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6 April 2015

Ms. Jing Liu
Toxic Cleanup Program
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, Washington 98008

Subject: Quarterly Groundwater Monitoring Event Report, February 2015
Cornet Bay Marina
Oak Harbor, Washington
K/J 1396010.00

Dear Ms. Liu:

This letter report presents the findings of the third quarterly groundwater monitoring event that was performed following completion of remediation activities at the Cornet Bay Marina (site) in June 2014. The site is located at the northern end of Whidbey Island, Island County, Washington and bounded on the west by Cornet Bay and on the east by Cornet Bay Road. A site vicinity map is included as Figure 1 (attached).

The work documented in this letter report was performed on behalf of the Washington State Department of Ecology (Ecology) in support of a cleanup action completed at the site. The work performed includes the third quarterly groundwater monitoring of six site monitoring wells and two groundwater seeps.

Background

In January 1989, a release occurred from ruptured underground fuel lines and caused impacts to soil and groundwater behind the wooden bulkhead at the site. After discovery of the release, the original underground storage tanks (USTs) and piping were emptied and removed. Following removal of the old tanks and piping, a two-compartment 12,000-gallon aboveground storage tank (AST) (9,000-gallon gasoline and 3,000-gallon diesel) and steel piping were installed. The tank was installed in a belowground reinforced concrete vault near the footprint of the former UST excavation. The location of the tank vault is shown on Figure 2 (attached).

In February 1993, a Consent Decree (Ecology Site Cleanup No. 2011, Consent Decree No. 93-2-00018-3) was established between Ecology and the Cornet Bay Marina site owner/operator (Mr. Milton Woods). The consent decree required an investigation and cleanup of the site in accordance with the requirements of Model Toxics Control Act (MTCA) [Washington Administrative Code (WAC) 173-340].

In August 2011, Ecology authorized Kennedy/Jenks Consultants to prepare a Remedial Investigation/Feasibility Study (RI/FS) Work Plan (Work Plan) to 1) collect supplemental information regarding the distribution of affected soil and groundwater, 2) assess the potential for vapor intrusion at the onsite building, and 3) evaluate overall site conditions with the intent to identify and select a cleanup action for the site.

The Work Plan was implemented from August through December 2011 and documented in the RI/FS report dated July 2013. The preferred remedial alternative identified in the FS included replacement of the dilapidated wooden bulkhead with a new steel sheet pile bulkhead and removal and disposal of contaminated soil. Following completion of the RI/FS, the following activities were performed in support of implementing the selected remedial alternative:

- Preparation of a cleanup action plan (CAP), dated July 2013, that summarized key elements of the remedial action.

- Extensive permitting activities, including a State of Washington National Pollutant Discharge Elimination System (NPDES) permit, a Construction Stormwater General Permit (CSGP), and a U.S. Army Corps of Engineers (Corps) Nationwide Permit (NWP).

- Preparation of an Engineering Design Report (EDR), dated September 2013. The EDR provided details regarding the cleanup requirements, engineering design concepts and criteria, and plans for confirmation monitoring.

- Preparation of construction issue specifications and plans (Project Documents) for implementation by Ecology's selected remediation contractor.

The remedial action field work was completed from December 2013 through June 2014 by Ecology's selected remediation contractor (Glacier Environmental, Inc. of Mukilteo, Washington). The substantive remedial activities (including summary of performance monitoring results) for the remedial action are summarized in the Construction Completion Report (CCR) dated October 2014.

Following completion of the remedial action, four new groundwater monitoring wells (MW-1R, MW-2R, MW-4R, and MW-10R) were installed at the site on 13 August 2014 (refer to Figure 2). The four new wells replaced prior monitoring wells that had been abandoned as part of the cleanup activities. Each of the new wells and two previously installed monitoring wells (MW-7 and MW-9) were developed to remove fine-grained sediments from the filter-pack. Following development, each of the wells was surveyed by KPG of Seattle, Washington to identify top of casing elevation.

Scope of Work

Quarterly Groundwater Monitoring

The third quarterly monitoring event was performed on 24 February 2015. Field activities performed included the following:

- Groundwater level monitoring was conducted by gauging each of six site monitoring wells using an electronic water level depth probe. The groundwater elevation at each well was calculated by measuring the depth to water (to +/- 0.01 foot) and subtracting this measurement from the surveyed monitoring well casing elevations. Water levels were measured at high and low tides. Water levels were measured from 0850 to 0928, within approximately 1 hour of the 0851 high tide at Cornet Bay. Water levels were measured again from 1431 to 1510, within approximately 1.5 hours of the 1547 low tide at Cornet Bay.

- Groundwater sampling was performed using low-flow purging and sampling techniques with wells purged at a rate of approximately 0.1 to 0.25 liter per minute using a peristaltic pump. Field parameter monitoring included temperature, pH, specific conductance, dissolved oxygen, oxidation/reduction potential (ORP), and relative turbidity. Due to difficulties in the field, no turbidity was recorded for well MW-7. With the exception of well MW-1R that experienced slow recharge, purging continued until field parameters indicated stable conditions (refer to Table 1, attached).

- Groundwater samples were collected from the six monitoring wells and submitted to Analytical Resources, Incorporated (ARI) in Tukwila, Washington, for the following analyses:
  - Gasoline-range organics (GRO) using Ecology Method Northwest Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx).
  - Diesel-range organics (DRO) using Ecology Method Northwest Total Petroleum Hydrocarbons as Diesel Extended (NWTPH-Dx).
  - Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Method SW8260C.

- Quality assurance/quality control (QA/QC) samples were collected and include:
  - One field duplicate sample (MW-1-2R-22415) was collected and analyzed for each of the primary chemical of concern (COC) analytes (GRO, DRO, and BTEX) from well MW-2R.
  - Trip blanks were included with the shipment (24 February 2015) to the analytical laboratory.

- Groundwater samples were also collected for analysis of selected monitored natural attenuation (MNA) parameters, including nitrate/nitrite, ammonia, sulfate, sulfide, dissolved iron (field filtered), and methane.

- Groundwater seep samples were collected from two seep locations along the bulkhead during low tide (for purposes of access). Sampling was performed by collecting seep water in a plastic bottle, followed by immediate transfer to the designated sampling bottles. Samples were submitted to ARI for analysis of DRO and GRO. Groundwater seep locations are included on Figure 2.

Groundwater Purge and Sample Forms are included in Attachment A.

Monitoring Results

Groundwater Elevation Results

The results of water level monitoring are summarized in Table 2 (attached).Potentiometric surface elevation maps of site groundwater are provided on Figure 3A (attached) for high tide data and Figure 3B (attached) for low tide data. Based on historical water level monitoring data, site groundwater levels are tidally influenced (especially near the bulkhead). Groundwater hydraulic gradient at the site slopes from the upland areas towards Cornet Bay (from east to west) during both high and low tide. During high tide, groundwater levels nearest the bulkhead rise approximately 4 to 5 feet, decreasing the hydraulic gradient magnitude across the site while maintaining the overall gradient direction. Current water level monitoring results obtained on 24 February 2015 indicate groundwater gradient conditions are consistent with historical monitoring results.

Analytical Results

As indicated above, groundwater samples for the six site wells and two groundwater seep locations were submitted for GRO, DRO, and BTEX compounds on 24 February 2015. The analytical results of groundwater samples collected during this quarterly monitoring event are summarized in Table 3 (attached). All analyte concentrations (including GRO, DRO, and BTEX) in groundwater samples were below laboratory reporting limits for each well and two seep samples with two exceptions; benzene was detected in seep location SEEP-2 and duplicate sample collected from well MW-2R (MW-1-2R-22415).

As site groundwater discharges to surface water and is not used for potable consumption, compliance with groundwater cleanup levels for the site are based on comparison to applicable, relevant, and appropriate requirement (ARARs) or other relevant screening criteria. All analyte concentrations in the samples were either below the MTCA Method A Cleanup Level, Clean Water Act (CWA) values, or the National Oceanic and Atmospheric Administration's (NOAA) *Screening Quick Reference Tables* (SQUIRT) values. Comparison of site groundwater with these standards and screening levels demonstrate the remedial action completed in June 2014 was successful in removing contaminated site soils that could impact surface water in Cornet Bay. Groundwater laboratory analytical results are summarized in Table 3 and the laboratory analytical reports are provided in Attachment B.

As indicated above, site groundwater samples were also submitted for analysis of baseline MNA parameters (identified above) to assess natural biodegradation of possible residual hydrocarbon compounds (refer to Table 1). The results indicate conducive conditions in site groundwater to support natural biodegradation of any residual soil or groundwater COC impacts at the site via aerobic and/or anaerobic respiration.

Kennedy/Jenks Consultants appreciates the opportunity to provide continued support to Ecology on this project. Should you have any questions regarding the information contained herein, please do not hesitate to contact us at (253) 835-6400.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Ty C. Schreiner, L.Hg.
Vice President

Attachments:

Tables
Table 1 – Water Quality and Geochemical Parameters
Table 2 – Summary of Groundwater Elevation Data
Table 3 – Groundwater Analytical Results

Figures
Figure 1 – Site Location
Figure 2 – Site Plan
Figure 3A – Groundwater Potentiometric Surface Map – High Tide, February 2015
Figure 3B – Groundwater Potentiometric Surface Map – Low Tide, February 2015

Attachments
Attachment A – Groundwater Purge and Sample Forms
Attachment B – Laboratory Analytical Reports

Tables

Table 1: Water Quality and Geochemical Parameters

		Water Quality Parameters[a]						Geochemical Parameters					
Monitoring Well ID	Sample Collection Date	pH	Conductivity (mS/cm)	Turbidity (NTU)	Temperature (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Nitrate+ Nitrite (mg-N/L)	Ammonia (mg-N/L)	Sulfate (mg/L)	Sulfide (mg/L)	Methane (µg/L)	Dissolved Iron (mg/L)
MW-1R	9/18/2014	6.79	1.920	22.2	20.44	4.37	111	0.180	1.17	64.5	0.050 U	11.8	---[b]
MW-1R	11/25/2014	7.23	0.957[c]	32[c]	11.8	4.46[c]	61.9[c]	16.3	0.026	80.0	0.050 U	0.7 U	0.05 U
MW-1R	2/24/2015	7.14	1.908	137.00	10.4	5.31	38.7	5.41	0.037	44.7	0.161	0.7 U	0.83
MW-2R	8/15/2014	6.77	1.260	28.8	17.42	6.15	79	1.320	0.116	64.3	0.050 U	0.7 U	0.05 U
MW-2R	11/25/2014	7.11	0.267	80	11.0	9.82	205.0	0.654	0.018	20.4	0.098	0.7 U	0.15
MW-2R	2/24/2015	6.40	2.851	29.30	10.2	3.48	61.3	0.095	0.318	66.5	0.100	116	3.91
MW-4R	8/15/2014	7.25	1.400	32.9	16.24	3.51	-18	0.714	0.022	96.0	0.050 U	13.2	0.05 U
MW-4R	11/25/2014	7.38	0.308	6.7	11.0	9.85	251.1	2.21	0.034	42.5	0.050 U	0.7 U	0.05 U
MW-4R	2/24/2015	7.00	1.454	3.76	10.15	3.74	50.9	0.513	0.013	10	0.050 U	96.2	0.31
MW-7	8/14/2014	6.67	0.673	16.3	17.47	2.16	-175	0.024	14.5	19.7	0.050 U	1,160	14.4
MW-7	11/25/2014	7.11	0.455	0.90	11.5	0.16	-115.4	0.012	10.9	24.1	0.050 U	1,760	12.9
MW-7	2/24/2015	6.73	0.761	NM	9.41	0.98	-83.1	0.010 U	8.38	25.3	0.050 U	700	9.13
MW-9	8/14/2014	6.91	0.693	17.0	17.82	2.95	10	0.010 U	0.376	10.8	0.050 U	0.7 U	0.05 U
MW-9	11/25/2014	7.14	0.676	5.2	12.7	0.26	-7.0	0.010 U	0.266	12.8	0.050 U	323	0.58
MW-9	2/24/2015	6.89	1.379	25.30	10.57	0.69	-0.3	0.011	0.462	65.6	0.050 U	241	0.05 U
MW-10R	8/15/2014	7.03	2.160	165.0	18.23	7.73	-30	0.084	4.61	98.6	0.100	5,180	2.07
MW-10R	11/25/2014	6.83	1.608	10	12.2	0.32	108.0	0.010 U	3.10	211	0.059	3,000	1.99
MW-10R	2/24/2015	6.62	3.539	3.68	10.98	0.69	51	0	3.31	363	0.050 U	1,680	1.91

Notes:

(a) Water quality parameter readings at the completion of purging and prior to sampling.
(b) Well was not sampled for dissolved iron due to slow recharge.
(c) Well sampled prior to water quality parameter stabilization due to slow recharge.

mS/cm = milli-Siemens per centimeter.
NTU = nephelometric turbidity unit.
°C = degrees Celsius.
mg/L = milligrams per liter.
ORP = oxidation-reduction potential.
mV = millivolt.
mg-N/L = milligram nitrogen per liter.
mg/L = milligrams per liter.
µg/L = micrograms per liter.
"U" = Not detected at or above laboratory reporting limits.
NM = Not measured due to turbidity reading difficulties.

Table 2: Summary of Groundwater Elevation Data

Monitoring Well ID	Measurement Date	Top of PVC Well Elevation[a] (feet amsl)[b]	Depth to Groundwater (feet)	Groundwater Elevation (feet amsl)
MW-1R	8/15/2014	14.19	8.98	5.21
MW-1R	11/25/2014	14.19	4.81	9.38
MW-1R [c]	2/24/2015	14.19	5.32	8.87
MW-1R [d]	2/24/2015	14.19	7.96	6.23
MW-2R	8/15/2014	13.87	7.80	6.07
MW-2R	11/25/2014	13.87	6.72	7.15
MW-2R [c]	2/24/2015	13.87	5.13	8.74
MW-2R [d]	2/24/2015	13.87	5.19	8.68
MW-4R	8/15/2014	13.76	5.61	8.15
MW-4R	11/25/2014	13.76	4.86	8.90
MW-4R [c]	2/24/2015	13.76	5.92	7.84
MW-4R [d]	2/24/2015	13.76	10.62	3.14
MW-7	8/14/2014	13.66	2.59	11.07
MW-7	11/25/2014	13.66	0.47	13.19
MW-7 [c]	2/24/2015	13.66	2.04	11.62
MW-7 [d]	2/24/2015	13.66	2.09	11.57
MW-9	8/14/2014	12.83	3.28	9.55
MW-9	11/25/2014	12.83	1.84	10.99
MW-9 [c]	2/24/2015	12.83	3.31	9.52
MW-9 [d]	2/24/2015	12.83	2.65	10.18
MW-10R	8/15/2014	13.42	4.19	9.23
MW-10R	11/25/2014	13.42	3.57	9.85
MW-10R [c]	2/24/2015	13.42	3.52	9.90
MW-10R [d]	2/24/2015	13.42	3.55	9.87

Notes:

(a) Casing elevations were surveyed on 15 August 2014 by KPG, Inc. of Tacoma, Washington.

(b) Water quality parameter readings at the completion of purging and prior to sampling.

(c) Groundwater elevation collected at high tide.

(d) Groundwater elevation collected at low tide.

PVC = polyvinyl chloride.

amsl = above mean sea level.

Table 3: Groundwater Analytical Results

Monitoring Well ID	Sample Collection Date	Total Petroleum Hydrocarbons (µg/L)[a]			Volatile Organic Compounds (µg/L)[b]			
		Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-1R	8/18/2014	250 U	100 U	200 U	1.0 U	1.0 U	1.0 U	3.0 U
MW-1R	11/25/2014	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-1R	2/24/2015	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-2R	8/15/2014	250 U	100 U	200 U	1.5	1.0 U	1.0 U	3.0 U
MW-2R	11/25/2014	250 U / 250 U	100 U / 100 U	200 U / 200 U	0.20 U/0.20 U	0.20 U/0.20 U	0.20 U/0.20 U	0.60 U/0.60 U
MW-2R	2/24/2015	250 U / 250 U	100 U	200 U	1.0 U / 0.42	1.0 U / 0.20 U	1.0 U / 0.20 U	3.0 U / 0.60 U
MW-4R	8/15/2014	250 U	100 U	200 U	1.0 U	1.0 U	1.0 U	3.0 U
MW-4R	11/25/2014	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-4R	2/24/2015	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-7	8/14/2014	250 U	100 U	200 U	1.0 U	1.0 U	1.0 U	3.0 U
MW-7	11/25/2014	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-7	2/24/2015	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-9	8/14/2014	250 U	100 U	200 U	1.0 U	1.0 U	1.0 U	3.0 U
MW-9	11/25/2014	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-9	2/24/2015	250 U	110 U	220 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-10R	8/15/2014	250 U / 250 U	100 U / 100 U	200 U / 200 U	1.0 U / 1.0 U	1.0 U / 1.0 U	1.0 U / 1.0 U	3.0 U / 3.0 U
MW-10R	11/25/2014	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
MW-10R	2/24/2015	250 U	100 U	200 U	1.0 U	1.0 U	1.0 U	3.0 U
SEEP-1	2/24/2015	250 U	100 U	200 U	0.20 U	0.20 U	0.20 U	0.60 U
SEEP-2	2/24/2015	250 U	100 U	200 U	0.81	0.20 U	0.20 U	0.60 U
MTCA Method A Cleanup Level		1,000[c]	500	500	51[d]	15,000[d]	2,100[d]	1,000
NOAA SQUIRT Marine Values Chronic Effects		NA	NA	NA	110[e]	215[e]	25[e]	NA

Notes:

(a) Samples were analyzed for diesel- and heavy oil-range, hydrocarbons using Northwest Total Petroleum Hydrocarbon (TPH) Method NWTPH-Dx with Acid/Silica Gel Clean-up and for gasoline-range hydrocarbons using Northwest TPH Method NWTPH-G.

(b) Select aromatic volatile organic compounds (VOC) analyzed by EPA Method 8021B.

(c) Cleanup level without presence of benzene.

(d) Cleanup level is based on Clean Water Act - CWA 303 (c)(4)(B).

(e) Value based on NOAA Screening Quick Reference Tables (SQUIRT).

µg/L = micrograms per liter.

U = Not detected at or above laboratory reporting limits or limits of quantitation.

MTCA = Washington State Department of Ecology Model Toxics Control Act (WAC 173-340).

NOAA = National Oceanic and Atmostpheric Administration.

NA = Not measured, Not available, or Not applicable.

Where two values are displayed, the second is the analytical result for a field duplicate sample.

Figures

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N

0 0.5 1

Miles

Kennedy/Jenks Consultants

Washington State Department of Ecology
Cornet Bay Marina

Site Location

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March 2015

Figure 1

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- MW-9 — Existing Monitoring Well
- MW-1R — 2014 Monitoring Well
- Approximate Location of Seep
- Approximate Property Boundary
- Former Timber Bulkhead and Current Sheet Pile Bulkhead

Note:

1. Approximate property boundary obtained from survey performed on 17 November 2011. Boundary located on east portion of site is identified as right-of-way.

N

0 50 100

Scale: Feet

1 inch = 50 feet

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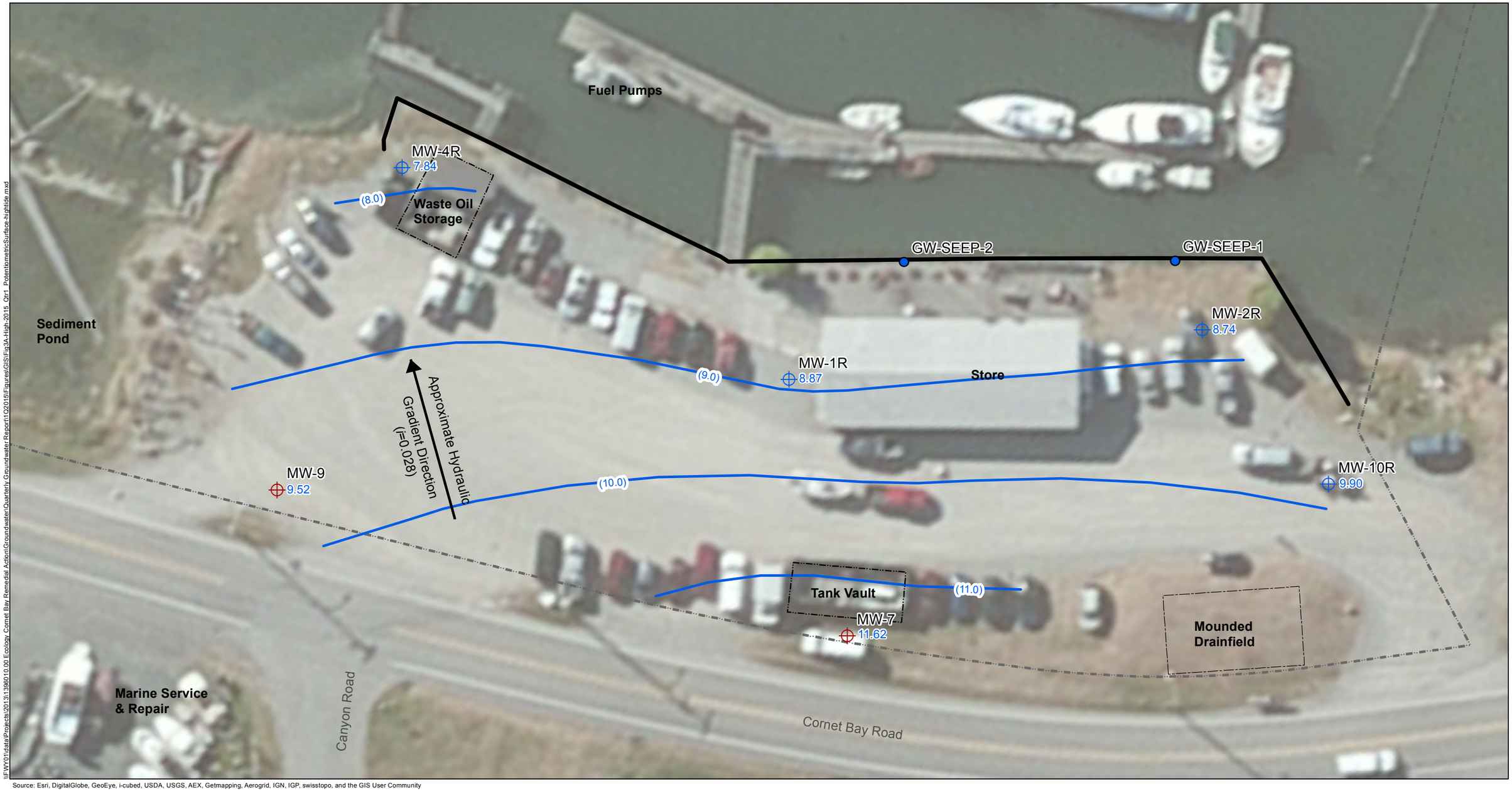
Washington State Department of Ecology
Cornet Bay Marina

Site Plan

1396010*00
March 2015

Figure 2



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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- MW-9 — Existing Monitoring Well (With December 2014 Groundwater Level Elevation, feet above MSL)
- MW-1R — 2014 Monitoring Well (With December 2014 Groundwater Level Elevation, feet above MSL)
- 8.0 — Approximate Groundwater Elevation Contour (Elevation, feet above MSL)
- Approximate Location of Seep
- Former Timber Bulkhead and Current Sheet Pile Bulkhead
- Approximate Property Boundary

Note:

1. Approximate property boundary obtained from survey performed on 17 November 2011. Boundary located on east portion of site is identified as right-of-way.

N

0 30 60

Scale: Feet

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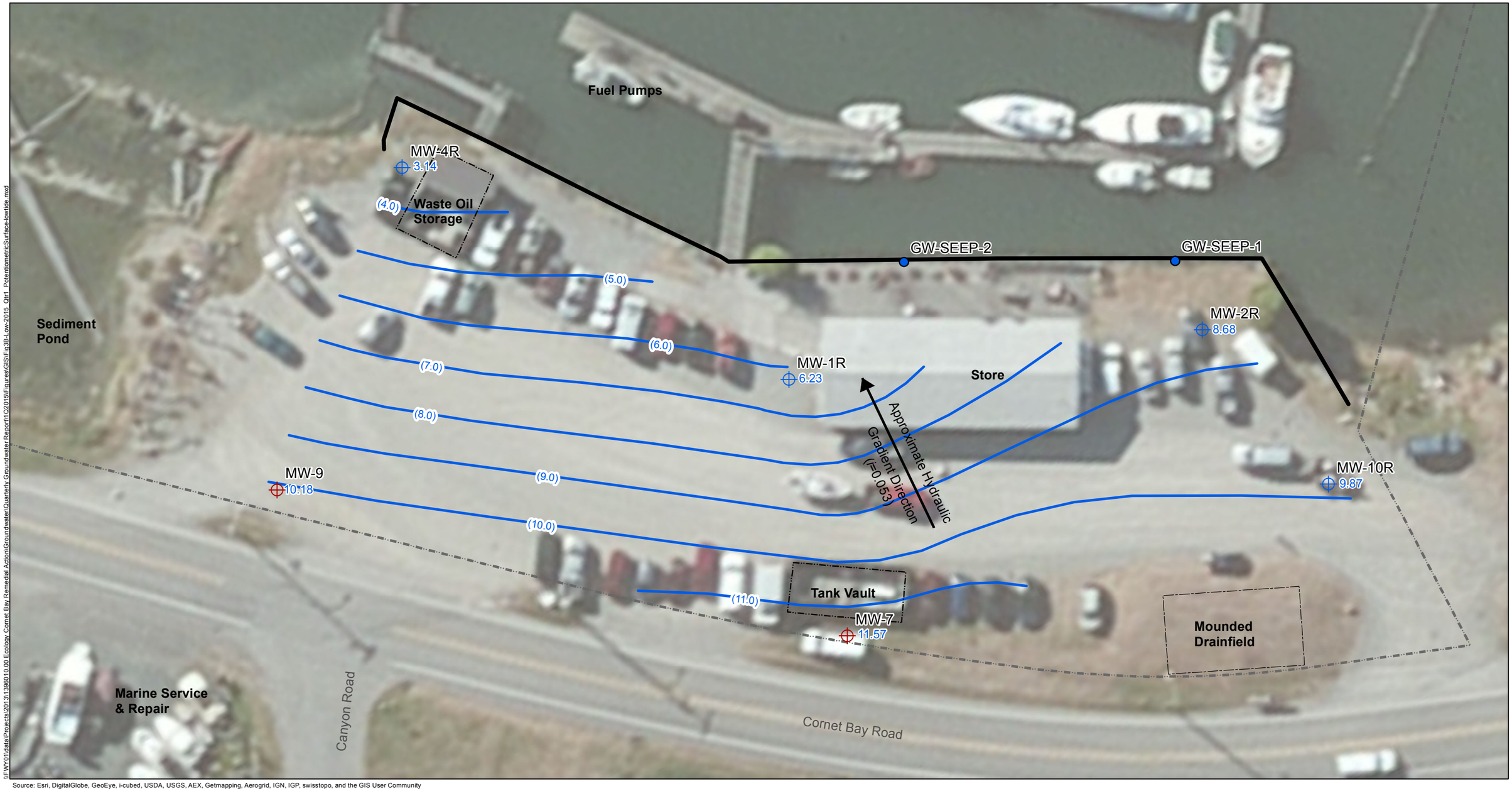
Washington State Department of Ecology
Cornet Bay Marina

Groundwater Potentiometric Surface Map - High Tide February 2015

1396010*00
March 2015

Figure 3A



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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- MW-9 — Existing Monitoring Well (With February 2015 Groundwater Level Elevation, feet above MSL)
- MW-1R — 2014 Monitoring Well (With February 2015 Groundwater Level Elevation, feet above MSL)
- 8.0 — Approximate Groundwater Elevation Contour (Elevation, feet above MSL)
- Approximate Location of Seep
- Former Timber Bulkhead and Current Sheet Pile Bulkhead
- Approximate Property Boundary

Note:

1. Approximate property boundary obtained from survey performed on 17 November 2011. Boundary located on east portion of site is identified as right-of-way.

N

0 30 60

Scale: Feet

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Cornet Bay Marina

Groundwater Potentiometric Surface Map - Low Tide February 2015

1396010*00
March 2015

Figure 3B

Attachment A

Groundwater Purge and Sample Forms

Groundwater Purge and Sample Form (Minimal Drawdown) — **Kennedy/Jenks Consultants**

Date: 2-24-15
Project Name: Cornet Bay Marina
Project Number: 139610.00
Sampling Personnel: AML - CJ
Water Level Meter: Interface Probe
Purging Equipment: Peristaltic Pump
Sampling Time: 1000
Purge Depth (ft): 8.0'
Total Discharge (gal): ~3.5
Water Disposal: Drum on site 55gal
Weather: Sunny

Well Number: MW-1R
Monument Type: Stickup: _____ (ft PVC) Flush: ✓
Well Diameter (in): 2 inch
Well Condition: Good

		Reference:
Total Casing Depth (ft):	10.2 toc	TOC
Screened Interval (ft):	toc	
Depth to Groundwater (ft):	5.32 toc	
Depth to LNAPL (ft): Well	–	

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
			2	0.16		
			4	0.64		
		0.16	6	1.44		

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	
Other:	HACH	
Other:		

QA/QC Samples		
Type	Sample ID	Time

Sample ID	Sample Containers: No.	Type	Pres.	Vol.	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-1R-22415		Amber	No	500mL		Cloudy	NWTPH-Dx	
		VOA	HCl	40mL			Methane	
		VOA	HCl	40mL			Gx-BTEX	
		Poly	No	500mL			SO_4, NO_2-NO_3	
			ZnAcid				Sulfide	
			H_2SO_4				Ammonia	
			HNO_3				Diss Fe	

Time	0951	0954	0957	1000				
Parameter (every 5 min)	3 min	3 min	3 min	3 min	min	min	min	min
Flow Rate (gal/min)	250	250	250	250				
Volume Purged (gal)	–	0.75	1.5	2.25				
Water Depth (ft)	5.32	6.10	6.53	6.72				
Temperature (Celsius)	10.25	10.32	10.36	10.55				
pH	6.60	7.06	7.12	7.14				
Sp. Conductance (mS/cm)	1.930	1.915	1.907	1.908				
DO (mg/L)	10.45	5.63	5.39	5.31				
ORP (mV)	45.3	31.5	36.1	38.7				
Turbidity (NTU)	75.1	87.6	124.0	137.0				
Color	Clear	Clear	Clear	Clear				
Odor/Evidence of LNAPL	N	N	N	N				

Notes: Sample was cloudy; effervescence in containers w/ HCl preservative

Groundwater Purge and Sample Form (Minimal Drawdown) — **Kennedy/Jenks Consultants**

Date: 2-24-15
Project Name: Cornet Bay Marina
Project Number: 1396010
Sampling Personnel: AML - CJ
Water Level Meter: Interface Probe
Purging Equipment: Peristaltic Pump
Sampling Time: 1410
Purge Depth (ft): 9.0'
Total Discharge (gal): ~80 L
Water Disposal: On-site 55 gal drum
Weather: Sunny 50F

Well Number: MW-2R
Monument Type: Stickup: _____ (ft PVC) Flush x
Well Diameter (in): 2 inch
Well Condition: Good

		Reference:
Total Casing Depth (ft):	10.67 toc	TOC
Screened Interval (ft):	toc	
Depth to Groundwater (ft):	9.23 toc	
Depth to LNAPL (ft): Well		

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)	2	0.16	=	Casing Volume (gal)
		0.16	4	0.64		
			6	1.44		

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	
Other:	HACH	2-24-15
Other:		

QA/QC Samples		
Type	Sample ID	Time
Duplicate	MW-1-2R-224[illegible]	

Sample ID	Sample Containers: No.	Type	Pres.	Vol.	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-2R-224[illegible]	3	VOA	HCl	40mL		Cloudy	BTEX-G	
	2	Amber	–	500mL			Diesel Dx	
	2	VOA	–	40mL			Methane	
	1	Poly		500mL			SO_4-NO_2,NO_3	
	1	↓		↓			Ammonia	
	1						Sulfide	
	1						Diss Fe	

Time	1320	1325	1330	1335	1340	1345	1350	1355
Parameter (every 5 min)	5 min	5 min	5 min	5 min	5 min	5 min	5 min	5 min
Flow Rate ~~(gal/min)~~ L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Volume Purged ~~(gal)~~ L	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
Water Depth (ft)	9.23	9.36	9.68	9.74	10.01	10.10	9.93	9.93
Temperature (Celsius)	10.47	10.43	10.45	10.00	10.02	10.12	10.19	10.24
pH	6.50	6.44	6.42	6.46	6.45	6.43	6.43	6.43
Sp. Conductance (mS/cm)	1.446	2.173	2.154	2.137	2.780	2.826	2.837	2.842
DO (mg/L)	12.68	5.92	5.75	8.54	4.81	4.18	3.92	3.89
ORP (mV)	24.6	27.3	33.9	35.6	52.5	60.5	61.9	62.7
Turbidity (NTU)	Overrange	439	995	506	660	613	120	52.6
Color	Brown	Brown	~~Clear~~ Brown	Translucent Brown	Translucent Brown	Translucent Brown	Clear	Clear
Odor/Evidence of LNAPL	N	N	N	N	N	N	N	N

Notes: Water level appears to have stopped dropping once turbidity began to decrease (~1350

Time	1400	1405						
Parameter (every 5 min)	5 min	5 min	min	min	min	min	min	min
Flow Rate ~~(gal/min)~~ L/min	0.1	0.1						
Volume Purged ~~(gal)~~ L	4.5	5.0						
Water Depth (ft)	9.93	9.95						
Temperature (Celsius)	10.20	10.23						
pH	6.43	6.40						
Sp. Conductance (mS/cm)	2.855	2.851						
DO (mg/L)	3.57	3.48						
ORP (mV)	63.8	61.3						
Turbidity (NTU)	31.9	29.3						
Color	Clear	Clear						
Odor/Evidence of LNAPL	N	N						

Time								
Parameter (every 5 min)	min	min	min	min	min	min	min	min
Flow Rate (gal/min)								
Volume Purged (gal)								
Water Depth (ft)								
Temperature (Celsius)								
pH								
Sp. Conductance (mS/cm)								
DO (mg/L)								
ORP (mV)								
Turbidity (NTU)								
Color								
Odor/Evidence of LNAPL								

Time								
Parameter (every 5 min)	min	min	min	min	min	min	min	min
Flow Rate (gal/min)								
Volume Purged (gal)								
Water Depth (ft)								
Temperature (Celsius)								
pH								
Sp. Conductance (mS/cm)								
DO (mg/L)								
ORP (mV)								
Turbidity (NTU)								
Color								
Odor/Evidence of LNAPL								

Groundwater Purge and Sample Form (Minimal Drawdown) — **Kennedy/Jenks Consultants**

Date: 2-24-15
Project Name: Cornet Bay Marina
Project Number: 1396010.00
Sampling Personnel: AML - CJ
Water Level Meter: Interface Probe
Purging Equipment: Peristaltic Pump
Sampling Time: 1110
Purge Depth (ft): 8.0'
Total Discharge (gal): ~8.0
Water Disposal: On-site 55 gal drum
Weather:

Well Number: MW-4R
Monument Type: Stickup: _____ (ft PVC) Flush: X
Well Diameter (in): 2 inch
Well Condition: Good.
Total Casing Depth (ft): 10.39 ~~13.74~~ toc
Screened Interval (ft): _____ toc
Depth to Groundwater (ft): 5.23 toc
Depth to LNAPL (ft): Well _____
Reference: TOC

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
			2	0.16		
			4	0.64		
		0.16	6	1.44		

8

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	
Other: Turb	Hach	
Other:		

QA/QC Samples		
Type	Sample ID	Time

Sample ID	Sample Containers: No.	Type	Pres.	Vol.	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-7-22415	2	Amber		500		Clear	Dx Methane	
	2	VOA		40				
	3	VOA	HCl	40			BETX - Gx	
	1	Poly		500			$SO_4 NO_2 NO_3$	
	1		ZnAc				Sulfide	
	1		H_2SO_4				Ammonia	
	1		HNO_3				Diss. Fe	

Time	1040	1045	1050	1055	1100	1105		
Parameter (every 5 min)	5 min	5 min	5 min	5 min	5 min	5 min	min	min
Flow Rate (gal/min)	0.200	0.200	0.200	0.2	0.2	0.2		
Volume Purged (gal)	-	1	2	3	4	5		
Water Depth (ft)	5.23	5.68	5.72	5.70	5.73	5.73		
Temperature (Celsius)	9.91	9.91	9.99	10.07	10.13	10.15		
pH	6.75	6.93	6.99	6.99	7.01	7.00		
Sp. Conductance (mS/cm)	0.765	0.881	1.031	1.402	1.411	1.454		
DO (mg/L)	10.43	7.80	6.65	5.01	4.82	3.74		
ORP (mV)	89.5	53.2	63.9	36.3	42.8	50.9		
Turbidity (NTU)	27.2	38.4	43.7	7.40	5.33	3.76		
Color	Clear	Clear	Clear	Clear	Clear	Clear		
Odor/Evidence of LNAPL	N	N	N	N	N	N		

Notes:

Groundwater Purge and Sample Form (Minimal Drawdown)

Kennedy/Jenks Consultants

Date:	2-24-15	Well Number:	MW-7R AL 2-24-15
Project Name:	Cornet Bay	Monument Type:	Stickup: ____ (ft PVC) Flush: X
Project Number:	1396016	Well Diameter (in):	2 inch
Sampling Personnel:	AML-CJ	Well Condition:	Good
Water Level Meter:	Interface Probe	Total Casing Depth (ft):	~~10.39~~ 13.77 toc
Purging Equipment:	Peristaltic	Screened Interval (ft):	toc
		Depth to Groundwater (ft):	2.66 toc
Sampling Time:	0900	Depth to LNAPL (ft): Well	
Purge Depth (ft):	8.01	Reference:	TOC
Total Discharge (gal):	~3.5		
Water Disposal:	On site 55 gal drum		
Weather:			

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
			2	0.16		
			4	0.64		
		0.16	6	1.44		

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	2.24.15 0745
Other:	Turb	
Other:		

QA/QC Samples

Type	Sample ID	Time

Sample ID	No.	Type	Pres.	Vol.	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-~~4~~7R-22415	2	Amber		500		Clear	Dx	
	2	VOA		40			Methane	
	3	VOA	HCl	|			Gx-BETX	
	1	Poly		500			SO_4 NO_2 NO_3	
	1	|	H_2SO_4	|			Ammonia	
	1	|	Zn Acetate	|			Sulfide	
	1	|	HNO_3	|			Diss Fe	

Time	812	817	822	827	851	854	857	
Parameter (every 5 min)	5 min	5 min	5 min	5 min	~5 min	3 min	3 min	min
Flow Rate (gal/min)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Volume Purged (gal)	0.5	1.0	1.5	2.0	2.5	2.8	3.1	
Water Depth (ft)	2.66	2.71	2.63		2.63	2.63	2.63	
Temperature (Celsius)	9.04	8.99	8.92	8.91	9.35	9.38	9.41	
pH	6.13	6.22	6.40	6.52	6.69	6.71	6.73	
Sp. Conductance (mS/cm)	0.840	0.82	0.807		0.764	0.763	0.761	
DO (mg/L)	1.61	1.47	1.00		1.96	1.41	0.98	
ORP (mV)	-19.0	-38.4	-35.8	-58.3	-72.8	-76.1	-83.1	
Turbidity (NTU)								
Color	Clear	Clear	Clear	Clear	Clear	Clear	Clear	
Odor/Evidence of LNAPL	No	No	No	No	No	No	No	

Notes: Pump Battery went dead after 827. Changed to vehicle

Groundwater Purge and Sample Form (Minimal Drawdown) — **Kennedy/Jenks Consultants**

Date: 2-24-15
Project Name: Cornet Bay Marina
Project Number: 1396010.00
Sampling Personnel: AML - CJ
Water Level Meter: Interface Probe
Purging Equipment: Peristaltic Pump

Sampling Time: 1210
Purge Depth (ft): 9.0'
Total Discharge (gal): ~6.5
Water Disposal: Onsite 55 gal drum
Weather:

Well Number: MW-9
Monument Type: Stickup: _____ (ft PVC) Flush: ✓
Well Diameter (in): 2 inch
Well Condition: Good - bolts not screaming in

		Reference:
Total Casing Depth (ft):	13.17 toc	TOC
Screened Interval (ft):	toc	
Depth to Groundwater (ft):	3.51 toc	
Depth to LNAPL (ft): Well		

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)	2	0.16	=	Casing Volume (gal)
		0.16	4	0.64		
			6	1.44		

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	2.24.15
Other: Turb	Hach	
Other:		

QA/QC Samples		
Type	Sample ID	Time

Sample ID	Sample Containers: No.	Type	Pres.	Vol. mL	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-9-22415	2	Amber	No	500		Clear	Dx	
	2	VOA		40			Methane	
	3	↓	HCl	40			C_{2x}-BETX	
	1	Poly		500			SO_4-NO_2,NO_3	
	1		ZnAc				Sulfide	
	1		H_2SO_4				Ammonia	
	1	↓	HNO_3	↓			Diss Fe	

Time	1140	1145	1150	1155	1200	1205	1210	
Parameter (every 5 min)	5 min	5 min	5 min	5 min	5 min	5 min	5 min	min
Flow Rate (gal/min)	0.200	0.200	0.200	0.100	0.100	0.100	0.100	
Volume Purged (gal)	-	1	2	2.5	3.0	3.5	4.0	
Water Depth (ft)	3.54	3.89	5.10	5.53	5.90	6.29	6.38	
Temperature (Celsius)	10.53	10.60	10.55	10.56	10.54	10.53	0 57	
pH	6.63	6.89	6.94	6.92	6 91	6.89	6.89	
Sp. Conductance (mS/cm)	1.314	1.363	1.369	1.370	1.375	1.375	1.379	
DO (mg/L)	10.91	1.32	0.94	0.84	0.77	0.70	0.69	
ORP (mV)	111.5	78.0	49.3	37.1	14.1	0.2	-0.3	
Turbidity (NTU)	116	30.1	31.2	25.0	23.7	26.1	25.3	
Color	Red Rust	Clear	Clear	Clear	Clear	Clear	Clear	
Odor/Evidence of LNAPL	N	N	N	N	N	N	N	

Notes:

Groundwater Purge and Sample Form (Minimal Drawdown) — **Kennedy/Jenks Consultants**

Date: 2-24-15
Project Name: Cornet Bay
Project Number: 1396010.00
Sampling Personnel: AHL-CJ
Water Level Meter: Interface Probe
Purging Equipment: Peristaltic Pump
Sampling Time: 1545
Purge Depth (ft): 9.0'
Total Discharge (gal): ~4.5
Water Disposal: Onsite 55 gal drum
Weather: Sunny ~50°F

Well Number: MW-10R
Monument Type: Stickup: ____ (ft PVC) Flush: X
Well Diameter (in): 2 inch
Well Condition: Good

			Reference:
Total Casing Depth (ft):	10.49	toc	TOC
Screened Interval (ft):		toc	
Depth to Groundwater (ft):	3.55	toc	
Depth to LNAPL (ft): Well	—		

Volume Calculation:

Water Column (ft)	*	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
			2	0.16		
			4	0.64		
		0.16	6	1.44		

Water Quality Meter(s)	Model	Calibration Date/Time
Temp/pH/SC/ORP/DO:	YSI	2.24.15
Other:	Hach	
Other:		

QA/QC Samples		
Type	Sample ID	Time
—		

Sample ID	Sample Containers: No.	Type	Pres.	Vol.	Field Filtered	Turbidity/ Color	Analysis Requested	MS/MSD & Comments
MW-10R-22415	2	Amber		500		Clear	D_x	—
	2	VOA	HCl	40			Methane	
	3	1		1			C_{1-4}-BETX	
	1	Poly		500			SO_4-NO_2-NO_3	
	1		Zn Ac				Sulfide	
	1		H_2SO_4				Ammonia	
	1		HNO_3				Diss Fe	

Time	1525	1530	1535	1540				
Parameter (every 5 min)	5 min	5 min	5 min	5 min	min	min	min	min
Flow Rate (gal/min)	0.1	0.1	0.1	0.1				
Volume Purged (gal)	0.5	1.0	1.5	2.0				
Water Depth (ft)	5.00	5.00	5.00	6.48				
Temperature (Celsius)	11.00	10.99	10.96	10.98				
pH	6.61	6.58	6.58	6.62				
Sp. Conductance (mS/cm)	3.569	3.569	3.559	3.579				
DO (mg/L)	1.70	0.96	0.87	0.69				
ORP (mV)	62.7	58.1	56.3	50.5				
Turbidity (NTU)	6.63	4.70	4.23	3.68				
Color	Clear	Clear	Clear	Clear				
Odor/Evidence of LNAPL	No	No	No	No				

Notes: Heavy drawdown

Attachment B

Laboratory Analytical Reports

Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 March 2015

Alexander Lesher
Kennedy Jenks Consultants
32001 32nd Ave S., Suite 100
Federal Way, WA 98001

RE: Client Project: Ecology Cornet Bay Marina, 1396010.00
ARI Job No: ZX74

Dear Alexander:

Please find enclosed the original Chain-of-Custody (COC) record and the final results for the samples from the project referenced above. Nine water samples and one trip blank were received on February 25, 2015. The samples were analyzed for BETX, NWTPH-G, MEE, NWTPH-Dx, dissolved iron and conventional parameters as instructed.

The percent recoveries for the surrogate, d4-1,2-dichloroethane, were high following the BETX analyses of several of these samples. Since no target compounds are associated with this surrogate, no corrective actions were taken.

All samples were initially analyzed for MEE on 2/27/15. The surrogate, propane, was not recovered following the analysis of sample MW-7-22415. This sample was re-analyzed on 3/4/15. The re-analysis proceeded without incident of note. The results for the re-analysis only have been submitted.

There were no further analytical complications noted.

An electronic copy of this report and all supporting raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to call me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: file ZX74

MDH/mdh

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: ZX741	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: Kennedy-Jenks Consultants	Phone: 253.835.6400	Date:	Ice Present?
Client Contact: Alexander Lesher		No. of Coolers: 3	Cooler Temps:
Client Project Name: Cornet Bay Marina			
Client Project #: 1396010.00	Samplers: AML - CJ		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: NWTPH-Dx	Gx - BETX	Ammonia	NO_2/NO_3 SO_4	Sulfide	Dissolved Iron	Methane		Notes/Comments
MW-7-22415	2.24.15	900	GW	11	2	3	1	1	1	1	2		
MW-1R-22415		1000		11									
MW-4R-22415		1110		11									
MW-9-22415		1210		11									
MW-2R-22415		1410		11									
MW-1-2R-22415		—		11									
MW-10R-22415		1545		11									
SEEP-1-22415		1340		5									
SEEP-2-22415		1345		5									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Craig Joseph	Printed Name: Rich Hutson	Printed Name:	Printed Name:
	Company: Kennedy Jenks	Company: ARI	Company:	Company:
	Date & Time: 2/25 1530	Date & Time: 2/25/15 1530	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Kennedy Jenks Project Name: Cornet Bay Marina

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 2X74 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 5.6 .8 4.2

Time: 1505

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: _____ Date: 2/25/15 Time: 1330

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO N
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	2/19/15	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 2/25/15 Time: 1610

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

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

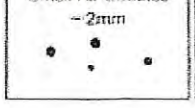
Additional Notes, Discrepancies, & Resolutions:

MW-4R-22415 = 1sm MW-9-22415 = 1pb MW-1-2R-22415 = 1lg MW-10R-22415 = 2pb

MW-9-22415 only has 7 containers, no containers for metals, conv analysis.

Seep-2 22415 one 500mL AG lid received loose, bottle only half full,

By: AV Date: 2/25/15 VOAs don't have labels (2) marked on lids

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

PRESERVATION VERIFICATION 02/25/15
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **ZX74**

Inquiry Number: NONE
Analysis Requested: 02/25/15
Contact: Schreiner, Ty
Client: Kennedy Jenks Consultants
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 02/25/15

Project #: 1396010.00
Project: Cornet Bay Marina
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
15-3521 **ZX74A**	MW-7-22415			P			DIS P						F			Y						
15-3522 **ZX74B**	MW-1R-22415			P			DIS P						F			Y						
15-3523 **ZX74C**	MW-4R-22415			P			DIS P						F			Y						
15-3524 **ZX74D**	MW-9-22415																					
15-3525 **ZX74E**	MW-2R-22415			P			DIS P						F			Y						
15-3526 **ZX74F**	MW-1-2R-22415			P			DIS P						F			Y						
15-3527 **ZX74G**	MW-10R-22415			P			DIS P						F			Y						
15-3528 **ZX74H**	SEEP-1-22415			P																		
15-3529 **ZX74I**	SEEP-2-22415																					

P=Pass F=Fail Sulfide preserved with ZnOAC. lab to adjust pH.

Checked By AV Date 2/25/15

PRESERVATION VERIFICATION 02/26/15
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **ZX74**

Inquiry Number: NONE
Analysis Requested: 02/25/15
Contact: Schreiner, Ty
Client: Kennedy Jenks Consultants
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 02/25/15

Project #: 1396010.00
Project: Cornet Bay Marina
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
15-3521 **ZX74A**	MW-7-22415						DIS									Y						
15-3522 **ZX74B**	MW-1R-22415						DIS									Y						
15-3523 **ZX74C**	MW-4R-22415						DIS									Y						
15-3524 **ZX74D**	MW-9-22415			fail			DIS fail						fail			X N						
15-3525 **ZX74E**	MW-2R-22415						DIS									Y						
15-3526 **ZX74F**	MW-1-2R-22415						DIS									Y						
15-3527 **ZX74G**	MW-10R-22415						DIS									Y						
15-3528 **ZX74H**	SEEP-1-22415																					
15-3529 **ZX74I**	SEEP-2-22415																					

Checked By JM Date 2/26/2015

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ZX74
Client: Kennedy Jenks Consultants
Project Event: 1396010.00
Project Name: Cornet Bay Marina

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-7-22415	ZX74A	15-3521	Water	02/24/15 09:00	02/25/15 13:30
2.	MW-1R-22415	ZX74B	15-3522	Water	02/24/15 10:00	02/25/15 13:30
3.	MW-4R-22415	ZX74C	15-3523	Water	02/24/15 11:10	02/25/15 13:30
4.	MW-9-22415	ZX74D	15-3524	Water	02/24/15 12:10	02/25/15 13:30
5.	MW-2R-22415	ZX74E	15-3525	Water	02/24/15 14:10	02/25/15 13:30
6.	MW-1-2R-22415	ZX74F	15-3526	Water	02/24/15	02/25/15 13:30
7.	MW-10R-22415	ZX74G	15-3527	Water	02/24/15 15:45	02/25/15 13:30
8.	SEEP-1-22415	ZX74H	15-3528	Water	02/24/15 13:40	02/25/15 13:30
9.	SEEP-2-22415	ZX74I	15-3529	Water	02/24/15 13:45	02/25/15 13:30
10.	TRIP BLANKS	ZX74J	15-3530	Water	02/24/15	02/25/15 13:30

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-7-22415**
Page 1 of 1 **SAMPLE**

Lab Sample ID: ZX74A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 14:23

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	123%
d8-Toluene	99.8%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-1R-22415**
Page 1 of 1 **SAMPLE**

Lab Sample ID: ZX74B
LIMS ID: 15-3522
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 14:49

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	121%
d8-Toluene	99.6%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-4R-22415**
Page 1 of 1 **SAMPLE**

Lab Sample ID: ZX74C
LIMS ID: 15-3523
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 15:15

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	120%
d8-Toluene	99.7%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-9-22415**
 SAMPLE

Lab Sample ID: ZX74D
LIMS ID: 15-3524
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 15:41

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	122%
d8-Toluene	97.9%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MW-2R-22415
SAMPLE

Lab Sample ID: ZX74E
LIMS ID: 15-3525
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 16:09

Sample Amount: 2.00 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
1330-20-7	Total Xylenes	3.0	< 3.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	118%
d8-Toluene	101%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 1 of 1

Sample ID: MW-1-2R-22415
SAMPLE

Lab Sample ID: ZX74F
LIMS ID: 15-3526
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 16:35

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	**Benzene**	**0.20**	**0.42**	
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	124%
d8-Toluene	97.9%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 1 of 1

Sample ID: MW-10R-22415
SAMPLE

Lab Sample ID: ZX74G
LIMS ID: 15-3527
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 17:04

Sample Amount: 2.00 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
1330-20-7	Total Xylenes	3.0	< 3.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	123%
d8-Toluene	100%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: SEEP-1-22415**
Page 1 of 1 **SAMPLE**

Lab Sample ID: ZX74H
LIMS ID: 15-3528
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 17:30

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	132%
d8-Toluene	100%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	105%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: SEEP-2-22415**
Page 1 of 1 **SAMPLE**

Lab Sample ID: ZX74I
LIMS ID: 15-3529
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 17:56

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	**Benzene**	**0.20**	**0.81**	
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	134%
d8-Toluene	99.3%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: TRIP BLANKS SAMPLE**

Lab Sample ID: ZX74J
LIMS ID: 15-3530
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 13:31

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	118%
d8-Toluene	97.7%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-030515A**
 METHOD BLANK

Lab Sample ID: MB-030515A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT2/PAB
Date Analyzed: 03/05/15 12:38

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
71-43-2	Benzene	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
1330-20-7	Total Xylenes	0.60	< 0.60	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	116%
d8-Toluene	99.1%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-030515A**
Page 1 of 1 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-030515A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/06/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT2/PAB
LCSD: NT2/PAB
Date Analyzed LCS: 03/05/15 11:46
LCSD: 03/05/15 12:12

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	11.1	10.0	111%	11.2	10.0	112%	0.9%
Toluene	10.4	10.0	104%	10.4	10.0	104%	0.0%
Ethylbenzene	10.3	10.0	103%	10.2	10.0	102%	1.0%
Total Xylenes	31.0	30.0	103%	32.2	30.0	107%	3.8%
m,p-Xylene	20.6	20.0	103%	21.4	20.0	107%	3.8%
o-Xylene	10.4	10.0	104%	10.8	10.0	108%	3.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	116%	115%
d8-Toluene	101%	102%
Bromofluorobenzene	102%	104%
d4-1,2-Dichlorobenzene	103%	104%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-030515A	Method Blank	10	116%	99.1%	106%	102%	0
LCS-030515A	Lab Control	10	116%	101%	102%	103%	0
LCSD-030515A	Lab Control Dup	10	115%	102%	104%	104%	0
ZX74A	MW-7-22415	10	123%*	99.8%	106%	103%	1
ZX74B	MW-1R-22415	10	121%*	99.6%	106%	104%	1
ZX74C	MW-4R-22415	10	120%	99.7%	106%	102%	0
ZX74D	MW-9-22415	10	122%*	97.9%	101%	103%	1
ZX74E	MW-2R-22415	10	118%	101%	106%	102%	0
ZX74F	MW-1-2R-22415	10	124%*	97.9%	104%	104%	1
ZX74G	MW-10R-22415	10	123%*	100%	104%	104%	1
ZX74H	SEEP-1-22415	10	132%*	100%	104%	105%	1
ZX74I	SEEP-2-22415	10	134%*	99.3%	102%	104%	1
ZX74J	TRIP BLANKS	10	118%	97.7%	106%	102%	0

SW8260C	LCS/MB LIMITS	QC LIMITS
(DCE) = d4-1,2-Dichloroethane	(80-120)	(80-120)
(TOL) = d8-Toluene	(80-120)	(80-120)
(BFB) = Bromofluorobenzene	(80-120)	(80-120)
(DCB) = d4-1,2-Dichlorobenzene	(80-120)	(80-120)

Prep Method: SW5030B
Log Number Range: 15-3521 to 15-3530

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
Event: 1396010.00

Data Release Authorized:
Reported: 03/09/15

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-022615	Method Blank	02/26/15	1.0	Gasoline	< 0.25 U
15-3521		PID3		HC ID	---
				Trifluorotoluene	96.6%
				Bromobenzene	93.4%
ZX74A	MW-7-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3521		PID3		HC ID	---
				Trifluorotoluene	97.5%
				Bromobenzene	91.3%
ZX74B	MW-1R-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3522		PID3		HC ID	---
				Trifluorotoluene	97.6%
				Bromobenzene	95.6%
ZX74C	MW-4R-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3523		PID3		HC ID	---
				Trifluorotoluene	97.2%
				Bromobenzene	94.0%
ZX74D	MW-9-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3524		PID3		HC ID	---
				Trifluorotoluene	98.3%
				Bromobenzene	96.1%
ZX74E	MW-2R-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3525		PID3		HC ID	---
				Trifluorotoluene	100%
				Bromobenzene	98.0%
ZX74F	MW-1-2R-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3526		PID3		HC ID	---
				Trifluorotoluene	101%
				Bromobenzene	95.7%
ZX74G	MW-10R-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3527		PID3		HC ID	---
				Trifluorotoluene	98.9%
				Bromobenzene	98.4%
ZX74H	SEEP-1-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3528		PID3		HC ID	---
				Trifluorotoluene	97.5%
				Bromobenzene	99.3%
ZX74I	SEEP-2-22415	02/26/15	1.0	Gasoline	< 0.25 U
15-3529		PID3		HC ID	---
				Trifluorotoluene	81.3%
				Bromobenzene	82.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
Event: 1396010.00

Data Release Authorized:
Reported: 03/09/15

ARI ID	Client ID	Analysis Date	DL	Range	Result
ZX74J	TRIP BLANKS	02/26/15	1.0	Gasoline	< 0.25 U
15-3530		PID3		HC ID	---
				Trifluorotoluene	90.0%
				Bromobenzene	89.1%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG

Sample ID: LCS-022615
LAB CONTROL SAMPLE

Lab Sample ID: LCS-022615
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/09/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 02/26/15 14:56
LCSD: 02/26/15 15:25
Instrument/Analyst LCS: PID3/ML
LCSD: PID3/ML

Purge Volume: 5.0 mL

Dilution Factor LCS: 1.0
LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	1.07	1.00	107%	1.03	1.00	103%	3.8%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	99.4%	97.5%
Bromobenzene	96.6%	94.9%

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: ZX74
Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
Event: 1396010.00

Client ID	TFT	BBZ	TOT OUT
MB-022615	96.6%	93.4%	0
LCS-022615	99.4%	96.6%	0
LCSD-022615	97.5%	94.9%	0
MW-7-22415	97.5%	91.3%	0
MW-1R-22415	97.6%	95.6%	0
MW-4R-22415	97.2%	94.0%	0
MW-9-22415	98.3%	96.1%	0
MW-2R-22415	100%	98.0%	0
MW-1-2R-22415	101%	95.7%	0
MW-10R-22415	98.9%	98.4%	0
SEEP-1-22415	97.5%	99.3%	0
SEEP-2-22415	81.3%	82.5%	0
TRIP BLANKS	90.0%	89.1%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

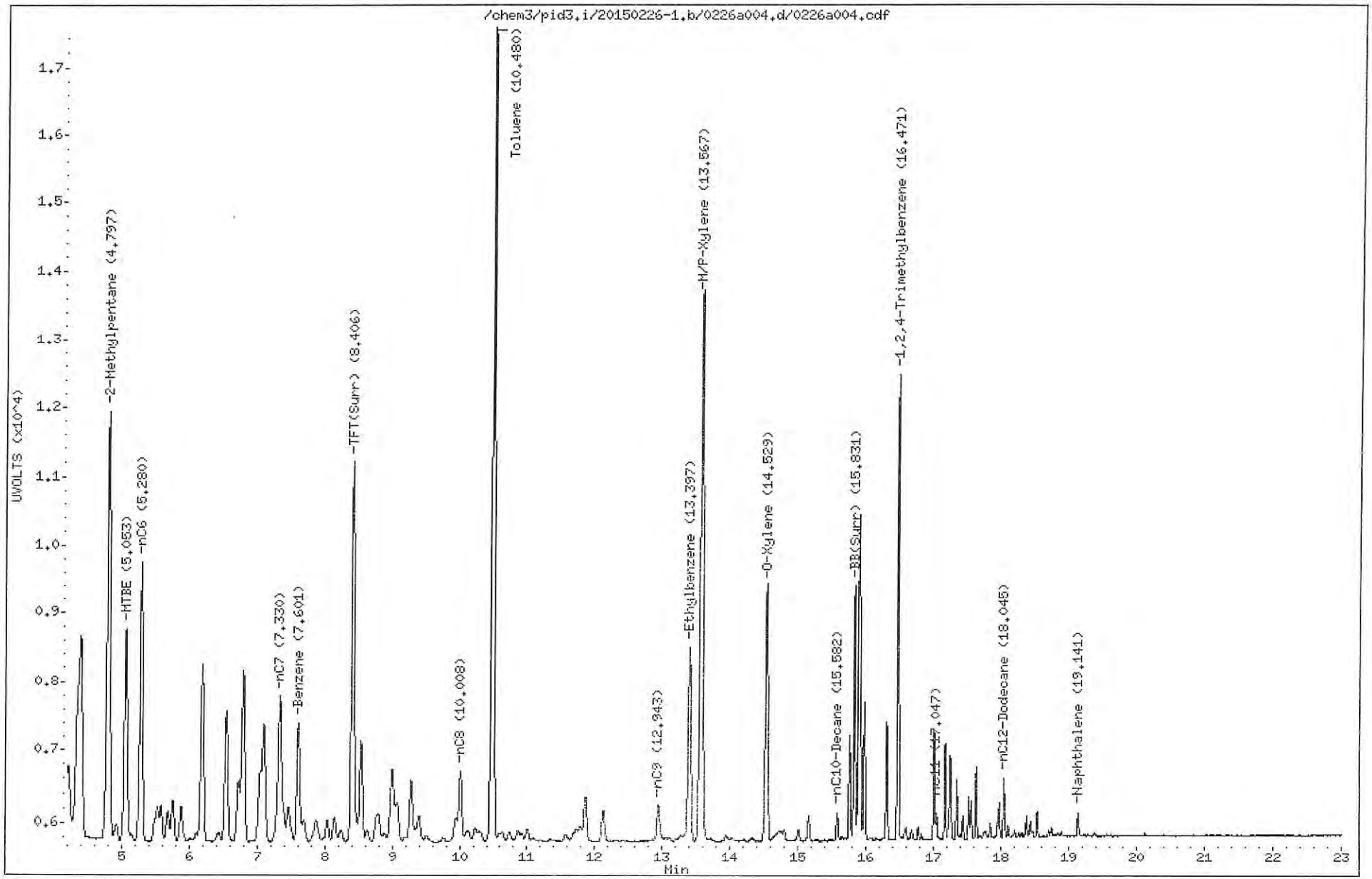
Log Number Range: 15-3521 to 15-3530

Data File: /chem3/pid3.i/20150226-1.b/0226a004.d
Date : 26-FEB-2015 14:56
Client ID:
Sample Info: LCS0226

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

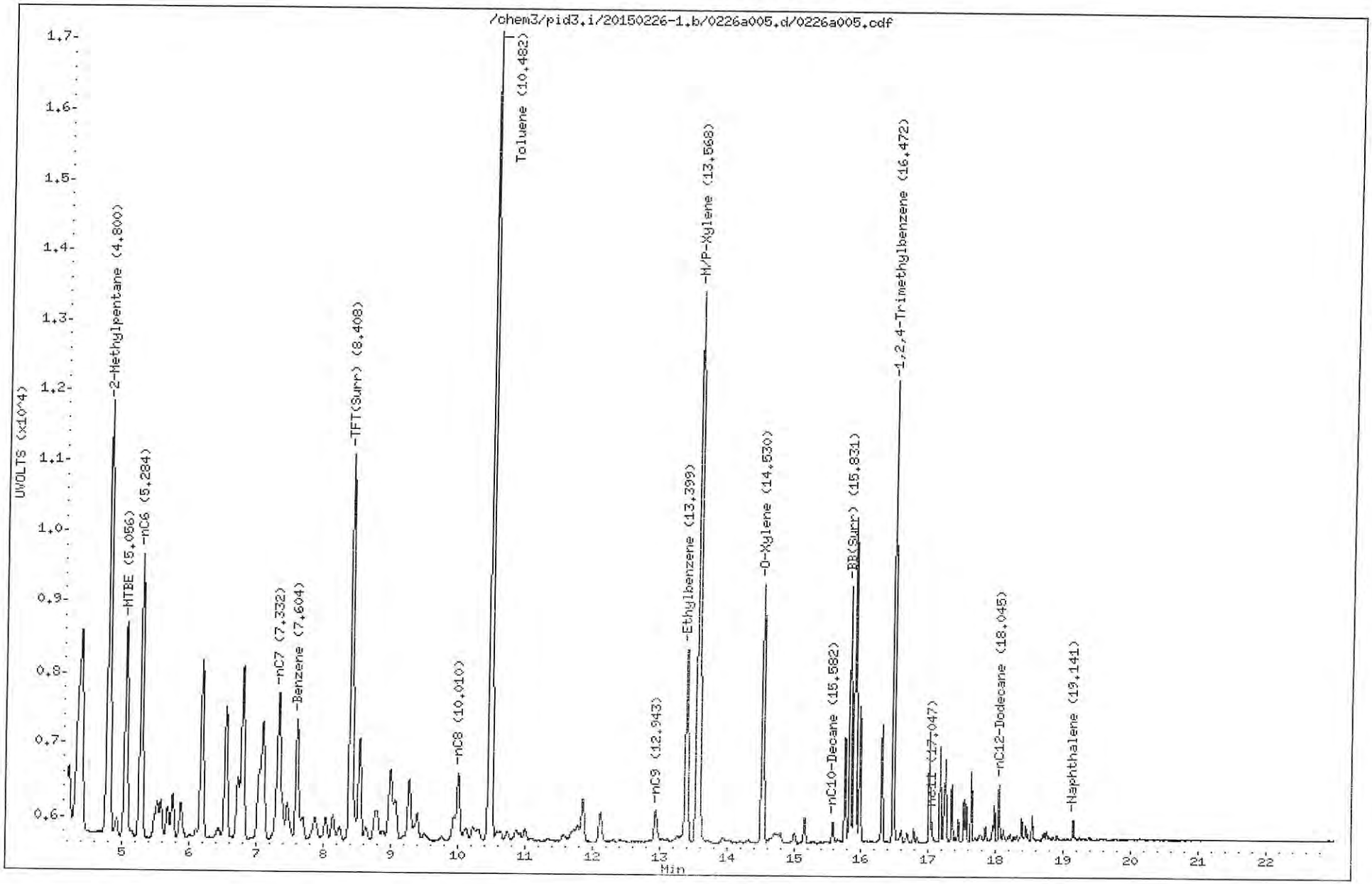


Data File: /chem3/pid3.i/20150226-1.b/0226a005.d
Date : 26-FEB-2015 15:25
Client ID:
Sample Info: LCSD0226

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

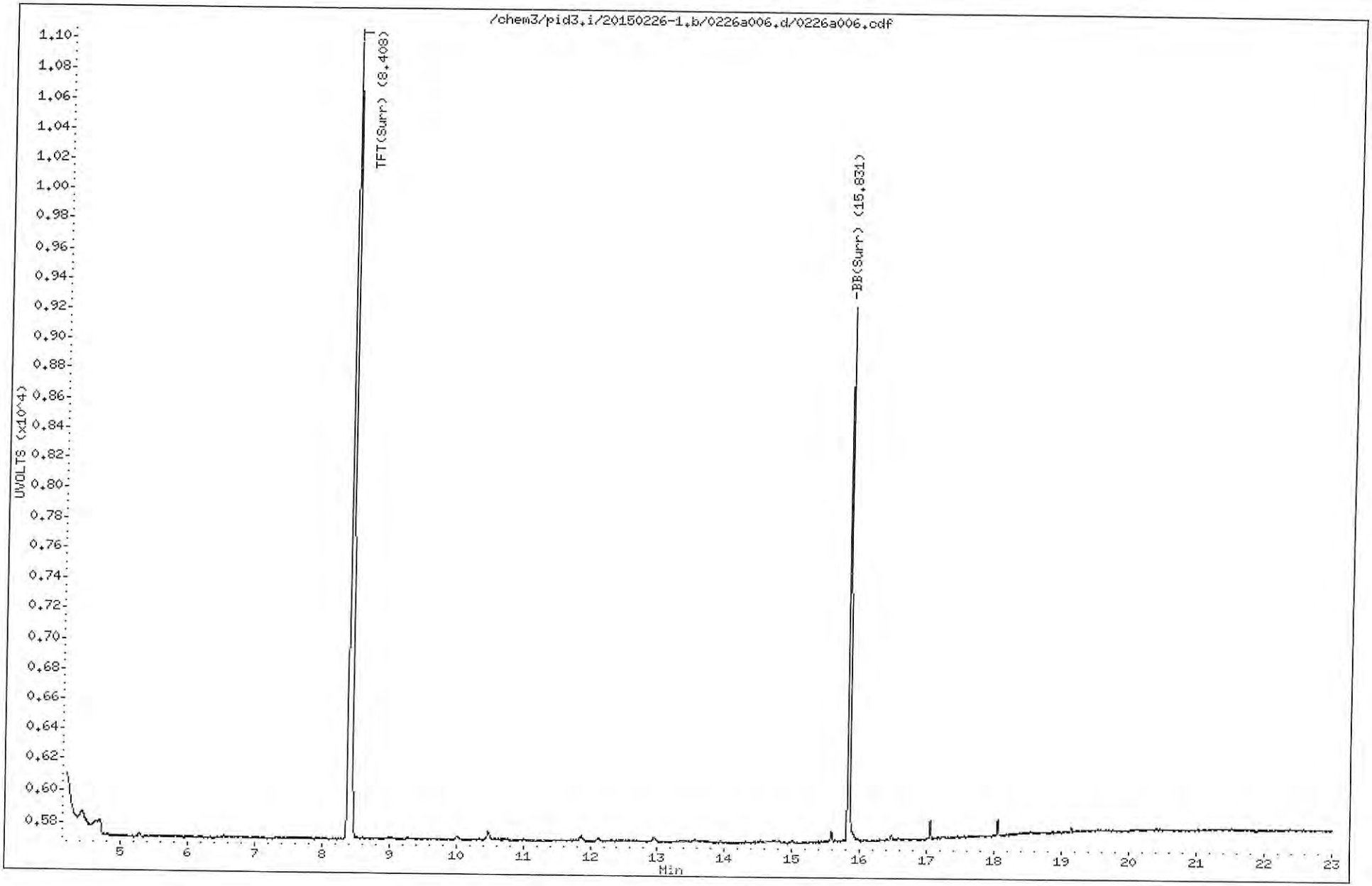


Data File: /chem3/pid3.i/20150226-1.b/0226a006.d
Date : 26-FEB-2015 15:53
Client ID:
Sample Info: MB0226

Column phase: RTX 502-2 FID

Instrument: pid3.i

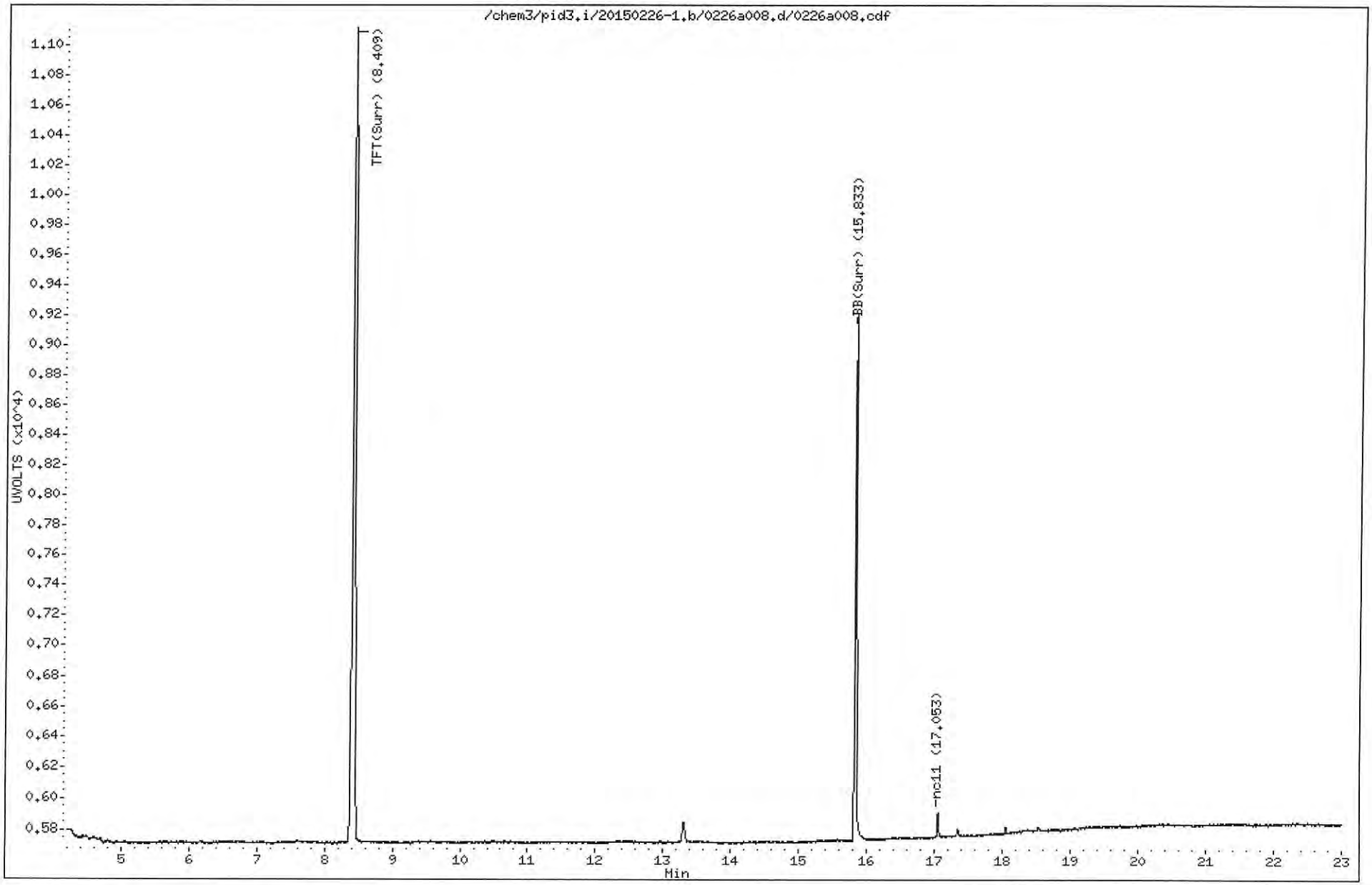
Operator: ML
Column diameter: 0.18



Data File: /chem3/pid3.i/20150226-1.b/0226a008.d
Date : 26-FEB-2015 17:33
Client ID: MW-7-22415
Sample Info: ZX74A

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

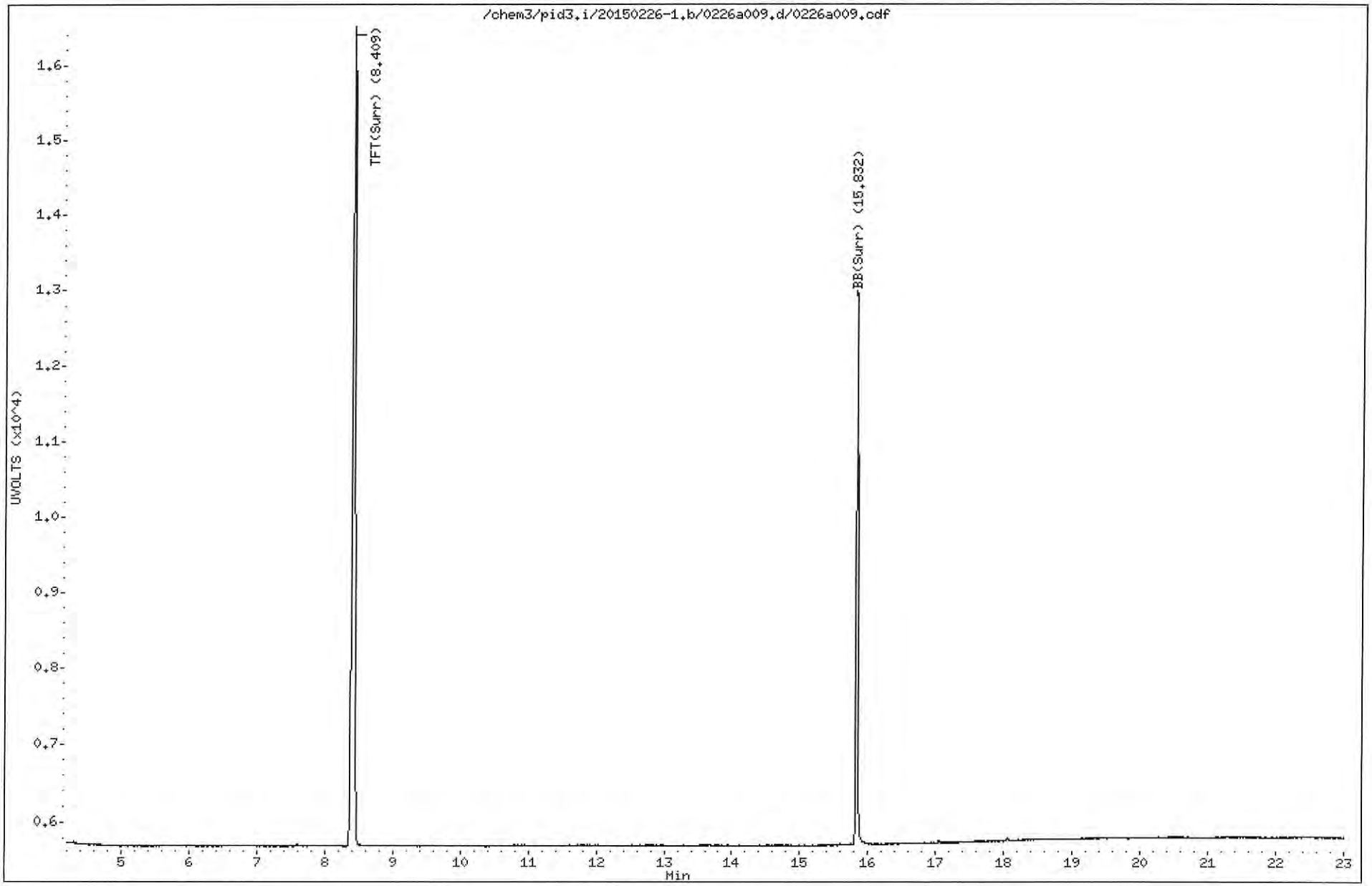
Column phase: RTX 502-2 FID



Data File: /chem3/pid3.i/20150226-1.b/0226a009.d
Date : 26-FEB-2015 18:01
Client ID: MW-1R-22415
Sample Info: ZX74B

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

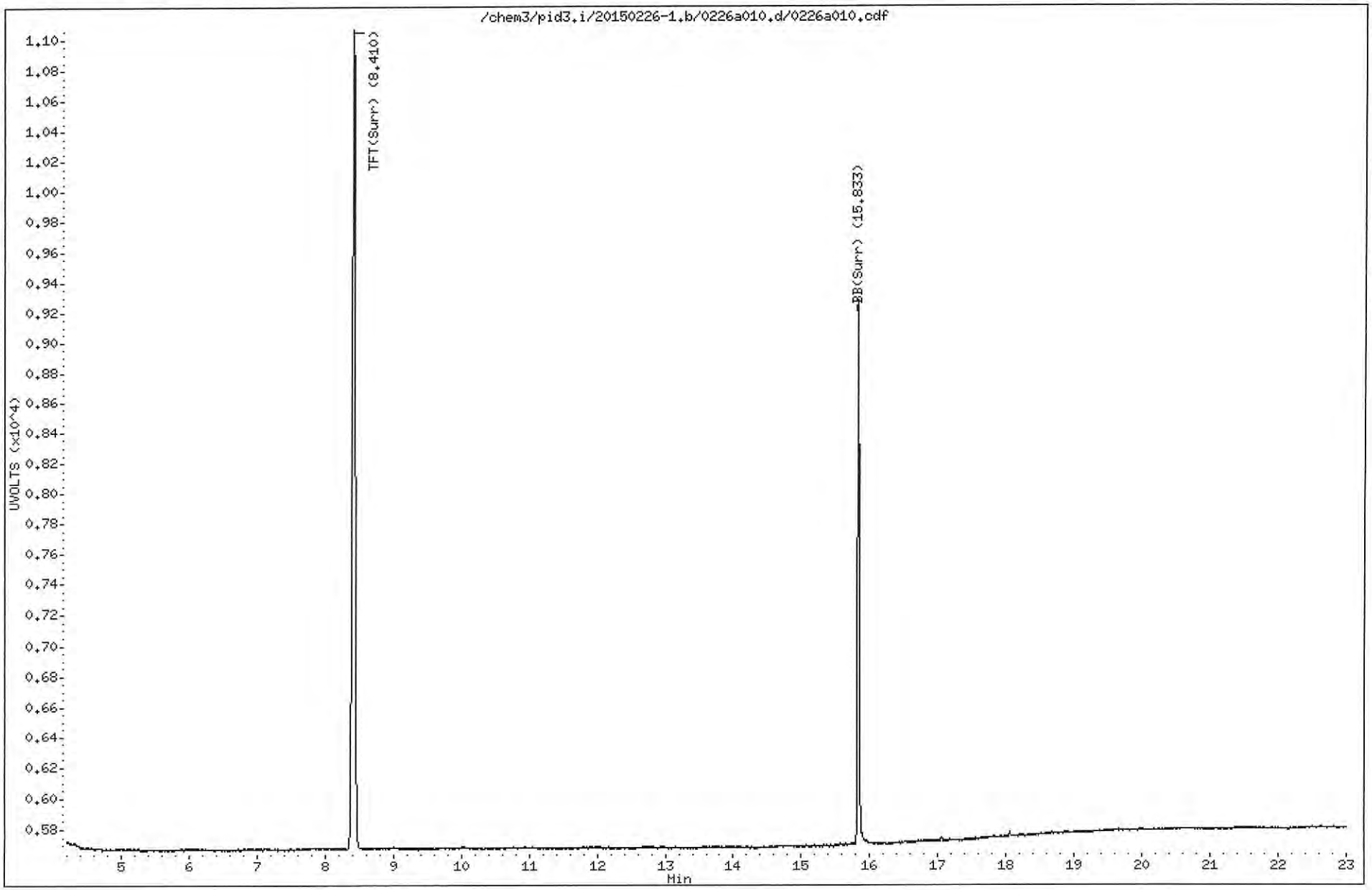
Column phase: RTX 502-2 FID



Data File: /chem3/pid3.i/20150226-1.b/0226a010.d
Date : 26-FEB-2015 18:29
Client ID: MW-4R-22415
Sample Info: ZX74C

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

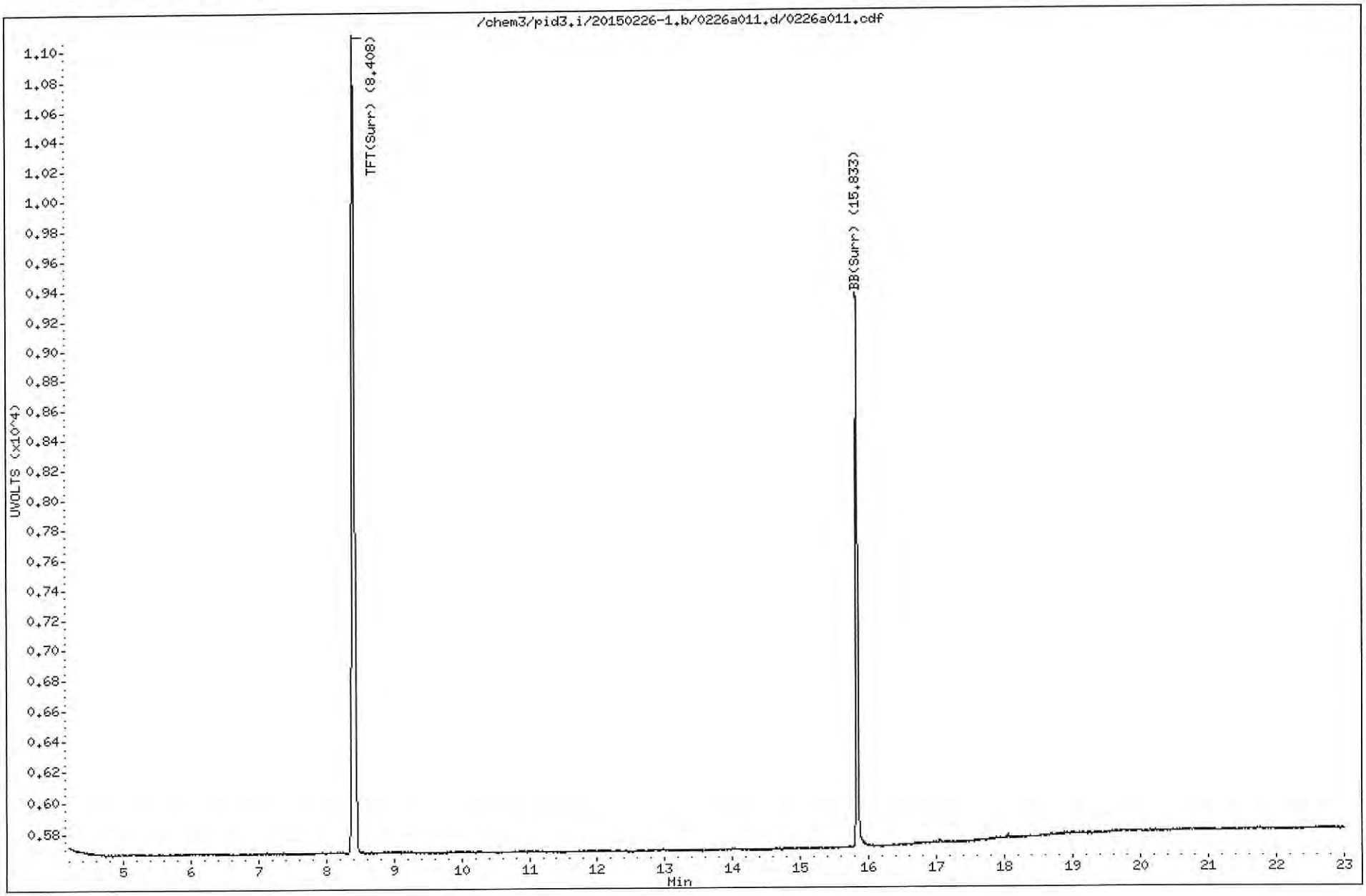


Data File: /chem3/pid3.i/20150226-1.b/0226a011.d
Date : 26-FEB-2015 18:58
Client ID: MW-9-22415
Sample Info: ZX74D

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

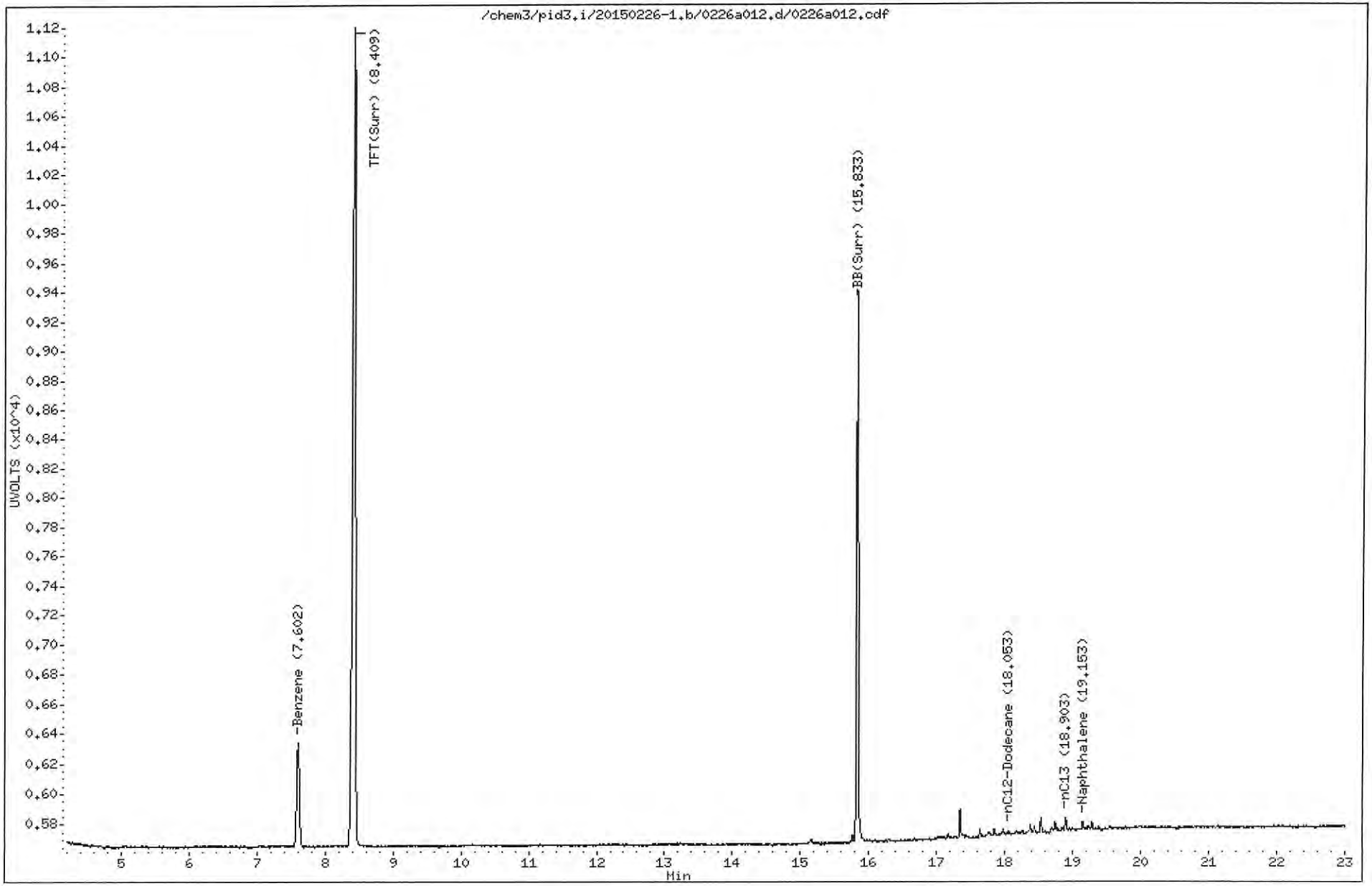


Data File: /chem3/pid3.i/20150226-1.b/0226a012.d
Date : 26-FEB-2015 19:26
Client ID: MW-2R-22415
Sample Info: ZX74E

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

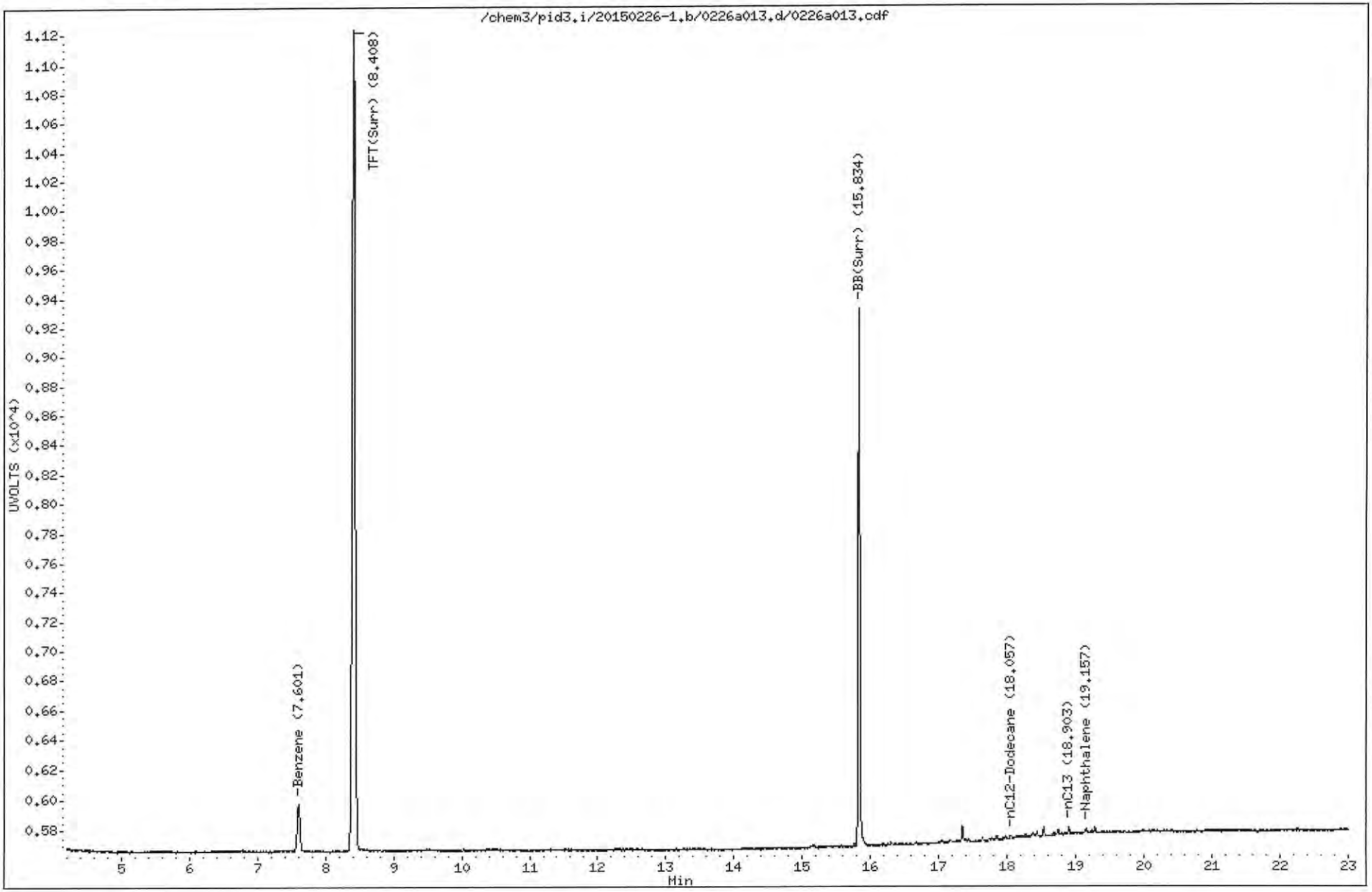


Data File: /chem3/pid3.i/20150226-1.b/0226a013.d
Date : 26-FEB-2015 19:54
Client ID: MW-1-2R-22415
Sample Info: ZX74F

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

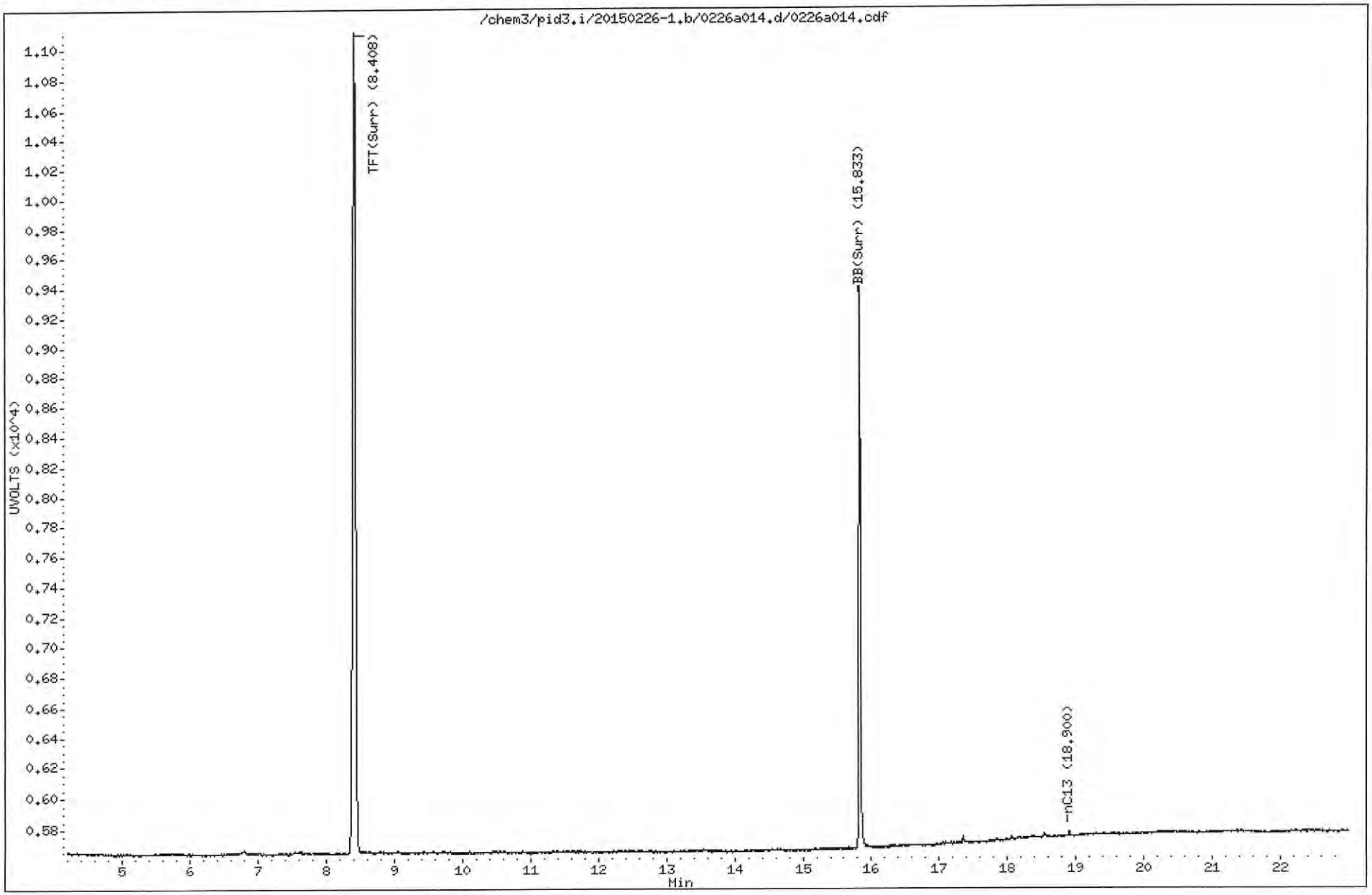
Column phase: RTX 502-2 FID



Data File: /chem3/pid3.i/20150226-1.b/0226a014.d
Date : 26-FEB-2015 20:22
Client ID: MW-10R-22415
Sample Info: ZX74G

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID

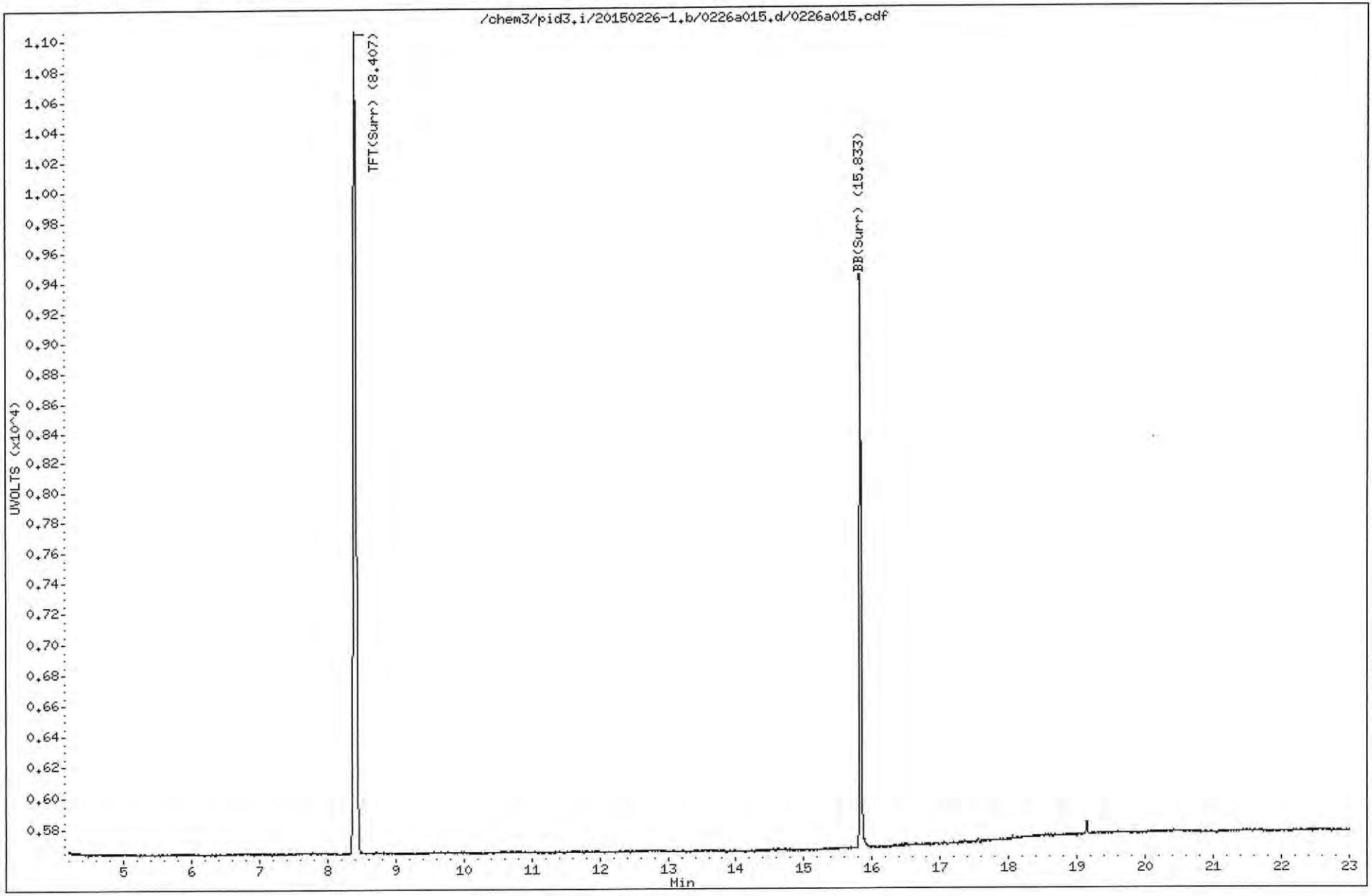


Data File: /chem3/pid3.i/20150226-1.b/0226a015.d
Date : 26-FEB-2015 20:50
Client ID: SEEP-1-22415
Sample Info: ZX74H

Instrument: pid3.i

Operator: ML
Column diameter: 0.18

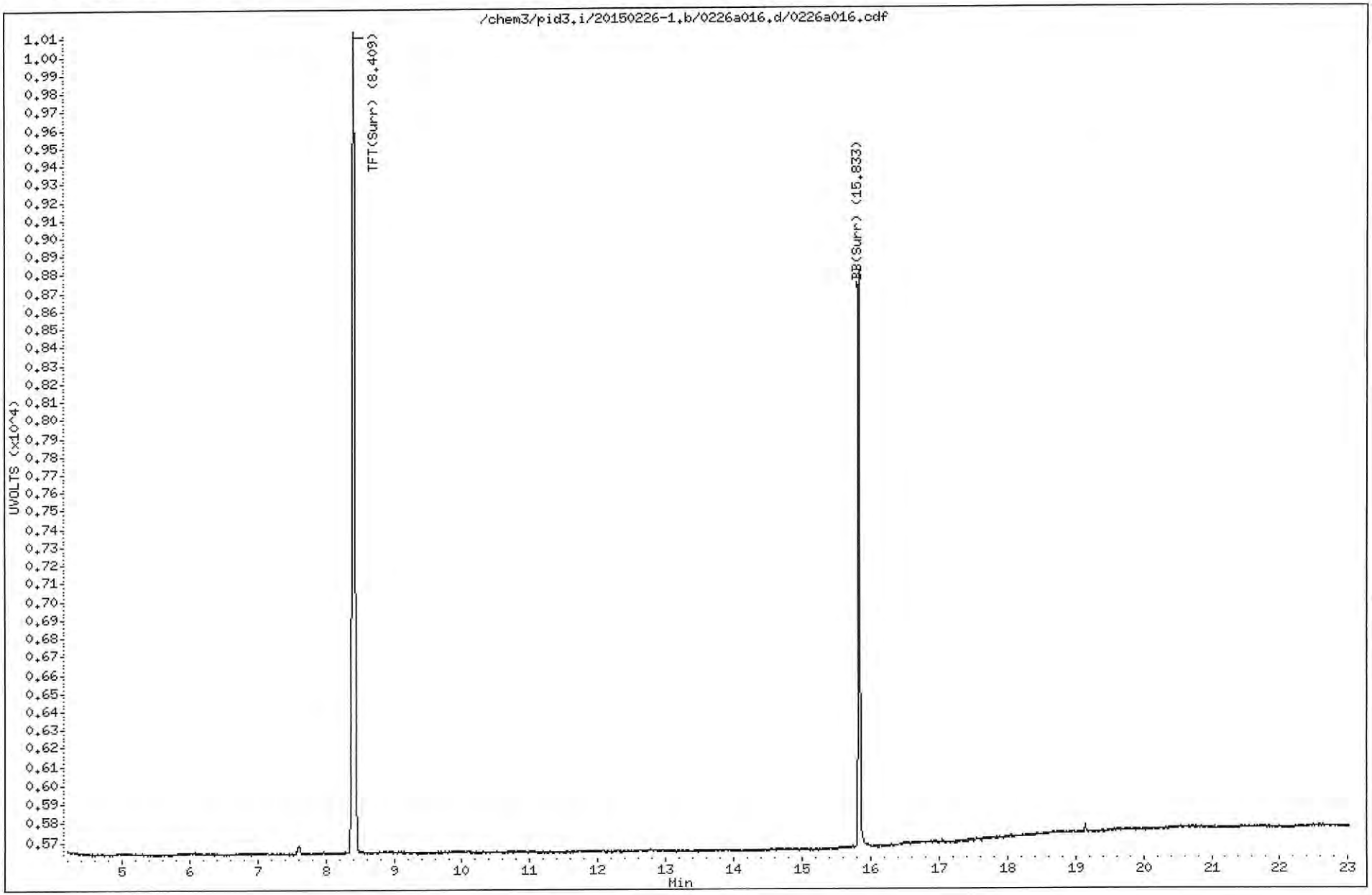
Column phase: RTX 502-2 FID



Data File: /chem3/pid3.i/20150226-1.b/0226a016.d
Date : 26-FEB-2015 21:19
Client ID: SEEP-2-22415
Sample Info: ZX74I

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

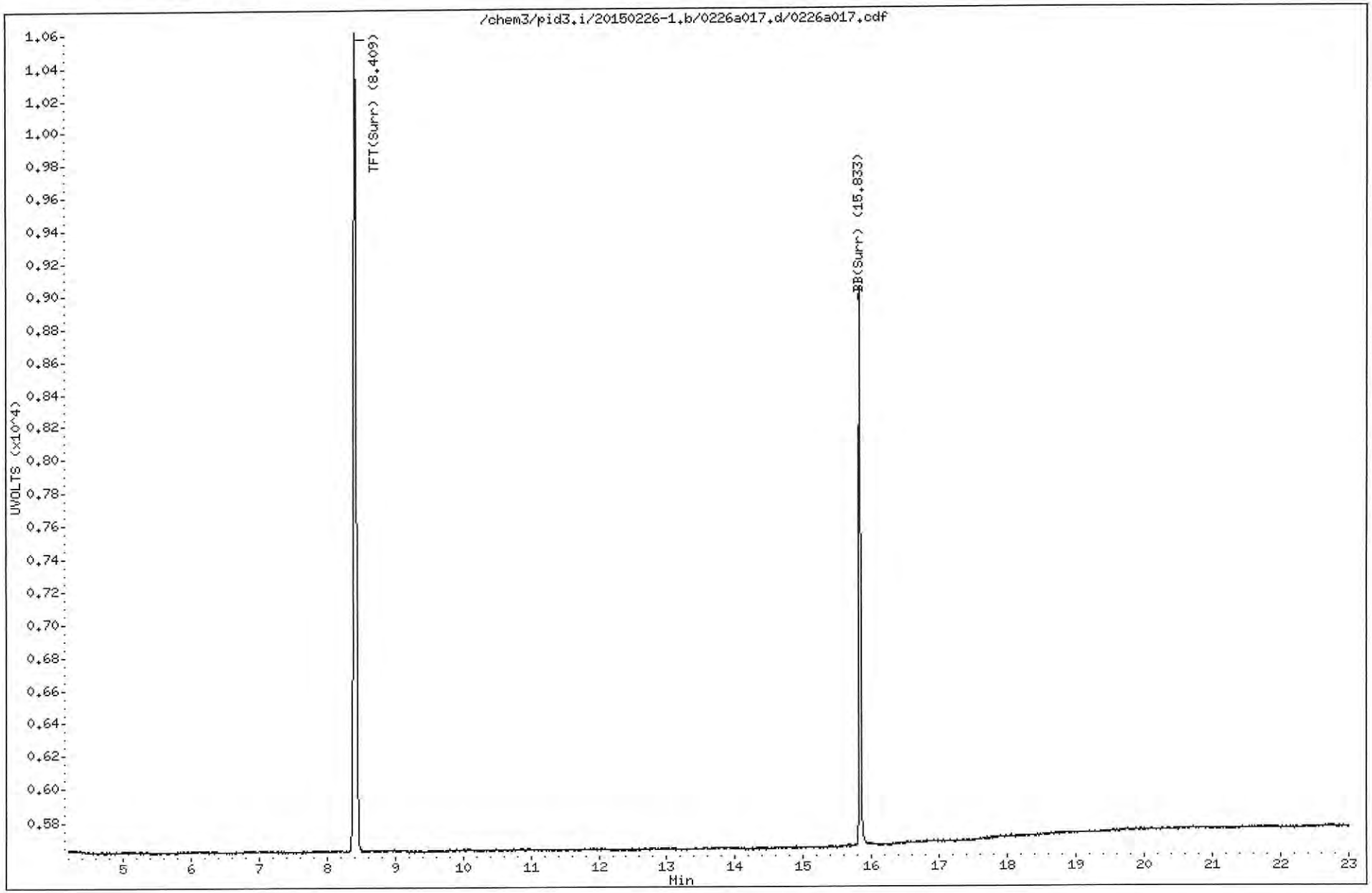
Column phase: RTX 502-2 FID



Data File: /chem3/pid3.i/20150226-1.b/0226a017.d
Date : 26-FEB-2015 21:47
Client ID: TRIP BLANKS
Sample Info: ZX74J

Instrument: pid3.i
Operator: ML
Column diameter: 0.18

Column phase: RTX 502-2 FID



ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE
Modified RSK 175

Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Received: 02/25/15

Data Release Authorized: MW
Reported: 03/04/15

ARI ID	Sample ID	Analysis Date	DL	Analyte	RL	Result
ZX74A	MW-7-22415	03/04/15	1.0	**Methane**	0.7	700
15-3521				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74B	MW-1R-22415	02/27/15	1.0	Methane	0.7	< 0.7 U
15-3522				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74C	MW-4R-22415	02/27/15	1.0	**Methane**	0.7	96.2
15-3523				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74D	MW-9-22415	02/27/15	1.0	**Methane**	0.7	241
15-3524				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74E	MW-2R-22415	02/27/15	1.0	**Methane**	0.7	116
15-3525				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74F	MW-1-2R-22415	02/27/15	1.0	**Methane**	0.7	70.1
15-3526				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
ZX74G	MW-10R-22415	02/27/15	1.0	**Methane**	0.7	1,680
15-3527				Ethane	1.2	< 1.2 U
				Ethene	1.1	< 1.1 U
022715MB	Method Blank	02/27/15	1.0	Methane	0.7	< 0.7 U
030415MB	Method Blank	03/04/15	1.0	Methane	0.7	< 0.7 U
022715MB	Method Blank	02/27/15	1.0	Ethane	1.2	< 1.2 U
030415MB	Method Blank	03/04/15	1.0	Ethane	1.2	< 1.2 U
022715MB	Method Blank	02/27/15	1.0	Ethene	1.1	< 1.1 U
030415MB	Method Blank	03/04/15	1.0	Ethene	1.1	< 1.1 U

Reported in ug/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
METHANE ETHANE ETHENE
Modified RSK 175
Page 1 of 1
Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Received: 02/25/15

Data Release Authorized:
Reported: 03/04/15

ARI ID	Analysis Date	Analyte	Spike	Result	Recovery	RPD
022715LCS	02/27/15	Methane	654	658	100.6%	0.1%
030415LCSD				675	103.1%	
030415LCS	03/04/15	Methane	654	674	103.0%	
022715LCS	02/27/15	Ethane	1,230	1,240	101.1%	0.0%
030415LCSD				1,270	103.5%	
030415LCS	03/04/15	Ethane	1,230	1,270	103.5%	
022715LCS	02/27/15	Ethene	1,150	1,130	98.7%	0.9%
030415LCSD				1,160	101.3%	
030415LCS	03/04/15	Ethene	1,150	1,170	102.2%	

Reported in ug/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID-Silica and Acid Cleaned
Extraction Method:
Page 1 of 1

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00

Matrix: Water
Data Release Authorized:
Reported: 03/10/15

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DF	Range/Surrogate	RL	Result
MB-030315	Method Blank	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3521	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		91.2%
ZX74A	MW-7-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3521	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		86.1%
ZX74B	MW-1R-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3522	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		83.4%
ZX74C	MW-4R-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3523	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		77.6%
ZX74D	MW-9-22415	03/03/15	03/09/15	1.00	Diesel Range	0.11	< 0.11 U
15-3524	HC ID: ---		FID9	1.0	Motor Oil Range	0.22	< 0.22 U
					o-Terphenyl		87.6%
ZX74E	MW-2R-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3525	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		88.8%
ZX74F	MW-1-2R-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3526	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		88.7%
ZX74G	MW-10R-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3527	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		86.1%
ZX74H	SEEP-1-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3528	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		94.6%
ZX74I	SEEP-2-22415	03/03/15	03/09/15	1.00	Diesel Range	0.10	< 0.10 U
15-3529	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		84.1%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel range quantitation on total peaks in the range from C12 to C24.
Motor Oil range quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

ANALYTICAL RESOURCES INCORPORATED

CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00

Client ID	OTER	TOT OUT
MB-030315	91.2%	0
LCS-030315	87.3%	0
LCSD-030315	89.0%	0
MW-7-22415	86.1%	0
MW-1R-22415	83.4%	0
MW-4R-22415	77.6%	0
MW-9-22415	87.6%	0
MW-2R-22415	88.8%	0
MW-1-2R-22415	88.7%	0
MW-10R-22415	86.1%	0
SEEP-1-22415	94.6%	0
SEEP-2-22415	84.1%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

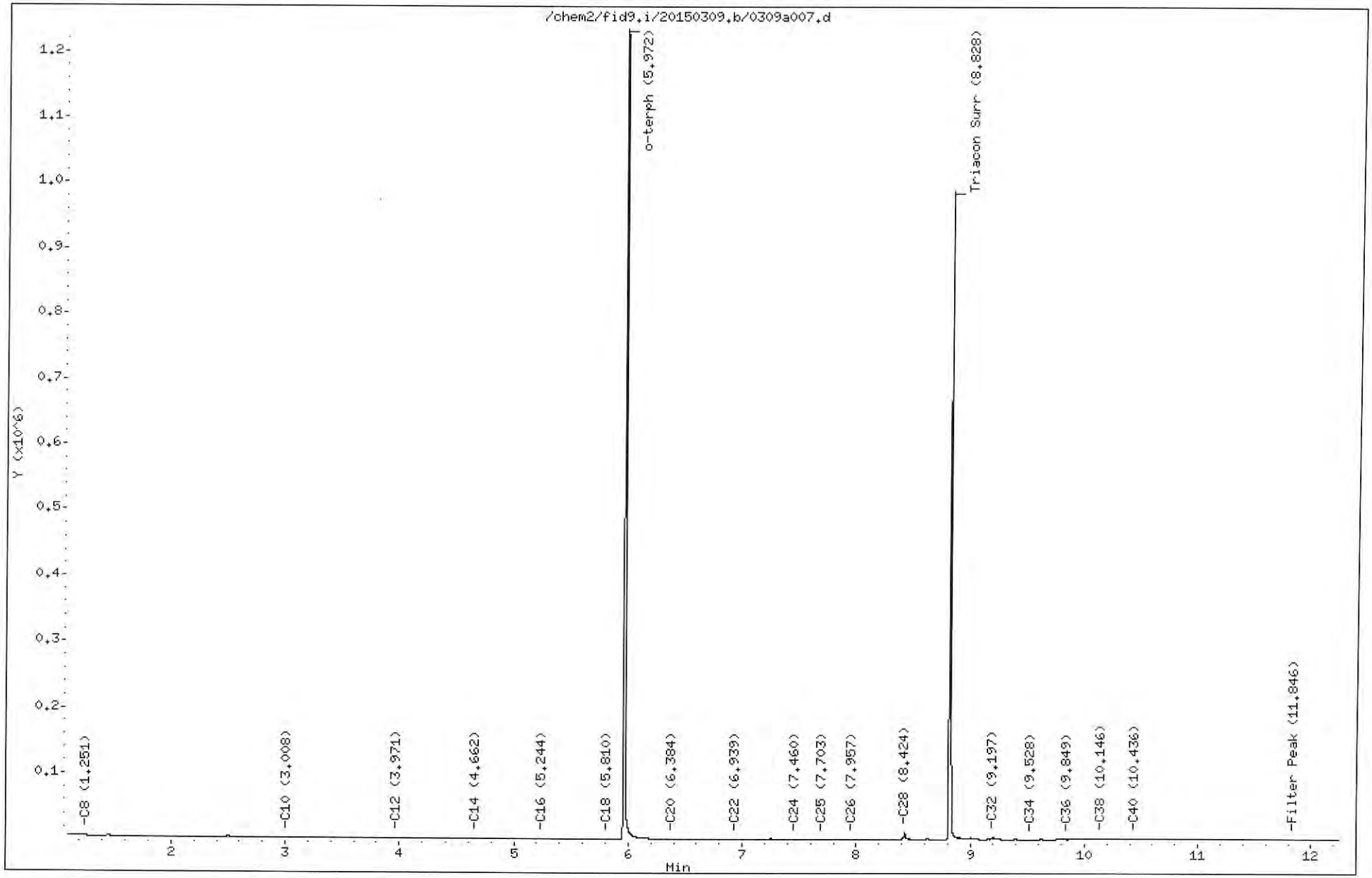
Prep Method: SW3510C
Log Number Range: 15-3521 to 15-3529

Data File: /chem2/fid9.i/20150309.b/0309a007.d
Date : 09-MAR-2015 15:52
Client ID: ZX74MBW1
Sample Info: ZX74MBW1

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

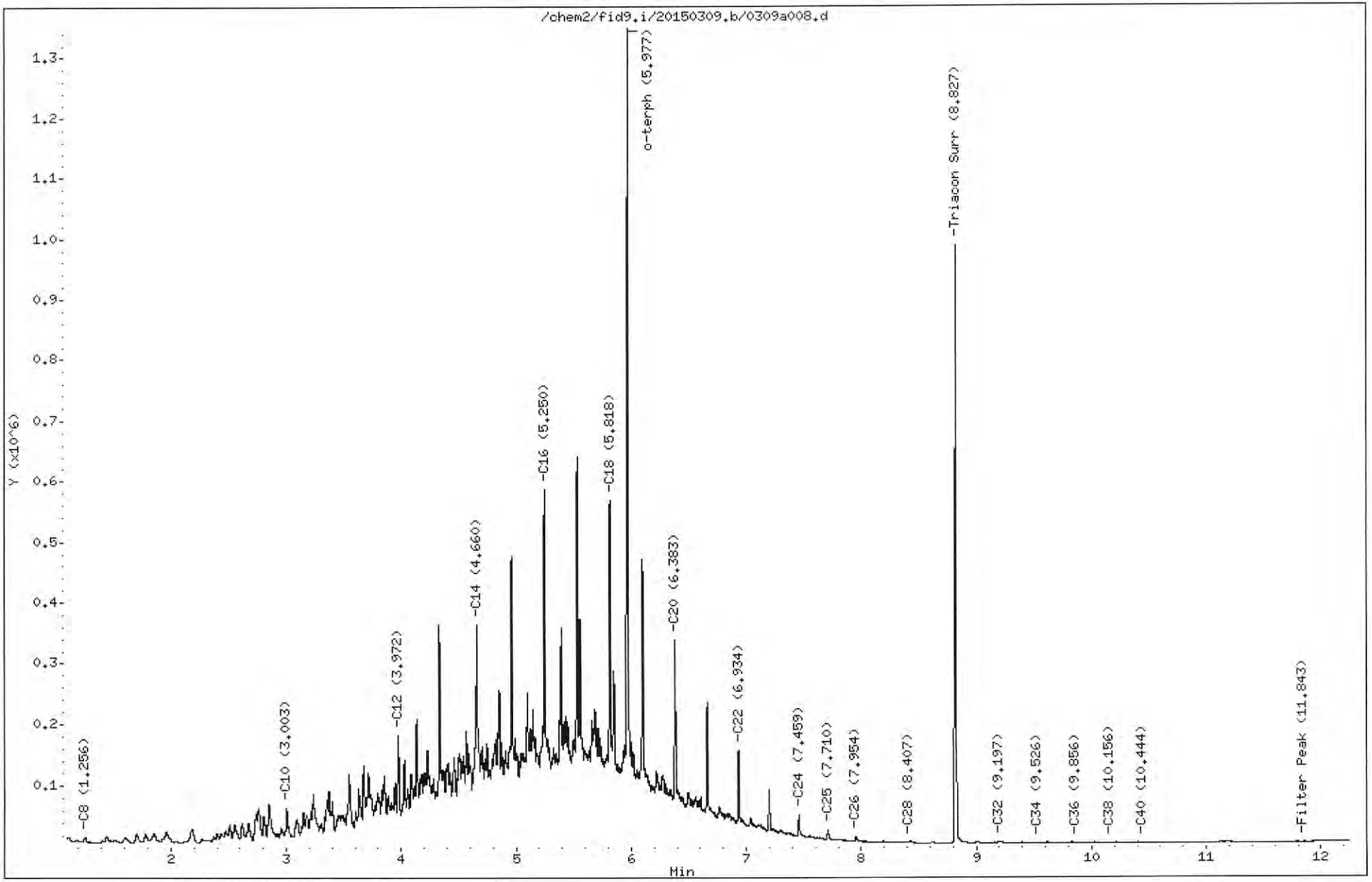


Data File: /chem2/fid9.i/20150309.b/0309a008.d
Date : 09-MAR-2015 16:13
Client ID: ZX74LCSW1
Sample Info: ZX74LCSW1

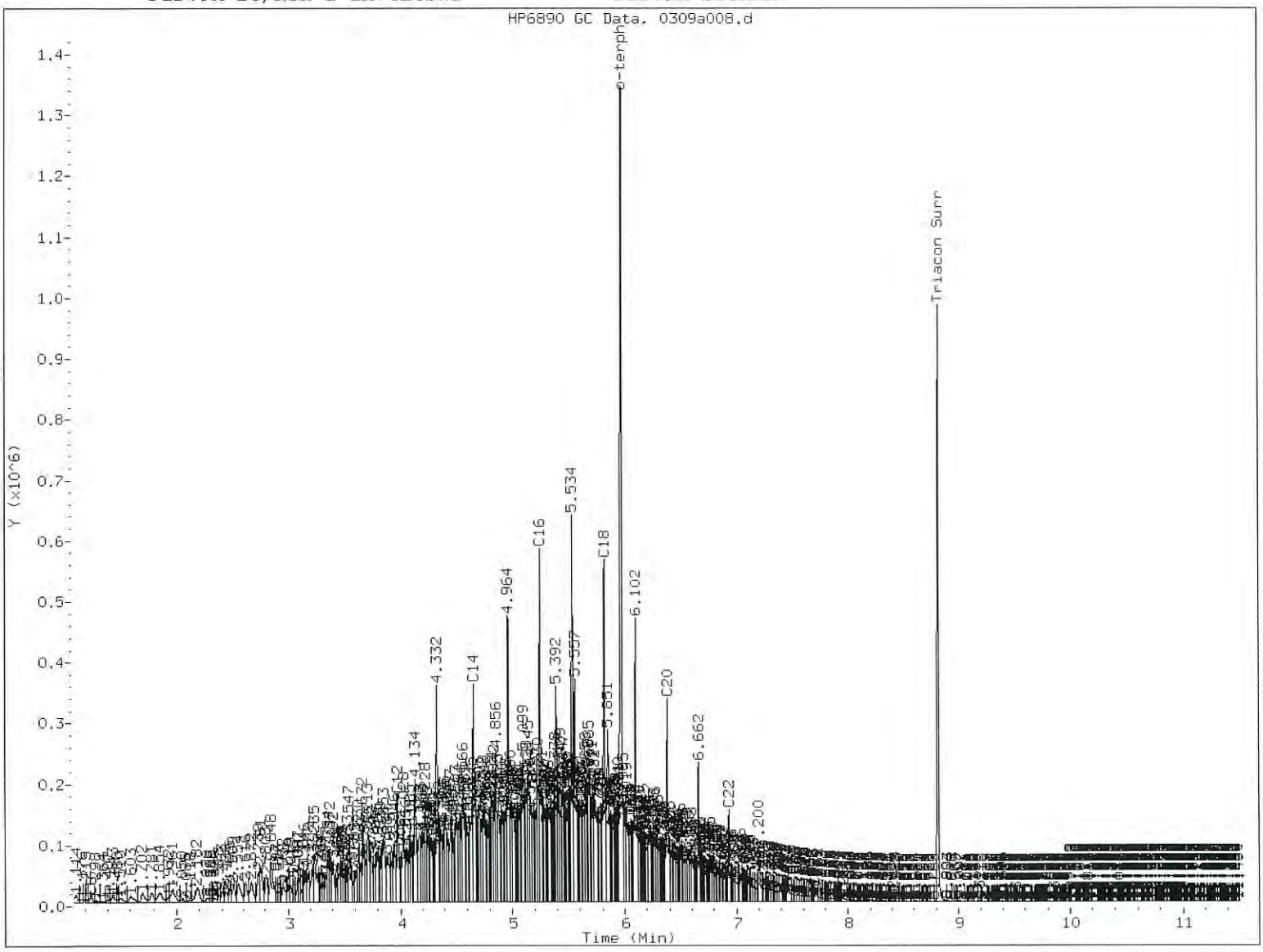
Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1



FID:9A-2C/RTX-1 ZX74LCSW1 FID:9A SIGNAL



MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Surrogate Skimmed

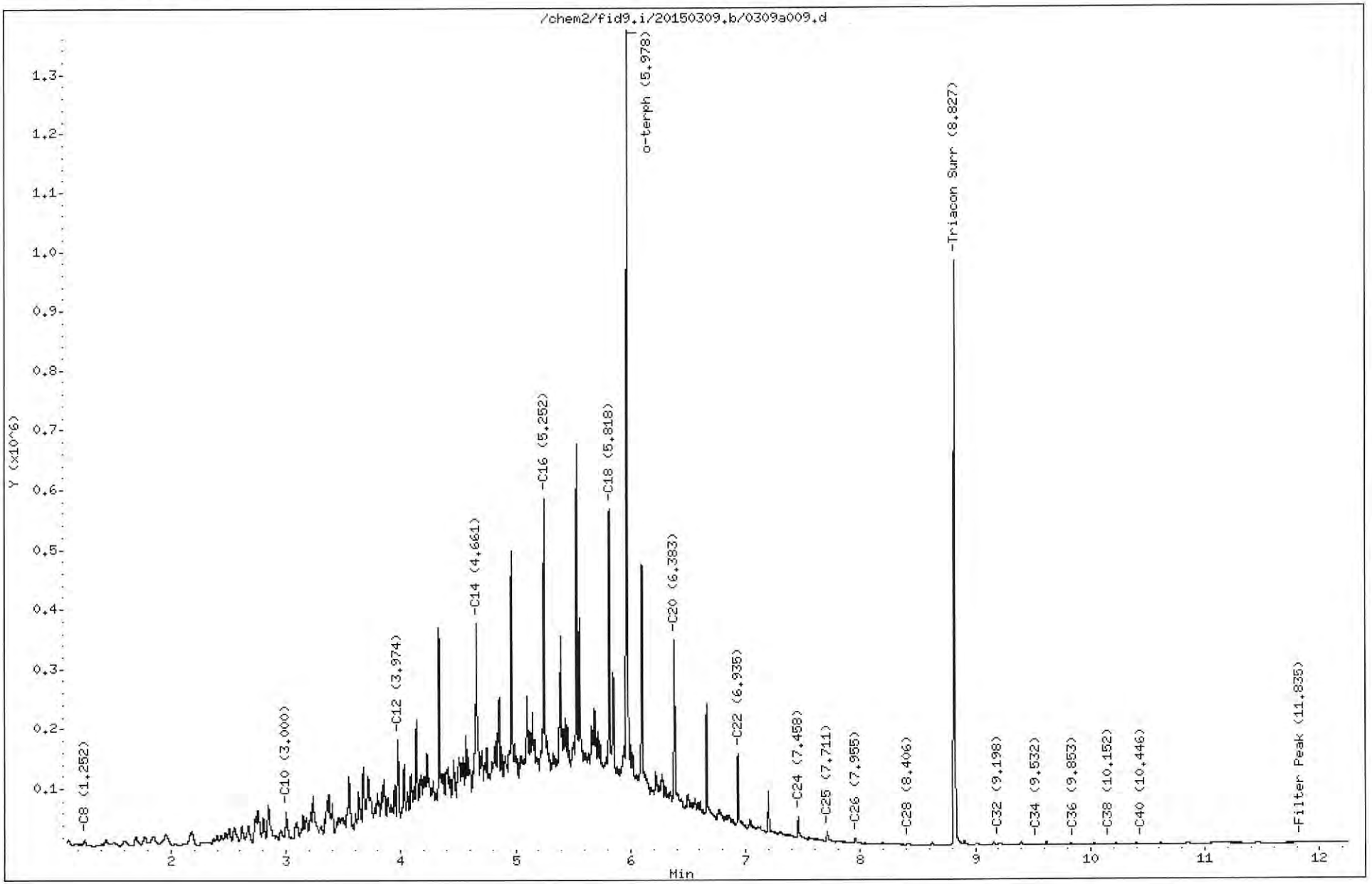
Analyst: ML Date: 3/10/15

Data File: /chem2/fid9.i/20150309.b/0309a009.d
Date : 09-MAR-2015 16:34
Client ID: ZX74LCSDW1
Sample Info: ZX74LCSDW1

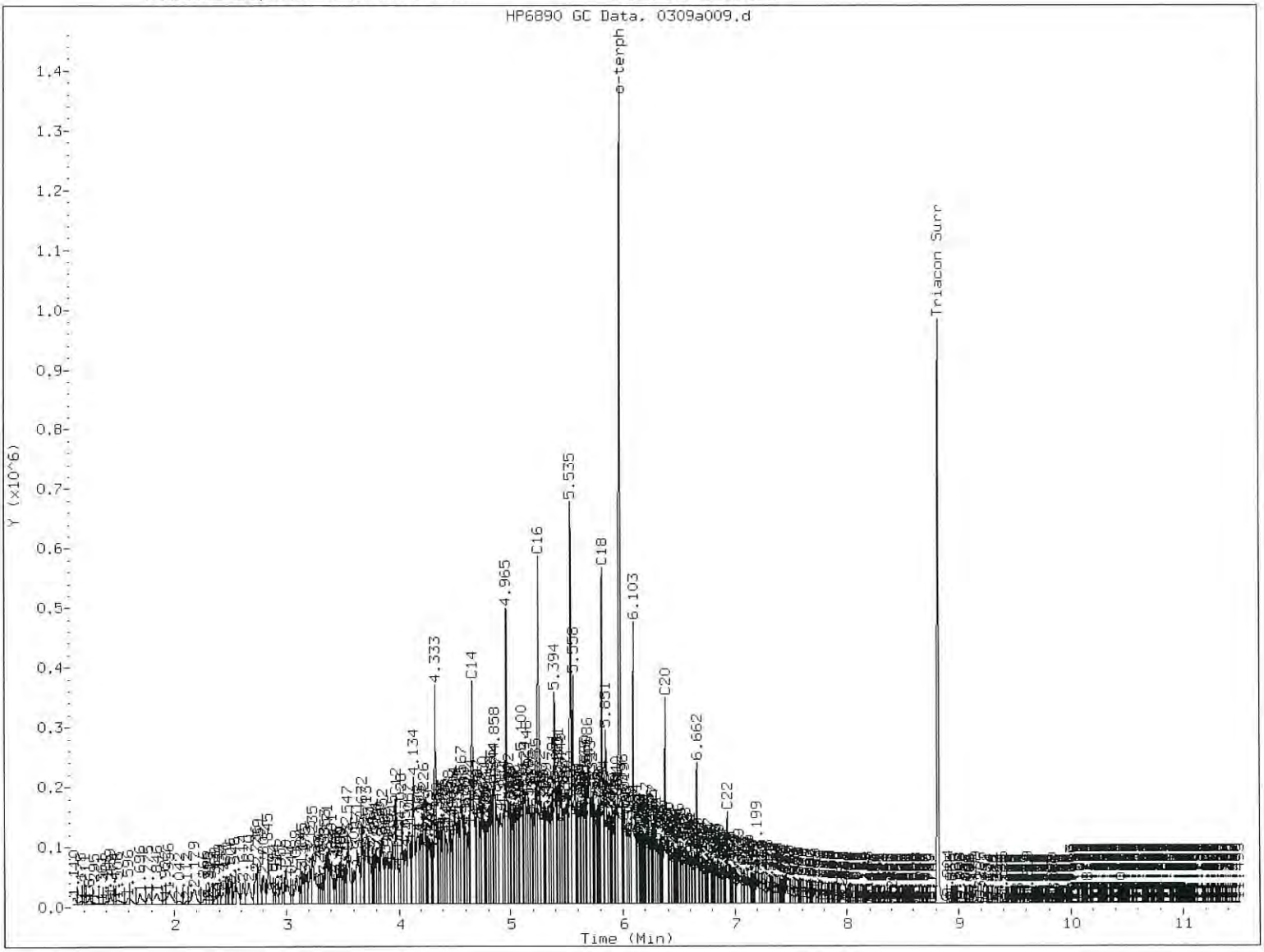
Column phase: RTX-1

Instrument: fid9.i

Operator: ML
Column diameter: 0.25



FID:9A-2C/RTX-1 ZX74LCSDW1 FID:9A SIGNAL



MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Surrogate Skimmed

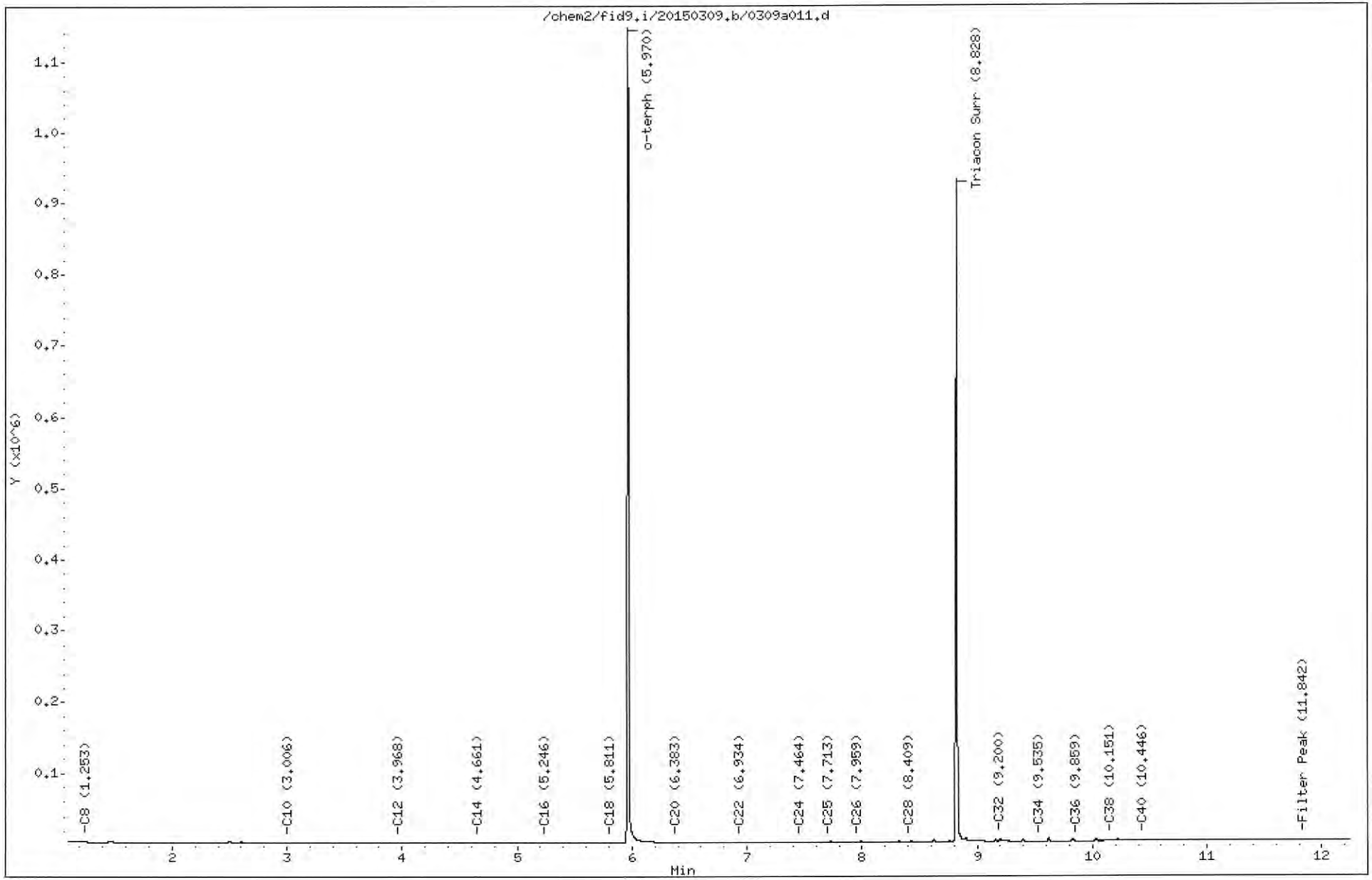
Analyst: ML Date: 3/10/15

Data File: /chem2/fid9.i/20150309.b/0309a011.d
Date : 09-MAR-2015 17:16
Client ID: MW-7-22415
Sample Info: ZX74A

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

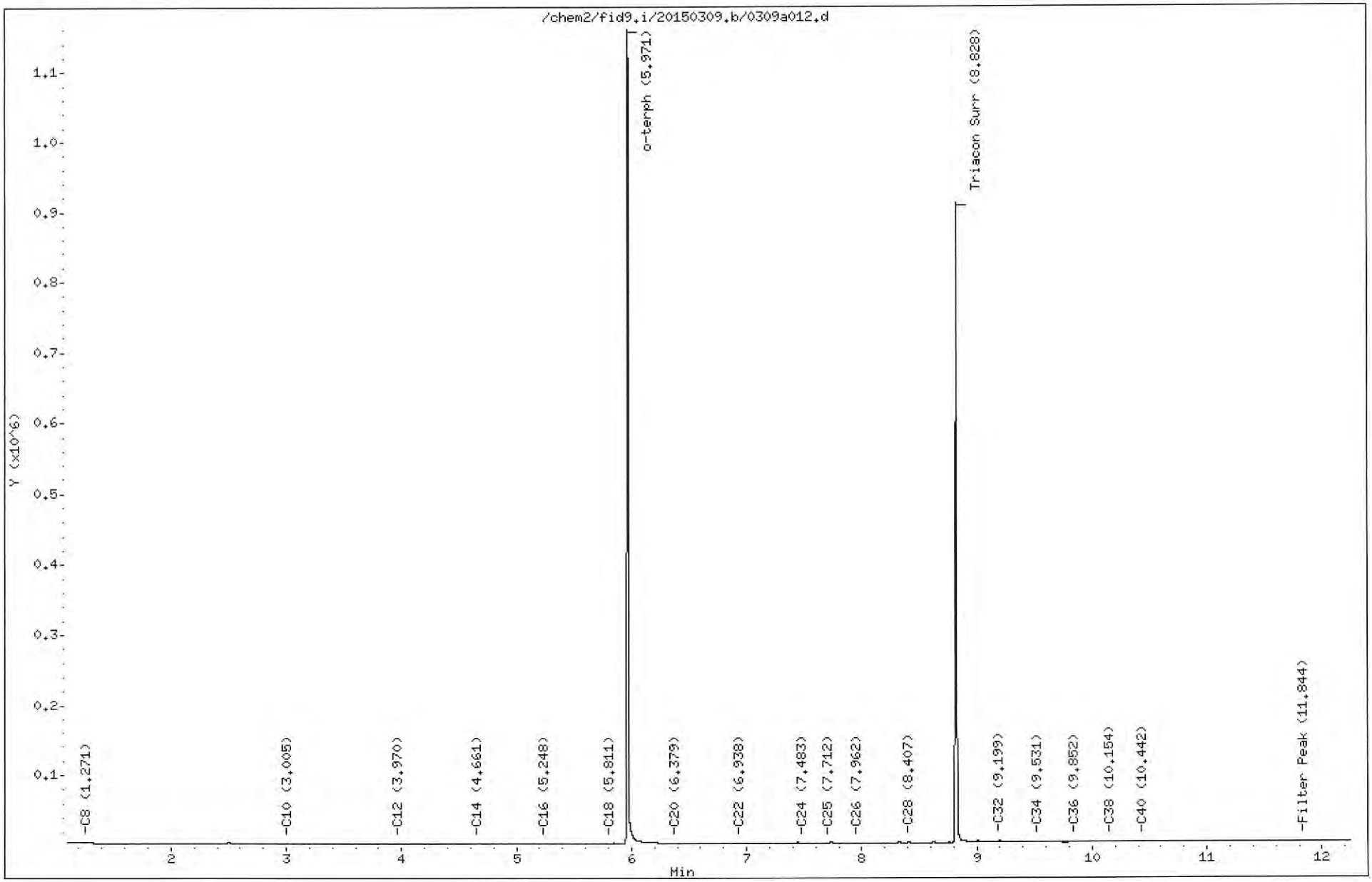


Data File: /chem2/fid9.i/20150309.b/0309a012.d
Date : 09-MAR-2015 17:37
Client ID: MW-1R-22415
Sample Info: ZX74B

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

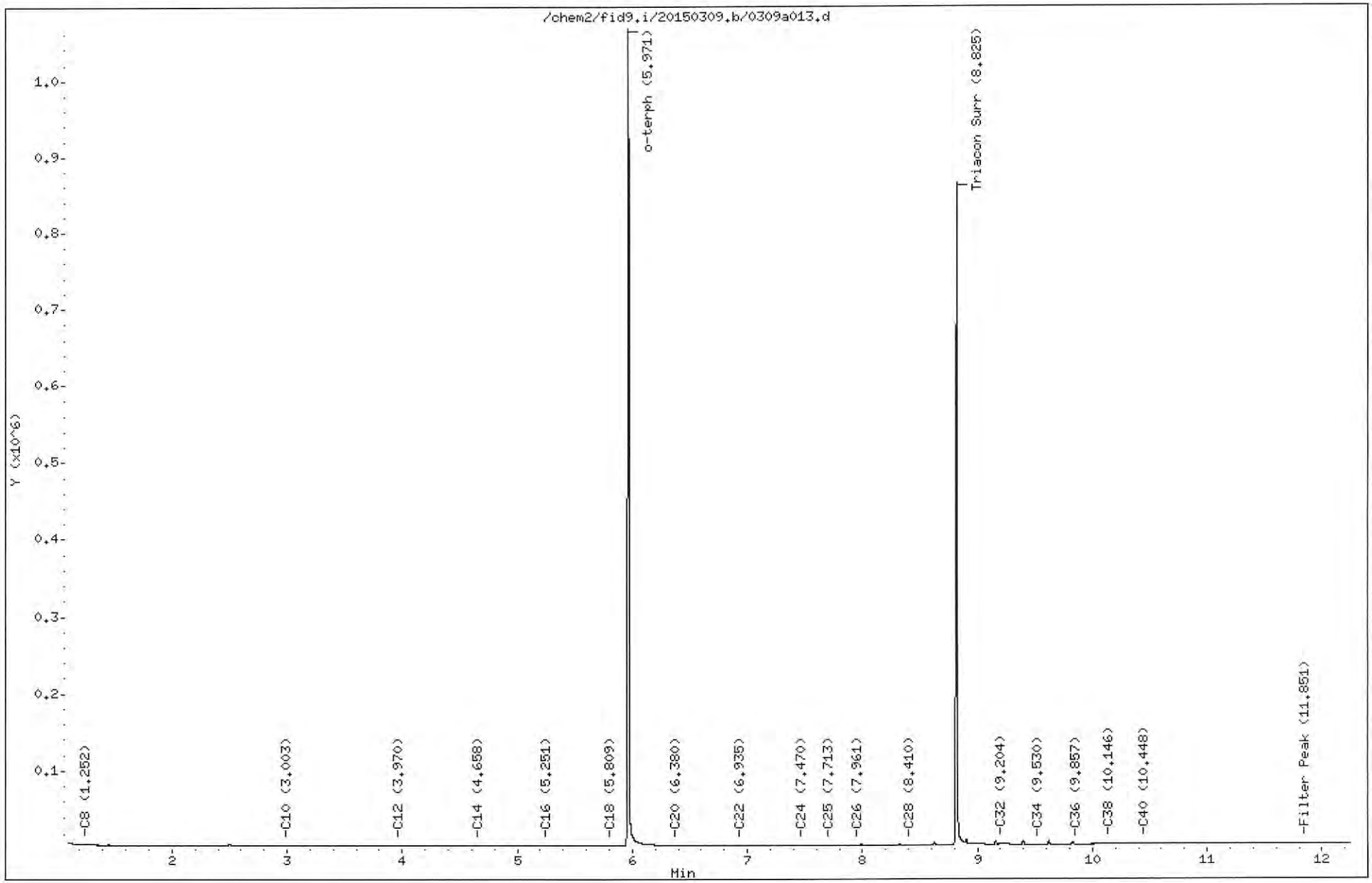


Data File: /chem2/fid9.i/20150309.b/0309a013.d
Date : 09-MAR-2015 17:58
Client ID: MW-4R-22415
Sample Info: ZX74C

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

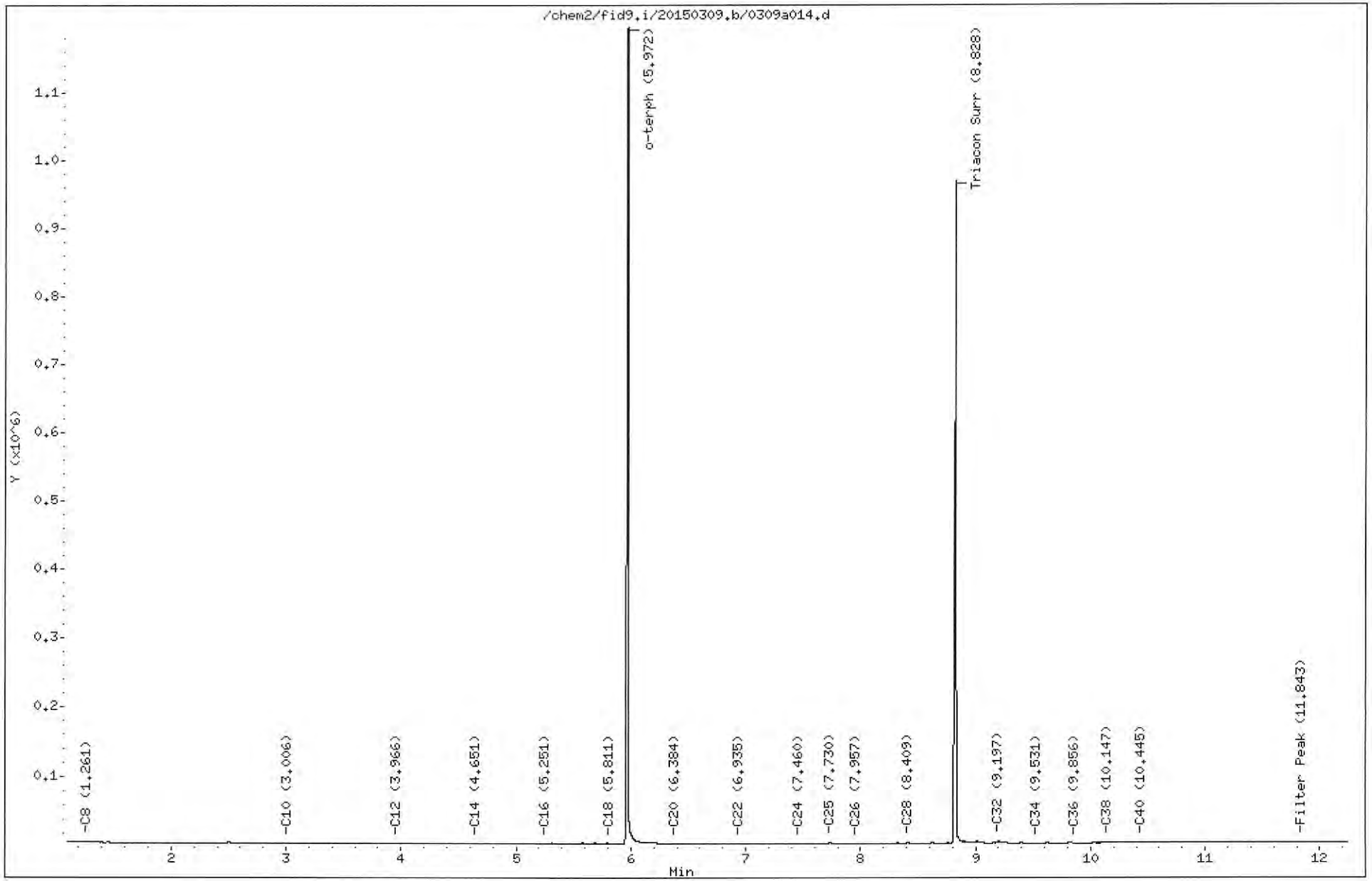


Data File: /chem2/fid9.i/20150309.b/0309a014.d
Date : 09-MAR-2015 18:19
Client ID: MW-9-22415
Sample Info: ZX74D

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

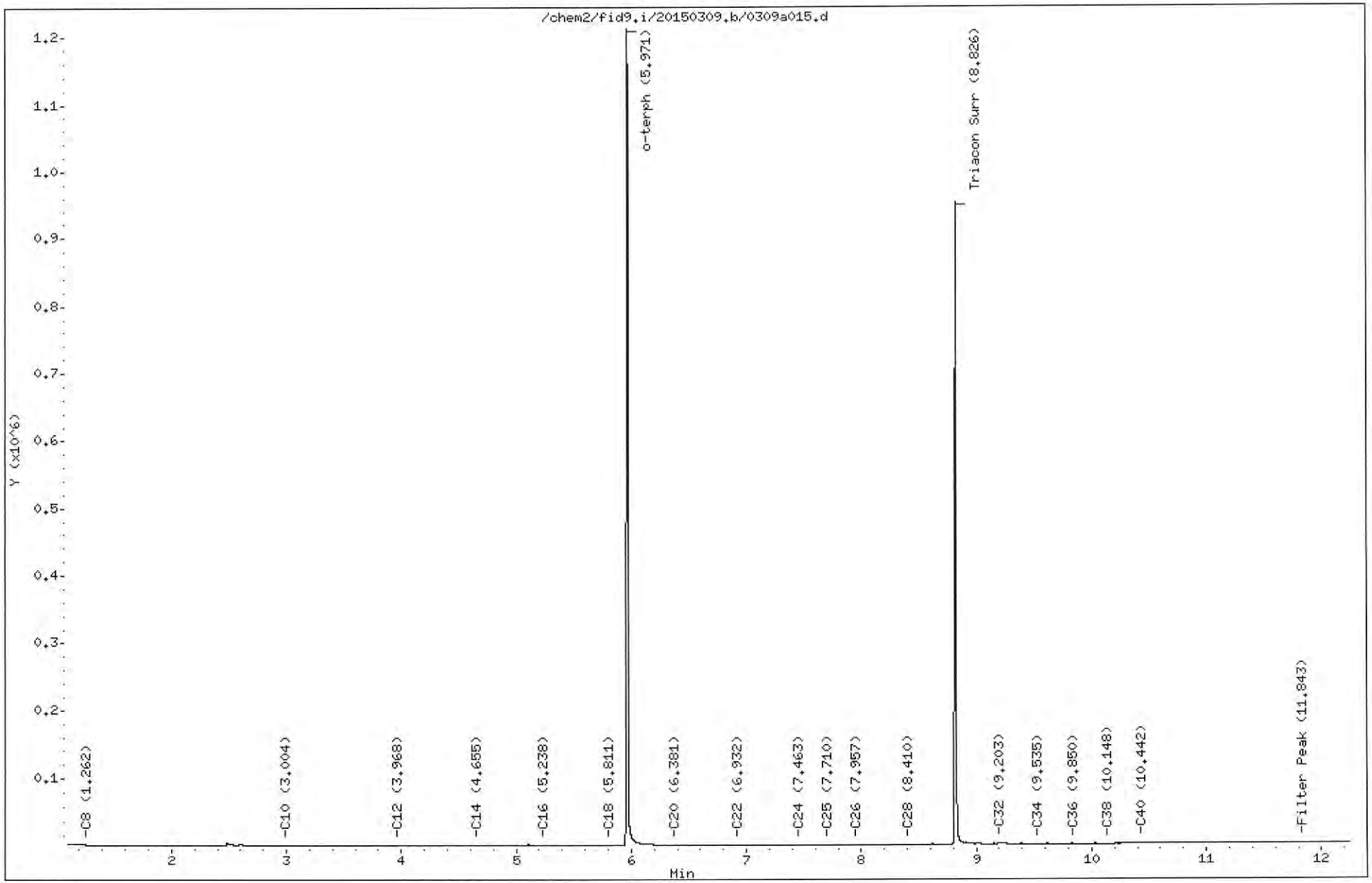


Data File: /chem2/fid9.i/20150309.b/0309a015.d
Date : 09-MAR-2015 18:40
Client ID: MW-2R-22415
Sample Info: ZX74E

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

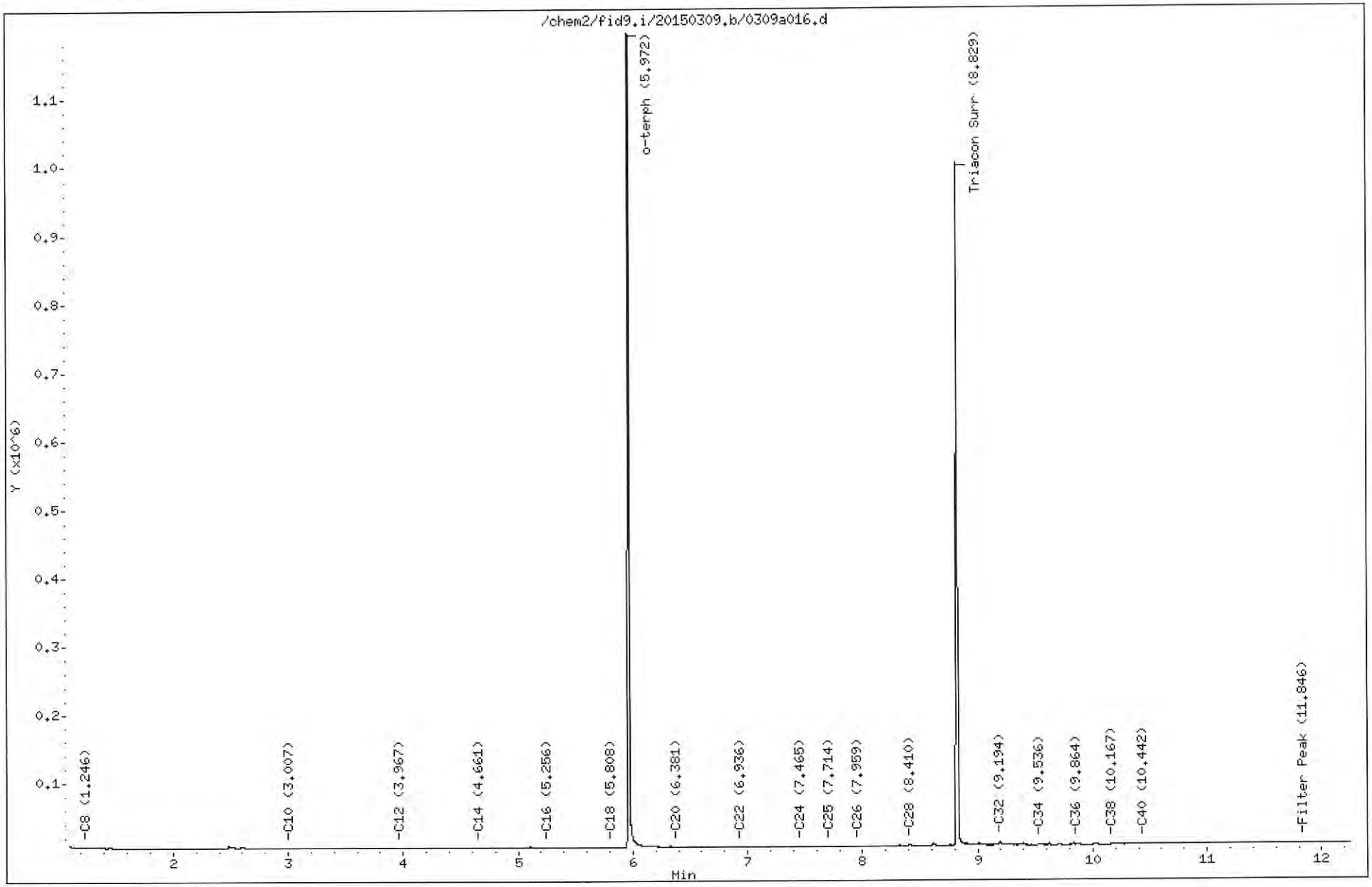


Data File: /chem2/fid9.i/20150309.b/0309a016.d
Date : 09-MAR-2015 19:01
Client ID: MW-1-2R-22415
Sample Info: ZX74F

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

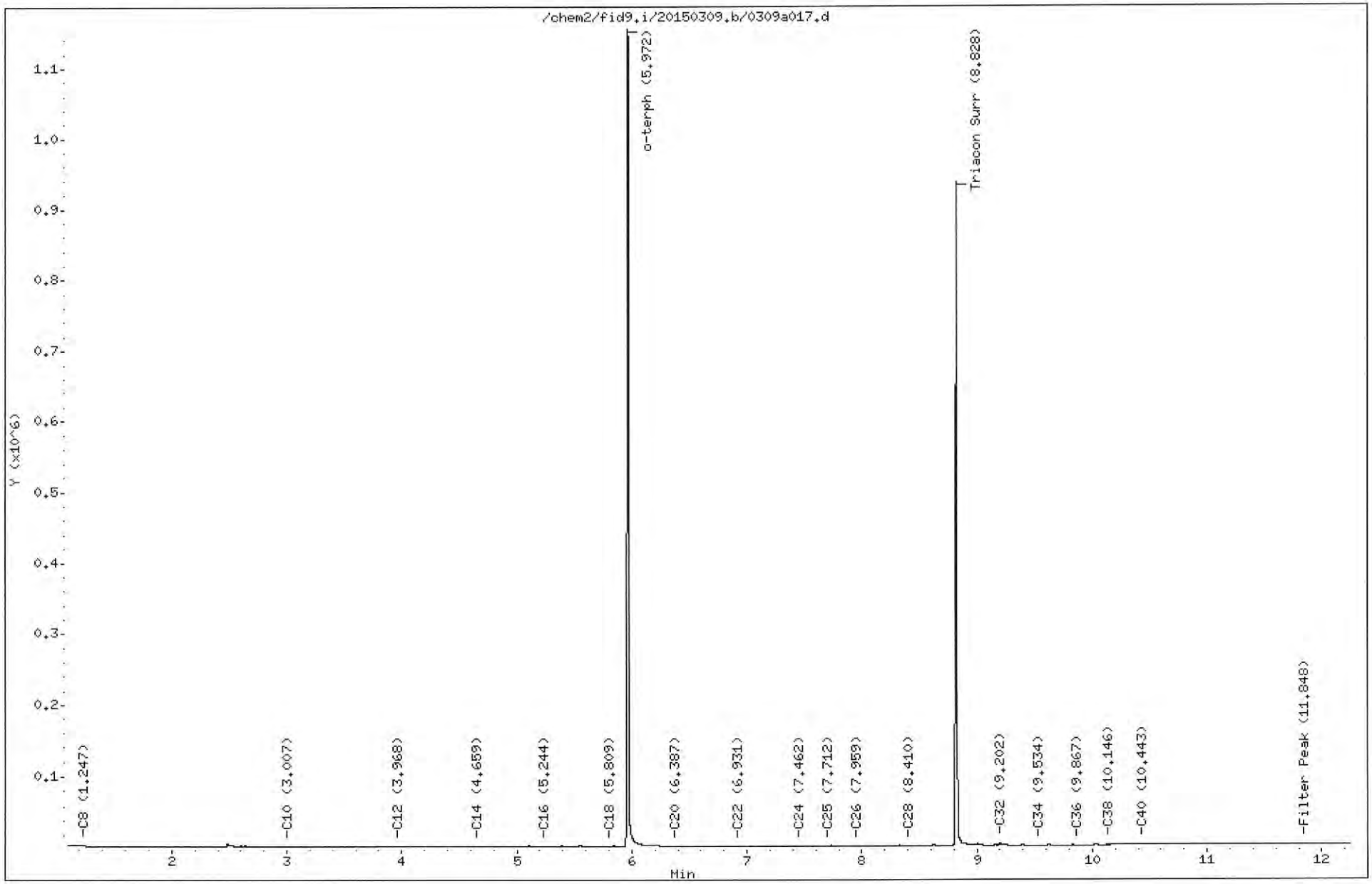


Data File: /chem2/fid9.i/20150309.b/0309a017.d
Date : 09-MAR-2015 19:22
Client ID: MW-10R-22415
Sample Info: ZX74G

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

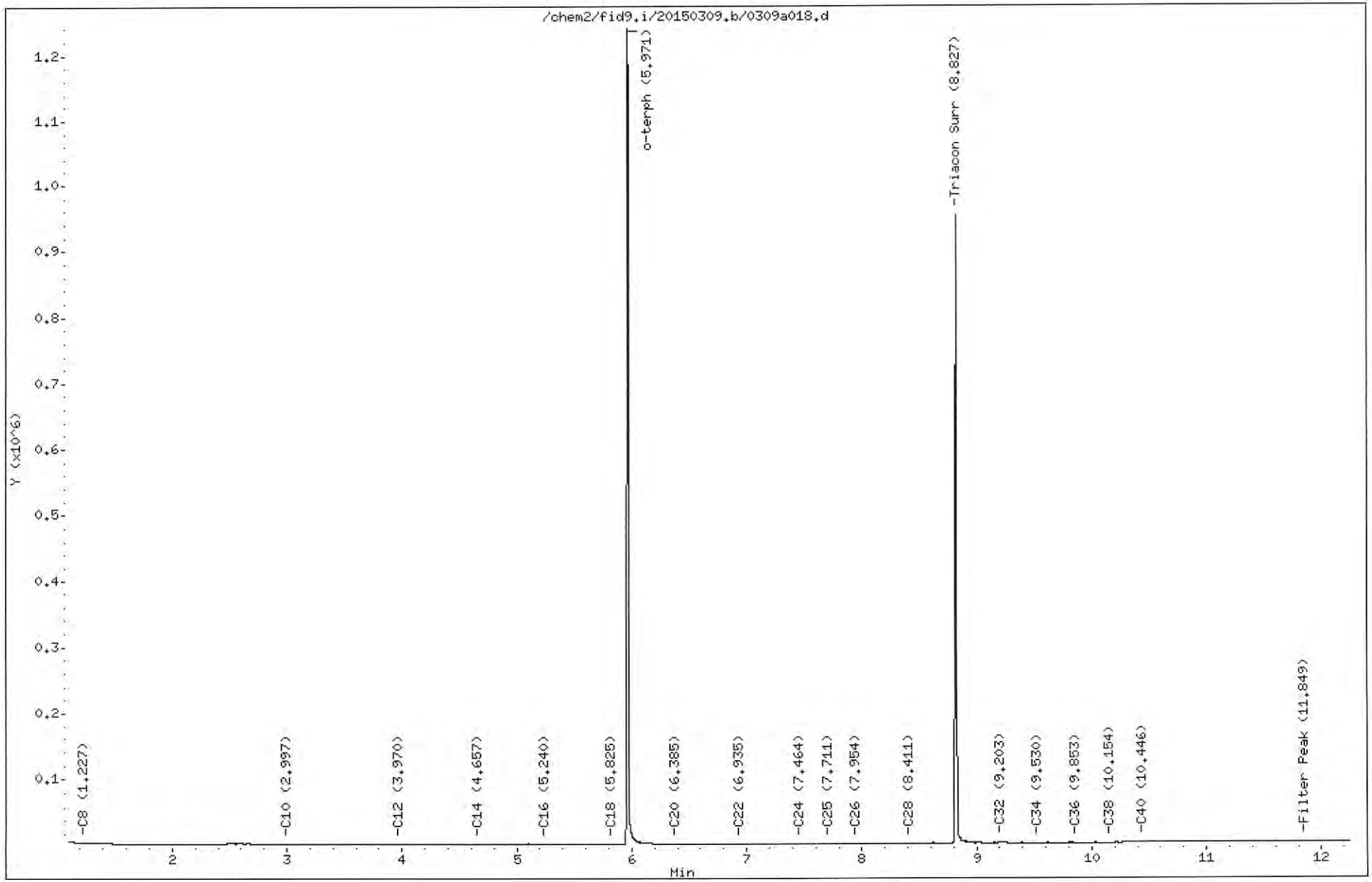


Data File: /chem2/fid9.i/20150309.b/0309a018.d
Date : 09-MAR-2015 19:43
Client ID: SEEP-1-22415
Sample Info: ZX74H

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1

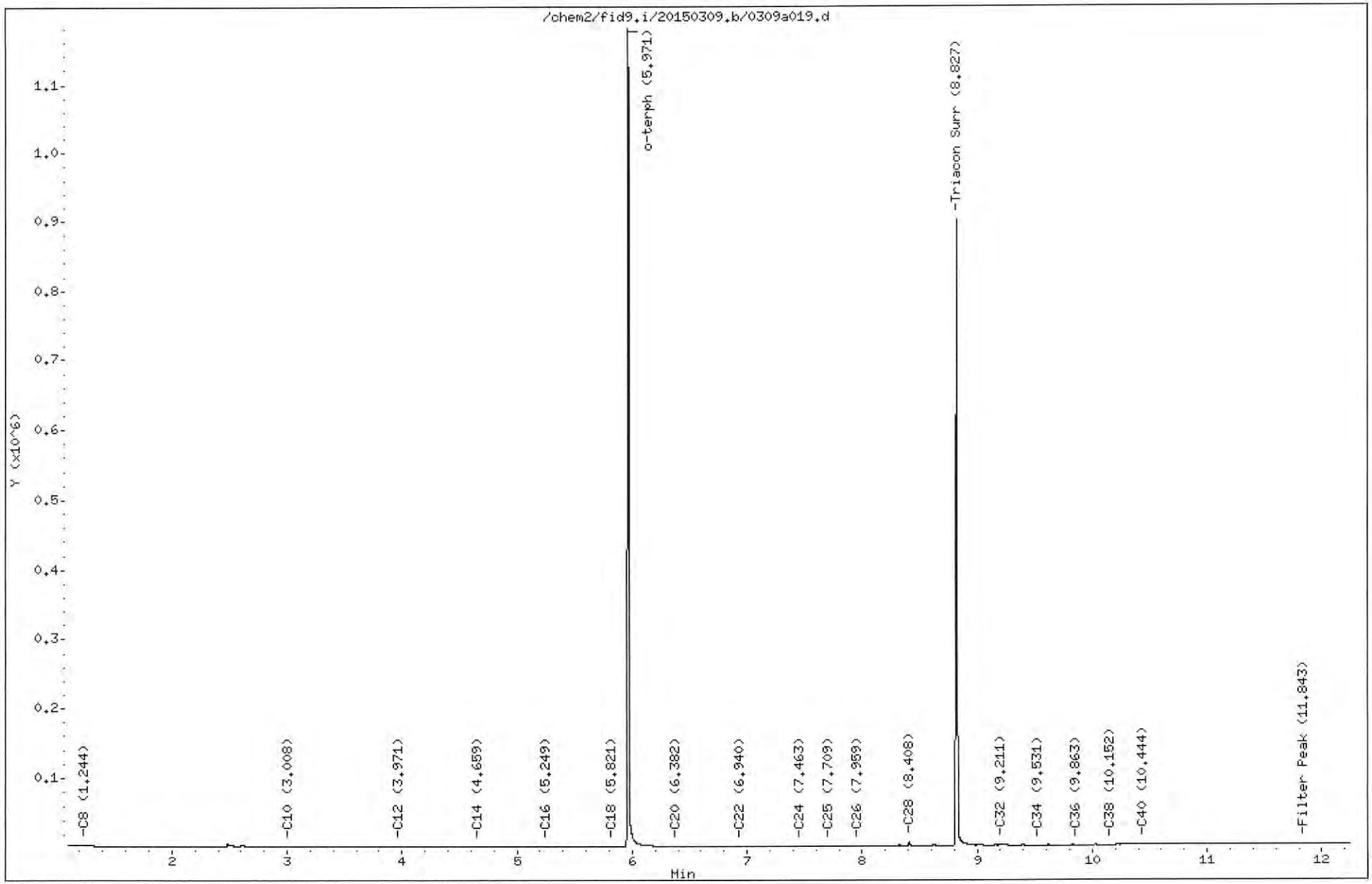


Data File: /chem2/fid9.i/20150309.b/0309a019.d
Date : 09-MAR-2015 20:03
Client ID: SEEP-2-22415
Sample Info: ZX74I

Instrument: fid9.i

Operator: ML
Column diameter: 0.25

Column phase: RTX-1



SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-7-22415
ARI ID: 15-3521 ZX74A

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.500	8.38
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	< 0.010 U
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	< 0.010 U
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	10.0	25.3
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	< 0.050 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-1R-22415
ARI ID: 15-3522 ZX74B

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.010	0.037
N-Nitrate	02/26/15	Calculated	mg-N/L	0.100	5.38
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	0.025
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.100	5.41
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	10.0	44.7
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	0.161

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-4R-22415
ARI ID: 15-3523 ZX74C

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.010	0.013
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	0.503
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	0.010
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	0.513
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	2.0	10.0
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	< 0.050 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-9-22415
ARI ID: 15-3524 ZX74D

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.010	0.462
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	0.011
N-Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	0.011
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	10.0	65.6
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	< 0.050 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-2R-22415
ARI ID: 15-3525 ZX74E

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.010	0.318
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	0.083
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	0.012
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	0.095
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	10.0	66.5
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	0.100

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-1-2R-22415
ARI ID: 15-3526 ZX74F

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.010	0.309
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	0.104
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	0.104
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	10.0	65.3
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	0.071

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Client ID: MW-10R-22415
ARI ID: 15-3527 ZX74G

Analyte	Date Batch	Method	Units	RL	Sample
N-Ammonia	02/26/15 022615#1	EPA 350.1M	mg-N/L	0.100	3.31
N-Nitrate	02/26/15	Calculated	mg-N/L	0.010	0.095
N-Nitrite	02/25/15 022515#1	EPA 353.2	mg-N/L	0.010	0.014
Nitrate + Nitrite	02/26/15 022615#1	EPA 353.2	mg-N/L	0.010	0.109
Sulfate	03/04/15 030415#1	EPA 375.2	mg/L	40.0	363
Sulfide	02/26/15 022615#1	SM4500-S2D	mg/L	0.050	< 0.050 U

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
N-Ammonia	EPA 350.1M	02/26/15	mg-N/L	< 0.010 U	FB
N-Nitrite	EPA 353.2	02/25/15	mg-N/L	< 0.010 U	FB
		02/26/15		< 0.010 U	FB
Nitrate + Nitrite	EPA 353.2	02/26/15	mg-N/L	< 0.010 U	FB
Sulfate	EPA 375.2	03/04/15	mg/L	< 2.0 U	FB
Sulfide	SM4500-S2D	02/26/15	mg/L	< 0.050 U	

FB Filtration Blank

LAB CONTROL RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Sulfide SM4500-S2D	ICVL	02/26/15	mg/L	0.515	0.501	102.8%

STANDARD REFERENCE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
N-Ammonia ERA #360114	EPA 350.1M	02/26/15	mg-N/L	0.480	0.500	96.0%
N-Nitrite ERA #141113	EPA 353.2	02/25/15 02/26/15	mg-N/L	0.486 0.501	0.500 0.500	97.2% 100.2%
Nitrate + Nitrite ERA #320614	EPA 353.2	02/26/15	mg-N/L	0.479	0.500	95.8%
Sulfate ERA 131013	EPA 375.2	03/04/15	mg/L	15.2	15.0	101.3%

REPLICATE RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: ZX74A Client ID: MW-7-22415						
N-Ammonia	EPA 350.1M	02/26/15	mg-N/L	8.38	8.97	6.8%
N-Nitrite	EPA 353.2	02/25/15	mg-N/L	< 0.010	< 0.010	NA
Sulfate	EPA 375.2	03/04/15	mg/L	25.3	26.0	2.7%

MS/MSD RESULTS-CONVENTIONALS
ZX74-Kennedy Jenks Consultants

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/05/15

Project: Cornet Bay Marina
Event: 1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: ZX74A Client ID: MW-7-22415							
N-Ammonia	EPA 350.1M	02/26/15	mg-N/L	8.38	58.3	50.0	99.8%
N-Nitrite	EPA 353.2	02/25/15	mg-N/L	< 0.010	0.481	0.500	96.2%
Nitrate + Nitrite	EPA 353.2	02/26/15	mg-N/L	< 0.010	0.477	0.500	95.4%
Sulfate	EPA 375.2	03/04/15	mg/L	25.3	175	150	99.8%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-7-22415
SAMPLE

Lab Sample ID: ZX74A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	**7439-89-6**	**Iron**	0.05	**9.13**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-7-22415
DUPLICATE

Lab Sample ID: ZX74A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Iron	6010C	9.13	9.14	0.1%	+/- 20%	

Reported in mg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-7-22415
MATRIX SPIKE

Lab Sample ID: ZX74A
LIMS ID: 15-3521
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Iron	6010C	9.13	11.1	2.00	98.5%	H

Reported in mg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-1R-22415
SAMPLE

Lab Sample ID: ZX74B
LIMS ID: 15-3522
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	0.83	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-4R-22415
SAMPLE

Lab Sample ID: ZX74C
LIMS ID: 15-3523
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	0.31	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-9-22415
SAMPLE

Lab Sample ID: ZX74D
LIMS ID: 15-3524
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	0.05	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-2R-22415
SAMPLE

Lab Sample ID: ZX74E
LIMS ID: 15-3525
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	3.91	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-1-2R-22415
SAMPLE

Lab Sample ID: ZX74F
LIMS ID: 15-3526
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	**7439-89-6**	**Iron**	0.05	**1.94**	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-10R-22415
SAMPLE

Lab Sample ID: ZX74G
LIMS ID: 15-3527
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: 02/24/15
Date Received: 02/25/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	1.91	

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: ZX74MB
LIMS ID: 15-3523
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	0.05	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: ZX74LCS
LIMS ID: 15-3523
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010C	1.98	2.00	99.0%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: ZX74MB
LIMS ID: 15-3524
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/L	Q
6010C	02/27/15	6010C	02/27/15	7439-89-6	Iron	0.05	0.05	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: LAB CONTROL**

Lab Sample ID: ZX74LCS
LIMS ID: 15-3524
Matrix: Water
Data Release Authorized:
Reported: 03/02/15

QC Report No: ZX74-Kennedy Jenks Consultants
Project: Cornet Bay Marina
1396010.00
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010C	1.99	2.00	99.5%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%