUP-1-PW	22F0267-15RE1	22072911.D	22072911.D	Water	07/28/22 14:02
Z1B-1-PW	22F0267-24RE1	22072912.D	22072912.D	Water	07/28/22 14:20
Z1B-2-PW	22F0267-25RE1	22072913.D	22072913.D	Water	07/28/22 14:38
Z1B-3-PW	22F0267-26RE1	22072914.D	22072914.D	Water	07/28/22 14:56
Z1B-4-PW	22F0267-27RE1	22072915.D	22072915.D	Water	07/28/22 15:14
Calibration Check	SKG0311-CCV1	22072916.D	22072916.D	NA	07/28/22 15:32



ANALYSIS SEQUENCE

SKG0311

Instrument: ECD8                      Element Column ID: i4682/i4683  
Calibration ID: EK00019            Tune File:  
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SKG0311-ICV1	Initial Cal Check	QC		1	K003972		
22F0267-09RE1	Z1A-3-PW	8041A Chlorinated Phenols	A 01	2			Waters PCP Only
22F0267-10RE1	Z1A-6-PW	8041A Chlorinated Phenols	A 01	3			Waters PCP Only
22F0267-11RE1	Z1A-9-PW	8041A Chlorinated Phenols	A 01	4			Waters PCP Only
22F0267-12RE1	Z1A-12-PW	8041A Chlorinated Phenols	A 01	5			Waters PCP Only
22F0267-15RE1	DUP-1-PW	8041A Chlorinated Phenols	A 01	6			Waters PCP Only
22F0267-24RE1	Z1B-1-PW	8041A Chlorinated Phenols	A 01	7			Waters PCP Only
22F0267-25RE1	Z1B-2-PW	8041A Chlorinated Phenols	A 01	8			Waters PCP Only
22F0267-26RE1	Z1B-3-PW	8041A Chlorinated Phenols	A 01	9			Waters PCP Only
22F0267-27RE1	Z1B-4-PW	8041A Chlorinated Phenols	A 01	10			Waters PCP Only
SKG0311-CCV1	ClPhenols CCV1	QC		11	K003972		

## GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20220729.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	28-JUL-2022	11:38	22072903.D	1	SKG0311-ICV1	
2	28-JUL-2022	11:56	22072904.D	1	BKF449-BLK1	
3	28-JUL-2022	12:14	22072905.D	1	BKF449-BS1	
4	28-JUL-2022	12:32	22072906.D	1	BKF449-BSD1	
5	28-JUL-2022	12:50	22072907.D	1	22E0267-09RE1	
6	28-JUL-2022	13:08	22072908.D	1	22E0267-10RE1	
7	28-JUL-2022	13:26	22072909.D	1	22E0267-11RE1	
8	28-JUL-2022	13:44	22072910.D	1	22E0267-12RE1	
9	28-JUL-2022	14:02	22072911.D	1	22E0267-15RE1	
10	28-JUL-2022	14:20	22072912.D	1	22E0267-24RE1	
11	28-JUL-2022	14:38	22072913.D	1	22E0267-25RE1	
12	28-JUL-2022	14:56	22072914.D	1	22E0267-26RE1	
13	28-JUL-2022	15:14	22072915.D	1	22E0267-27RE1	
14	28-JUL-2022	15:32	22072916.D	1	SKG0311-CCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd8.i\20220729.b

ARI Job No.: SKG0 Method: PCP.m Instrument: ecd8.i Date: 28-JUL-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1138	22072903.D	SKG0311-ICV1		1	Pentachlorophenol, 2,4,6-Trichlorophenol, 2,3,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,3,4-Trichlorophenol, 2,3,5,6-Tetrachlorophenol, 2,3,4,5-Tetrachlorophenol, 2,4-Dichlorophenol, 2,4,6-Tribromophenol (surr),
1156	22072904.D	BKF449-BLK1		1	NO MANUAL INTEGRATION
1214	22072905.D	BKF449-BS1		1	NO MANUAL INTEGRATION
1232	22072906.D	BKF449-BSD1		1	NO MANUAL INTEGRATION
1250	22072907.D	22E0267-09RE1		1	NO MANUAL INTEGRATION
1308	22072908.D	22E0267-10RE1		1	NO MANUAL INTEGRATION
1326	22072909.D	22E0267-11RE1		1	2,4,6-Tribromophenol (surr),
1344	22072910.D	22E0267-12RE1		1	Pentachlorophenol,
1402	22072911.D	22E0267-15RE1		1	NO MANUAL INTEGRATION
1420	22072912.D	22E0267-24RE1		1	NO MANUAL INTEGRATION
1438	22072913.D	22E0267-25RE1		1	2,4,6-Tribromophenol (surr),
1456	22072914.D	22E0267-26RE1		1	NO MANUAL INTEGRATION
1514	22072915.D	22E0267-27RE1		1	NO MANUAL INTEGRATION
1532	22072916.D	SKG0311-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 29-Jul-2022 15:58

22072903.D	Data Locked	yev, 29-
22072904.D	Data Locked	yev, 29-
22072905.D	Data Locked	yev, 29-
22072906.D	Data Locked	yev, 29-
22072907.D	Data Locked	yev, 29-
22072908.D	Data Locked	yev, 29-
22072909.D	Data Locked	yev, 29-
22072910.D	Data Locked	yev, 29-
22072911.D	Data Locked	yev, 29-
22072912.D	Data Locked	yev, 29-
22072913.D	Data Locked	yev, 29-
22072914.D	Data Locked	yev, 29-
22072915.D	Data Locked	yev, 29-
22072916.D	Data Locked	yev, 29-



**SURROGATE RECOVERY AND RT SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Sequence: SJK0057  
 Calibration: EK00019

SDG/WO: 22F0267  
 Project: RG Haley Site-Bellingham  
 Instrument: ECD8  
 Calibration Date: 11/04/2021

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SJK0057-SCV1 (Water)</b>			Lab File ID: 21110407E8.D			Analyzed: 11/04/21 12:56		
2,4,6-Tribromophenol	25.000	96.4	80 - 120	10.203	10.19517	0.0078	N/A	
2,4,6-Tribromophenol [2C]	25.000	98.9	80 - 120	10.862	10.8515	0.0105	N/A	
<b>SJK0057-ICV1 (Water)</b>			Lab File ID: 21110408E8.D			Analyzed: 11/04/21 13:14		
2,4,6-Tribromophenol	25.000	96.4	80 - 120	10.207	10.19517	0.0118	N/A	
2,4,6-Tribromophenol [2C]	25.000	98.8	80 - 120	10.866	10.8515	0.0145	N/A	
<b>SJK0057-CCV1 (Water)</b>			Lab File ID: 21110417E8.D			Analyzed: 11/04/21 15:54		
2,4,6-Tribromophenol	25.000	98.4	80 - 120	10.217	10.19517	0.0218	N/A	
2,4,6-Tribromophenol [2C]	25.000	103	80 - 120	10.877	10.8515	0.0255	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0340  
Calibration: EK00019

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: ECD8  
Calibration Date: 11/04/2021

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKF0340-ICV1 (Water)</b>			Lab File ID: 22062503.D			Analyzed: 06/25/22 12:11		
2,4,6-Tribromophenol	25.000	82.0	80 - 120	10.698	10.19517	0.5028	N/A	
2,4,6-Tribromophenol [2C]	25.000	102	80 - 120	11.356	10.8515	0.5045	N/A	
<b>BKF0449-BLK1 (Water)</b>			Lab File ID: 22062504.D			Analyzed: 06/25/22 12:29		
2,4,6-Tribromophenol	2.5000	59.4	26 - 120	10.704	10.19517	0.5088	N/A	
2,4,6-Tribromophenol [2C]	2.5000	67.2	26 - 120	11.365	10.8515	0.5135	N/A	
<b>BKF0449-BS1 (Water)</b>			Lab File ID: 22062505.D			Analyzed: 06/25/22 12:47		
2,4,6-Tribromophenol	2.5000	56.1	26 - 120	10.717	10.19517	0.5218	N/A	
2,4,6-Tribromophenol [2C]	2.5000	63.0	26 - 120	11.373	10.8515	0.5215	N/A	
<b>BKF0449-BSD1 (Water)</b>			Lab File ID: 22062506.D			Analyzed: 06/25/22 13:04		
2,4,6-Tribromophenol	2.5000	69.2	26 - 120	10.726	10.19517	0.5308	N/A	
2,4,6-Tribromophenol [2C]	2.5000	79.6	26 - 120	11.387	10.8515	0.5355	N/A	
<b>22F0267-09 (Water)</b>			Lab File ID: 22062507.D			Analyzed: 06/25/22 13:22		
2,4,6-Tribromophenol	2.5000	70.4	26 - 120	10.722	10.19517	0.5268	N/A	
2,4,6-Tribromophenol [2C]	2.5000	100	26 - 120	11.385	10.8515	0.5335	N/A	
<b>22F0267-10 (Water)</b>			Lab File ID: 22062508.D			Analyzed: 06/25/22 13:40		
2,4,6-Tribromophenol	2.5000	77.9	26 - 120	10.724	10.19517	0.5288	N/A	
2,4,6-Tribromophenol [2C]	2.5000	102	26 - 120	11.384	10.8515	0.5325	N/A	
<b>22F0267-11 (Water)</b>			Lab File ID: 22062509.D			Analyzed: 06/25/22 13:58		
2,4,6-Tribromophenol	2.5000	104	26 - 120	10.726	10.19517	0.5308	N/A	
2,4,6-Tribromophenol [2C]	2.5000	112	26 - 120	11.385	10.8515	0.5335	N/A	
<b>22F0267-12 (Water)</b>			Lab File ID: 22062510.D			Analyzed: 06/25/22 14:16		
2,4,6-Tribromophenol	2.5000	111	26 - 120	10.73	10.19517	0.5348	N/A	
2,4,6-Tribromophenol [2C]	2.5000	128	26 - 120	11.39	10.8515	0.5385	N/A	*
<b>22F0267-15 (Water)</b>			Lab File ID: 22062511.D			Analyzed: 06/25/22 14:34		
2,4,6-Tribromophenol	2.5000	86.5	26 - 120	10.724	10.19517	0.5288	N/A	
2,4,6-Tribromophenol [2C]	2.5000	126	26 - 120	11.384	10.8515	0.5325	N/A	*



**SURROGATE RECOVERY AND RT SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKF0340  
Calibration: EK00019

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: ECD8  
Calibration Date: 11/04/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>22F0267-24 (Water)</b>			Lab File ID: 22062512.D		Analyzed: 06/25/22 14:52			
2,4,6-Tribromophenol	2.5000	97.5	26 - 120	10.726	10.19517	0.5308	N/A	
2,4,6-Tribromophenol [2C]	2.5000	118	26 - 120	11.386	10.8515	0.5345	N/A	
<b>22F0267-25 (Water)</b>			Lab File ID: 22062513.D		Analyzed: 06/25/22 15:10			
2,4,6-Tribromophenol	2.5000	86.9	26 - 120	10.727	10.19517	0.5318	N/A	
2,4,6-Tribromophenol [2C]	2.5000	112	26 - 120	11.387	10.8515	0.5355	N/A	
<b>22F0267-26 (Water)</b>			Lab File ID: 22062514.D		Analyzed: 06/25/22 15:28			
2,4,6-Tribromophenol	2.5000	77.7	26 - 120	10.73	10.19517	0.5348	N/A	
2,4,6-Tribromophenol [2C]	2.5000	91.8	26 - 120	11.389	10.8515	0.5375	N/A	
<b>22F0267-27 (Water)</b>			Lab File ID: 22062515.D		Analyzed: 06/25/22 15:46			
2,4,6-Tribromophenol	2.5000	85.6	26 - 120	10.729	10.19517	0.5338	N/A	
2,4,6-Tribromophenol [2C]	2.5000	104	26 - 120	11.39	10.8515	0.5385	N/A	
<b>SKF0340-CCV1 (Water)</b>			Lab File ID: 22062517.D		Analyzed: 06/25/22 16:21			
2,4,6-Tribromophenol	25.000	84.8	80 - 120	10.731	10.19517	0.5358	N/A	
2,4,6-Tribromophenol [2C]	25.000	103	80 - 120	11.388	10.8515	0.5365	N/A	
<b>SKF0340-CCV2 (Water)</b>			Lab File ID: 22062524.D		Analyzed: 06/25/22 18:27			
2,4,6-Tribromophenol	25.000	86.3	80 - 120	10.736	10.19517	0.5408	N/A	
2,4,6-Tribromophenol [2C]	25.000	109	80 - 120	11.393	10.8515	0.5415	N/A	





**SURROGATE RECOVERY AND RT SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC  
Client: GeoEngineers  
Sequence: SKG0311  
Calibration: EK00019

SDG/WO: 22F0267  
Project: RG Haley Site-Bellingham  
Instrument: ECD8  
Calibration Date: 11/04/2021

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>SKG0311-ICV1 (Water)</b>			Lab File ID: 22072903.D			Analyzed: 07/28/22 11:38		
2,4,6-Tribromophenol	25.000	81.2	80 - 120	10.756	10.19517	0.5608	N/A	
2,4,6-Tribromophenol [2C]	25.000	83.6	80 - 120	11.412	10.8515	0.5605	N/A	
<b>22F0267-09RE1 (Water)</b>			Lab File ID: 22072907.D			Analyzed: 07/28/22 12:50		
2,4,6-Tribromophenol	2.5000	228	26 - 120	10.724	10.19517	0.5288	N/A	*
2,4,6-Tribromophenol [2C]	2.5000	89.0	26 - 120	11.454	10.8515	0.6025	N/A	
<b>22F0267-10RE1 (Water)</b>			Lab File ID: 22072908.D			Analyzed: 07/28/22 13:08		
2,4,6-Tribromophenol	2.5000	125	26 - 120	10.78	10.19517	0.5848	N/A	*
2,4,6-Tribromophenol [2C]	2.5000	110	26 - 120	11.44	10.8515	0.5885	N/A	
<b>22F0267-11RE1 (Water)</b>			Lab File ID: 22072909.D			Analyzed: 07/28/22 13:26		
2,4,6-Tribromophenol	2.5000	118	26 - 120	10.774	10.19517	0.5788	N/A	
2,4,6-Tribromophenol [2C]	2.5000	123	26 - 120	11.434	10.8515	0.5825	N/A	*
<b>22F0267-12RE1 (Water)</b>			Lab File ID: 22072910.D			Analyzed: 07/28/22 13:44		
2,4,6-Tribromophenol	2.5000	107	26 - 120	10.779	10.19517	0.5838	N/A	
2,4,6-Tribromophenol [2C]	2.5000	110	26 - 120	11.437	10.8515	0.5855	N/A	
<b>22F0267-15RE1 (Water)</b>			Lab File ID: 22072911.D			Analyzed: 07/28/22 14:02		
2,4,6-Tribromophenol	2.5000	139	26 - 120	10.781	10.19517	0.5858	N/A	*
2,4,6-Tribromophenol [2C]	2.5000	76.1	26 - 120	11.441	10.8515	0.5895	N/A	
<b>22F0267-24RE1 (Water)</b>			Lab File ID: 22072912.D			Analyzed: 07/28/22 14:20		
2,4,6-Tribromophenol	2.5000	110	26 - 120	10.791	10.19517	0.5958	N/A	
2,4,6-Tribromophenol [2C]	2.5000	120	26 - 120	11.45	10.8515	0.5985	N/A	
<b>22F0267-25RE1 (Water)</b>			Lab File ID: 22072913.D			Analyzed: 07/28/22 14:38		
2,4,6-Tribromophenol	2.5000	136	26 - 120	10.786	10.19517	0.5908	N/A	*
2,4,6-Tribromophenol [2C]	2.5000	111	26 - 120	11.446	10.8515	0.5945	N/A	
<b>22F0267-26RE1 (Water)</b>			Lab File ID: 22072914.D			Analyzed: 07/28/22 14:56		
2,4,6-Tribromophenol	2.5000	104	26 - 120	10.791	10.19517	0.5958	N/A	
2,4,6-Tribromophenol [2C]	2.5000	117	26 - 120	11.45	10.8515	0.5985	N/A	



**SURROGATE RECOVERY AND RT SUMMARY**  
**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG/WO: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKG0311

Instrument: ECD8

Calibration: EK00019

Calibration Date: 11/04/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
<b>22F0267-27RE1 (Water)</b>			Lab File ID: 22072915.D		Analyzed: 07/28/22 15:14			
2,4,6-Tribromophenol	2.5000	127	26 - 120	10.795	10.19517	0.5998	N/A	*
2,4,6-Tribromophenol [2C]	2.5000	138	26 - 120	11.453	10.8515	0.6015	N/A	*
<b>SKG0311-CCV1 (Water)</b>			Lab File ID: 22072916.D		Analyzed: 07/28/22 15:32			
2,4,6-Tribromophenol	25.000	87.2	80 - 120	10.789	10.19517	0.5938	N/A	
2,4,6-Tribromophenol [2C]	25.000	96.7	80 - 120	11.448	10.8515	0.5965	N/A	





## HOLDING TIME SUMMARY

Analysis: EPA 8041A

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1A-3-PW 22F0267-09	06/14/22 13:30	06/16/22 10:54	06/21/22 13:54	7	7	06/25/22 13:22	4	40	
Z1A-3-PW 22F0267-09RE1	06/14/22 13:30	06/16/22 10:54	06/21/22 13:54	7	7	07/28/22 12:50	37	40	
Z1A-6-PW 22F0267-10	06/14/22 13:40	06/16/22 10:54	06/21/22 13:54	7	7	06/25/22 13:40	4	40	
Z1A-6-PW 22F0267-10RE1	06/14/22 13:40	06/16/22 10:54	06/21/22 13:54	7	7	07/28/22 13:08	37	40	
Z1A-9-PW 22F0267-11	06/15/22 10:30	06/16/22 10:54	06/21/22 13:54	6	7	06/25/22 13:58	4	40	
Z1A-9-PW 22F0267-11RE1	06/15/22 10:30	06/16/22 10:54	06/21/22 13:54	6	7	07/28/22 13:26	37	40	
Z1A-12-PW 22F0267-12	06/15/22 10:00	06/16/22 10:54	06/21/22 13:54	6	7	06/25/22 14:16	4	40	
Z1A-12-PW 22F0267-12RE1	06/15/22 10:00	06/16/22 10:54	06/21/22 13:54	6	7	07/28/22 13:44	37	40	
DUP-1-PW 22F0267-15	06/15/22 12:30	06/16/22 10:54	06/21/22 13:54	6	7	06/25/22 14:34	4	40	
DUP-1-PW 22F0267-15RE1	06/15/22 12:30	06/16/22 10:54	06/21/22 13:54	6	7	07/28/22 14:02	37	40	
Z1B-1-PW 22F0267-24	06/14/22 11:10	06/16/22 10:54	06/21/22 13:54	7	7	06/25/22 14:52	4	40	
Z1B-1-PW 22F0267-24RE1	06/14/22 11:10	06/16/22 10:54	06/21/22 13:54	7	7	07/28/22 14:20	37	40	
Z1B-2-PW 22F0267-25	06/14/22 11:50	06/16/22 10:54	06/21/22 13:54	7	7	06/25/22 15:10	4	40	
Z1B-2-PW 22F0267-25RE1	06/14/22 11:50	06/16/22 10:54	06/21/22 13:54	7	7	07/28/22 14:38	37	40	
Z1B-3-PW 22F0267-26	06/15/22 09:40	06/16/22 10:54	06/21/22 13:54	6	7	06/25/22 15:28	4	40	
Z1B-3-PW 22F0267-26RE1	06/15/22 09:40	06/16/22 10:54	06/21/22 13:54	6	7	07/28/22 14:56	37	40	
Z1B-4-PW 22F0267-27	06/15/22 09:50	06/16/22 10:54	06/21/22 13:54	6	7	06/25/22 15:46	4	40	
Z1B-4-PW 22F0267-27RE1	06/15/22 09:50	06/16/22 10:54	06/21/22 13:54	6	7	07/28/22 15:14	37	40	

\* Indicates hold time exceedance.



**METHOD DETECTION  
AND REPORTING LIMITS**

**EPA 8041A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Instrument: ECD8

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Pentachlorophenol	0.09	0.25	ug/L
Pentachlorophenol [2C]	0.09	0.25	ug/L

# Certificate of Analysis

SIGMA-ALDRICH

Product Name 2,4,6-Tribromophenol,  
99%  
Product Number 137715  
Product Brand ALDRICH  
CAS Number 118-79-6  
Molecular Formula Br<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH  
Molecular Weight 330.80

**B000562**

TEST	SPECIFICATION	LOT 03410KL RESULTS
APPEARANCE	WHITE TO OFF-WHITE TO PINK FLAKES, CHUNKS,	OFF-WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE
MELTING POINT		93 DEGREES CELSIUS
GAS LIQUID		99.4 %
CHROMATOGRAPHY		

SVOA-Tribromophenol-NEAT  
Expires 11/25/2029  
*Prepared By Van Spohn 12/31/2012*

Barbara Rajzer, Supervisor  
Quality Control  
Milwaukee, Wisconsin USA

Please wait...

I 8244

# CERTIFICATE OF ANALYSIS

**Catalog No:** S-8207-R1-100X

**Description:** Custom Phenol Standard

**Lot:** 214031355-03

**Solvent:** Hexane

**Hazards:** Refer to SDS for complete safety information

**Date Certified:** Apr 28, 2020

**Expiration:** May 28, 2022

**Sample Size:** 1 mL

**Components:** 8

**Storage Condition:** Ambient (>5 °C)



Signal Word: Danger

**Certified Reference Material**



Component	CAS #	Purity %	Prepared Concentration <sup>2</sup>	Certified Analyte Concentration <sup>1</sup>
		(GC/MS)	(µg/mL)	(µg/mL)
2,4-Dichlorophenol	120-83-2	100.0	10060	10060
2,4,6-Trichlorophenol	88-06-2	98.0	1003	983
2,3,6-Trichlorophenol	933-75-5	100.0	1006	1006
2,4,5-Trichlorophenol	95-95-4	99.4	1006	1000
2,3,4-Trichlorophenol	15950-66-0	100.0	1004	1004
2,3,5,6-Tetrachlorophenol	935-95-5	99.5	1003	998
2,3,4,5-Tetrachlorophenol	4901-51-3	99.0	1002	992
Pentachlorophenol	87-86-5	99.0	1001	991

I 004299  
Recd. JR  
05/18/20

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

<sup>2</sup> All weights are traceable through NIST, Test No. 822-275872-11

<sup>1</sup> Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By:

Larry Decker, Organic QC Manager

Type in Product Names, Product Numbers, or CAS Numbers to see suggestions.



# Certificate of Analysis

► Sigma-Aldrich

Product Name: 2,4,6-Tribromophenol  
 Product Description: 99%  
 Product Brand: Sigma-Aldrich  
 Product Number: 137715  
 Molecular Weight: 330.80  
 Molecular Formula:  $\text{Br}_3\text{C}_6\text{H}_2\text{OH}$   
 CAS Number: 118-79-6

TEST	SPECIFICATION	LOT 05110PD RESULTS
APPEARANCE:	WHITE TO OFF-WHITE TO PINK FLAKES, CHUNKS,	PINK BEADS
INFRARED SPECTRUM:		CONFORMS TO STRUCTURE.
GAS LIQUID:	98.5% (MINIMUM)	99.9%
QUALITY CONTROL:		NOVEMBER 2005



Barbara Rajzer, Supervisor  
 Quality Control  
 Milwaukee, Wisconsin USA

**J010541**  
 SVOA-Tribromophenol-NEAT  
 Solvent / Lot: 05110PD  
 Prep: 10/1/2021 by VS  
 Exp: 3/30/2040  
 Location: vva freezer





**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

Z1A-3-PW
----------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water                      Laboratory ID: 22F0267-09 G                      SDG: 22F0267

Sampled: 06/14/22 13:30                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-018

% Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 00:20

Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL

Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	6.72	5	2.50	2.50	D



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

Z1A-6-PW
----------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water                      Laboratory ID: 22F0267-10 G                      SDG: 22F0267

Sampled: 06/14/22 13:40                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-022

% Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 01:51

Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL

Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	4.36	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

Z1A-9-PW
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Water                      Laboratory ID: 22F0267-11 G                      SDG: 22F0267  
 Sampled: 06/15/22 10:30                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-023  
 % Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 02:09  
 Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL  
 Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.93	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

Z1A-12-PW
-----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Water                      Laboratory ID: 22F0267-12 G                      SDG: 22F0267  
 Sampled: 06/15/22 10:00                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-024  
 % Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 02:36  
 Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL  
 Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.63	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

<b>DUP-1-PW</b>
-----------------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Water                      Laboratory ID: 22F0267-15 G                      SDG: 22F0267  
 Sampled: 06/15/22 12:30                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-025  
 % Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 02:54  
 Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL  
 Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	4.22	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

<b>Z1B-1-PW</b>
-----------------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water                      Laboratory ID: 22F0267-24 G                      SDG: 22F0267

Sampled: 06/14/22 11:10                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-028

% Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 03:59

Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL

Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	3.99	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

<b>Z1B-2-PW</b>
-----------------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Water                      Laboratory ID: 22F0267-25 G                      SDG: 22F0267  
 Sampled: 06/14/22 11:50                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-029  
 % Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 04:18  
 Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL  
 Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	7.44	1	0.50	0.50	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

<b>Z1B-3-PW</b>
-----------------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water                      Laboratory ID: 22F0267-26 G                      SDG: 22F0267

Sampled: 06/15/22 09:40                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-030

% Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 04:37

Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL

Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	3.67	1	0.50	0.50	





**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A**

<b>Z1B-4-PW</b>
-----------------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water                      Laboratory ID: 22F0267-27 G                      SDG: 22F0267

Sampled: 06/15/22 09:50                      Prepared: 06/28/22 15:47                      File ID: ShimadzuData\_06302022@1006-031

% Solids: 0.00                      Preparation: No Prep Wet Chem                      Analyzed: 06/29/22 05:04

Batch: BKF0658                      Sequence: SKF0369                      Initial/Final: 20 mL / 20 mL

Instrument: TOC-LCSH                      Calibration: FF00006

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.08	1	0.50	0.50	





**Form I**  
**METHOD BLANK DATA SHEET**  
**EPA 9060A**  
TotalAnalytes

Blank
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Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0658

Laboratory ID: BKF0658-BLK1

Prepared: 06/28/22 15:47

Matrix: Water

Preparation: No Prep Wet Chem

Analyzed: 06/28/22 19:42

Sequence: SKF0369

Calibration: FF00006

Instrument: TOC-LCSH

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.50	0.50	U



**LCS / LCS DUPLICATE RECOVERY**  
**EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Analyzed: 06/28/22 20:01

Batch: BKF0658

Laboratory ID: BKF0658-BS1

Preparation: No Prep Wet Chem

Sequence Name: LCS

Initial/Final: 20 mL / 20 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	20.00	20.69		103	90 - 110

\* Indicates values outside of QC limits



**DUPLICATES**  
**EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Laboratory ID: BKF0658-DUP1

Batch: BKF0658

Lab Source ID: 22F0267-09

Preparation: No Prep Wet Chem

Initial/Final: 20 mL / 20 mL

Source Sample Name: Z1A-3-PW

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q
Total Organic Carbon	20	6.72	D	7.06	D	4.96	

\*: 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 9060A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Water</u>	Analyzed:	<u>06/29/22 01:08</u>
Batch:	<u>BKF0658</u>	Laboratory ID:	<u>BKF0658-MS1</u>
Preparation:	<u>No Prep Wet Chem</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>20 mL / 20 mL</u>	Source Sample:	<u>Z1A-3-PW</u>

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	Q	MS CONCENTRATION (mg/L)	Q	MS % REC. #	QC LIMITS REC.
Total Organic Carbon	40.00	6.72	D	46.59	D	99.7	75 - 125

\* Values outside of QC limits



**MS / MS DUPLICATE RECOVERY**  
**EPA 9060A**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Water</u>	Analyzed:	<u>06/29/22 01:30</u>
Batch:	<u>BKF0658</u>	Laboratory ID:	<u>BKF0658-MSD1</u>
Preparation:	<u>No Prep Wet Chem</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>20 mL / 20 mL</u>	Source Sample:	<u>Z1A-3-PW</u>

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Total Organic Carbon	40.00	46.46	D	99.3	0.279	20	75 - 125

\* Values outside of QC limits



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### EPA 9060A

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0019

Instrument: TOC-LCSH

Calibration: FF00006

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
1	SKF0019-CAL1	ShimadzuData_06012022@1822-002	NA	05/31/22 17:47
10	SKF0019-CAL2	ShimadzuData_06012022@1822-003	NA	05/31/22 18:10
5	SKF0019-CAL3	ShimadzuData_06012022@1822-004	NA	05/31/22 18:39
2	SKF0019-CAL4	ShimadzuData_06012022@1822-005	NA	05/31/22 19:04
1	SKF0019-CAL5	ShimadzuData_06012022@1822-006	NA	05/31/22 19:30
5	SKF0019-CAL6	ShimadzuData_06012022@1822-007	NA	05/31/22 19:51
2	SKF0019-CAL7	ShimadzuData_06012022@1822-008	NA	05/31/22 20:10
1	SKF0019-CAL8	ShimadzuData_06012022@1822-009	NA	05/31/22 20:30



	Type	Analysis	Sample Name	Sample ID	Origin	Manua	Result	Notes	Status	Date / Time	Vial
1	Unknown	NPOC	Rinse		NPOC 0.5 - 50 p	1.000	NPOC:0.3697mg/L		Completed	5/31/2022 5:36:38 PM	0
2	Standard	NPOC	SEQ-CAL	Curve	NPOC 0.5 - 50 p	1.000			Completed	5/31/2022 8:39:45 PM	0, 1
3	Control	NPOC	SEQ-ICV1	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.58ppm	Control v	Completed	5/31/2022 8:59:53 PM	3
4	Control	NPOC	SEQ-ICB1		ICB CCB.tpl	1.000	NPOC:-0.03005mg/L	Control v	Completed	5/31/2022 9:24:28 PM	4
5	Unknown	NPOC	SEQ-IFA1		NPOC 0.5 - 50 p	1.000	NPOC:19.76mg/L		Completed	5/31/2022 9:45:07 PM	9
6	Unknown	NPOC	22E0168-01RE2		NPOC 0.5 - 50 p	1.000	NPOC:1382mg/L		Completed	5/31/2022 10:11:06 PM	10
7	Unknown	NPOC	BKE0597-MS2		NPOC 0.5 - 50 p	1.000	NPOC:21.93mg/L		Completed	5/31/2022 10:31:12 PM	11
8	Unknown	NPOC	BKE0671-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.6118mg/L		Completed	5/31/2022 10:56:54 PM	12
9	Unknown	NPOC	BKE0671-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.4297mg/L		Completed	5/31/2022 11:22:46 PM	13
10	Unknown	NPOC	BKE0671-BS1		NPOC 0.5 - 50 p	1.000	NPOC:19.41mg/L		Completed	5/31/2022 11:43:28 PM	14
11	Unknown	NPOC	22E0168-01DOC		NPOC 0.5 - 50 p	1.000	NPOC:1342mg/L		Completed	6/1/2022 12:09:57 AM	15
12	Unknown	NPOC	BKE0671-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:1341mg/L		Completed	6/1/2022 12:36:29 AM	16
13	Unknown	NPOC	BKE0671-MS1		NPOC 0.5 - 50 p	1.000	NPOC:1410mg/L		Completed	6/1/2022 1:02:44 AM	17
14	Unknown	NPOC	BKE0672-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.6881mg/L		Completed	6/1/2022 1:28:32 AM	18
15	Control	NPOC	SEQ-CCV1	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.37ppm	Control v	Completed	6/1/2022 1:48:59 AM	3
16	Control	NPOC	SEQ-CCB1		ICB CCB.tpl	1.000	NPOC:-0.02800mg/L	Control v	Completed	6/1/2022 2:09:17 AM	4
17	Unknown	NPOC	BKE0672-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.2681mg/L		Completed	6/1/2022 2:26:58 AM	19
18	Unknown	NPOC	BKE0672-BS1		NPOC 0.5 - 50 p	1.000	NPOC:19.52mg/L		Completed	6/1/2022 2:47:05 AM	20
19	Unknown	NPOC	22E0218-01DOC		NPOC 0.5 - 50 p	1.000	NPOC:1074mg/L		Completed	6/1/2022 3:13:19 AM	21
20	Unknown	NPOC	BKE0672-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:1073mg/L		Completed	6/1/2022 3:39:34 AM	22
21	Unknown	NPOC	BKE0672-MS1		NPOC 0.5 - 50 p	1.000	NPOC:1157mg/L		Completed	6/1/2022 4:05:58 AM	23
22	Unknown	NPOC	BKE0673-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.6560mg/L		Completed	6/1/2022 4:31:34 AM	24
23	Unknown	NPOC	BKE0673-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.2503mg/L		Completed	6/1/2022 4:56:53 AM	25
24	Unknown	NPOC	BKE0673-BS1		NPOC 0.5 - 50 p	1.000	NPOC:19.58mg/L		Completed	6/1/2022 5:17:26 AM	26
25	Unknown	NPOC	22E0218-01		NPOC 0.5 - 50 p	1.000	NPOC:1042mg/L		Completed	6/1/2022 5:44:05 AM	27
26	Unknown	NPOC	22E0248-01		NPOC 0.5 - 50 p	1.000	NPOC:0.4831mg/L		Completed	6/1/2022 6:09:36 AM	28
27	Control	NPOC	SEQ-CCV2	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.25ppm	Control v	Completed	6/1/2022 6:29:47 AM	3
28	Control	NPOC	SEQ-CCB2		ICB CCB.tpl	1.000	NPOC:0.00755mg/L	Control v	Completed	6/1/2022 6:53:44 AM	4
29	Unknown	NPOC	BKE0673-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:0.3576mg/L		Completed	6/1/2022 7:19:20 AM	29
30	Unknown	NPOC	BKE0673-MS1		NPOC 0.5 - 50 p	1.000	NPOC:19.96mg/L		Completed	6/1/2022 7:39:11 AM	30
31	Unknown	NPOC	BKE0673-MSD1		NPOC 0.5 - 50 p	1.000	NPOC:19.92mg/L		Completed	6/1/2022 7:59:04 AM	31
32	Unknown	NPOC	22E0252-01		NPOC 0.5 - 50 p	1.000	NPOC:0.5505mg/L		Completed	6/1/2022 8:24:48 AM	32
33	Unknown	NPOC	22E0252-02		NPOC 0.5 - 50 p	1.000	NPOC:0.5175mg/L		Completed	6/1/2022 8:50:22 AM	33
34	Unknown	NPOC	22E0252-03		NPOC 0.5 - 50 p	1.000	NPOC:0.4816mg/L		Completed	6/1/2022 9:15:52 AM	34
35	Unknown	NPOC	22E0252-04		NPOC 0.5 - 50 p	1.000	NPOC:0.3039mg/L		Completed	6/1/2022 9:41:22 AM	35
36	Unknown	NPOC	22E0252-05		NPOC 0.5 - 50 p	1.000	NPOC:0.3631mg/L		Completed	6/1/2022 9:59:05 AM	36
37	Unknown	NPOC	22E0252-06		NPOC 0.5 - 50 p	1.000	NPOC:0.1941mg/L		Completed	6/1/2022 10:16:45 AM	37
38	Unknown	NPOC	BKE0674-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.3351mg/L		Completed	6/1/2022 10:42:30 AM	38
39	Control	NPOC	SEQ-CCV3	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.55ppm	Control v	Completed	6/1/2022 11:03:24 AM	5
40	Control	NPOC	SEQ-CCB3		ICB CCB.tpl	1.000	NPOC:0.09358mg/L	Control v	Completed	6/1/2022 11:27:44 AM	6

	Type	Analysis	Sample Name	Sample ID	Origin	Manua	Result	Notes	Status	Date / Time	Vial
41	Unknown	NPOC	BKE0674-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.1270mg/L		Completed	6/1/2022 11:53:03 AM	39
42	Unknown	NPOC	BKE0674-BS1		NPOC 0.5 - 50 p	1.000	NPOC:19.67mg/L		Completed	6/1/2022 12:13:28 PM	40
43	Unknown	NPOC	22E0196-01		NPOC 0.5 - 50 p	1.000	NPOC:0.7807mg/L		Completed	6/1/2022 12:39:10 PM	41
44	Unknown	NPOC	BKE0674-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:0.7600mg/L		Completed	6/1/2022 1:04:54 PM	42
45	Unknown	NPOC	BKE0674-MS1		NPOC 0.5 - 50 p	1.000	NPOC:16.39mg/L		Completed	6/1/2022 1:24:54 PM	43
46	Control	NPOC	SEQ-CCV4	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.52ppm	Control v	Completed	6/1/2022 1:45:11 PM	5
47	Control	NPOC	SEQ-CCB4		ICB CCB.tpl	1.000	NPOC:0.03921mg/L	Control v	Completed	6/1/2022 2:09:30 PM	6

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Instr. Information

Instrument Options  
Catalyst

TOC/ASI/IC Unit/  
Regular Sensitivity

## Sample

Sample Name: Rinse  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

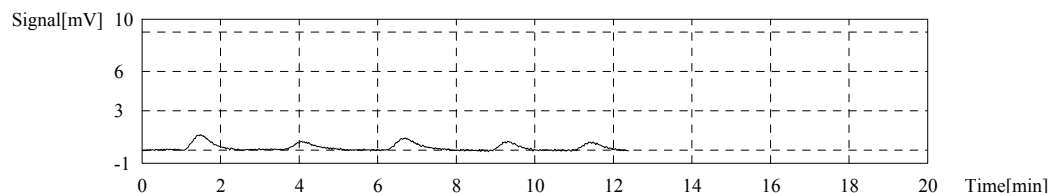
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3697mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.600	0.7451mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:22:23 PM
2	2.332	0.3777mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:25:57 PM
3	3.424	0.5546mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:29:39 PM
4	2.022	0.3275mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:32:48 PM
5	2.493	0.4038mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:36:38 PM

Mean Area 2.282  
Mean Conc. 0.3697mg/L



## Cal. Curve

Sample Name: SEQ-CAL  
Sample ID: Curve  
Cal. Curve: NPOC 0.5 - 50 ppm.2022\_05\_31\_17\_36\_39.cal  
Status: Completed

Type	Anal.
Standard	NPOC

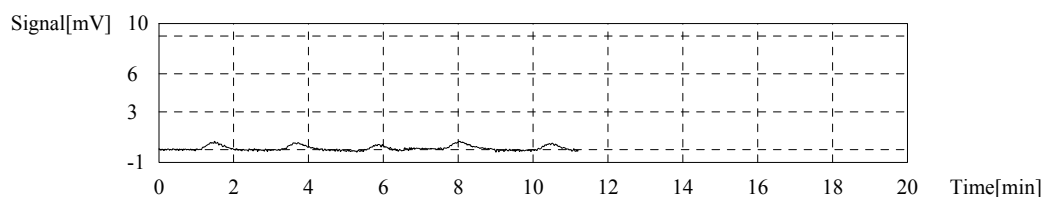
Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.911	100uL	1.000	*****	E	5/31/2022 5:44:26 PM
2	1.624	100uL	1.000	*****		5/31/2022 5:47:58 PM
3	1.563	100uL	1.000	*****		5/31/2022 5:51:27 PM
4	2.595	100uL	1.000	*****	E	5/31/2022 5:55:18 PM
5	1.845	100uL	1.000	*****		5/31/2022 5:58:39 PM

# TOC-Control L Report

RMS  
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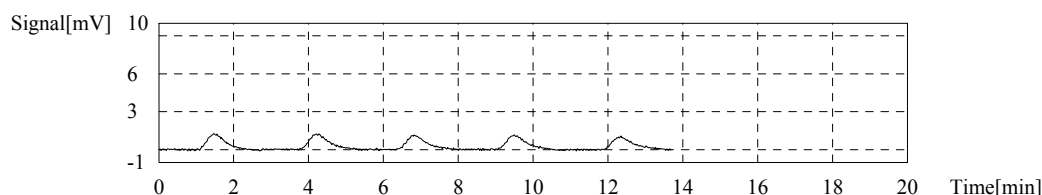
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 1.677



Conc: 0.5000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.032	100uL	10.00	*****		5/31/2022 6:10:04 PM
2	4.824	100uL	10.00	*****		5/31/2022 6:14:51 PM
3	4.505	100uL	10.00	*****	E	5/31/2022 6:19:47 PM
4	4.954	100uL	10.00	*****		5/31/2022 6:24:48 PM
5	4.250	100uL	10.00	*****	E	5/31/2022 6:29:46 PM

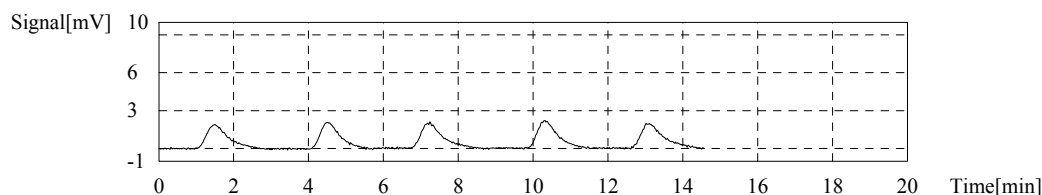
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 4.937



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.300	100uL	5.000	*****		5/31/2022 6:39:10 PM
2	8.406	100uL	5.000	*****		5/31/2022 6:42:50 PM
3	9.510	100uL	5.000	*****	E	5/31/2022 6:47:11 PM
4	8.847	100uL	5.000	*****	E	5/31/2022 6:50:56 PM
5	8.631	100uL	5.000	*****		5/31/2022 6:54:54 PM

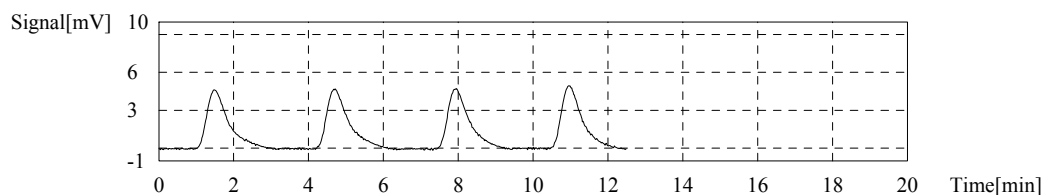
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 8.446



Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	19.65	100uL	2.000	*****		5/31/2022 7:04:37 PM
2	21.03	100uL	2.000	*****	E	5/31/2022 7:08:50 PM
3	19.92	100uL	2.000	*****		5/31/2022 7:12:52 PM
4	19.98	100uL	2.000	*****		5/31/2022 7:16:56 PM

Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 19.85



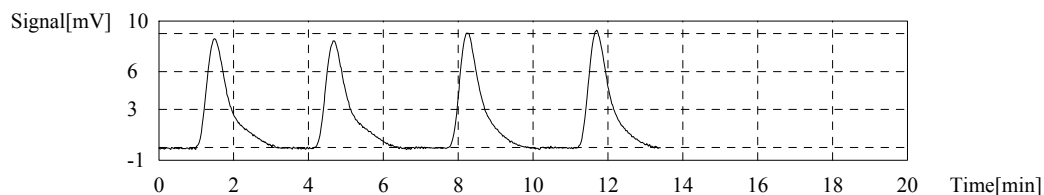
Conc: 5.000mg/L

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	37.04	100uL	1.000	*****	E	5/31/2022 7:26:03 PM
2	38.32	100uL	1.000	*****		5/31/2022 7:30:37 PM
3	38.89	100uL	1.000	*****		5/31/2022 7:35:04 PM
4	37.77	100uL	1.000	*****		5/31/2022 7:39:21 PM

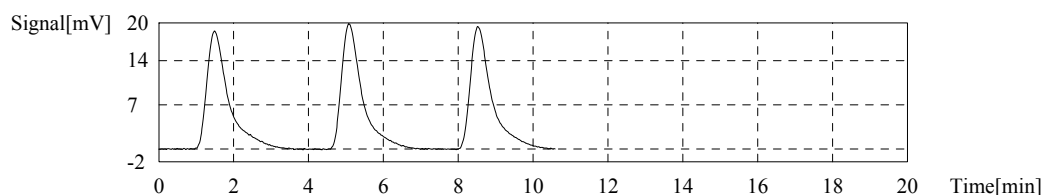
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 38.33



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	76.83	100uL	5.000	*****		5/31/2022 7:51:27 PM
2	77.46	100uL	5.000	*****		5/31/2022 7:55:53 PM
3	77.63	100uL	5.000	*****		5/31/2022 8:00:32 PM

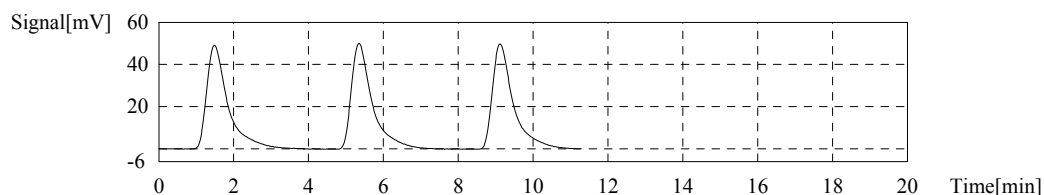
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 77.31



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	197.1	100uL	2.000	*****		5/31/2022 8:10:55 PM
2	197.0	100uL	2.000	*****		5/31/2022 8:15:41 PM
3	195.5	100uL	2.000	*****		5/31/2022 8:20:18 PM

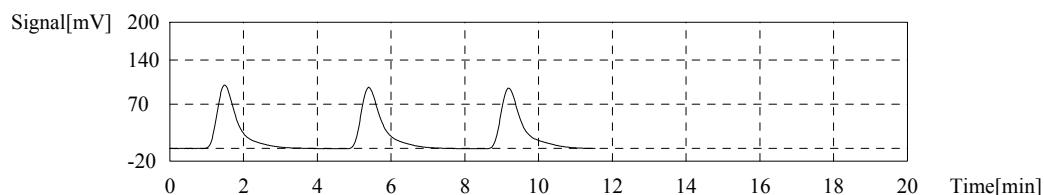
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 196.5



Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	387.4	100uL	1.000	*****		5/31/2022 8:30:07 PM
2	387.4	100uL	1.000	*****		5/31/2022 8:34:54 PM
3	388.9	100uL	1.000	*****		5/31/2022 8:39:45 PM

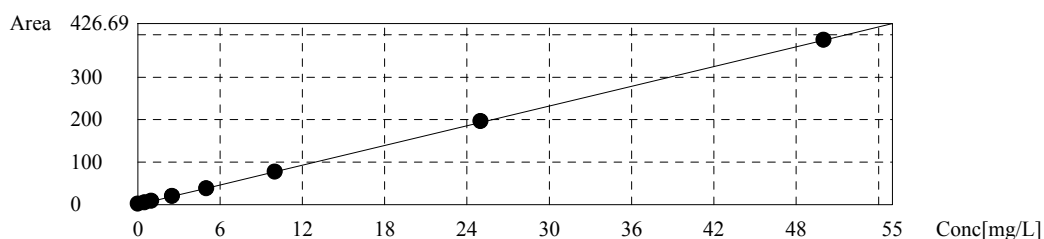
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 387.9



# TOC-Control L Report

RMS  
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Slope: 7.756  
Intercept: 0.000  
r<sup>2</sup>: 0.9999  
r: 1.0000  
Zero Shift: Yes



## Control Sample

Sample Name: SEQ-ICV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.58 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

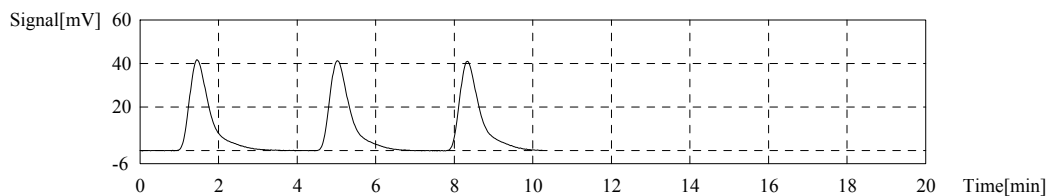
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.58ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	153.0	19.63ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:51:13 PM
2	152.5	19.57ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:55:31 PM
3	152.2	19.53ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:59:53 PM

Mean Area: 152.6  
Mean Conc.: 19.58ppm



## Control Sample

Sample Name: SEQ-ICB1  
Sample ID: ICB CCB.tpl  
Method: Completed  
Status: Completed  
Chk. Result: Control value: -0.03005 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:-0.03005mg/L

1. Det.

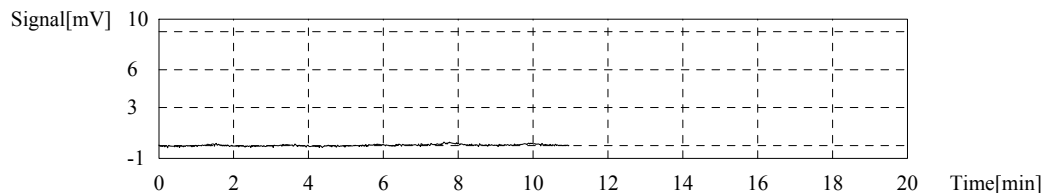
Anal.: NPOC

# TOC-Control L Report

RMS  
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5983	-0.01890mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:09:44 PM
2	1.017	0.03509mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:13:45 PM
3	0.4378	-0.03959mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:16:41 PM
4	1.159	0.05340mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:20:38 PM
5	0.4993	-0.03166mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:24:28 PM

Mean Area 0.5118  
Mean Conc. -0.03005mg/L



## Sample

Sample Name: SEQ-IFA1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

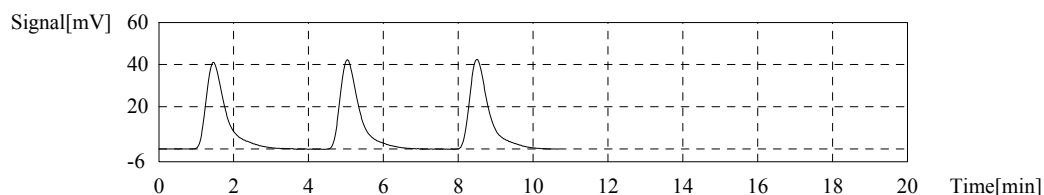
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.76mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:35:51 PM
2	153.3	19.77mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:40:30 PM
3	154.5	19.92mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:45:07 PM

Mean Area 153.2  
Mean Conc. 19.76mg/L



## Sample

Sample Name: 22E0168-01RE2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1382mg/L

1. Det

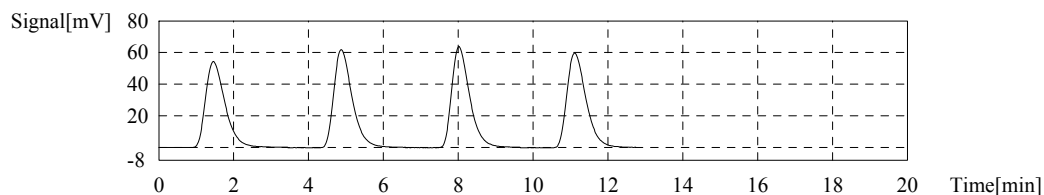
Anal.: NPOC

# TOC-Control L Report

RMS  
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	198.1	1277mg/L	50ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:56:53 PM
2	213.5	1376mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:01:27 PM
3	215.6	1390mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:06:13 PM
4	213.8	1378mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:11:06 PM

Mean Area 214.3  
Mean Conc. 1382mg/L



## Sample

Sample Name: BKE0597-MS2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

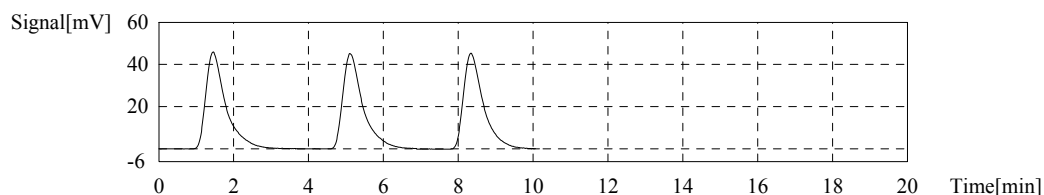
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.93mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	172.8	22.28mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:22:28 PM
2	168.9	21.78mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:26:55 PM
3	168.6	21.74mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:31:12 PM

Mean Area 170.1  
Mean Conc. 21.93mg/L



## Sample

Sample Name: BKE0671-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6118mg/L

1. Det

Anal.: NPOC

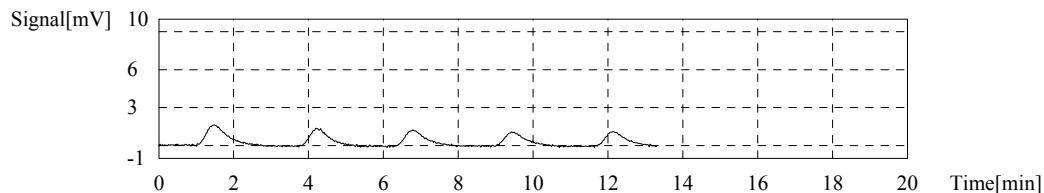


# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.233	0.8037mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:41:52 PM
2	5.496	0.7087mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:45:25 PM
3	4.790	0.6176mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:49:19 PM
4	4.878	0.6290mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:53:10 PM
5	4.567	0.5889mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:56:54 PM

Mean Area 4.745  
Mean Conc. 0.6118mg/L



## Sample

Sample Name: BKE0671-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

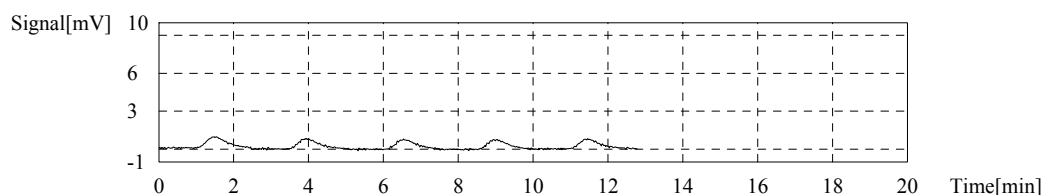
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4297mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.429	0.4421mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:07:14 PM
2	3.432	0.4425mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:11:10 PM
3	2.871	0.3702mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:14:48 PM
4	3.137	0.4045mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:18:36 PM
5	3.877	0.4999mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:22:46 PM

Mean Area 3.333  
Mean Conc. 0.4297mg/L



## Sample

Sample Name: BKE0671-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.41mg/L

1. Det

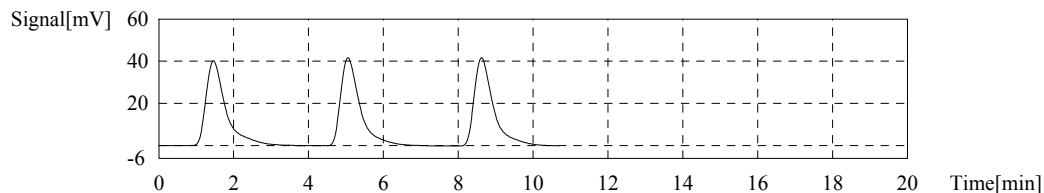
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	149.4	19.26mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:34:16 PM
2	151.4	19.52mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:38:57 PM
3	150.9	19.46mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:43:28 PM

Mean Area 150.6  
Mean Conc. 19.41mg/L



## Sample

Sample Name: 22E0168-01DOC  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

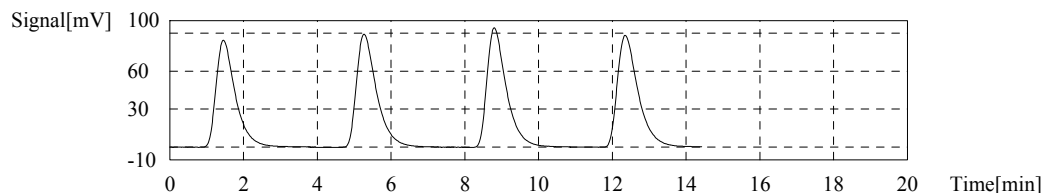
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1342mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	313.1	1211mg/L	100ul	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:55:37 PM
2	342.6	1325mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:00:14 AM
3	349.4	1352mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:05:04 AM
4	349.0	1350mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:09:57 AM

Mean Area 347.0  
Mean Conc. 1342mg/L



## Sample

Sample Name: BKE0671-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1341mg/L

1. Det

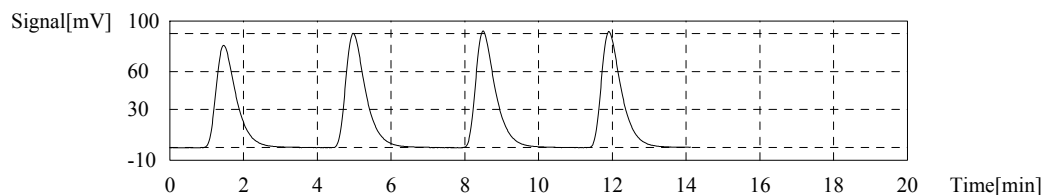
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	310.5	1201mg/L	100uL	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:21:38 AM
2	343.2	1328mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:26:29 AM
3	345.9	1338mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:31:23 AM
4	350.8	1357mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:36:29 AM

Mean Area 346.6  
Mean Conc. 1341mg/L



## Sample

Sample Name: BKE0671-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

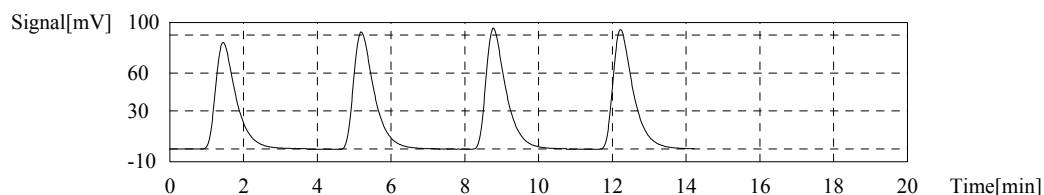
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1410mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	328.8	1272mg/L	100uL	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:48:22 AM
2	364.8	1411mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:53:06 AM
3	364.4	1410mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:57:50 AM
4	364.7	1411mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:02:44 AM

Mean Area 364.6  
Mean Conc. 1410mg/L



## Sample

Sample Name: BKE0672-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6881mg/L

1. Det

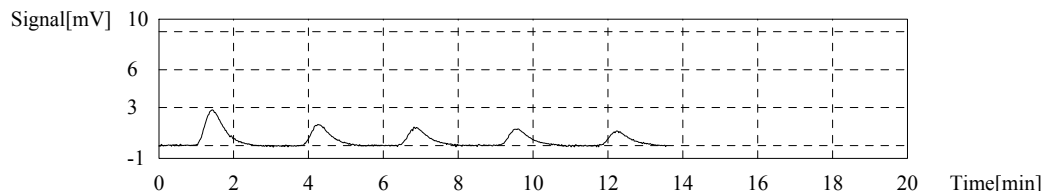
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.54	1.359mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:13:15 AM
2	6.563	0.8462mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:16:52 AM
3	5.620	0.7246mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:20:45 AM
4	5.170	0.6666mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:24:30 AM
5	5.219	0.6729mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:28:32 AM

Mean Area 5.336  
Mean Conc. 0.6881mg/L



## Control Sample

Sample Name: SEQ-CCV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.37 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

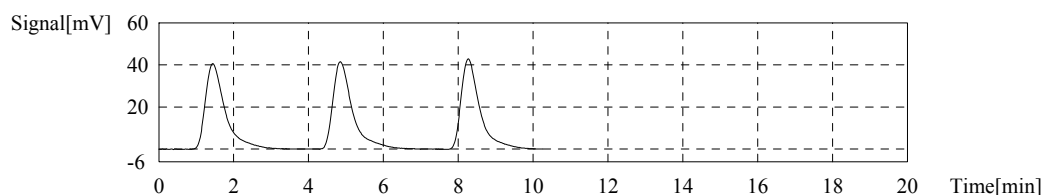
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.37ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.0	19.37ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:39:57 AM
2	151.4	19.43ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:44:34 AM
3	150.6	19.32ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:48:59 AM

Mean Area 151.0  
Mean Conc. 19.37ppm



## Control Sample

Sample Name: SEQ-CCB1  
Sample ID: ICB CCB.tpl  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: -0.02800 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

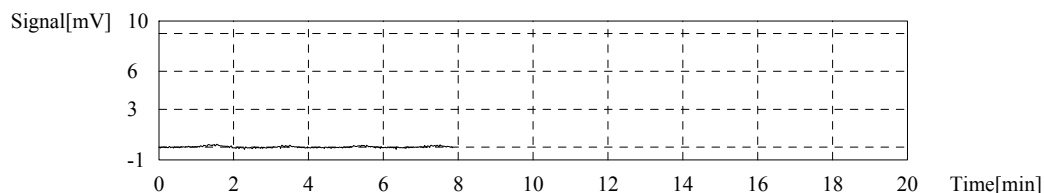
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:-0.02800mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4944	-0.03230mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:58:50 AM
2	0.9650	0.02838mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:02:24 AM
3	0.5263	-0.02818mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:05:52 AM
4	0.5625	-0.02351mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:09:17 AM

Mean Area            0.5277  
Mean Conc.          -0.02800mg/L



## Sample

Sample Name:                    BKE0672-BLK1  
Sample ID:  
Origin:                            NPOC 0.5 - 50 ppm.cal  
Status:                            Completed  
Chk. Result

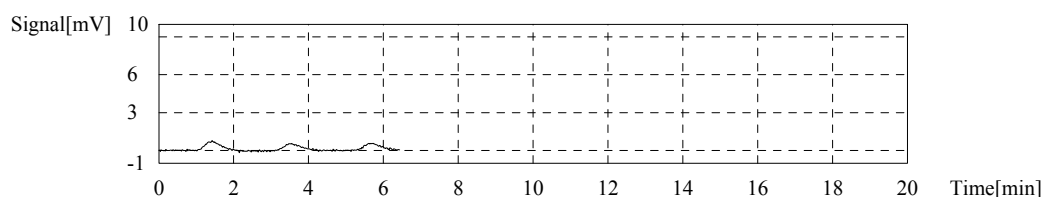
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2681mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.139	0.2758mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:19:15 AM
2	2.096	0.2703mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:23:07 AM
3	2.002	0.2581mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:26:58 AM

Mean Area            2.079  
Mean Conc.          0.2681mg/L



## Sample

Sample Name:                    BKE0672-BS1  
Sample ID:  
Origin:                            NPOC 0.5 - 50 ppm.cal  
Status:                            Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

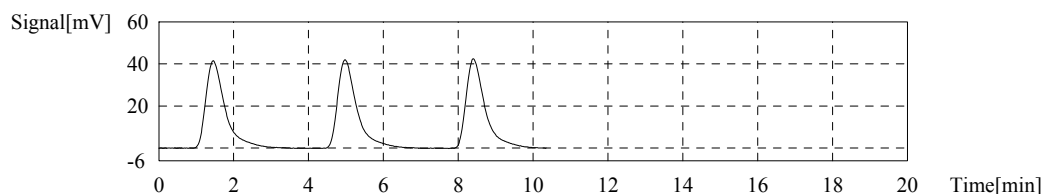
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.52mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	150.5	19.41mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:38:12 AM
2	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:42:41 AM
3	151.8	19.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:47:05 AM

Mean Area 151.4  
Mean Conc. 19.52mg/L



## Sample

Sample Name: 22E0218-01DOC  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

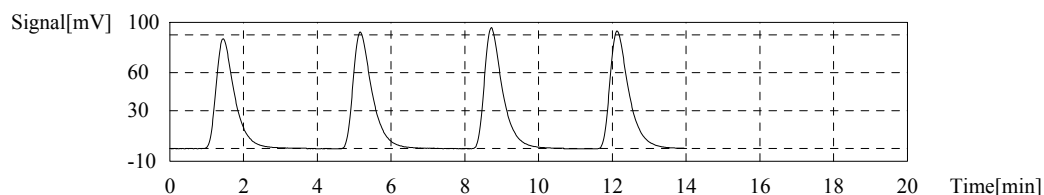
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1074mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	307.6	991.6mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:59:08 AM
2	333.0	1073mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:03:50 AM
3	330.7	1066mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:08:31 AM
4	336.1	1083mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:13:19 AM

Mean Area 333.3  
Mean Conc. 1074mg/L



## Sample

Sample Name: BKE0672-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

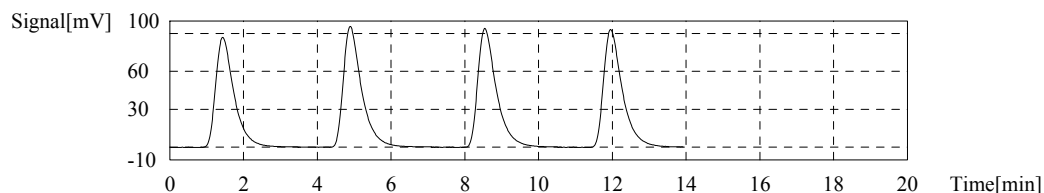
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1073mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	303.9	979.6mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:24:56 AM
2	333.1	1074mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:30:05 AM
3	333.0	1073mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:34:43 AM
4	332.5	1072mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:39:34 AM

Mean Area 332.9  
Mean Conc. 1073mg/L



## Sample

Sample Name: BKE0672-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

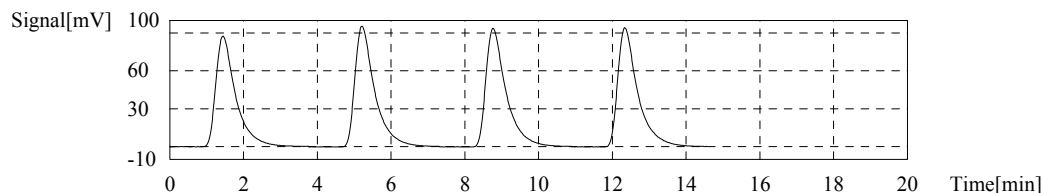
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1157mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	331.2	1068mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:51:31 AM
2	360.4	1162mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:56:09 AM
3	358.7	1156mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:01:02 AM
4	357.9	1154mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:05:58 AM

Mean Area 359.0  
Mean Conc. 1157mg/L



## Sample

Sample Name: BKE0673-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

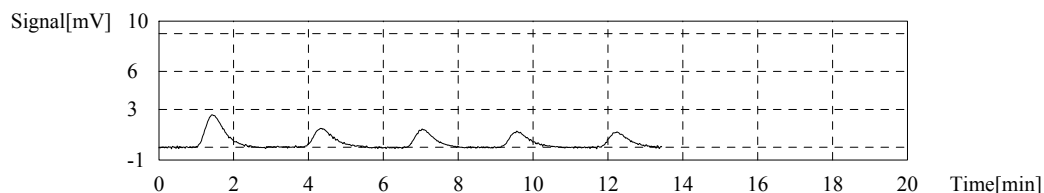
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6560mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.49	1.353mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:16:33 AM
2	6.345	0.8181mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:20:16 AM
3	5.183	0.6683mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:23:50 AM
4	4.618	0.5954mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:27:45 AM
5	5.461	0.7041mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:31:34 AM

Mean Area 5.087  
Mean Conc. 0.6560mg/L



## Sample

Sample Name: BKE0673-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

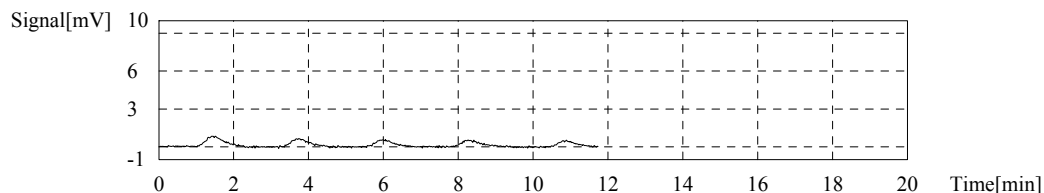
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2503mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.601	0.3354mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:41:41 AM
2	2.299	0.2964mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:45:28 AM
3	1.831	0.2361mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:49:16 AM
4	2.078	0.2679mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:53:21 AM
5	1.915	0.2469mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:56:53 AM

Mean Area 1.941  
Mean Conc. 0.2503mg/L



## Sample



# TOC-Control L Report

RMS  
2022\_05\_31\_001.th

Sample Name: BKE0673-BS1  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result

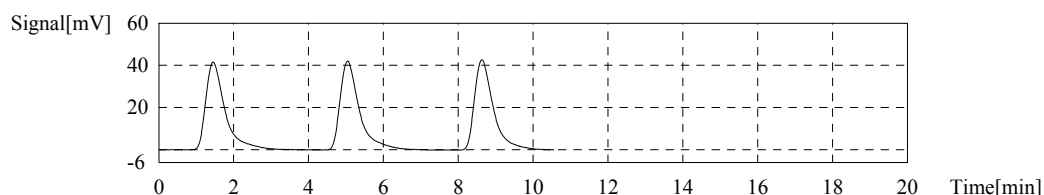
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.58mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.2	19.50mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:08:19 AM
2	152.5	19.66mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:12:55 AM
3	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:17:26 AM

Mean Area: 151.9  
 Mean Conc.: 19.58mg/L



## Sample

Sample Name: 22E0218-01  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result

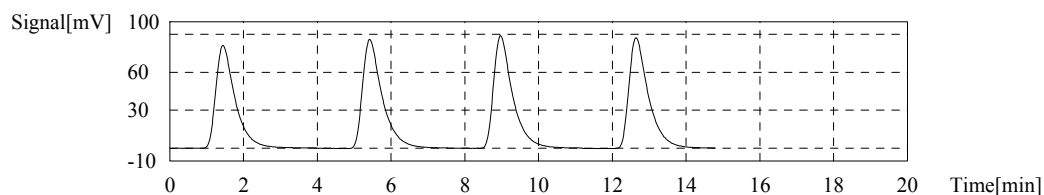
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1042mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	299.5	965.4mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:29:46 AM
2	321.9	1038mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:34:20 AM
3	323.4	1042mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:39:19 AM
4	324.4	1046mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:44:05 AM

Mean Area: 323.2  
 Mean Conc.: 1042mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Sample Name: 22E0248-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

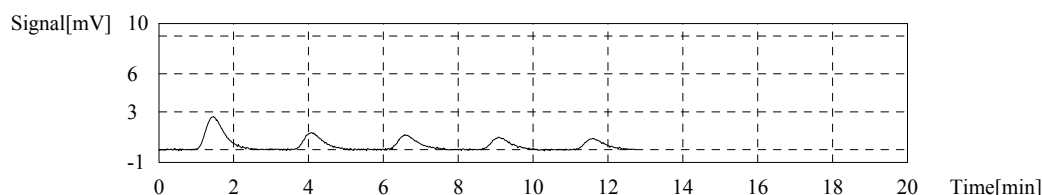
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4831mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.125	1.177mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:54:26 AM
2	5.050	0.6512mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:58:10 AM
3	4.213	0.5432mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:01:55 AM
4	3.685	0.4751mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:05:43 AM
5	3.343	0.4310mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:09:36 AM

Mean Area 3.747  
Mean Conc. 0.4831mg/L



## Control Sample

Sample Name: SEQ-CCV2  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.25 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

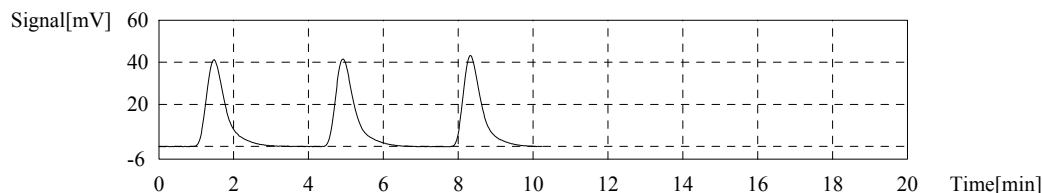
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.25ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	149.6	19.19ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:21:01 AM
2	150.1	19.26ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:25:26 AM
3	150.4	19.30ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:29:47 AM

Mean Area 150.0  
Mean Conc. 19.25ppm



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Control Sample

Sample Name: SEQ-CCB2  
Sample ID:  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.00755 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

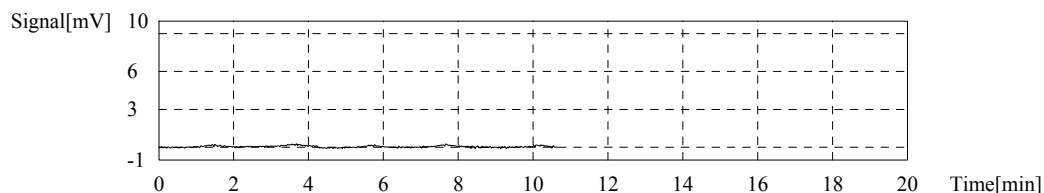
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.00755mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.9110	0.02142mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:39:51 AM
2	0.5447	-0.02581mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:43:15 AM
3	0.3358	-0.05275mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:46:45 AM
4	0.7827	0.00488mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:50:49 AM
5	0.7166	-0.00364mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:53:44 AM

Mean Area: 0.8034  
Mean Conc.: 0.00755mg/L



## Sample

Sample Name: BKE0673-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result:

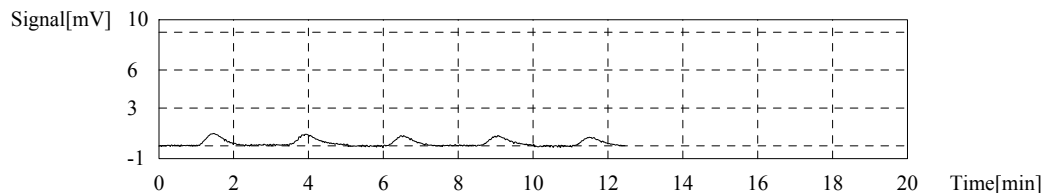
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3576mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.648	0.4704mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:04:14 AM
2	3.494	0.4505mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:08:10 AM
3	2.856	0.3683mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:11:52 AM
4	3.017	0.3890mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:15:36 AM
5	2.446	0.3154mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:19:20 AM

Mean Area: 2.773  
Mean Conc.: 0.3576mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: BKE0673-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

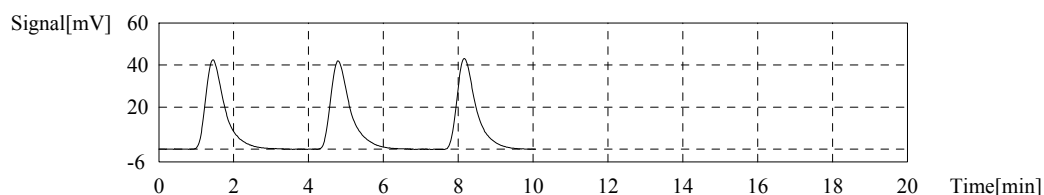
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.8	19.70mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:30:24 AM
2	156.1	20.13mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:34:50 AM
3	155.6	20.06mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:39:11 AM

Mean Area 154.8  
Mean Conc. 19.96mg/L



## Sample

Sample Name: BKE0673-MSD1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

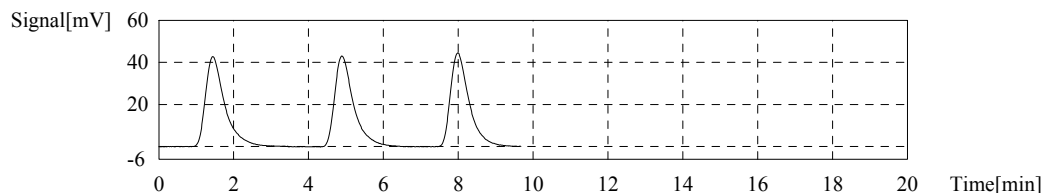
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.92mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.4	20.04mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:50:41 AM
2	152.5	19.66mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:54:54 AM
3	155.6	20.06mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:59:04 AM

Mean Area 154.5  
Mean Conc. 19.92mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: 22E0252-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

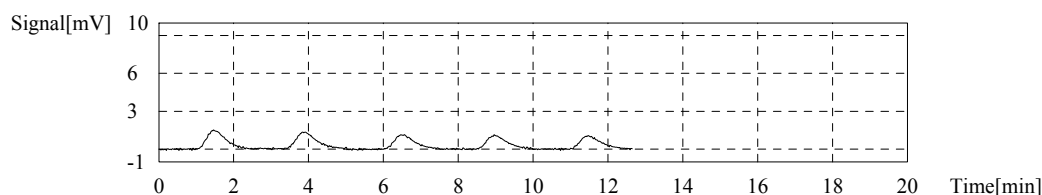
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5505mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.388	0.6947mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:09:23 AM
2	5.300	0.6834mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:13:25 AM
3	4.330	0.5583mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:17:02 AM
4	4.029	0.5195mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:20:51 AM
5	4.450	0.5738mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:24:48 AM

Mean Area 4.270  
Mean Conc. 0.5505mg/L



## Sample

Sample Name: 22E0252-02  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

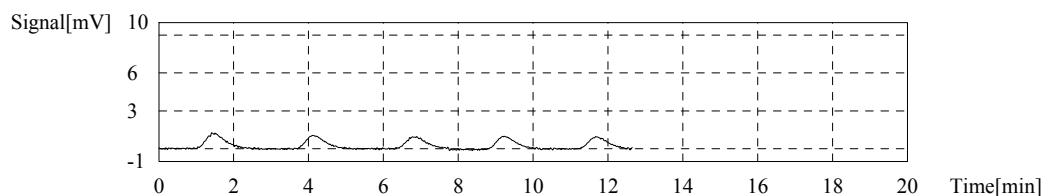
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5175mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.667	0.6018mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:35:21 AM
2	4.121	0.5314mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:39:15 AM
3	3.792	0.4889mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:42:46 AM
4	4.128	0.5323mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:46:35 AM
5	3.566	0.4598mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:50:22 AM

Mean Area 4.014  
Mean Conc. 0.5175mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: 22E0252-03  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

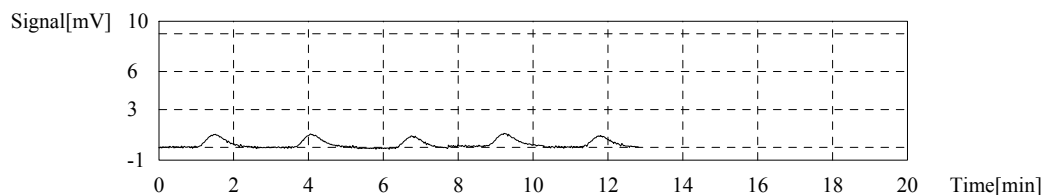
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4816mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.453	0.5742mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:00:41 AM
2	4.080	0.5261mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:04:39 AM
3	3.885	0.5009mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:08:11 AM
4	3.706	0.4779mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:12:07 AM
5	3.614	0.4660mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:15:52 AM

Mean Area 3.735  
Mean Conc. 0.4816mg/L



## Sample

Sample Name: 22E0252-04  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3039mg/L

1. Det

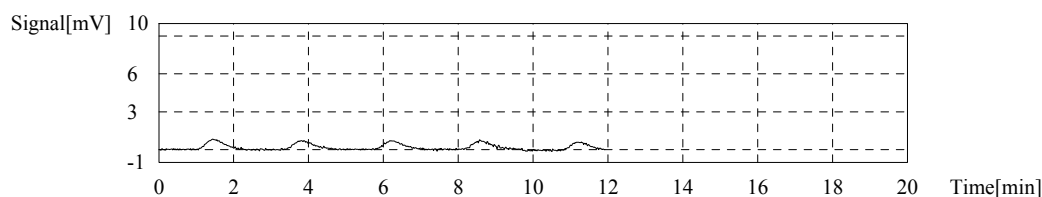
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.929	0.3777mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:26:13 AM
2	2.521	0.3251mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:30:04 AM
3	2.322	0.2994mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:33:49 AM
4	3.117	0.4019mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:37:51 AM
5	2.227	0.2872mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:41:22 AM

# TOC-Control L Report

RMS  
2022\_05\_31\_001.tk

Mean Area 2.357  
Mean Conc. 0.3039mg/L



## Sample

Sample Name: 22E0252-05  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

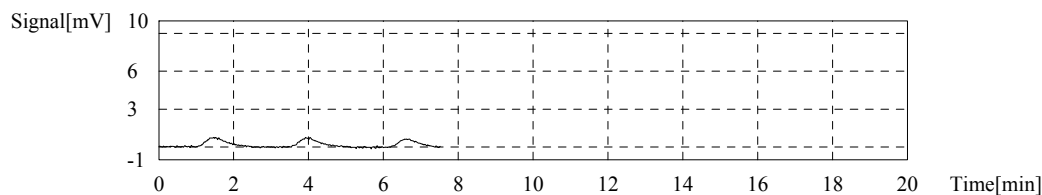
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3631mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.712	0.3497mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:51:36 AM
2	2.888	0.3724mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:55:32 AM
3	2.847	0.3671mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:59:05 AM

Mean Area 2.816  
Mean Conc. 0.3631mg/L



## Sample

Sample Name: 22E0252-06  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1941mg/L

1. Det

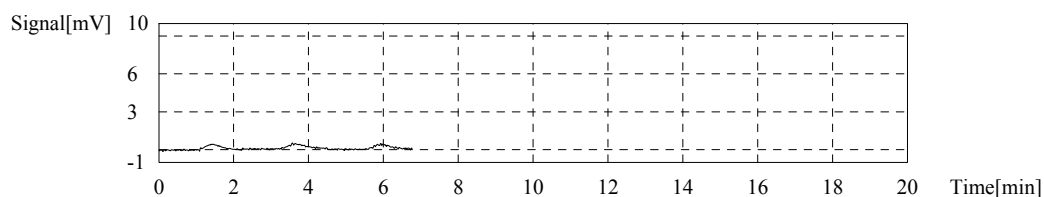
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.581	0.2039mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:09:05 AM
2	1.503	0.1938mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:12:58 AM
3	1.431	0.1845mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:16:45 AM

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Mean Area 1.505  
Mean Conc. 0.1941mg/L



## Sample

Sample Name: BKE0674-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

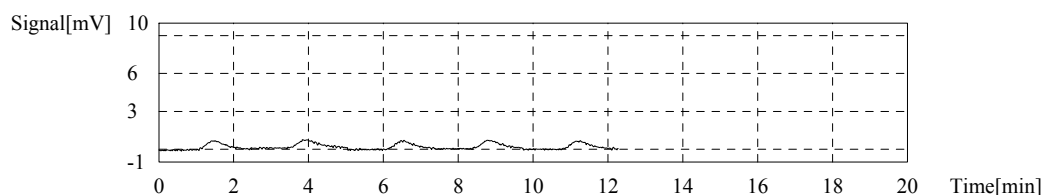
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3351mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.952	0.3806mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:27:07 AM
2	2.613	0.3369mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:31:02 AM
3	2.479	0.3196mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:34:40 AM
4	2.194	0.2829mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:38:34 AM
5	2.704	0.3487mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:42:30 AM

Mean Area 2.599  
Mean Conc. 0.3351mg/L



## Control Sample

Sample Name: SEQ-CCV3  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.55 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.55ppm

1. Det

Anal.: NPOC

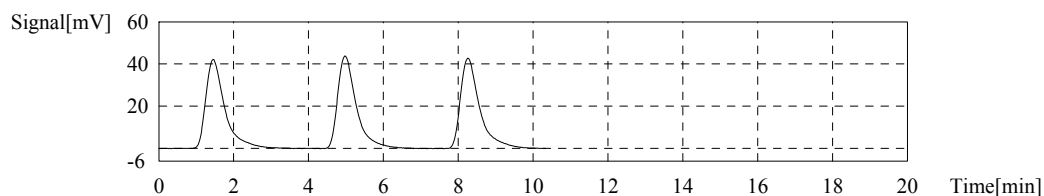


# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	150.4	19.30ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:54:20 AM
2	152.6	19.58ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:58:52 AM
3	154.2	19.79ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:03:24 AM

Mean Area 152.4  
Mean Conc. 19.55ppm



## Control Sample

Sample Name: SEQ-CCB3  
 Sample ID:  
 Method: ICB CCB.tpl  
 Status: Completed  
 Chk. Result: Control value: 0.09358 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

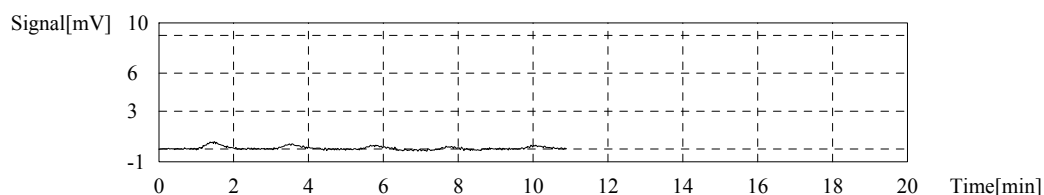
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.09358mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.577	0.1073mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:13:23 AM
2	1.054	0.03986mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:17:02 AM
3	1.500	0.09737mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:20:19 AM
4	1.229	0.06242mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:24:05 AM
5	1.335	0.07609mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:27:44 AM

Mean Area 1.471  
Mean Conc. 0.09358mg/L



## Sample

Sample Name: BKE0674-BLK1  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1270mg/L

1. Det

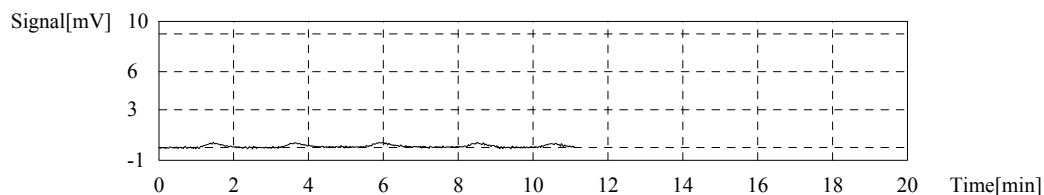
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.119	0.1443mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:38:00 AM
2	1.310	0.1689mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:41:54 AM
3	1.816	0.2342mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:45:59 AM
4	0.8474	0.1093mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:49:14 AM
5	0.9886	0.1275mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:53:03 AM

Mean Area 0.9850  
Mean Conc. 0.1270mg/L



## Sample

Sample Name: BKE0674-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

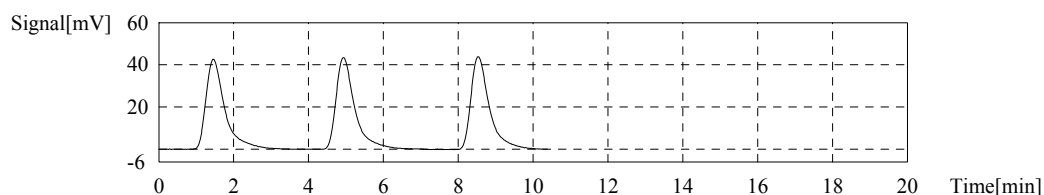
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.67mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.8	19.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:04:35 PM
2	153.2	19.75mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:09:10 PM
3	152.6	19.68mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:13:28 PM

Mean Area 152.5  
Mean Conc. 19.67mg/L



## Sample

Sample Name: 22E0196-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7807mg/L

1. Det

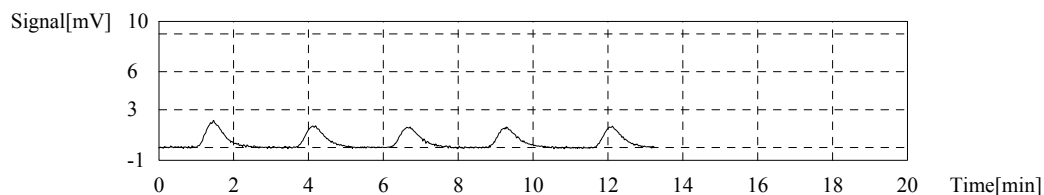
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.269	0.9373mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:24:03 PM
2	5.875	0.7575mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:27:40 PM
3	6.212	0.8010mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:31:34 PM
4	6.822	0.8796mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:35:33 PM
5	6.078	0.7837mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:39:10 PM

Mean Area  
Mean Conc. 6.055  
0.7807mg/L



## Sample

Sample Name: BKE0674-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

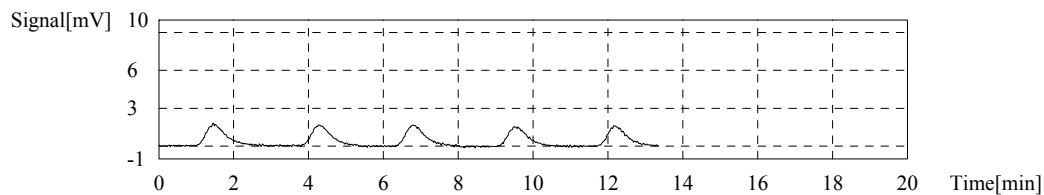
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7600mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.911	0.8911mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:49:53 PM
2	5.826	0.7512mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:53:25 PM
3	6.492	0.8371mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:57:23 PM
4	5.907	0.7617mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:01:12 PM
5	5.950	0.7672mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:04:54 PM

Mean Area  
Mean Conc. 5.894  
0.7600mg/L



## Sample

Sample Name: BKE0674-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.39mg/L

# TOC-Control L Report

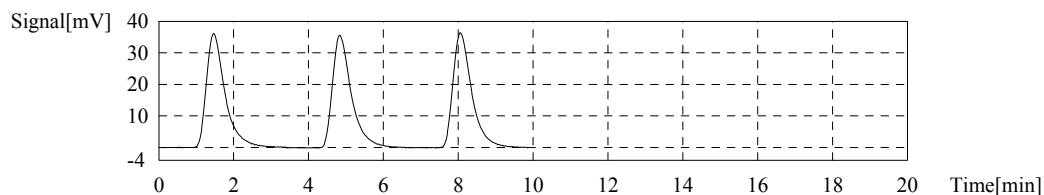
RMS  
2022\_05\_31\_001.thx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	126.2	16.27mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:16:14 PM
2	126.7	16.34mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:20:26 PM
3	128.5	16.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:24:54 PM

Mean Area 127.1  
Mean Conc. 16.39mg/L



## Control Sample

Sample Name: SEQ-CCV4  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.52 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

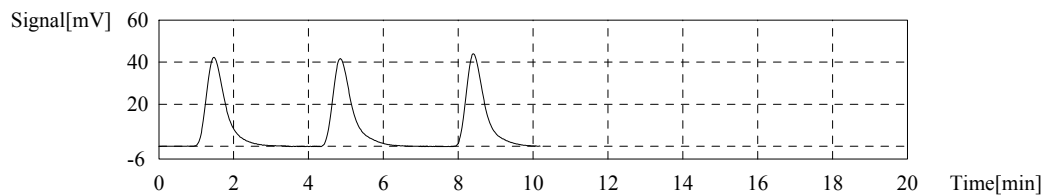
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.52ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.2	19.40ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:36:20 PM
2	151.8	19.48ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:40:57 PM
3	153.3	19.67ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:45:11 PM

Mean Area 152.1  
Mean Conc. 19.52ppm



## Control Sample

Sample Name: SEQ-CCB4  
Sample ID: ICB CCB4.tpl  
Method: ICB CCB4.tpl  
Status: Completed  
Chk. Result: Control value: 0.03921 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

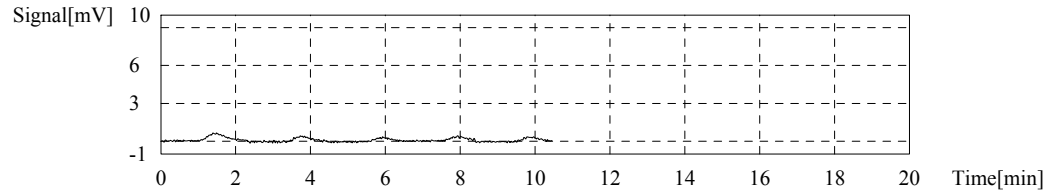
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.03921mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.406	0.2142mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:55:24 PM
2	1.883	0.1468mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:58:44 PM
3	1.251	0.06526mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:02:11 PM
4	1.018	0.03522mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:05:53 PM
5	0.8778	0.01714mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:09:30 PM

Mean Area 1.049  
Mean Conc. 0.03921mg/L





## ANALYSIS BATCH (SEQUENCE) SUMMARY

### EPA 9060A

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0369

Instrument: TOC-LCSH

Calibration: FF00006

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
1	SKF0369-ICV1	ShimadzuData_06302022@1006-002	NA	06/28/22 18:07
1	SKF0369-ICB1	ShimadzuData_06302022@1006-003	NA	06/28/22 18:34
1	SKF0369-IFA1	ShimadzuData_06302022@1006-004	NA	06/28/22 18:52
MRL Check	BKF0658-MRL1	ShimadzuData_06302022@1006-005	Water	06/28/22 19:20
Blank	BKF0658-BLK1	ShimadzuData_06302022@1006-006	Water	06/28/22 19:42
LCS	BKF0658-BS1	ShimadzuData_06302022@1006-007	Water	06/28/22 20:01
1	SKF0369-CCV1	ShimadzuData_06302022@1006-014	NA	06/28/22 22:42
1	SKF0369-CCB1	ShimadzuData_06302022@1006-015	NA	06/28/22 23:08
Z1A-3-PW	22F0267-09	ShimadzuData_06302022@1006-018	Water	06/29/22 00:20
Z1A-3-PW	BKF0658-DUP1	ShimadzuData_06302022@1006-019	Water	06/29/22 00:46
Z1A-3-PW	BKF0658-MS1	ShimadzuData_06302022@1006-020	Water	06/29/22 01:08
Z1A-3-PW	BKF0658-MSD1	ShimadzuData_06302022@1006-021	Water	06/29/22 01:30
Z1A-6-PW	22F0267-10	ShimadzuData_06302022@1006-022	Water	06/29/22 01:51
Z1A-9-PW	22F0267-11	ShimadzuData_06302022@1006-023	Water	06/29/22 02:09
Z1A-12-PW	22F0267-12	ShimadzuData_06302022@1006-024	Water	06/29/22 02:36
DUP-1-PW	22F0267-15	ShimadzuData_06302022@1006-025	Water	06/29/22 02:54
1	SKF0369-CCV2	ShimadzuData_06302022@1006-026	NA	06/29/22 03:14
1	SKF0369-CCB2	ShimadzuData_06302022@1006-027	NA	06/29/22 03:37
Z1B-1-PW	22F0267-24	ShimadzuData_06302022@1006-028	Water	06/29/22 03:59
Z1B-2-PW	22F0267-25	ShimadzuData_06302022@1006-029	Water	06/29/22 04:18
Z1B-3-PW	22F0267-26	ShimadzuData_06302022@1006-030	Water	06/29/22 04:37
Z1B-4-PW	22F0267-27	ShimadzuData_06302022@1006-031	Water	06/29/22 05:04
1	SKF0369-CCV3	ShimadzuData_06302022@1006-038	NA	06/29/22 07:38
1	SKF0369-CCB3	ShimadzuData_06302022@1006-039	NA	06/29/22 08:04
1	SKF0369-CCV4	ShimadzuData_06302022@1006-050	NA	06/29/22 12:14
1	SKF0369-CCB4	ShimadzuData_06302022@1006-051	NA	06/29/22 12:37

	Type	Analysis	Sample Name	Sample ID	Origin	Manua	Result	Notes	Status	Date / Time	Vial
1	Unknown	NPOC	Rinse		NPOC 0.5 - 50 p	1.000	NPOC:0.1805mg/L		Completed	6/28/2022 5:55:25 PM	0
2	Control	NPOC	SEQ-ICV1	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:20.37ppm	Control v	Completed	6/28/2022 6:16:14 PM	3
3	Control	NPOC	SEQ-ICB1		ICB CCB.tpl	1.000	NPOC:0.1860mg/L	Control v	Completed	6/28/2022 6:41:08 PM	4
4	Unknown	NPOC	SEQ-IFA1		NPOC 0.5 - 50 p	1.000	NPOC:20.87mg/L		Completed	6/28/2022 7:01:53 PM	9
5	Unknown	NPOC	BKF0658-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.7244mg/L		Completed	6/28/2022 7:27:55 PM	10
6	Unknown	NPOC	BKF0658-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.2582mg/L		Completed	6/28/2022 7:49:40 PM	11
7	Unknown	NPOC	BKF0658-BS1		NPOC 0.5 - 50 p	1.000	NPOC:20.69mg/L		Completed	6/28/2022 8:10:51 PM	12
8	Unknown	NPOC	22F0243-01		NPOC 0.5 - 50 p	1.000	NPOC:0.4685mg/L		Completed	6/28/2022 8:36:28 PM	13
9	Unknown	NPOC	22F0243-03		NPOC 0.5 - 50 p	1.000	NPOC:0.6354mg/L		Completed	6/28/2022 9:02:19 PM	14
10	Unknown	NPOC	22F0243-05		NPOC 0.5 - 50 p	1.000	NPOC:0.9024mg/L		Completed	6/28/2022 9:28:44 PM	15
11	Unknown	NPOC	22F0243-07		NPOC 0.5 - 50 p	1.000	NPOC:0.4461mg/L		Completed	6/28/2022 9:54:24 PM	16
12	Unknown	NPOC	22F0243-09		NPOC 0.5 - 50 p	1.000	NPOC:0.3508mg/L		Completed	6/28/2022 10:12:23 PM	17
13	Unknown	NPOC	22F0243-11		NPOC 0.5 - 50 p	1.000	NPOC:0.2619mg/L		Completed	6/28/2022 10:30:28 PM	18
14	Control	NPOC	SEQ-CCV1	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:20.21ppm	Control v	Completed	6/28/2022 10:51:32 PM	3
15	Control	NPOC	SEQ-CCB1		ICB CCB.tpl	1.000	NPOC:0.1155mg/L	Control v	Completed	6/28/2022 11:15:50 PM	4
16	Unknown	NPOC	22F0243-13		NPOC 0.5 - 50 p	1.000	NPOC:0.3687mg/L		Completed	6/28/2022 11:37:51 PM	19
17	Unknown	NPOC	22F0243-15		NPOC 0.5 - 50 p	1.000	NPOC:0.3687mg/L		Completed	6/29/2022 12:03:22 AM	20
18	Unknown	NPOC	22F0267-09		NPOC 0.5 - 50 p	1.000	NPOC:6.722mg/L		Completed	6/29/2022 12:29:58 AM	21
19	Unknown	NPOC	BKF0658-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:7.064mg/L		Completed	6/29/2022 12:56:12 AM	22
20	Unknown	NPOC	BKF0658-MS1		NPOC 0.5 - 50 p	1.000	NPOC:46.59mg/L		Completed	6/29/2022 1:18:15 AM	23
21	Unknown	NPOC	BKF0658-MSD1		NPOC 0.5 - 50 p	1.000	NPOC:46.46mg/L		Completed	6/29/2022 1:40:36 AM	24
22	Unknown	NPOC	22F0267-10		NPOC 0.5 - 50 p	1.000	NPOC:4.356mg/L		Completed	6/29/2022 1:59:10 AM	25
23	Unknown	NPOC	22F0267-11		NPOC 0.5 - 50 p	1.000	NPOC:2.932mg/L		Completed	6/29/2022 2:21:23 AM	26
24	Unknown	NPOC	22F0267-12		NPOC 0.5 - 50 p	1.000	NPOC:1.631mg/L		Completed	6/29/2022 2:43:57 AM	27
25	Unknown	NPOC	22F0267-15		NPOC 0.5 - 50 p	1.000	NPOC:4.216mg/L		Completed	6/29/2022 3:02:45 AM	28
26	Control	NPOC	SEQ-CCV2	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:19.08ppm	Control v	Completed	6/29/2022 3:23:29 AM	5
27	Control	NPOC	SEQ-CCB2		ICB CCB.tpl	1.000	NPOC:0.2141mg/L	Control v	Completed	6/29/2022 3:48:03 AM	6
28	Unknown	NPOC	22F0267-24		NPOC 0.5 - 50 p	1.000	NPOC:3.993mg/L		Completed	6/29/2022 4:07:01 AM	29
29	Unknown	NPOC	22F0267-25		NPOC 0.5 - 50 p	1.000	NPOC:7.436mg/L		Completed	6/29/2022 4:26:06 AM	30
30	Unknown	NPOC	22F0267-26		NPOC 0.5 - 50 p	1.000	NPOC:3.671mg/L		Completed	6/29/2022 4:45:21 AM	31
31	Unknown	NPOC	22F0267-27		NPOC 0.5 - 50 p	1.000	NPOC:2.081mg/L		Completed	6/29/2022 5:12:29 AM	32
32	Unknown	NPOC	BKF0659-MRL1		NPOC 0.5 - 50 p	1.000	NPOC:0.6628mg/L		Completed	6/29/2022 5:38:11 AM	33
33	Unknown	NPOC	BKF0659-BLK1		NPOC 0.5 - 50 p	1.000	NPOC:0.1411mg/L		Completed	6/29/2022 5:55:57 AM	34
34	Unknown	NPOC	BKF0659-BS1		NPOC 0.5 - 50 p	1.000	NPOC:18.96mg/L		Completed	6/29/2022 6:16:33 AM	35
35	Unknown	NPOC	22F0223-01		NPOC 0.5 - 50 p	1.000	NPOC:0.3823mg/L		Completed	6/29/2022 6:42:01 AM	36
36	Unknown	NPOC	22F0223-03		NPOC 0.5 - 50 p	1.000	NPOC:0.4142mg/L		Completed	6/29/2022 7:07:17 AM	37
37	Unknown	NPOC	22F0223-05		NPOC 0.5 - 50 p	1.000	NPOC:4.685mg/L		Completed	6/29/2022 7:26:43 AM	38
38	Control	NPOC	SEQ-CCV3	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:18.30ppm	Control v	Completed	6/29/2022 7:47:05 AM	5
39	Control	NPOC	SEQ-CCB3		ICB CCB.tpl	1.000	NPOC:0.1312mg/L	Control v	Completed	6/29/2022 8:11:13 AM	6
40	Unknown	NPOC	22F0223-07		NPOC 0.5 - 50 p	1.000	NPOC:0.1950mg/L		Completed	6/29/2022 8:36:45 AM	39

	Type	Analysis	Sample Name	Sample ID	Origin	Manua	Result	Notes	Status	Date / Time	Vial
41	Unknown	NPOC	22F0223-09		NPOC 0.5 - 50 p	1.000	NPOC:0.2197mg/L		Completed	6/29/2022 9:01:52 AM	40
42	Unknown	NPOC	22F0223-11		NPOC 0.5 - 50 p	1.000	NPOC:0.1488mg/L		Completed	6/29/2022 9:26:54 AM	41
43	Unknown	NPOC	22F0229-19		NPOC 0.5 - 50 p	1.000	NPOC:6.558mg/L		Completed	6/29/2022 9:51:06 AM	42
44	Unknown	NPOC	22F0229-20		NPOC 0.5 - 50 p	1.000	NPOC:6.671mg/L		Completed	6/29/2022 10:11:14 AM	43
45	Unknown	NPOC	BKF0659-DUP1		NPOC 0.5 - 50 p	1.000	NPOC:6.767mg/L		Completed	6/29/2022 10:31:18 AM	44
46	Unknown	NPOC	BKF0659-MS1		NPOC 0.5 - 50 p	1.000	NPOC:24.83mg/L		Completed	6/29/2022 10:52:51 AM	45
47	Unknown	NPOC	BKF0659-MSD1		NPOC 0.5 - 50 p	1.000	NPOC:25.05mg/L		Completed	6/29/2022 11:14:22 AM	46
48	Unknown	NPOC	22F0245-01		NPOC 0.5 - 50 p	1.000	NPOC:1.024mg/L		Completed	6/29/2022 11:40:09 AM	47
49	Unknown	NPOC	22F0390-02		NPOC 0.5 - 50 p	1.000	NPOC:4.378mg/L		Completed	6/29/2022 12:03:19 PM	48
50	Control	NPOC	SEQ-CCV4	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:18.02ppm	Control v	Completed	6/29/2022 12:23:33 PM	7
51	Control	NPOC	SEQ-CCB4		ICB CCB.tpl	1.000	NPOC:0.2503mg/L	Control v	Completed	6/29/2022 12:47:49 PM	8
52	Unknown	NPOC	BKF0659-DUP2		NPOC 0.5 - 50 p	1.000	NPOC:4.428mg/L		Completed	6/29/2022 1:07:17 PM	49
53	Unknown	NPOC	BKF0659-MS2		NPOC 0.5 - 50 p	1.000	NPOC:22.22mg/L		Completed	6/29/2022 1:27:50 PM	50
54	Unknown	NPOC	22F0444-01		NPOC 0.5 - 50 p	1.000	NPOC:4.410mg/L		Completed	6/29/2022 1:55:14 PM	51
55	Control	NPOC	SEQ-CCV5	CVS 20	CVS 20 ppm.tpl	1.000	NPOC:17.81ppm	Control v	Completed	6/29/2022 2:15:47 PM	7
56	Control	NPOC	SEQ-CCB5		ICB CCB.tpl	1.000	NPOC:0.2123mg/L	Control v	Completed	6/29/2022 2:40:00 PM	8



# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

## Instr.Information

Instrument Options  
Catalyst

TOC/ASI/IC Unit/  
Regular Sensitivity

## Sample

Sample Name: Rinse  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

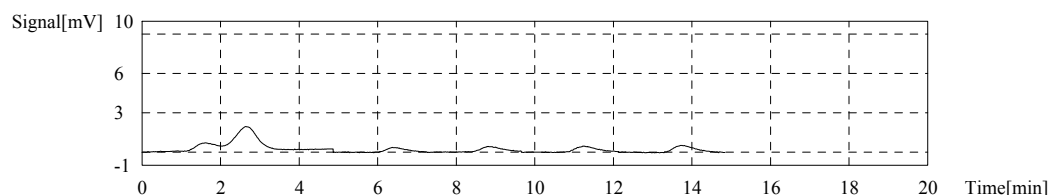
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1805mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.686	1.249mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 5:41:10 PM
2	1.276	0.1645mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 5:44:38 PM
3	1.338	0.1725mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 5:48:06 PM
4	1.586	0.2045mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 5:51:42 PM
5	2.169	0.2797mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 5:55:25 PM

Mean Area 1.400  
Mean Conc. 0.1805mg/L



## Control Sample

Sample Name: SEQ-ICV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 20.37 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.37ppm

1. Det

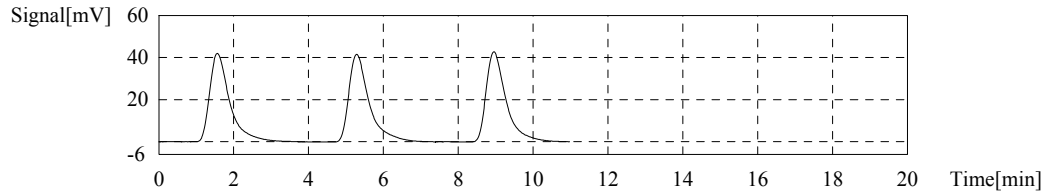
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	157.7	20.24ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:07:01 PM
2	158.8	20.38ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:11:40 PM
3	159.7	20.50ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:16:14 PM

# TOC-Control L Report

RMS  
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Mean Area 158.7  
Mean Conc. 20.37ppm



## Control Sample

Sample Name: SEQ-ICB1  
 Sample ID:  
 Method: ICB CCB.tpl  
 Status: Completed  
 Chk. Result: Control value: 0.1860 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

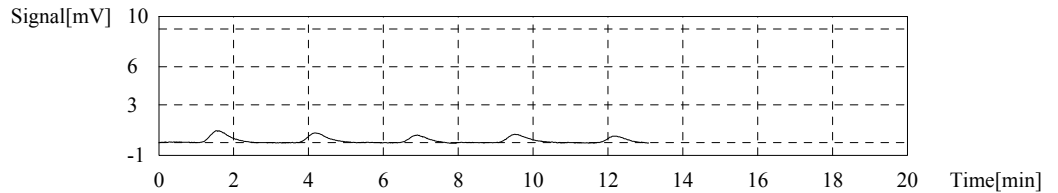
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.1860mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.398	0.3421mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:26:44 PM
2	2.912	0.2794mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:30:25 PM
3	2.217	0.1898mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:34:01 PM
4	2.417	0.2156mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:37:41 PM
5	1.928	0.1526mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:41:08 PM

Mean Area 2.187  
Mean Conc. 0.1860mg/L



## Sample

Sample Name: SEQ-IFA1  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.87mg/L

1. Det

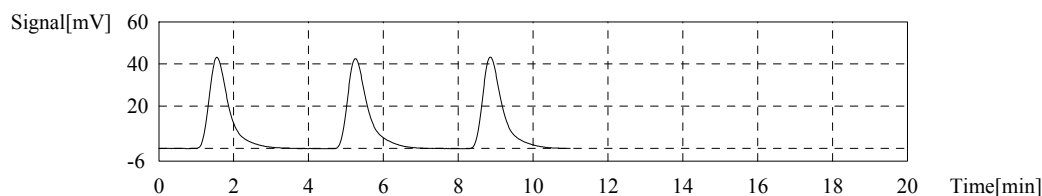
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	160.0	20.63mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:52:37 PM
2	163.2	21.04mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 6:57:13 PM
3	162.3	20.93mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:01:53 PM

Mean Area 161.8  
Mean Conc. 20.87mg/L



## Sample

Sample Name: BKF0658-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

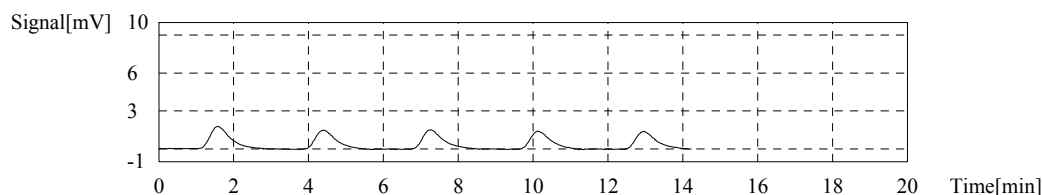
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7244mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.480	0.8355mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:12:34 PM
2	6.021	0.7764mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:16:25 PM
3	5.852	0.7546mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:20:17 PM
4	5.553	0.7160mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:24:05 PM
5	5.449	0.7026mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:27:55 PM

Mean Area 5.618  
Mean Conc. 0.7244mg/L



## Sample

Sample Name: BKF0658-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2582mg/L

1. Det

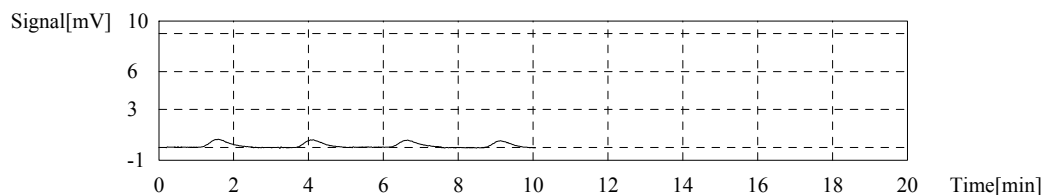
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.211	0.2851mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:38:19 PM
2	2.113	0.2725mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:42:07 PM
3	1.928	0.2486mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:45:52 PM
4	1.966	0.2535mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 7:49:40 PM

Mean Area 2.002  
Mean Conc. 0.2582mg/L



## Sample

Sample Name: BKF0658-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

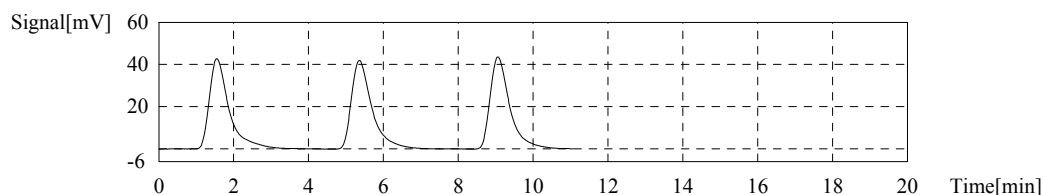
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.69mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	158.8	20.48mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:01:36 PM
2	161.6	20.84mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:06:17 PM
3	160.9	20.75mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:10:51 PM

Mean Area 160.4  
Mean Conc. 20.69mg/L



## Sample

Sample Name: 22F0243-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4685mg/L

1. Det

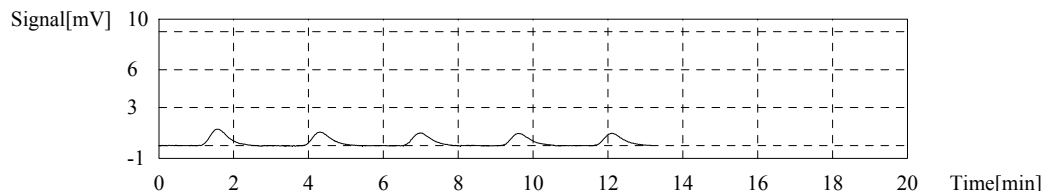
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.613	0.5948mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:21:29 PM
2	3.803	0.4904mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:25:12 PM
3	3.688	0.4755mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:28:56 PM
4	3.274	0.4222mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:32:34 PM
5	3.409	0.4396mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:36:28 PM

Mean Area 3.633  
Mean Conc. 0.4685mg/L



## Sample

Sample Name: 22F0243-03  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

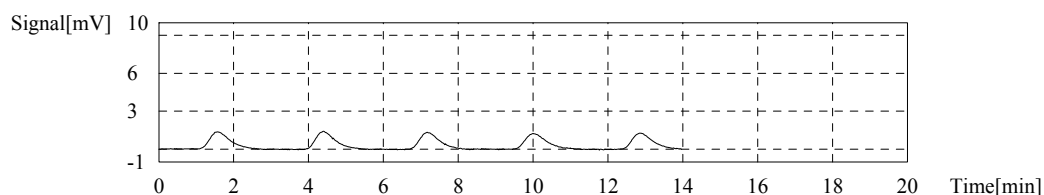
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6354mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.366	0.6919mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:47:14 PM
2	5.334	0.6878mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:50:59 PM
3	5.063	0.6528mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:54:47 PM
4	4.889	0.6304mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 8:58:38 PM
5	4.832	0.6230mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:02:19 PM

Mean Area 4.928  
Mean Conc. 0.6354mg/L



## Sample

Sample Name: 22F0243-05  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.9024mg/L

1. Det

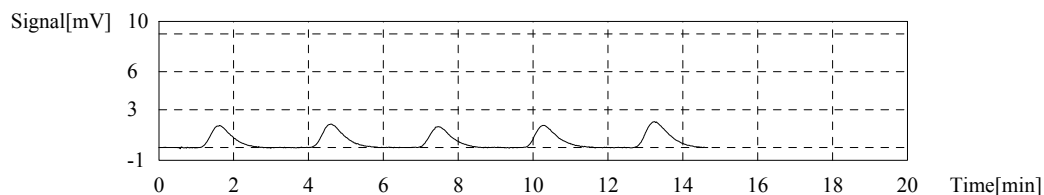
# TOC-Control L Report

RMS  
2022\_06\_29\_001.tk

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.086	0.9137mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:13:07 PM
2	7.510	0.9683mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:16:58 PM
3	6.746	0.8698mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:20:47 PM
4	7.164	0.9237mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:24:42 PM
5	8.904	1.1488mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:28:44 PM

Mean Area  
Mean Conc. 6.999  
0.9024mg/L



## Sample

Sample Name: 22F0243-07  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

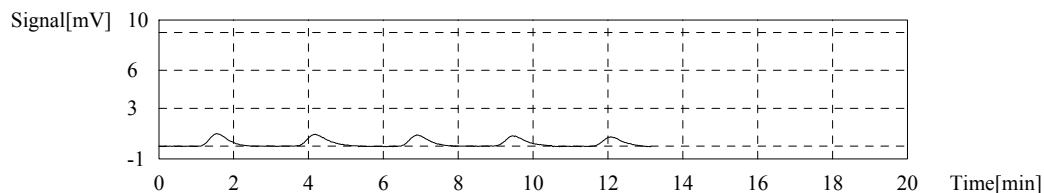
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4461mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.528	0.4549mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:39:14 PM
2	3.522	0.4541mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:43:07 PM
3	3.330	0.4294mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:46:46 PM
4	2.762	0.3561mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:50:33 PM
5	2.860	0.3688mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 9:54:24 PM

Mean Area  
Mean Conc. 3.460  
0.4461mg/L



## Sample

Sample Name: 22F0243-09  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3508mg/L

# TOC-Control L Report

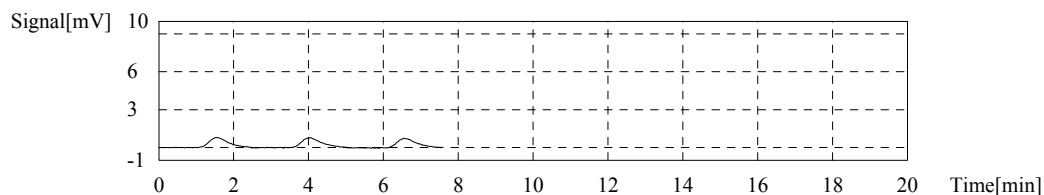
RMS  
2022\_06\_29\_001.thx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.710	0.3494mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:04:45 PM
2	2.779	0.3583mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:08:37 PM
3	2.673	0.3447mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:12:23 PM

Mean Area 2.721  
Mean Conc. 0.3508mg/L



## Sample

Sample Name: 22F0243-11  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

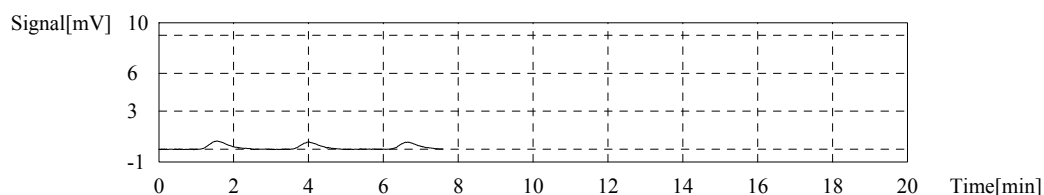
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2619mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.118	0.2731mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:22:50 PM
2	2.011	0.2593mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:26:47 PM
3	1.964	0.2532mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:30:28 PM

Mean Area 2.031  
Mean Conc. 0.2619mg/L



## Control Sample

Sample Name: SEQ-CCV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 20.21 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:20.21ppm

# TOC-Control L Report

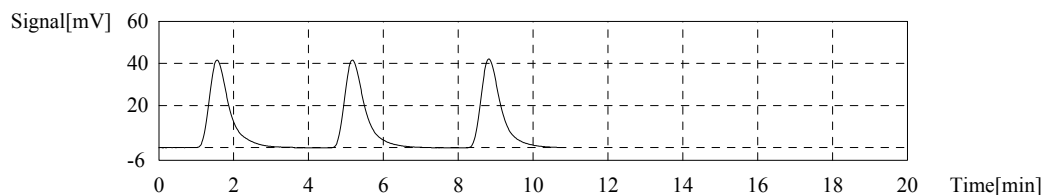
RMS  
2022\_06\_29\_001.thx

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.7	19.98ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:42:21 PM
2	158.9	20.39ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:46:58 PM
3	157.9	20.26ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 10:51:32 PM

Mean Area 157.5  
Mean Conc. 20.21ppm



## Control Sample

Sample Name: SEQ-CCB1  
Sample ID: ICB CCB.tpl  
Method: Completed  
Status: Completed  
Chk. Result: Control value: 0.1155 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

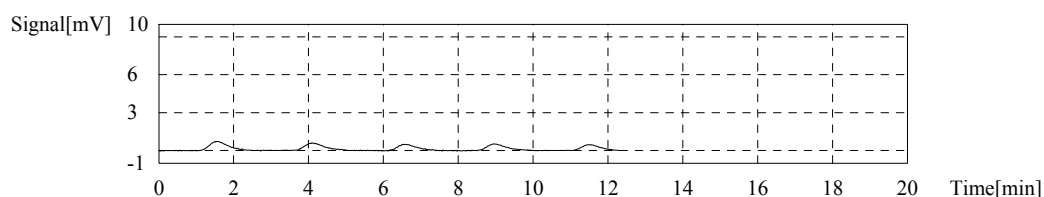
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.1155mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.594	0.2384mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:01:58 PM
2	2.000	0.1618mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:05:25 PM
3	1.557	0.1047mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:08:50 PM
4	1.756	0.1304mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:12:28 PM
5	1.608	0.1113mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:15:50 PM

Mean Area 1.640  
Mean Conc. 0.1155mg/L



## Sample

Sample Name: 22F0243-13  
Sample ID: NPOC 0.5 - 50 ppm.cal  
Origin: Completed  
Status: Completed  
Chk. Result:



# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

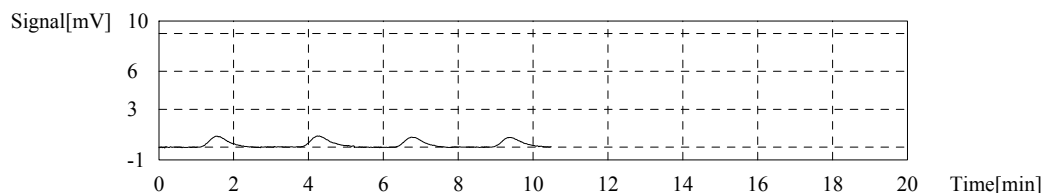
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3687mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.405	0.4390mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:26:34 PM
2	2.866	0.3695mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:30:08 PM
3	2.926	0.3773mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:34:02 PM
4	2.786	0.3592mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:37:51 PM

Mean Area 2.859  
Mean Conc. 0.3687mg/L



## Sample

Sample Name: 22F0243-15  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

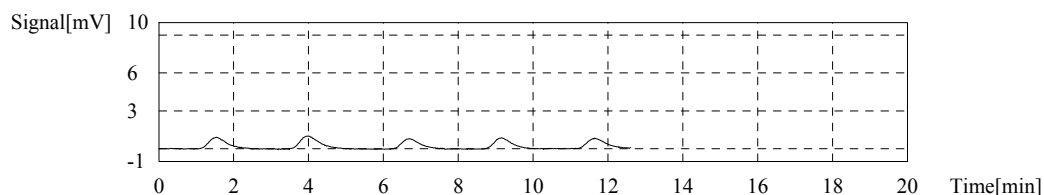
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3687mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.930	0.3778mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:48:11 PM
2	3.590	0.4629mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:52:13 PM
3	2.676	0.3450mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:55:46 PM
4	2.853	0.3679mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/28/2022 11:59:34 PM
5	2.795	0.3604mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:03:22 AM

Mean Area 2.859  
Mean Conc. 0.3687mg/L



## Sample

Sample Name: 22F0267-09  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

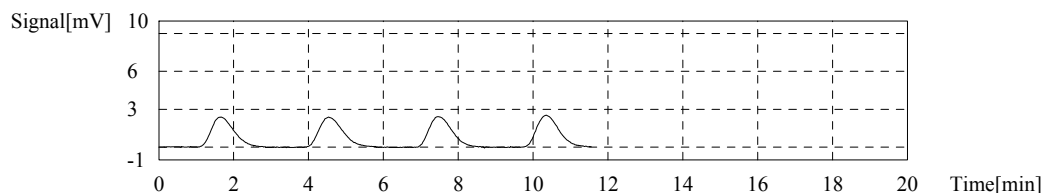
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.722mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.927	6.400mg/L	100ul	5.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:15:00 AM
2	10.36	6.679mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:20:05 AM
3	10.31	6.647mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:24:59 AM
4	10.61	6.840mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:29:58 AM

Mean Area 10.43  
Mean Conc. 6.722mg/L



## Sample

Sample Name: BKF0658-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

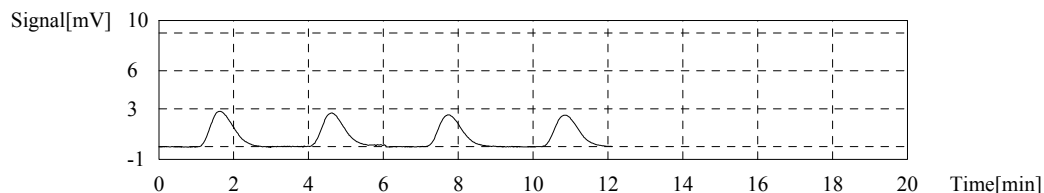
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.064mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.35	7.962mg/L	100ul	5.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:41:16 AM
2	10.96	7.066mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:46:24 AM
3	10.88	7.014mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:51:23 AM
4	11.03	7.111mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:56:12 AM

Mean Area 10.96  
Mean Conc. 7.064mg/L



## Sample

Sample Name: BKF0658-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

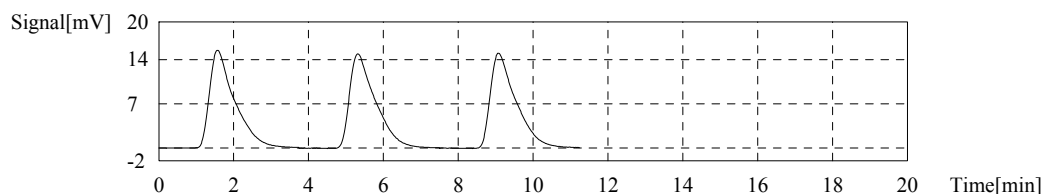
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:46.59mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	72.46	46.72mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:08:16 AM
2	72.36	46.65mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:13:17 AM
3	72.00	46.42mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:18:15 AM

Mean Area 72.27  
Mean Conc. 46.59mg/L



## Sample

Sample Name: BKF0658-MSD1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

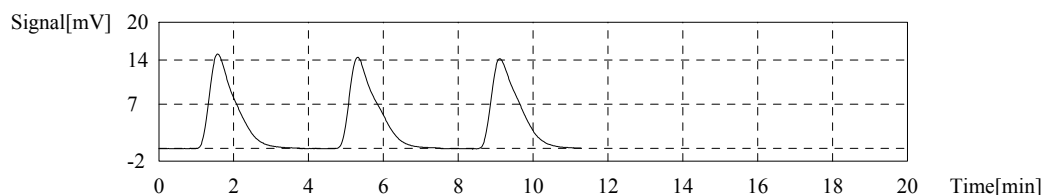
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:46.46mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	71.71	46.23mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:30:37 AM
2	72.20	46.55mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:35:37 AM
3	72.28	46.60mg/L	100ul	5.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:40:36 AM

Mean Area 72.06  
Mean Conc. 46.46mg/L



## Sample

Sample Name: 22F0267-10  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

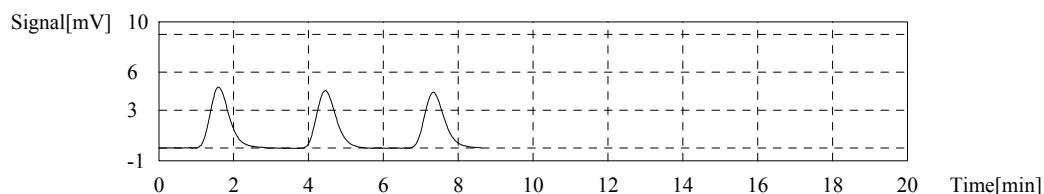
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.356mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.02	4.389mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:51:23 AM
2	16.94	4.369mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:55:16 AM
3	16.71	4.309mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:59:10 AM

Mean Area 16.89  
Mean Conc. 4.356mg/L



## Sample

Sample Name: 22F0267-11  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

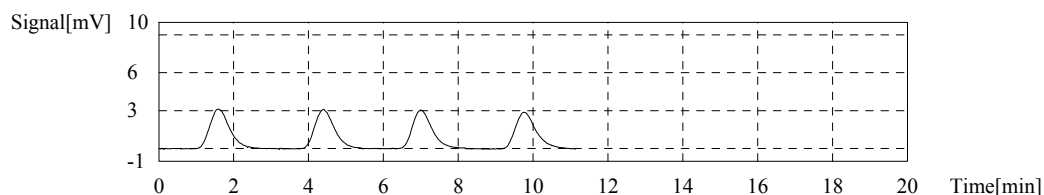
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.932mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.52	2.971mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:09:53 AM
2	11.21	2.891mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:13:30 AM
3	11.00	2.837mg/L	50ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:17:24 AM
4	11.38	2.935mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:21:23 AM

Mean Area 11.37  
Mean Conc. 2.932mg/L



## Sample

Sample Name: 22F0267-12  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

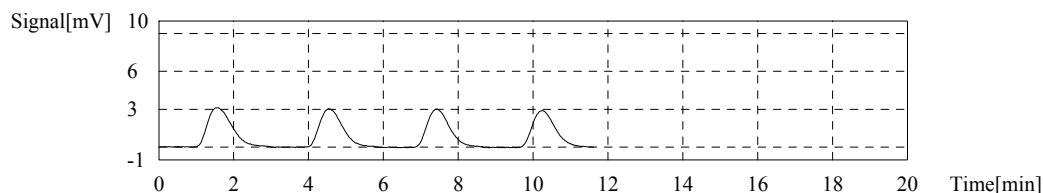
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.631mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.88	1.790mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:32:16 AM
2	12.89	1.662mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:36:07 AM
3	12.51	1.613mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:39:56 AM
4	12.54	1.617mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:43:57 AM

Mean Area 12.65  
Mean Conc. 1.631mg/L



## Sample

Sample Name: 22F0267-15  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

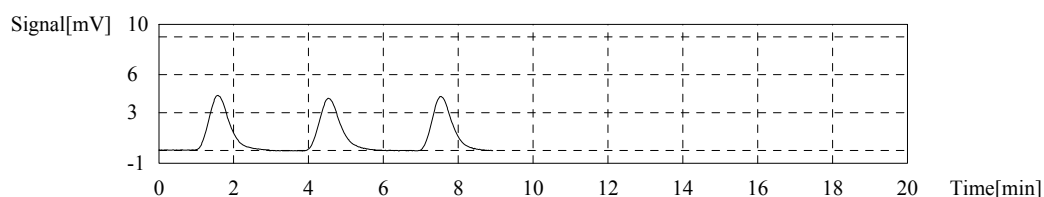
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.216mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.31	4.206mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:54:49 AM
2	16.47	4.247mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:58:49 AM
3	16.26	4.193mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:02:45 AM

Mean Area 16.35  
Mean Conc. 4.216mg/L



## Control Sample

Sample Name: SEQ-CCV2  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.08 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

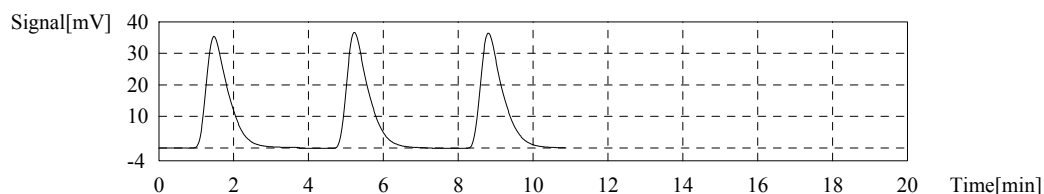
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.08ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	145.5	18.66ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:14:25 AM
2	149.6	19.19ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:18:57 AM
3	151.1	19.39ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:23:29 AM

Mean Area 148.7  
Mean Conc. 19.08ppm



## Control Sample

Sample Name: SEQ-CCB2  
Sample ID:  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.2141 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

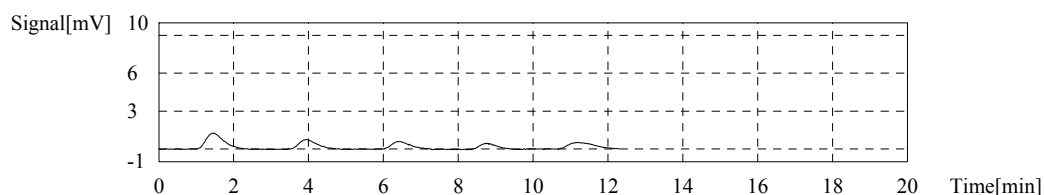
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.2141mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.283	0.4562mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:33:50 AM
2	2.765	0.2605mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:37:20 AM
3	2.103	0.1751mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:40:43 AM
4	1.504	0.09788mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:44:12 AM
5	2.348	0.2067mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:48:03 AM

Mean Area 2.405  
Mean Conc. 0.2141mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_06\_29\_001.th

Sample Name: 22F0267-24  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

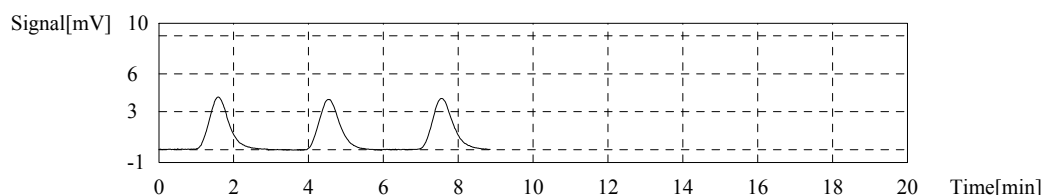
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.993mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	15.36	3.961mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 3:59:07 AM
2	15.66	4.038mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:03:08 AM
3	15.43	3.979mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:07:01 AM

Mean Area 15.48  
Mean Conc. 3.993mg/L



## Sample

Sample Name: 22F0267-25  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

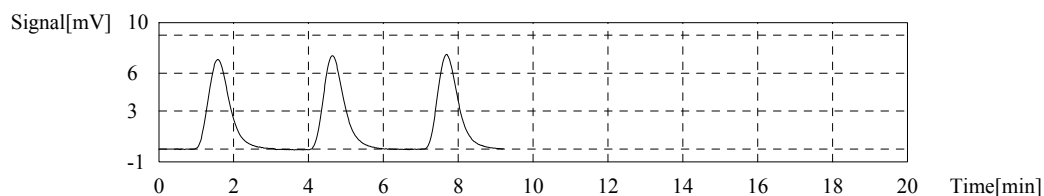
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.436mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	28.46	7.339mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:18:02 AM
2	29.03	7.486mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:22:04 AM
3	29.01	7.481mg/L	50ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:26:06 AM

Mean Area 28.83  
Mean Conc. 7.436mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Sample Name: 22F0267-26  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

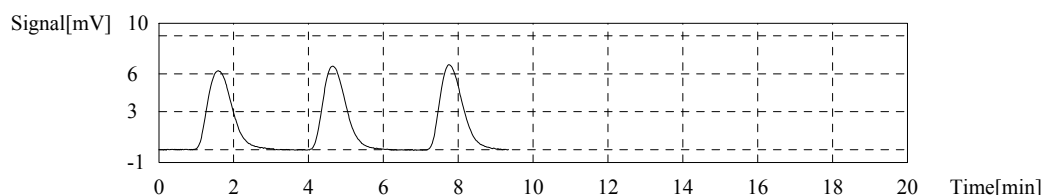
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.671mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	28.09	3.622mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:37:07 AM
2	28.49	3.674mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:41:14 AM
3	28.84	3.719mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:45:21 AM

Mean Area 28.47  
Mean Conc. 3.671mg/L



## Sample

Sample Name: 22F0267-27  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

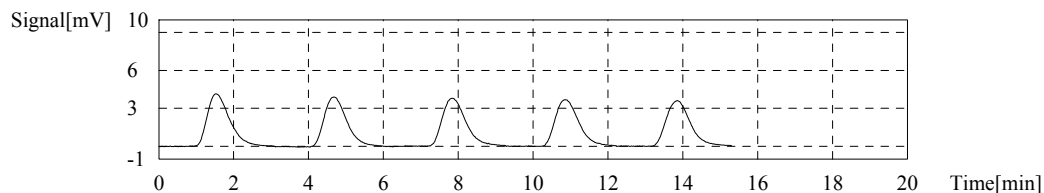
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.081mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.33	2.235mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 4:56:21 AM
2	16.71	2.155mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:00:30 AM
3	16.39	2.113mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:04:29 AM
4	16.00	2.063mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:08:25 AM
5	16.02	2.066mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:12:29 AM

Mean Area 16.14  
Mean Conc. 2.081mg/L



## Sample



# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Sample Name: BKF0659-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

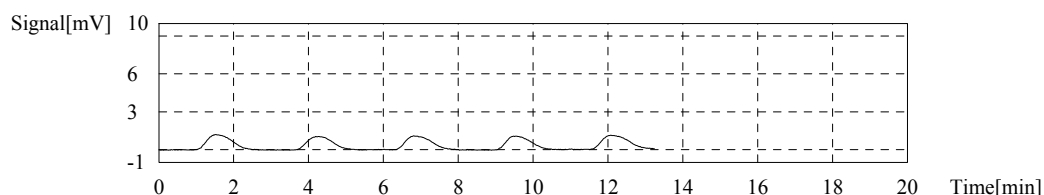
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6628mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.563	0.7173mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:23:03 AM
2	5.047	0.6508mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:26:50 AM
3	5.116	0.6597mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:30:38 AM
4	4.868	0.6277mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:34:19 AM
5	5.259	0.6781mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:38:11 AM

Mean Area 5.141  
Mean Conc. 0.6628mg/L



## Sample

Sample Name: BKF0659-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

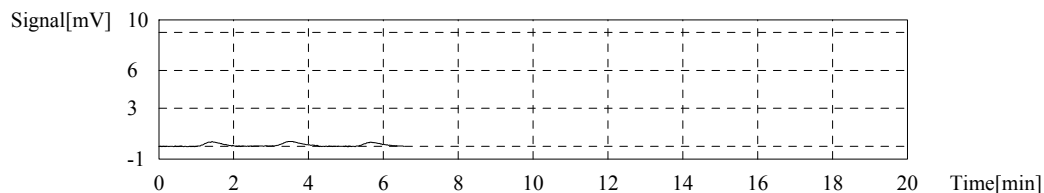
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1411mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.122	0.1447mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:48:10 AM
2	1.087	0.1402mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:52:02 AM
3	1.074	0.1385mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 5:55:57 AM

Mean Area 1.094  
Mean Conc. 0.1411mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Sample Name: BKF0659-BS1  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result

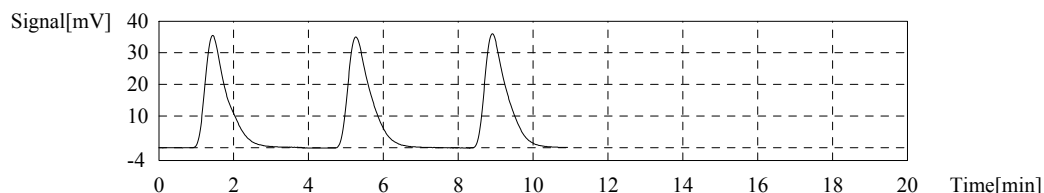
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:18.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	144.6	18.64mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:07:29 AM
2	147.8	19.06mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:12:07 AM
3	148.7	19.17mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:16:33 AM

Mean Area 147.0  
 Mean Conc. 18.96mg/L



## Sample

Sample Name: 22F0223-01  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result

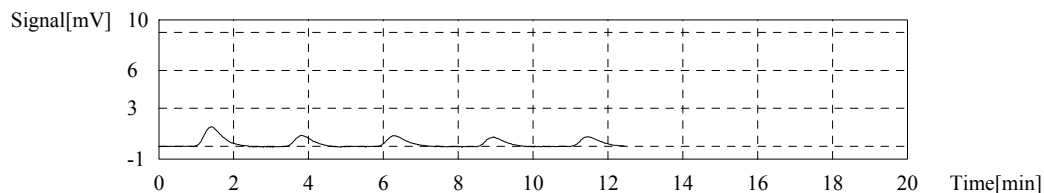
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3823mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.145	0.6634mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:26:52 AM
2	3.066	0.3953mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:30:44 AM
3	3.056	0.3940mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:34:41 AM
4	2.773	0.3576mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:38:22 AM
5	2.714	0.3499mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:42:01 AM

Mean Area 2.965  
 Mean Conc. 0.3823mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Sample Name: 22F0223-03  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

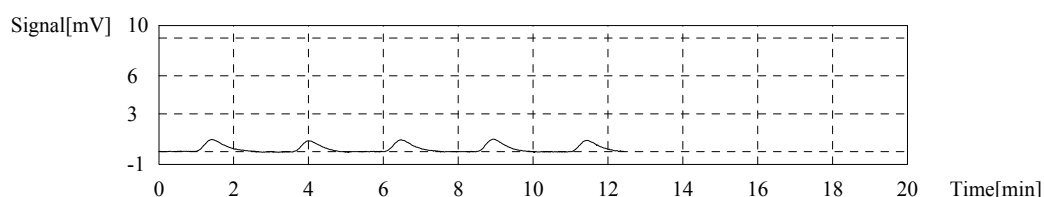
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4142mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.535	0.4558mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:52:19 AM
2	3.198	0.4124mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:55:59 AM
3	3.300	0.4255mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 6:59:46 AM
4	3.536	0.4559mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:03:35 AM
5	3.140	0.4049mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:07:17 AM

Mean Area 3.213  
Mean Conc. 0.4142mg/L



## Sample

Sample Name: 22F0223-05  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

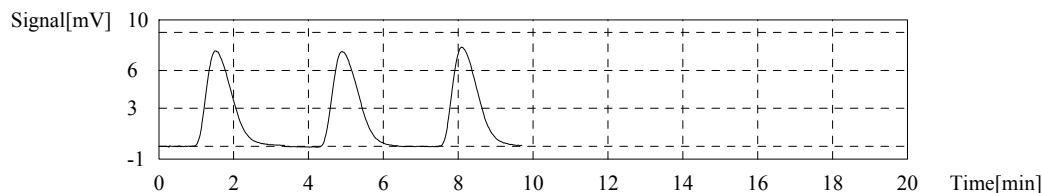
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.685mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.64	4.595mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:18:22 AM
2	36.60	4.719mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:22:35 AM
3	36.76	4.740mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:26:43 AM

Mean Area 36.33  
Mean Conc. 4.685mg/L



## Control Sample

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Sample Name: SEQ-CCV3  
 Sample ID: CVS 20  
 Method: CVS 20 ppm.tpl  
 Status: Completed  
 Chk. Result: Control value: 18.30 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

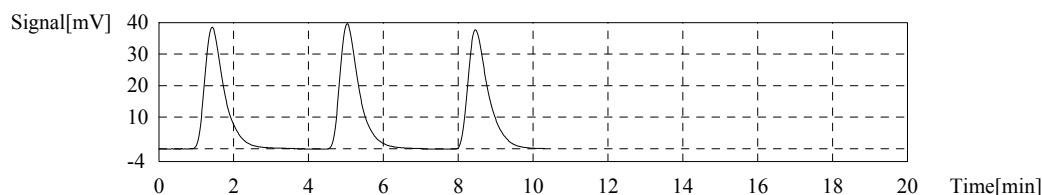
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:18.30ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	141.4	18.14ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:38:24 AM
2	143.3	18.38ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:42:49 AM
3	143.2	18.37ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:47:05 AM

Mean Area: 142.6  
 Mean Conc.: 18.30ppm



## Control Sample

Sample Name: SEQ-CCB3  
 Sample ID: ICB CCB.tpl  
 Method: Completed  
 Status: Completed  
 Chk. Result: Control value: 0.1312 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

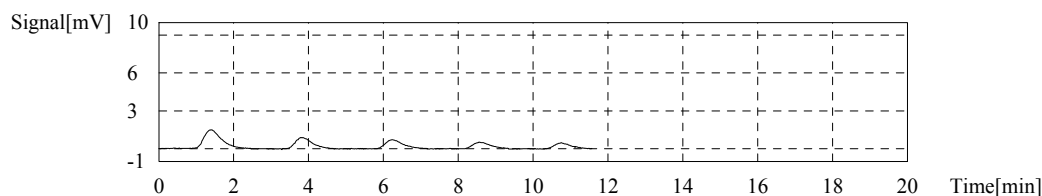
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.1312mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.788	0.5213mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 7:57:25 AM
2	3.006	0.2916mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:00:53 AM
3	2.333	0.2048mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:04:19 AM
4	1.559	0.1050mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:07:39 AM
5	1.395	0.08383mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:11:13 AM

Mean Area: 1.762  
 Mean Conc.: 0.1312mg/L



# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

## Sample

Sample Name: 22F0223-07  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

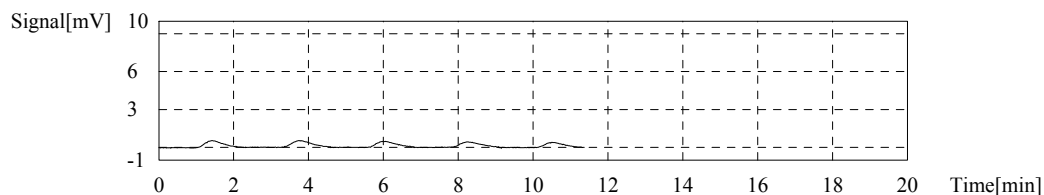
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1950mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.920	0.2476mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:21:39 AM
2	1.822	0.2349mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:25:23 AM
3	1.553	0.2002mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:29:08 AM
4	1.451	0.1871mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:32:57 AM
5	1.534	0.1978mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:36:45 AM

Mean Area 1.513  
Mean Conc. 0.1950mg/L



## Sample

Sample Name: 22F0223-09  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2197mg/L

1. Det

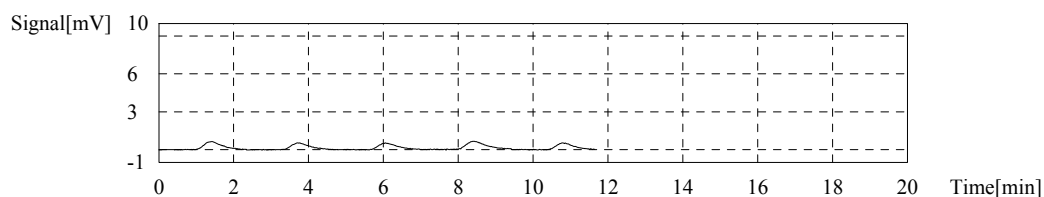
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.031	0.2619mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:46:50 AM
2	1.703	0.2196mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:50:36 AM
3	1.767	0.2278mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:54:25 AM
4	2.196	0.2832mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 8:58:16 AM
5	1.641	0.2116mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:01:52 AM

# TOC-Control L Report

RMS  
2022\_06\_29\_001.tk

Mean Area 1.704  
Mean Conc. 0.2197mg/L



## Sample

Sample Name: 22F0223-11  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

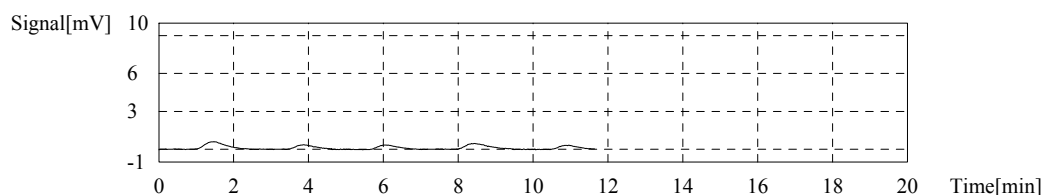
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1488mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.245	0.2895mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:12:02 AM
2	1.099	0.1417mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:15:34 AM
3	1.296	0.1671mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:19:31 AM
4	1.959	0.2526mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:23:27 AM
5	1.068	0.1377mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:26:54 AM

Mean Area 1.154  
Mean Conc. 0.1488mg/L



## Sample

Sample Name: 22F0229-19  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.558mg/L

1. Det

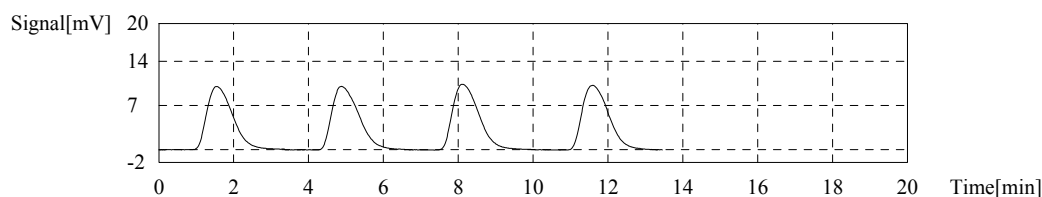
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.95	6.183mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:38:00 AM
2	50.46	6.506mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:42:13 AM
3	51.15	6.595mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:46:41 AM
4	50.97	6.572mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 9:51:06 AM

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Mean Area 50.86  
Mean Conc. 6.558mg/L



## Sample

Sample Name: 22F0229-20  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

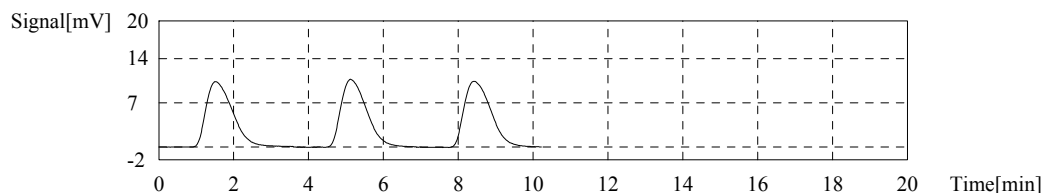
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.671mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.02	6.579mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:02:36 AM
2	51.73	6.670mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:06:54 AM
3	52.46	6.764mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:11:14 AM

Mean Area 51.74  
Mean Conc. 6.671mg/L



## Sample

Sample Name: BKF0659-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.767mg/L

1. Det

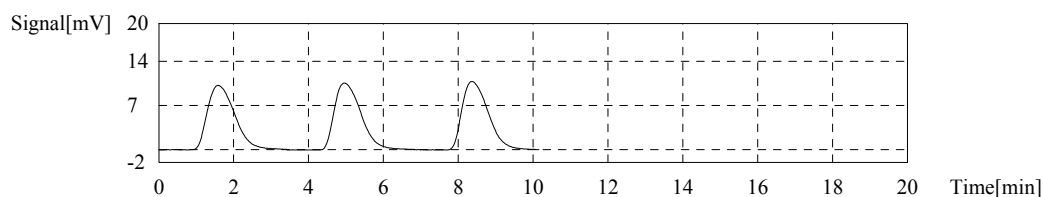
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.91	6.693mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:22:34 AM
2	52.49	6.768mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:26:58 AM
3	53.04	6.839mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:31:18 AM

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Mean Area 52.48  
Mean Conc. 6.767mg/L



## Sample

Sample Name: BKF0659-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

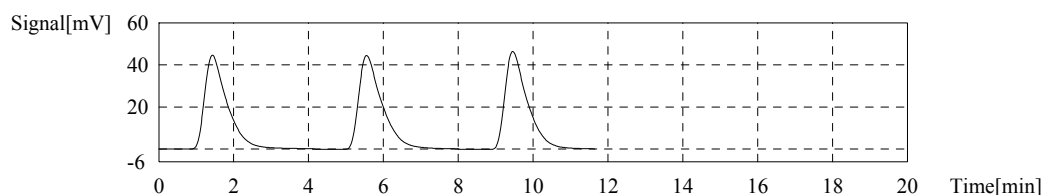
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.83mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	188.8	24.34mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:43:20 AM
2	194.2	25.04mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:48:13 AM
3	194.6	25.09mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 10:52:51 AM

Mean Area 192.5  
Mean Conc. 24.83mg/L



## Sample

Sample Name: BKF0659-MSD1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.05mg/L

1. Det

Anal.: NPOC

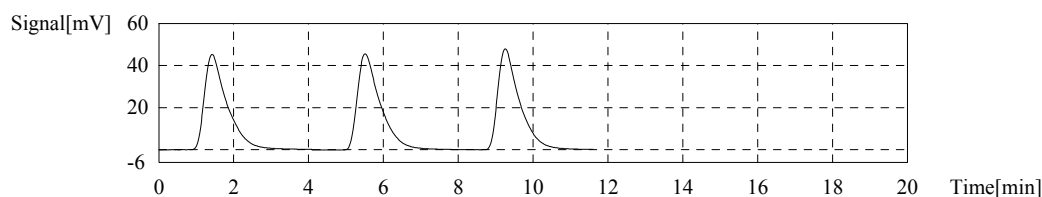
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	192.8	24.86mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:04:51 AM
2	194.5	25.08mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:09:37 AM
3	195.6	25.22mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:14:22 AM



# TOC-Control L Report

RMS  
2022\_06\_29\_001.tk

Mean Area 194.3  
Mean Conc. 25.05mg/L



## Sample

Sample Name: 22F0245-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

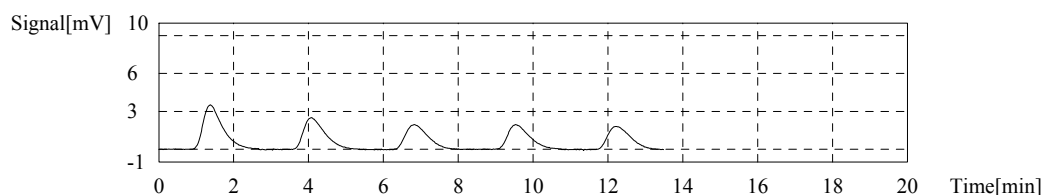
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.024mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.71	1.639mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:24:57 AM
2	9.948	1.283mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:28:45 AM
3	8.240	1.062mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:32:36 AM
4	7.742	0.9983mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:36:17 AM
5	7.853	1.013mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:40:09 AM

Mean Area 7.945  
Mean Conc. 1.024mg/L



## Sample

Sample Name: 22F0390-02  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.378mg/L

1. Det

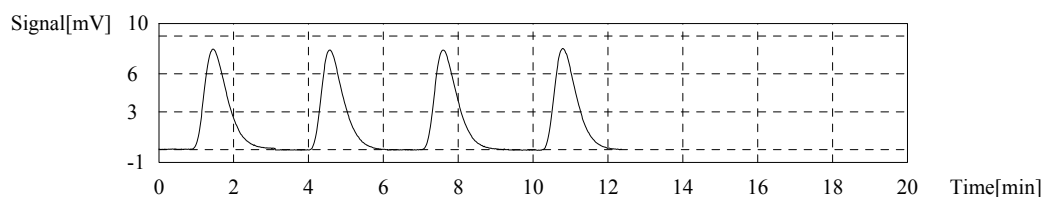
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.31	4.424mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:51:05 AM
2	32.85	4.236mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:55:05 AM
3	33.79	4.357mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 11:59:17 AM
4	33.77	4.354mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:03:19 PM

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Mean Area 33.96  
Mean Conc. 4.378mg/L



## Control Sample

Sample Name: SEQ-CCV4  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 18.02 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

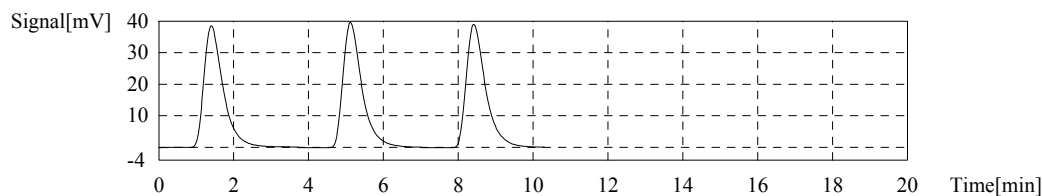
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:18.02ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	138.7	17.79ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:14:59 PM
2	141.2	18.11ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:19:15 PM
3	141.7	18.17ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:23:33 PM

Mean Area 140.5  
Mean Conc. 18.02ppm



## Control Sample

Sample Name: SEQ-CCB4  
Sample ID: ICB CCB4  
Method: ICB CCB4.tpl  
Status: Completed  
Chk. Result: Control value: 0.2503 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.2503mg/L

1. Det.

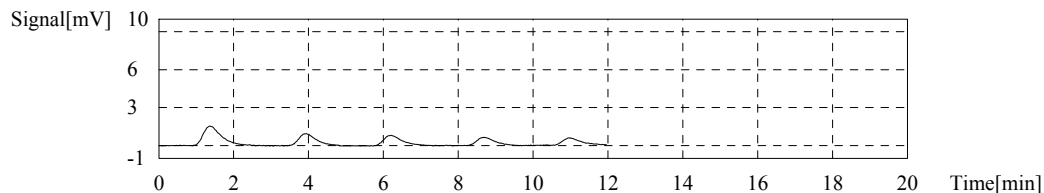
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_06\_29\_001.tk

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.117	0.5637mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:33:59 PM
2	3.023	0.2937mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:37:15 PM
3	2.878	0.2750mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:40:57 PM
4	2.158	0.1822mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:44:16 PM
5	1.879	0.1462mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:47:49 PM

Mean Area 2.686  
Mean Conc. 0.2503mg/L



## Sample

Sample Name: BKF0659-DUP2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

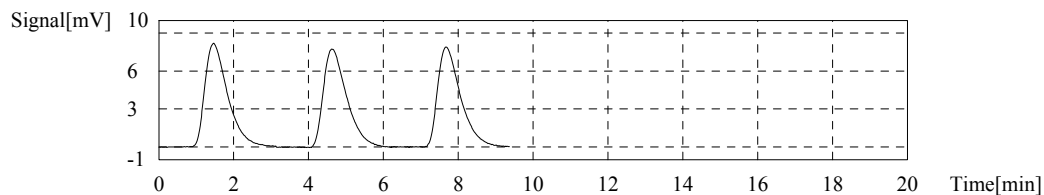
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.428mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.76	4.482mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 12:59:05 PM
2	34.22	4.412mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:03:08 PM
3	34.05	4.390mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:07:17 PM

Mean Area 34.34  
Mean Conc. 4.428mg/L



## Sample

Sample Name: BKF0659-MS2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:22.22mg/L

1. Det

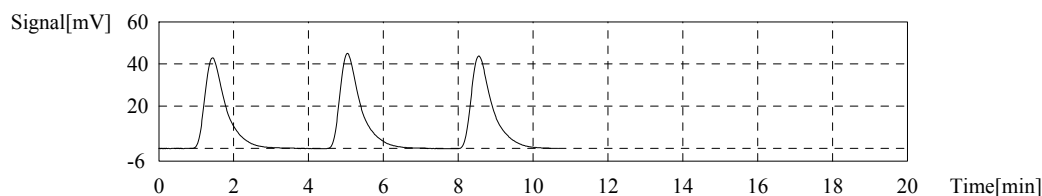
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	168.8	21.77mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:18:49 PM
2	174.5	22.50mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:23:18 PM
3	173.7	22.40mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:27:50 PM

Mean Area 172.3  
Mean Conc. 22.22mg/L



## Sample

Sample Name: 22F0444-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

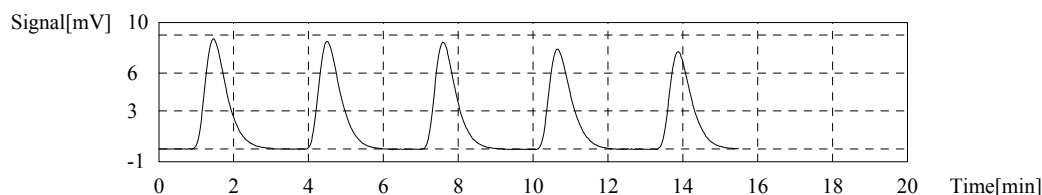
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.410mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.80	4.616mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:38:47 PM
2	35.11	4.527mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:42:53 PM
3	33.98	4.381mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:46:56 PM
4	33.52	4.322mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:51:09 PM
5	31.93	4.117mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 1:55:14 PM

Mean Area 34.20  
Mean Conc. 4.410mg/L



## Control Sample

Sample Name: SEQ-CCV5  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 17.81 / Control exceeds range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:17.81ppm

1. Det.

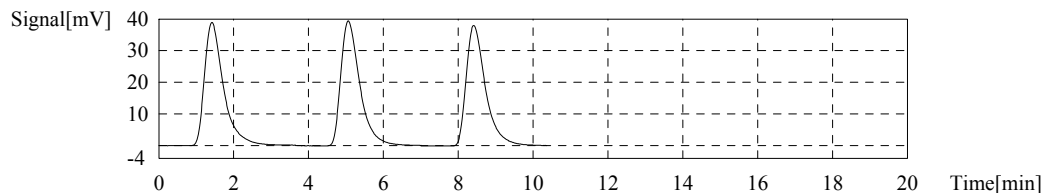
# TOC-Control L Report

RMS  
2022\_06\_29\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	138.8	17.80ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:07:04 PM
2	140.5	18.02ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:11:25 PM
3	137.4	17.62ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:15:47 PM

Mean Area 138.9  
Mean Conc. 17.81ppm



## Control Sample

Sample Name: SEQ-CCB5  
Sample ID:  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.2123 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

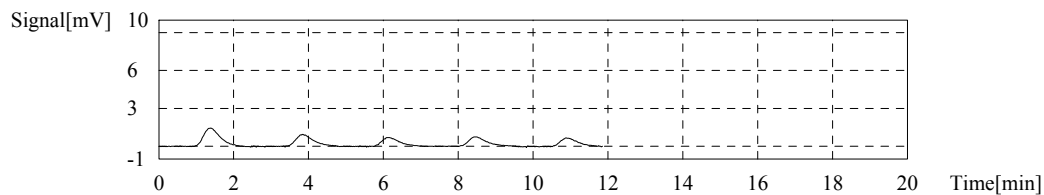
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.2123mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.775	0.5196mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:26:09 PM
2	2.969	0.2868mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:29:29 PM
3	2.395	0.2128mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:33:01 PM
4	2.540	0.2315mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:36:37 PM
5	2.240	0.1928mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/29/2022 2:40:00 PM

Mean Area 2.392  
Mean Conc. 0.2123mg/L







### INITIAL CALIBRATION DATA

#### EPA 9060A

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Calibration: FF00006

Instrument: TOC-LCSH

Calibration Date: 05/31/2022 17:36

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	24.995	7.885577	49.99	7.74955								





# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Instr.Information

Instrument Options  
Catalyst

TOC/ASI/IC Unit/  
Regular Sensitivity

## Sample

Sample Name: Rinse  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

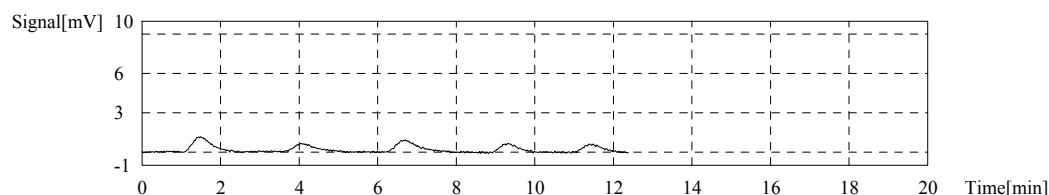
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3697mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.600	0.7451mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:22:23 PM
2	2.332	0.3777mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:25:57 PM
3	3.424	0.5546mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:29:39 PM
4	2.022	0.3275mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:32:48 PM
5	2.493	0.4038mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_26_18_34_43.cal	5/31/2022 5:36:38 PM

Mean Area 2.282  
Mean Conc. 0.3697mg/L



## Cal. Curve

Sample Name: SEQ-CAL  
Sample ID: Curve  
Cal. Curve: NPOC 0.5 - 50 ppm.2022\_05\_31\_17\_36\_39.cal  
Status: Completed

Type	Anal.
Standard	NPOC

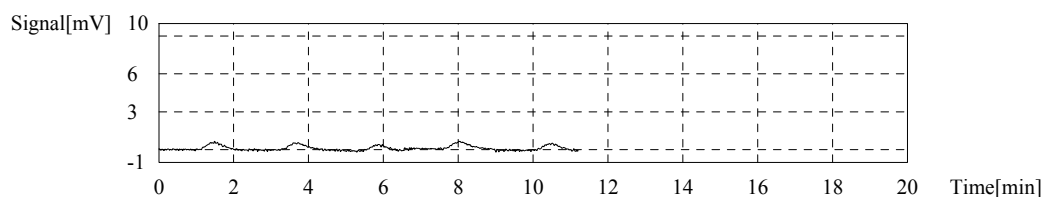
Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.911	100uL	1.000	*****	E	5/31/2022 5:44:26 PM
2	1.624	100uL	1.000	*****		5/31/2022 5:47:58 PM
3	1.563	100uL	1.000	*****		5/31/2022 5:51:27 PM
4	2.595	100uL	1.000	*****	E	5/31/2022 5:55:18 PM
5	1.845	100uL	1.000	*****		5/31/2022 5:58:39 PM

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

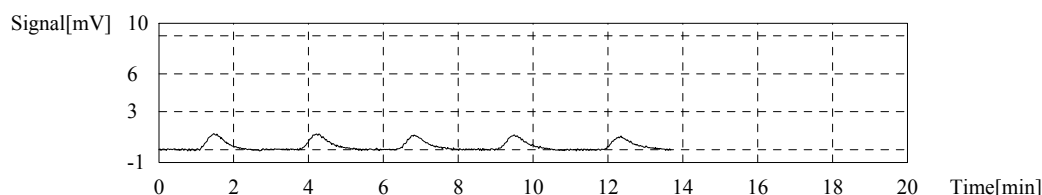
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 1.677



Conc: 0.5000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.032	100uL	10.00	*****		5/31/2022 6:10:04 PM
2	4.824	100uL	10.00	*****		5/31/2022 6:14:51 PM
3	4.505	100uL	10.00	*****	E	5/31/2022 6:19:47 PM
4	4.954	100uL	10.00	*****		5/31/2022 6:24:48 PM
5	4.250	100uL	10.00	*****	E	5/31/2022 6:29:46 PM

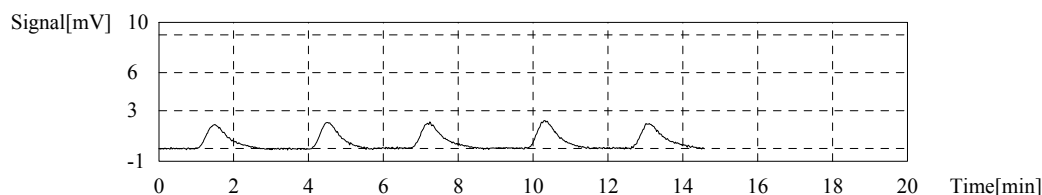
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 4.937



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	8.300	100uL	5.000	*****		5/31/2022 6:39:10 PM
2	8.406	100uL	5.000	*****		5/31/2022 6:42:50 PM
3	9.510	100uL	5.000	*****	E	5/31/2022 6:47:11 PM
4	8.847	100uL	5.000	*****	E	5/31/2022 6:50:56 PM
5	8.631	100uL	5.000	*****		5/31/2022 6:54:54 PM

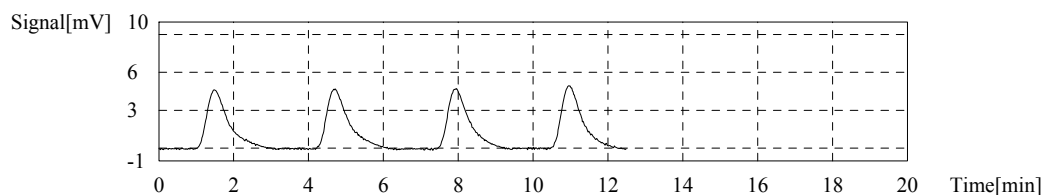
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 8.446



Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	19.65	100uL	2.000	*****		5/31/2022 7:04:37 PM
2	21.03	100uL	2.000	*****	E	5/31/2022 7:08:50 PM
3	19.92	100uL	2.000	*****		5/31/2022 7:12:52 PM
4	19.98	100uL	2.000	*****		5/31/2022 7:16:56 PM

Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 19.85



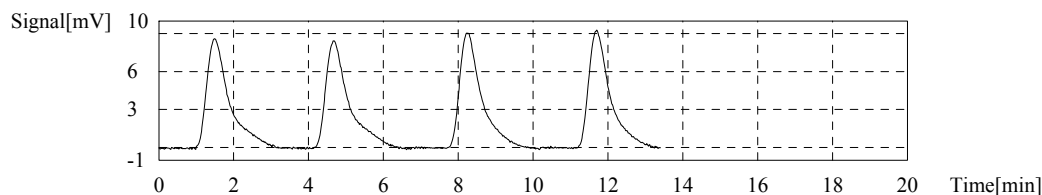
Conc: 5.000mg/L

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	37.04	100uL	1.000	*****	E	5/31/2022 7:26:03 PM
2	38.32	100uL	1.000	*****		5/31/2022 7:30:37 PM
3	38.89	100uL	1.000	*****		5/31/2022 7:35:04 PM
4	37.77	100uL	1.000	*****		5/31/2022 7:39:21 PM

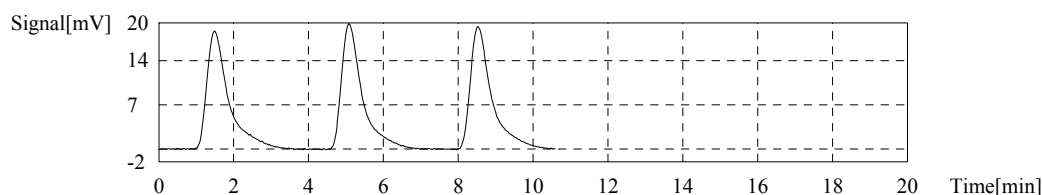
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 38.33



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	76.83	100uL	5.000	*****		5/31/2022 7:51:27 PM
2	77.46	100uL	5.000	*****		5/31/2022 7:55:53 PM
3	77.63	100uL	5.000	*****		5/31/2022 8:00:32 PM

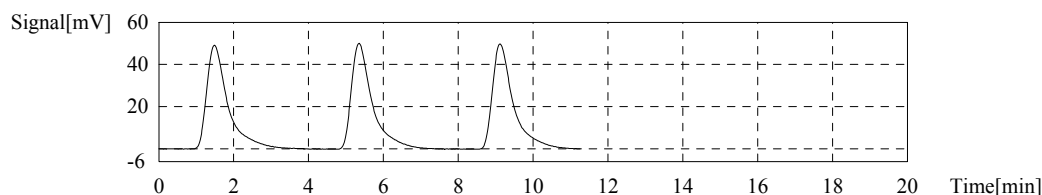
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 77.31



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	197.1	100uL	2.000	*****		5/31/2022 8:10:55 PM
2	197.0	100uL	2.000	*****		5/31/2022 8:15:41 PM
3	195.5	100uL	2.000	*****		5/31/2022 8:20:18 PM

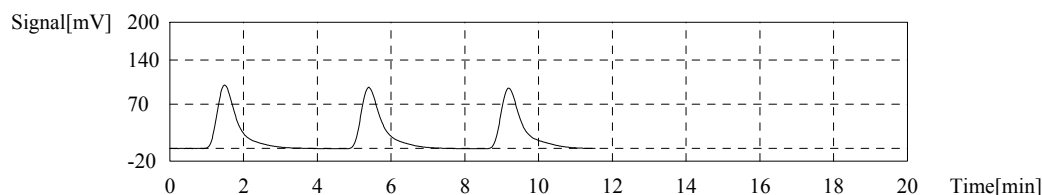
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 196.5



Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	387.4	100uL	1.000	*****		5/31/2022 8:30:07 PM
2	387.4	100uL	1.000	*****		5/31/2022 8:34:54 PM
3	388.9	100uL	1.000	*****		5/31/2022 8:39:45 PM

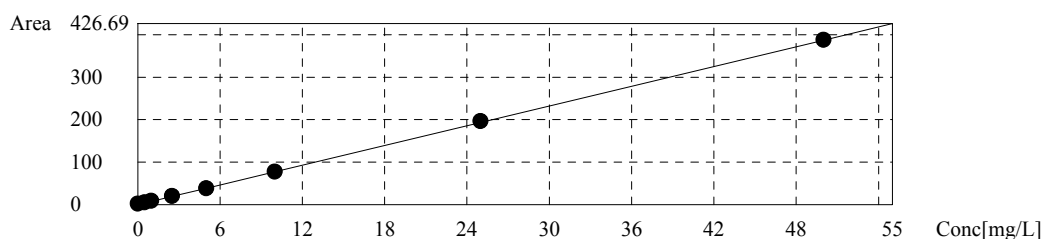
Acid Add. 1.500%  
Spurge Gas Flow 80ml  
Sp. Time 90.00sec  
Mean Area 387.9



# TOC-Control L Report

RMS  
2022\_05\_31\_001.tk

Slope: 7.756  
Intercept: 0.000  
r<sup>2</sup>: 0.9999  
r: 1.0000  
Zero Shift: Yes



## Control Sample

Sample Name: SEQ-ICV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.58 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

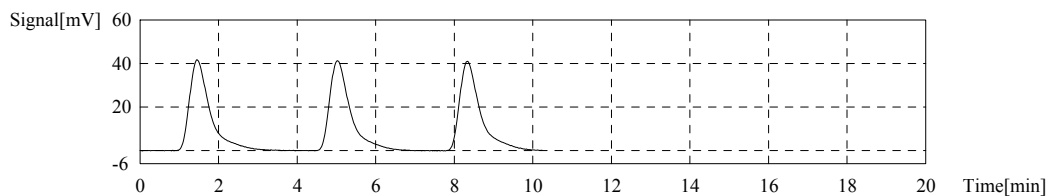
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.58ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	153.0	19.63ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:51:13 PM
2	152.5	19.57ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:55:31 PM
3	152.2	19.53ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 8:59:53 PM

Mean Area: 152.6  
Mean Conc.: 19.58ppm



## Control Sample

Sample Name: SEQ-ICB1  
Sample ID: ICB CCB.tpl  
Method: Completed  
Status: Completed  
Chk. Result: Control value: -0.03005 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:-0.03005mg/L

1. Det.

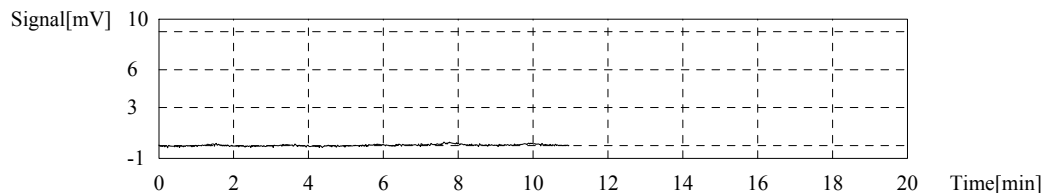
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5983	-0.01890mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:09:44 PM
2	1.017	0.03509mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:13:45 PM
3	0.4378	-0.03959mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:16:41 PM
4	1.159	0.05340mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:20:38 PM
5	0.4993	-0.03166mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:24:28 PM

Mean Area 0.5118  
Mean Conc. -0.03005mg/L



## Sample

Sample Name: SEQ-IFA1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

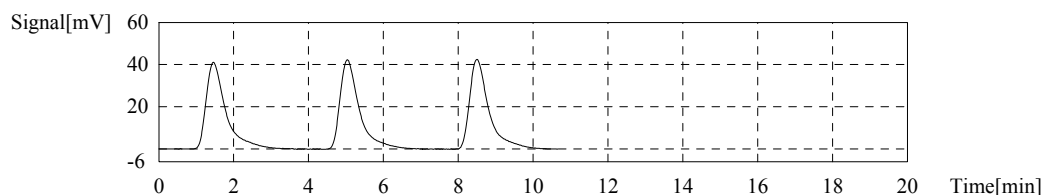
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.76mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:35:51 PM
2	153.3	19.77mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:40:30 PM
3	154.5	19.92mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:45:07 PM

Mean Area 153.2  
Mean Conc. 19.76mg/L



## Sample

Sample Name: 22E0168-01RE2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1382mg/L

1. Det

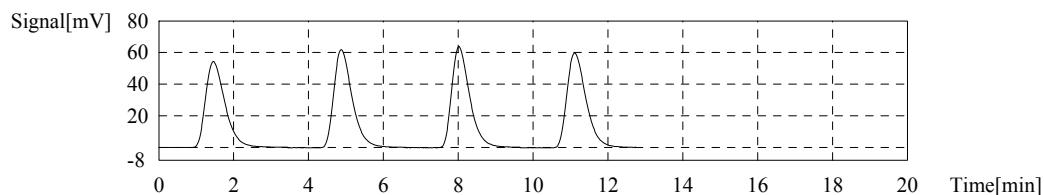
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	198.1	1277mg/L	50ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 9:56:53 PM
2	213.5	1376mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:01:27 PM
3	215.6	1390mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:06:13 PM
4	213.8	1378mg/L	50ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:11:06 PM

Mean Area 214.3  
Mean Conc. 1382mg/L



## Sample

Sample Name: BKE0597-MS2  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

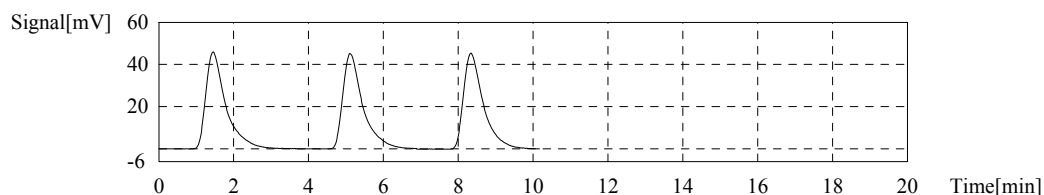
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.93mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	172.8	22.28mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:22:28 PM
2	168.9	21.78mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:26:55 PM
3	168.6	21.74mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:31:12 PM

Mean Area 170.1  
Mean Conc. 21.93mg/L



## Sample

Sample Name: BKE0671-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6118mg/L

1. Det

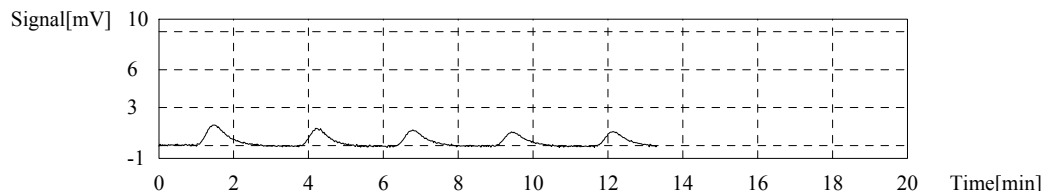
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.233	0.8037mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:41:52 PM
2	5.496	0.7087mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:45:25 PM
3	4.790	0.6176mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:49:19 PM
4	4.878	0.6290mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:53:10 PM
5	4.567	0.5889mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 10:56:54 PM

Mean Area 4.745  
Mean Conc. 0.6118mg/L



## Sample

Sample Name: BKE0671-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

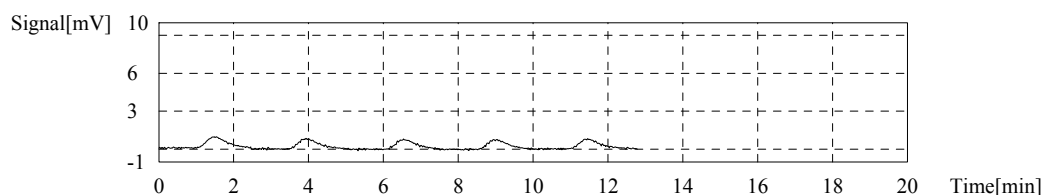
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4297mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.429	0.4421mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:07:14 PM
2	3.432	0.4425mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:11:10 PM
3	2.871	0.3702mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:14:48 PM
4	3.137	0.4045mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:18:36 PM
5	3.877	0.4999mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:22:46 PM

Mean Area 3.333  
Mean Conc. 0.4297mg/L



## Sample

Sample Name: BKE0671-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.41mg/L

1. Det

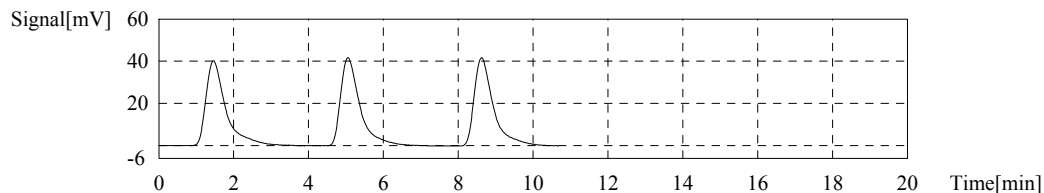
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	149.4	19.26mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:34:16 PM
2	151.4	19.52mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:38:57 PM
3	150.9	19.46mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:43:28 PM

Mean Area 150.6  
Mean Conc. 19.41mg/L



## Sample

Sample Name: 22E0168-01DOC  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

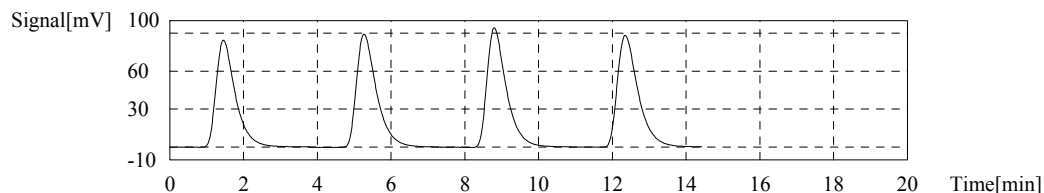
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1342mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	313.1	1211mg/L	100ul	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	5/31/2022 11:55:37 PM
2	342.6	1325mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:00:14 AM
3	349.4	1352mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:05:04 AM
4	349.0	1350mg/L	100ul	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:09:57 AM

Mean Area 347.0  
Mean Conc. 1342mg/L



## Sample

Sample Name: BKE0671-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1341mg/L

1. Det

Anal.: NPOC

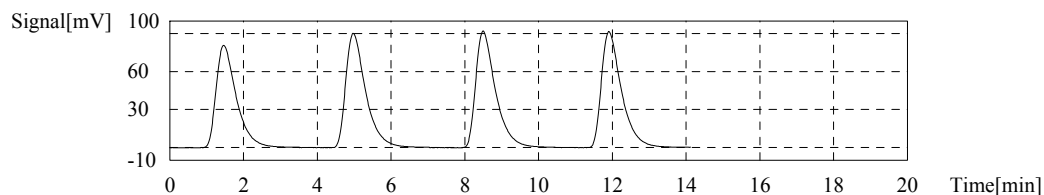


# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	310.5	1201mg/L	100uL	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:21:38 AM
2	343.2	1328mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:26:29 AM
3	345.9	1338mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:31:23 AM
4	350.8	1357mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:36:29 AM

Mean Area 346.6  
Mean Conc. 1341mg/L



## Sample

Sample Name: BKE0671-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

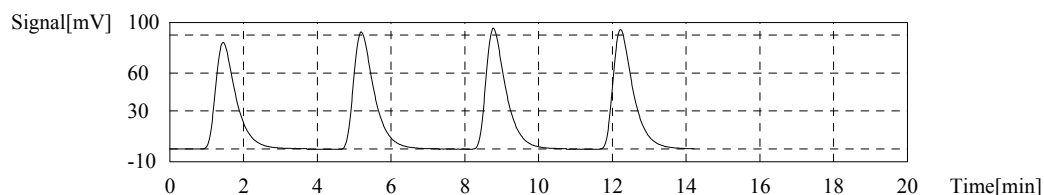
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1410mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	328.8	1272mg/L	100uL	30.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:48:22 AM
2	364.8	1411mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:53:06 AM
3	364.4	1410mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:57:50 AM
4	364.7	1411mg/L	100uL	30.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:02:44 AM

Mean Area 364.6  
Mean Conc. 1410mg/L



## Sample

Sample Name: BKE0672-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6881mg/L

1. Det

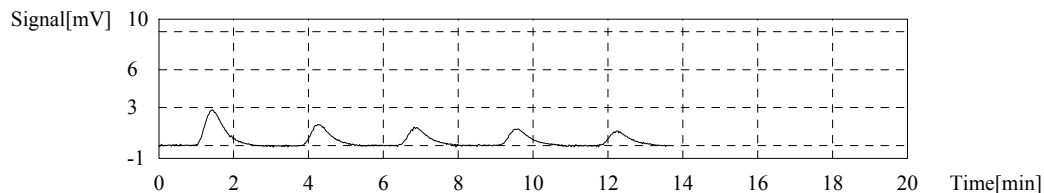
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.54	1.359mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:13:15 AM
2	6.563	0.8462mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:16:52 AM
3	5.620	0.7246mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:20:45 AM
4	5.170	0.6666mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:24:30 AM
5	5.219	0.6729mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:28:32 AM

Mean Area 5.336  
Mean Conc. 0.6881mg/L



## Control Sample

Sample Name: SEQ-CCV1  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.37 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

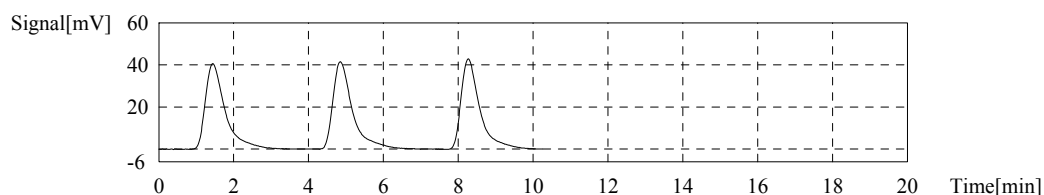
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.37ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.0	19.37ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:39:57 AM
2	151.4	19.43ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:44:34 AM
3	150.6	19.32ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:48:59 AM

Mean Area 151.0  
Mean Conc. 19.37ppm



## Control Sample

Sample Name: SEQ-CCB1  
Sample ID: ICB CCB.tpl  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: -0.02800 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

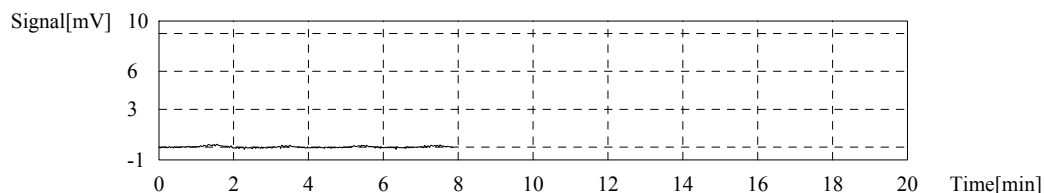
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:-0.02800mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4944	-0.03230mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:58:50 AM
2	0.9650	0.02838mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:02:24 AM
3	0.5263	-0.02818mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:05:52 AM
4	0.5625	-0.02351mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:09:17 AM

Mean Area            0.5277  
Mean Conc.           -0.02800mg/L



## Sample

Sample Name:                    BKE0672-BLK1  
Sample ID:  
Origin:                            NPOC 0.5 - 50 ppm.cal  
Status                            Completed  
Chk. Result

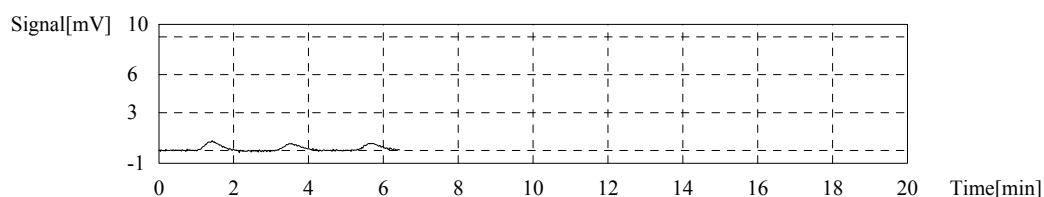
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2681mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.139	0.2758mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:19:15 AM
2	2.096	0.2703mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:23:07 AM
3	2.002	0.2581mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:26:58 AM

Mean Area            2.079  
Mean Conc.           0.2681mg/L



## Sample

Sample Name:                    BKE0672-BS1  
Sample ID:  
Origin:                            NPOC 0.5 - 50 ppm.cal  
Status                            Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

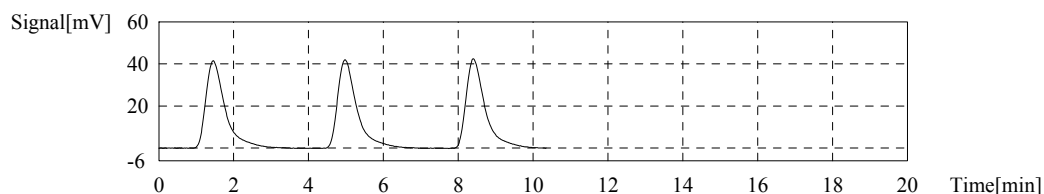
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.52mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	150.5	19.41mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:38:12 AM
2	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:42:41 AM
3	151.8	19.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:47:05 AM

Mean Area 151.4  
Mean Conc. 19.52mg/L



## Sample

Sample Name: 22E0218-01DOC  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

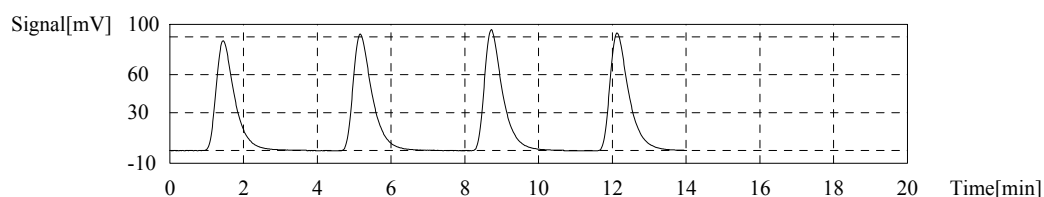
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1074mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	307.6	991.6mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:59:08 AM
2	333.0	1073mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:03:50 AM
3	330.7	1066mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:08:31 AM
4	336.1	1083mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:13:19 AM

Mean Area 333.3  
Mean Conc. 1074mg/L



## Sample

Sample Name: BKE0672-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

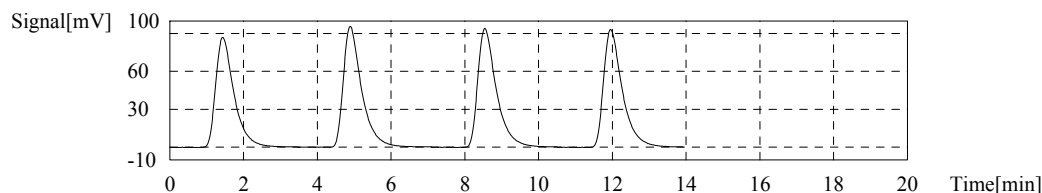
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1073mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	303.9	979.6mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:24:56 AM
2	333.1	1074mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:30:05 AM
3	333.0	1073mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:34:43 AM
4	332.5	1072mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:39:34 AM

Mean Area 332.9  
Mean Conc. 1073mg/L



## Sample

Sample Name: BKE0672-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

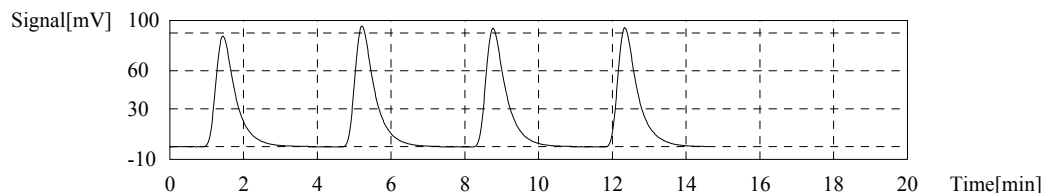
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1157mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	331.2	1068mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:51:31 AM
2	360.4	1162mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 3:56:09 AM
3	358.7	1156mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:01:02 AM
4	357.9	1154mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:05:58 AM

Mean Area 359.0  
Mean Conc. 1157mg/L



## Sample

Sample Name: BKE0673-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

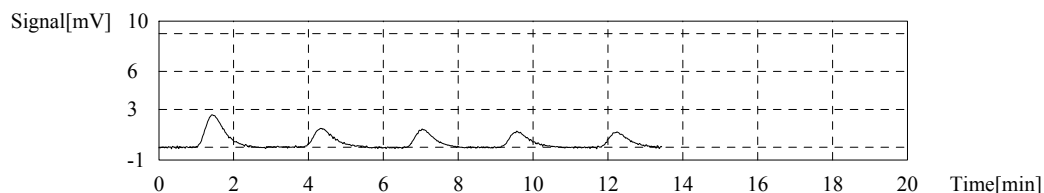
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6560mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.49	1.353mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:16:33 AM
2	6.345	0.8181mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:20:16 AM
3	5.183	0.6683mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:23:50 AM
4	4.618	0.5954mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:27:45 AM
5	5.461	0.7041mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:31:34 AM

Mean Area 5.087  
Mean Conc. 0.6560mg/L



## Sample

Sample Name: BKE0673-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

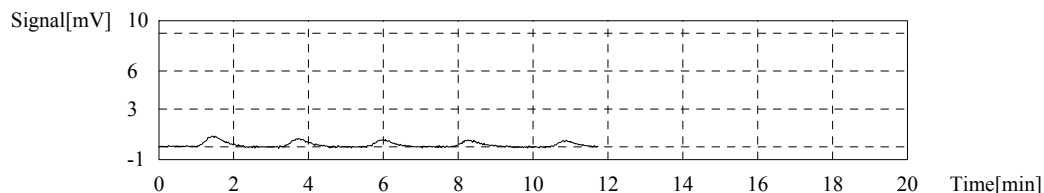
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2503mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.601	0.3354mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:41:41 AM
2	2.299	0.2964mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:45:28 AM
3	1.831	0.2361mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:49:16 AM
4	2.078	0.2679mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:53:21 AM
5	1.915	0.2469mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 4:56:53 AM

Mean Area 1.941  
Mean Conc. 0.2503mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_05\_31\_001.th

Sample Name: BKE0673-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

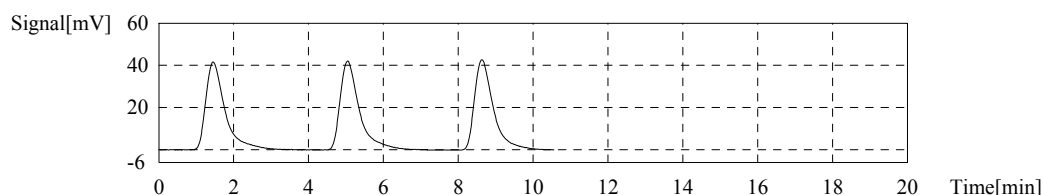
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.58mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.2	19.50mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:08:19 AM
2	152.5	19.66mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:12:55 AM
3	151.9	19.59mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:17:26 AM

Mean Area 151.9  
Mean Conc. 19.58mg/L



## Sample

Sample Name: 22E0218-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

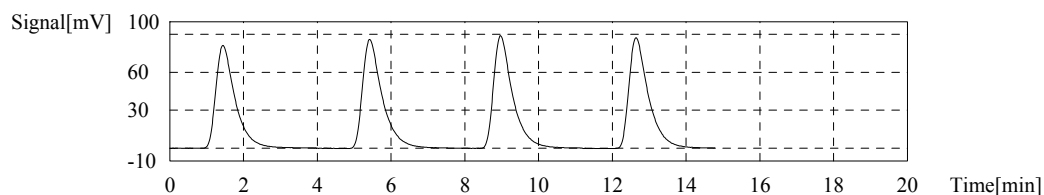
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1042mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	299.5	965.4mg/L	100ul	25.00	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:29:46 AM
2	321.9	1038mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:34:20 AM
3	323.4	1042mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:39:19 AM
4	324.4	1046mg/L	100ul	25.00		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:44:05 AM

Mean Area 323.2  
Mean Conc. 1042mg/L



## Sample

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Sample Name: 22E0248-01  
 Sample ID:  
 Origin: NPOC 0.5 - 50 ppm.cal  
 Status: Completed  
 Chk. Result

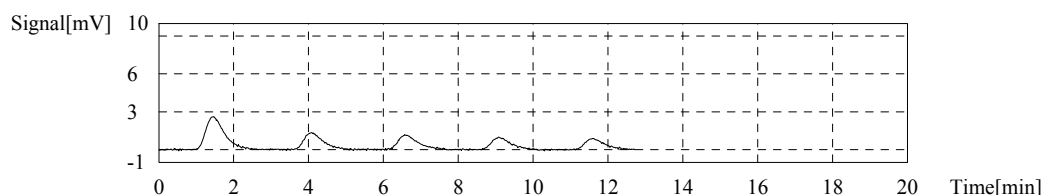
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4831mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.125	1.177mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:54:26 AM
2	5.050	0.6512mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 5:58:10 AM
3	4.213	0.5432mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:01:55 AM
4	3.685	0.4751mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:05:43 AM
5	3.343	0.4310mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:09:36 AM

Mean Area 3.747  
 Mean Conc. 0.4831mg/L



## Control Sample

Sample Name: SEQ-CCV2  
 Sample ID: CVS 20  
 Method: CVS 20 ppm.tpl  
 Status: Completed  
 Chk. Result: Control value: 19.25 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

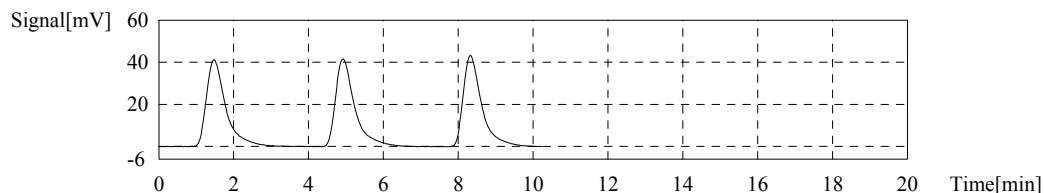
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.25ppm

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	149.6	19.19ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:21:01 AM
2	150.1	19.26ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:25:26 AM
3	150.4	19.30ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:29:47 AM

Mean Area 150.0  
 Mean Conc. 19.25ppm





# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Control Sample

Sample Name: SEQ-CCB2  
Sample ID:  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.00755 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

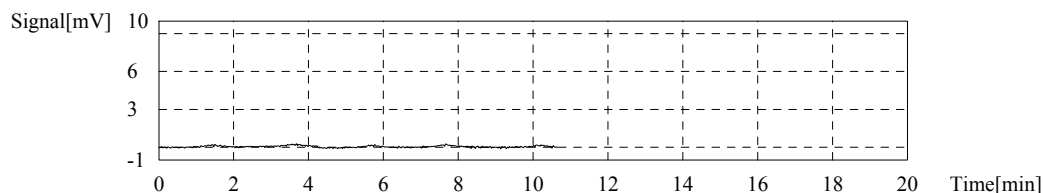
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.00755mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.9110	0.02142mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:39:51 AM
2	0.5447	-0.02581mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:43:15 AM
3	0.3358	-0.05275mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:46:45 AM
4	0.7827	0.00488mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:50:49 AM
5	0.7166	-0.00364mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 6:53:44 AM

Mean Area: 0.8034  
Mean Conc.: 0.00755mg/L



## Sample

Sample Name: BKE0673-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result:

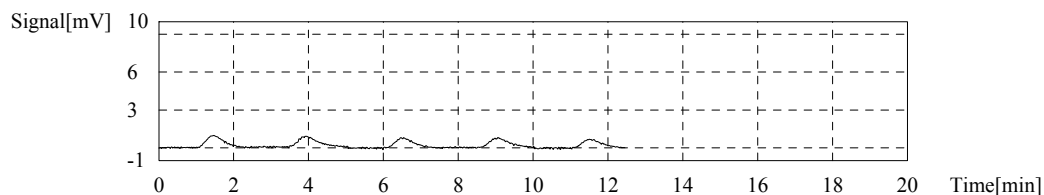
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3576mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.648	0.4704mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:04:14 AM
2	3.494	0.4505mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:08:10 AM
3	2.856	0.3683mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:11:52 AM
4	3.017	0.3890mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:15:36 AM
5	2.446	0.3154mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:19:20 AM

Mean Area: 2.773  
Mean Conc.: 0.3576mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: BKE0673-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

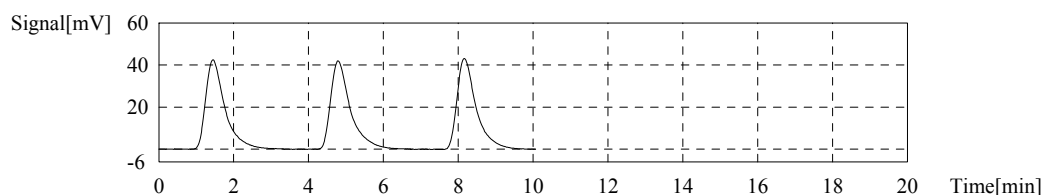
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.8	19.70mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:30:24 AM
2	156.1	20.13mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:34:50 AM
3	155.6	20.06mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:39:11 AM

Mean Area 154.8  
Mean Conc. 19.96mg/L



## Sample

Sample Name: BKE0673-MSD1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

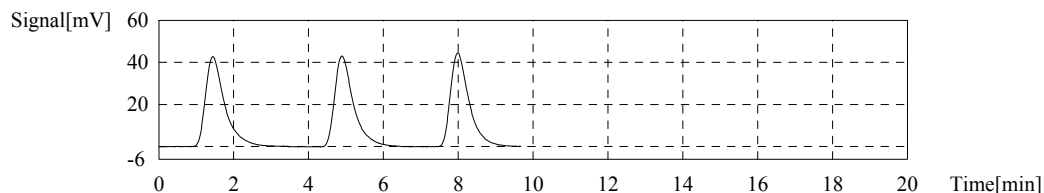
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.92mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.4	20.04mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:50:41 AM
2	152.5	19.66mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:54:54 AM
3	155.6	20.06mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 7:59:04 AM

Mean Area 154.5  
Mean Conc. 19.92mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: 22E0252-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

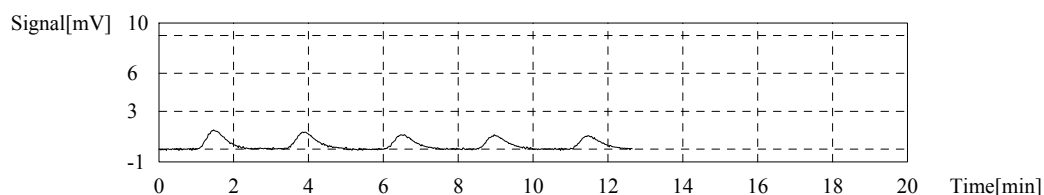
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5505mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.388	0.6947mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:09:23 AM
2	5.300	0.6834mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:13:25 AM
3	4.330	0.5583mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:17:02 AM
4	4.029	0.5195mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:20:51 AM
5	4.450	0.5738mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:24:48 AM

Mean Area 4.270  
Mean Conc. 0.5505mg/L



## Sample

Sample Name: 22E0252-02  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

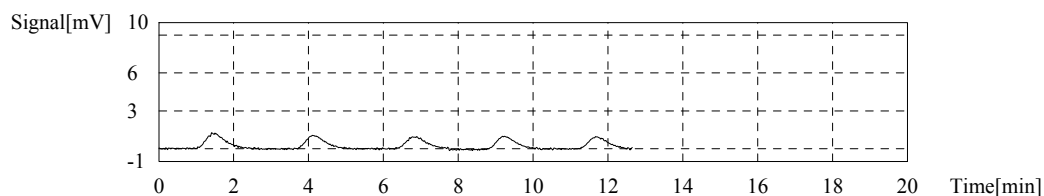
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5175mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.667	0.6018mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:35:21 AM
2	4.121	0.5314mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:39:15 AM
3	3.792	0.4889mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:42:46 AM
4	4.128	0.5323mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:46:35 AM
5	3.566	0.4598mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 8:50:22 AM

Mean Area 4.014  
Mean Conc. 0.5175mg/L



# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

## Sample

Sample Name: 22E0252-03  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

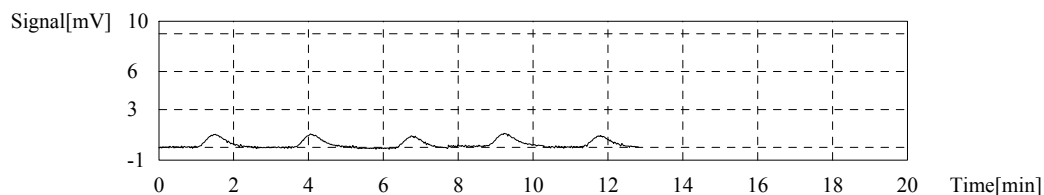
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4816mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.453	0.5742mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:00:41 AM
2	4.080	0.5261mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:04:39 AM
3	3.885	0.5009mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:08:11 AM
4	3.706	0.4779mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:12:07 AM
5	3.614	0.4660mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:15:52 AM

Mean Area 3.735  
Mean Conc. 0.4816mg/L



## Sample

Sample Name: 22E0252-04  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3039mg/L

1. Det

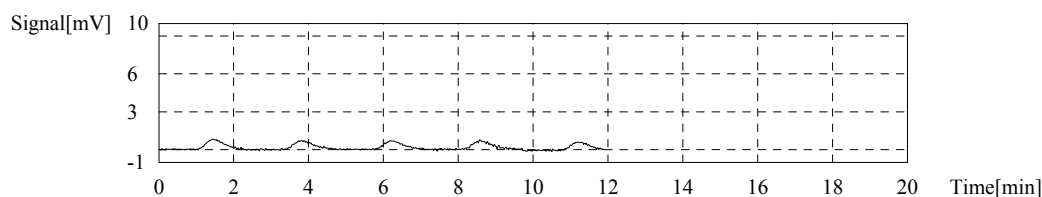
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.929	0.3777mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:26:13 AM
2	2.521	0.3251mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:30:04 AM
3	2.322	0.2994mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:33:49 AM
4	3.117	0.4019mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:37:51 AM
5	2.227	0.2872mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:41:22 AM

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Mean Area 2.357  
Mean Conc. 0.3039mg/L



## Sample

Sample Name: 22E0252-05  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

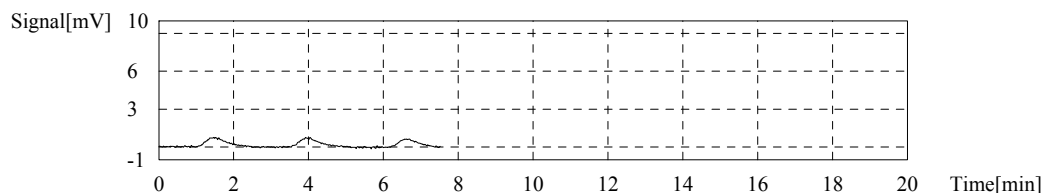
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3631mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.712	0.3497mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:51:36 AM
2	2.888	0.3724mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:55:32 AM
3	2.847	0.3671mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 9:59:05 AM

Mean Area 2.816  
Mean Conc. 0.3631mg/L



## Sample

Sample Name: 22E0252-06  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1941mg/L

1. Det

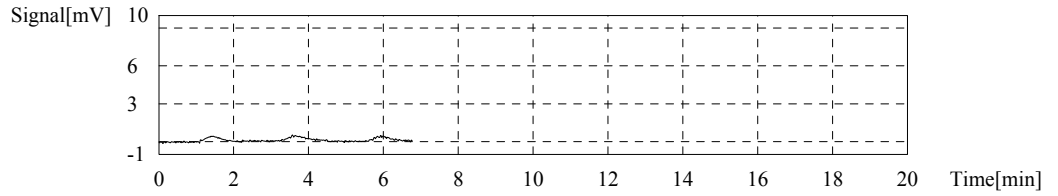
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.581	0.2039mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:09:05 AM
2	1.503	0.1938mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:12:58 AM
3	1.431	0.1845mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:16:45 AM

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Mean Area 1.505  
Mean Conc. 0.1941mg/L



## Sample

Sample Name: BKE0674-MRL1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

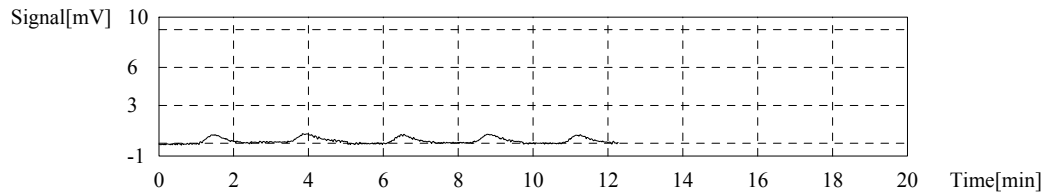
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3351mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.952	0.3806mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:27:07 AM
2	2.613	0.3369mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:31:02 AM
3	2.479	0.3196mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:34:40 AM
4	2.194	0.2829mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:38:34 AM
5	2.704	0.3487mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:42:30 AM

Mean Area 2.599  
Mean Conc. 0.3351mg/L



## Control Sample

Sample Name: SEQ-CCV3  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.55 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.55ppm

1. Det

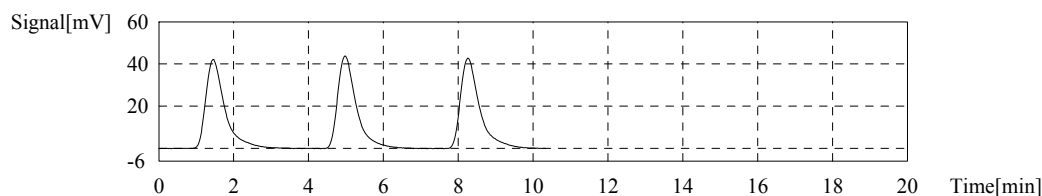
Anal.: NPOC

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	150.4	19.30ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:54:20 AM
2	152.6	19.58ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 10:58:52 AM
3	154.2	19.79ppm	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:03:24 AM

Mean Area 152.4  
Mean Conc. 19.55ppm



## Control Sample

Sample Name: SEQ-CCB3  
Sample ID:  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.09358 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

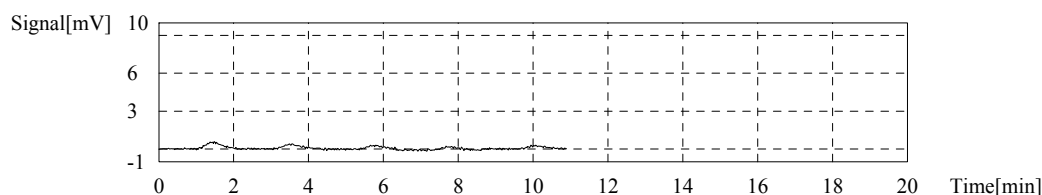
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.09358mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.577	0.1073mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:13:23 AM
2	1.054	0.03986mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:17:02 AM
3	1.500	0.09737mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:20:19 AM
4	1.229	0.06242mg/L	100uL	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:24:05 AM
5	1.335	0.07609mg/L	100uL	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:27:44 AM

Mean Area 1.471  
Mean Conc. 0.09358mg/L



## Sample

Sample Name: BKE0674-BLK1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1270mg/L

1. Det

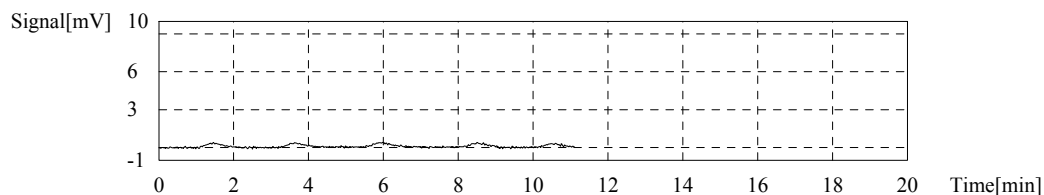
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.119	0.1443mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:38:00 AM
2	1.310	0.1689mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:41:54 AM
3	1.816	0.2342mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:45:59 AM
4	0.8474	0.1093mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:49:14 AM
5	0.9886	0.1275mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 11:53:03 AM

Mean Area 0.9850  
Mean Conc. 0.1270mg/L



## Sample

Sample Name: BKE0674-BS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

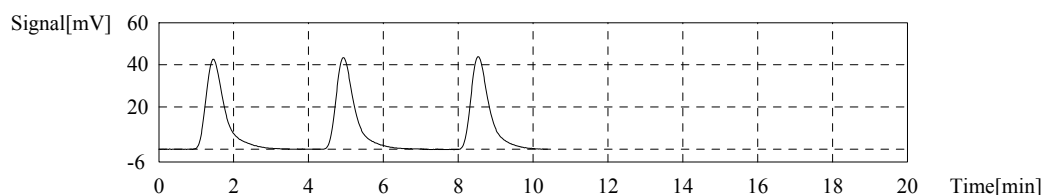
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.67mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.8	19.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:04:35 PM
2	153.2	19.75mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:09:10 PM
3	152.6	19.68mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:13:28 PM

Mean Area 152.5  
Mean Conc. 19.67mg/L



## Sample

Sample Name: 22E0196-01  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7807mg/L

1. Det



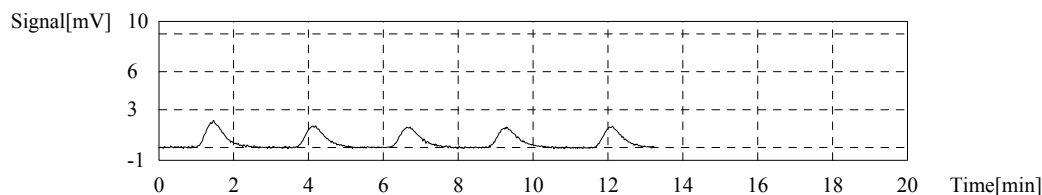
# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.269	0.9373mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:24:03 PM
2	5.875	0.7575mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:27:40 PM
3	6.212	0.8010mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:31:34 PM
4	6.822	0.8796mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:35:33 PM
5	6.078	0.7837mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:39:10 PM

Mean Area  
Mean Conc. 0.7807mg/L



## Sample

Sample Name: BKE0674-DUP1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

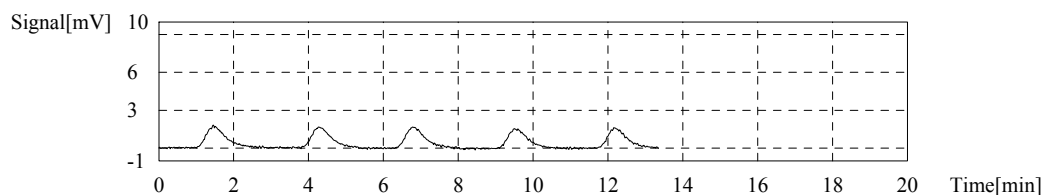
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7600mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.911	0.8911mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:49:53 PM
2	5.826	0.7512mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:53:25 PM
3	6.492	0.8371mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 12:57:23 PM
4	5.907	0.7617mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:01:12 PM
5	5.950	0.7672mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:04:54 PM

Mean Area  
Mean Conc. 0.7600mg/L



## Sample

Sample Name: BKE0674-MS1  
Sample ID:  
Origin: NPOC 0.5 - 50 ppm.cal  
Status: Completed  
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.39mg/L

# TOC-Control L Report

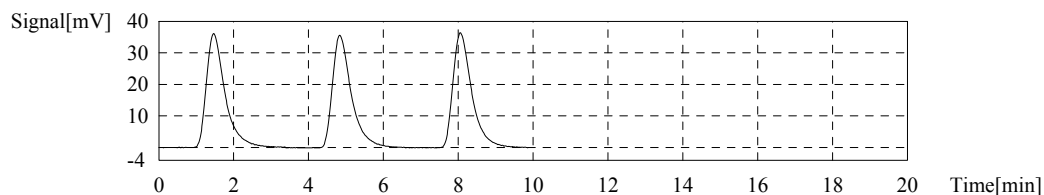
RMS  
2022\_05\_31\_001.thx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	126.2	16.27mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:16:14 PM
2	126.7	16.34mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:20:26 PM
3	128.5	16.57mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:24:54 PM

Mean Area 127.1  
Mean Conc. 16.39mg/L



## Control Sample

Sample Name: SEQ-CCV4  
Sample ID: CVS 20  
Method: CVS 20 ppm.tpl  
Status: Completed  
Chk. Result: Control value: 19.52 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

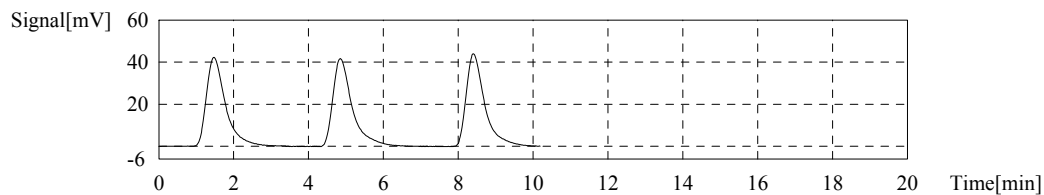
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:19.52ppm

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	151.2	19.40ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:36:20 PM
2	151.8	19.48ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:40:57 PM
3	153.3	19.67ppm	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:45:11 PM

Mean Area 152.1  
Mean Conc. 19.52ppm



## Control Sample

Sample Name: SEQ-CCB4  
Sample ID: ICB CCB.tpl  
Method: ICB CCB.tpl  
Status: Completed  
Chk. Result: Control value: 0.03921 / Control within range!

( Zero shift setting of cal. curve has been ignored in conc. calculation )

# TOC-Control L Report

RMS  
2022\_05\_31\_001.thx

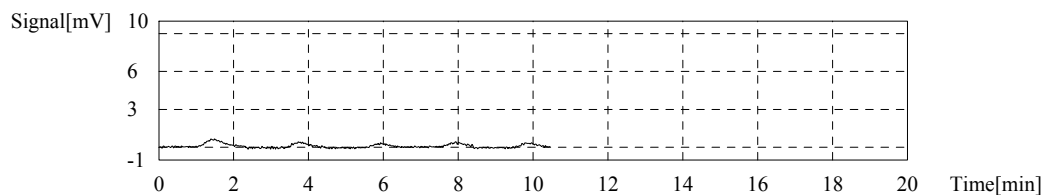
Type	Anal.	Manual Dilution	Result
Control	NPOC	1.000	NPOC:0.03921mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.406	0.2142mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:55:24 PM
2	1.883	0.1468mg/L	100ul	1.000	E	NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 1:58:44 PM
3	1.251	0.06526mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:02:11 PM
4	1.018	0.03522mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:05:53 PM
5	0.8778	0.01714mg/L	100ul	1.000		NPOC 0.5 - 50 ppm.2022_05_31_17_36_39.cal	6/1/2022 2:09:30 PM

Mean Area 1.049  
Mean Conc. 0.03921mg/L





**INSTRUMENT BLANKS**  
**EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC-LCSH

Calibration: FF00006

Sequence: SKF0369

Date Analyzed: 06/28/22 18:34

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKF0369-ICB1	Total Organic Carbon	0.19	0.5	0.50	mg/L	
SKF0369-CCB1	Total Organic Carbon	0.12	0.5	0.50	mg/L	
SKF0369-CCB2	Total Organic Carbon	0.21	0.5	0.50	mg/L	
SKF0369-CCB3	Total Organic Carbon	0.13	0.5	0.50	mg/L	
SKF0369-CCB4	Total Organic Carbon	0.25	0.5	0.50	mg/L	



**INITIAL AND CONTINUING  
CALIBRATION CHECK  
EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC-LCSH

Calibration: FF00006

Control Limit: +/- 10.00%

Sequence: SKF0369

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKF0369-ICV1	Total Organic Carbon	20.000	20.37	102	mg/L	EPA 9060A
SKF0369-CCV1	Total Organic Carbon	20.000	20.21	101	mg/L	EPA 9060A
SKF0369-CCV2	Total Organic Carbon	20.000	19.08	95.4	mg/L	EPA 9060A
SKF0369-CCV3	Total Organic Carbon	20.000	18.30	91.5	mg/L	EPA 9060A
SKF0369-CCV4	Total Organic Carbon	20.000	18.02	90.1	mg/L	EPA 9060A

\* Values outside of QC limits



## HOLDING TIME SUMMARY

**Analysis: EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1A-3-PW 22F0267-09	06/14/22 13:30	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 00:20	14	28	
Z1A-6-PW 22F0267-10	06/14/22 13:40	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 01:51	15	28	
Z1A-9-PW 22F0267-11	06/15/22 10:30	06/16/22 10:54	06/28/22 15:47	13	28	06/29/22 02:09	14	28	
Z1A-12-PW 22F0267-12	06/15/22 10:00	06/16/22 10:54	06/28/22 15:47	13	28	06/29/22 02:36	14	28	
DUP-1-PW 22F0267-15	06/15/22 12:30	06/16/22 10:54	06/28/22 15:47	13	28	06/29/22 02:54	14	28	
Z1B-1-PW 22F0267-24	06/14/22 11:10	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 03:59	15	28	
Z1B-2-PW 22F0267-25	06/14/22 11:50	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 04:18	15	28	
Z1B-3-PW 22F0267-26	06/15/22 09:40	06/16/22 10:54	06/28/22 15:47	13	28	06/29/22 04:37	14	28	
Z1B-4-PW 22F0267-27	06/15/22 09:50	06/16/22 10:54	06/28/22 15:47	13	28	06/29/22 05:04	14	28	
Duplicate BKF0658-DUP1	06/14/22 13:30	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 00:46	14	28	
Matrix Spike BKF0658-MS1	06/14/22 13:30	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 01:08	14	28	
Matrix Spike Dup BKF0658-MSD1	06/14/22 13:30	06/16/22 10:54	06/28/22 15:47	14	28	06/29/22 01:30	15	28	

\* Indicates hold time exceedance.



**METHOD DETECTION  
AND REPORTING LIMITS**

**EPA 9060A**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Water

Instrument: TOC-LCSH

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Total Organic Carbon	0.50	0.50	mg/L



<b>H000245</b>
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## Certificate of Analysis

Sulfuric Acid (Conc.)

Expires 12/31/2030

Prepared By William Wheeler 1/8/2019

1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

ThermoFisher Scientific's Quality System has been found to conform to Quality Management System  
Standard ISO9001:2015 by SAI Global Certificate Number CERT - 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. ThermoFisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the manufacturer to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	A300	Quality Test / Release Date	10/23/2018
Lot Number	187190		
Description	SULFURIC ACID, CERTIFIED ACS		
Country of Origin	United States	Suggested Retest Date	Oct/2023
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Colorless and free from suspended or insoluble matter
ALUMINUM	ppm	<= 0.2	<0.1
ZINC (Zn)	ppm	<= 0.2	<0.1
ARSENIC (As)	ppm	<= 0.004	<0.001
ASSAY	w/w %	Inclusive Between 95.0 - 98.0	96.1
BORON (B)	ppm	<= 0.05	<0.05
CALCIUM (Ca)	ppm	<= 0.3	<0.1
CHLORIDE	ppm	<= 0.1	<0.1
CHROMIUM (Cr)	ppm	<= 0.2	<0.1
COLOR	APHA	<= 10	<5
COPPER (Cu)	ppm	<= 0.1	<0.1
GOLD (Au)	ppm	<= 0.3	<0.1
HEAVY METALS (as Pb)	ppm	<= 0.8	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.2	<0.2
SUBSTANCES REDUCING KMNO4	ppm	<= 2	<2
LEAD (Pb)	ppm	<= 0.3	<0.1
MAGNESIUM (Mg)	ppm	<= 0.3	<0.1
MANGANESE (Mn)	ppm	<= 0.2	<0.1
MERCURY (Hg)	ppb	<= 5	<5

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.





## Certificate of Analysis

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1 Reagent Lane  
 Fair Lawn, NJ 07410  
 201.796.7100 tel  
 201.796.1329 fax

ThermoFisher Scientific's Quality System has been found to conform to Quality Management System  
 Standard ISO9001:2015 by SAI Global Certificate Number CERT - 0120632

NICKEL (Ni)	ppm	<= 0.1	<0.1
NITRATE (NO3)	ppm	<= 0.2	<0.1
PHOSPHATE (PO4)	ppm	<= 0.5	<0.1
POTASSIUM (K)	ppm	<= 0.3	<0.1
RESIDUE AFTER IGNITION	ppm	<= 3	<3
SODIUM (Na)	ppm	<= 0.3	<0.1
TIN (Sn)	ppm	<= 0.2	<0.1
TITANIUM (Ti)	ppm	<= 0.3	<0.1
AMMONIUM (NH4)	ppm	<= 1	<1

Residual Solvents	
-------------------	--

*Jerisa Bailey-Wyche*

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
 If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.



## Certificate of Analysis

1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

ThermoFisher Scientific's Quality System has been found to conform to Quality Management System  
Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. ThermoFisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. ThermoFisher does not maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	P243	Quality Test / Release Date	06/12/2018
Lot Number	181933		
Description	POTASSIUM HYDROGEN PHTHALATE, ACIDIMETRIC STANDARD, A.C.S.		
Country of Origin	Spain	Suggested Retest Date	Jun/2023
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystals
HEAVY METALS (as Pb)	ppm	<= 5	<5
IRON (Fe)	ppm	<= 5	<5
PH OF 0.05M SOLUTION		Inclusive Between 4.00 - 4.02	4.00
CHLORINE COMPOUNDS	%	<= 0.003	<0.003
INSOLUBLE MATTER	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.002	<0.002
ASSAY POTASSIUM HYDROGEN PHTHALATE	%	Inclusive Between 99.95 - 100.05	100.04
TRACEABLE TO NIST KHP STD	POT. ACID PHTHALATE	= LOT 84L	LOT 84L
TRACEABLE TO NIST	SOD CARBONATE	= LOT 351a	LOT 351a
SODIUM (Na)	%	<= 0.005	0.002
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

*Jerisa Bailey-Wyche*

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.



1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

## Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

<b>Catalog Number</b>	<b>S263</b>	<b>Quality Test / Release Date</b> 9/28/2016	
<b>Lot Number</b>	<b>164101</b>		
<b>Description</b>	<b>SODIUM CARBONATE, ANHYDROUS, CERTIFIED A.C.S.</b>		
<b>Country of Origin</b>	<b>China</b>	<b>* Suggested Retest Date</b>	<b>Sep-2021</b>
<b>Chemical Origin</b>	<b>Inorganic-non animal</b>		
<b>BSE/TSE Comment</b>	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystalline powder.
ASSAY	%	>= 99.5	99.8
CALCIUM	%	<= 0.03	0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
LOSS ON HEATING @ 285 DEG C	%	<= 1.0	0.2
MAGNESIUM	%	<= 0.005	<0.005
PHOSPHATE (PO4)	%	<= 0.001	<0.0010
POTASSIUM (K)	%	<= 0.005	0.001
SILICA (SiO2)	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.003	<0.0030

**J006082**

Sodium carbonate (anhydrous) dried @104°C  
Expires 6/9/2022  
Prepared By Brandon Fisk 6/9/2021



*Jerisa Bailey-Wyche*

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.  
\*Based on suggested storage condition.



1 Reagent Lane  
 Fair Lawn, NJ 07410  
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# Certificate of Analysis

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<b>Catalog Number</b>	<b>S263</b>	<b>Quality Test / Release Date</b> 9/28/2016	
<b>Lot Number</b>	<b>164101</b>		
<b>Description</b>	<b>SODIUM CARBONATE, ANHYDROUS, CERTIFIED A.C.S.</b>		
<b>Country of Origin</b>	<b>China</b>	<b>* Suggested Retest Date</b>	<b>Sep-2021</b>
<b>Chemical Origin</b>	<b>Inorganic-non animal</b>		
<b>BSE/TSE Comment</b>	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystalline powder.
ASSAY	%	>= 99.5	99.8
CALCIUM	%	<= 0.03	0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
LOSS ON HEATING @ 285 DEG C	%	<= 1.0	0.2
MAGNESIUM	%	<= 0.005	<0.005
PHOSPHATE (PO4)	%	<= 0.001	<0.0010
POTASSIUM (K)	%	<= 0.005	0.001
SILICA (SiO2)	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.003	<0.0030

**J006082**

Sodium carbonate (anhydrous) dried @104°C  
 Expires 6/9/2022  
 Prepared By Brandon Fisk 6/9/2021

*Jerisa Bailey-Wyche*

**Quality Assurance Specialist - Certificate of Analysis Fair Lawn**



Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.  
 \*Based on suggested storage condition.

# Certificate of Analysis

## Organic Carbon Standard, 5000 ppm C

**Lot Number:** 4107C46

**Product Number:** R1849500

**Manufacture Date:** JUL 12, 2021

**Expiration Date:** JUL 2022

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Acid Phthalate	877-24-7	ACS Acidimetric

Test	Specification	Result
Appearance	Colorless liquid	Passed
Carbon (C)	4990-5010 ppm	5000 ppm

Specification	Reference
---------------	-----------

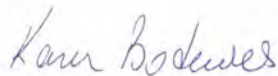
Potassium Hydrogen Phthalate, Stock Solution

EPA (SW-846) (9060)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
R1849500-500C	500 mL amber glass	12 months

**Recommended Storage:** 15°C - 30°C (59°F - 86°F)



Karen Bodewes (07/12/2021)

Quality Control

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

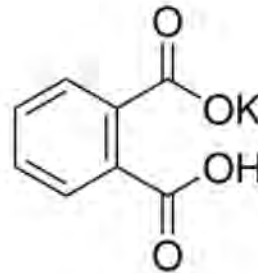
This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

3050 Spruce Street, Saint Louis, MO 63103, USA  
 Website: www.sigmaaldrich.com  
 Email USA: techserv@sial.com  
 Outside USA: eurtechserv@sial.com

## Certificate of Analysis

Product Name:  
 Potassium hydrogen phthalate - BioXtra, ≥99.95%

Product Number: P1088  
 Batch Number: MKBN6615V  
 Brand: SIAL  
 CAS Number: 877-24-7  
 MDL Number: MFCD00013070  
 Formula: C<sub>8</sub>H<sub>5</sub>KO<sub>4</sub>  
 Formula Weight: 204.22 g/mol  
 Quality Release Date: 28 FEB 2013



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Crystal to Powder	Crystalline Powder
% Ammonia	< 0.05	< 0.01
Chloride Content	< 0.003 %	< 0.003 %
Sulfate (SO <sub>4</sub> )	< 0.002 %	< 0.002 %
Insoluble matter	< 0.005 %	0.005 %
Aluminum (Al)	< 0.0005 %	< 0.0001 %
Calcium (Ca)	< 0.0050 %	< 0.0010 %
Copper (Cu)	< 0.0005 %	< 0.0001 %
Iron (Fe)	< 0.0005 %	< 0.0001 %
Lead (Pb)	< 0.001 %	< 0.001 %
Magnesium (Mg)	< 0.0005 %	< 0.0001 %
Phosphorus (P)	< 0.0050 %	< 0.0010 %
Sodium (Na)	< 0.005 %	0.003 %
Zinc (Zn)	< 0.0005 %	< 0.0002 %
Purity (Titration by NaOH)	> 99.95 %	99.96 %

*Jamie Gleason*

Jamie Gleason, Manager  
 Quality Control  
 Milwaukee, Wisconsin US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1A-3-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-01RE1 A      SDG: 22F0267  
 Sampled: 06/14/22 13:00      Prepared: 06/20/22 10:00      File ID: CubeData\_06232022@0754-005  
 % Solids: 56.24      Preparation: Plumb 1981      Analyzed: 06/22/22 13:58  
 Batch: BKF0437      Sequence: SKF0261      Initial/Final: 0.0973 g Wet / 0.0973 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	9.41	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1A-6-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-03RE1 A      SDG: 22F0267  
 Sampled: 06/14/22 13:10      Prepared: 06/20/22 10:00      File ID: CubeData\_06232022@0754-009  
 % Solids: 44.47      Preparation: Plumb 1981      Analyzed: 06/22/22 15:58  
 Batch: BKF0437      Sequence: SKF0261      Initial/Final: 0.0739 g Wet / 0.0739 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	12.7	1	0.02	0.02	





**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1A-9-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-05 A      SDG: 22F0267  
 Sampled: 06/15/22 10:20      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-014  
 % Solids: 79.31      Preparation: Plumb 1981      Analyzed: 06/20/22 22:10  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.2735 g Wet / 0.2735 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.28	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1A-12-MS
-----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-07 A      SDG: 22F0267  
 Sampled: 06/15/22 09:55      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-017  
 % Solids: 76.93      Preparation: Plumb 1981      Analyzed: 06/20/22 23:40  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.2779 g Wet / 0.2779 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.37	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

DUP-1-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-13 A      SDG: 22F0267  
 Sampled: 06/14/22 10:20      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-018  
 % Solids: 85.13      Preparation: Plumb 1981      Analyzed: 06/21/22 00:10  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.5089 g Wet / 0.5089 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.91	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1B-1-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-16 A      SDG: 22F0267  
 Sampled: 06/14/22 10:15      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-019  
 % Solids: 82.32      Preparation: Plumb 1981      Analyzed: 06/21/22 00:40  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.5128 g Wet / 0.5128 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.08	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

Z1B-2-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-18 A      SDG: 22F0267  
 Sampled: 06/14/22 10:30      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-020  
 % Solids: 85.83      Preparation: Plumb 1981      Analyzed: 06/21/22 01:10  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.5123 g Wet / 0.5123 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.47	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

<b>Z1B-3-MS</b>
-----------------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-20 A      SDG: 22F0267  
 Sampled: 06/14/22 15:05      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-021  
 % Solids: 86.19      Preparation: Plumb 1981      Analyzed: 06/21/22 01:40  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.5066 g Wet / 0.5066 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.14	1	0.02	0.02	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**EPA 9060A m**

<b>Z1B-4-MS</b>
-----------------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-22 A      SDG: 22F0267  
 Sampled: 06/15/22 09:45      Prepared: 06/20/22 10:00      File ID: CubeData\_06212022@0835-022  
 % Solids: 80.36      Preparation: Plumb 1981      Analyzed: 06/21/22 02:10  
 Batch: BKF0437      Sequence: SKF0230      Initial/Final: 0.5469 g Wet / 0.5469 g  
 Instrument: TOC Cube      Calibration: FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.95	1	0.02	0.02	



## PREPARATION BATCH SUMMARY

### EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0437 Batch Matrix: Solid

Preparation: Plumb 1981

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-MS	22F0267-01RE1	eData_06232022@0754	06/20/22 10:00	Added 6/22/2022 by DOE
Z1A-6-MS	22F0267-03RE1	eData_06232022@0754	06/20/22 10:00	Added 6/22/2022 by DOE
Z1A-9-MS	22F0267-05	eData_06212022@0835	06/20/22 10:00	
Z1A-12-MS	22F0267-07	eData_06212022@0835	06/20/22 10:00	
DUP-1-MS	22F0267-13	eData_06212022@0835	06/20/22 10:00	
Z1B-1-MS	22F0267-16	eData_06212022@0835	06/20/22 10:00	
Z1B-2-MS	22F0267-18	eData_06212022@0835	06/20/22 10:00	
Z1B-3-MS	22F0267-20	eData_06212022@0835	06/20/22 10:00	
Z1B-4-MS	22F0267-22	eData_06212022@0835	06/20/22 10:00	
Blank	BKF0437-BLK1	eData_06212022@0835	06/20/22 10:00	
LCS	BKF0437-BS1	eData_06212022@0835	06/20/22 10:00	
Z1A-3-MS	BKF0437-DUP2	eData_06232022@0754	06/20/22 10:00	
MRL Check	BKF0437-MRL1	eData_06212022@0835	06/20/22 10:00	
Z1A-3-MS	BKF0437-MS2	eData_06232022@0754	06/20/22 10:00	
Z1A-3-MS	BKF0437-MSD2	eData_06232022@0754	06/20/22 10:00	





**Form I**  
**METHOD BLANK DATA SHEET**  
**EPA 9060A m**  
TotalAnalytes

<b>Blank</b>
--------------

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0437

Laboratory ID: BKF0437-BLK1

Prepared: 06/20/22 10:00

Matrix: Solid

Preparation: Plumb 1981

Analyzed: 06/20/22 18:39

Sequence: SKF0230

Calibration: FD00070

Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U



**LCS / LCS DUPLICATE RECOVERY**  
**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Analyzed: 06/20/22 19:09

Batch: BKF0437

Laboratory ID: BKF0437-BS1

Preparation: Plumb 1981

Sequence Name: LCS

Initial/Final: 0.0204 g / 0.0204 g

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	44.2		99.4	80 - 120

\* Indicates values outside of QC limits



**DUPLICATES**  
**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Laboratory ID: BKF0437-DUP2

Batch: BKF0437

Lab Source ID: 22F0267-01RE1

Preparation: Plumb 1981

Initial/Final: 0.0969 g / 0.0969 g

Source Sample Name: Z1A-3-MS

% Solids: 56.24

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% dry)	C	DUPLICATE CONCENTRATION (% dry)	C	RPD %	Q
Total Organic Carbon	20	9.41		19.7	*	70.6	*

\*: 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 9060A m**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/22/22 14:58</u>
Batch:	<u>BKF0437</u>	Laboratory ID:	<u>BKF0437-MS2</u>
Preparation:	<u>Plumb 1981</u>	Sequence Name:	<u>Matrix Spike</u>
Initial/Final:	<u>0.1083 g / 0.1083 g</u>	Source Sample:	<u>Z1A-3-MS</u>

COMPOUND	SPIKE ADDED (% dry)	SAMPLE CONCENTRATION (% dry)	Q	MS CONCENTRATION (% dry)	Q	MS % REC. #	QC LIMITS REC.
Total Organic Carbon	5.98	9.41		15.8		107	75 - 125

\* Values outside of QC limits



**MS / MS DUPLICATE RECOVERY**  
**EPA 9060A m**

Laboratory:	<u>Analytical Resources, LLC</u>	SDG:	<u>22F0267</u>
Client:	<u>GeoEngineers</u>	Project:	<u>RG Haley Site-Bellingham</u>
Matrix:	<u>Solid</u>	Analyzed:	<u>06/22/22 15:28</u>
Batch:	<u>BKF0437</u>	Laboratory ID:	<u>BKF0437-MSD2</u>
Preparation:	<u>Plumb 1981</u>	Sequence Name:	<u>Matrix Spike Dup</u>
Initial/Final:	<u>0.0979 g / 0.0979 g</u>	Source Sample:	<u>Z1A-3-MS</u>

COMPOUND	SPIKE ADDED (% dry)	MSD CONCENTRATION (% dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Total Organic Carbon	5.81	18.3	*	152 *	14.3	20	75 - 125

\* Values outside of QC limits



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKD0371

Instrument: TOC Cube

Calibration: FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SKD0371-CAL1	CubeData_04272022@1136-001	NA	04/26/22 12:30
Cal Standard	SKD0371-CAL2	CubeData_04272022@1136-002	NA	04/26/22 13:00
Cal Standard	SKD0371-CAL3	CubeData_04272022@1136-003	NA	04/26/22 13:30
Cal Standard	SKD0371-CAL4	CubeData_04272022@1136-004	NA	04/26/22 14:00
Cal Standard	SKD0371-CAL5	CubeData_04272022@1136-005	NA	04/26/22 14:30
Cal Standard	SKD0371-CAL6	CubeData_04272022@1136-006	NA	04/26/22 15:00
Cal Standard	SKD0371-CAL7	CubeData_04272022@1136-007	NA	04/26/22 15:30
Cal Standard	SKD0371-CAL8	CubeData_04272022@1136-008	NA	04/26/22 16:00
Cal Standard	SKD0371-CAL9	CubeData_04272022@1136-009	NA	04/26/22 16:30
Cal Standard	SKD0371-CALA	CubeData_04272022@1136-010	NA	04/26/22 17:00
Cal Standard	SKD0371-CALB	CubeData_04272022@1136-011	NA	04/26/22 17:30
Cal Standard	SKD0371-CALC	CubeData_04272022@1136-012	NA	04/26/22 18:00
Cal Standard	SKD0371-CALD	CubeData_04272022@1136-013	NA	04/26/22 18:30
Cal Standard	SKD0371-CALE	CubeData_04272022@1136-014	NA	04/26/22 19:00
Cal Standard	SKD0371-CALF	CubeData_04272022@1136-015	NA	04/26/22 19:31
Cal Standard	SKD0371-CALG	CubeData_04272022@1136-016	NA	04/26/22 20:01
Cal Standard	SKD0371-CALH	CubeData_04272022@1136-017	NA	04/26/22 20:31
Cal Standard	SKD0371-CALI	CubeData_04272022@1136-018	NA	04/26/22 21:01
Cal Standard	SKD0371-CALJ	CubeData_04272022@1136-019	NA	04/26/22 21:31
Cal Standard	SKD0371-CALK	CubeData_04272022@1136-020	NA	04/26/22 22:01
Initial Cal Check	SKD0371-ICV1	CubeData_04272022@1136-027	NA	04/27/22 02:03
Initial Cal Blank	SKD0371-ICB1	CubeData_04272022@1136-028	NA	04/27/22 02:33
Cal Standard	SKD0371-CALL	CubeData_04272022@1136-021	NA	04/27/22 11:08
Cal Standard	SKD0371-CALM	CubeData_04272022@1136-022	NA	04/27/22 11:08
Cal Standard	SKD0371-CALN	CubeData_04272022@1136-023	NA	04/27/22 11:09
Cal Standard	SKD0371-CALO	CubeData_04272022@1136-024	NA	04/27/22 11:09



## ANALYSIS BATCH (SEQUENCE) SUMMARY

### EPA 9060A m

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0230

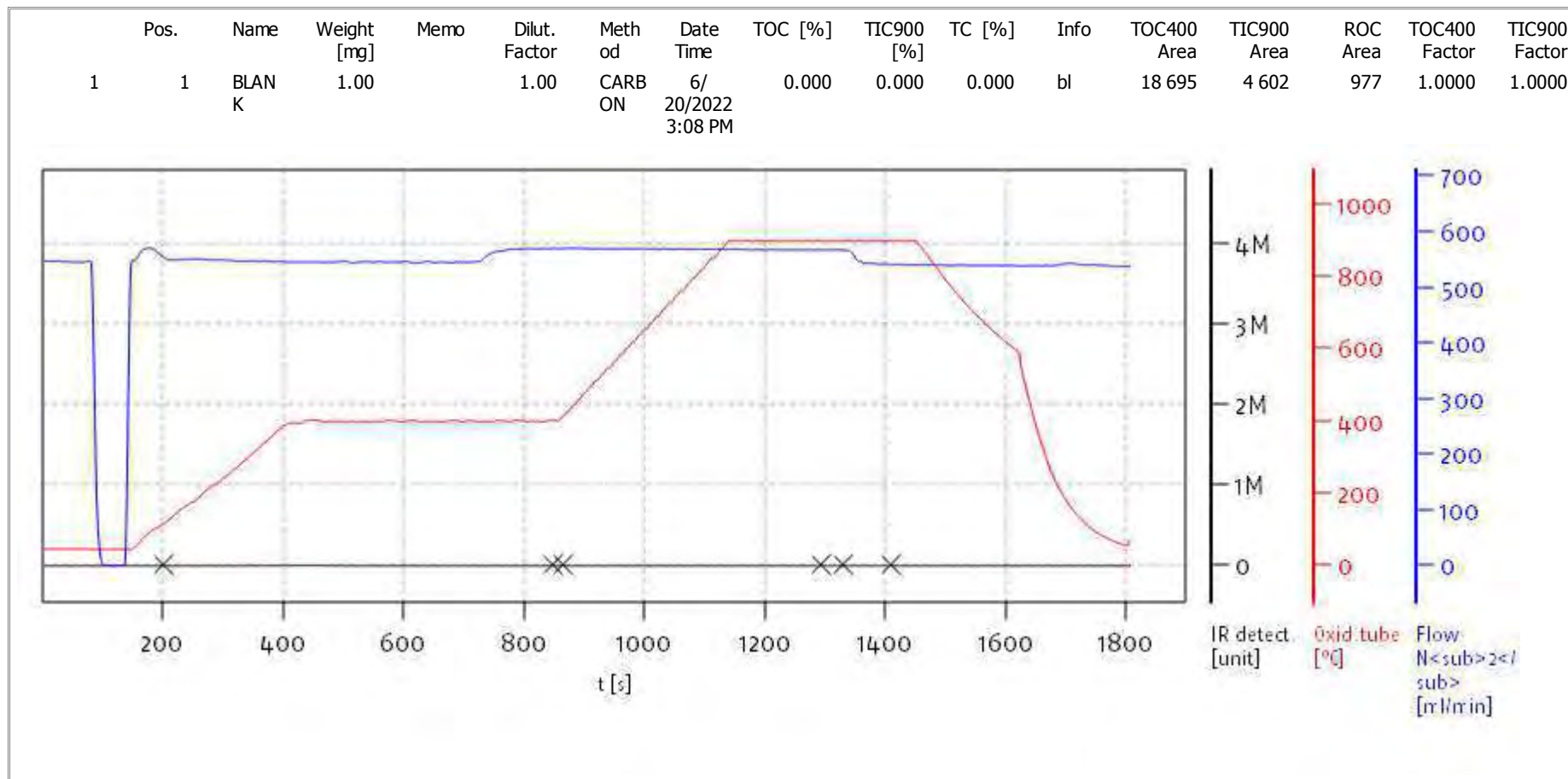
Instrument: TOC Cube

Calibration: FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
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Initial Cal Blank	SKF0230-ICB1	CubeData_06212022@0835-004	NA	06/20/22 17:09
MRL Check	BKF0437-MRL1	CubeData_06212022@0835-006	Solid	06/20/22 18:09
Blank	BKF0437-BLK1	CubeData_06212022@0835-007	Solid	06/20/22 18:39
LCS	BKF0437-BS1	CubeData_06212022@0835-008	Solid	06/20/22 19:09
Z1A-9-MS	22F0267-05	CubeData_06212022@0835-014	Solid	06/20/22 22:10
Calibration Check	SKF0230-CCV1	CubeData_06212022@0835-015	NA	06/20/22 22:40
Calibration Blank	SKF0230-CCB1	CubeData_06212022@0835-016	NA	06/20/22 23:10
Z1A-12-MS	22F0267-07	CubeData_06212022@0835-017	Solid	06/20/22 23:40
DUP-1-MS	22F0267-13	CubeData_06212022@0835-018	Solid	06/21/22 00:10
Z1B-1-MS	22F0267-16	CubeData_06212022@0835-019	Solid	06/21/22 00:40
Z1B-2-MS	22F0267-18	CubeData_06212022@0835-020	Solid	06/21/22 01:10
Z1B-3-MS	22F0267-20	CubeData_06212022@0835-021	Solid	06/21/22 01:40
Z1B-4-MS	22F0267-22	CubeData_06212022@0835-022	Solid	06/21/22 02:10
Calibration Check	SKF0230-CCV2	CubeData_06212022@0835-025	NA	06/21/22 03:40
Calibration Blank	SKF0230-CCB2	CubeData_06212022@0835-026	NA	06/21/22 04:10



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

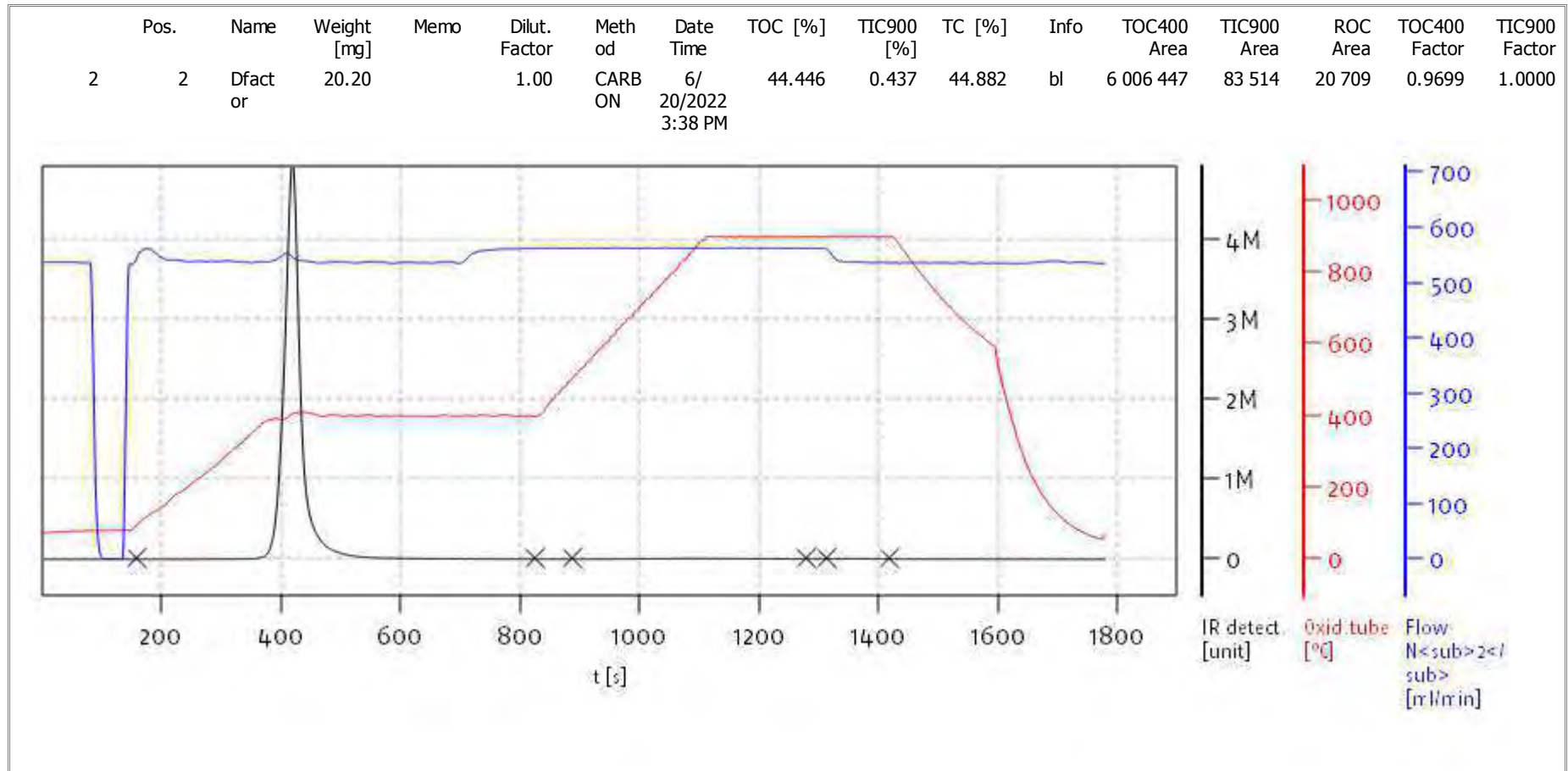


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

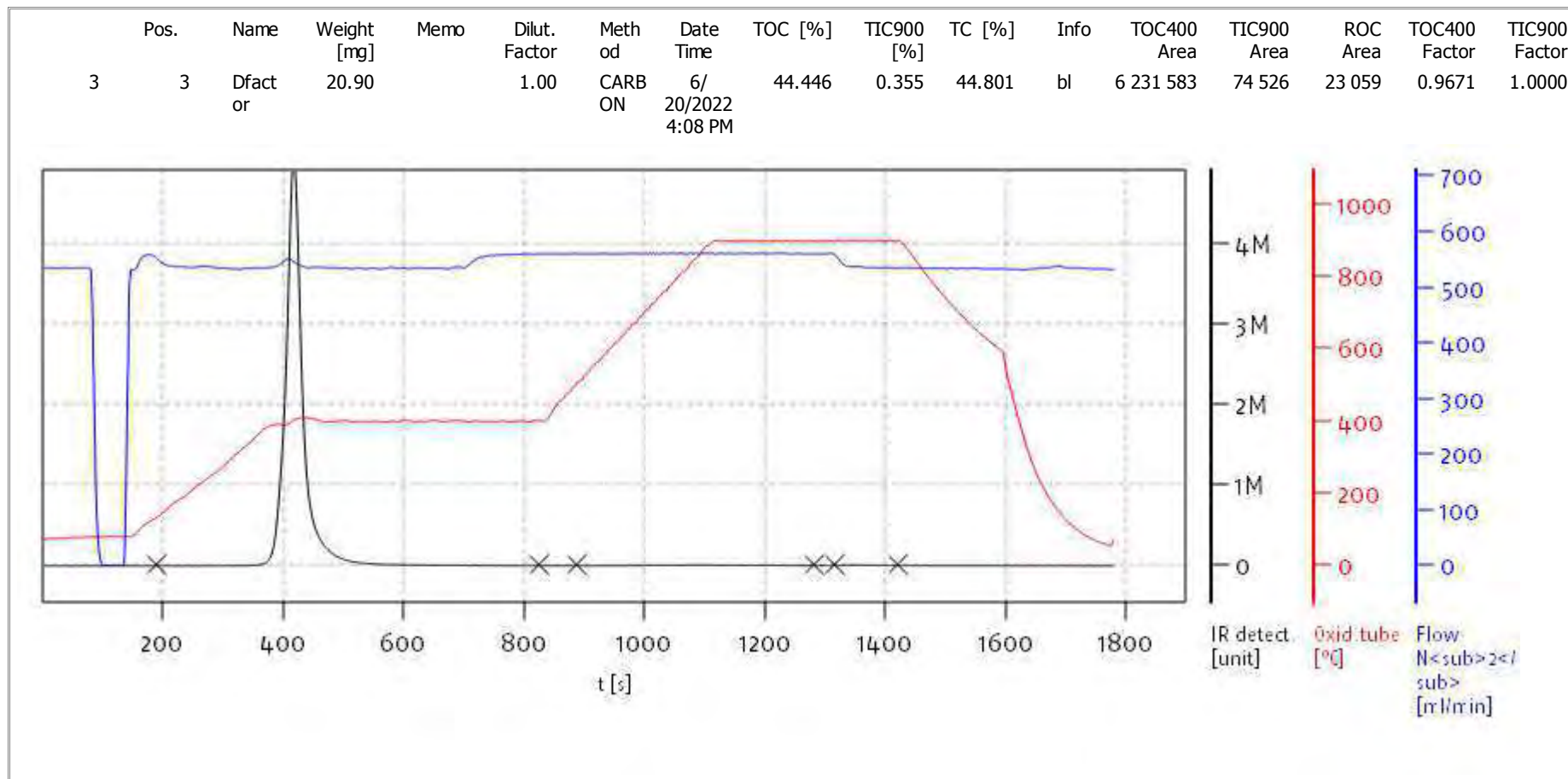
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

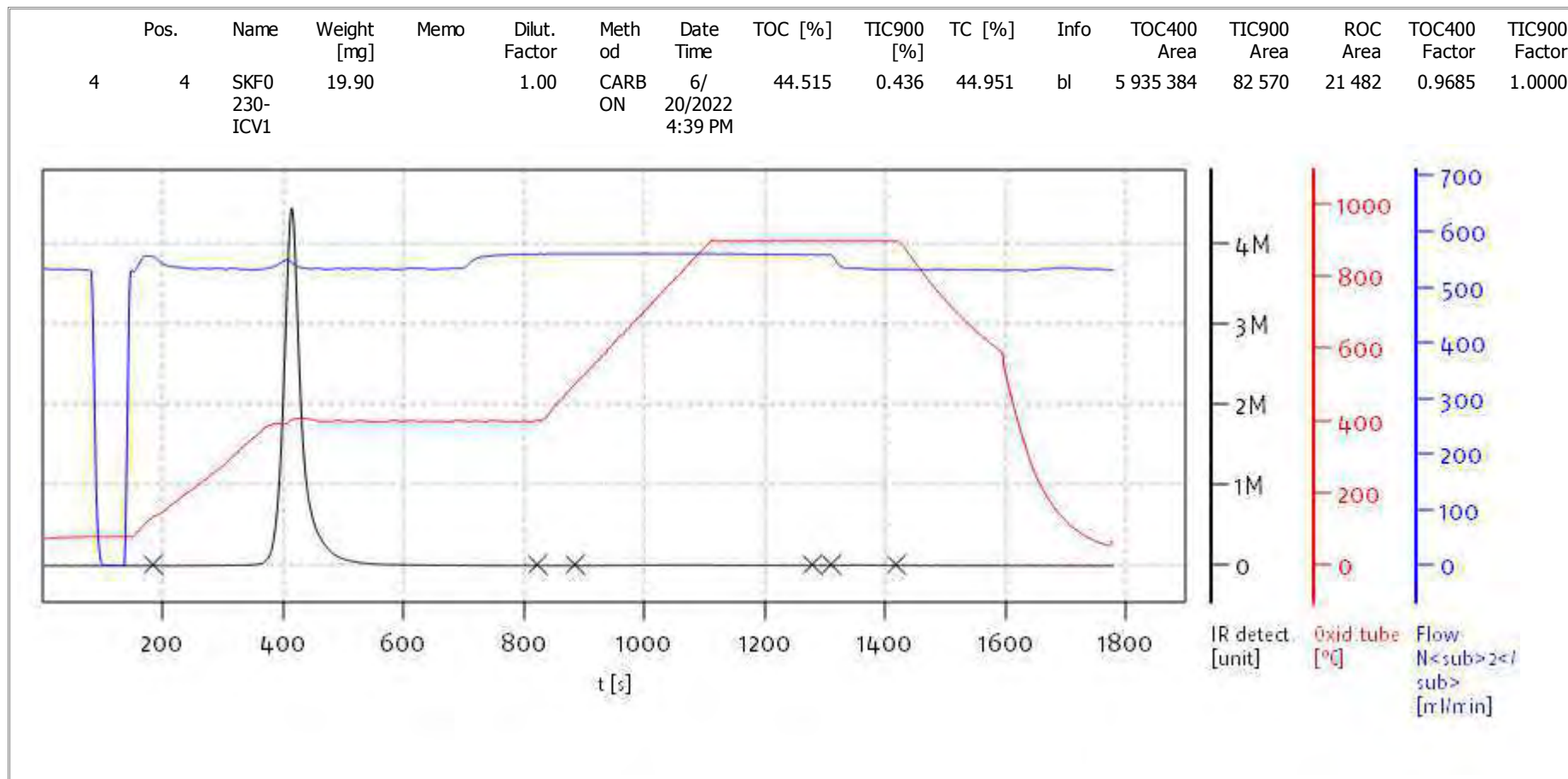
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

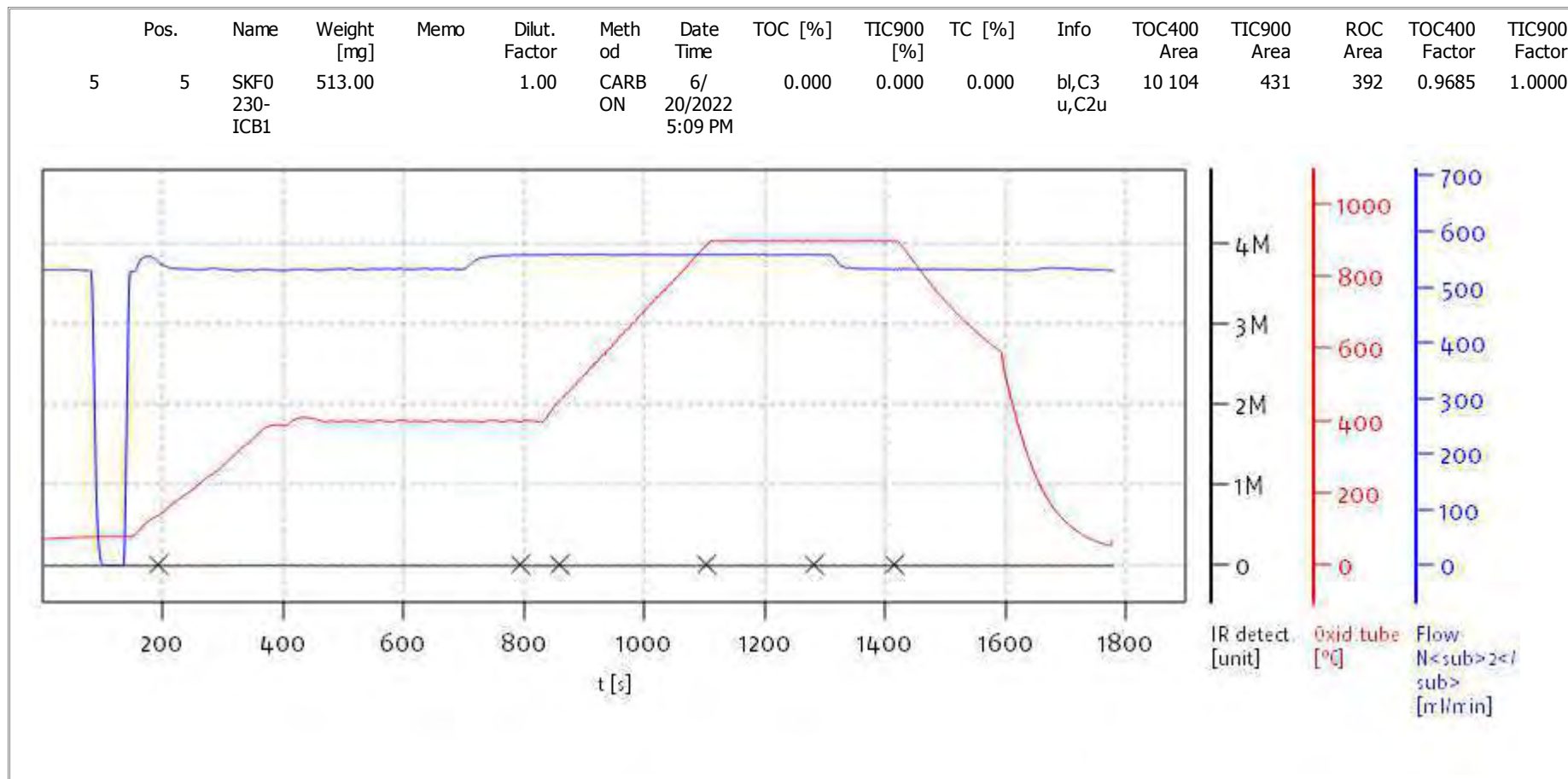
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

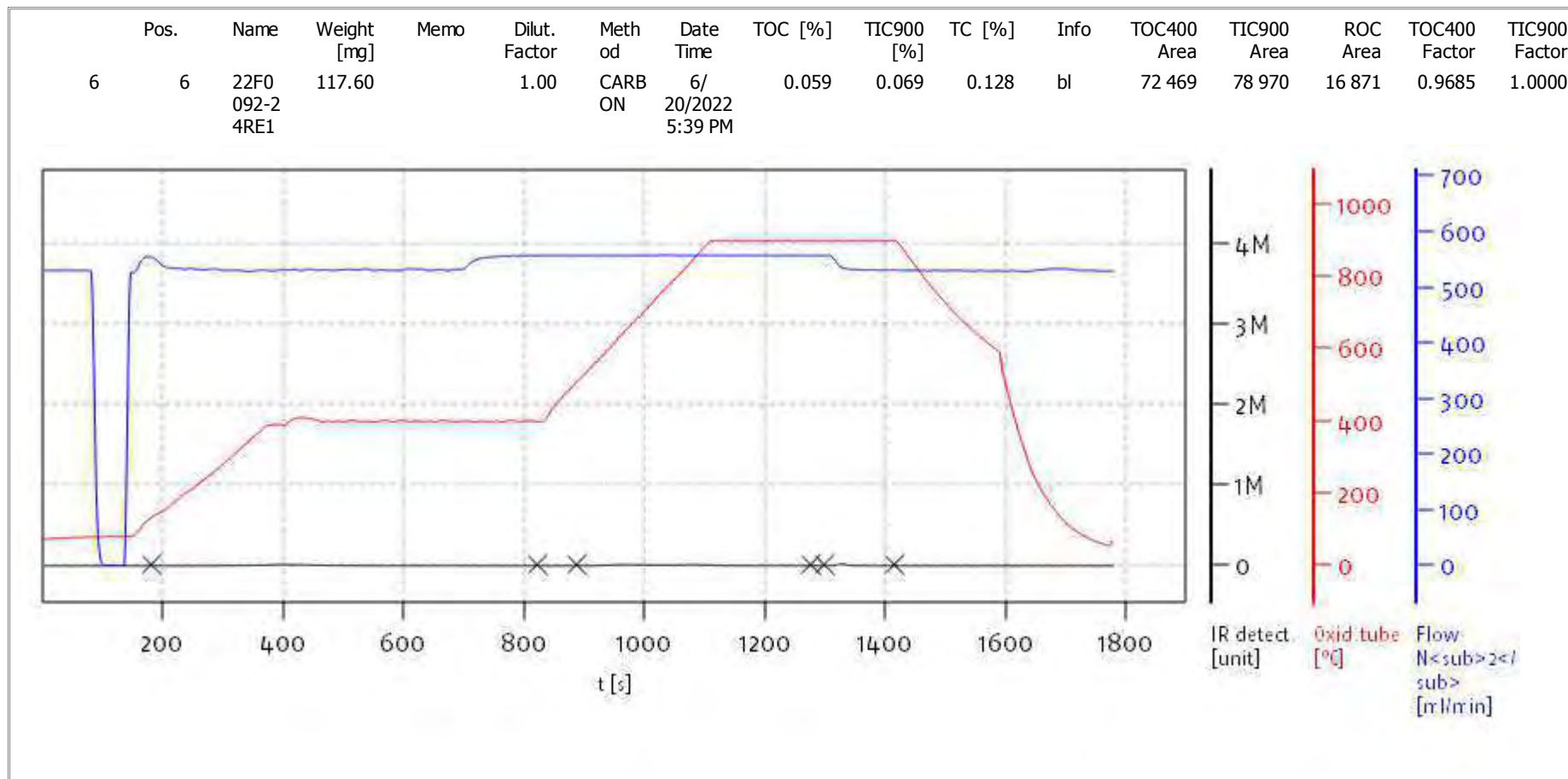
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

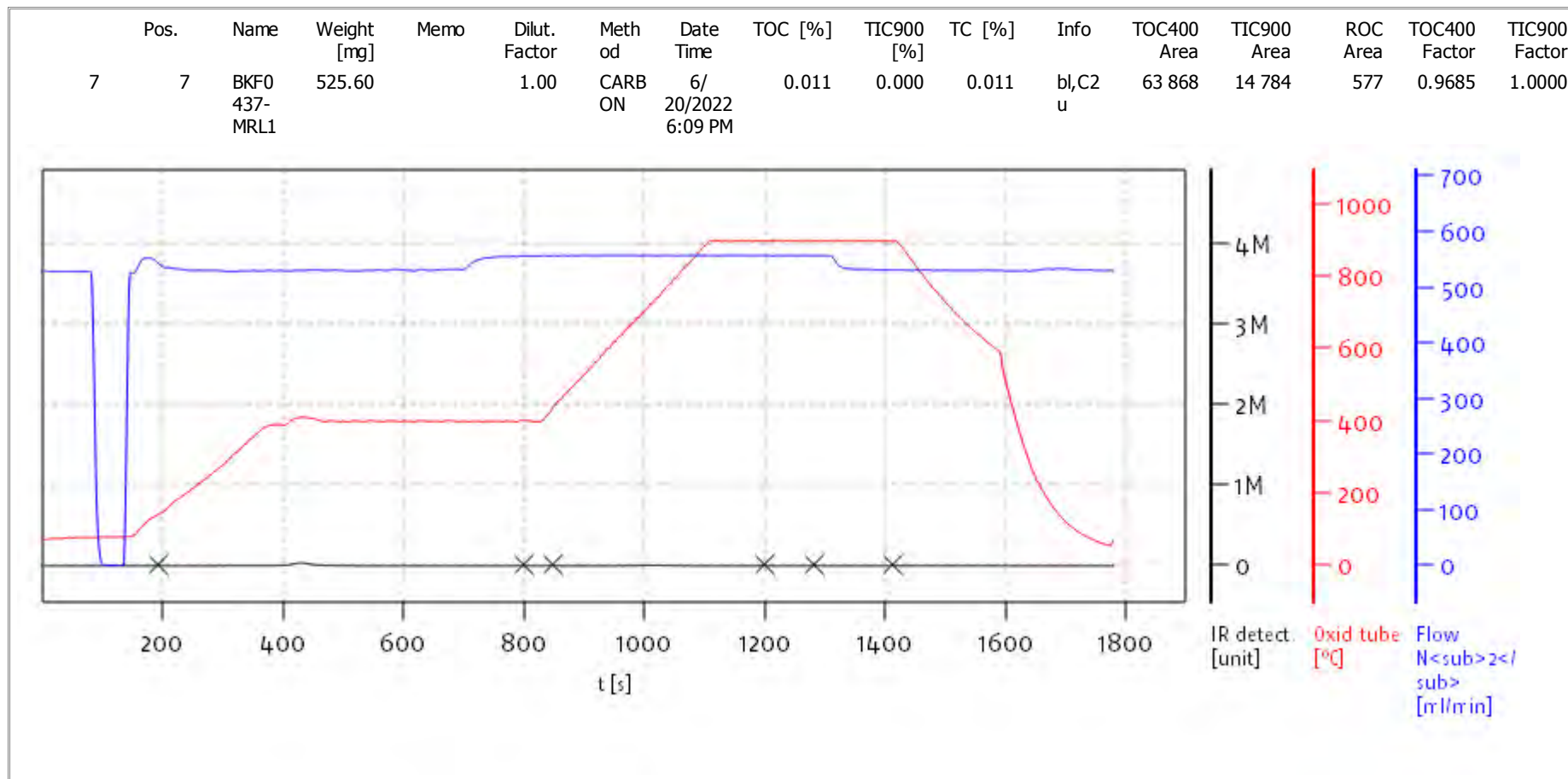


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

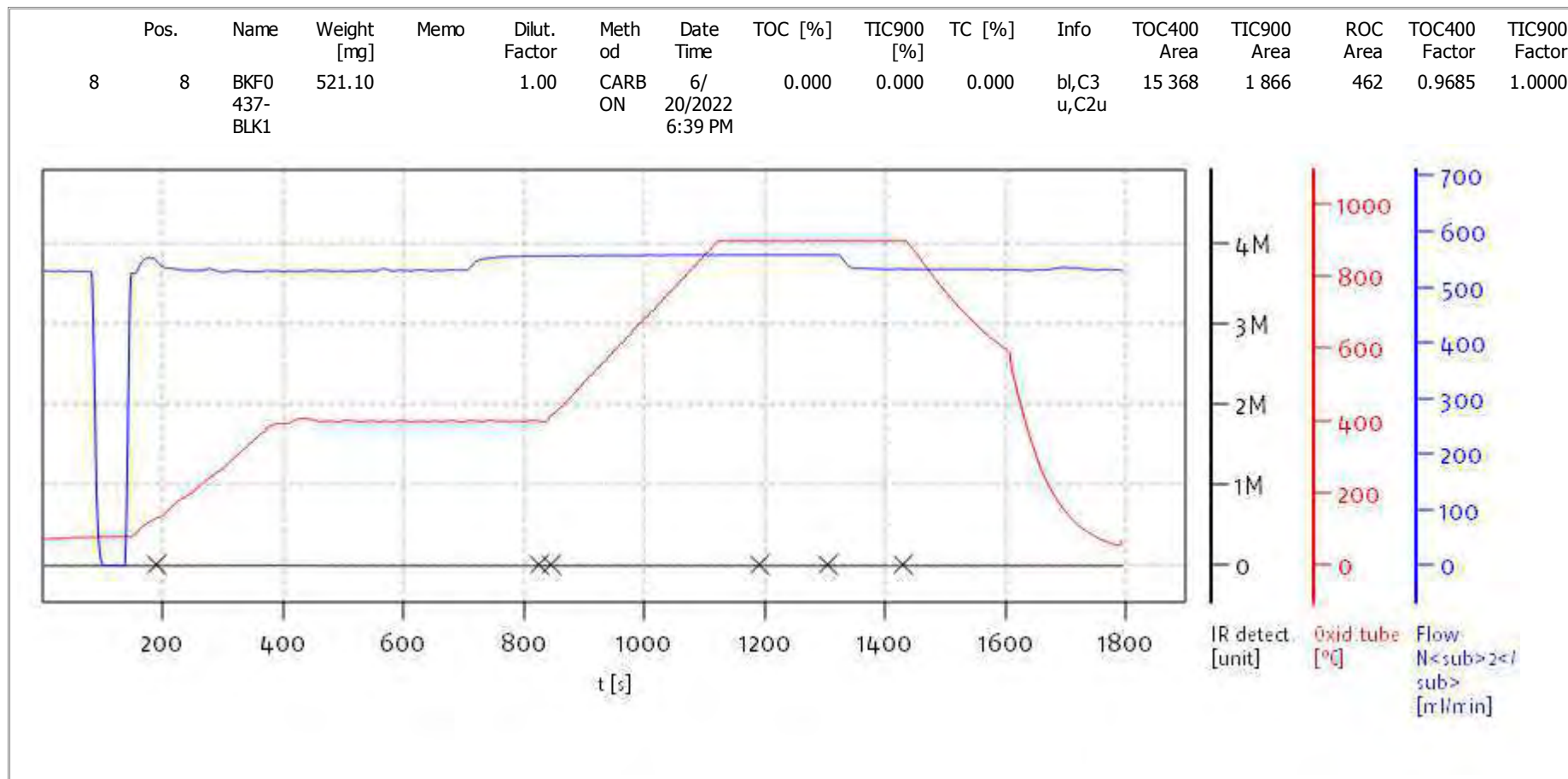
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

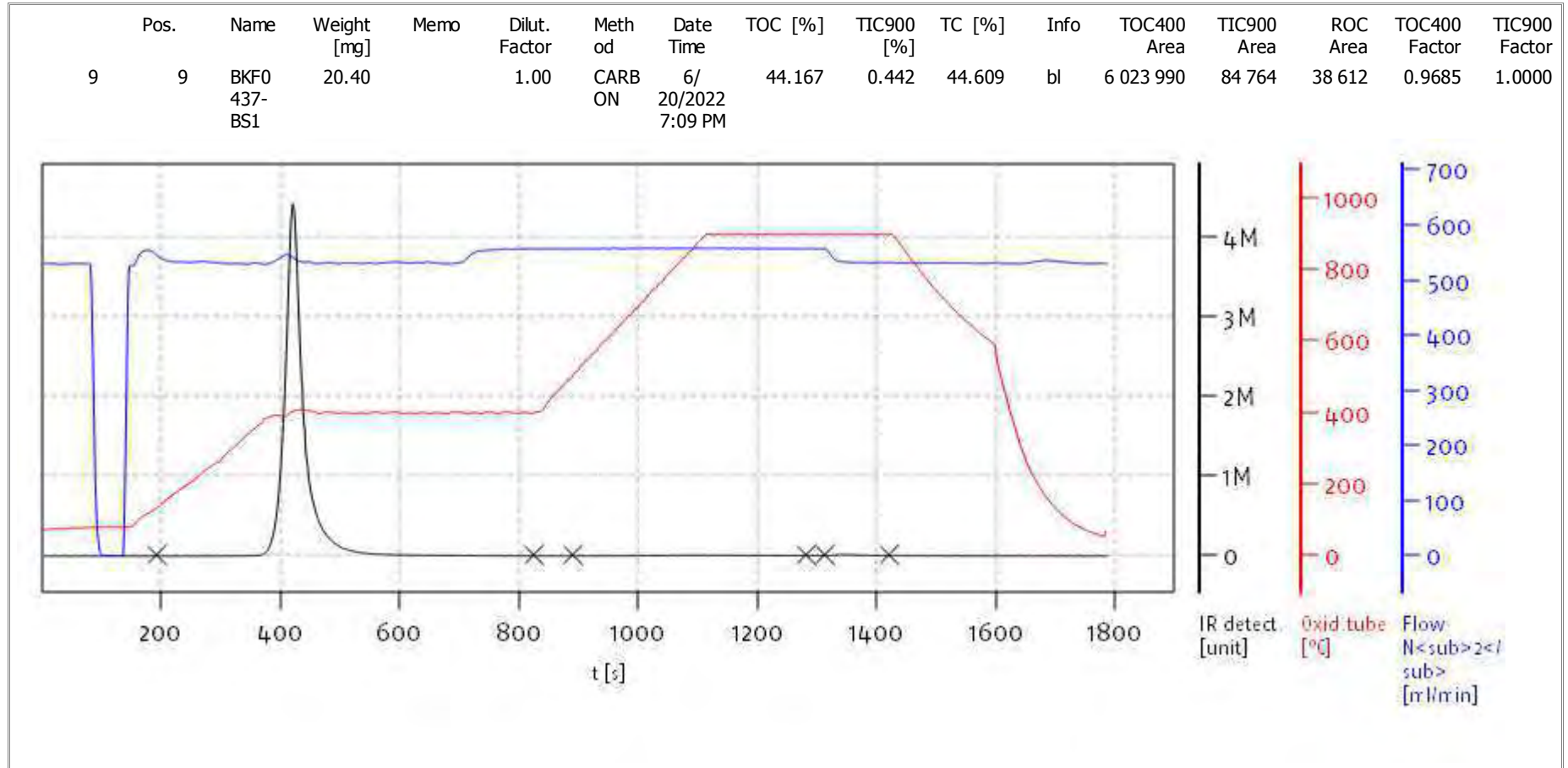
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

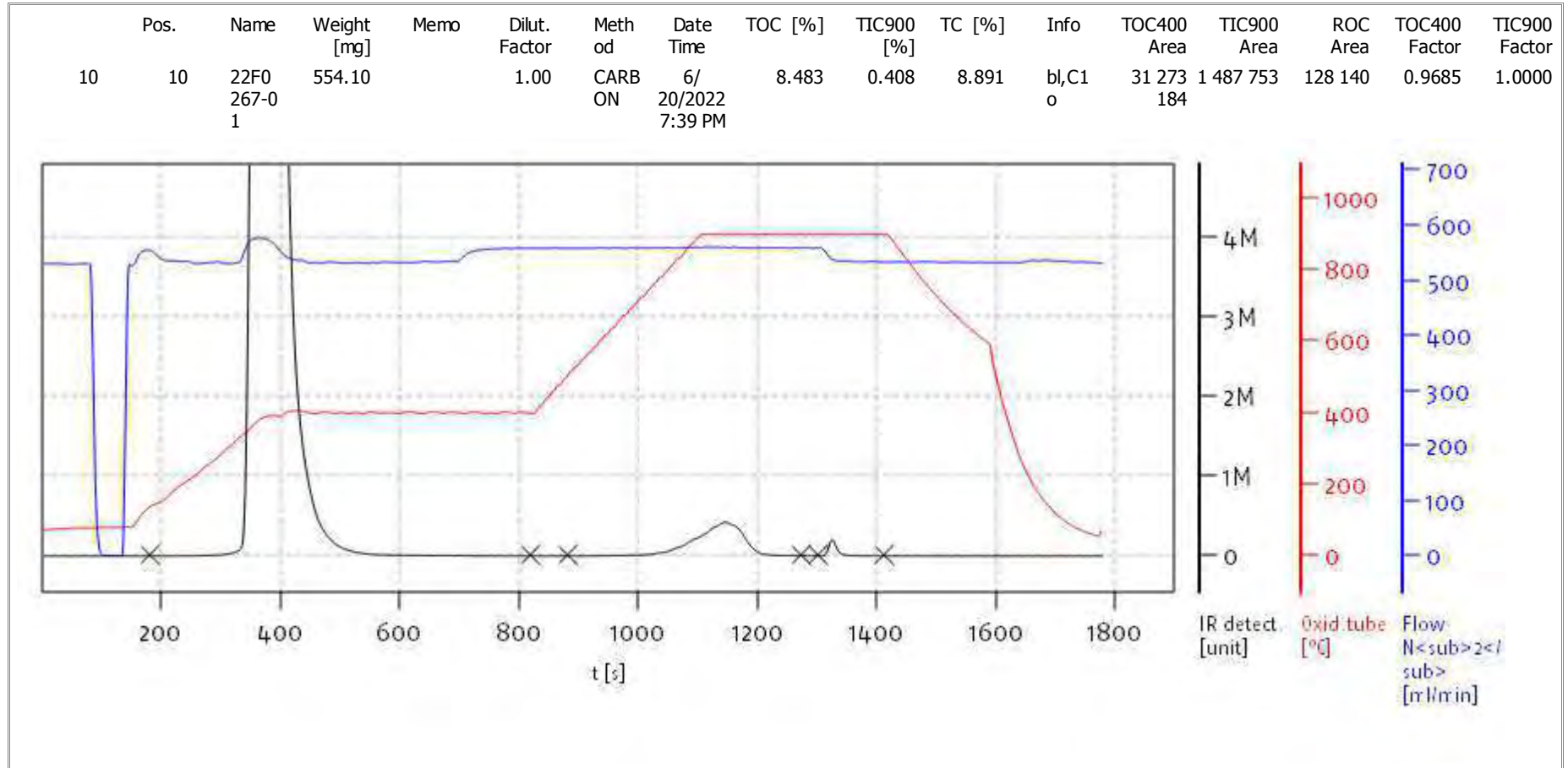


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

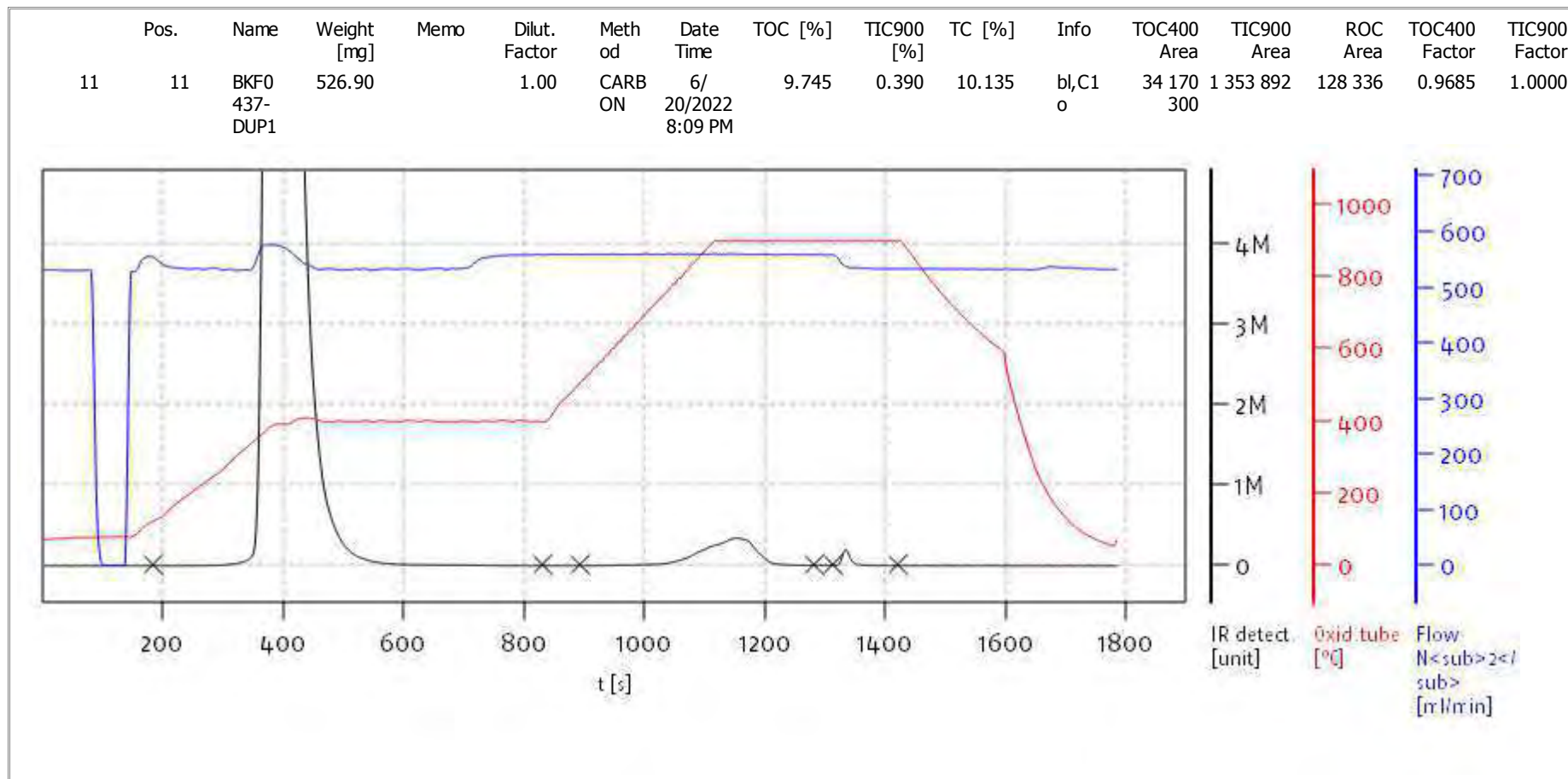
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

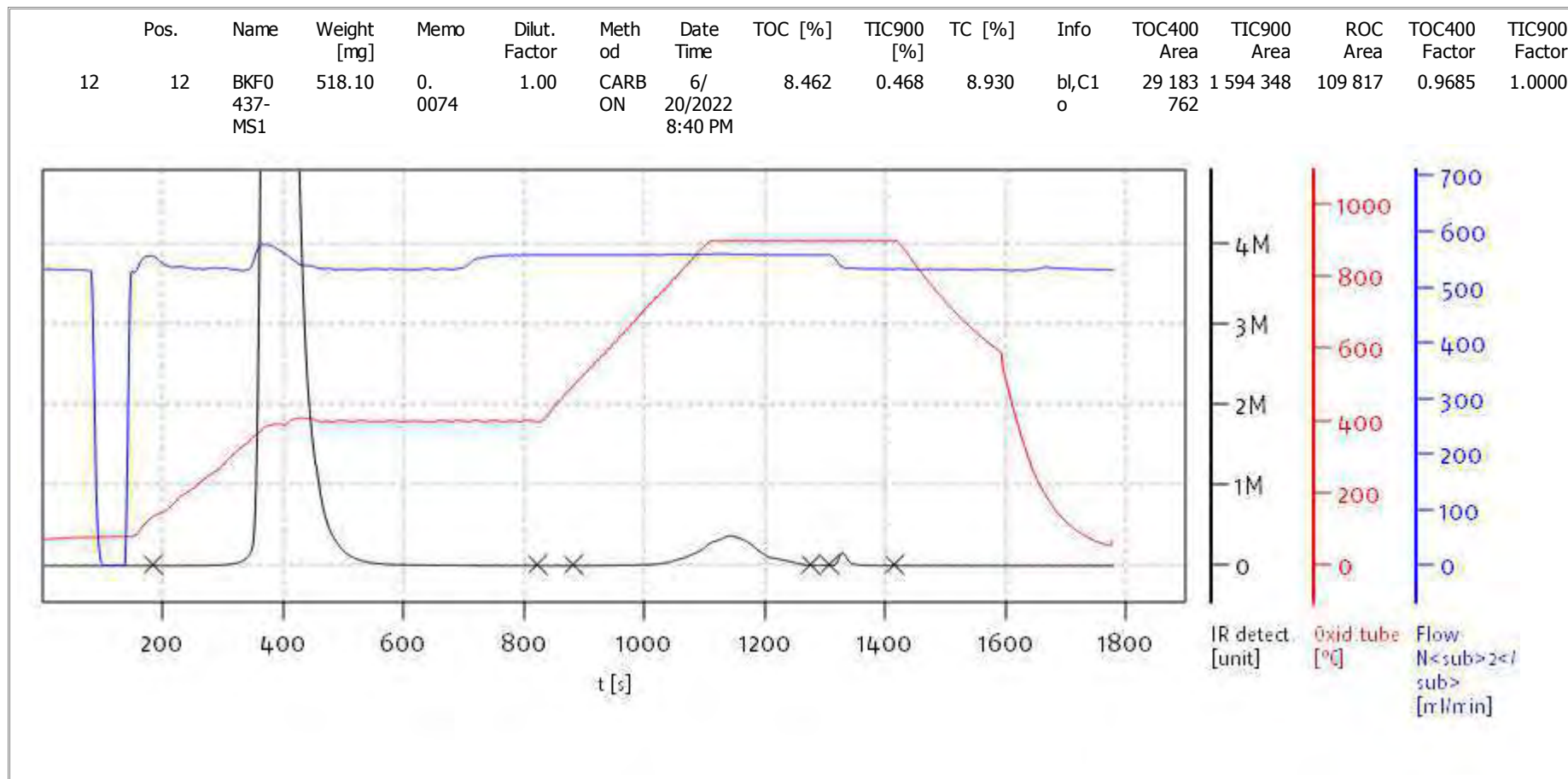
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

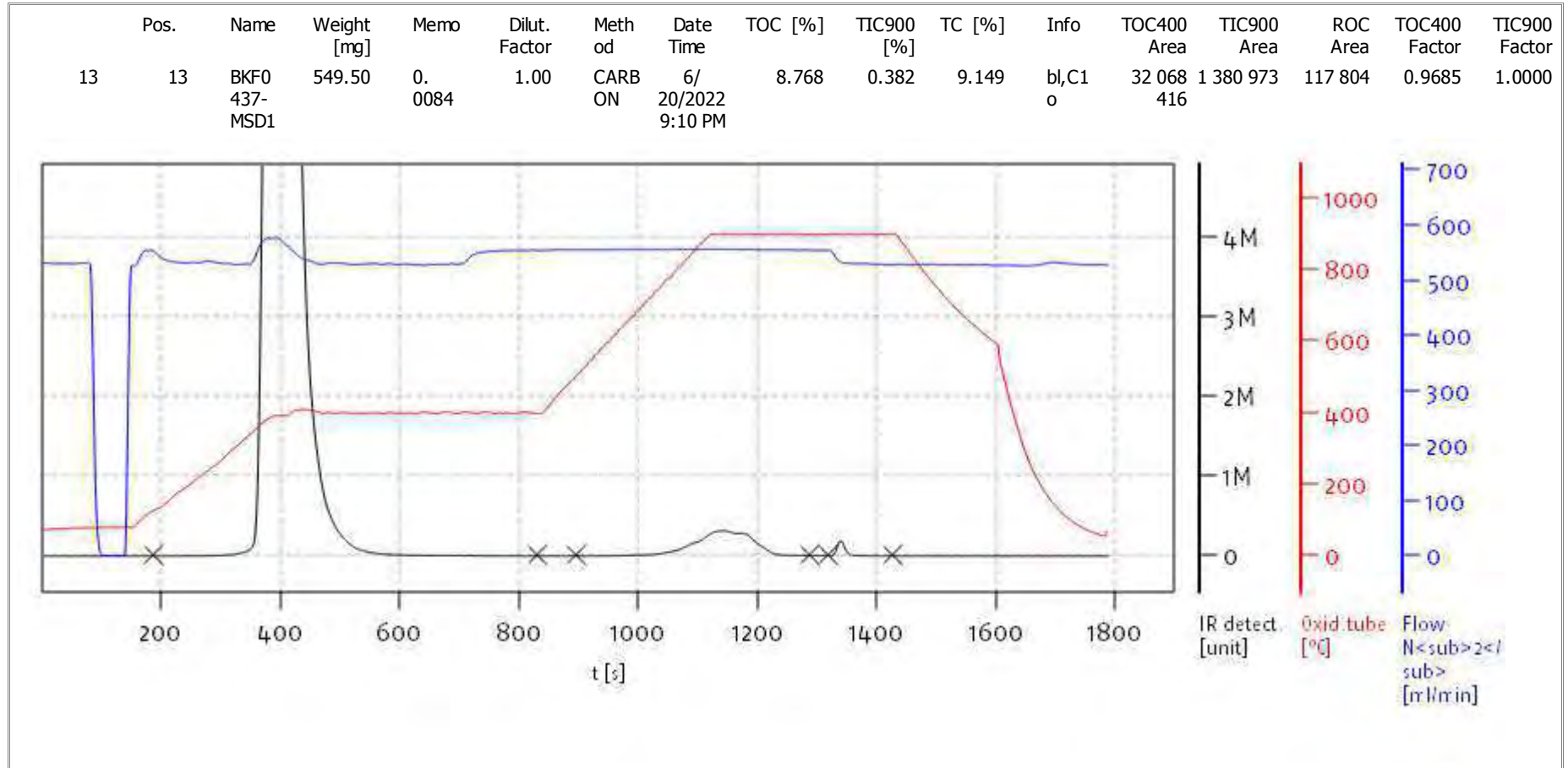
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

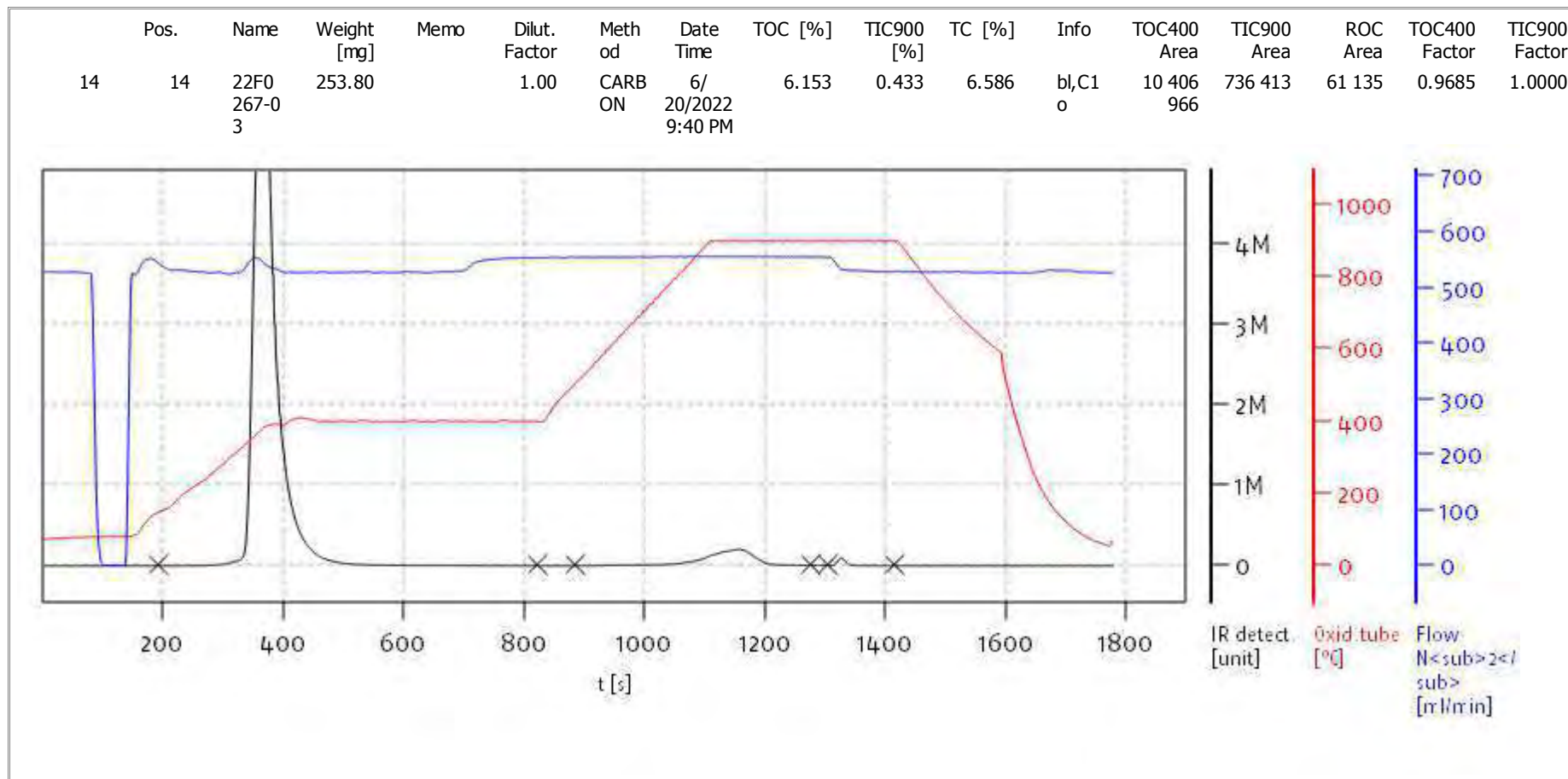
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

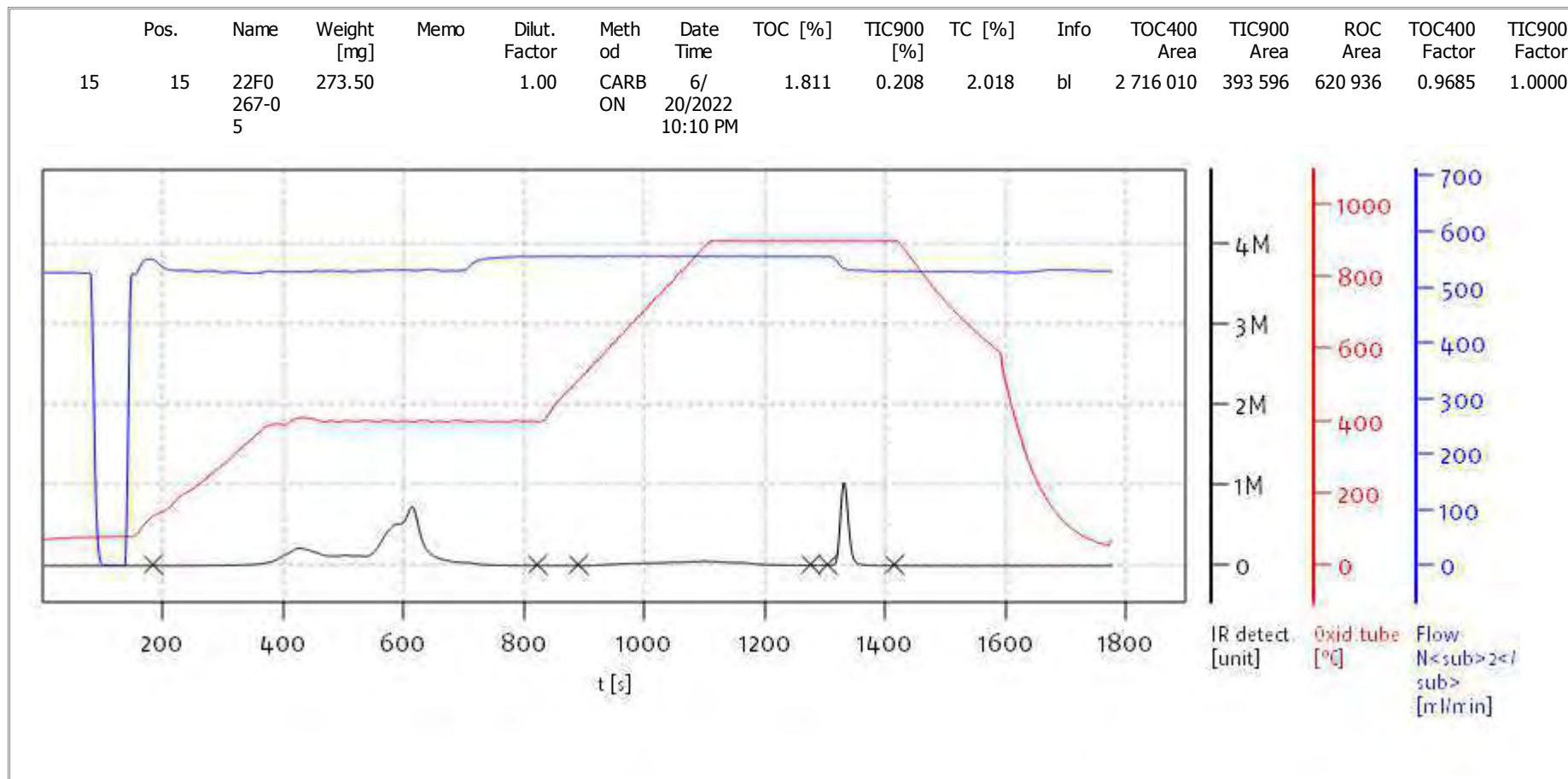


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

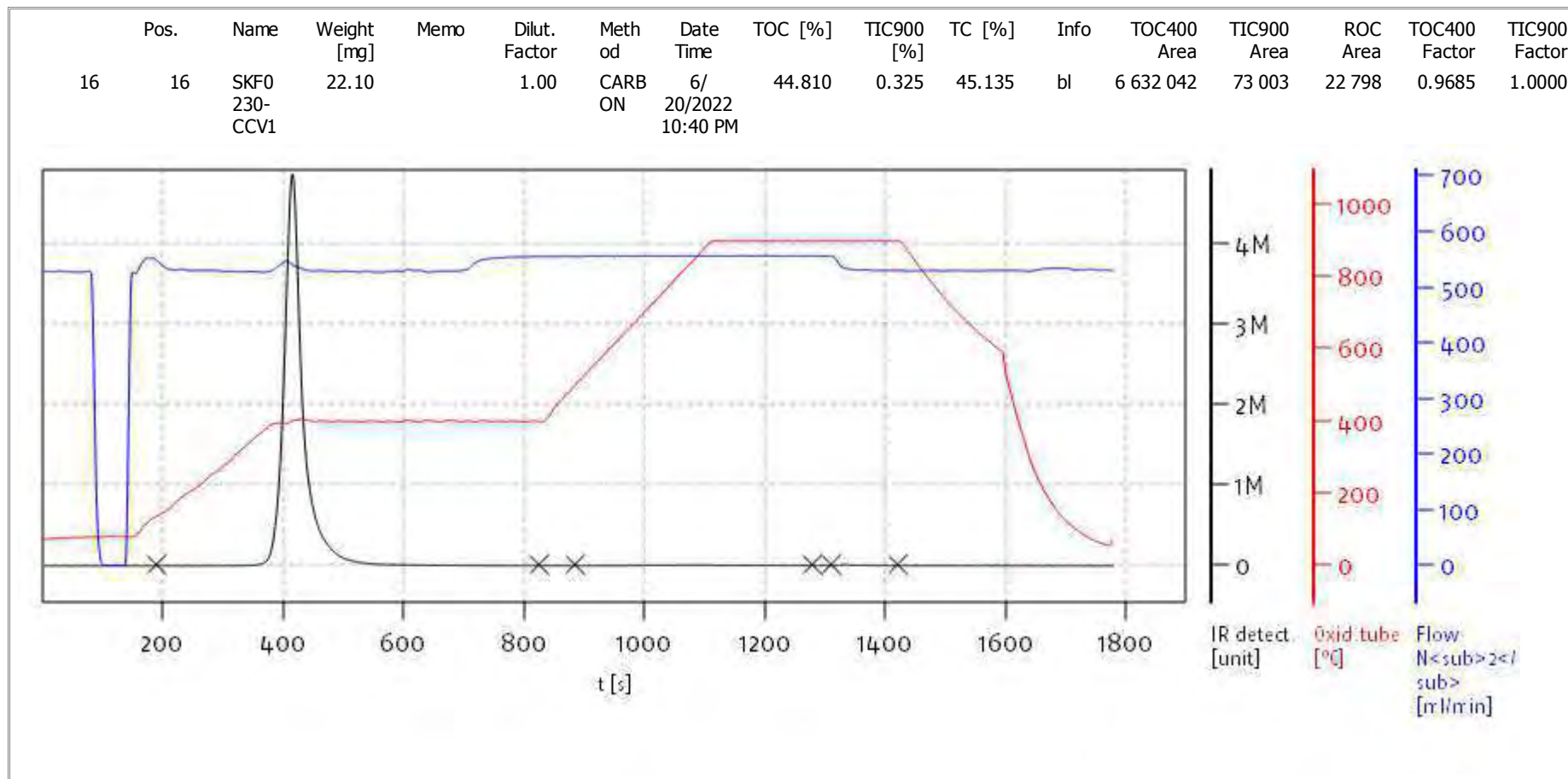
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

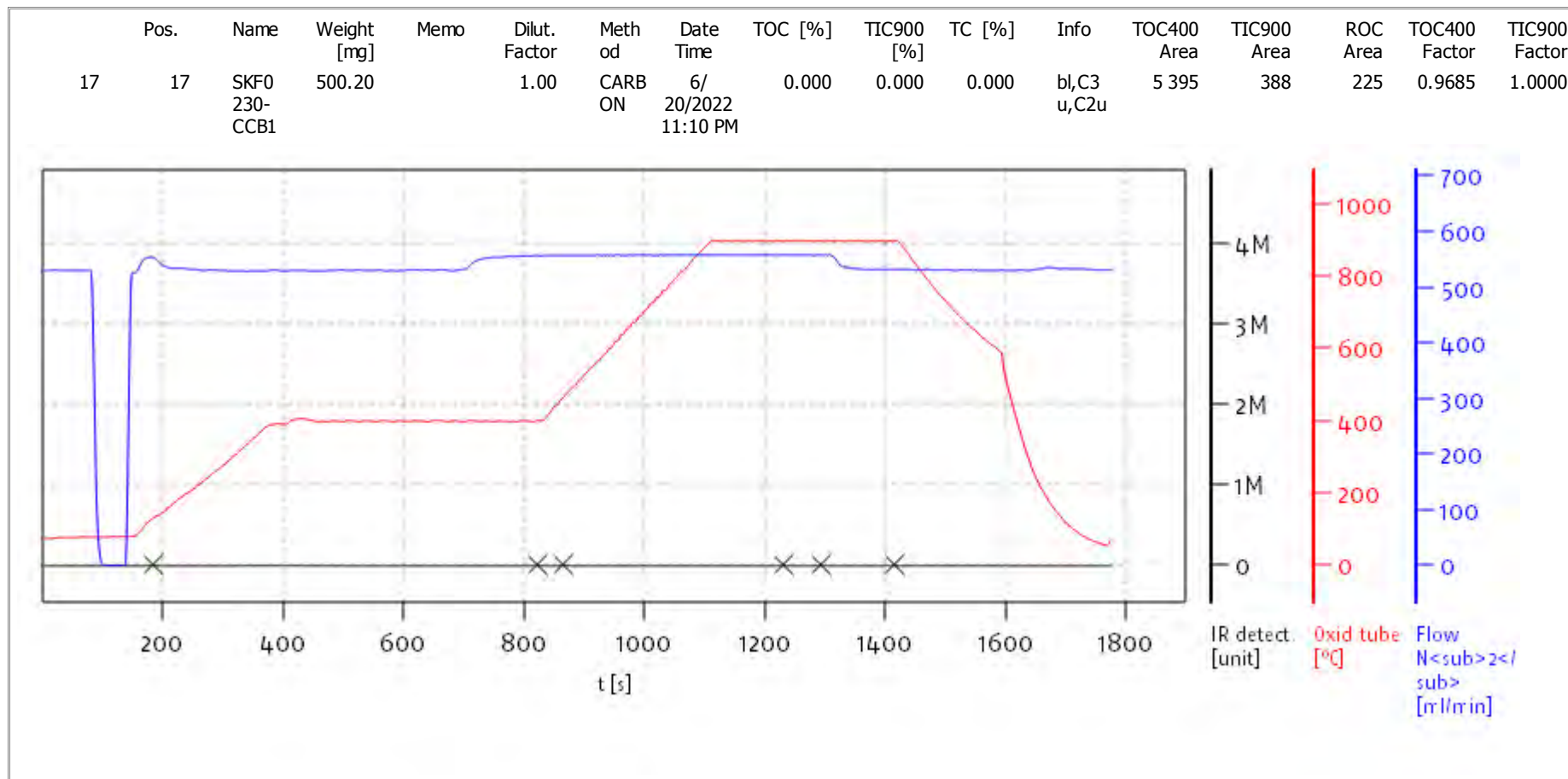
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Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

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Date: Tue Jun 21 08:30:43 2022

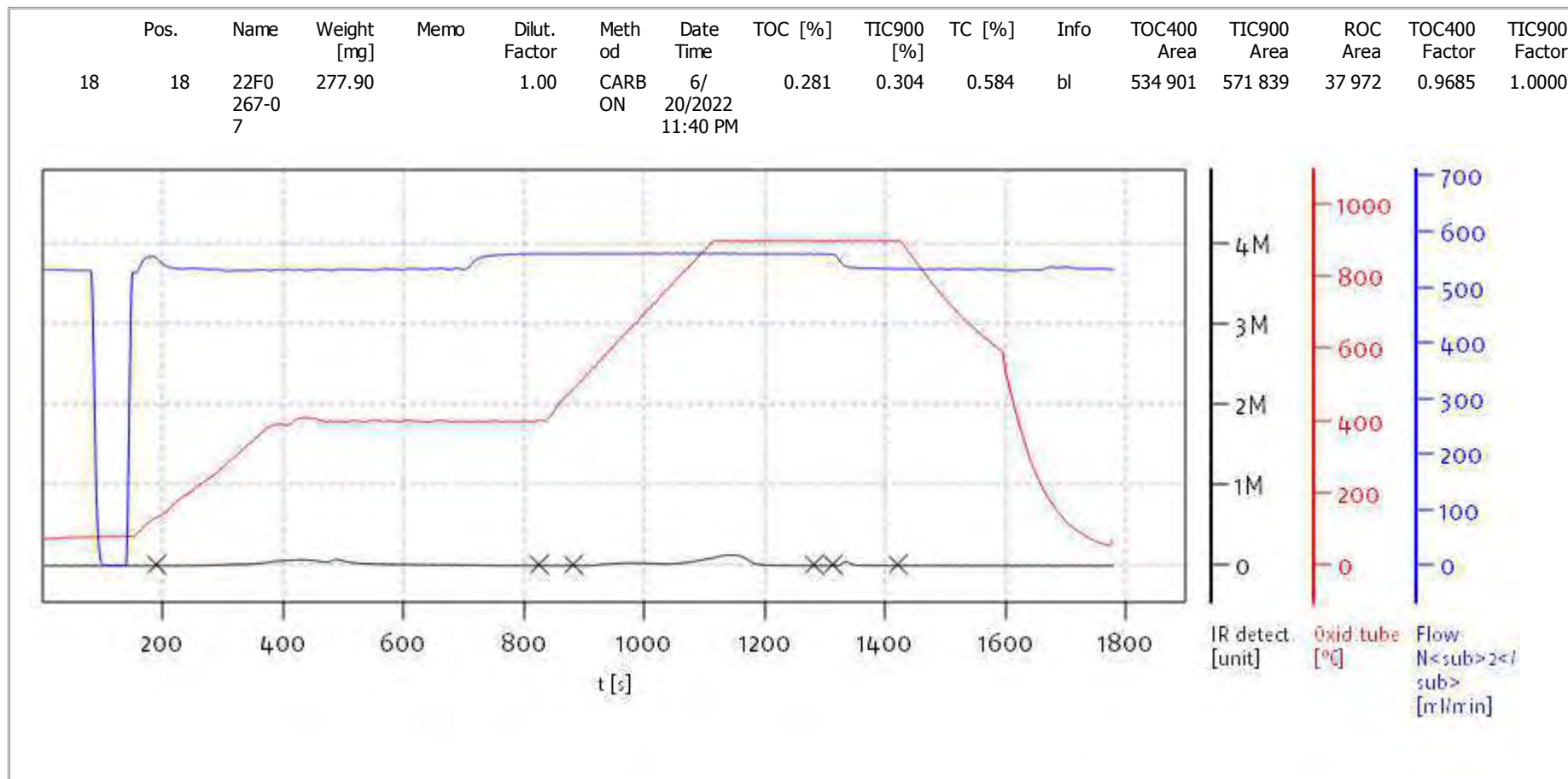


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Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

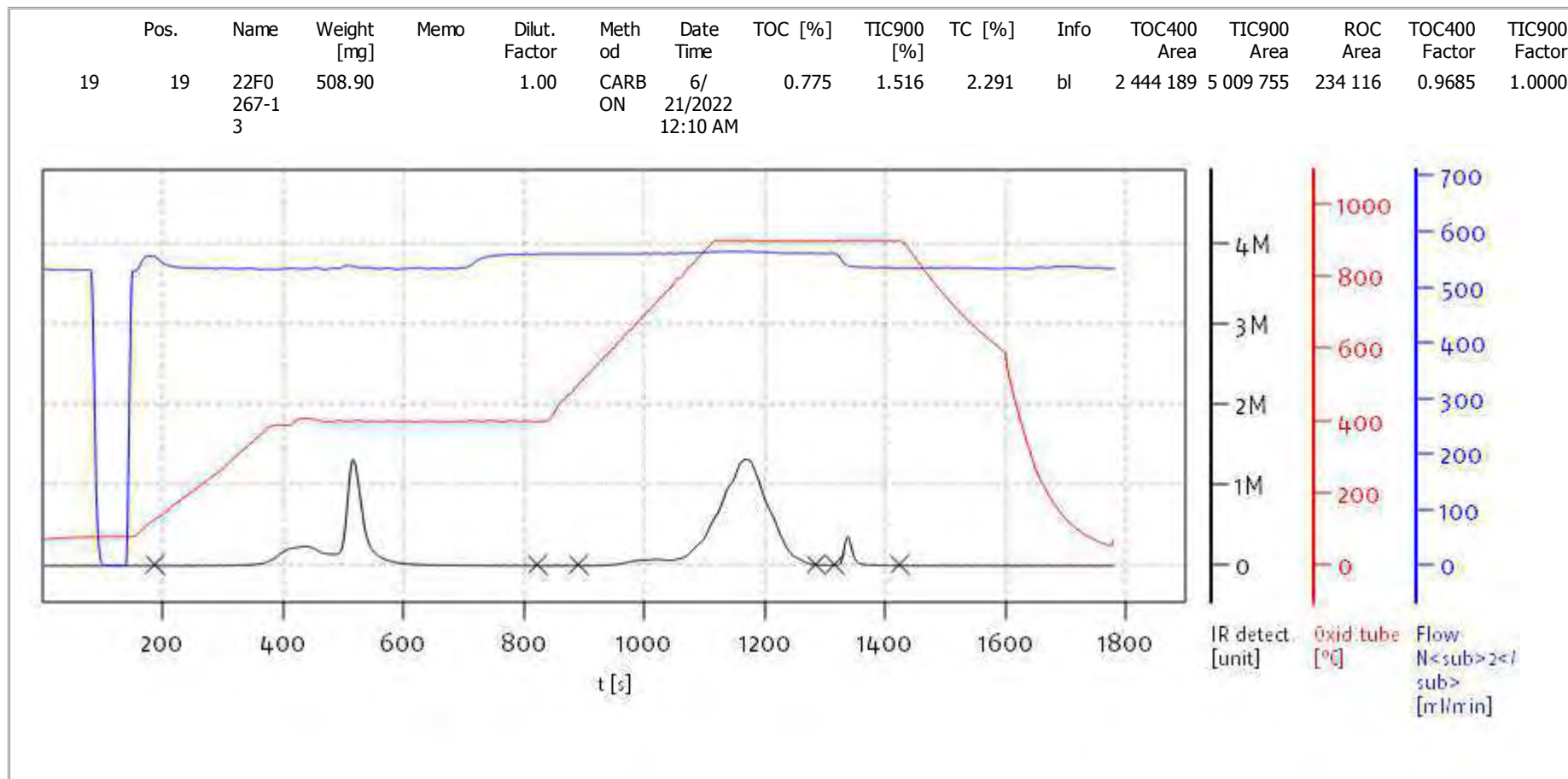
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

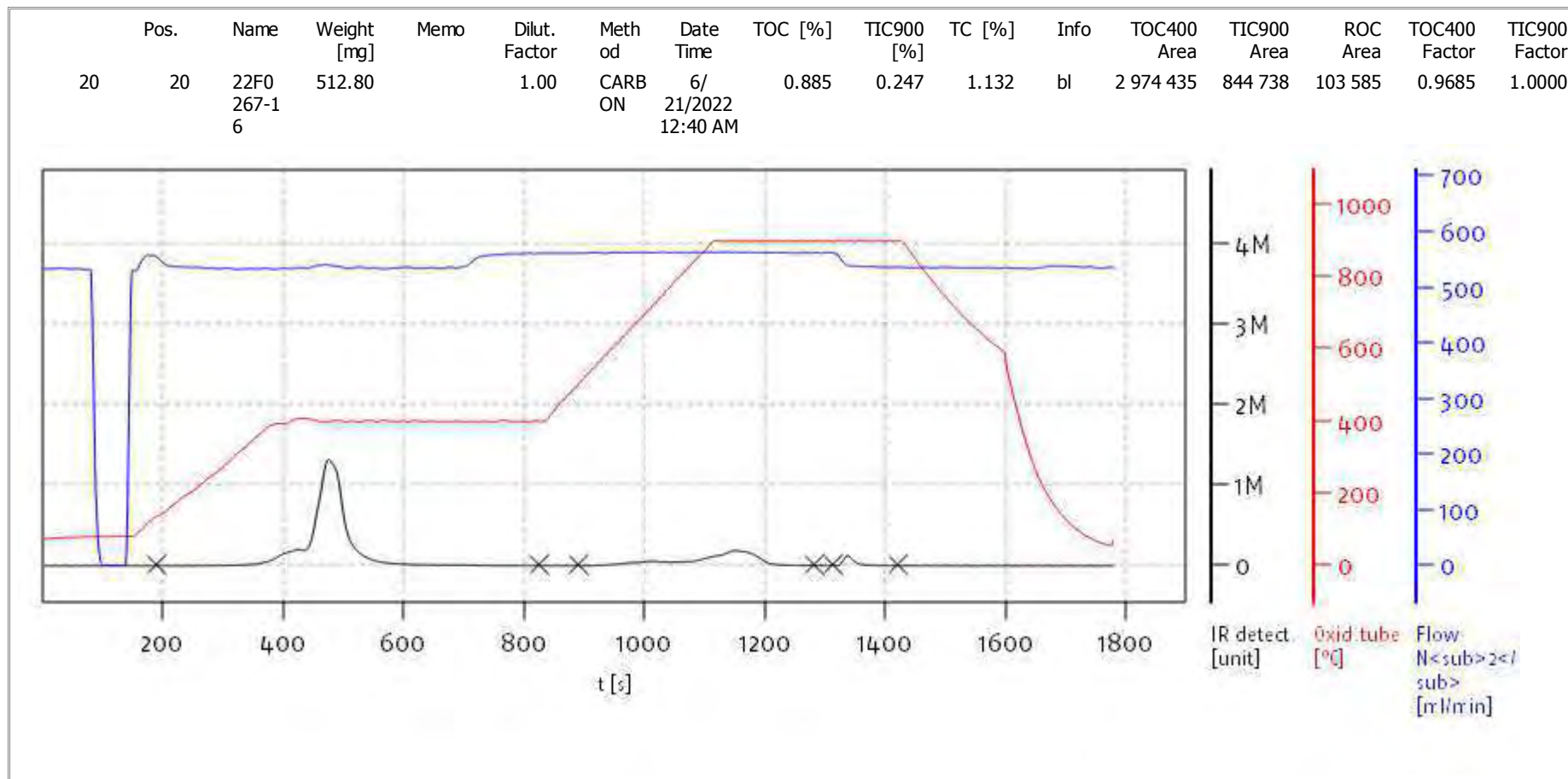
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

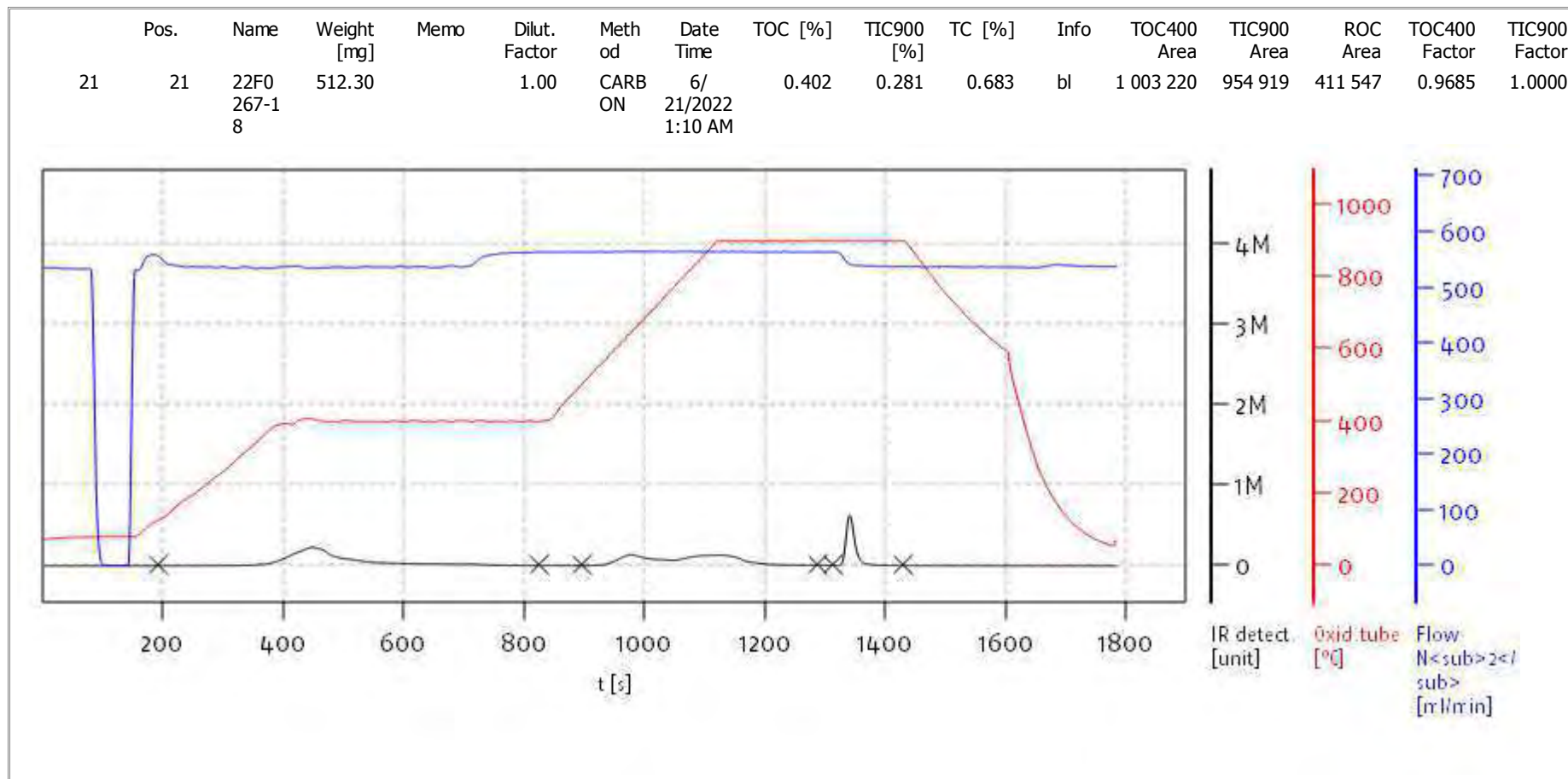
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

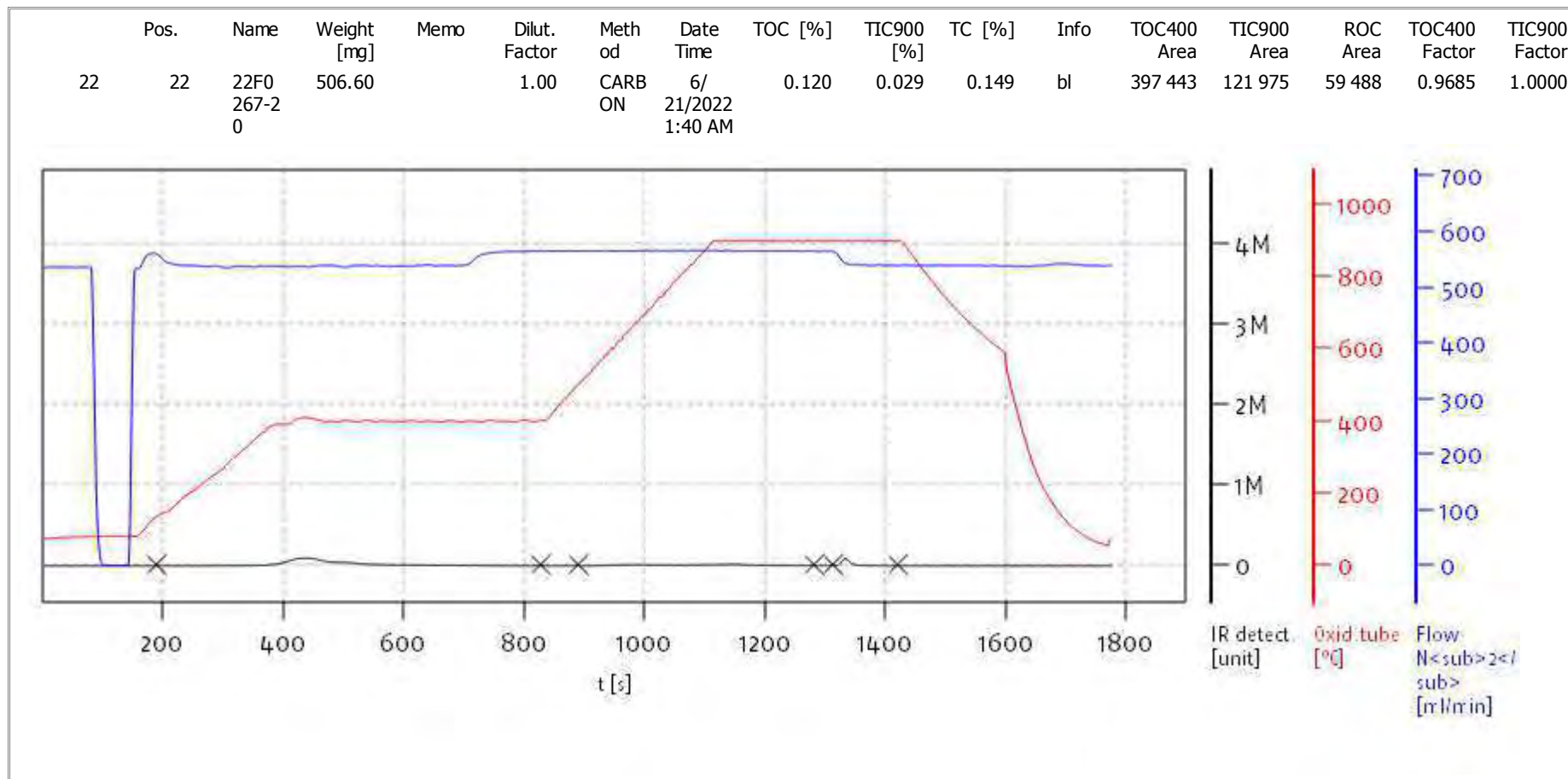
Date: Tue Jun 21 08:30:43 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

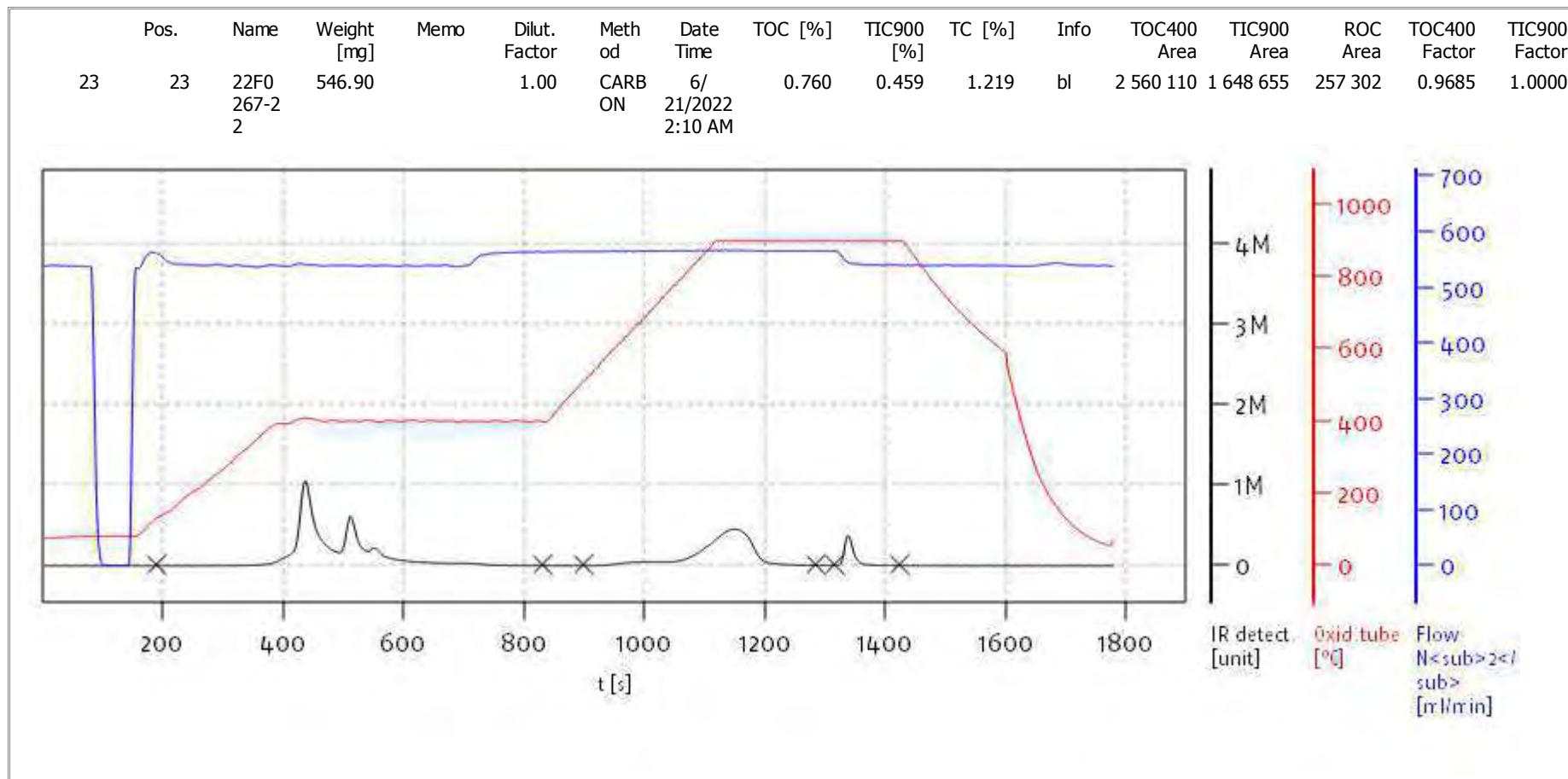


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

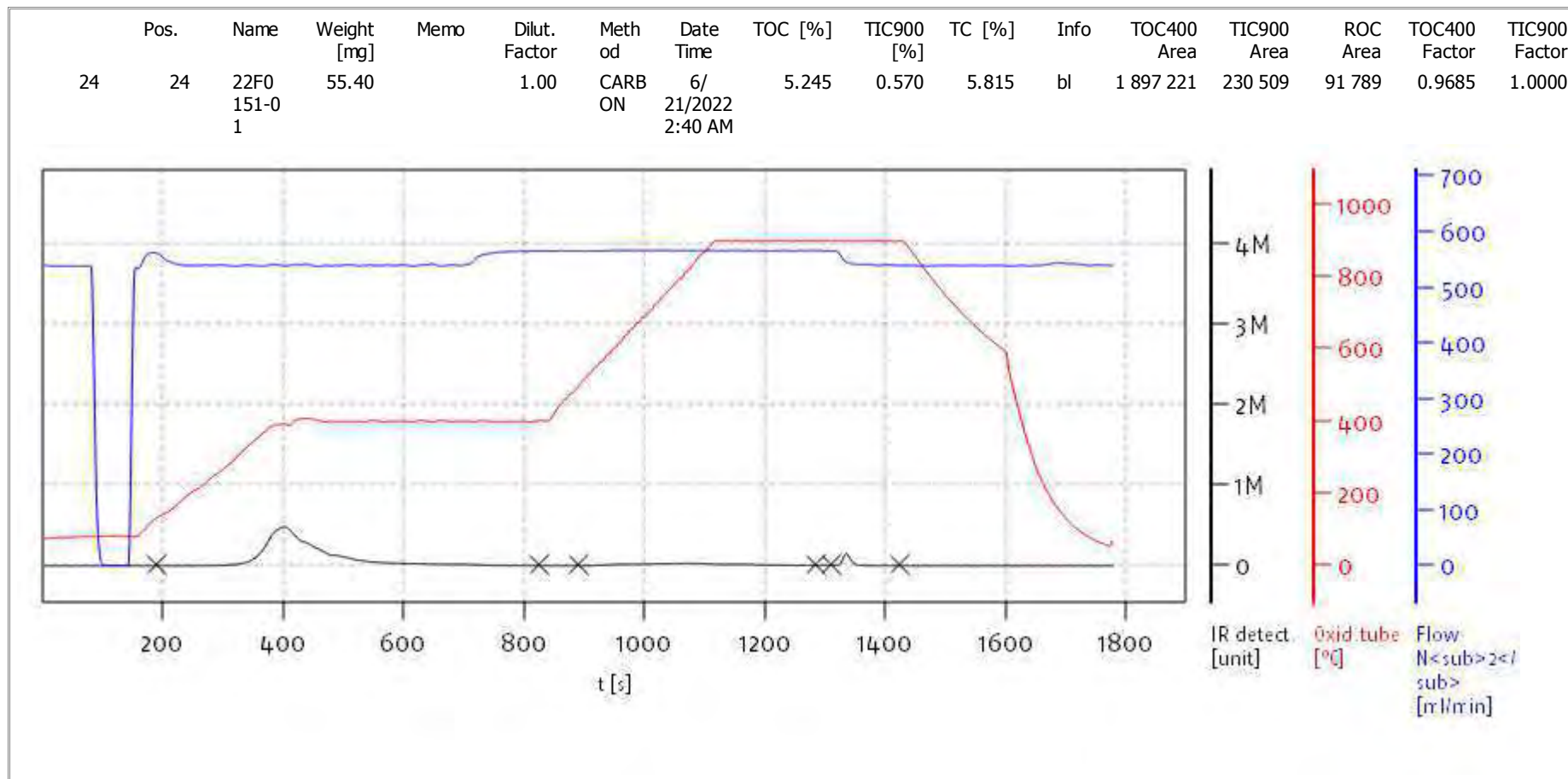
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

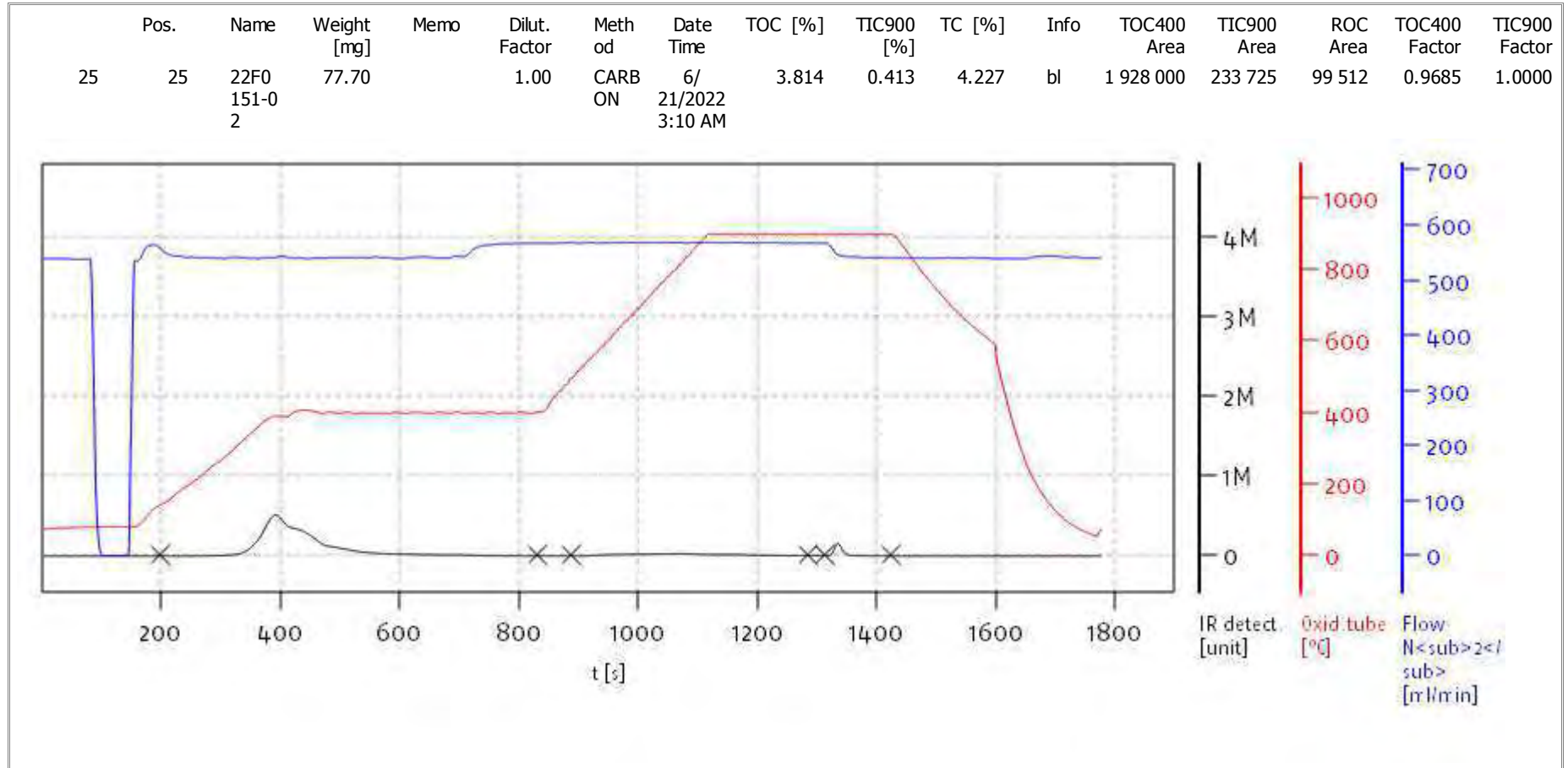
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022

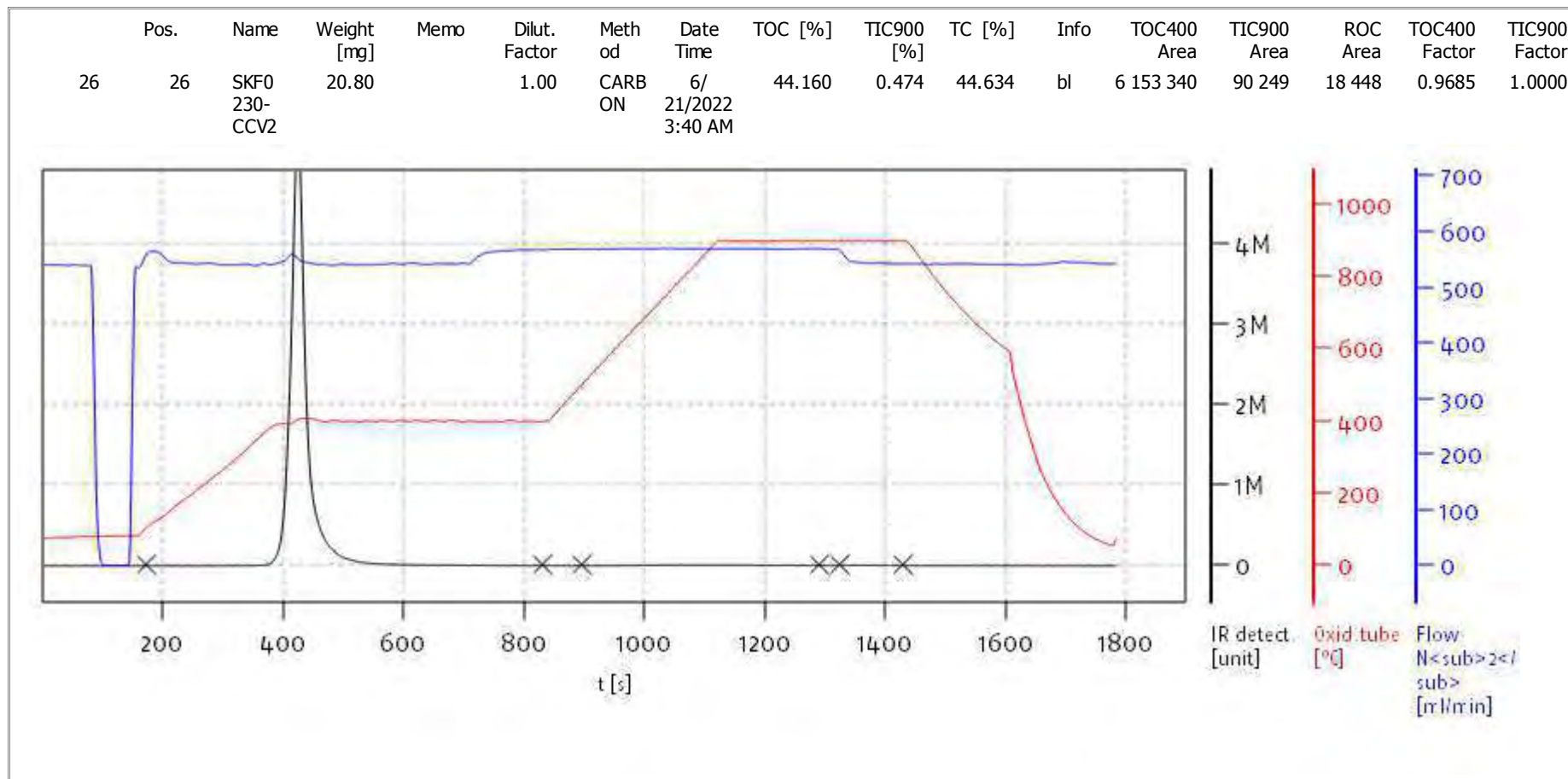


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

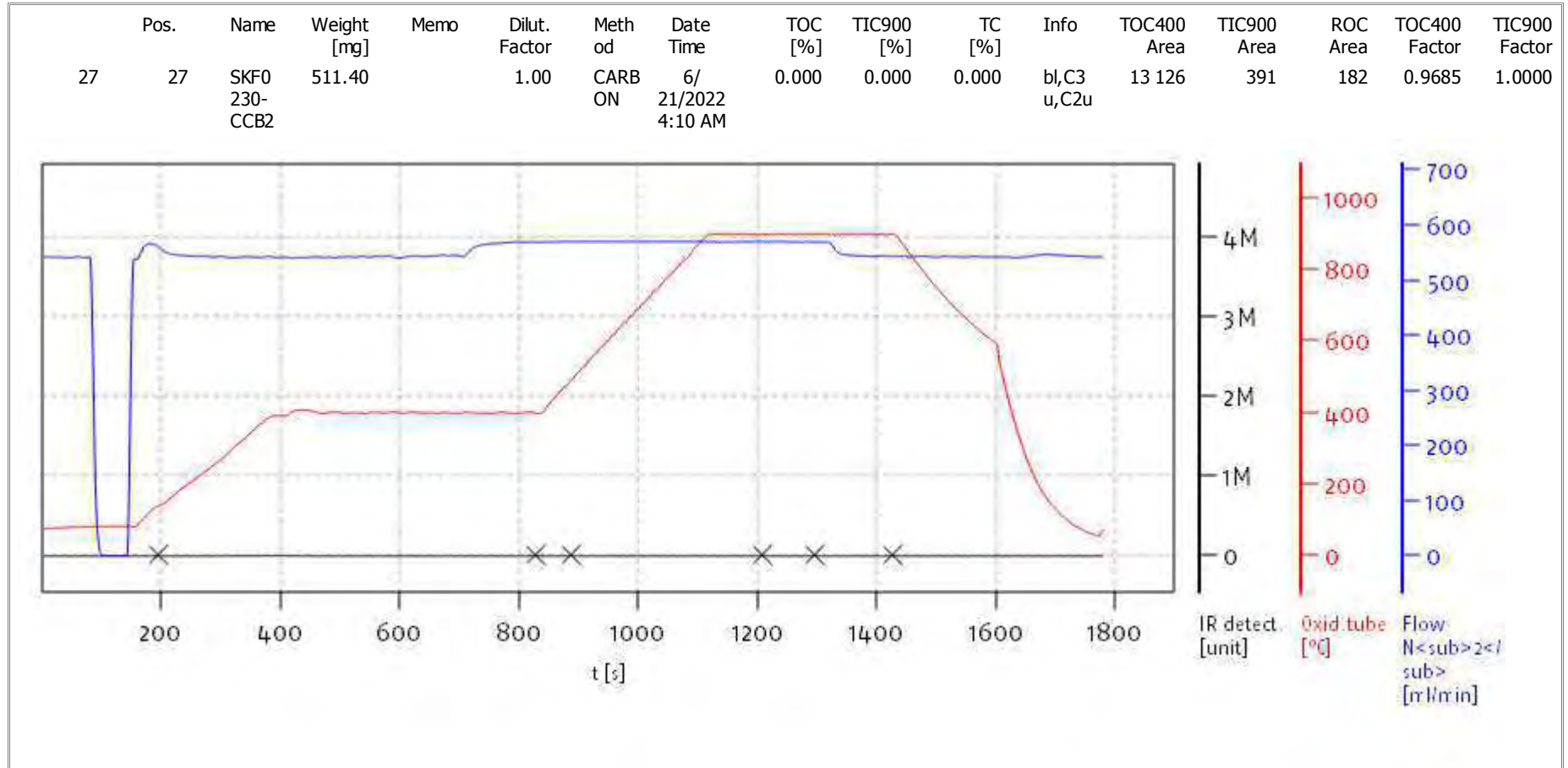
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Tue Jun 21 08:30:43 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



**ANALYSIS BATCH (SEQUENCE) SUMMARY**

**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Sequence: SKF0261

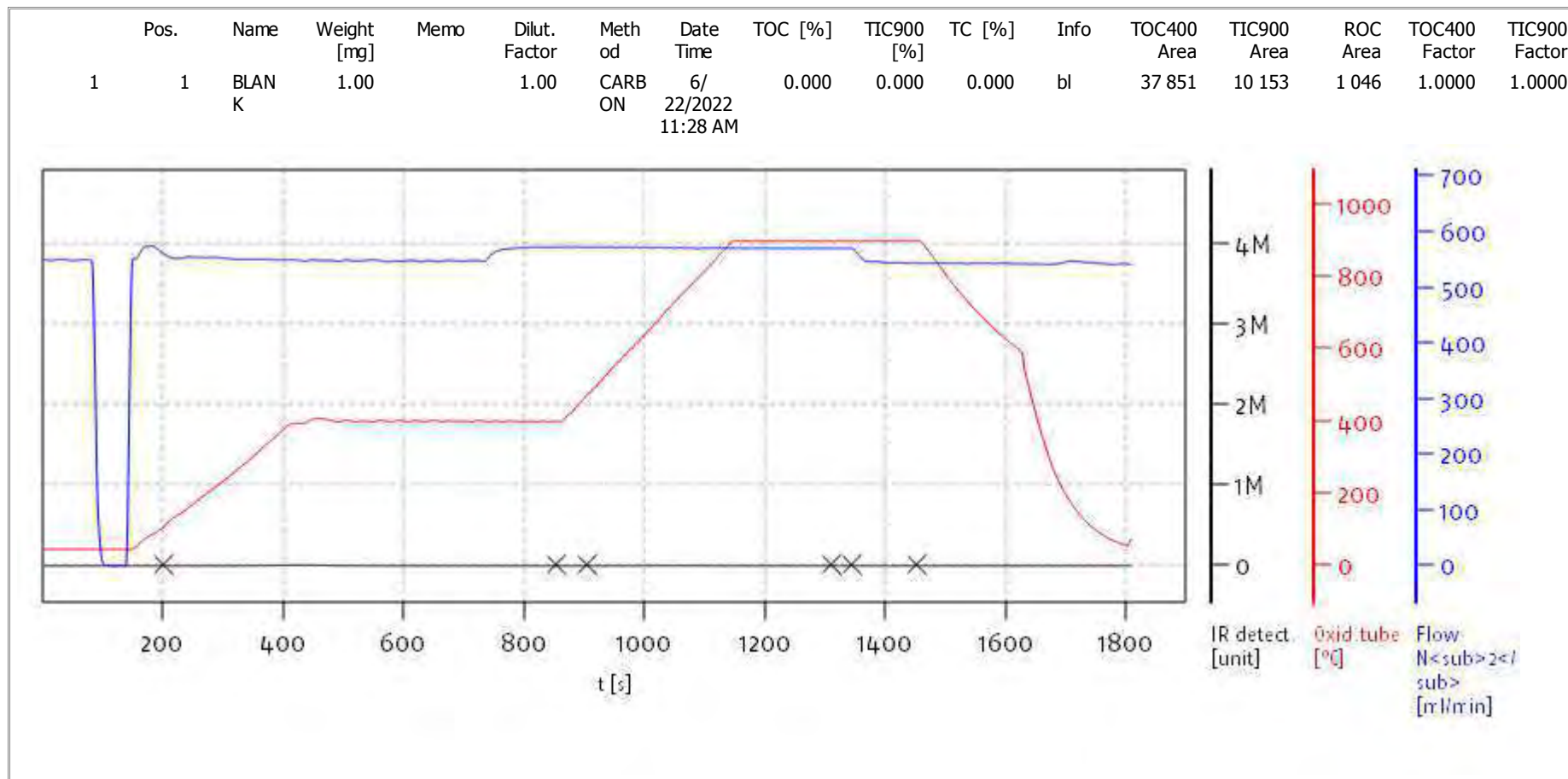
Instrument: TOC Cube

Calibration: FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
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Initial Cal Blank	SKF0261-ICB1	CubeData_06232022@0754-004	NA	06/22/22 13:28
Z1A-3-MS	22F0267-01RE1	CubeData_06232022@0754-005	Solid	06/22/22 13:58
Z1A-3-MS	BKF0437-DUP2	CubeData_06232022@0754-006	Solid	06/22/22 14:28
Z1A-3-MS	BKF0437-MS2	CubeData_06232022@0754-007	Solid	06/22/22 14:58
Z1A-3-MS	BKF0437-MSD2	CubeData_06232022@0754-008	Solid	06/22/22 15:28
Z1A-6-MS	22F0267-03RE1	CubeData_06232022@0754-009	Solid	06/22/22 15:58
Calibration Check	SKF0261-CCV1	CubeData_06232022@0754-010	NA	06/22/22 16:28
Calibration Blank	SKF0261-CCB1	CubeData_06232022@0754-011	NA	06/22/22 16:58



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

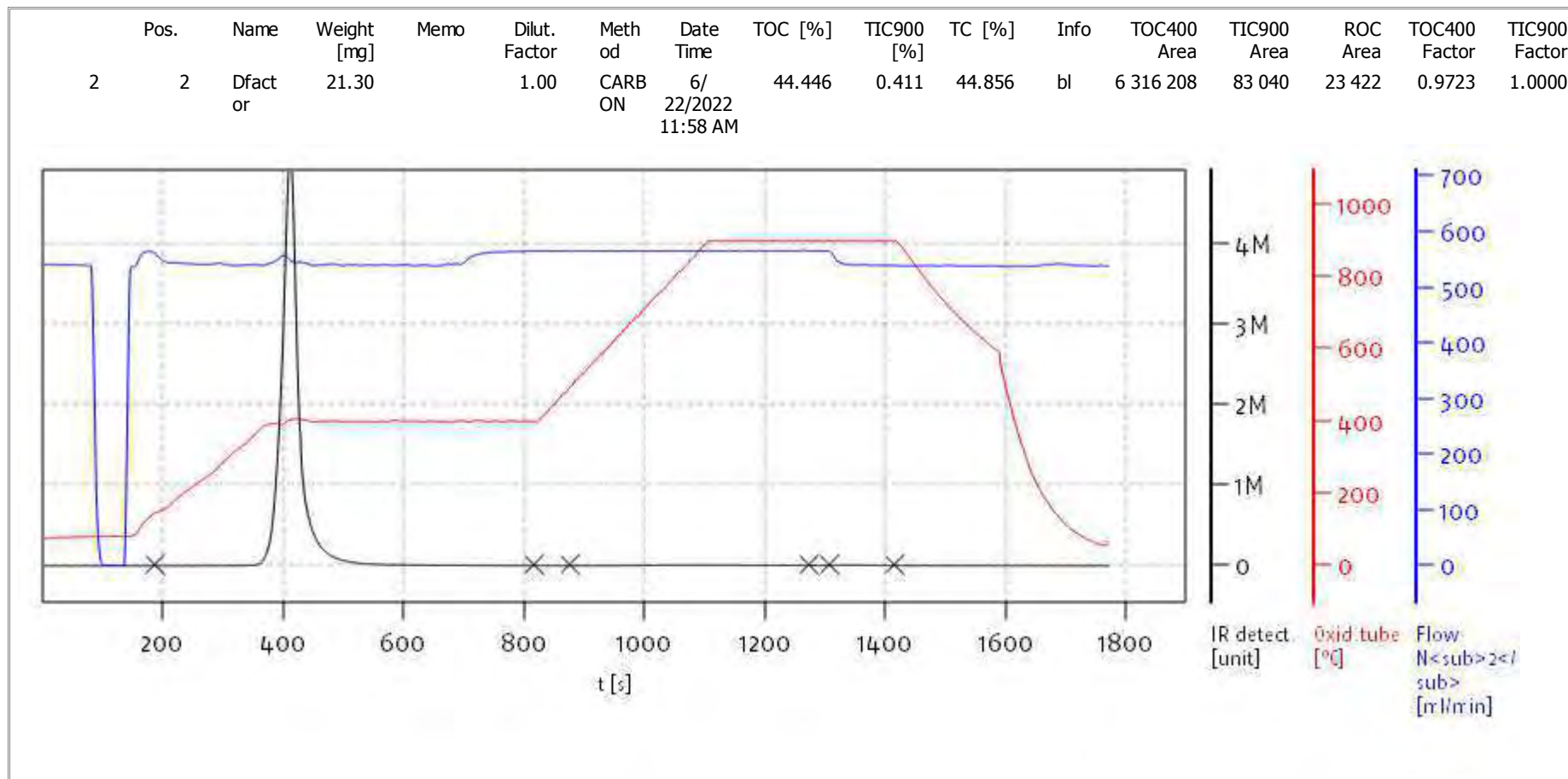
Date: Thu Jun 23 07:50:09 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Thu Jun 23 07:50:09 2022

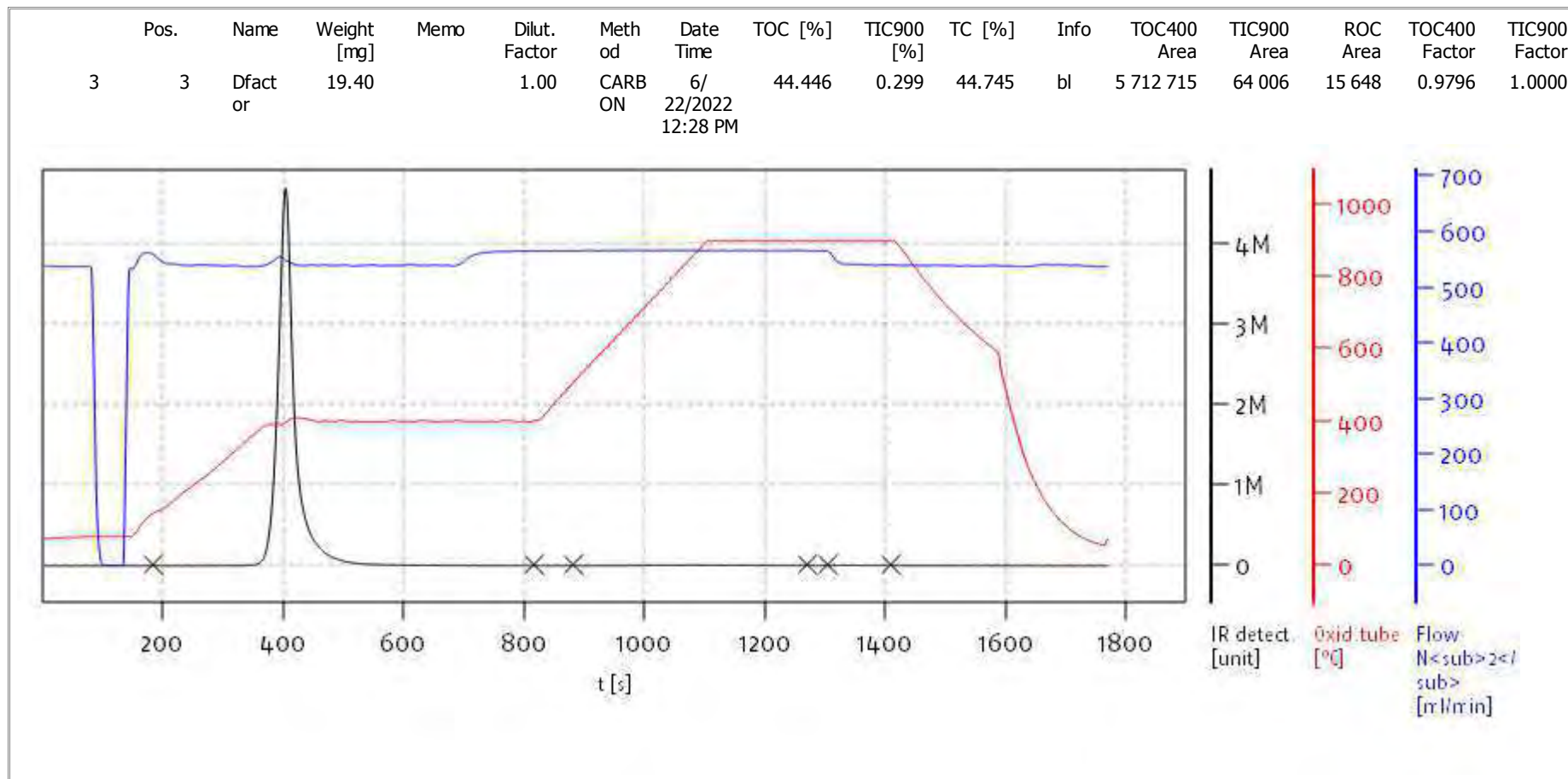


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

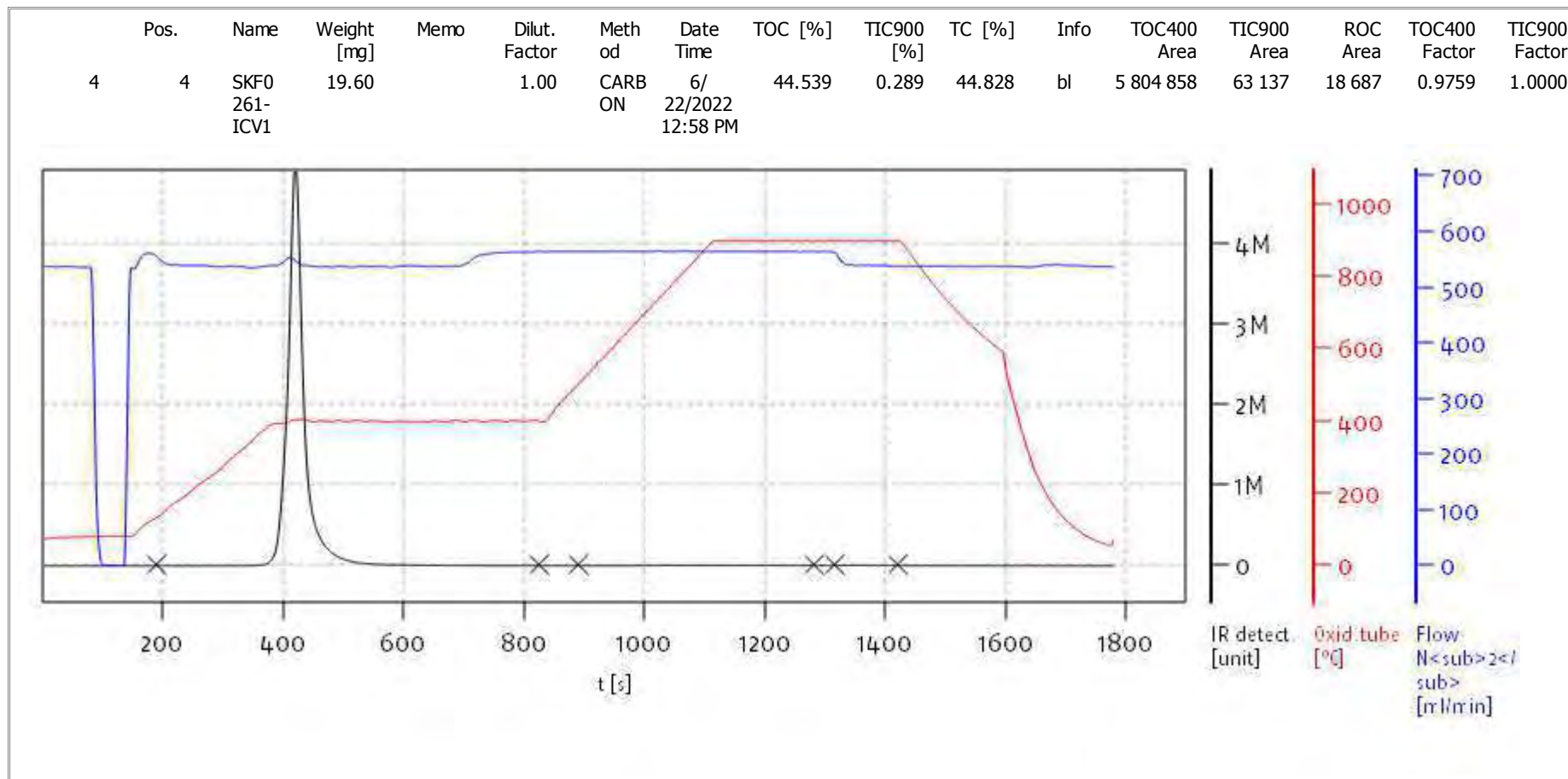
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

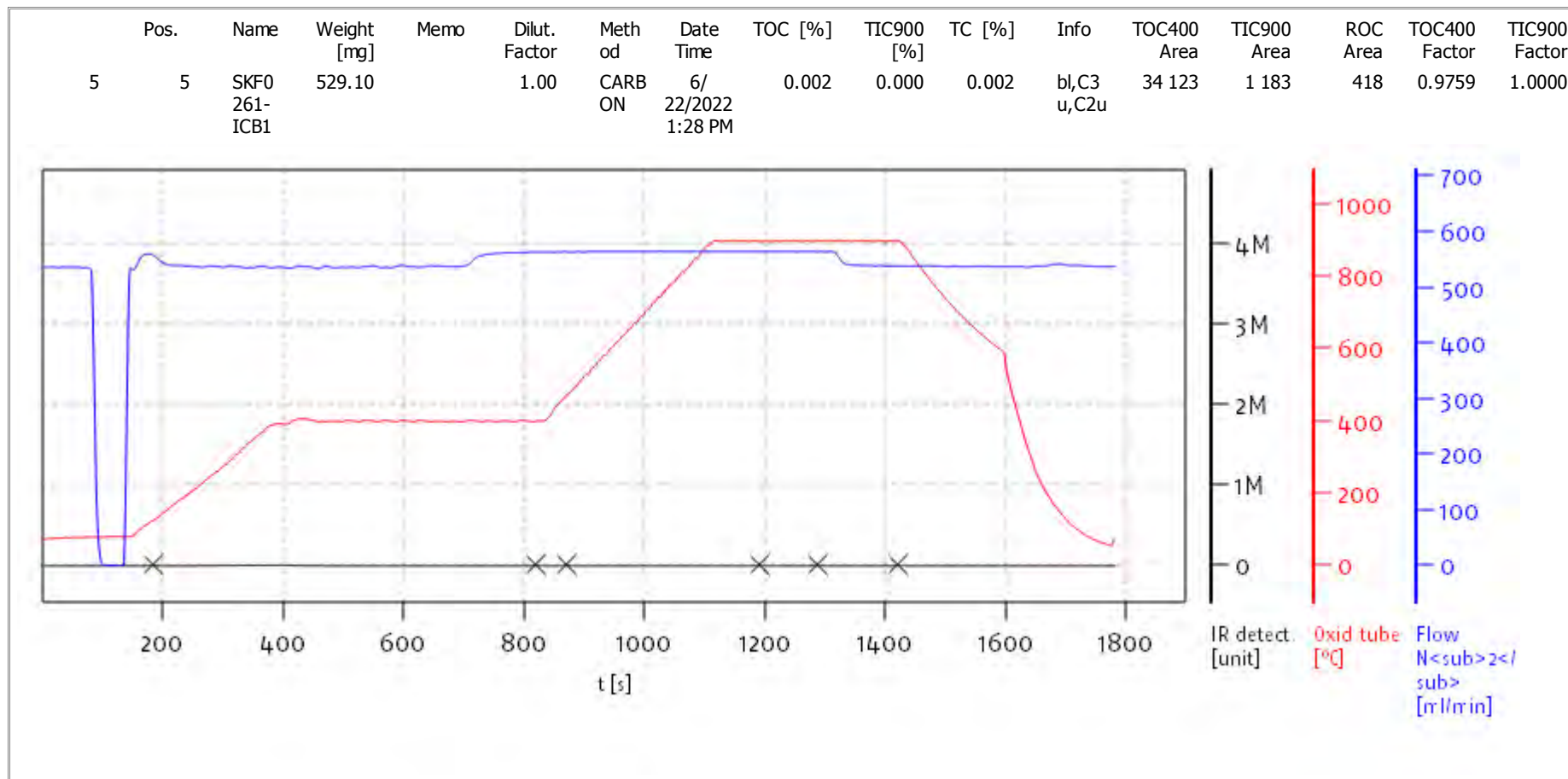
Date: Thu Jun 23 07:50:09 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Thu Jun 23 07:50:09 2022

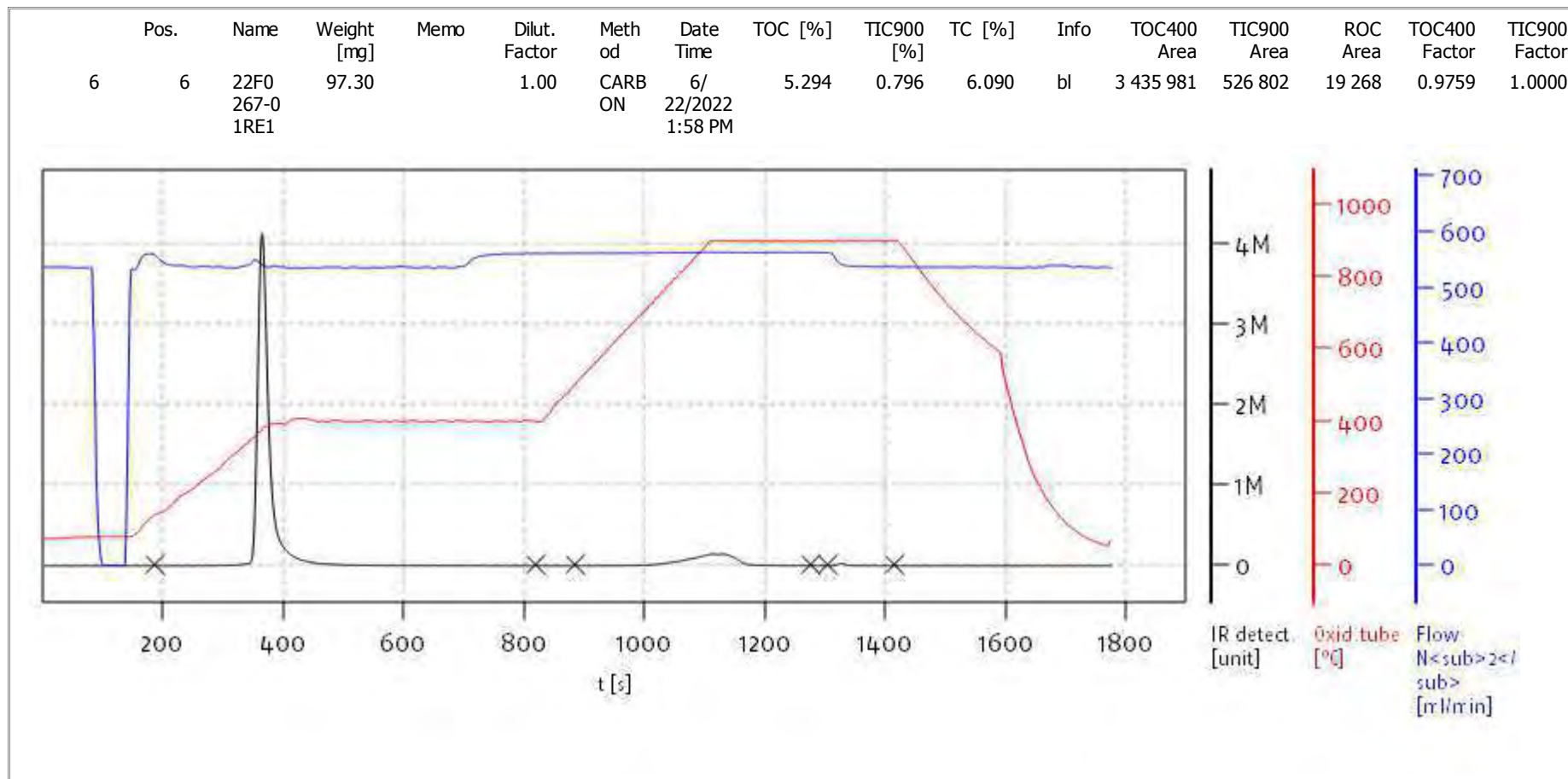


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

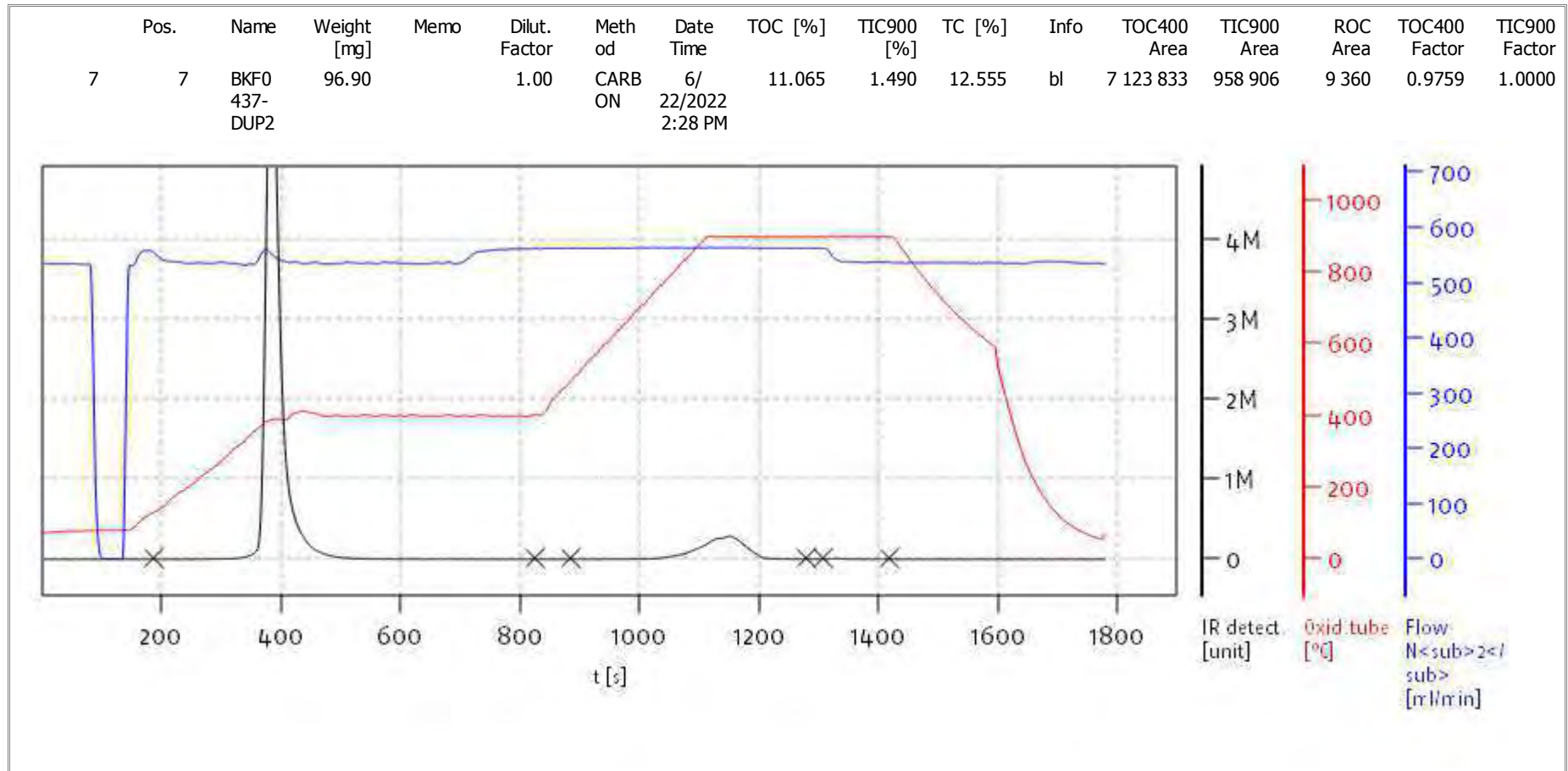
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

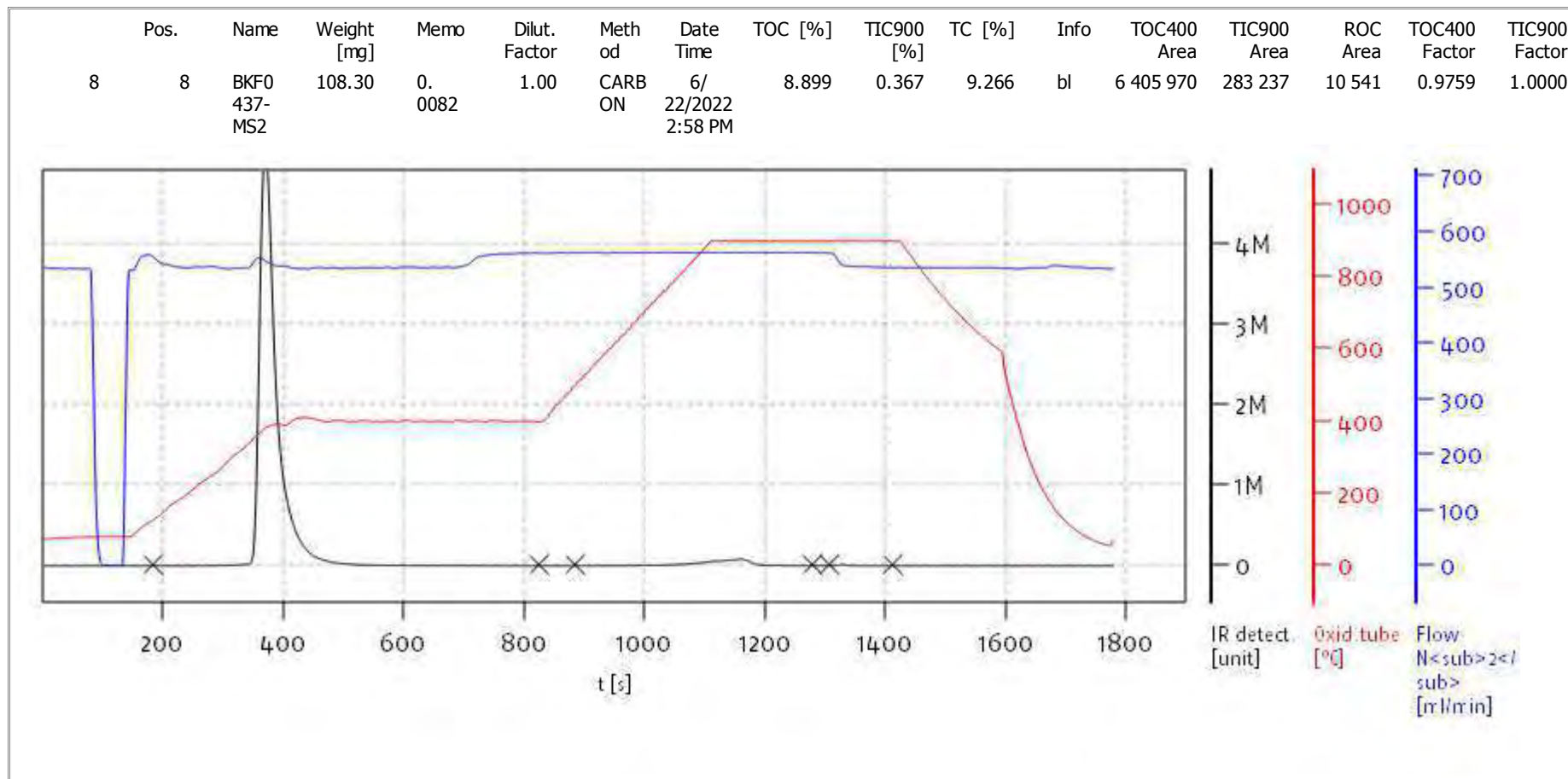
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

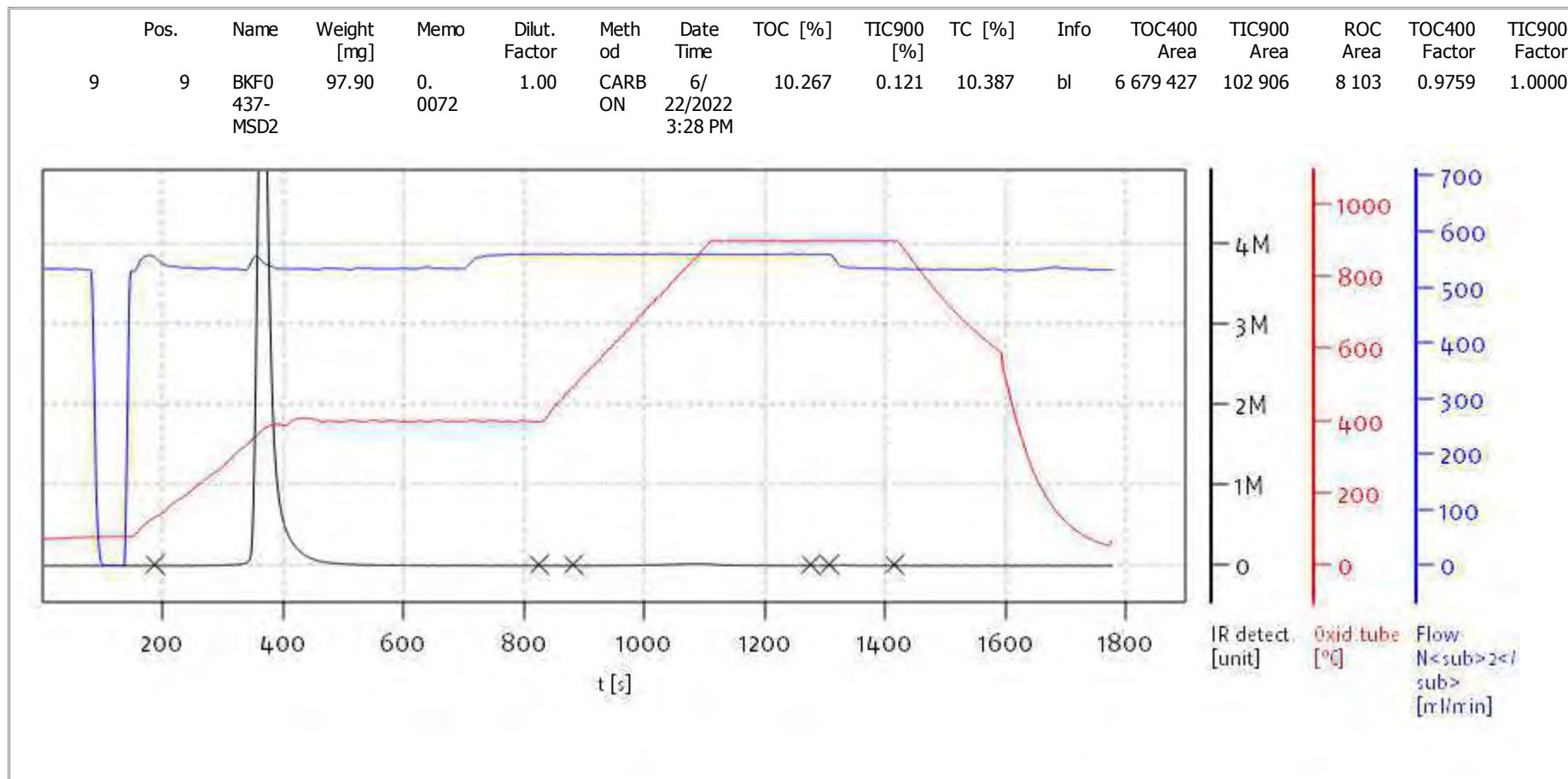
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

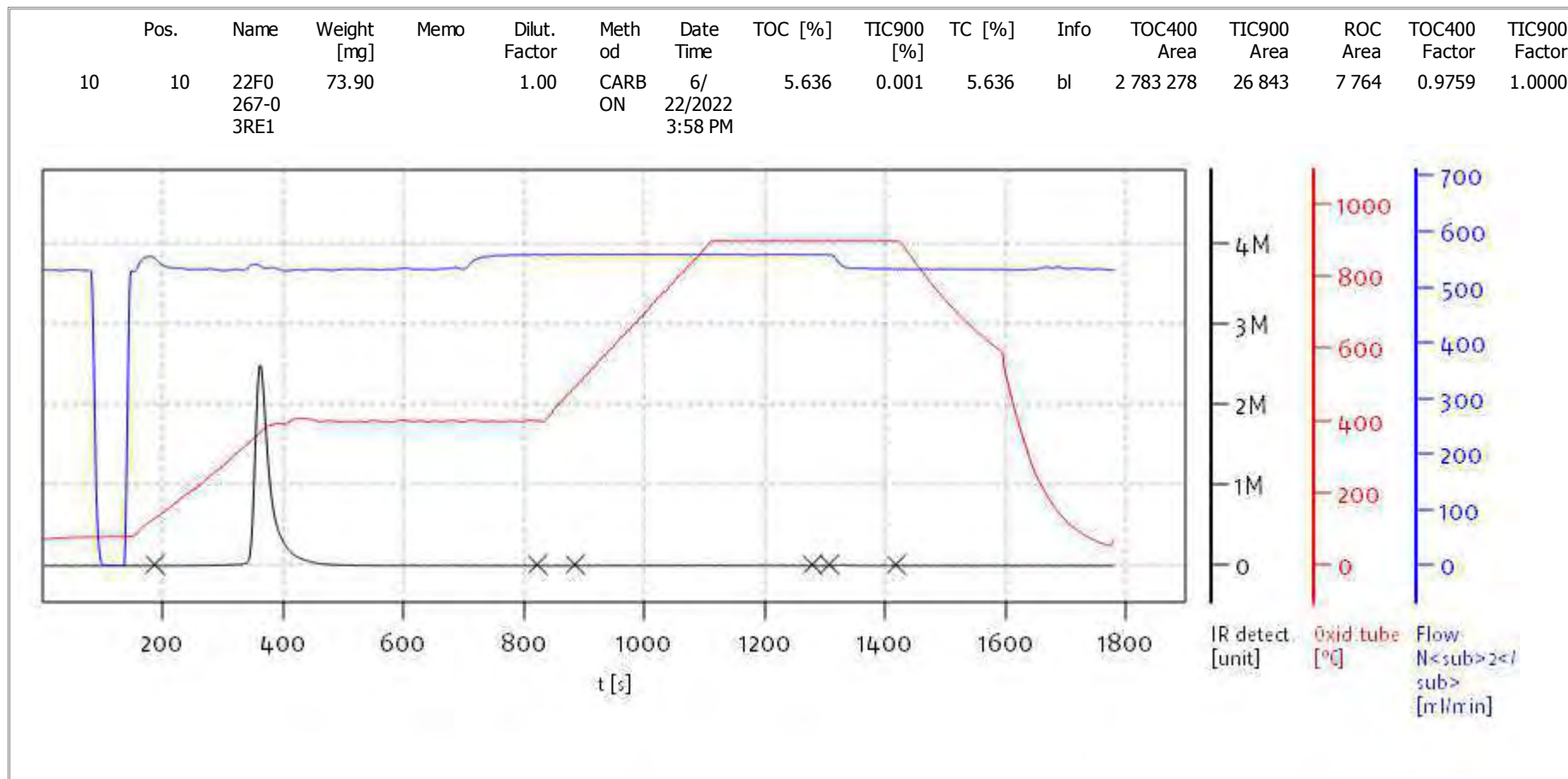
Date: Thu Jun 23 07:50:09 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Thu Jun 23 07:50:09 2022

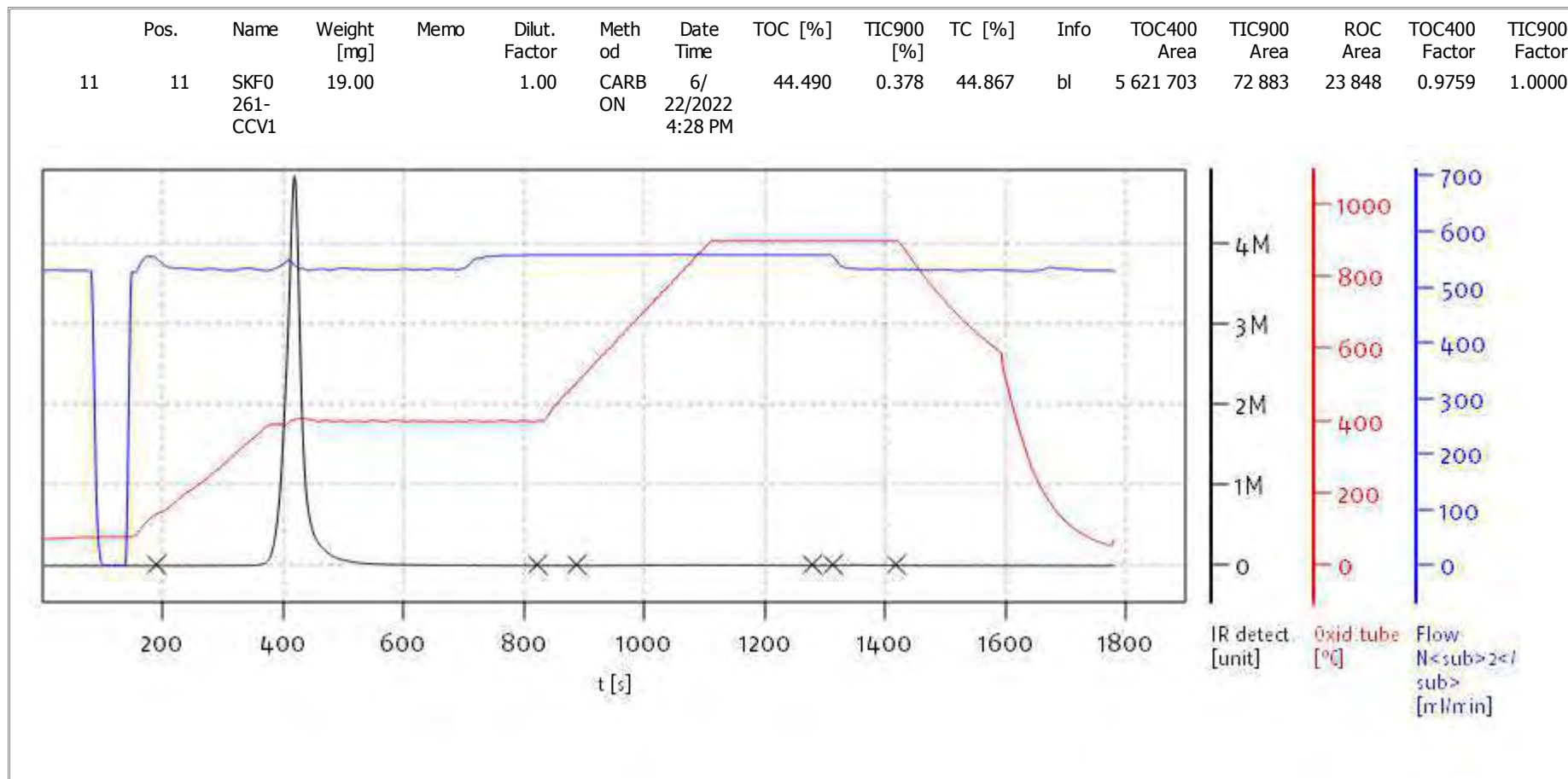


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

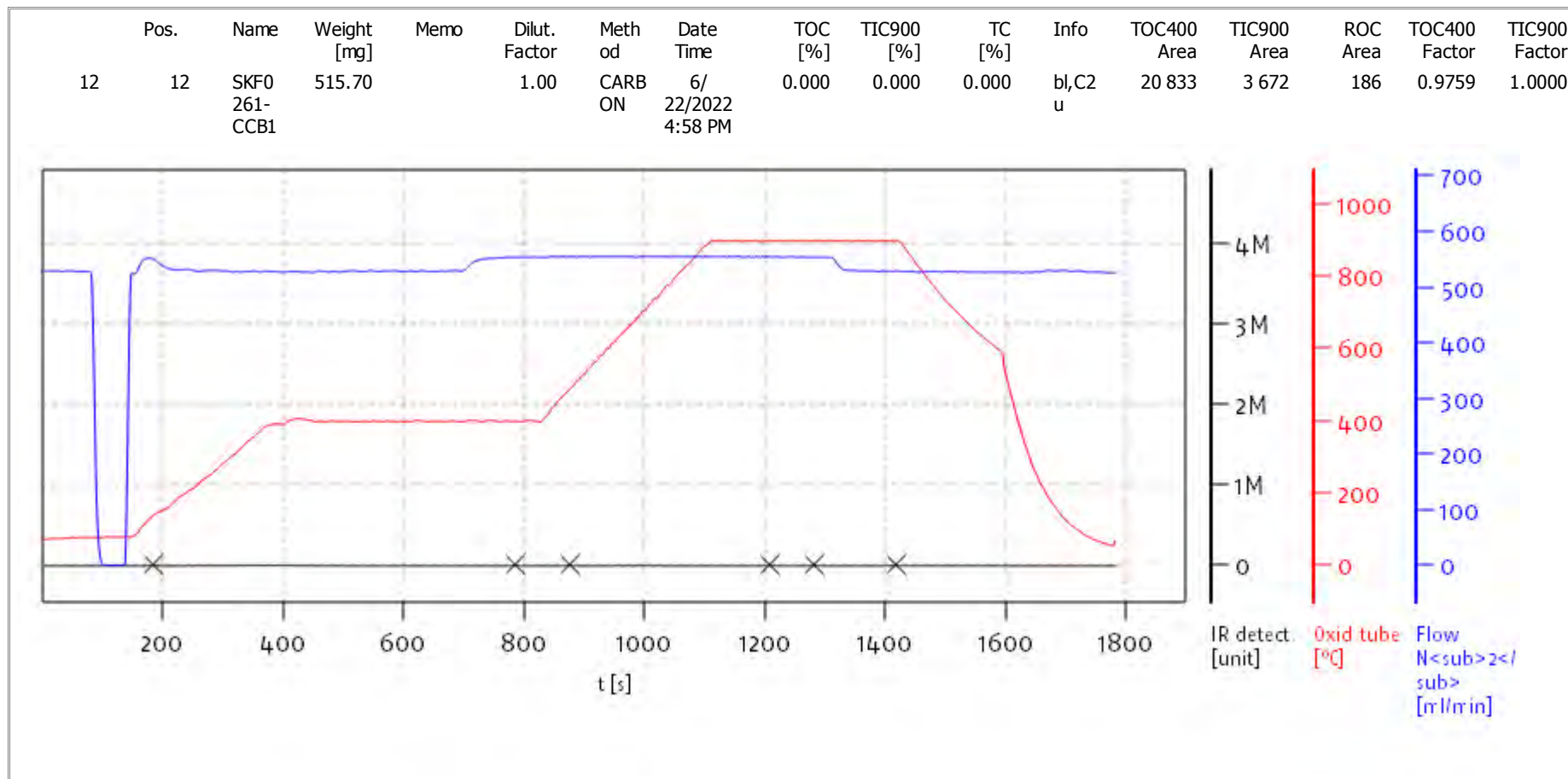
Date: Thu Jun 23 07:50:09 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Thu Jun 23 07:50:09 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC







**INITIAL CALIBRATION DATA**

**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Calibration: FD00070

Instrument: TOC Cube

Calibration Date: 04/26/2022 11:29

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Inorganic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
% Soot	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135



**INITIAL CALIBRATION DATA**

**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Calibration: FD00070

Instrument: TOC Cube

Calibration Date: 04/26/2022 11:29

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Inorganic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
% Soot	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882



**INITIAL CALIBRATION DATA**

**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Calibration: FD00070

Instrument: TOC Cube

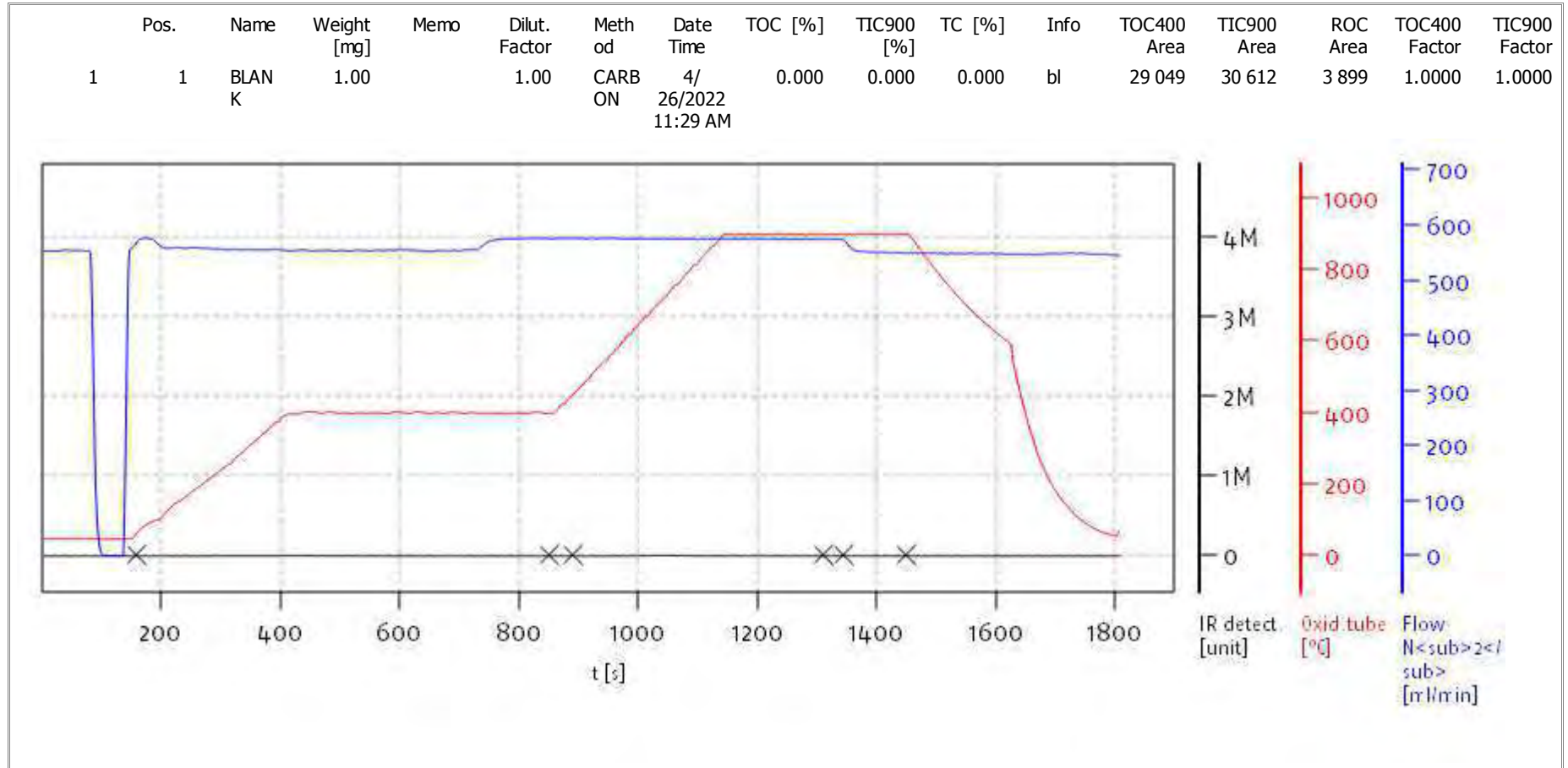
Calibration Date: 04/26/2022 11:29

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Inorganic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
% Soot	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

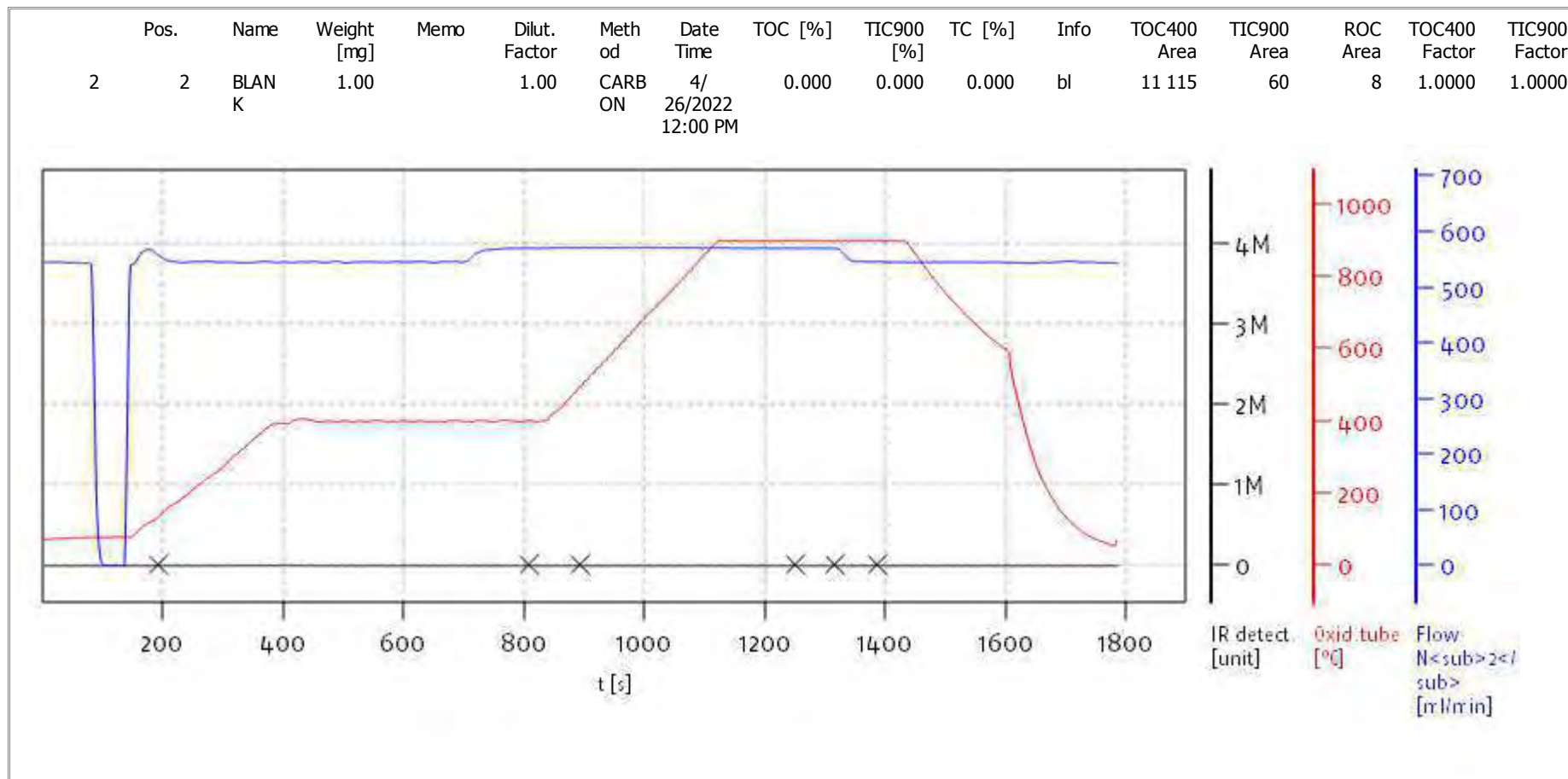
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

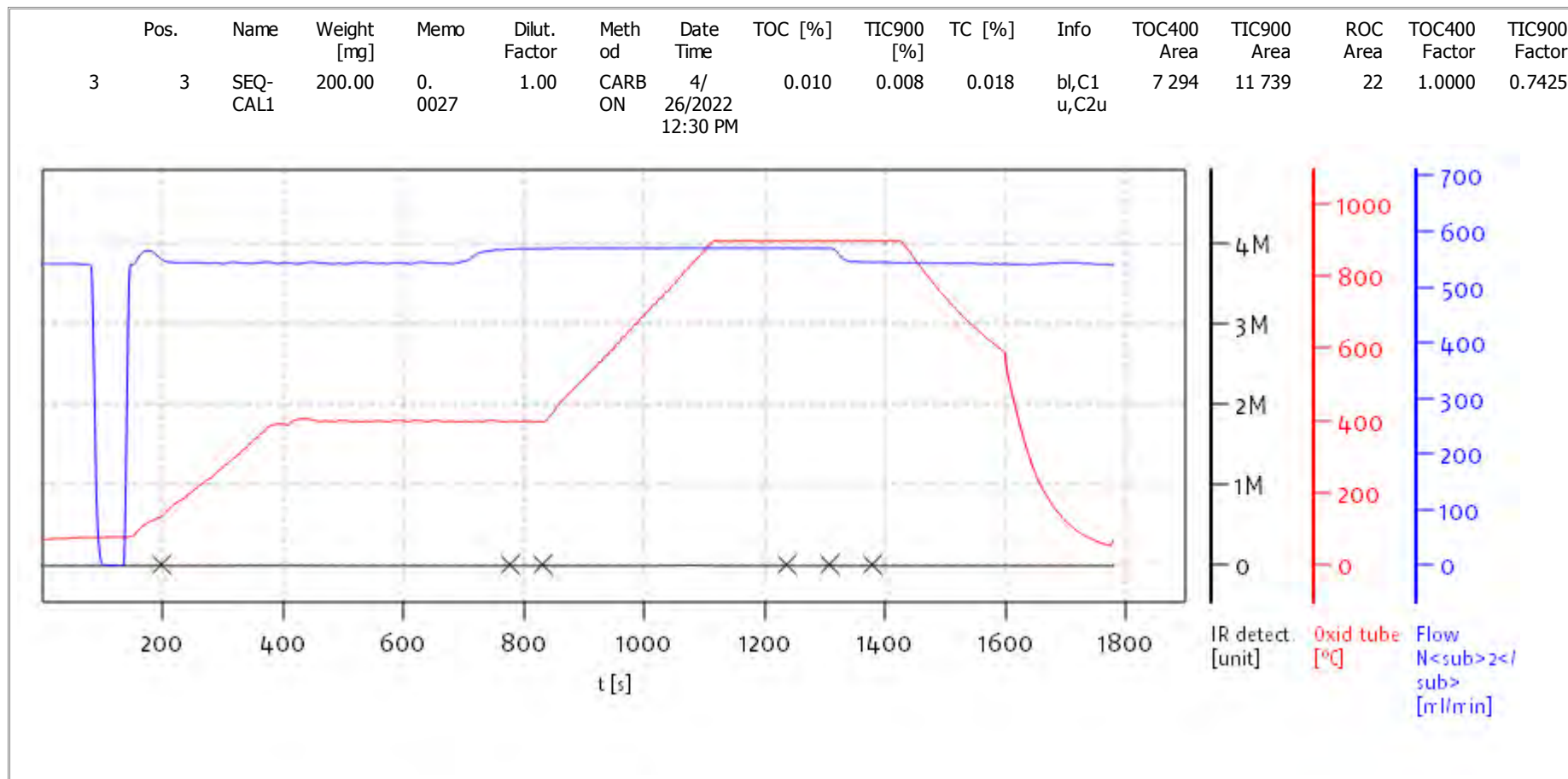
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

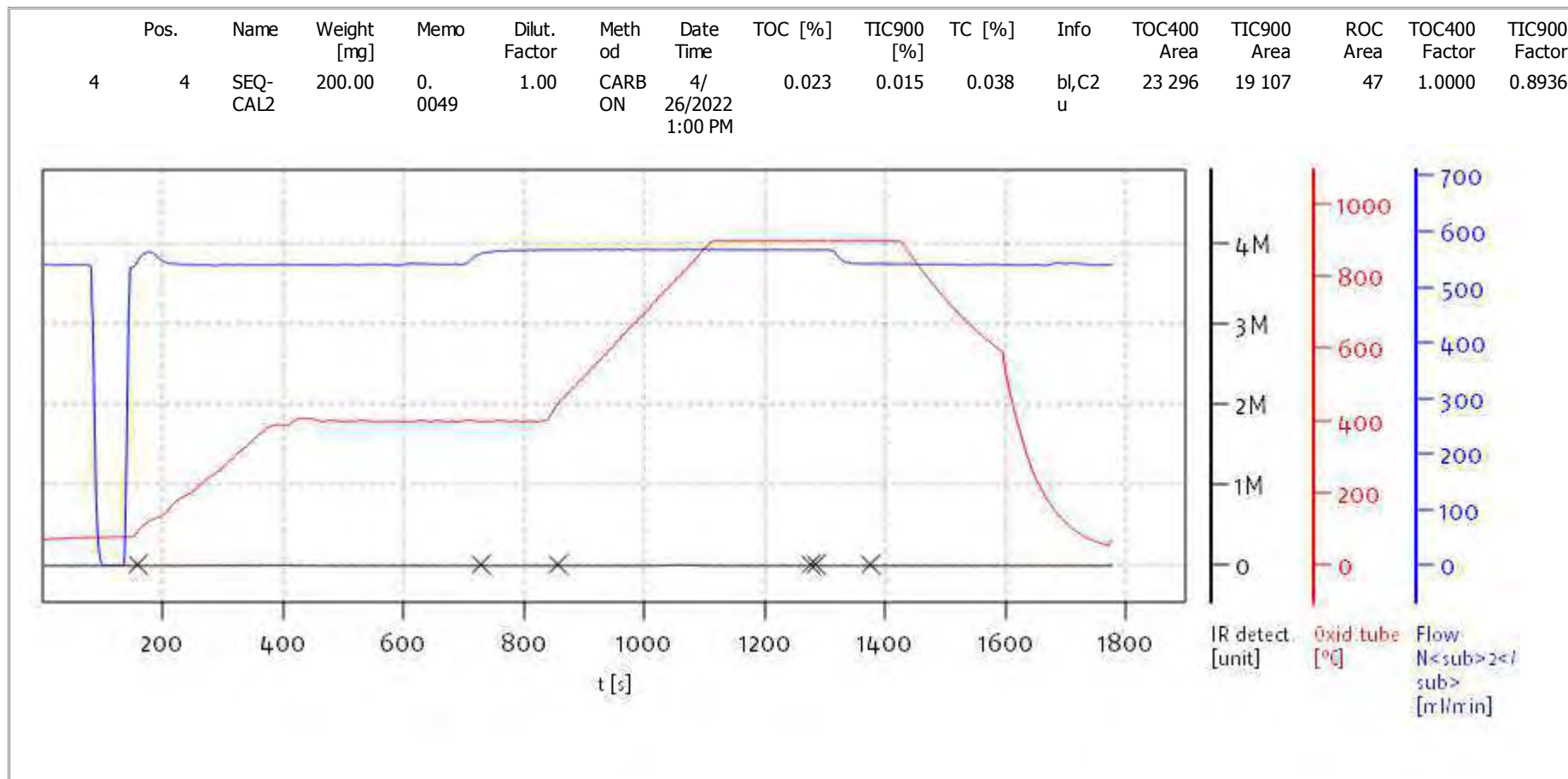
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

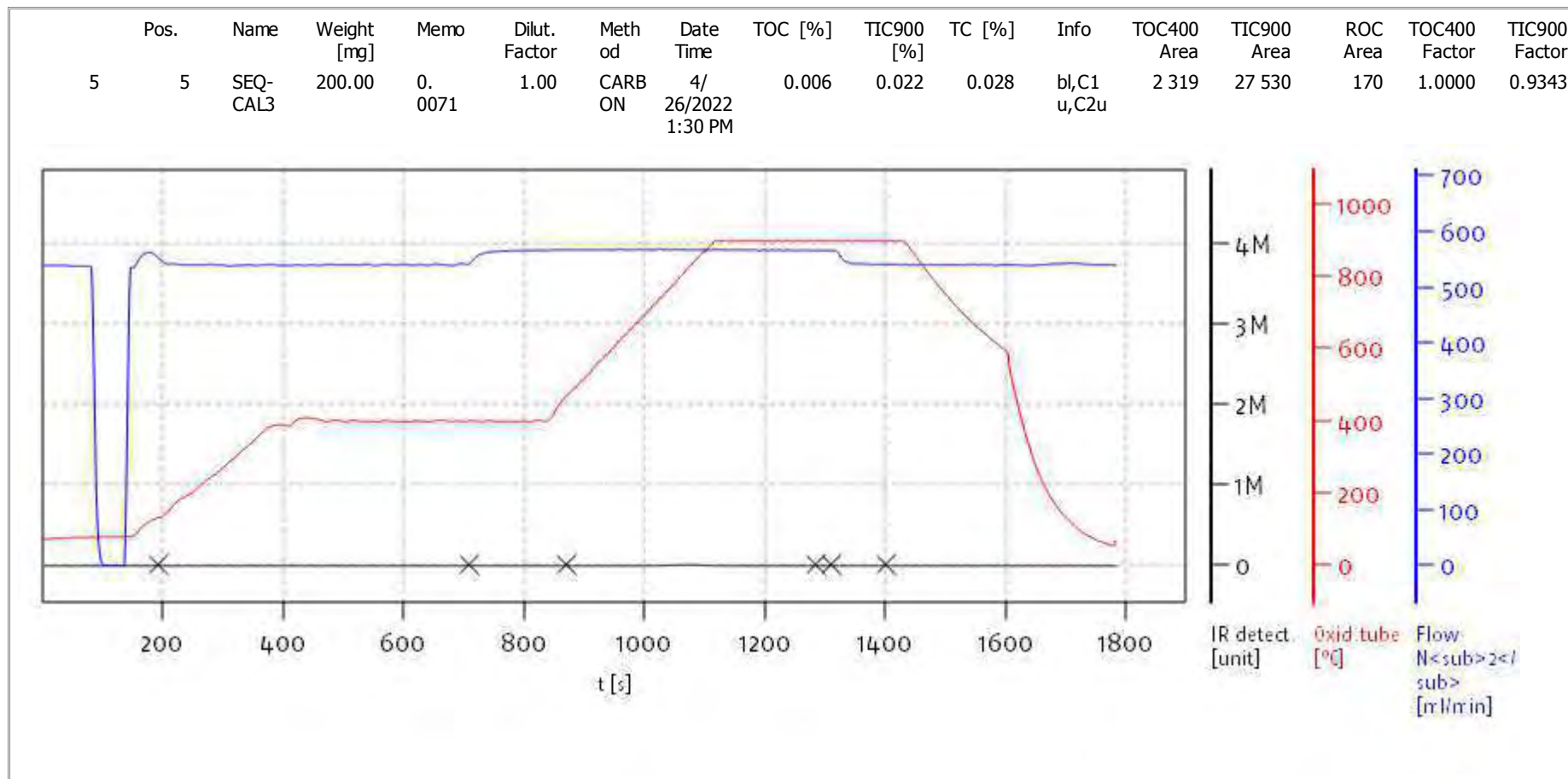


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

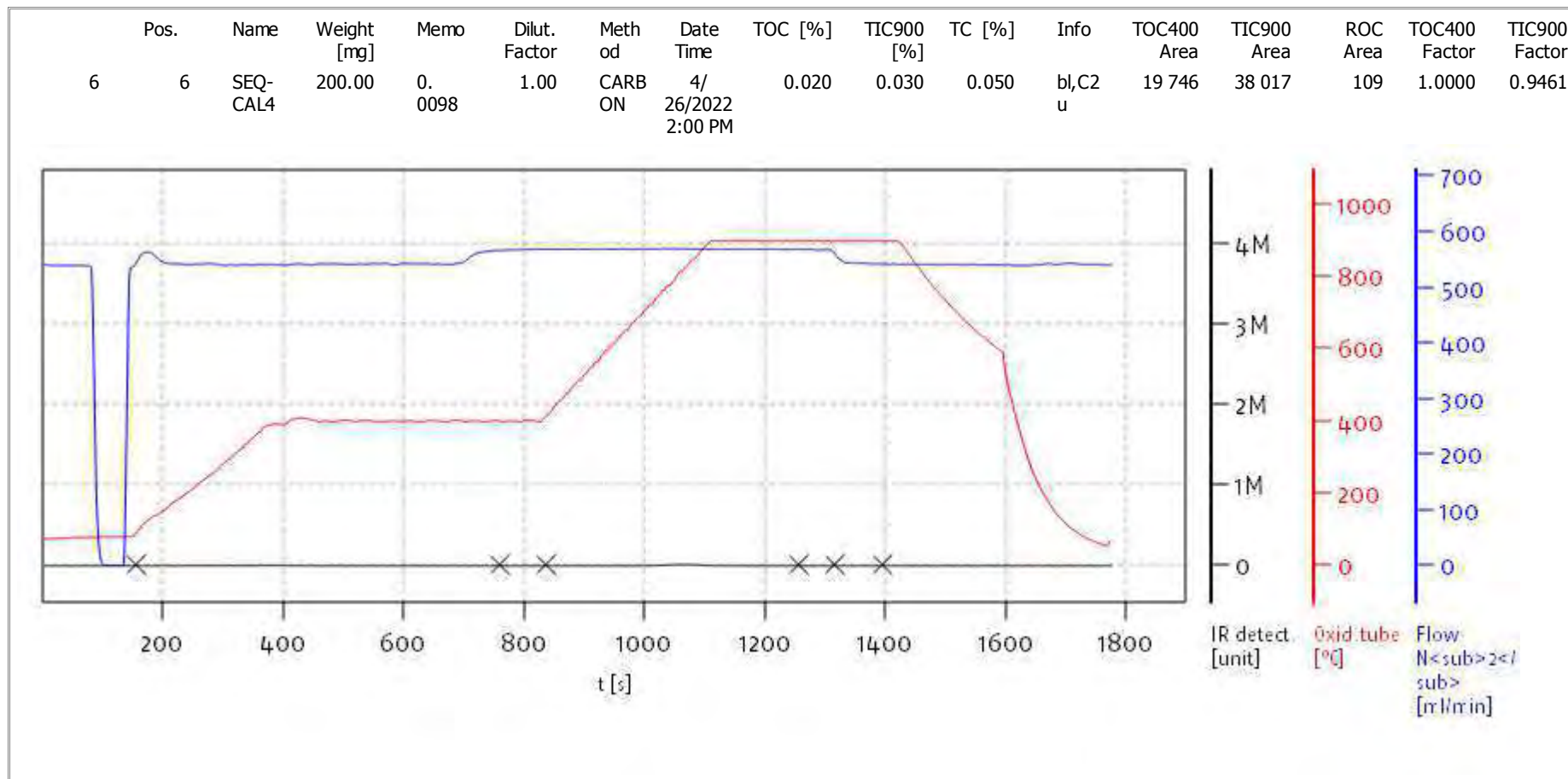
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

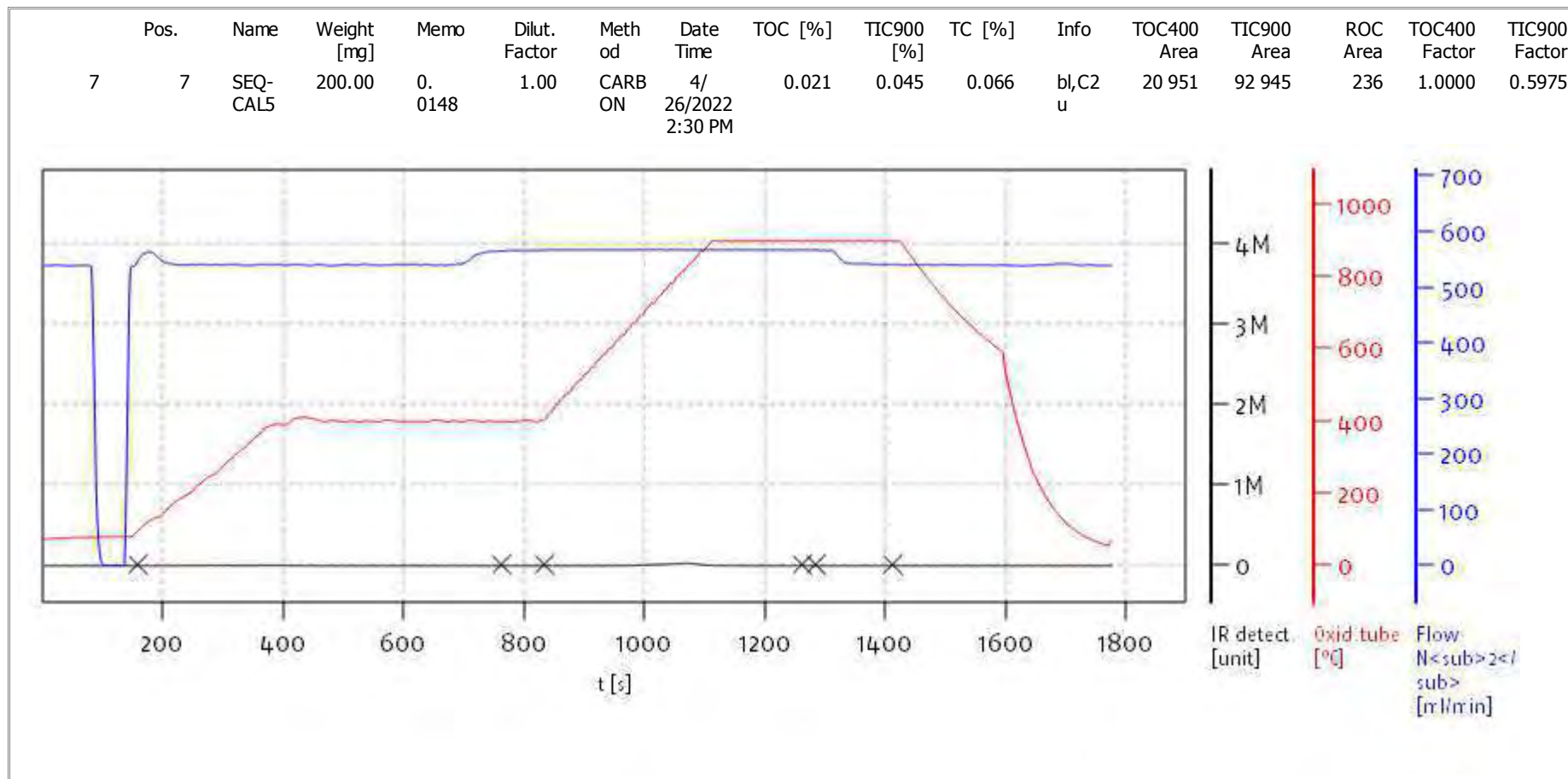
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

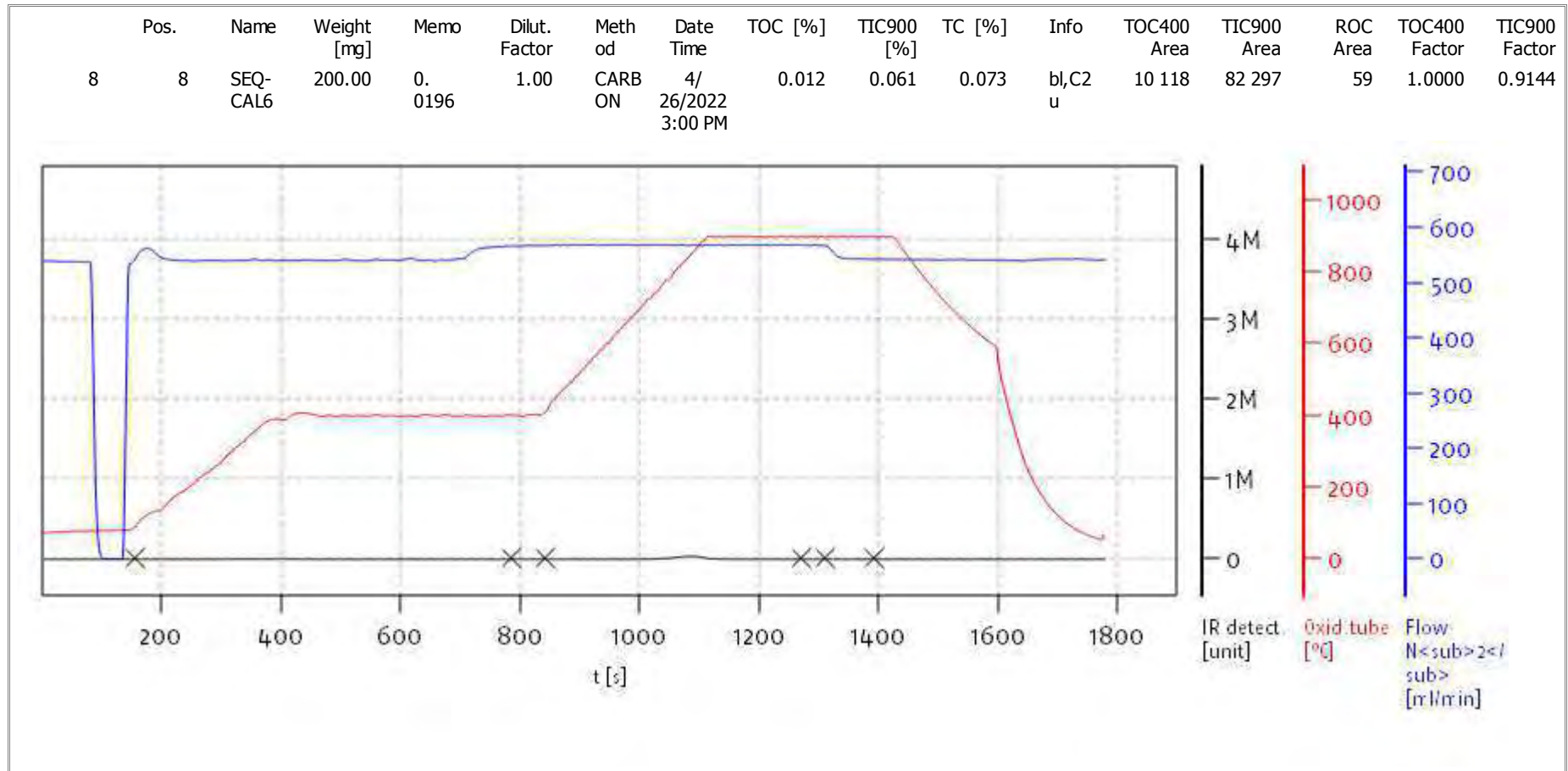
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

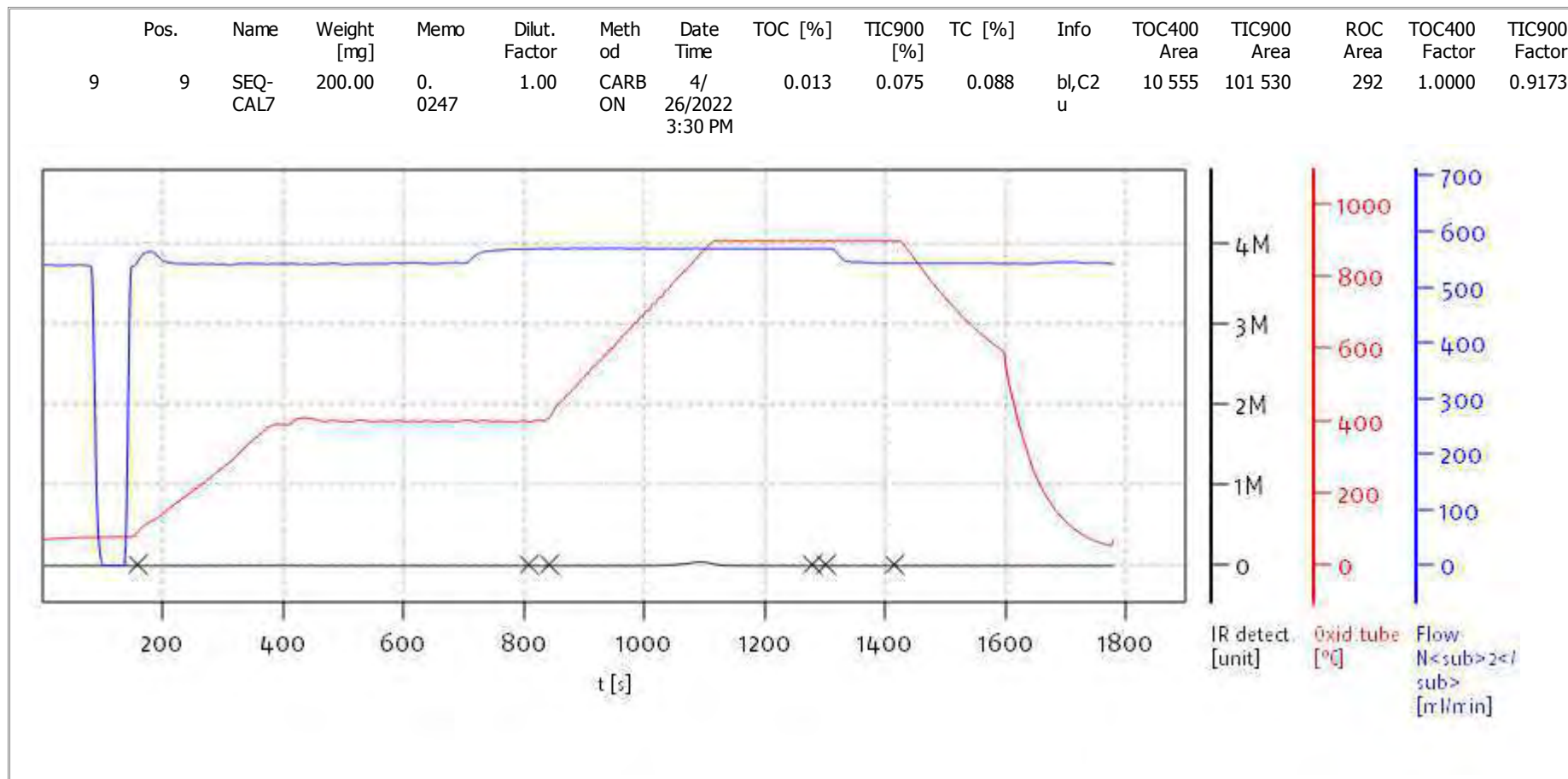
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

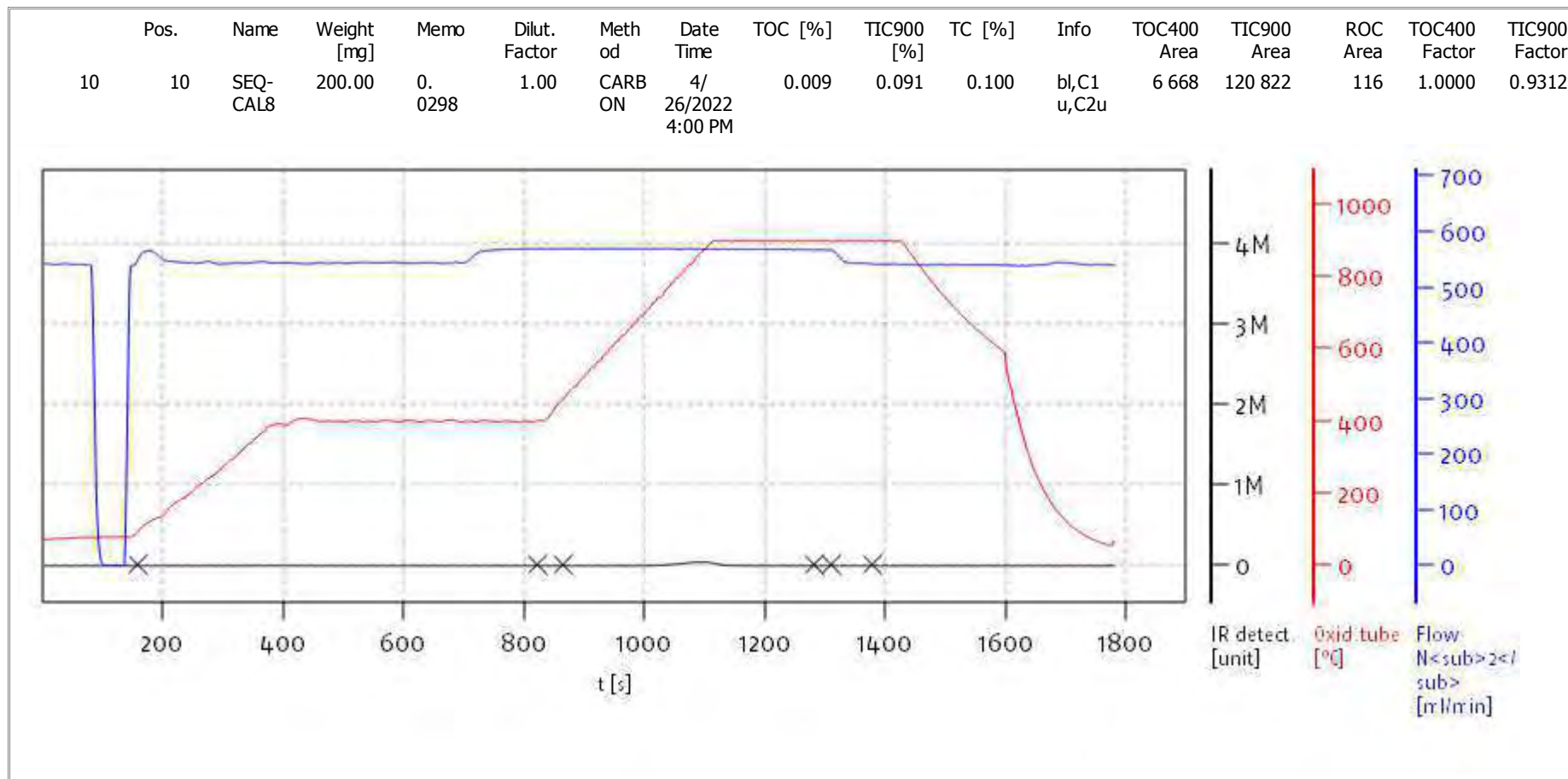


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

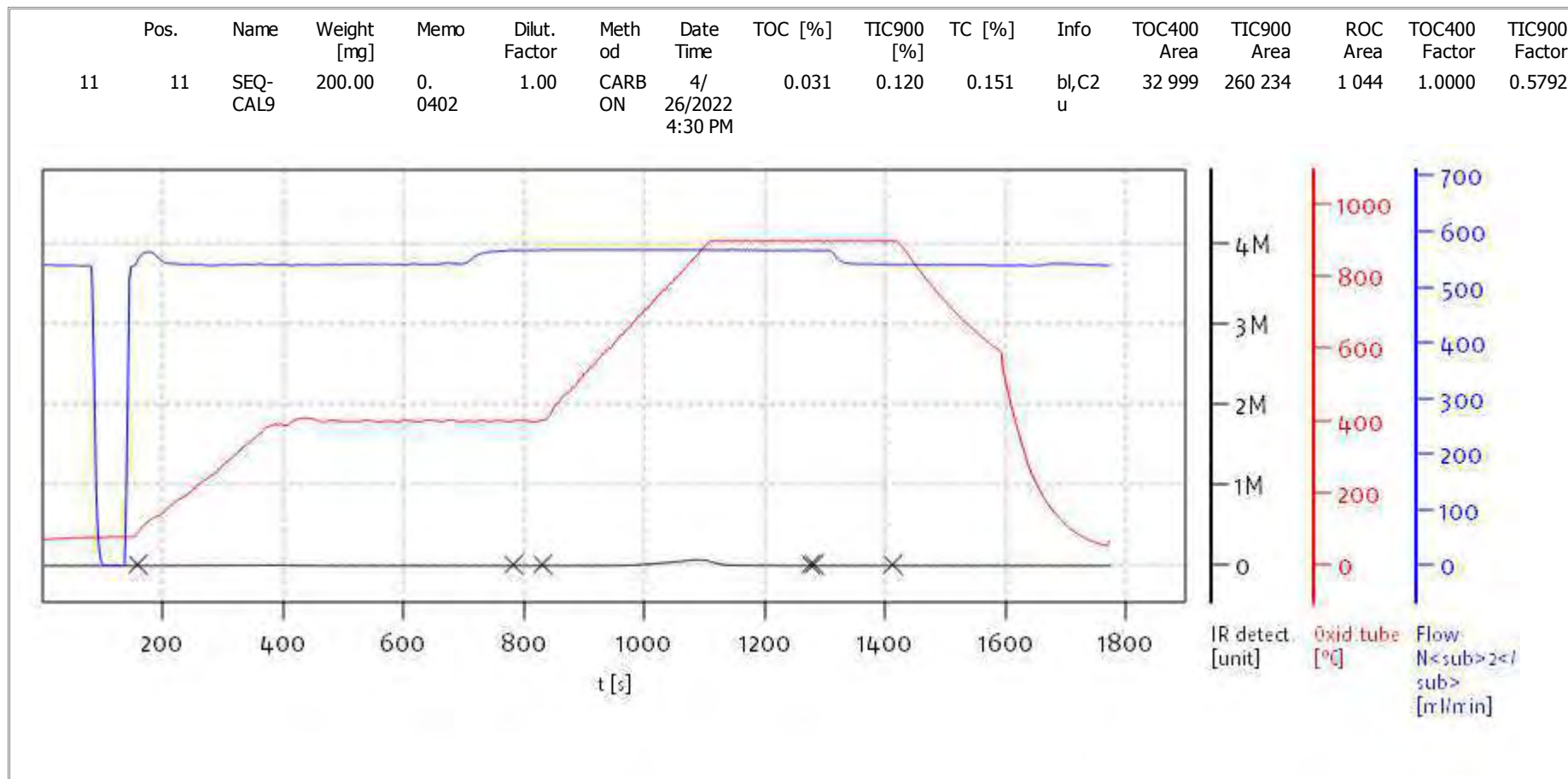
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

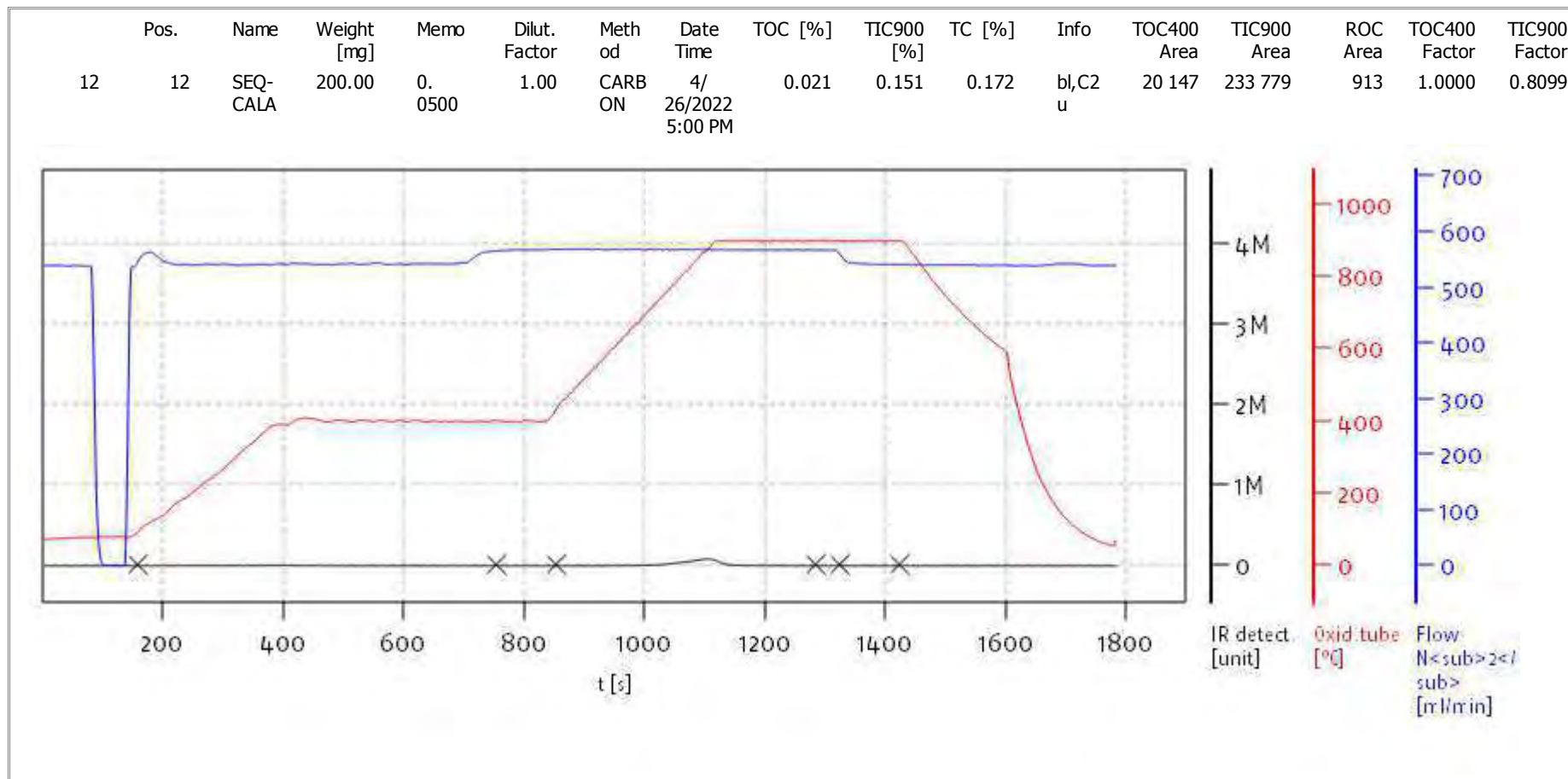
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Serial No: 0300.181017  
Mode CCC



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Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

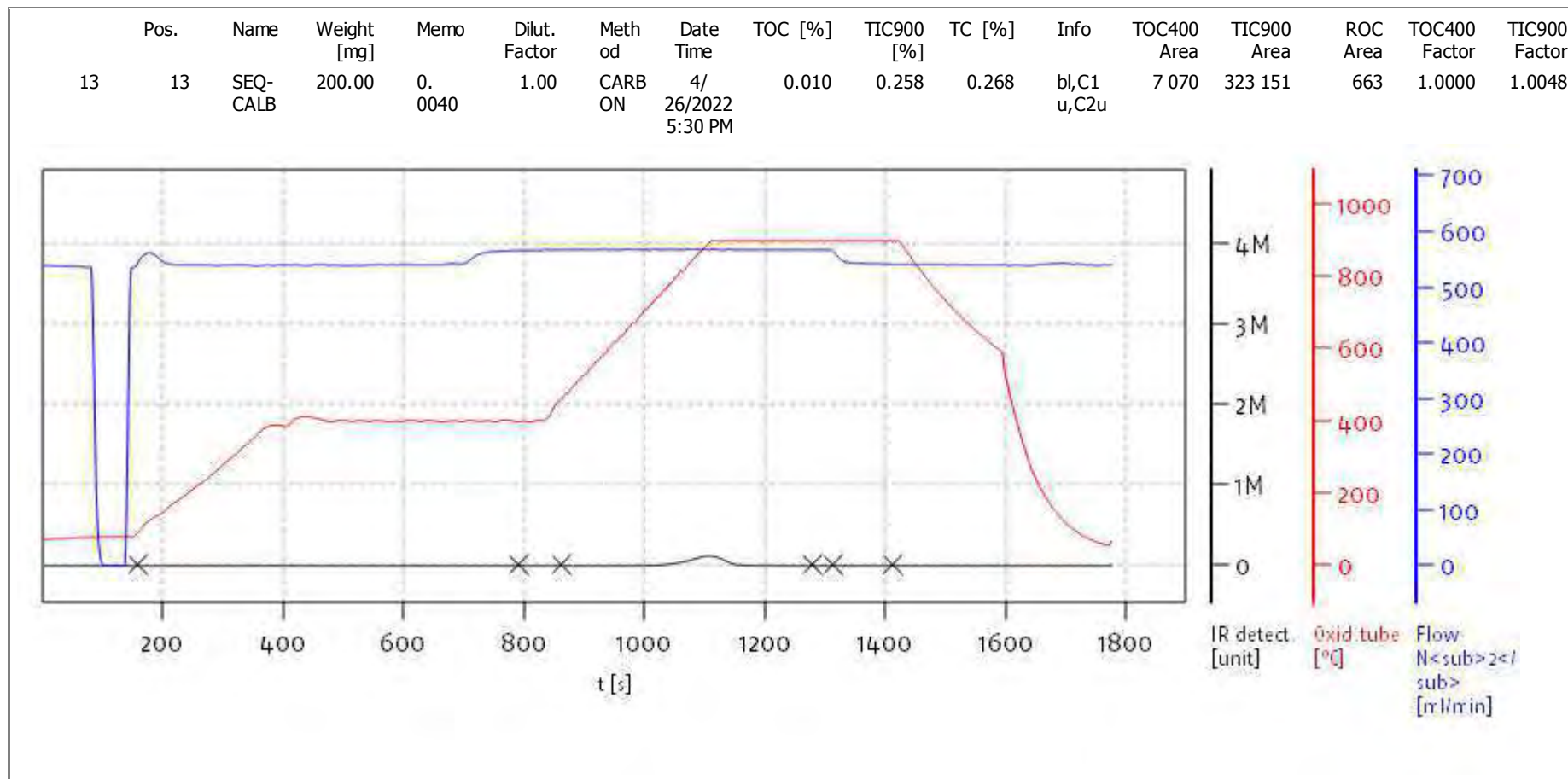


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

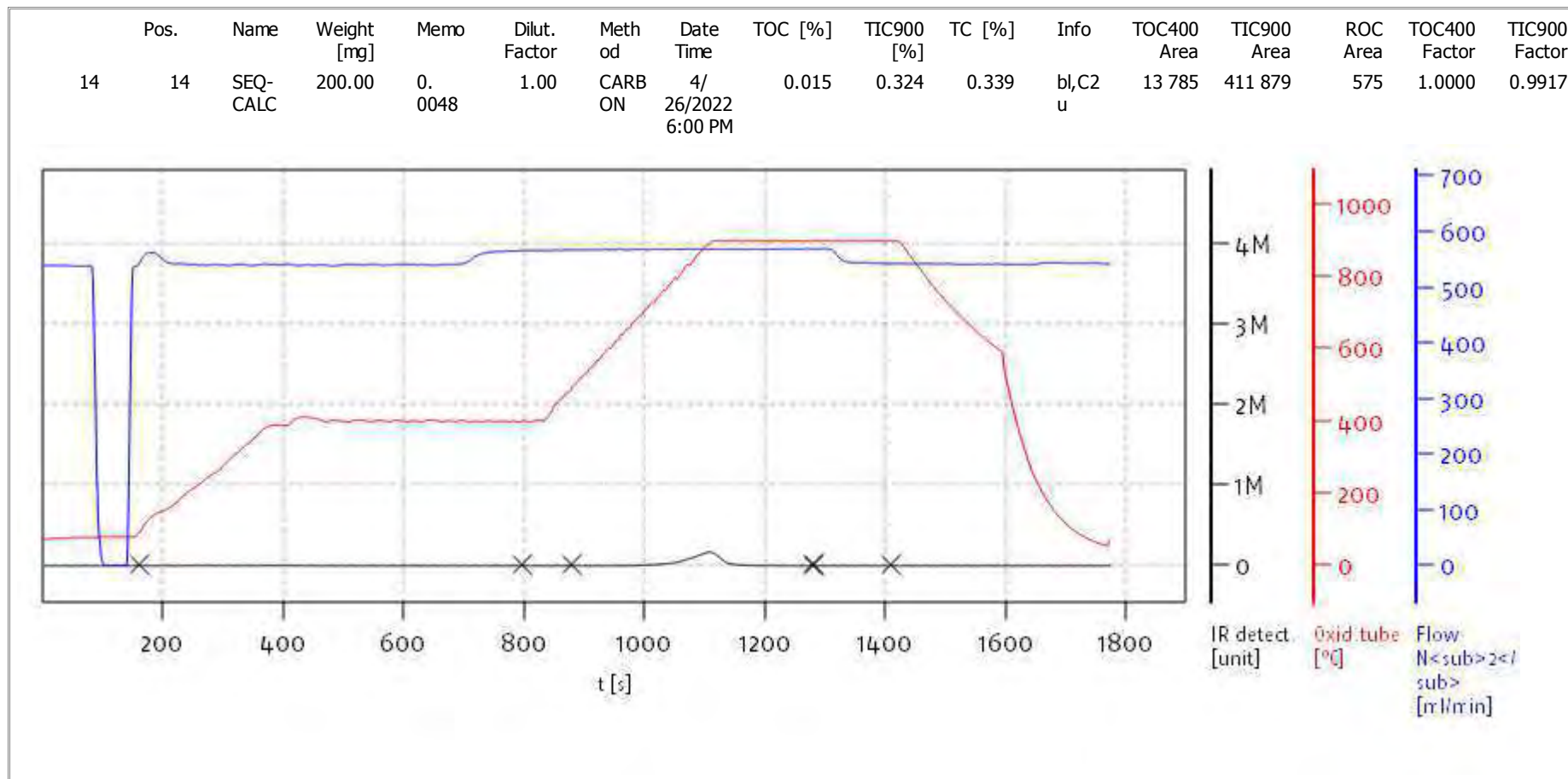
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

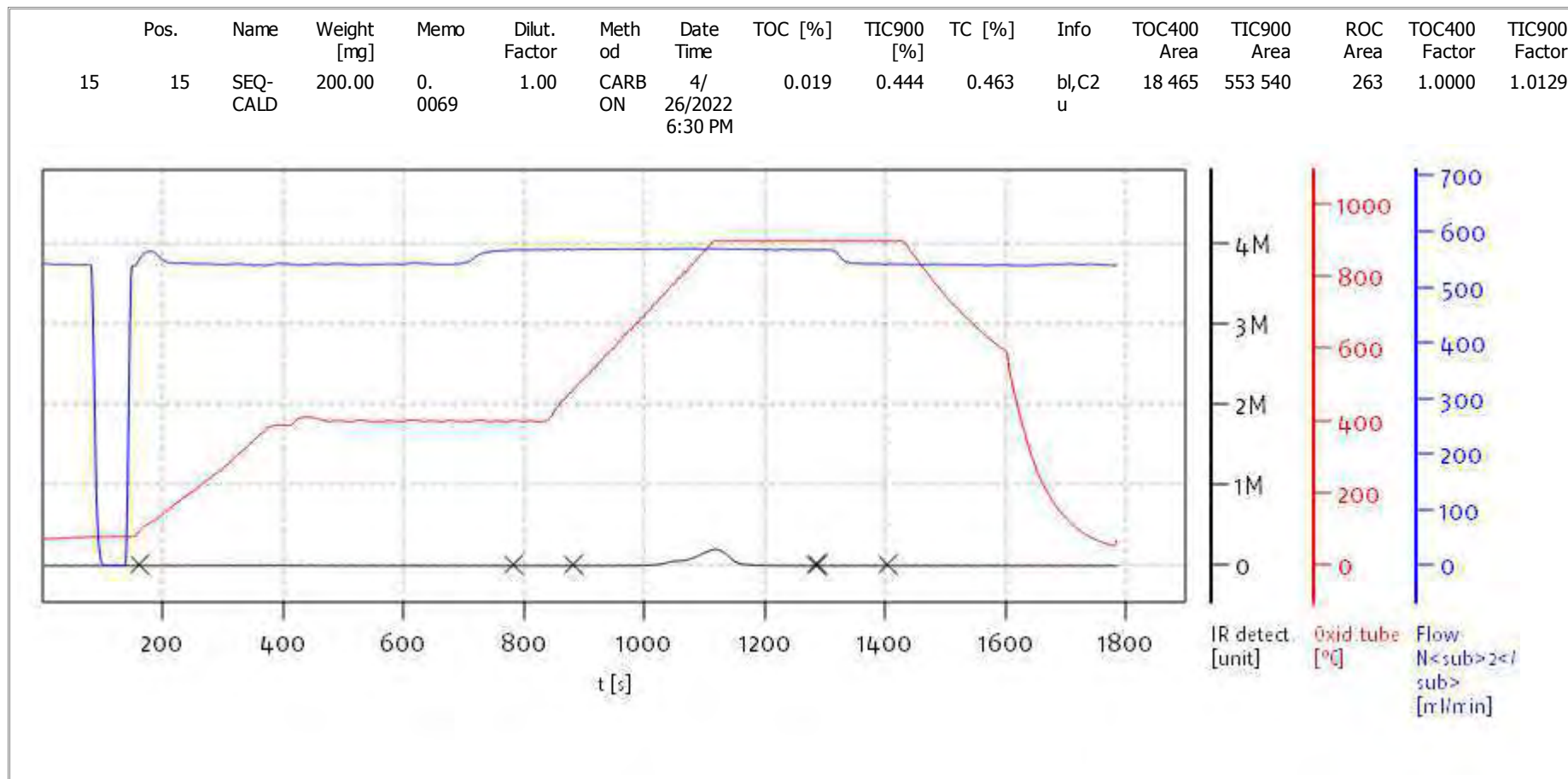
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
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Analyst: DOE



Name:

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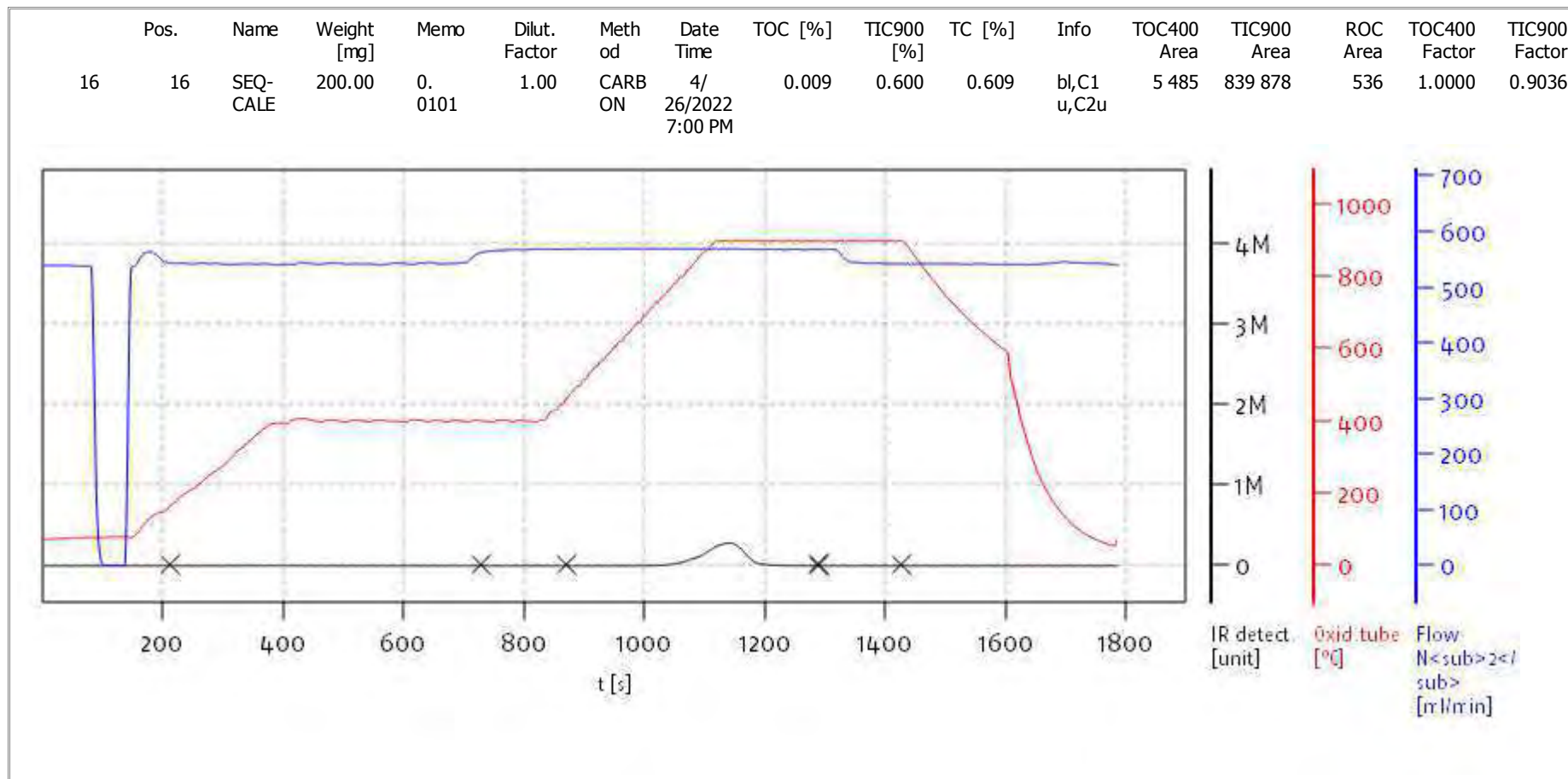
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

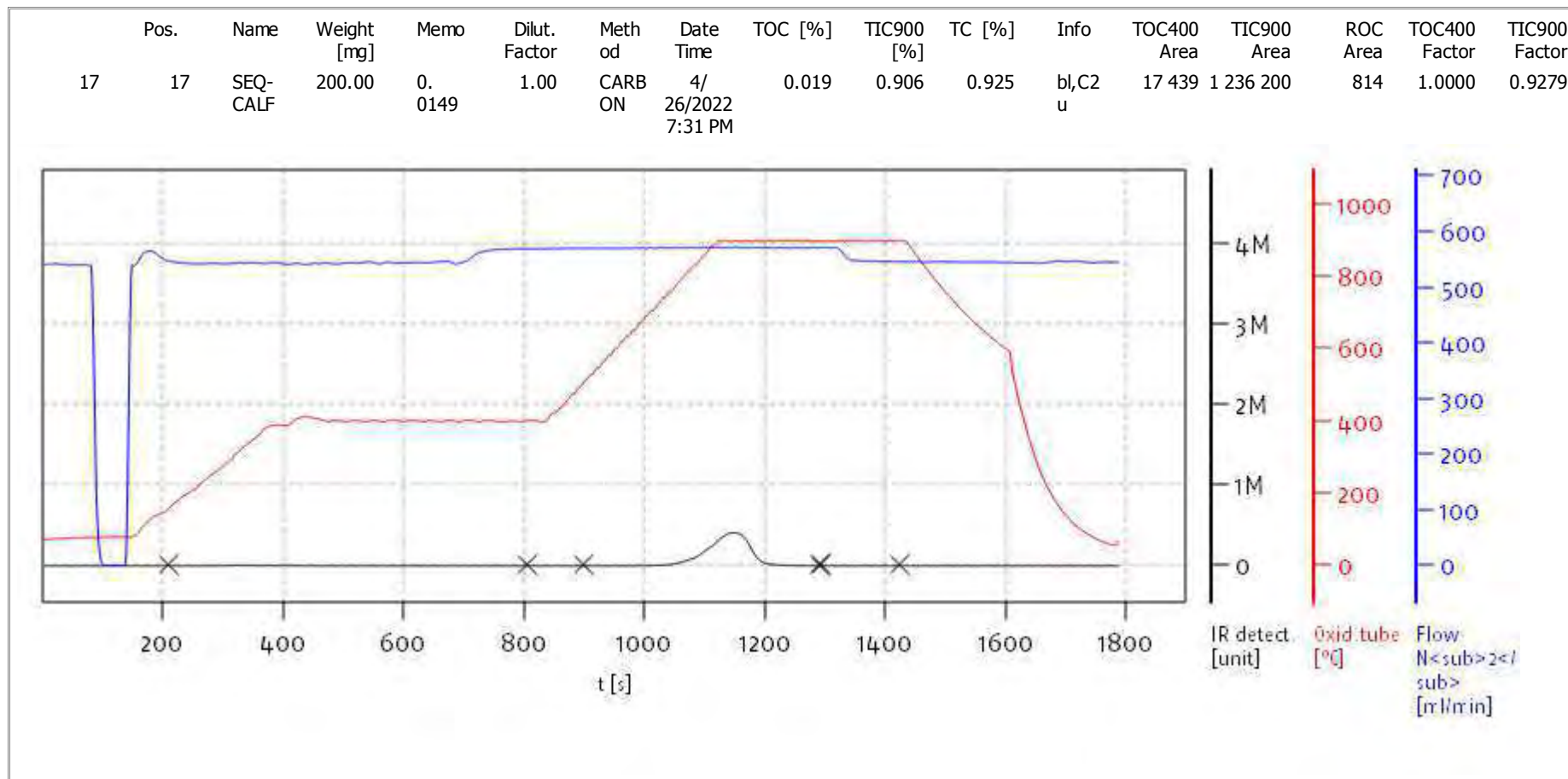
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

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Date: Wed Apr 27 11:07:12 2022

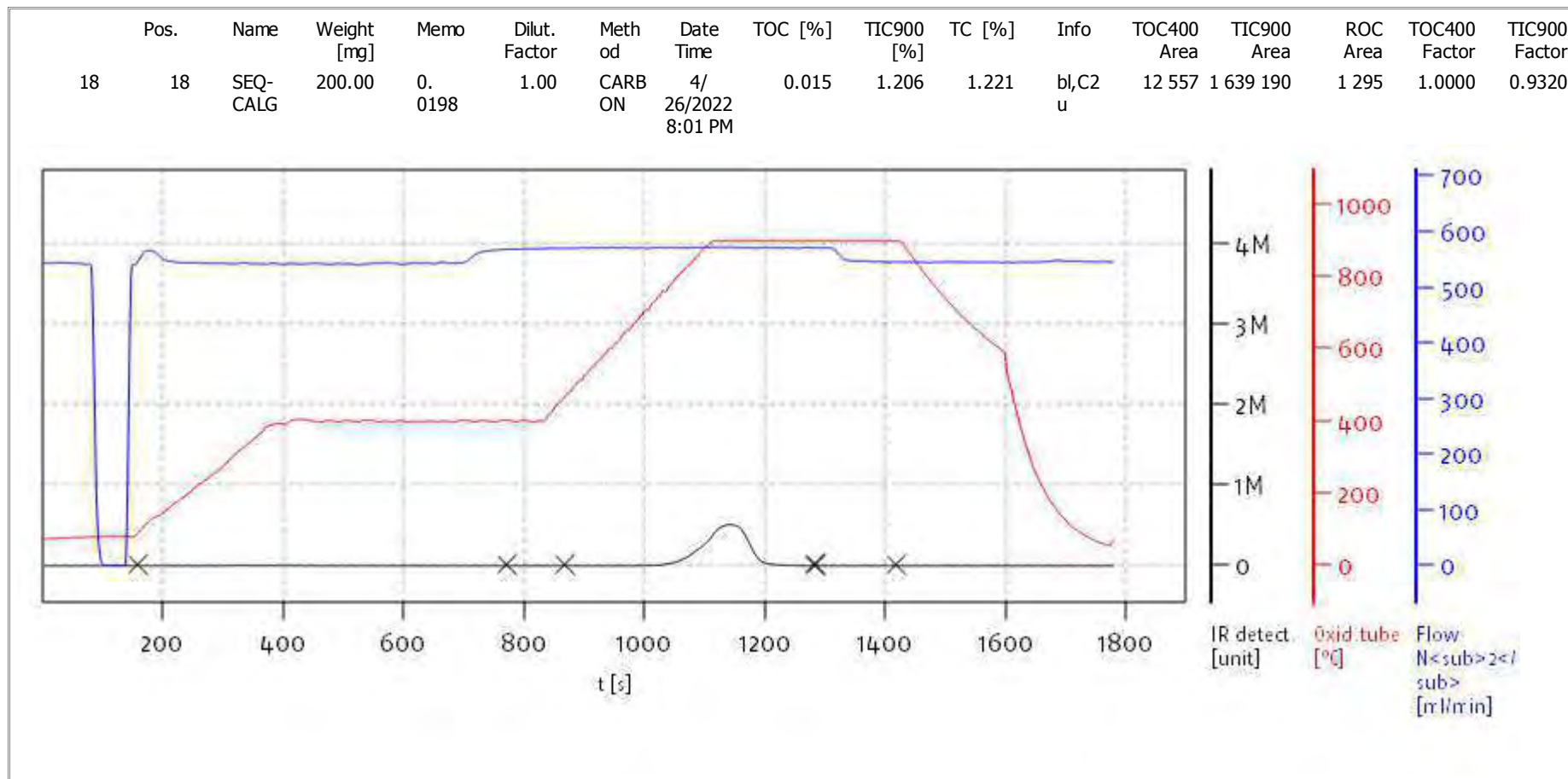


solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

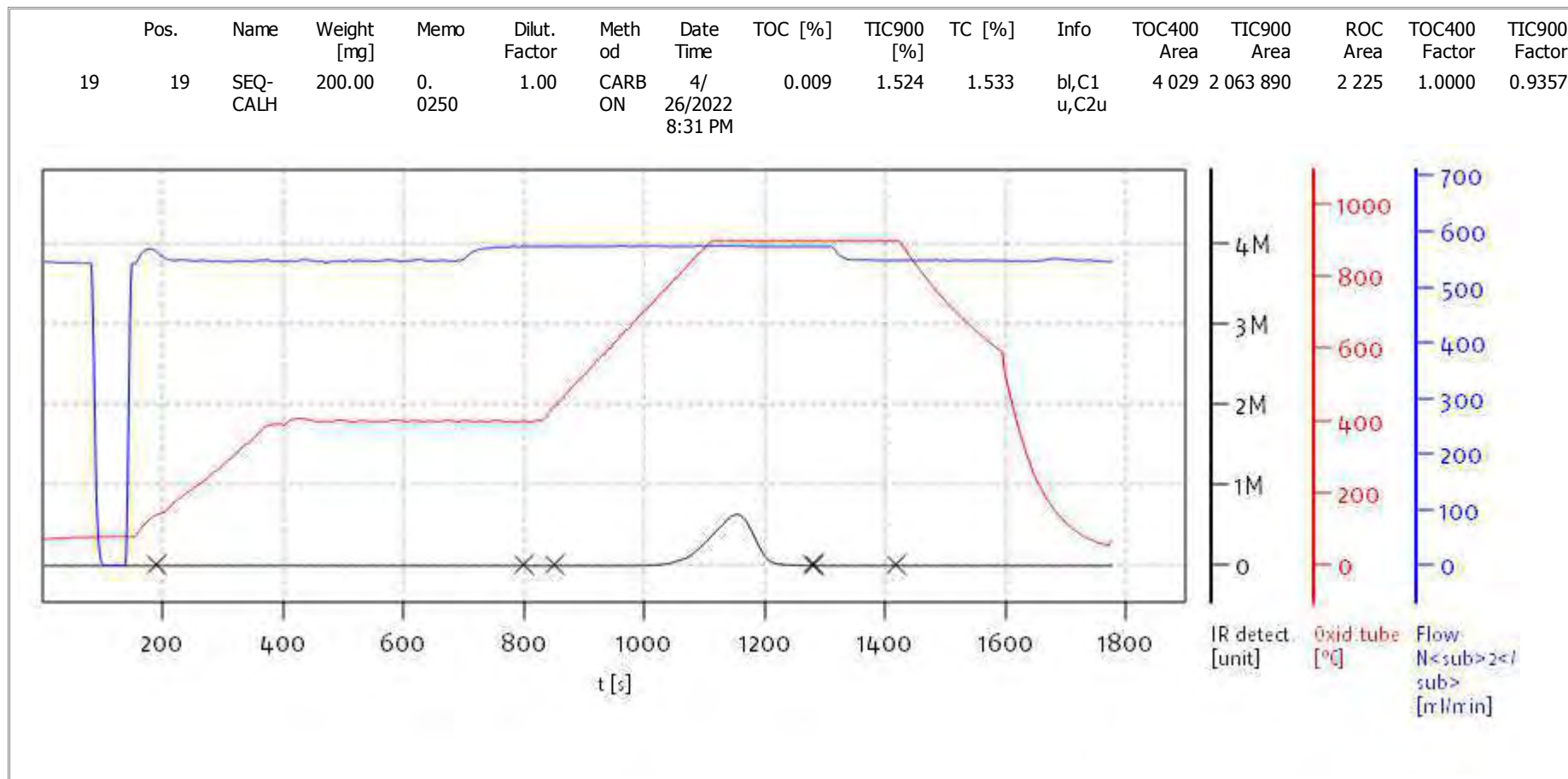
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

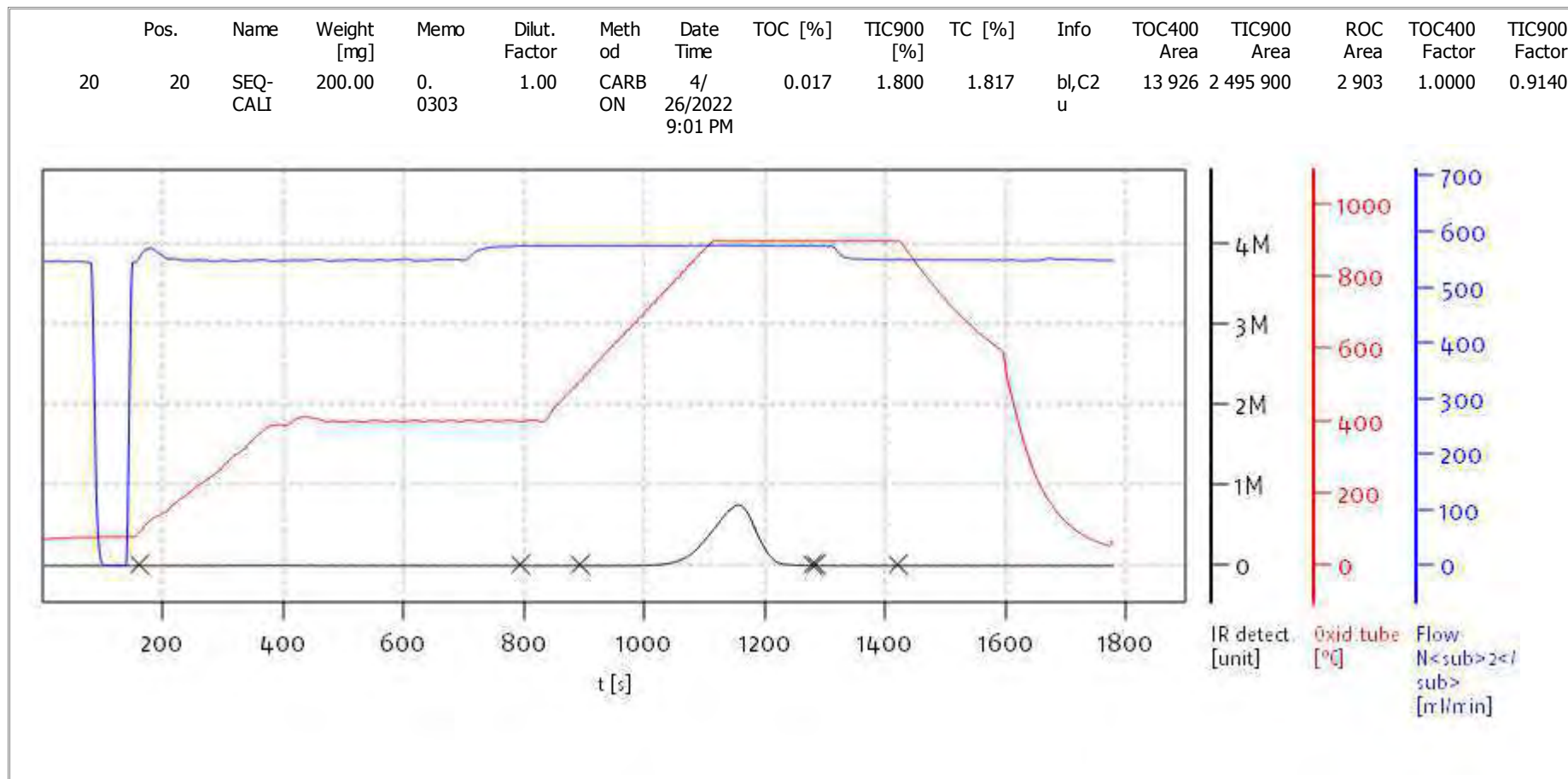
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

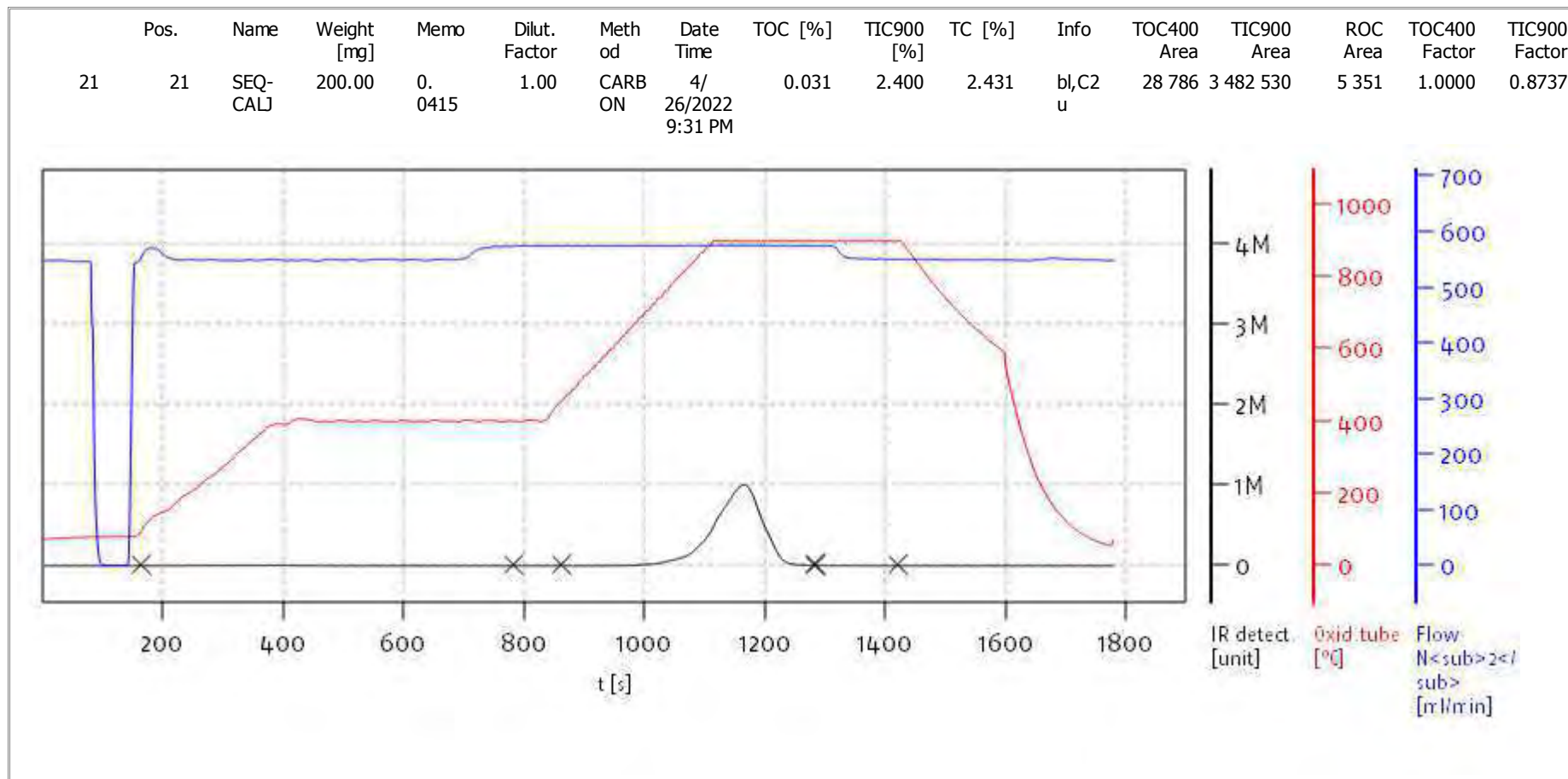


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

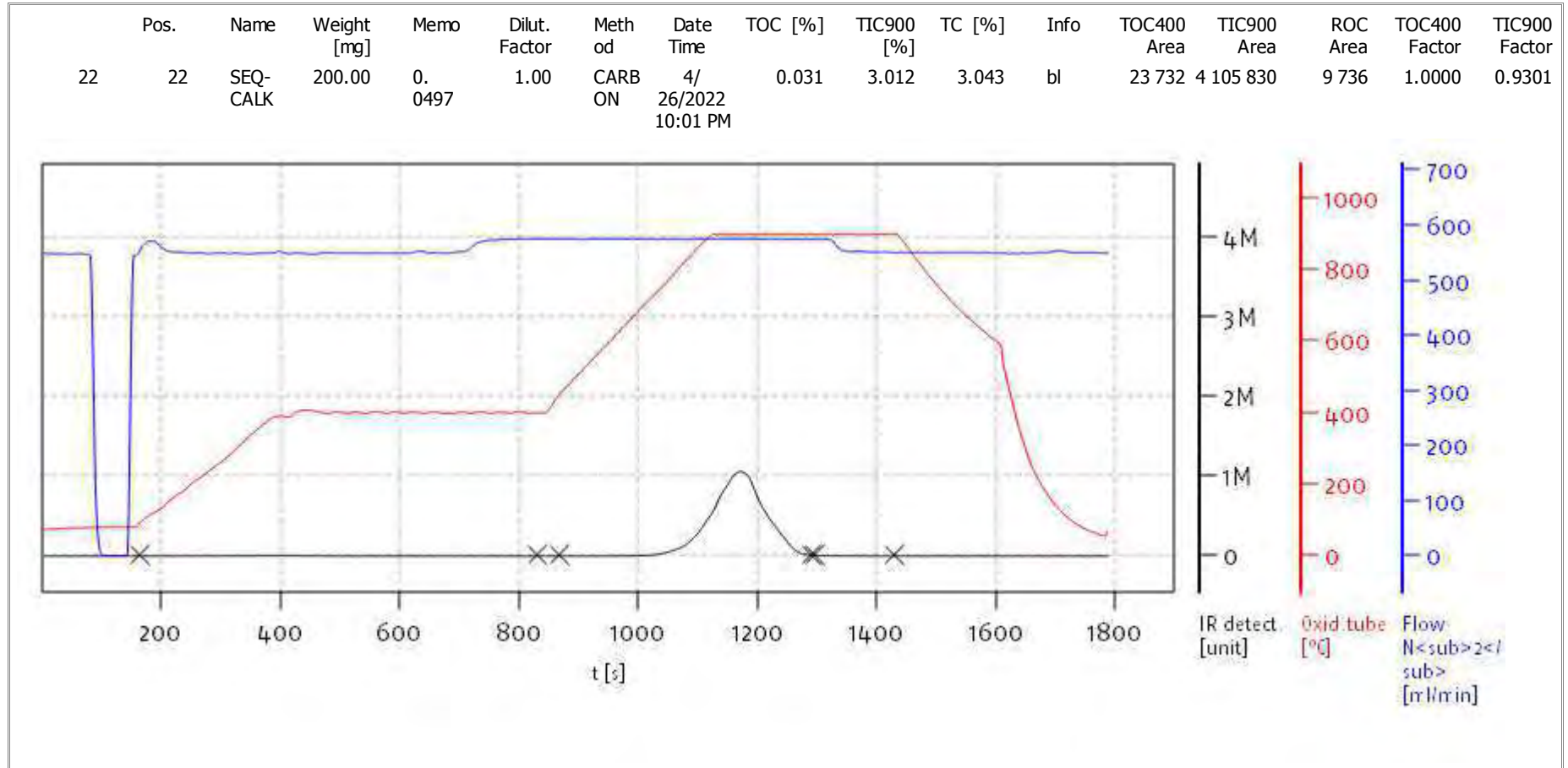
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

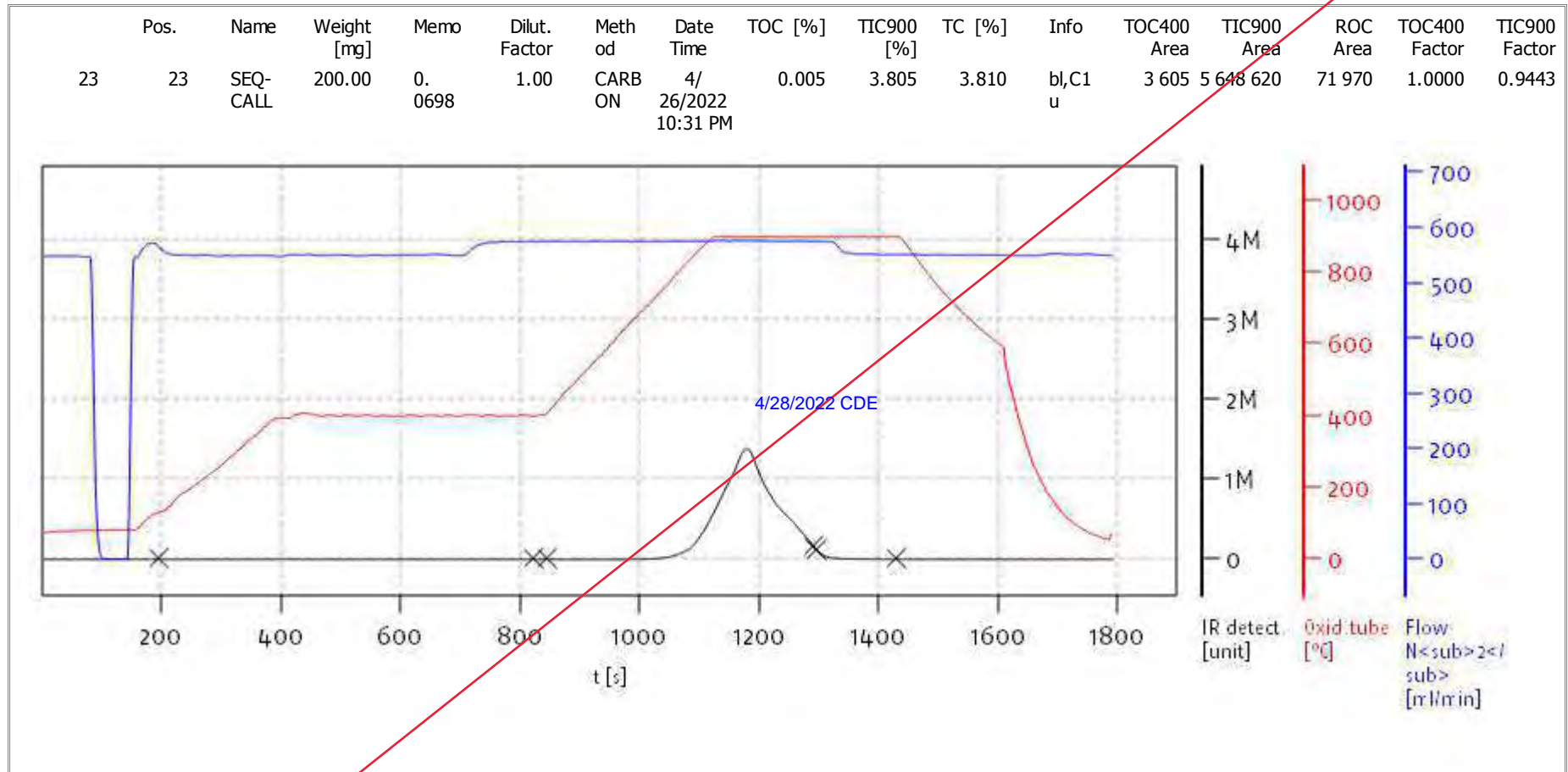
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

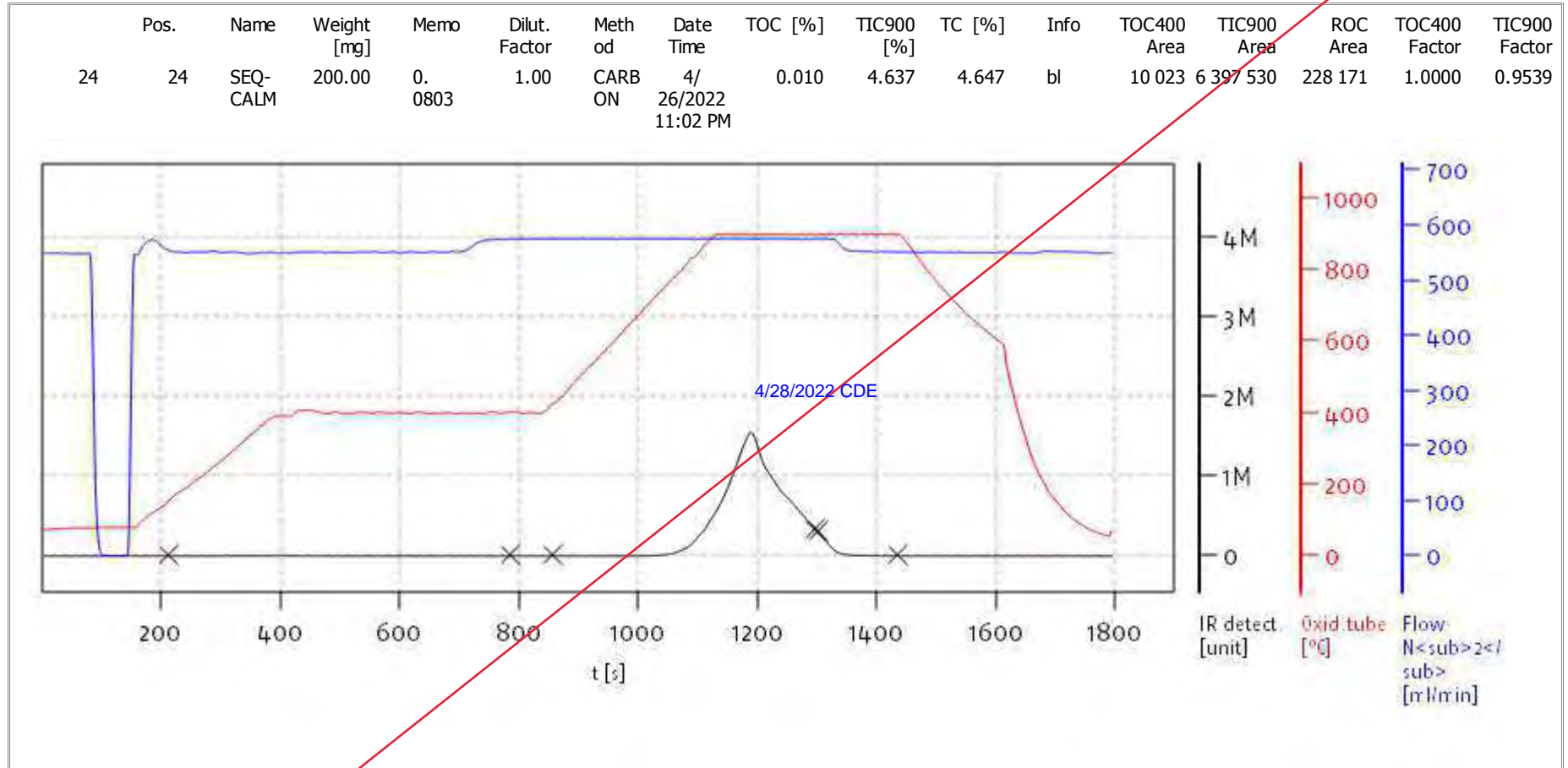
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

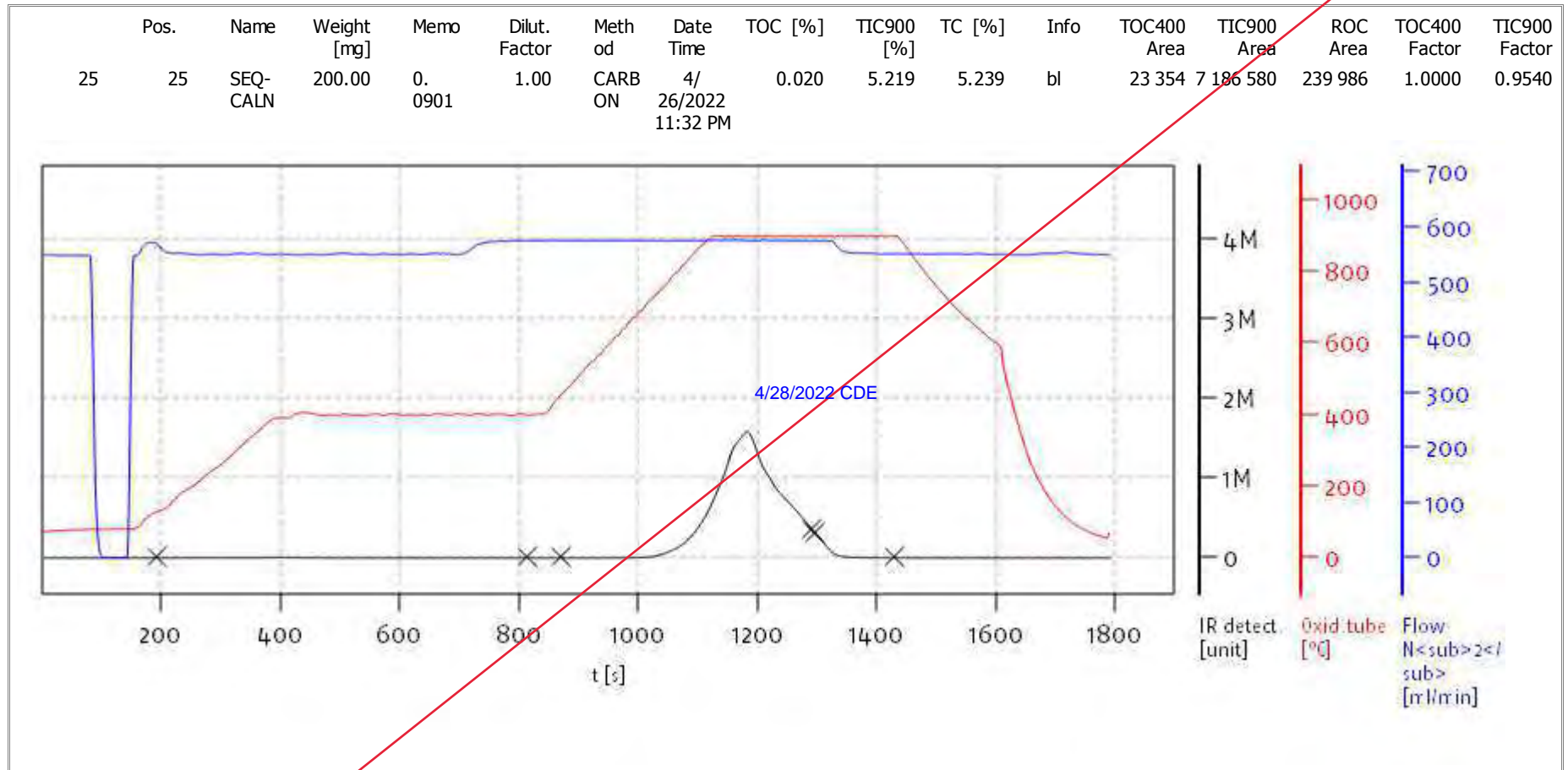
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

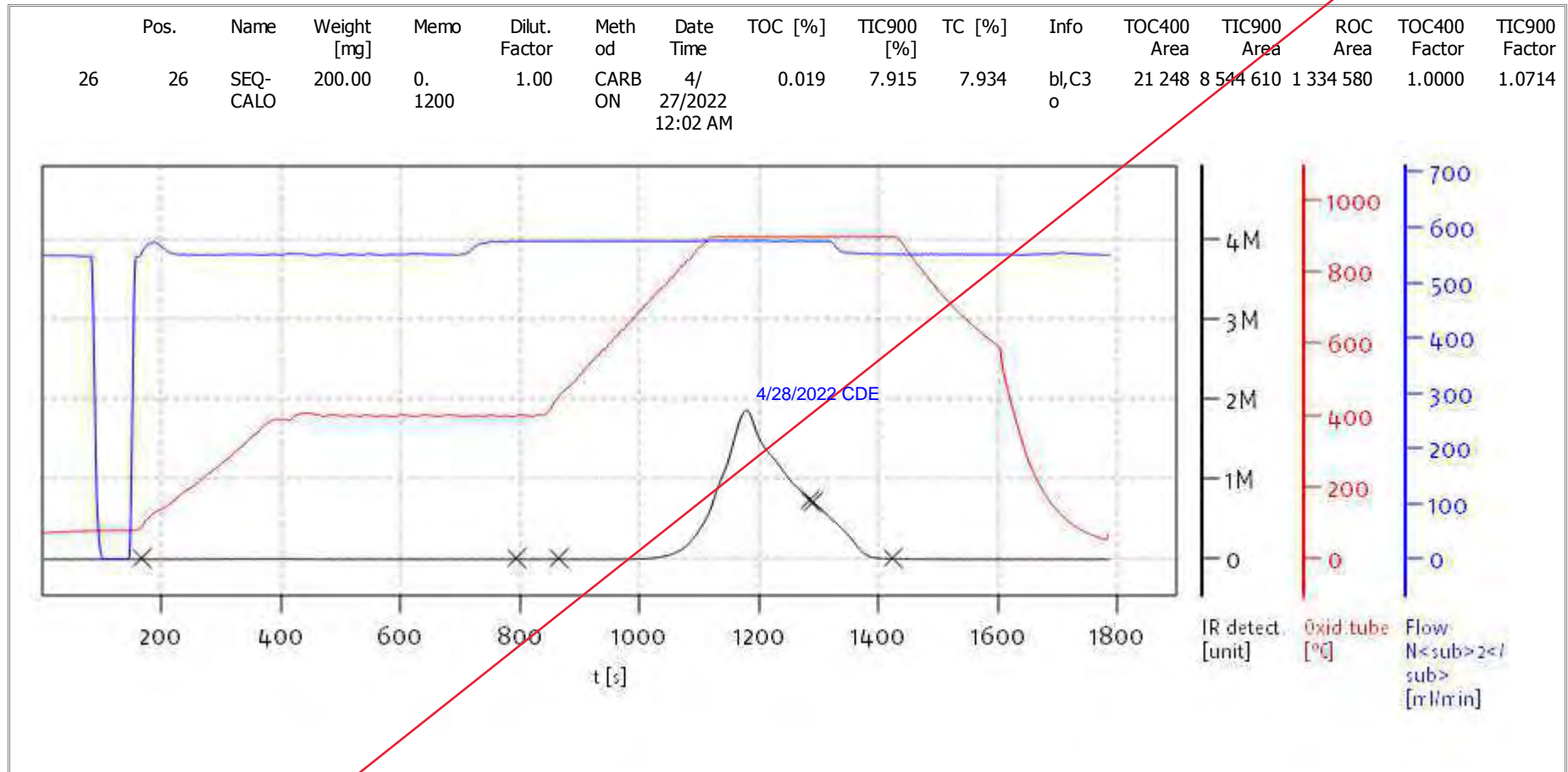


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

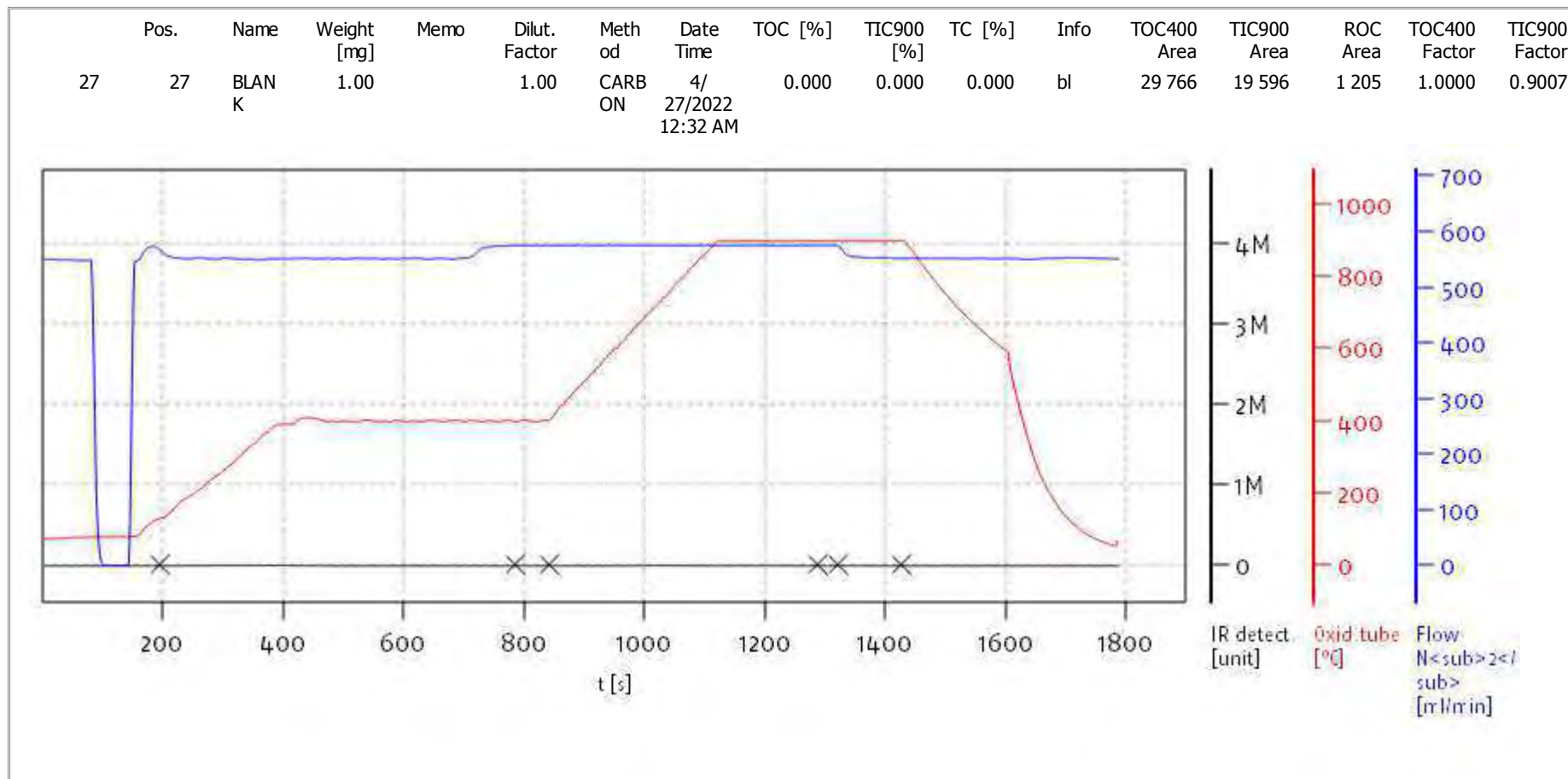
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

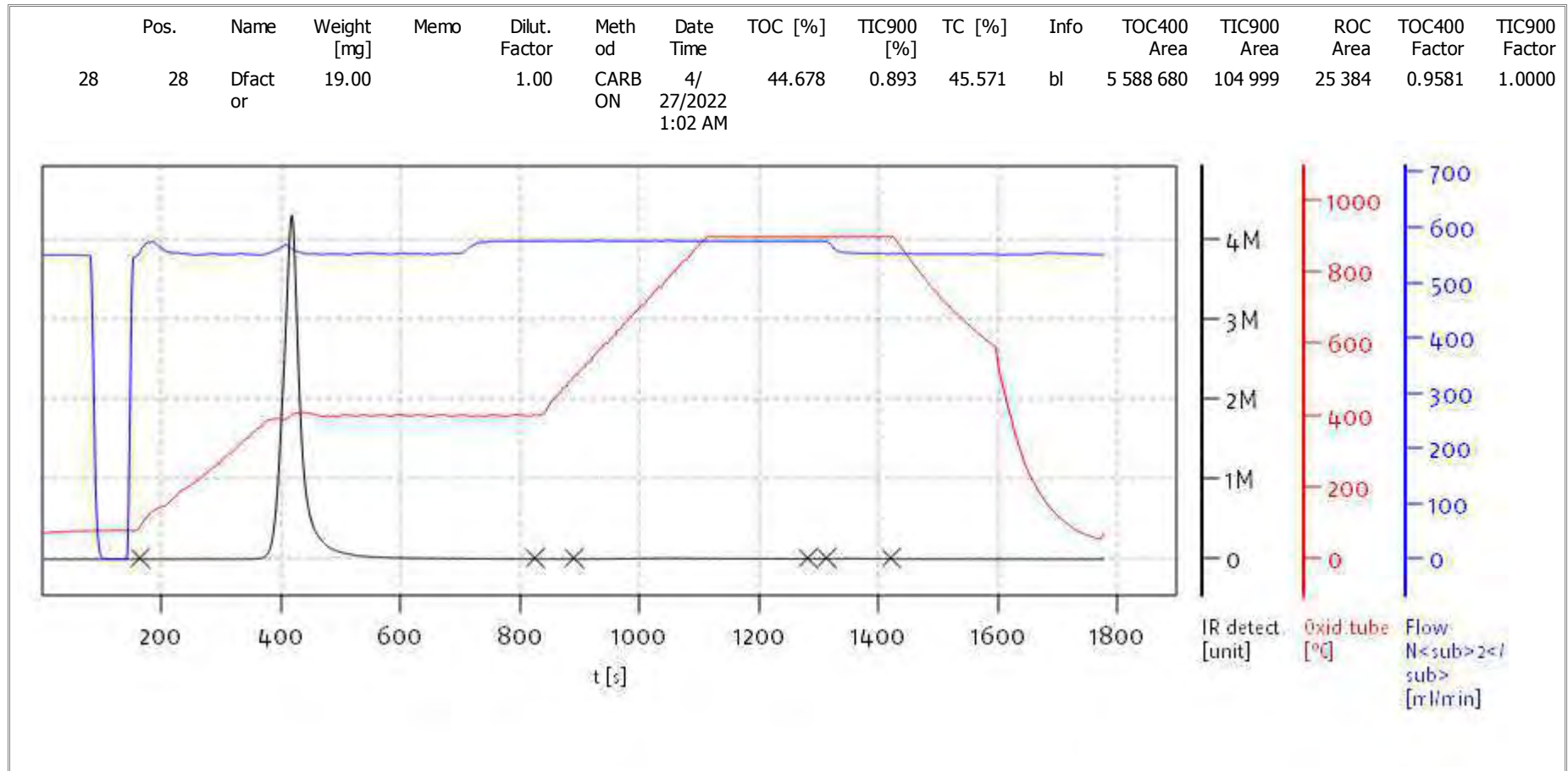
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:07:12 2022

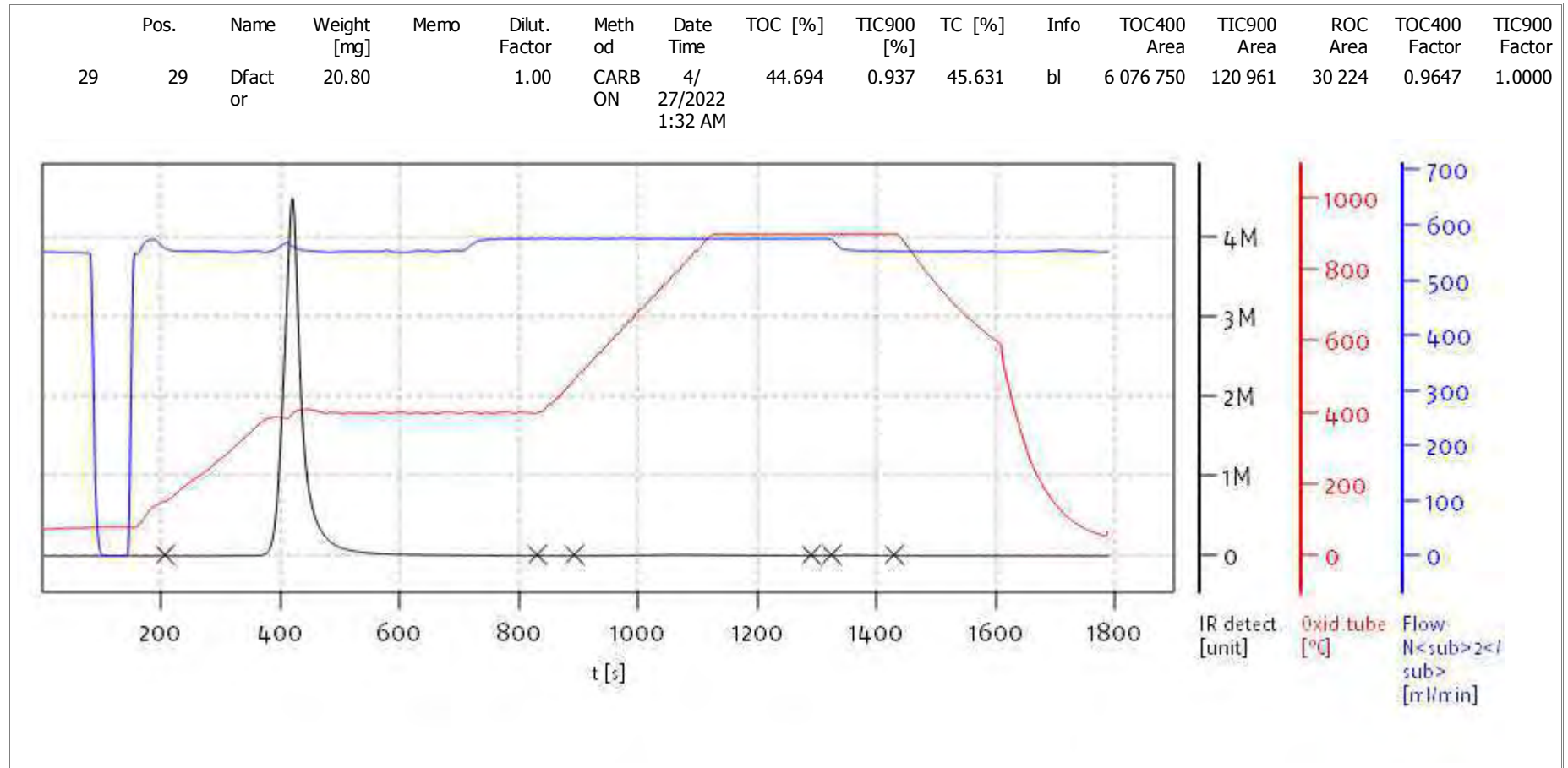


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

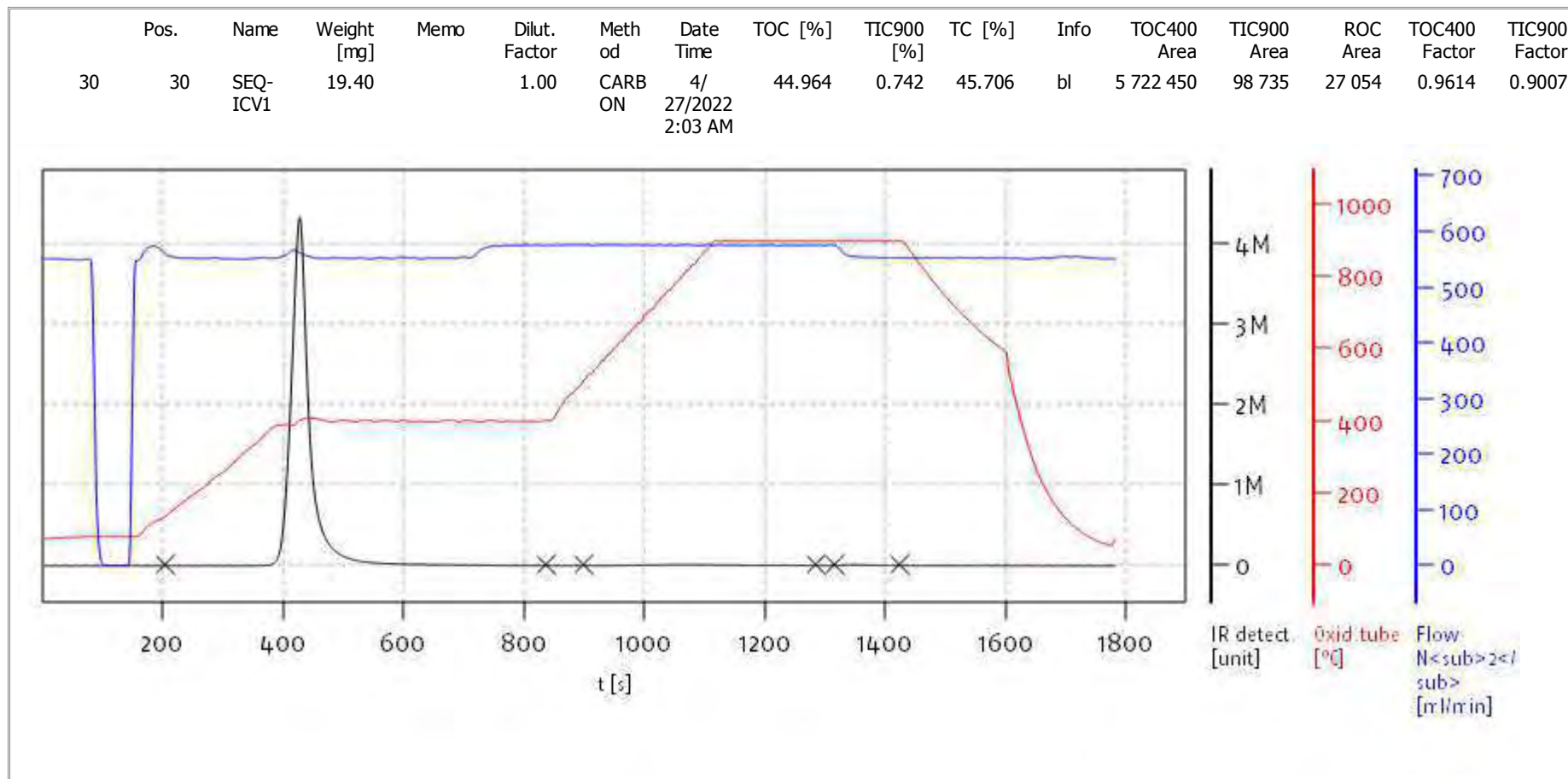
Date: Wed Apr 27 11:07:12 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

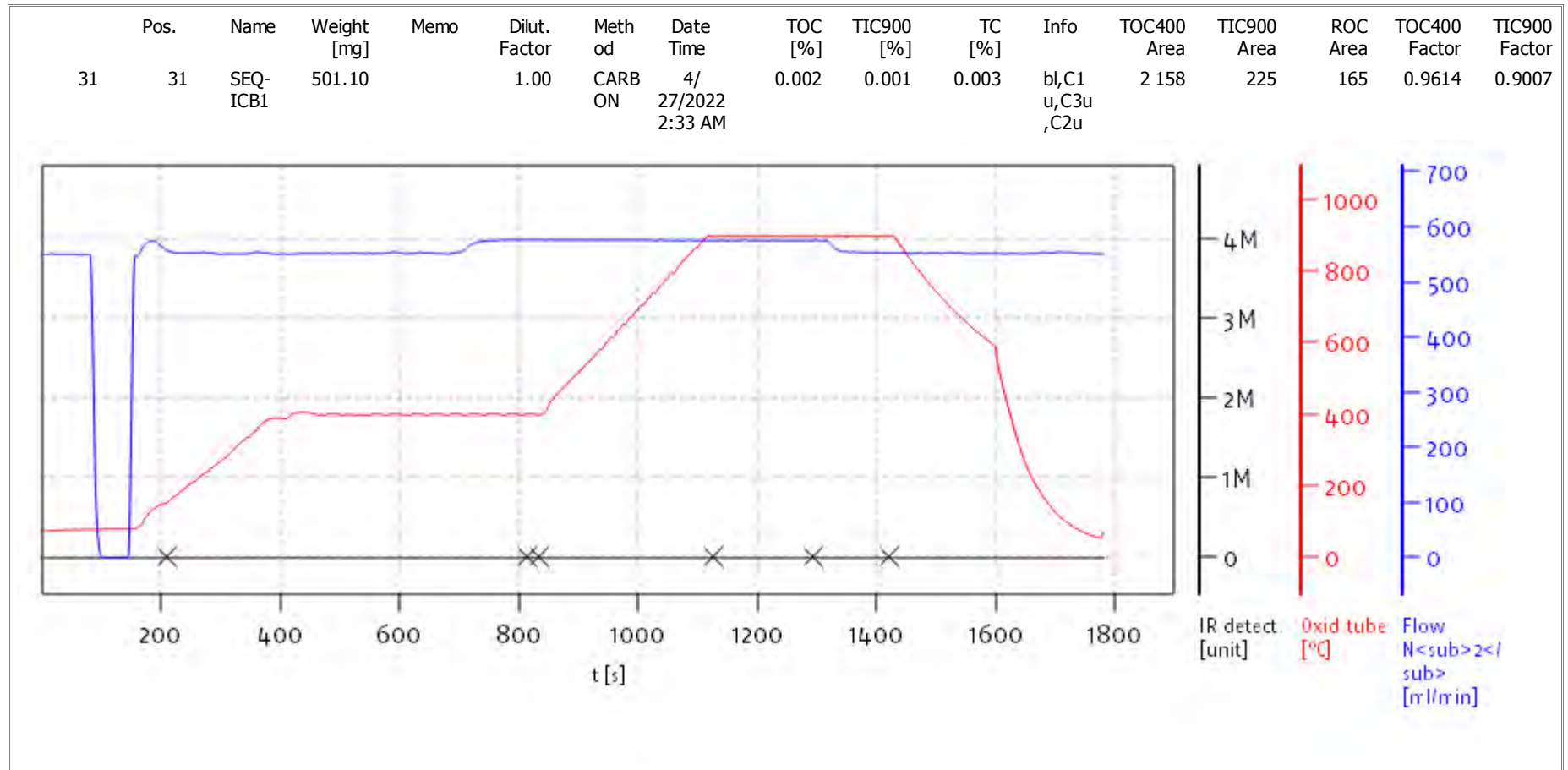
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solITOC V2.0.2 (31015f9) 2018-11-19  
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Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

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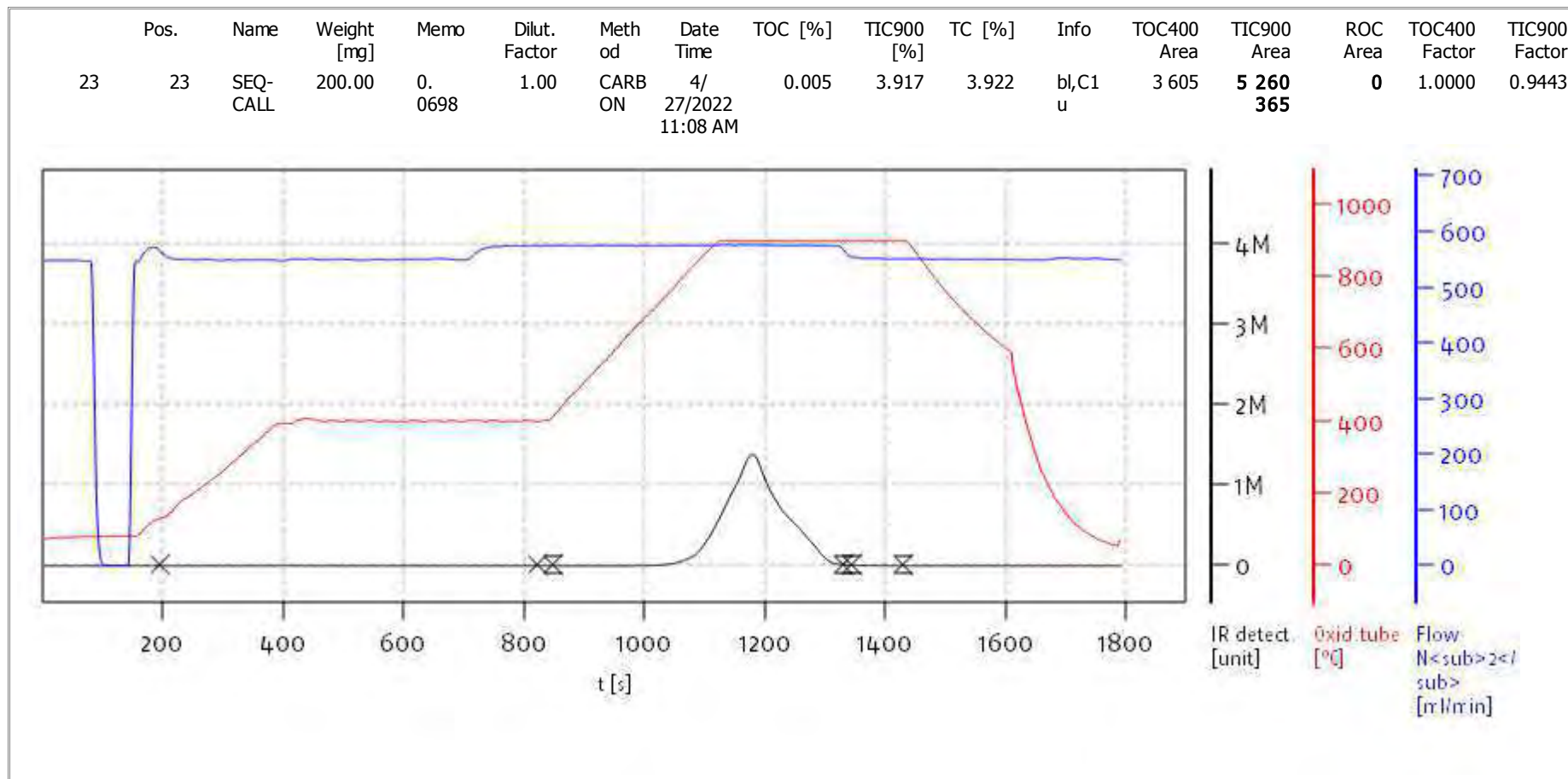
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

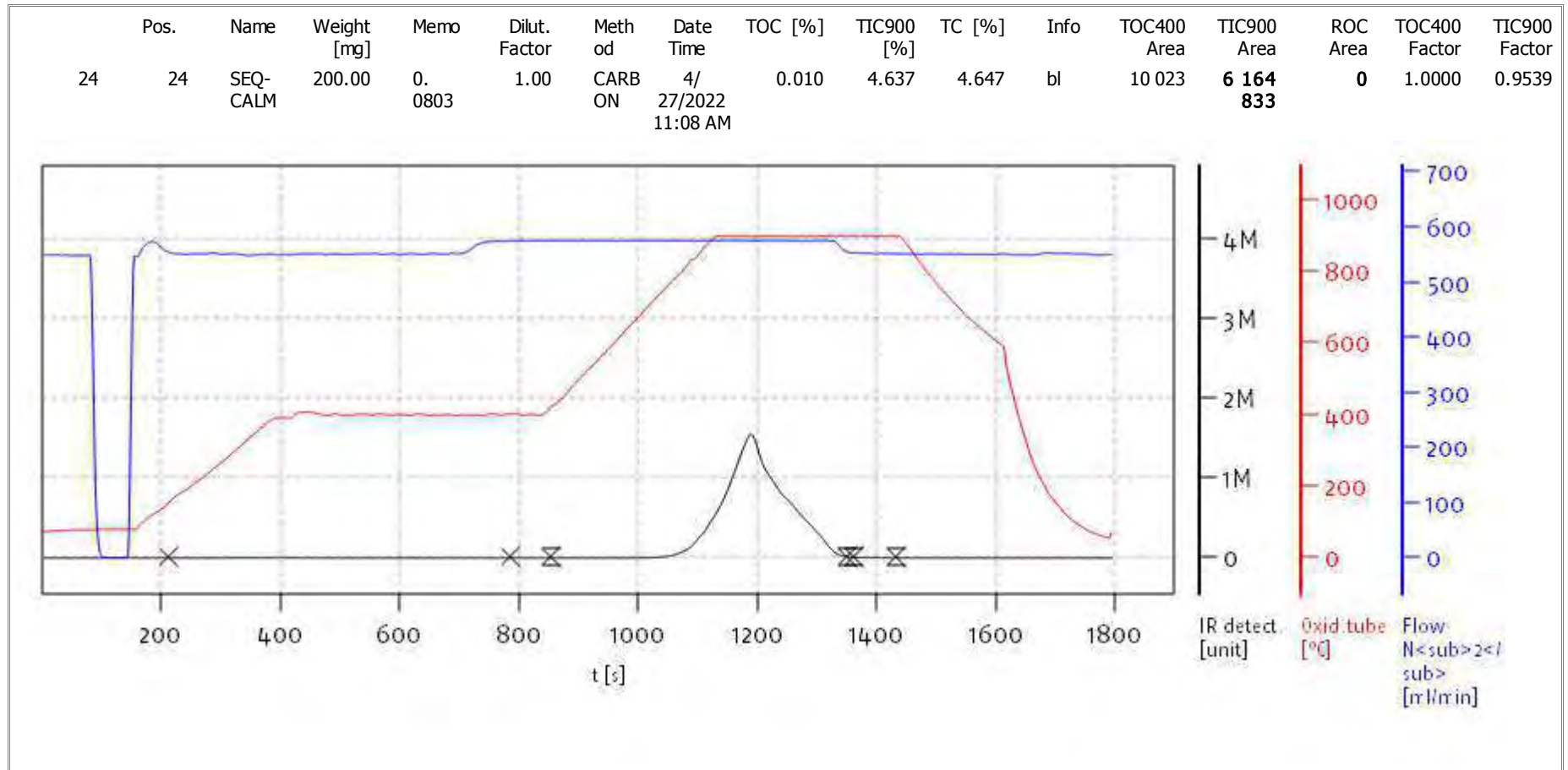
Date: Wed Apr 27 11:10:16 2022



solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:10:16 2022

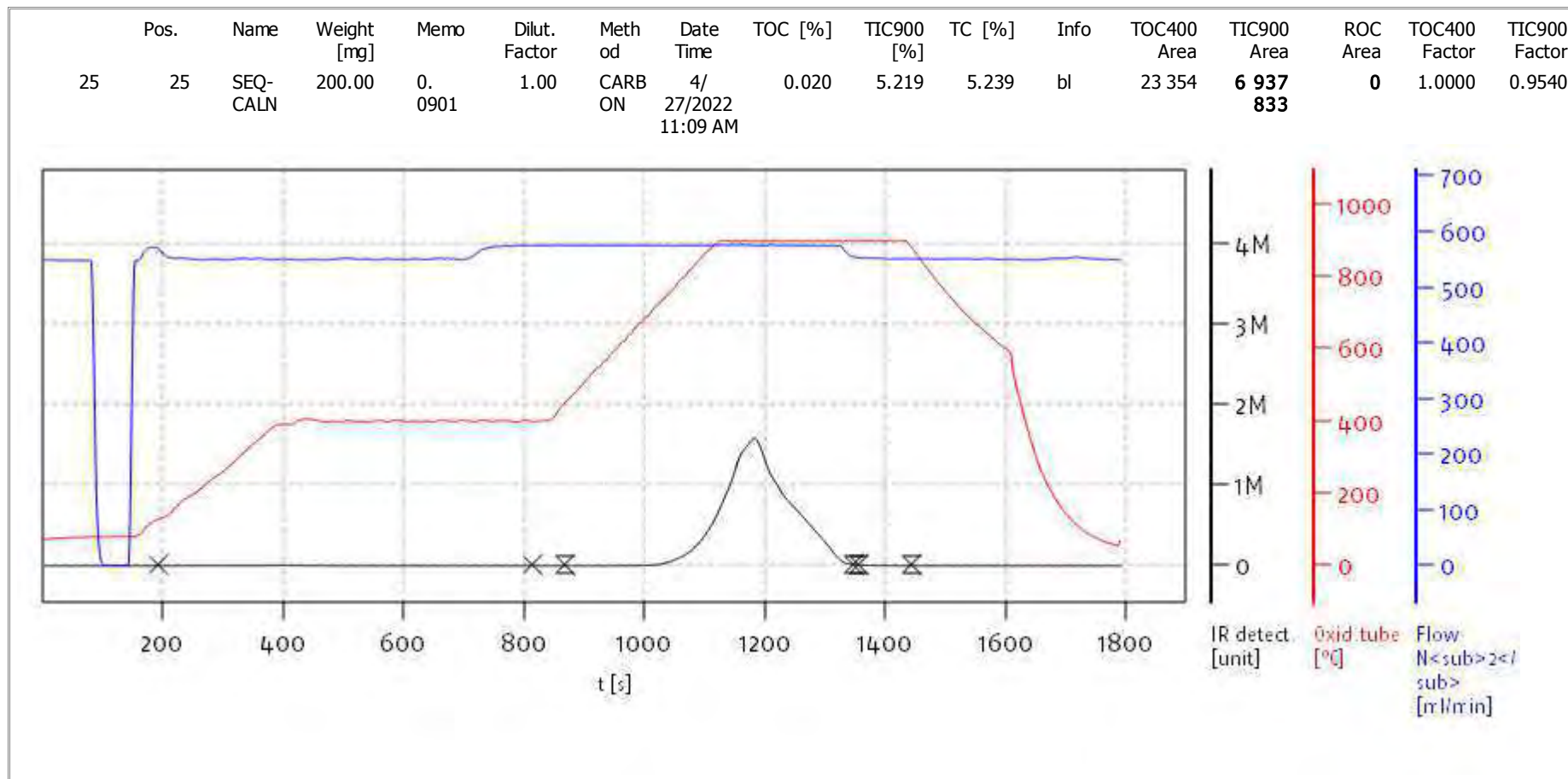


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC





Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

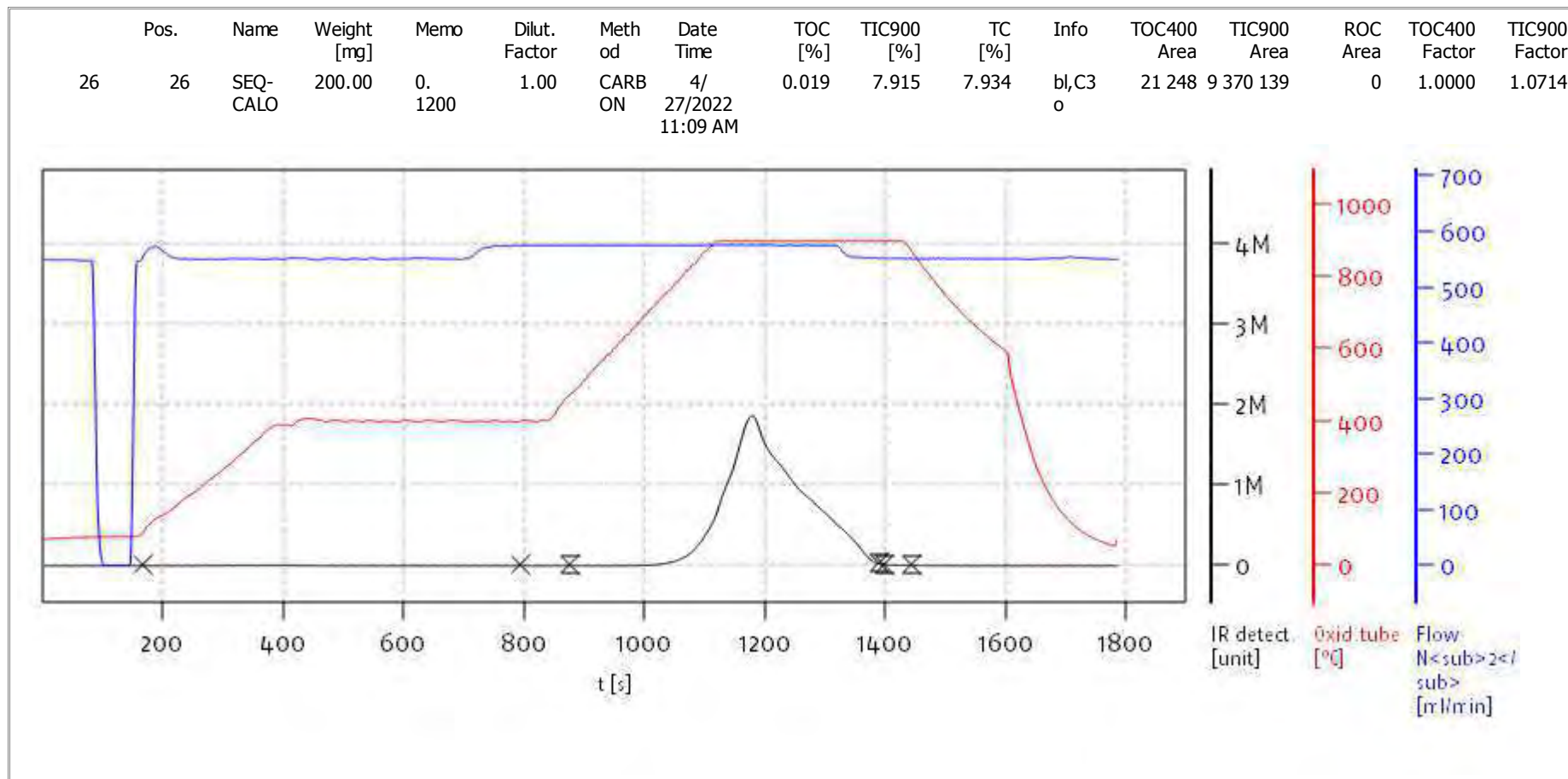
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solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.18107  
Mode CCC



Soli TOC Cube, Carbon  
Balance: BAL3  
Analyst: DOE



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:10:16 2022

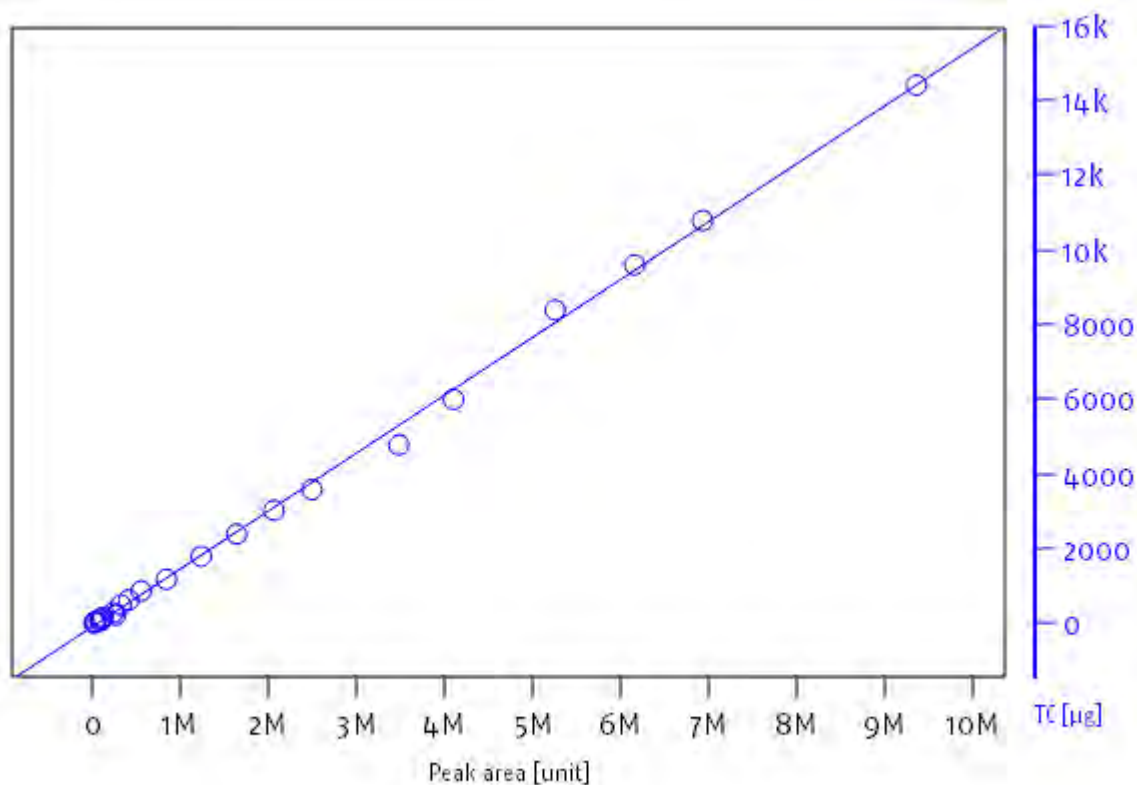


solITOC V2.0.2 (31015f9) 2018-11-19  
Serial No: 0300.181017  
Mode CCC

### Calibration parameters TC, Whole range

a	-4.107546e-02
b	+1.548032e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.998372
r_old	0.998372
Proc.-SD	166.070255 µg

Calibration graph TC, Whole range



Name:

Access: solITOC superuser

Date: Wed Apr 27 11:19:56 2022



solITOC V2.0.2 (31015f9) 2018-11-19

Serial No: 0300.181017

Mode CCC





**Analytical Resources, LLC**  
Analytical Chemists and Consultants

**INSTRUMENT BLANKS**  
**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Sequence: SKD0371

Date Analyzed: 04/27/22 02:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKD0371-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	



**INSTRUMENT BLANKS**  
**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Sequence: SKF0230

Date Analyzed: 06/20/22 17:09

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKF0230-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SKF0230-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SKF0230-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	



**INSTRUMENT BLANKS**  
**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Sequence: SKF0261

Date Analyzed: 06/22/22 13:28

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKF0261-ICB1	Total Organic Carbon	0.002	0.02	0.02	%	
SKF0261-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	



**INITIAL AND CONTINUING  
CALIBRATION CHECK  
EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Control Limit: +/- 10.00%

Sequence: SKD0371

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKD0371-ICV1	Total Organic Carbon	44.446	43.7	98.3	%	EPA 9060A m
	Total Carbon	44.446	44.1	99.2	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.40		%	EPA 9060A m
	% Soot	0.0000	0.004		%	EPA 9060A m

\* Values outside of QC limits



**INITIAL AND CONTINUING  
CALIBRATION CHECK  
EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Control Limit: +/- 10.00%

Sequence: SKF0230

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKF0230-ICV1	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SKF0230-CCV1	Total Organic Carbon	44.446	44.8	101	%	EPA 9060A m
SKF0230-CCV2	Total Organic Carbon	44.446	44.2	99.4	%	EPA 9060A m

\* Values outside of QC limits



**INITIAL AND CONTINUING  
CALIBRATION CHECK  
EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Instrument ID: TOC Cube

Calibration: FD00070

Control Limit: +/- 10.00%

Sequence: SKF0261

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKF0261-ICV1	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SKF0261-CCV1	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m

\* Values outside of QC limits



## HOLDING TIME SUMMARY

**Analysis: EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1A-3-MS 22F0267-01RE1	06/14/22 13:00	06/16/22 10:54	06/20/22 10:00	5	14	06/22/22 13:58			
Z1A-6-MS 22F0267-03RE1	06/14/22 13:10	06/16/22 10:54	06/20/22 10:00	5	14	06/22/22 15:58			
Z1A-9-MS 22F0267-05	06/15/22 10:20	06/16/22 10:54	06/20/22 10:00	4	14	06/20/22 22:10			
Z1A-12-MS 22F0267-07	06/15/22 09:55	06/16/22 10:54	06/20/22 10:00	5	14	06/20/22 23:40			
DUP-1-MS 22F0267-13	06/14/22 10:20	06/16/22 10:54	06/20/22 10:00	5	14	06/21/22 00:10			
Z1B-1-MS 22F0267-16	06/14/22 10:15	06/16/22 10:54	06/20/22 10:00	5	14	06/21/22 00:40			
Z1B-2-MS 22F0267-18	06/14/22 10:30	06/16/22 10:54	06/20/22 10:00	5	14	06/21/22 01:10			
Z1B-3-MS 22F0267-20	06/14/22 15:05	06/16/22 10:54	06/20/22 10:00	5	14	06/21/22 01:40			
Z1B-4-MS 22F0267-22	06/15/22 09:45	06/16/22 10:54	06/20/22 10:00	5	14	06/21/22 02:10			
Duplicate BKF0437-DUP2	06/14/22 13:00	06/16/22 10:54	06/20/22 10:00	5	14	06/22/22 14:28			
Matrix Spike BKF0437-MS2	06/14/22 13:00	06/16/22 10:54	06/20/22 10:00	5	14	06/22/22 14:58			
Matrix Spike Dup BKF0437-MSD2	06/14/22 13:00	06/16/22 10:54	06/20/22 10:00	5	14	06/22/22 15:28			

\* Indicates hold time exceedance.



**METHOD DETECTION  
AND REPORTING LIMITS**

**EPA 9060A m**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Instrument: TOC Cube

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Total Organic Carbon	0.02	0.02	%





MP Biomedicals, LLC

29525 Fountain Parkway  
Solon, Ohio 44139

Telephone: 440/337-1200  
Toll Free: 800/854-0530

Fax: 440/337-1180  
web: www.mpbio.com

## Certificate of Analysis

**Product Description:** Microcrystalline Cellulose Powder\_  
**Catalog Number:** 191499\_  
**Lot:** Q9483\_

**Formula:** (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>  
**CAS #:** 9004-34-6  
**Physical Description:** White Powder

**Formula Weight:** N/A  
**Storage:** 15 - 30°C


Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh	Wt %	
+60 mesh	<8%	<1%
+200 mesh	>45%	55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

**H001822**

Microcrystalline Cellulose Powder (TOC)  
Expires 11/30/2022  
*Prepared By Casey English 2/22/2019*

Identification A & B: Passes  
Bulk Density: 0.29 g/ml  
Bulk Density (graduated cylinder): 0.31 g/ml  
Conductivity: 18 µS/cm  
Starch: Negative  
Ether Soluble Substances: 0.01%  
Total Aerobic microbial Count: 100 cfu/g  
Total Mold and Yeast Count: 20 cfu/g  
Staphylococcus aureus: Absent/1 g  
Pseudomonas aeruginosa: Absent/1 g  
E. coli: Absent/1 g  
Salmonella: Absent/10 g  
Particle size:

- 450 mesh: 77%  
- d10: 37 um  
- d50: 139 um  
- d90: 271 um  
TUP: <9/600 cm<sup>2</sup>  
Degree of brightness: >88%  
Powder flow-angle of repose: <42°  
Recommended Retest Date: 11/30/2022



07/26/2018 - John Huang, PhD  
MP Biomedicals, LLC.  
Quality Control Manager

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<mailto:biotech@mpbio.com>  
<http://www.mpbio.com>

Online Ordering, MSDSs, certificates of analysis and data sheets now available on our web site  
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## Certificate of Analysis

**Product Description:** Microcrystalline Cellulose Powder\_  
**Catalog Number:** 191499\_  
**Lot:** Q9483\_

**Formula:** (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>  
**CAS #:** 9004-34-6  
**Physical Description:** White Powder

**Formula Weight:** N/A  
**Storage:** 15 - 30°C


Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh	Wt %	
+60 mesh	<8%	<1%
+200 mesh	>45%	55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

**H001822**

Microcrystalline Cellulose Powder (TOC)  
Expires 11/30/2022  
*Prepared By Casey English 2/22/2019*

Identification A & B: Passes  
Bulk Density: 0.29 g/ml  
Bulk Density (graduated cylinder): 0.31 g/ml  
Conductivity: 18 µS/cm  
Starch: Negative  
Ether Soluble Substances: 0.01%  
Total Aerobic microbial Count: 100 cfu/g  
Total Mold and Yeast Count: 20 cfu/g  
Staphylococcus aureus: Absent/1 g  
Pseudomonas aeruginosa: Absent/1 g  
E. coli: Absent/1 g  
Salmonella: Absent/10 g  
Particle size:

- 450 mesh: 77%  
- d10: 37 um  
- d50: 139 um  
- d90: 271 um  
TUP: <9/600 cm<sup>2</sup>  
Degree of brightness: >88%  
Powder flow-angle of repose: <42°  
Recommended Retest Date: 11/30/2022



07/26/2018 - John Huang, PhD  
MP Biomedicals, LLC.  
Quality Control Manager

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<http://www.mpbio.com>

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**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1A-3-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-01 B      SDG: 22F0267  
 Sampled: 06/14/22 13:00      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 56.24      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	56.24	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1A-6-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-03 B      SDG: 22F0267  
 Sampled: 06/14/22 13:10      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 44.47      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	44.47	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1A-9-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-05 B      SDG: 22F0267  
 Sampled: 06/15/22 10:20      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 79.31      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	79.31	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1A-12-MS
-----------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Sediment      Laboratory ID: 22F0267-07 B      SDG: 22F0267

Sampled: 06/15/22 09:55      Prepared: 06/21/22 08:00      File ID:

% Solids: 76.93      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01

Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g

Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	76.93	1	0.04	0.04	





**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

DUP-1-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-13 B      SDG: 22F0267  
 Sampled: 06/14/22 10:20      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 85.13      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	85.13	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1B-1-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-16 B      SDG: 22F0267  
 Sampled: 06/14/22 10:15      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 82.32      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	82.32	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

<b>Z1B-2-MS</b>
-----------------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-18 B      SDG: 22F0267  
 Sampled: 06/14/22 10:30      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 85.83      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	85.83	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1B-3-MS
----------

Laboratory: Analytical Resources, LLC

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Sediment      Laboratory ID: 22F0267-20 B      SDG: 22F0267

Sampled: 06/14/22 15:05      Prepared: 06/21/22 08:00      File ID:

% Solids: 86.19      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01

Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g

Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	86.19	1	0.04	0.04	



**Form I**  
**INORGANIC ANALYSIS DATA SHEET**  
**SM 2540 G-97**

Z1B-4-MS
----------

Laboratory: Analytical Resources, LLC  
 Client: GeoEngineers  
 Project: RG Haley Site-Bellingham  
 Matrix: Sediment      Laboratory ID: 22F0267-22 B      SDG: 22F0267  
 Sampled: 06/15/22 09:45      Prepared: 06/21/22 08:00      File ID:  
 % Solids: 80.36      Preparation: No Prep Wet Chem      Analyzed: 06/21/22 08:01  
 Batch: BKF0465      Sequence:      Initial/Final: 5 g Wet / 5 g  
 Instrument: BAL2      Calibration:

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	80.36	1	0.04	0.04	



## PREPARATION BATCH SUMMARY

**SM 2540 G-97**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0465 Batch Matrix: Solid

Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Z1A-3-MS	22F0267-01		06/21/22 08:00	
Z1A-6-MS	22F0267-03		06/21/22 08:00	
Z1A-9-MS	22F0267-05		06/21/22 08:00	
Z1A-12-MS	22F0267-07		06/21/22 08:00	
DUP-1-MS	22F0267-13		06/21/22 08:00	
Z1B-1-MS	22F0267-16		06/21/22 08:00	
Z1B-2-MS	22F0267-18		06/21/22 08:00	
Z1B-3-MS	22F0267-20		06/21/22 08:00	
Z1B-4-MS	22F0267-22		06/21/22 08:00	
Blank	BKF0465-BLK1		06/21/22 08:00	

**TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples**  
**Method: PSEP 1986, SM2540, EPA 160.1**  
 (dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch: BKF0465  
 Date: 6/21/2022 8:01  
 Analyst: DOE

Instrumentation: Drying Ovens: 1, Muffle Furnace: 2, Analytical Balance: BAL2

Batch drying time: record times as mm/dd/yy hh:mm  
 date/time in oven: 6/21/2022 8:21  
 date/time out: 6/22/2022 7:15  
 elapsed hrs = 22.9 OK

Oven Temps, °C: Start Temp 107, Dry Cycle 1 102, Dry Cycle 2, Dry Cycle 3

TS (%) calculated as: Final dry wt (g) = (Dry Wt - Tare Wt)  
 TS = (Final Dry Wt)/(grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:  
 Final ash wt (g) = (min ash wt - tare wt)  
 TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] \*1,000,000  
 if ash wt > dry wt, "Chk for Err"  
 if dry wt-ash wt < 0.001 g, "< (1/dry wt )"\*1,000,000

**Balance Calibration Check**  
 Record weights to 4 places

Cal Weight ID:	CV-02	CV-02	CV-02	CV-02	CV-02
Date & Time:	6/21/22 8:02	6/21/22 8:07	6/22/22 7:51		
Cal Wt (g):	10.0000	10.0000	10.0000		
	Cal OK!	Cal OK!	Cal OK!		

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams)			dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams)			Ash Wt (g)	TVS		Notes	Fixed (%)
				1	2	3				1	2	3		(mg/kg)	(%)		
BKF0465-BLK1	1	0.7821	0.0000	0.7819			-0.0002	0.03%									
22F0206-01	2	0.8214	5.7528	4.3457			3.5243	71.47%									
BKF0465-DUP1	3	0.7953	5.7398	4.2301			3.4348	69.47%	RPD=2.8								
22F0206-02	4	0.7891	6.3823	4.7599			3.9708	70.99%									
22F0250-02	5	0.7975	3.6035	3.1333			2.3358	83.24%									
22F0267-01	6	0.8008	3.5932	2.3712			1.5704	56.24%									
22F0267-03	7	0.7915	6.9196	3.5164			2.7249	44.47%									
22F0267-05	8	0.7900	7.7459	6.3066			5.5166	79.31%									
22F0267-07	9	0.7848	5.9450	4.7547			3.9699	76.93%									
22F0267-13	10	0.7846	6.5226	5.6693			4.8847	85.13%									
22F0267-16	11	0.7932	7.5525	6.3575			5.5643	82.32%									
22F0267-18	12	0.8207	6.8570	6.0019			5.1812	85.83%									
22F0267-20	13	0.7845	7.0272	6.1650			5.3805	86.19%									
22F0267-22	14	0.7950	6.7011	5.5411			4.7461	80.36%									
22F0300-01	15	0.7849	5.1436	1.9514			1.1665	26.76%									



**Form I**  
**METHOD BLANK DATA SHEET**  
**SM 2540 G-97**  
TotalAnalytes

<b>Blank</b>
--------------

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Batch: BKF0465

Laboratory ID: BKF0465-BLK1

Prepared: 06/21/22 08:00

Matrix: Solid

Preparation: No Prep Wet Chem

Analyzed: 06/21/22 08:01

Sequence:

Calibration:

Instrument: BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U





## HOLDING TIME SUMMARY

**Analysis: SM 2540 G-97**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

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
Z1A-3-MS 22F0267-01	06/14/22 13:00	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1A-6-MS 22F0267-03	06/14/22 13:10	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1A-9-MS 22F0267-05	06/15/22 10:20	06/16/22 10:54	06/21/22 08:00	5	28	06/21/22 08:01	6	28	
Z1A-12-MS 22F0267-07	06/15/22 09:55	06/16/22 10:54	06/21/22 08:00	5	28	06/21/22 08:01	6	28	
DUP-1-MS 22F0267-13	06/14/22 10:20	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1B-1-MS 22F0267-16	06/14/22 10:15	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1B-2-MS 22F0267-18	06/14/22 10:30	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1B-3-MS 22F0267-20	06/14/22 15:05	06/16/22 10:54	06/21/22 08:00	6	28	06/21/22 08:01	7	28	
Z1B-4-MS 22F0267-22	06/15/22 09:45	06/16/22 10:54	06/21/22 08:00	5	28	06/21/22 08:01	6	28	

\* Indicates hold time exceedance.



**METHOD DETECTION  
AND REPORTING LIMITS**

**SM 2540 G-97**

Laboratory: Analytical Resources, LLC

SDG: 22F0267

Client: GeoEngineers

Project: RG Haley Site-Bellingham

Matrix: Solid

Instrument:

<b>Analyte</b>	<b>MDL</b>	<b>RL</b>	<b>Units</b>
Total Solids	0.04	0.04	%

TOTAL SOLIDS BENCHSHEET					Batch:	BKF0432
Method: PSEP 1986 (dry at 103-105 C)					Date:	6/20/2022 8:00
Instrumentation					Analyst:	YL
					Drying Oven:	15
					Analytical Balance:	B146462614
Batch drying time			Oven Temp, C	TS (%) calculated as:	Oven Temps, °C	
Record times as mm/dd/yy hh:mm				Final dry wt (g) = (Dry Wt - Tare Wt)	Start Temp:	100
Date/time in oven:	6/20/2022 14:33			TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)	End Temp:	107
Date/time out:	6/21/2022 7:16					
Elapsed hrs:	16.7					
SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
22F0267-01	1.1400	11.6800	6.5300	5.39	51.14%	No
22F0267-02	1.1300	12.3400	6.0000	4.87	43.44%	No
22F0267-03	1.1300	12.0000	4.4000	3.27	30.08%	No
22F0267-04	1.1300	11.6800	5.1300	4.00	37.91%	No
22F0267-05	1.1300	12.4200	10.0800	8.95	79.27%	No
22F0267-06	1.1600	12.1400	9.7800	8.62	78.51%	No
22F0267-07	1.1000	11.9000	10.0900	8.99	83.24%	No
22F0267-08	1.1200	12.5400	10.5000	9.38	82.14%	No
22F0267-14	1.1600	12.3400	10.6000	9.44	84.44%	No
22F0267-16	1.1500	11.7200	10.0600	8.91	84.30%	No
22F0267-17	1.1500	12.4800	10.5400	9.39	82.88%	No
22F0267-18	1.1500	12.1300	10.8100	9.66	87.98%	No
22F0267-19	1.1500	11.6400	11.0300	9.88	94.18%	No
22F0267-20	1.1400	11.8700	10.4100	9.27	86.39%	No
22F0267-21	1.1400	12.1200	10.7000	9.56	87.07%	No
22F0267-22	1.1500	12.0100	9.9100	8.76	80.66%	No
22F0267-23	1.1300	12.2600	10.1500	9.02	81.04%	No

<b>TOTAL SOLIDS BENCHSHEET</b>		Batch:	BKF0432
Method: PSEP 1986		Date:	6/20/2022 8:00
(dry at 103-105 C)		Analyst:	<i>je</i>
Instrumentation		Drying Oven:	<i>Φ15</i>
		Analytical Balance:	<i>B146462614</i>
<b>Batch drying time</b>			
Record times as mm/dd/yy hh:mm		Oven Temp, C	TS (%) calculated as:
Date/time in oven:	<i>06/20/22 14:33</i>		Final dry wt (g) = (Dry Wt - Tare Wt)
Date/time out:	<i>06/21/22 07:16</i>		TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)
Elapsed hrs:	0.0		
		Oven Temps, °C	
		Start Temp:	<i>90/200/60</i>
		End Temp:	<i>107</i>

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
22F0267-01	<i>1.14</i>	<i>11.68</i>	<i>6.53</i>			No
22F0267-02	<i>1.13</i>	<i>12.34</i>	<i>6.00</i>			No
22F0267-03	<i>1.13</i>	<i>12.00</i>	<i>4.40</i>			No
22F0267-04	<i>1.13</i>	<i>11.68</i>	<i>5.13</i>			No
22F0267-05	<i>1.13</i>	<i>12.42</i>	<i>10.08</i>			No <i>yes</i>
22F0267-06	<i>1.16</i>	<i>12.14</i>	<i>9.78</i>			No <i>yes</i>
22F0267-07	<i>1.10</i>	<i>11.90</i>	<i>10.09</i>			No <i>yes</i>
22F0267-08	<i>1.12</i>	<i>12.54</i>	<i>10.50</i>			No <i>yes</i>
22F0267-14	<i>1.16</i>	<i>12.34</i>	<i>10.60</i>			No <i>yes</i>
22F0267-16	<i>1.15</i>	<i>11.72</i>	<i>10.06</i>			No <i>yes</i>
22F0267-17	<i>1.15</i>	<i>12.48</i>	<i>10.54</i>			No
22F0267-18	<i>1.15</i>	<i>12.13</i>	<i>10.21</i>			No
22F0267-19	<i>1.15</i>	<i>11.64</i>	<i>11.03</i>			No
22F0267-20	<i>1.14</i>	<i>11.87</i>	<i>10.41</i>			No
22F0267-21	<i>1.14</i>	<i>12.12</i>	<i>10.70</i>			No
22F0267-22	<i>1.15</i>	<i>12.01</i>	<i>9.91</i>			No
22F0267-23	<i>1.13</i>	<i>12.26</i>	<i>10.15</i>			No

*T/S + Screen highlighted samples*

*1 copy*

*13 & 14 samples - sample  
06/20/22*